



Reporting and Analytics

Product Summary

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Reporting and Analytics

Welcome to the Workday Reporting and Analytics book, where you can learn how to configure and use:

- Analytics products such as Prism Analytics, Discovery Boards, and People Analytics.
- Custom reporting solutions and Report Designer.
- Workday Slides and Worksheets.

To learn more about how to use our documentation, [click here](#) or [watch the video](#).

Custom Reports and Analytics

Workday Reporting Concepts

Concept: Custom Reports

You can create custom reports to serve your requirements beyond the Workday-delivered standard reports.

As with standard reports, you can:

- Access the related actions menu on custom report results.
- Download custom report outputs as a PDF or spreadsheet.
- Enable a custom report as a worklet.
- Translate a custom report to another language.

You can create a custom report by:

- Accessing the **Create Custom Report** task.
- Copying a Workday-delivered standard report.
- Copying an existing custom report.
- Selecting **Custom Report > Create** from the related actions menu of a report data source (RDS).

Report Ownership

When you create a report, you own it, and can perform these actions on it:

- Edit
- Delete
- Run
- Share
- Test

You can use the **Transfer Ownership of Custom Reports** task to transfer the ownership of a report to anyone who has access to the RDS and data source filter. When you transfer ownership of a report that you shared with other users, those users continue to have access to the transferred report.

Custom Report Sharing

When you change a shared report, other users can view the results of your changes immediately.

When you copy a custom report, Workday sets the sharing option to *Don't share report definition* on the copy of the report. You can change the sharing options on the **Share** tab of your custom report.

Report Performance

You can improve report performance by:

- Filtering out instances of the primary business object or of related business objects that you don't need.
- Minimizing the number of calculated fields.
- Only using indexed RDSs and indexed fields.

Report Filtering

You can filter your report by:

- Prompting report runners for filter values when they run the report.
- Setting up facet filters so that the report runner can interactively filter report results.
- Setting up filters and subfilters in the report definition.

The report first applies filters to instances of the primary business object that are in the RDS or data source filter. The report then applies any subfilters to instances of related business objects.

Report Fields and Values

The *Report Fields and Values* task enables users to display the report fields and values, related to the selected business object of the current instance, that a user has access to.

You can view report fields and values from the **Reporting** tab of the related actions menu of a business process step. You must have access to the *Custom Report Management*, *Custom Report Administration*, and *Custom Report Creation* domains in the System functional area.

You can use this task to validate the report field values, determine the values of each field at the time the step was executed, or look at the values of each field used in the condition rule to determine why the rule does not work as expected. You can also sort, filter, and export the fields to Excel.

Note: Users will be able to view all fields and values with security access to the *Report Fields and Values* task.

Related Information

Concepts

[Concept: Indexed Data Sources and Fields](#) on page 18

[Concept: Report Security](#) on page 13

Reference

[Reference: Report Types](#) on page 14

[Reference: Security Domains for Reporting](#) on page 102

[The Next Level: Define Your Organization's Workday Reporting Guidelines](#)

[The Next Level: Factors Impacting Report Performance](#)

[The Next Level: Definition of Report Types - Standard and Custom](#)

[The Next Level: Reporting Foundation Community Guide](#)

[The Next Level: Reporting Housekeeping](#)

[The Next Level: Taking the Stress Out of Reporting: Getting Started](#)

Concept: Report Security

Report Data Sources

Workday secures every report data source (RDS), RDS filter, and report field through a security *domain*.

Example: When you view workers on a report, you might see their legal name but not their Social Security number.

Workday might secure an RDS and its RDS filters by different domains. Example: A user could have access to the **Workers for HCM Reporting** RDS, but can't access the Workers by Role filter.

The **Data Sources** report displays which security groups can access each RDS and RDS filter.

Constrained Security Groups

Workday secures some RDSs, RDS filters, and report fields by constrained security groups. Users in constrained security groups can only view the instances available to their organization or role. Example: Managers in different organizations might all have access to employee performance data, but they can only view the performance data of employees in their respective organizations.

Report Sharing and Exporting

Sharing a report doesn't override report security. You can only share a report with users authorized to access it, and they might not see the same data as you.

The *Export to PDF and Excel* domain in the System functional area restricts who can export these types of files:

- Excel
- PDF
- PowerPoint

(For Workday Extend only) The Export to Excel feature on grids in Workday Extend doesn't support security policies configured on the *Export to PDF and Excel* domain. To prevent users from exporting grid data, the Workday Extend app developer must disable the Export to Excel feature on the grid.

Related Information

Reference

[The Next Level: Factors Impacting Report Performance](#)

[The Next Level: Report Security Overview](#)

[The Next Level: Report Security Troubleshooting Scenarios](#)

Reference: Report Types

Report Type	Description	Example Standard Report
Advanced	<p>Display fields from the primary business object and related business objects with advanced design options, including:</p> <ul style="list-style-type: none"> • Filtering • Subfiltering • Prompting • Sharing <p>Advanced report results can display on charts and worklets and with multiple headings and subtotals.</p> <p>You can enable advanced reports for use as web services in outbound EIBs.</p>	Job History
Composite	Combine multiple reports into 1 report. Each subreport can have a different report data source.	Budget vs Actual Spend by Quarter

Report Type	Description	Example Standard Report
Matrix	<p>Group and summarize data by 1 or 2 fields that contain repeating values.</p> <p>You can display matrix results in a chart or table that you can drill down on for additional details. This enables you to perform custom analytics and interactive reporting across dimensions.</p> <p>Matrix reports are similar to pivot tables and crosstabs.</p>	Headcount & Open Position Analysis
nBox	<p>Display counts of business object instances in a 2-dimensional matrix, enabling you to compare and visualize objects across 2 fields.</p>	Talent Matrix - Performance by Potential
Search	<p>Display instances of a business object that you can narrow down with facet filters or search terms.</p> <p>You can enable search reports for use as web services in outbound EIBs.</p>	Find Candidates
Simple	<p>Display fields from the primary business object with basic and limited design options, such as filtering and sorting.</p>	None
Transposed	<p>Compare and analyze data by swapping rows for columns.</p>	Employee Timeline
Trending	<p>Group data by time period for trend analysis. You can also group, summarize, and drill down on data.</p>	Hires and Terminations by Quarter

Related Information

Concepts

[Concept: Custom Reports](#) on page 12

Tasks

[Steps: Create Simple Reports](#) on page 120

[Steps: Create Advanced Reports](#) on page 122

[Steps: Create Matrix Reports](#) on page 129

[Steps: Create Composite Reports](#) on page 145

[Steps: Create Transposed Reports](#) on page 198

[Steps: Create Trending Reports](#) on page 191

[Steps: Create Search Reports](#) on page 201

[Steps: Create nBox Reports](#) on page 204

Reference: Fulfill a Report Request

When you get a request to create a report, review the report requirements, but before creating a new report from scratch, follow these guidelines in the order listed below:

Guidelines	Description
Search for a similar report in your tenant.	<ol style="list-style-type: none"> 1. Perform 1 or all of these actions: <ol style="list-style-type: none"> a. Enter keywords in global search. If you can't find the exact report, search for similar report elements, such as report data sources (RDS) or calculated fields. b. Run the All Workday - Delivered and Custom Reports report. c. Run the All Workday - Delivered and Custom Reports by Report Source report. 2. If you find the report, see if it fits your needs. If not, consider if you can copy and edit the report to repurpose it to fit the request, by: <ol style="list-style-type: none"> a. Adding or removing columns b. Changing the sorting order c. Applying filters d. Using calculated fields to create new metrics based on existing data. 3. Run and evaluate the report for accuracy, relevancy, user-friendliness, and effectiveness in supporting your organization's needs.
You can't find a similar report in the tenant.	<p>Look for the report in the WDSetup tenant:</p> <ol style="list-style-type: none"> 1. In the WDSetup tenant, browse the available packages by country or functional area and search for the report in the Configuration Catalog. See Configuration Catalog - Reports and Dashboards (RPT). 2. If it's available, migrate the report to your tenant. See How to Migrate Configuration Catalog Packages. 3. Run and evaluate the report for accuracy, relevancy, user-friendliness, and effectiveness in supporting your organization's needs.
When you don't find a similar report in any tenant, create the new report.	<p>Create Custom Reports on page 40</p> <ol style="list-style-type: none"> 1. Decide what reporting tool you want to use. See Reference: Reporting Tools in Workday. 2. Select the data source you want to use for the report. Run the Data Sources report and filter by category to review descriptions and security permissions of each data source and the associated data source filters. 3. Select the appropriate fields for the report. 4. Run and evaluate the report for accuracy, relevancy, user-friendliness, and effectiveness in supporting your organization's needs.

For a use case related to this topic, see [../../../../use-case-library--use-case--fulfilling-a-report-request.dita](#) in the Use Case Library.

Related Information

Tasks

[Steps: Create Composite Reports](#) on page 145

Data Sources

Concept: Business Objects, Data Sources, and Fields

Business Objects

Workday stores data in *business objects*. A business object has fields and instances, which are similar to rows and columns in a spreadsheet. Each row is an instance, and each column represents an attribute or field related to that instance.

Example: Logan McNeil and Teresa Serrano are each an instance of the Worker business object. The Worker business object contains fields such as **Job Title**, **Age**, **Gender**, and **Dependents**.

Worker (Self-Referencing)	Job Title (Text)	Age (Numeric)	Gender (Single Instance)	Dependents (Multi-instance)
Logan McNeil	Chief Human Resources Officer	47	Female	Megan McNeil Pat McNeil
Teresa Serrano	Chief Financial Officer	61	Female	Juan-Carlos Serrano Pablo Serrano

Workday links *related business objects* together through single instance or multi-instance fields. Related business objects enable you to access fields in a report that don't belong to the primary business object.

Example: The Worker business object has a multi-instance field called **Dependents**. **Dependents** has a related business object of Dependent. In a report with a primary business object of Worker, you can use the **Dependents** field to access the fields belonging to the Dependent business object.

Run the **Business Object Details** report to view:

- Custom and standard reports that use the business object.
- Data sources using the business object as the primary business object.
- Fields associated with the business object.
- Related business objects.

Data Sources

When you create a report, you must select a data source. Each data source contains instances of a business object, which serves as the *primary business object* of the data source. Multiple data sources can have the same primary business object. Example: Both the **All Workers** and **Workers for HCM Reporting** data sources have Worker as the primary business object.

Workday delivers many data sources. Example: **Workers for HCM Reporting**, **Journal Lines for Financial Reporting**. Consider selecting a data source with a primary business object that includes a majority of the fields you need.

Some data sources return all instances of the primary business object, such as **All Workers**. Some data sources also include:

- Built-in filters that limit the number of business object instances. Example: **All Active Employees**.
- Prompts that you can use when running the report. Example: **Employees by Organization**.

Workday secures data sources and data source filters by security domains. Different domains might secure a data source and its data source filters. Example: Many domains secure the **Workers for HCM Reporting** data source, but only the *Worker Data: Headcount Reports* and *Worker Data: Turnover Summary* domains secure the **Workers by Role** filter on the data source.

From the related actions menu of a data source, you can:

- Select **Custom Report > Create** to create a custom report using the data source.
- View **Alternate Data Source** and **Alternate Data Source Filter** for a deprecated data source, if available.

Run the **Data Sources** report to view these data source details:

- Built-in prompts.
- Data source filters.
- Permitted security groups.
- Primary business object.

Fields

Workday supports field types such as:

- Boolean
- Numeric
- Text
- Single instance
- Multi-instance

Workday secures fields by security domains. Users must have access to the security domain to:

- Use the field in a report definition.
- View data in that field when running the report.

You can only use some fields in certain areas of Workday, such as *Business Rules* or *Compensation Eligibility*. To see where you can use a field, click its related actions menu and check the **Authorized Usage**. If a field has an **Authorized Usage** value of *Default Areas*, you can use that field in any area.

Run the **Report Fields** report to view details such as:

- Business object name.
- Field description.
- Field type.

Related Information

Reference

[Reference: Field Types](#) on page 79

[The Next Level: Report Performance Recommendations for Large Volume Customers](#)

[The Next Level: Report Security Overview](#)

[The Next Level: Workers for HCM Reporting Data Source: Report Migration](#)

[The Next Level: Taking the Stress Out of Reporting: Getting Started](#)

Concept: Indexed Data Sources and Fields

A Workday business object can have several standard report data sources (RDSs) associated with it, each representing a different filter or selection into instances of that object. Workday indexes certain RDSs and report fields for:

- Aggregation.

- Faceted filtering.
- Report performance on large volumes of data.

When you create a custom report based on an indexed RDS, Workday prompts you to select from a list of predefined data source filters, if available.

Report Data Sources and Report Types

You can create these custom report types using standard or indexed RDSs:

Report Type	Report Data Source Type
Advanced	Standard or Indexed
Matrix	Standard or Indexed
nBox	Indexed
Search	Indexed
Simple	Standard or Indexed
Transposed	Standard or Indexed
Trending	Standard or Indexed

When creating or editing custom reports that use indexed RDSs, you can select the **Optimized for Performance** check box to display only indexed report fields in field prompts.

Indexed Data Sources and Fields

The **View Indexed Fields for Data Source** report lists all indexed report fields for each RDS and the focus for indexing:

Column	Description
Indexed for Filter	Workday indexes the report field for use on the Filter tab of report definition.
Indexed for Facets	Workday indexes the report field for use in <i>Facet Filter</i> options on the Advanced tab.
Indexed for Aggregation	Workday indexes the report field for summarization, such as <i>Sum</i> , <i>Average</i> , <i>Minimum</i> , or <i>Maximum</i> .
Indexed for Group By	Workday indexes the report field for column or row grouping.

Workday displays an **Indexing Information** section on the related actions menu of a report field. Workday also displays an **Indexed** column on the:

- **Filter** tab for advanced, matrix, and trending report.
- **Matrix** tab for matrix reports.
- **Trending** tab for trending reports.

The **Indexed** column indicates whether the report can run in indexed mode for the condition.

Limitations on Indexed Data Sources

Report Type	Tab	Limitation
All report types	Filter	<p>When you select an indexed RDS that requires a data source filter, Workday populates the Data Source Filter prompt. If needed, you can select another filter from a list of predefined filters for the RDS.</p> <p>Consider these filter limitations for all report types:</p> <ul style="list-style-type: none"> • You can filter only on report fields indexed for facets or indexed for search. • You can't filter on a calculated field. <p>For text and rich text fields, you can't use filter count operations on instance fields.</p>
Advanced	Filter	You can't filter on an indexed object as a related business object.
Matrix and nBox	Matrix	<p>For group by fields, you can use:</p> <ul style="list-style-type: none"> • Boolean fields indexed for grouping. • Single instance fields indexed for grouping. <p>For group by fields, you can't use:</p> <ul style="list-style-type: none"> • Calculated fields. • Numeric fields. • Text fields. <p>For fields to summarize, you can't use calculated fields.</p>
Matrix and nBox	Advanced	The same limitations that apply to group by fields apply to the drillable fields.
Search	Advanced	You can use only report fields indexed for facets as facet filters.
Simple, Advanced, Matrix, nBox, Search, and Transposed	Prompts	You can't prompt for the Effective Date or Entry Date .

Consider these additional limitations:

- Indexed RDSs that include **Event** fields only enable the *Positions / Support* option in a role-based security group (constrained).

- Reports using indexed RDSs don't support effective dates other than the current moment when you run the report. If you need to specify an effective date other than the current moment, use a standard data source.
- Workday might take several hours to update an indexed RDS with the most recent data in your tenant. Example: Workday updates the **Trended Workers** RDS weekly for nonproduction tenants (Implementation and Sandbox), and either nightly or every Monday for production tenants depending on your retroactive period selection.

Related Information

Reference

[The Next Level: Factors Impacting Report Performance](#)

[The Next Level: Report Performance Recommendations for Large Volume Customers](#)

Concept: Selecting a Data Source

The data source you select for a report determines what fields you can access and is the largest factor in report performance.

For optimal report performance, select the data source that returns the fewest business object instances that you need. Example: Use the **My Direct Reports** data source instead of filtering the **All Active Workers** data source by manager.

Questions to Consider

Question	Considerations
What fields do you need?	List all the fields you want the report to display. If you don't know the business object that contains these fields, use the Workday-delivered Report Fields report to look up the fields.
What business object should you report on?	Select the business object that contains the majority of the fields you want as the primary business object for the report. Then, you can use the Business Object Details report to find a data source. You can also run the Workday-delivered Data Sources report and filter by <i>Category</i> to help you find a data source.
Who needs access to this report?	Ensure that the target audience of the report has access to the data source and fields you use.
Where will the report run?	Reports that run as worklets on a dashboard time out after 30 seconds, so it's important to consider performance when you select a data source. For scheduled reports or reports you run in the background, report performance isn't as important.

Data Source Characteristics

If you know the business object that you want to report on, consider these data source characteristics.

Characteristic	Description	Examples
Indexed	Returns large volumes of data efficiently.	<ul style="list-style-type: none"> Indexed Workers Trended Workers

Characteristic	Description	Examples
	Whenever a report needs to run fast, such as in a worklet, use an indexed data source.	
Filtered	<p>Includes built-in filters that limit the number of instances the data source returns.</p> <p>If an indexed data source doesn't meet your requirements, use a filtered standard data source.</p>	<ul style="list-style-type: none"> • Workers by Organization • Workers Supported by Role
Focused	<p>Returns only the instances for a specific security group.</p> <p>If you want to report on a small set of business object instances, use a focused data source.</p>	<ul style="list-style-type: none"> • My Direct Reports • My Team's Goals

Data Sources with Built-In Filters

Instead of creating your own filter in the report definition, use the faster built-in data source filters whenever possible. Example: Use the **Workers by Role** filter on the **Workers for HCM Reporting** data source.

Data Sources with the (Do Not Use) Label

Don't use data sources that have the (Do Not Use) label. Example: **Job Applications, Prospects and Referrals (Do Not Use)**. Workday retires data sources with the (Do Not Use) label, sometimes because there's a new and better data source. You can search for replacements for retired data sources in the **What's New in Workday** report.

Related Information

Concepts

[Concept: Business Objects, Data Sources, and Fields](#) on page 17

Tasks

[Create Custom Reports](#) on page 40

Reference

[The Next Level: Factors Impacting Report Performance](#)

Setup Considerations: Trended Workers Report Data Source

You can use this topic to help make decisions when planning your configuration and use of the **Trended Workers** report data source (RDS). It explains:

- Why to set it up.
- How it fits into the rest of Workday.
- Downstream impacts and cross-product interactions.
- Security requirements and business process configurations.
- Questions and limitations to consider before implementation.

Refer to detailed task instructions for full configuration details.

What It Is

The **Trended Workers** RDS is an indexed, Workday-delivered RDS that captures workforce activity and headcount data. You can compare data to discern patterns and view trends that occur over time in your organization.

Business Benefits

Creating reports in Workday with the **Trended Workers** RDS enables you to:

- Eliminate the extra effort of using multiple platforms to manipulate and analyze worker data.
- Keep worker data more secure by reducing the need to export it to outside applications.
- Make better-informed headcount decisions based on workforce trends over time.
- Quickly create summary dashboards that display important trends in your workforce.

Use Cases

You can use the RDS to create custom dashboards and reports or use Workday-delivered standard reports to view staffing events in your organization. When you need to:

- Gain insights into the terminations across your organization, run the **Terminations by Type and Quarter** standard report.
- Report on the compensation, headcount, and turnover rate for each quarter, create a report that displays the data in a chart or table for each organization.
- View the potential of a worker, use the **Performance and Potential** workforce composition dashboard so that supervisors can quickly view the data on their landing page.

Questions to Consider

Questions	Considerations
How far back do you need to track data?	Consider capturing the worker data that you need so that Workday doesn't process unnecessary information. Example: You can start collecting: <ul style="list-style-type: none"> • Data from the date your company started using your Workday production tenant, if the date is fewer than 36 periods. • Only the data you need by limiting the time periods. • Up to 36 periods of production tenant data.
How often does Workday collect, delete, or update your worker data?	Workday: <ul style="list-style-type: none"> • Collects the current period of data plus 36 periods. • Updates the Trended Workers RDS weekly for nonproduction tenants (Implementation and Sandbox), and either nightly or every Monday for production tenants depending on your retroactive period selection. • Purges data older than 36 periods from the RDS.

Recommendations

For best report performance, use only indexed calculated fields, indexed report fields, and built-in prompts instead of defining filters on the report.

Enabling trended worker data in your tenant can result in processing and storing large amounts of data. When managing your data, consider:

- Running the **Create Worker Trending Data** task to synchronize data that you created more than 6 periods ago. Run this task during nonpeak hours when collecting or updating your data. Doing so conserves processing resources for day-to-day activities or other resource demands in your tenant.
- Running the **Fix Worker Trending Data** task to fix corrupted indexed data and resynchronize the RDS with the reports in your tenant.
- Running the **Update Worker Trending Data** task to synchronize data that you created fewer than 6 periods ago. Run this task during nonpeak hours when collecting or updating your data. Doing so conserves processing resources for day-to-day activities or other resource demands in your tenant.
- Selecting a date that is less than a year ago when you debug or troubleshoot for performance. Doing so can help you find performance impacts much quicker than parsing through unnecessary data.

Requirements

No impact.

Limitations

- Because Workday processes and stores large volumes of data, Workday purges data that is older than 36 periods from the RDS.
- You can't use trending reports with text-based count distinct summarization fields as subreports in composite reporting.

Tenant Setup

You can enable trended worker data by accessing the **Edit Tenant Setup – Reporting and Analytics** task and selecting the check box in the **Worker Trending** section. You can view the status of this change by accessing the **Status** tab on the **Maintain Trended Workers** task.

Security

Domains	Considerations
<i>Custom Report Administration</i> in the System functional area.	Enables you to perform administrative tasks on reports and tasks.
<i>Set Up: Tenant Setup - Reporting and Analytics</i> in the System functional area.	Enables you to configure trended worker data in your tenant and provides access to configure conditions for using reporting and analytics.
<i>Trended Worker Data</i> in the Staffing functional area.	Provides access to all trended worker data.

Business Processes

No impact.

Reporting

Reports	Considerations
Maintain Trended Workers	On the Status tab, Workday displays the recent run history for trended jobs and the status when you enable worker trending data in your tenant.

Reports	Considerations
Worker Trending Audit	View all activity and snapshot data Workday captures for each period. You can assess the information and adjust the information you capture as your needs change.

Integrations

You can enable custom advanced reports that use the **Trended Workers** RDS as web services and use them in integrations. You can import employee hire data into Workday using an Enterprise Interface Builder (EIB) integration.

Connections and Touchpoints

Workday offers a Touchpoints Kit with resources to help you understand configuration relationships in your tenant. Learn more about the [Workday Touchpoints Kit](#) on Workday Community.

Related Information

Concepts

[Concept: Trended Workers Report Data Source](#) on page 28

[Concept: Advanced Reports](#) on page 127

[Concept: Matrix Reports](#) on page 137

[Concept: Trending Reports](#) on page 198

Reference

[Reference: Reporting Limits](#)

[Reference: Reporting on the Trended Workers Report Data Source](#) on page 29

[The Next Level: Trended Worker](#)

[The Next Level: Custom Worker Trending FAQs](#)

[The Next Level: Move up the Workday Maturity Curve: Considerations in Defining an Analytics Strategy](#)

[The Next Level: Workforce Composition Dashboards](#)

[The Next Level: Workforce Analytics: Trended Worker/Custom Worker Trending - FAQ](#)

[Workday Community: Custom Worker Trending: FAQs](#)

[Preconfigured Content: HCM Delivered Configurations](#)

Set Up the Trended Workers Report Data Source

Prerequisites

- Enable worker trending in your tenant.
- Security: *Set Up: Tenant Setup - Reporting and Analytics* domain in the System functional area.

Context

You can update configuration settings for your trended data when using the **Trended Workers** report data source, including:

- Adding up to 5 boolean, 5 numeric, or 5 single instance report fields from the Position, Worker, and Worker Business Process business objects.
- Adding Workday-delivered report fields and creating calculated fields.
- Mapping up to 10 organization types to trended worker report fields.
- Securing report fields that you add to additional security domains.
- Selecting if numeric report fields you add are semiadditive measures, which don't sum over multiple periods.
- Viewing report field usages in reports and worker trending job processing statuses.

Steps

1. Access the **Maintain Trended Workers** task.
2. (Optional) On the **Status** tab, view the run history for recent trended jobs and the statuses for report fields enabled for worker trending data in your tenant.
3. As you complete the **Configuration** tab, consider:

Option	Description
Trending Start Date	<p>Select the earliest date for Workday to capture worker trending data. Example: You can collect:</p> <ul style="list-style-type: none"> • Data from the date your company started using your Workday production tenant, if the date is fewer than 36 periods. • Only the data you need by limiting the time periods. • Up to 36 periods of production tenant data.
Number of Retroactive Periods	<p>Enter the number of historical periods calculated by the incremental update process.</p> <p>You can enter:</p> <ul style="list-style-type: none"> • 1, 2, or 3 to recalculate the data nightly for production tenants and weekly for nonproduction tenants. • 4, 5, or 6 to recalculate the data weekly on each Monday for production tenants and weekly for nonproduction tenants.
Trending Period	<p>Select a calendar month or fiscal period.</p> <p>Your Trending Period selection must match your Group by Time Period Field selection. Example: If your Trending Period is calendar-based, then the Group by Time Period Field must be calendar-based.</p> <p>You can use calendar month and fiscal period simultaneously if the last day of the fiscal period in the fiscal schedule is always the last day of a calendar month.</p> <p>If you trend by fiscal period, you can't use Workday-delivered reports because the reports trend by calendar month. Instead, copy the report and reconfigure it to use fiscal periods.</p>
Fiscal Schedule	<p>Select a fiscal schedule, as defined on the Create Fiscal Schedule task.</p>
Include Terminations on Period End Date	<p>Select to include workers terminated on the last day of the period in the ending headcount. When selected, Workday counts worker termination events 1 day after the termination effective date.</p> <p>If you change this option, regenerate your trending data using the Create Worker Trending Data task to apply the new ending headcount calculation.</p>

Option	Description
Use International Assignments as Primary Position for Trended Worker	Select to use the worker's primary position for worker trending data. Clear the check box to capture host position data.

You can access the **Update Worker Trending Data** task to manually synchronize your data as a background process to:

- Capture added retroactive changes for up to 6 periods.
- Recompute for the most recent event.

You must have access to the *Custom Report Administration* domain in the System functional area to access the task. Workday runs this task weekly for nonproduction tenants (Implementation and Sandbox), and either nightly or every Monday for production tenants depending on your retroactive period selection. You can view the **Recent Run History** on the **Status** tab on the **Maintain Trended Workers** task.

4. As you complete the **Organizations** tab, consider:

Option	Description
Report Field	Select the single instance organization report field to map to the Organization Type .
Organization Type	Select up to 10 organization types to report on for trended worker data and assign multiple types to workers. Workday selects 1 if you don't specify a top-level organization.
Top Level Organization	Specify the top-level organization that maps to the organization type you select.

5. As you complete the **Additional Fields** tab, consider:

Option	Description
Source	<p>Select the:</p> <ul style="list-style-type: none"> • Position business object to capture position data. • Worker business object to capture snapshot data. • Worker Business Process business object to capture activity data.
Field Type	<p>Configure up to 5 report fields for each of these report field types:</p> <ul style="list-style-type: none"> • Boolean • Numeric • Single Instance
Field	<p>Select a report field associated with the business object of the Source or access the Create Calculated Field task.</p> <p>A field is suitable if Workday displays the same result each time the field executes. The criteria for when a field becomes unsuitable includes if it:</p> <ul style="list-style-type: none"> • Changes the result based on the security configuration of the report runner.

Option	Description
	<ul style="list-style-type: none"> • Derives instances, such as a lookup date rollup calculated field. • Retrieves an image. • Runs a query for data. • Uses prompts. <p>Note: Access the Field Suitability for Business Objects report to view the indexing suitability for fields on a business object.</p> <p>Consider the impact on performance when using calculated fields.</p>
Domain	Select the security domain to secure to the report fields.
Semi Additive Measure	Select if a numeric report field is a semiadditive measure, which doesn't sum over multiple periods.
Field Usage	Click to view usages for a report field. You can't remove a trended worker report field until you remove the usages in reports.

Related Information

Concepts

[Concept: Custom Fields in Custom Reports and Calculated Fields](#)

Reference

[The Next Level: Overview of Primary Position Designation Impact](#)

Concept: Trended Workers Report Data Source

The **Trended Workers** report data source (RDS) is an indexed, Workday-delivered RDS that captures headcount data and workforce activity. You can create custom dashboards and reports or use Workday-delivered standard reports to view staffing events in your organization. You can't create nBox or search reports with the RDS.

The RDS reduces the effort required to gain insights into your data by enabling you to gather accurate and current workforce data more efficiently. You don't need to export your data to Microsoft Excel or external applications to perform complex data analysis. This keeps your data more secure.

Workday updates the RDS weekly for nonproduction tenants (Implementation and Sandbox), and either nightly or every Monday for production tenants depending on your retroactive period selection. Workday collects up to 36 periods of data and automatically purges data older than 36 periods from the RDS.

Activity Data, Snapshot Data, and Calculated Metrics

The RDS contains report fields that collect worker data over time and includes activity data, snapshot data, and calculated metrics. You can distinguish between activity and snapshot data by using the **Record Type** field in reports.

When processing events that occur on the last day of the period, Workday processes all activity data first, then captures the snapshot data. Workday also snapshots the results at the end of the period and takes into account retroactive changes up to 6 periods, which could impact your data.

Activity data includes these types of events, captured based on the **Effective Date** of the event:

- Addition or deletion of additional jobs.
- Hires.

- International assignments.
- Organization changes.
- Promotions.
- Staffing changes.
- Terminations.
- Transfers.

Workday tracks the **Effective Date** of the event as the **Record Date**.

Snapshot data includes worker data captured as of the last second of the last day of each period, such as:

- Biographical data.
- Compensation data.
- Headcount.
- Worker data.

Workday captures snapshot data on the first day of a new period but sets the **Record Date** as the last day of the period. Example: Workday captures snapshot data on 2018-09-01T12:01, but the **Record Date** is 2018-09-30.

Calculated metrics are a combination of activity and snapshot data. You can:

- Aggregate calculated metrics as drillable report fields in your trending report.
- Average, sum, or build additional calculations to determine rolling averages, spans of control, or turnovers.

Related Information

Concepts

[Concept: Advanced Reports](#) on page 127

[Concept: Matrix Reports](#) on page 137

[Concept: Trending Reports](#) on page 198

Reference

[The Next Level: Other Report Types and Analytic Indicators](#)

Reference: Reporting on the Trended Workers Report Data Source

Workday-Delivered Standard Reports

You can use these Workday-delivered standard reports that use the **Trended Workers** report data source (RDS) to gain insight into staffing events in your organization:

Standard Reports	Description
Promotion Rate	View promotion rates.
Hires and Terminations by Quarter	View hires and terminations for each quarter and compare the data in a chart or table.
Quarterly Turnover Rates	View involuntary and voluntary turnover rates for each quarter.
Headcount and FTE by Month	View the total headcount and number of full-time employees for each month and compare the data in a chart or table.
Employee Movement - Transfer Sub Report	View where transfers occur within your supervisory organization.

Maintaining the Trended Workers RDS

You can use these reports and tasks to create or manage trended data in your tenant:

Reports or Tasks	Considerations
Create Worker Trending Data	<p>You can create trended data and run the task to recreate all 36 periods of data in your tenant. Because Workday processes and stores large volumes of data, consider the impacts on performance when using this task. Workday recommends you run the task during nonpeak hours whenever you make changes to configurations on the Maintain Trended Workers task.</p>
Update Worker Trending Data	<p>You can manually synchronize your data as a background process to:</p> <ul style="list-style-type: none"> • Capture added retroactive changes for up to 6 periods. • Recompute for the most recent event. <p>Workday runs this task weekly for nonproduction tenants (Implementation and Sandbox), and either nightly or every Monday for production tenants depending on your retroactive period selection. You can view the Recent Run History on the Status tab on the Maintain Trended Workers task.</p> <p>If you manually synchronize your data as a background process to recompute for the most recent event, Workday recommends you run the task during nonpeak hours.</p>
Maintain Trended Workers	<p>You can update configuration settings for your trended data.</p> <p>On the Status tab, Workday displays the recent run history for trended jobs. You can drill down on values on the Additional Fields Executed column to view indexing times for report fields added to your Trended Workers RDS.</p>
Fix Worker Trending Data	<p>You can fix corrupted indexed data and resynchronize the RDS with the reports in your tenant.</p> <p>Workday runs this task periodically to reload your data.</p>
Purge Worker Trending Data	<p>You can delete or disable the ongoing collection of all worker trended data. Run this task before changing the settings on the Configuration tab on the Maintain Trended Workers task.</p> <p>Example: To switch the trending period from calendar month to fiscal period:</p> <ol style="list-style-type: none"> 1. Purge the data using the Purge Worker Trending Data task.

Reports or Tasks	Considerations
	<p>2. Change the configuration settings using the Maintain Trended Workers task.</p> <p>3. Create the data again using the Create Worker Trending Data task.</p>
Worker Trending Audit	You can view all activity and snapshot data captured for each period. You can assess the information and troubleshoot any issues.

Workforce Composition Dashboards

These workforce composition dashboards enable you to make well-informed decisions more efficiently and gain insight across your organization:

Workforce Composition Dashboards	Description
Distribution Trends and Analysis	View workforce distribution by key segments.
Diversity	View gender and ethnicity composition.
Headcount Movement	View hire, termination, and transfer movements.
Performance and Potential	View employee performance data.
Structure Dynamics	View span of control and organizational structure.

Related Information Concepts

[Concept: Trending Reports](#) on page 198

Reference

[Reference: Workforce Composition Dashboards](#)

[The Next Level: Workforce Composition Dashboards](#)

Set Up Reports

Setup Considerations: Custom Reporting

You can use this topic to help make decisions when planning your configuration and use of custom reporting. It explains:

- Why to set it up.
- How it fits into the rest of Workday.
- Downstream impacts and cross-product interactions.
- Security requirements and business process configurations.
- Questions and limitations to consider before implementation.

Refer to detailed task instructions for full configuration details.

What It Is

You can create custom reports to serve reporting and analytics requirements specific to your business needs.

As with standard reports, custom reports enable you to:

- Access real-time, relevant data.

- Take action on the data directly from the report results.
- Use configurable security to limit access to reporting data.

Business Benefits

Custom reports enable you to:

- Create reports for your specific business needs.
- Enable a report as a worklet.
- Maintain greater control of your reports, since they remain unchanged when Workday updates standard reports.
- Schedule reports and share results with different groups in various formats.
- Transfer data into or out of Workday by enabling reports as web services.
- Translate a report to another language.

Use Cases

- Copy an existing standard report and modify it for your business.
- Create a new custom report.
- Create or edit dashboards to display multiple related reports.
- Extract data from Workday through an Enterprise Interface Builder (EIB) integration.

Questions to Consider

Questions	Considerations
Which standard report can you use to provide the results you need?	<p>You can run the Workday Standard Reports report to view these 2 types of Workday-delivered standard reports:</p> <ul style="list-style-type: none"> • Report Writer reports. You can copy these reports and perform additional edits on the copy, in addition to using them on custom and Workday-delivered dashboards. • XpressO reports. You can't copy, edit, or use them on custom dashboards. You can use XpressO reports on Workday-delivered dashboards. <p>If none of the standard reports meet your needs, you can copy then edit an existing report, or create a custom report.</p>
Do you want to delegate report management to 1 role in your organization/tenant?	You can designate a report administrator to manage all the reports in your tenant.
What report data source (RDS) should you select?	<p>The data you can access in a report depends on the RDS you select. Each RDS contains instances of a business object, which serves as the primary business object. Multiple RDSs can have the same primary business object.</p> <p>Consider selecting an RDS with a primary business object that includes most of the fields you need.</p> <p>Whenever possible, select an indexed RDS. Indexed RDSs enable your report to run faster than standard RDSs.</p>

Questions	Considerations
	If your report needs to be effective dated, use a standard RDS.
How can you use multiple RDSs on 1 report?	<p>You can combine data from multiple RDSs in composite reports. Composite reports access data through the RDSs of subreports. You can reference these report types as subreports:</p> <ul style="list-style-type: none"> • Advanced • Matrix • Trending
How can you include fields that aren't in the RDS?	<p>You can create calculated fields that use existing data in Workday to:</p> <ul style="list-style-type: none"> • Change your data into different formats. • Configure constant values for your data. • Perform simple calculations on your data. • Retrieve your data. <p>You can also add custom fields to business objects when you create a custom object.</p>
Do other users need access to the data in this report?	<p>If users have access to the correct security domains, they can run the report and edit the report definition.</p> <p>You can also export report results as a spreadsheet or PDF and share the file with other users. Spreadsheets and PDFs don't retain any security restrictions.</p>
Do you want to enable your report as a web service?	<p>You can enable advanced and search reports as web services, which enable access to report results through URLs. You can use these web services in:</p> <ul style="list-style-type: none"> • Integrations between Workday and external business services. Example: Payroll or benefits providers. • External reporting tools to access Workday data. Example: Microsoft Excel.
Do you need reports to run at specific times or at regular intervals?	<p>You can schedule when and how often reports run. Scheduled reports run in the background, and you can download the report output files.</p>
Do you want to run multiple reports at the same time?	<p>You can create groups of related reports and schedule them to run at the same time. Example: Year-end financial reports.</p> <p>You can also burst reports by using a report group to run a single report with different prompt values in quick succession.</p>
How do you want the report results to display?	<p>You can display report results in a chart, table, or both. Matrix reports are the best report type for displaying most chart types.</p>

Questions	Considerations
	You can also display reports as worklets on a dashboard to give stakeholders an overview of important data. Examples: The Workday-delivered Compensation and Benefits and Diversity dashboards.
How do you organize and manage all the reports in your tenant?	You can tag reports to organize them and make them easier to search for. Workday recommends that you regularly review your custom reports and delete unused reports.

Recommendations

Use the **Workday Standard Reports** report to search for existing standard reports that might fit your requirements before creating a new custom report.

Create custom reports in Implementation or Sandbox tenants before migrating them to your production tenant, then validate the reports in case there's downstream impact to alerts and other processes.

Before migrating reports, consider the downstream impact to edited reports in lower level tenants so that you don't migrate potential issues.

For optimal performance:

- Use indexed RDSs.
- Select the smallest RDS that includes all the business object instances you need.
- Instead of creating your own filter in the report definition, use the faster built-in RDS filters whenever possible. Example: Use the *Workers by Role* filter on the **Workers for HCM Reporting** RDS. The **Data Sources** report has a column that indicates RDS filters.
- Select an RDS that includes built-in prompts instead of creating your own prompts. The **Data Sources** report has a column that indicates whether an RDS includes built-in prompts.
- Limit the number of calculated fields in your report.

Limitations

Limitations	Considerations
Copying Reports	Your report must have a Type of Report Writer on the Workday Standard Reports report.
Dashboard Processing Time	Dashboards time out after 30 seconds, so reports you deploy as worklets on dashboards must finish running within that time.
Filtering	Workday doesn't support filtering on fields that return derived instances, such as lookup date rollup calculated fields.
Freezing Columns	You can't freeze columns using the Grid Preferences option on the table toolbar: <ul style="list-style-type: none"> • When the report has column or row groupings, multilevel column headers, or repeating column groups. • For matrix, nBox, search, or trending report types.

Limitations	Considerations
Report Processing Time	<p>Reports have different processing time limits depending on where you run them:</p> <ul style="list-style-type: none"> • 30 minutes for all reports. • 6 hours for background reports, scheduled reports, and web services. <p>After 20 seconds, Workday enables you to schedule the report to run as a background process. If report processing exceeds 30 minutes, Workday displays an error.</p>

Security

These security domains are in the System functional area:

Domains	Considerations
<i>Ability to Create Only Temporary Reports</i>	Enables you to restrict users to create only temporary reports.
<i>Custom Report Administration</i>	<p>Enables you to take these actions on custom reports:</p> <ul style="list-style-type: none"> • Add to the related actions menu of a business object. • Add to the sitemap. • Transfer ownership.
<i>Custom Report Creation</i>	Enables you to create and modify custom reports.
<i>Data Translation</i>	Enables you to translate custom reports.
<i>Manage: All Custom Reports</i>	<p>Enables you to take these actions on custom reports:</p> <ul style="list-style-type: none"> • Delete. • Edit. • Give users view-only access. • Transfer ownership. • View.
<i>Report Definition Sharing - All Authorized Users</i>	Enables you to share report definitions with all users authorized to access the RDS of the report definition.
<i>Report Definition Sharing - Specific Groups</i>	Enables you to share report definitions with other users in a security group.
<i>Report Definition Sharing - Specific Users</i>	Enables you to control which users can share report definitions with specific, named users.
<i>Report Tag Management</i>	Enables you to provide access to users to manage report tags.

Business Processes

You can run a custom report as a business process step by adding a *Report* type step. Example: In the *Hire* business process, Workday sends a report of subordinates to the manager, including the new hire.

When the business process runs, Workday enforces the security associated with the report. The report displays only the information that the recipient has permission to access.

Reporting

You can use these Workday-delivered reports and dashboards to track report usage in your tenant:

- **All Background Only Custom Reports** report: Displays all custom reports enabled as background only in your tenant in addition to the report owner, area where used, and so on.
- **Dashboard Run History** report: Displays dashboard usage statistics from the previous 6 months and includes details such as who ran the report and at what time.
- **Data Sources** report: Displays these RDS details:
 - Built-in prompts.
 - RDS source filters.
 - Permitted security groups.
 - Primary business object.
- **Report Administrator** dashboard: Displays reports and tasks that help you manage the reports in your tenant.
- **Report Run History** report: Displays how many times a report ran and includes details such as who ran the report and at what time.
- **Workday Standard Reports** report: Displays Workday-delivered reports.

You can create custom reports and track information, such as report owner and time of last update, based on these RDSs:

- **All Custom Reports**
- **All Standard Reports**
- **Indexed Dashboard Run History**
- **Indexed Report Run History**

Integrations

You can enable custom advanced and search reports as web services and use them in integrations between Workday and external business services.

Connections and Touchpoints

Workday offers a Touchpoints Kit with resources to help you understand configuration relationships in your tenant. Learn more about the [Workday Touchpoints Kit](#) on Workday Community.

Related Information

Concepts

[Concept: Business Objects, Data Sources, and Fields](#) on page 17

[Concept: Object Transporter 2.0](#)

[Concept: Report Step](#)

[Concept: Report Tags](#) on page 97

[Concept: Selecting a Data Source](#) on page 21

[Setup Considerations: Calculated Fields](#)

[Setup Considerations: Payroll Register](#)

Tasks

[Schedule Reports or Report Groups](#) on page 87

Reference

[Reference: Reporting Limits](#)

[Reference: Report Types](#) on page 14

[The Next Level: Define Your Organization's Workday Reporting Guidelines](#)

[The Next Level: Move up the Workday Maturity Curve: Considerations in Defining an Analytics Strategy](#)

[The Next Level: Report Types - Standard & Custom](#)

[The Next Level: Reporting Foundation Community Guide](#)

[The Next Level: Taking the Stress Out of Reporting: Getting Started](#)

Setup Considerations: Charts

You can use this topic to help make decisions when planning your configuration and use of charts. It explains:

- Why to set them up.
- How they fit into the rest of Workday.
- Downstream impacts and cross-product interactions.
- Security requirements and business process configurations.
- Questions and limitations to consider before implementation.

Refer to detailed task instructions for full configuration details.

What They Are

Charts enable you to display data in an output type that best fits your business needs. You can compare metrics, view the relationship between sets of data, and visualize changes for these report types:

- Advanced
- Composite
- Matrix
- Trending

Business Benefits

Charts in Workday:

- Are the most efficient way to analyze and dynamically interact with your data.
- Enable you to change from 1 chart type to another when the report runs, so you can determine the best chart type to represent your data.
- Enable you to gain insight by drilling into the data.

Use Cases

The chart type that you select depends on the data that you need to display and how Workday should display it. You can:

- Analyze the relationship between the whole and each part of the whole by using a donut chart.
Example: The percentage of open positions against all positions in your organization.
- Compare metrics with different scales by overlaying 2 charts.
- Display consolidated management information and actionable items by adding a worklet to a dashboard.
- Display data in 3D using an area, bar, or line chart.
- Plot data over time by using a line chart. Example: The number of new hires for each quarter over a fiscal year.
- Plot relationships between data by using a bubble chart. Example: The average invoiced amount versus the total invoiced amount for each supplier.

- Plot the relationship between numeric values by using a scatter chart. Example: The performance of a worker population as a percentage against their retention risk.
- View a single value and its percentage on a gauge, like a speedometer in a car, by using a gauge chart.
- View data for each category by using a bar or column chart. Example: The top 10 organizations in your company with the highest headcount.

Questions to Consider

Questions	Considerations
What kind of data do you need to represent in charts?	<p>You can deliver data in different ways to capture averages, benchmarks, trends, and so on, as:</p> <ul style="list-style-type: none"> • Comparisons. • Parts of a whole. • Patterns and relationships among multiple values. • Target line deviation. • Time series analysis.
How do you want to present your data visually?	<p>The availability of some chart types depends on the report type that you select. You can:</p> <ul style="list-style-type: none"> • Combine an area - overlaid, column - clustered, or line chart to create a dual-axis chart on composite, matrix, and trending reports. • Use a gauge on advanced reports to display a single value of data and its percentage on a dial. • Use a scatter chart on advanced reports to plot the relationship between pairs of numeric values. • Use a table with columns and rows to display your data in a grid. <p>You can use all other chart types on any report type that enables output options.</p>

Recommendations

Use the **Table** output option on subreports so that data displays on a composite report without errors.

Requirements

- To display area, bar, and line charts in 3D, use Report Designer, which is an application of the Eclipse Business Intelligence and Reporting Tools (BIRT) project.
- To display your data on a chart, you must have enough data to populate the chart. Example: If you have only 1 category or data series to plot, a donut chart wouldn't be the best option for displaying your data.

Limitations

- Workday doesn't support dual-axis and combination charts on mobile devices.
- You can't print charts or export them to Excel.

Tenant Setup

No impact.

Security

The *Custom Field Management* domain in the System functional area enables you to create and manage custom fields, including gauge ranges.

Business Processes

No impact.

Reporting

You can view the chart types supported by custom reports on the **All Custom Reports** report.

Integrations

No impact.

Connections and Touchpoints

Workday offers a Touchpoints Kit with resources to help you understand configuration relationships in your tenant. Learn more about the [Workday Touchpoints Kit](#) on Workday Community.

Related Information

Concepts

[Concept: Charts](#) on page 61

[Setup Considerations: Report Designer](#) on page 270

Tasks

[Set Up Output Options for Custom Reports](#) on page 51

[Set Up Output Options for Composite Reports](#) on page 160

Reference

[Reference: Chart Types](#) on page 62

Copy Reports

Prerequisites

Security:

- *Custom/Standard Report Copy* domain in the Tenant Non-Configurable functional area.
- *Set Up: Tenant Setup - General* domain in the System functional area.

Context

You can create a new custom report by copying any:

- Custom report.
- Report on the **Workday Standard Reports** report that lists *Report Writer* in the **Type** column.

Some standard reports are available as worklets in dashboards, but you can't search for nor copy them. These reports don't display on the **Workday Standard Reports** report.

Steps

1. Access 1 of these tasks:

- **Copy Custom Report**
- **Copy Standard Report to Custom Report**

2. (Optional) For custom composite reports, select the **Copy Subreports** check box on the **Copy Custom Report** task to copy the underlying subreports for the copied composite report.

Workday appends a timestamp to each subreport with the same name where the timestamp represents the:

- 4-digit year.
- 2-digit month.
- 2-digit day.
- 2-digit hour.
- 2-digit minute.
- 2-digit second.
- 3-digit millisecond.
- Time zone.

Example: 2023 03 10 09 39 45 440 -0800.

Next Steps

For copied subreports, update the sharing permissions from the populated **Don't share report definition** selection.

You can access the **Hide Workday Delivered Report** task to hide the original standard report so that you don't have 2 versions of the report on:

- Menus.
- Related actions menus.
- Scheduling options.
- Search results.

You can't hide the report when Workday references it in another location, including integrations or scheduled report groups. When you hide standard reports, Workday doesn't display them in searches. If you can't find a specific report, access the **Hide Workday Delivered Report** task to determine if you hid it.

Related Information

Reference

[The Next Level: Report Types - Standard & Custom](#)

[The Next Level: Report Actions Against Existing Reports \(Run, Copy, Hide, Edit, Migrate from WDSETUP\)](#)

Create Custom Reports

Prerequisites

Security: These domains in the System functional area:

- *Custom Report Creation*
- *Manage: All Custom Reports*
- *Report Tag Management*

Context

In addition to using Workday-delivered standard reports, you can create custom reports to analyze data in your tenant.

Workday recommends you create custom reports in Implementation or Sandbox tenants before migrating them to your production tenant, then validate the reports in case there's downstream impact to alerts and other processes. Before migrating reports, consider the downstream impact to edited reports in lower level tenants so that you don't migrate potential issues.

Steps

1. Access the **Create Custom Report** task.
2. As you complete the task, consider:

Option	Description
Temporary Report	<p>Select to enable Workday to delete the report after 7 days.</p> <p>For all report types except simple reports, you can change the deletion date on the Advanced tab.</p>
Enable As Web Service	<p>For advanced or search reports, select to:</p> <ul style="list-style-type: none"> • Use the report in an outbound EIB. • Enable external web sites to access the report. <p>Set up Web Services Options on the Advanced tab.</p>
Optimized for Performance	<p>Unavailable for nBox and search reports. For reports using indexed data sources, select to display only indexed fields in field prompts.</p> <p>If you must use nonindexed fields, clear the check box on the Advanced tab.</p>
Data Source	<p>When selecting a data source, you can choose a data source from the Recommendation folder. Workday bases these recommendations on:</p> <ul style="list-style-type: none"> • The most recently used data sources. • The most frequently used data sources. • Popular data sources between the user and other users with similar security groups. • Data sources with a similar name to the report name. <p>For nBox and search reports, you can only select an indexed data source.</p> <p>When you select the Optimized for Performance check box, Workday limits the displayed options to only indexed data sources. To view and select standard or nonindexed data sources, clear the check box.</p> <p>See Concept: Selecting a Data Source on page 21.</p>
Report Tags	<p>Create or select Report Tags to categorize your report and make it easier to find.</p>

3. As you complete the **Additional Info** section, consider:

Option	Description
Comments	<p>Enter comments to track information, such as report notes, who requested the report, and so on. These internal comments won't display in the report output.</p>

Option	Description
Brief Description	Workday displays the description in search results and in the related actions menu of the report.

Next Steps

When users run the report, they can click **Grid Preferences** on the table toolbar to:

- Change the order of columns.
- Display or hide columns.
- Freeze columns.

Grid Preferences displays for these report types:

- Advanced
- Composite
- Simple
- Transposed

Workday disables column freezing for composite reports that have:

- Column or row groupings.
- Multilevel column headers.
- Repeating column groups.

If the report doesn't have columns eligible to freeze, Workday doesn't display the **Column Preferences** menu to the report user.

Workday doesn't retain your grid preferences when you export the report, but retains them when you log into Workday.

Related Information

Concepts

[Concept: Object Transporter 2.0](#)

Reference

[Reference: Report Types](#) on page 14

[2024R2 Release Note: Freeze Report Columns](#)

[The Next Level: Factors Impacting Report Performance](#)

[The Next Level: Migratable Custom Reports Useful for Report Writers](#)

[The Next Level: Taking Action Against Existing Reports \(Run, Copy, Hide, Edit\)](#)

[The Next Level: Defining the Description Fields on Report Definitions](#)

Create Reports from Business Object Instances

Prerequisites

Security: These domains in the System functional area:

- *Custom Report Creation*
- *Manage: All Custom Reports*
- *Report Tag Management*

Context

To report on familiar data, you can create a custom report based on a business object instance. Example: Create a report from Logan McNeil, a Worker business object instance.

Steps

1. Search for the business object instance that you want to use as the basis of your custom report.
2. From the related actions menu of the business object instance, select **Reporting > Create Custom Report from Here**.
3. Select the fields to include in your custom report.

Next Steps

Complete the tabs on the **Edit Custom Report** task.

Find Custom Reports by Data Source

Prerequisites

Security: These domains in the System functional area:

- *Custom Report Creation*
- *Manage: All Custom Reports*

Context

You can copy the **All Custom Reports** report and configure it to display reports that use a specific report data source (RDS). Example: You can find reports that use the **Trended Workers** RDS so you can manage reports in your tenant.

You can also configure the report to display report-specific calculated fields so you can view their **Indexing Information**.

Steps

1. Access the **All Custom Reports** report.
2. From the related actions menu, select **Custom Report > Copy**.
3. (Optional) On the **Columns** tab, select *Calculated Fields for Report* on the **Field** prompt to include reports that contain report-specific calculated fields.
4. As you complete the **Filter on Instances** grid on the **Filter** tab, consider:

Option	Description
Field	<i>Data Source</i>
Operator	<i>in the selection list</i>
Comparison Type	<i>Prompt the user for the value</i>
Comparison Value	<i>Default Prompt</i>

5. (Optional) To include reports with report-specific calculated fields, select:

Option	Description
Field	<i>Calculated Fields for Report</i>
Operator	<i>is not empty</i>

6. On the **Prompts** tab, select the **Populate Undefined Prompt Defaults** check box.

Result

When you run the report, Workday displays all custom reports that use the report data source specified on the prompt. Optionally, Workday displays reports with report-specific calculated fields so you can view the

Indexing Information from the related actions menu. Using indexed calculated fields might improve the performance of your report.

Set Up Drill Down for Custom Reports

Prerequisites

- Create a custom report.
- Security: These domains in the System functional area:
 - *Custom Report Creation*
 - *Manage: All Custom Reports*

Context

You can configure the column and sort options that display when report runners drill into instances for these report types:

- Matrix
- nBox
- Trending

Steps

1. Access the **Edit Custom Report** task.
2. As you complete the **Group By Fields** section on the **Drill Down** tab, consider:

Option	Description
Sort Dimensions Alphabetically	Select to sort dimensions alphabetically instead of by their order in the grid.
Fields That Can Be Summarized	Select to add or remove fields from the populated list. Workday enables these field types for summarization: <ul style="list-style-type: none"> • Boolean. • Date. • Numeric. • Single instance. • Text.
Field	Specify fields to enable drilling. If you specify a field, Workday changes the Fields That Can Be Summarized option to Specific Fields .
Label Override	Specify a name to use instead of the populated name on this report to ensure that any future renaming by Workday doesn't impact your labels.
Indexed	(Available for matrix and trending reports only.) Workday selects the check box to indicate if your report has the potential to run faster based on your Drillable Fields grid selections.

3. As you complete the **Detail Data** section, consider:

Option	Description
Column Heading Override	Specify a name to use instead of the populated name on this report to ensure that any future renaming by Workday doesn't impact your labels.
Options	Available options depend on your field type.

4. (Optional) In the **Sort** section, set up how Workday should sort the fields and associated fields in the **Detail Data** section.
5. (Optional) Select from the **Drill Down Options** prompt to disable drilling options in your report.

Set Up Sort Options for Custom Reports

Prerequisites

- Create a custom report.
- Security: These domains in the System functional area:
 - *Custom Report Creation*
 - *Manage: All Custom Reports*

Context

You can configure the sort order for data groups in these report types:

- Advanced
- Search
- Simple
- Transposed

You can configure sorting on search reports only with these report data sources:

- **Find Candidates**
- **Job Posting**
- **Job Posting Anchor**
- **Learning Content**

Steps

1. Access the **Edit Custom Report** task.
2. (Optional) As you complete the **Sort** tab for search reports, consider:

Option	Description
Sort by Relevance	Select the check box to sort the search results based on how well they match your search criteria. Note: Workday must render and sort all results before returning the results to you. Workday runs indexing as a background process every 24 hours for nonproduction tenants, and every 12 hours for production tenants. When you select the check box, use indexed fields so that Workday can update results efficiently, such as on external sites.

Option	Description
	You can clear the check box so that Workday displays all report results before the background indexing process completes.
Display Matching Fields	(Available when you select Sort by Relevance .) Select the check box to display the fields that match your search criteria under each search result.

3. (Optional) As you complete the **Sort and Group** section for advanced, simple, and transposed reports, consider:

Option	Description
Sort by first accessible column	(Advanced reports only.) Select the check box to sort by the first column on the Columns tab users have access to when the Sort and Group section is empty. If you don't select the check box and the Sort and Group section is empty, Workday doesn't apply sorting to any column.
Field	Select a field from the prompt to use as the sort criteria. The order of the fields specifies the sort sequence and group hierarchy for the report.
Display Headers	(Advanced and simple reports only.) Select the check box to display group headers for the sort and group level and provide a logical separation of data on the report. Include <i>Group Name</i> as a Field on the Columns tab.
Summarize Detail Rows	(Advanced reports only.) Select the check box to group and summarize the detail rows, and display them as summary rows for each sort/group field on the report. The field must be the last row in the Sort and Group grid.
Display Subtotals	(Advanced and simple reports only.) To specify that you want to display subtotals for a sort or group level, select the check box to include: <ul style="list-style-type: none"> • An aggregate function for a currency or numeric field in the Options of the Columns tab. • <i>Count</i> as a Field on the Columns tab.
Group Name Override	(Advanced reports only.) Include <i>Group Name</i> as a Field on the Columns tab.

4. (Optional) As you complete the **Grouping and Totaling Options** section for advanced and simple reports, consider:

Option	Description
Enable Outlining based on Grouping	(Advanced reports only.) Select the check box to summarize detail data or subtotal currency or

Option	Description
	<p>numeric data. Include <i>Group Name</i> as a Field on the Columns tab.</p> <p>To group data, select the Display Headers check box for each sort field to include in the outline. To subtotal currency or numeric data, select the Display Subtotals check box, then select an aggregation from the Options prompt on the Columns tab.</p> <p>When enabling outlining, consider:</p> <ul style="list-style-type: none"> • All fields on the report must associate with the primary business object associated with the report data source. • If you export an outlined report to Microsoft Excel, all levels of the report display without outlining. • If you print to PDF, only the top level of the outline prints. • Outlined reports can't display as worklets. • Outlining doesn't support some languages due to right-to-left formatting limitations. • Workday supports up to 8 levels of outlining.
Include Group Name in Headers and Subtotals	(Advanced reports only.) Select the check box to display the group name and the group name value in the group name column of the report. Example: Workday displays the value <i>San Francisco</i> and the group name <i>City</i> as <i>San Francisco (City)</i> .
Display Grand Totals	<p>Select the check box to display the grand total of 1 of these selections:</p> <ul style="list-style-type: none"> • An aggregate function for a currency or numeric field in the Options of the Columns tab. • <i>Count as a Field</i> on the Columns tab.
Detail-Summary Reporting	(Advanced reports only and available when you access Create Report Field from the Field prompt in the Sort and Group grid.) Select the level of detail to display for the lines in your report.

To enable subtotaling for fields associated with a related business object, select *Sum* from the **Options** prompt of currency and numeric fields on the **Columns** tab.

Workday doesn't support:

- Grand totaling for currency or numeric fields associated with a related business object.
- Totaling currency fields with different currency codes. Example: Workday can't total USD with EUR.

5. (Optional) For advanced reports, complete the **Sub Level Sort** section to enable additional sorting for a related business object.

Example: The Workday-delivered report **Job History** sorts each row by worker alphabetically and in ascending order. At the sublevel, the related business object is Job History. Workday sorts the effective date and entry date for each worker alphabetically and in descending order.

Worker	Effective Date	Process	Job Title	Entry Date
Jamie Stone	10/01/2014	Hire: Jamie Stone	Consultant Manager	02/17/2015 01:21:36.934 PM
Janet Childs	10/01/2014	Assign Organizations: Janet Childs		08/05/2015 03:15:35.964 PM
	10/01/2014	Hire: Janet Childs	Resource Manager	02/17/2015 12:38:37.269 PM
Jared Ellis	10/15/2014	Assign Organizations: Jared Ellis		01/29/2015 10:40:48.026 AM
	10/15/2014	Promotion: Jared Ellis	Manager, IT HelpDesk	01/29/2015 10:40:48.026 AM
	01/01/2000	Assign Pay Group: Jared Ellis		12/29/2008 05:26:42.377 PM

Related Information

Concepts

[Concept: Logical Sort Order](#) on page 76

[Concept: Advanced Reports](#) on page 127

[Concept: Report-Specific Calculated Fields](#)

Reference

[The Next Level: Factors Impacting Report Performance](#)

[The Next Level: Report Performance Recommendations for Large Volume Customers](#)

Set Up Filter Options for Custom Reports

Prerequisites

- Create a custom report.
- Security: These domains in the System functional area:
 - *Custom Report Creation*
 - *Manage: All Custom Reports*

Context

You can configure the **Filter** tab to filter the data Workday displays on custom reports. For advanced reports, you can also add subfilters.

Workday doesn't support filtering on fields that return derived instances, such as lookup date rollup calculated fields.

Steps

1. Access the **Edit Custom Report** task.

2. As you complete the **Filter on Instances** grid on the **Filter** tab, consider:

Option	Description
Parentheses	(Unavailable for simple reports.) Use parentheses to group conditions together.
Operator	Available operators depend on option you select from the Field prompt.
Comparison Type	(Unavailable for simple reports.) Specify how Workday compares the values against the option you select in the Field prompt. You can: <ul style="list-style-type: none"> Prompt the report runner for the value before running the report. Specify a value from another field or within the report definition.
Indexed	(Advanced and matrix reports only.) The check box indicates if Workday might index your report for filtering so it can run faster. Workday selects the check box based on the Comparison Type , indexed option you select for the Field , and the value in the Operator prompt.

3. (Optional) For advanced, matrix, and trending reports, complete the **Filter on Aggregations** grid to filter on an aggregation function of a field.

Example: You can display the average compensation by position, excluding employees who earn more than \$200,000 per year.

4. As you complete the task, consider:

Option	Description
Aggregation Function	Select the function to apply to the aggregated values.
Field	Select a value to evaluate based on the related business object. To select text-based fields for count distinct on matrix and trending reports that use standard RDSs, clear the Optimized for Performance check box on the Advanced tab.

You can't use advanced, matrix, or trending reports with filter aggregations as subreports for composite reporting.

5. (Optional) As you complete the **Subfilter** tab for advanced reports, consider:

Option	Description
Business Object	Select a multi-instance or single instance field based on the primary business object.
Field	Select a field to evaluate based on the related business object.
Condition as Text	Workday displays your subfilter condition in textual format when you set it up.

You can't add subfilters to reports with facet filters.

Related Information**Reference**

[Reference: Filter Operators](#) on page 64

[The Next Level: Factors Impacting Report Performance](#)

[The Next Level: Report Performance Recommendations for Large Volume Customers](#)

Set Up Prompt Options for Custom Reports

Prerequisites

- Create a custom report that isn't a simple report type. See [Create Custom Reports](#) on page 40.
- Security: These domains in the System functional area:
 - *Custom Report Creation*
 - *Manage: All Custom Reports*

Context

Report prompts enable you to customize the information displayed in a report by configuring parameter values before the report runs. You can:

- Prompt users for values when the report runs.
- Set up default values for prompts and report data sources with built-in prompts so that you don't have to configure parameter values each time.

Consider the prompts you create and values you configure for users as you don't want to limit their use of the report with restrictive prompts.

Steps

1. Access the **Edit Custom Report** task.
2. As you complete the **Prompts** tab, consider:

Option	Description
Instructions	Enter text to display above the prompt fields, including instructions for entering prompt values.
Effective Date	(Available on reports that use standard data sources. Unavailable for search or nBox reports.) Select to prompt users for an effective date and time for when the report runs, or use the date and time of when the report runs.
Use Pacific Time Zone for Effective Moment	(Available on reports that use standard data sources. Unavailable for search or nBox reports.) Select to use Pacific Time for the effective moment on the report instead of an effective local date. Effective moment is when the transaction is effective. This option is applicable only when you enter an effective date when the report runs.
Entry Date	(Available on reports that use standard data sources. Unavailable for search or nBox reports.) Select to prompt users for an entry date and time for when the report runs, or use the date and time of when the report runs.

Option	Description
Populate Undefined Prompt Defaults	<p>Select to enable Workday to populate the Prompt Defaults grid with undefined prompt values. This enables a quick configuration of various prompts.</p> <p>For composite reports, click Populate Undefined Prompts in the Report-Level Prompts section.</p>
Field	<p>Specify the field associated with the primary business object to use as the prompt.</p>
Prompt Qualifier	<p>If you select a data range or a data set prompt for the Field, select the prompt you want to override.</p>
Label For Prompt XML Alias	<p>Available for reports enabled as a web service.</p>
Default Value	<p>Available when you select <i>Specify default value</i> or <i>Determine default value at runtime</i> as the Default Type.</p> <p>Select the field or value to use as the populated prompt.</p>

Related Information

Concepts

[Concept: Effective and Entry Dates](#) on page 61

[Concept: Roles, Time Zones, and Snapshots](#)

Reference

[The Next Level: Factors Impacting Report Performance](#)

[The Next Level: Report Performance Recommendations for Large Volume Customers](#)

[The Next Level: Using the Free-Form Fields on Report Definitions](#)

Set Up Output Options for Custom Reports

Prerequisites

Create a custom report.

Security: These domains in the System functional area:

- *Custom Report Creation*
- *Manage: All Custom Reports*

Context

You can configure output display options, including:

- Help text.
- Output types to display your data as a chart, chart and table, gauge, table, or layout.
- Time series.
- Worklets.

Workday doesn't support output configurations for simple reports.

Steps

1. Access the **Edit Custom Report** task.

2. (Optional) Set up the **Output Type** section on the **Output** tab for these report types:

- Advanced
- Matrix
- Trending

(Advanced reports only.) You can select *Gauge* to specify the gauge range and metered values.

3. As you complete the **Chart Options** section for *Chart* or *Chart and Table*, consider:

Option	Description
Scatter Chart Type	Available only for advanced reports.
Horizontal/Vertical Axis	<p>Select the horizontal/vertical axis of the chart by referencing the column grouping, the row grouping, or other specific metrics.</p> <p>If your matrix or trending report includes only 1 column grouping category, Workday doesn't display a legend.</p>
Add Secondary Axis	<p>(Unavailable for advanced reports.) Select the check box to visualize changes in your data and compare metrics with different scales using dual axis charts. A dual axis enables you to overlay 2 of these chart types when you select 1 of them for the Primary Axis:</p> <ul style="list-style-type: none"> • Area - Overlaid • Column - Clustered • Line <p>Select the Metrics to Include and Secondary Vertical Axis Chart Types to use on the dual axis chart.</p>
Top n Values	<p>Enter the number of top results to display on your report.</p> <p>Select the Sum Remaining Values check box to display an <i>Other</i> option to view the remaining results. Clear the check box to exclude the remaining results.</p> <p>Example: You can enter <i>10</i> as the Top n Values to view only the top 10 of 22 locations based on the total salary expense of your organization. You can select the Sum Remaining Values check box to summarize the bottom 12 locations.</p>
Sum Remaining Values	<p>Use with the Top n Values option.</p> <p>Example: If you include only the top 10 locations out of 22, you can sum the remaining 12 locations into a single value labeled as <i>Other</i> on the chart.</p> <p>(Available for matrix and trending reports only.) Workday displays more than 1 <i>Other</i> grouping if:</p> <ul style="list-style-type: none"> • You select the Sum Remaining Values check box.

Option	Description
	<ul style="list-style-type: none"> You enter values for the Maximum Number of Columns, Maximum Number of Rows, or Top n Values fields on the Matrix tab. Your data output exceeds the maximum number of columns, rows, or Top n Values you set up.
Filter by	<p>Use with the Top n Values option.</p> <p>Example: You can filter the top 10 locations by annualized salary amount or by the last bonus amount.</p>
Target Line Type	<p>Set up these target line options for clustered or stacked bar and column charts:</p> <ul style="list-style-type: none"> Display one target line for all groups: Enables you to select a tenant-wide calculated field to use for drawing a single target line on the chart. You can enter a value for the Target Line Label. Display multiple target lines for each group: Enables you to display a unique target line for each group displayed in a bar or column chart. Include at least 1 numeric or currency report field to use as a target line on the Advanced tab of the report.
Horizontal/Vertical Axis Scale	<p>If you enter an increment, maximum, or minimum fixed value, it must match the format selected on the Columns tab.</p> <p>Example: If the maximum value is 5,000 and the format on the Columns tab is #,##0,"K", enter 5 in the Maximum Value > Fixed field.</p> <p>When plotting multiple metrics, Workday uses the format of the first metric plotted, based on the sequence of the metrics on the Columns tab.</p>
Quadrants	<p>Available for scatter chart types.</p> <p>Select the report fields that set up the Horizontal Quadrant Line, the Vertical Quadrant Line, and specify colors for each quadrant.</p>

4. (Optional) Set up the **Worklet Options**.

Worklet Options are unavailable for search reports.

Before you can add this report as a worklet to a dashboard, you must also share the report with the security groups you want to access the dashboard.

5. As you complete the **Enable as Worklet** section, consider:

Option	Description
Available On	<p>Select the dashboards or landing pages on which to display your worklet. Select <i>Mobile Reports</i> to enable your report for mobile use.</p>

Option	Description
Maximum Number of Rows	<p>You can't set a maximum number of rows for advanced reports that include:</p> <ul style="list-style-type: none"> • Sub Level Sorts. • Subfilters.
Maximize Report Options	<p>Select how the worklet behaves when you click View More... and maximize the report:</p> <ul style="list-style-type: none"> • Display this Worklet when Maximized: Workday runs the report definition as a normal Workday report. • Run a Different Report when Maximized: You can specify a report that you have the security to run. If you don't have security access or the report no longer exists, Workday displays the worklet as a maximized report. <p>For dashboards with prompt sets, clicking View More... enables you to view and change prompt values populated by Workday.</p>

6. (Optional) In the **Help Text** section, enter text in the **More Info** field that provides additional information to help users understand the results of the report.

For reports you run in the browser, Workday displays the text above the report results. For worklets, the text displays when you click **More Information** under the gear icon.

7. (Optional) Set up the **Time Series Options** for these report types:

- Matrix
- nBox
- Trending

Workday selects the **Include All Time Periods** check box to include time periods for reports. When the report runs, Workday prompts users for the **Time Series Start Date** and **Time Series End Date**.

Related Information

Concepts

[Concept: Charts](#) on page 61

[Setup Considerations: Charts](#) on page 37

Tasks

[Create Gauge Ranges](#) on page 126

Reference

[Reference: Chart Types](#) on page 62

[2020R1 What's New Post: Dual Axis and Combination Charts](#)

[The Next Level: Using the Free-Form Fields on Report Definitions](#)

Set Up Share Options for Custom Reports

Prerequisites

- Create a custom report.
- Security: These domains in the System functional area:
 - *Custom Report Creation*
 - *Manage: All Custom Reports*

Context

You can set up sharing options to enable users to:

- Run the report.
- Use the report as a worklet.

When you change a shared report, other users can see the results of your changes immediately.

Workday doesn't support sharing options for simple reports.

Steps

1. Access the **Edit Custom Report** task.
2. As you complete the **Share** tab, consider:

Option	Description
Don't share report definition	Only you can view and run the report.
Share with all authorized users	All users with access to the report data source and data source filter can view and run the report.
Share with specific authorized groups and users	<p>Only the security groups and users you select can view and run the report.</p> <p>You can only select from security groups and users who have access to the report data source and data source filter.</p>

Related Information

Reference

[The Next Level: Report Performance - Tuning Thresholds](#)

[The Next Level: Report Security Overview](#)

Set Up Advanced Options for Custom Reports

Prerequisites

Security: These domains in the System functional area:

- *Custom Report Creation*
- *Manage: All Custom Reports*

Context

You can configure these report options on the **Advanced** tab:

- Facets to refilter your report results without rerunning the report.
- Prism data sources.
- Report performance options.
- Temporary reports.
- View options.
- Web services.
- Worksheets.

Workday doesn't support advanced options for simple reports.

Steps

1. Access the **Edit Custom Report** task.

2. As you complete the **Report Performance** section on the **Advanced** tab, consider:

Option	Description
Optimized for Performance	(Unavailable for search and nBox reports.) For reports based on indexed data sources, select to display only indexed fields in field prompts. If you must use nonindexed fields in your report, clear the check box.
Background Only	Select to always run the report in the background. When you enable a report to run only in the background, consider: <ul style="list-style-type: none">• The downstream impact to background only-enabled subreports when you edit composite reports and dashboards.• That users must have the proper security permissions and a valid URL to access the report.

3. As you complete the **View Options** section, consider:

Option	Description
Freeze First Column	(Advanced reports only.) Select to freeze the first column on the report and improve data visibility when scrolling across rows.
Enable Preferred Currency	(Advanced and transposed reports only.) Select to display the preferred currency on a second line within the same report cell.
Enable Save Parameters	(Unavailable for search reports.) Select to enable saving prompt values as report filters. You can load these saved prompt values instead of manually entering them when you run this report later.
Exclude Execution Link from Search	Select to hide this report from global search so only users with the appropriate security permission can run and view reports. Appropriate security permission includes groups listed as <i>Unconstrained</i> , such as Administrators or Implementers. Example: Select this check box for a report that you want to: <ul style="list-style-type: none">• Display only as a worklet on a dashboard.• Display only as a worklet using embedded analytics associated with a task.• Use as a subreport to build a composite report.• Use to create a data view in Worksheets.

4. (Advanced and search reports only.) As you complete the **Web Services Options** section, consider:

Option	Description
Enable As Web Service	Select to:

Option	Description
	<ul style="list-style-type: none"> • Use the report in an outbound EIB. • Enable external web sites to access the report. <p>When you enable a report as a web service, Workday limits access to the external report link to users with:</p> <ul style="list-style-type: none"> • A valid account for the tenant. • The proper security permissions to view the report and the data.
Namespace	<p>Workday generates a Namespace when you enable the report as a web service, but you can change it. Each report that's a web service must have a unique Namespace, but Workday doesn't enforce unique naming.</p> <p>Note: If you update the Namespace in the report definition without updating requests to the web service, the request fails.</p>

5. (Optional) For advanced reports only, in the **Worksheets** section, select the **Enable for Worksheets** check box to enable users to add data from this report into workbooks. Workday doesn't support creating custom reports with an output type of **Worksheets**.
6. (Optional) For advanced reports only, in the **Prism** section, select the **Enable for Prism** check box to enable users to create a Prism dataset from the report.
7. (Optional) Select the **Temporary Report** check box in the **Temporary Report** section to schedule this report for deletion in 7 days or on a date you select. Workday doesn't delete temporary reports until you run the **Delete My Temporary Report Definitions** task. Report Admins can run the **Delete All Temporary Report Definitions** task to delete all expired temporary report definitions.
8. (Optional) Set up **Facet Options** to enable users to refilter the report results without rerunning the report.

Facet filtering is unavailable for advanced reports with:

- Outlining
- Subfilters

As you complete this section, consider:

Option	Description
Field	<p>Select a business object or create a report field to filter report results by.</p> <p>Your security configuration determines the fields that you can view and select.</p>
Label Override	<p>To ensure that any future renaming by Workday doesn't impact your facet headings, enter a label override value.</p>
Facet Field XML Alias	<p>(Search reports only.) Specify the web service XML alias for the facet field. This option is only available when you select the Enable As Web Service check box.</p>
Facet Configuration	<p>(Unavailable for composite reports.) Select or create a facet configuration to focus your facet</p>

Option	Description
	<p>results into bins or ranges. Facet Configuration options are only available for currency, date, and numeric field types and for certain hierarchy fields.</p> <p>You can create facet configurations by accessing the Create Facet Configurations task. You must have access to the <i>Facet Configuration Management</i> domain in the System functional area.</p> <p>For search reports, you can use distance facet configurations for report fields that:</p> <ul style="list-style-type: none"> • Return the Location business object. • Support geographical faceting. <p>To use multi-instance field distance facets, select the Sort by Relevance check box on the Sort tab.</p>
Action Instance Selection Field	<p>(Search reports only.) Select the self-referencing field associated with the business object for the search report. The field determines the availability of mass actions.</p> <p>If you specify a value, the Enable Compare check box becomes unavailable.</p>
Single Action	<p>(Search reports only.) Select an action from the prompt to perform on a search result instance.</p>
Mass Action	<p>(Search reports only.) Select a mass action to perform on multiple search result instances.</p> <p>Example: Export more than 50 search result instances to Microsoft Excel. You can export more than 50 search result instances using an advanced report that:</p> <ul style="list-style-type: none"> • Has only 1 prompt. • Matches the business object of the mass action.
Name	<p>(Search reports only.) Workday displays the mass action as a button with this name.</p>

When you enable **Facet Options**, the report results display a search bar if the report data source contains searchable fields. Workday determines which fields in each data source are searchable. Workday searches against all searchable fields in the report data source, not just the fields in the report. For search reports, there's a limit of 300,000 instances for a single facet.

Workday displays facets in these ways:

Number of Unique Values for the Facet Field	Workday Displays...
Zero	No results. The facet doesn't display.
1-7	All facet field values.

Number of Unique Values for the Facet Field	Workday Displays...
8-55	The 5 facet field values with the most results and a More button that you can expand to view all values.
>55	The 5 facet field values with the most results and a search prompt you can use to view all other values.

9. (Search reports only.) Select the **Enable Compare** check box in the **Compare Options** section to enable displaying comparisons of search results.

The check box is only available for certain data sources.

Related Information

Concepts

[Concept: Creating Reports to Insert into Workbooks](#) on page 812

[Concept: Currency Field Display](#) on page 75

Tasks

[Lookup Hierarchy Rollup](#)

[Save Filters](#) on page 91

Reference

[2024R2 Release Note: Freeze Report Columns](#)

Examples

[Example: Export Workers Using a Search Report](#) on page 202

Set Up Facet Configurations

Prerequisites

Security: *Facet Configuration Management* domain in the System functional area.

Context

Facet configurations enable you to refine the results of facet filters into bins or ranges. Example: You can create a facet configuration that filters for job candidates in a 50-mile radius. Facet configuration options are available for currency, date, and numeric field types and for certain hierarchy fields.

You can't apply facet configurations on composite and simple reports.

Report administrators can view and edit all facet configurations. Report writers can view and edit reports they have access to, regardless of the facet configuration owner. Users can save and copy reports with facets owned by a different user.

Steps

- Access the **Create Facet Configuration** task.
- (Optional) As you complete the **Definition** tab for *Date* and *Numeric* facet field types, consider:

Option	Description
Sort Ranges by Count	Select to sort the facet configurations from high to low instance count.
From Value	For date field types, specify the number of days to include in the facet filter range. A value of 0 indicates the current day. Negative values indicate days before the current day.
To Value	

Option	Description
	<p>Examples:</p> <ul style="list-style-type: none"> A From Value of -7 and To Value of -1 indicates a range of 1 week before the current day. A From Value of 7 and To Value of 20 indicates a range of 1-2 weeks after the current day.

3. (Optional) As you complete the **Country Filter Options** section for the *Distance* facet field type, consider:

Option	Description
Use Country Report Field	<p>Display search results by postal codes in the countries you select on the specified report field. The report field must match a report field in the Facet Filters section on the report definition.</p> <p>Example: Boston, United States, and Saint-Quentin, France, use postal code 02101. To display results for only the relevant country, select the country on the report.</p>
Select Default Countries	<p>Display search results for only postal codes in specified countries.</p> <p>Example: Boston, United States, and Saint-Quentin, France, use postal code 02101. Enter <i>United States</i> to hide results for France.</p>

4. (Optional) As you complete the **Distance in Miles** and **Distance in Kilometers** grids for the *Distance* facet field type, consider:

Option	Description
To Value	<p>Include an option on your report that filters for results within the specified distance.</p> <p>Example: Enter 50 in Distance in Miles to enable users to filter for results within 50 miles of a specified postal code.</p>

Example

Date facet configurations:

Facet Value Name	From Value	To Value
1 Day Ago	-1	0
1 Week Ago	-7	-2
2-4 Weeks Ago	-28	-8
5+ Weeks Ago	-999	-29

Next Steps

To use your facet configuration in your report, select the facet configuration in the **Facet Options** section on the **Advanced** tab.

Users can access the **Edit Facet Configuration** task to edit facet configurations.

Report administrators can access the **View Facet Configuration** task to view all facet configurations.

Users with access to the *Facet Configuration Management* domain can delete facet configurations using the **Delete Facet Configuration** task.

Concept: Charts

You can display report results as a chart, gauge, or table for these report types:

- Advanced
- Composite
- Matrix
- Trending

Workday plots rows as categories along the horizontal axis. Columns represent the data series, and each data series has a unique color in the chart legend.

For all charts types except for donut, you can plot more than 1 data series on a chart.

When viewing a chart, you can:

- Drill into matrix report charts the same way you can drill into matrix report tables.
- Switch the categories with the data series so that rows represent the data series.

For composite, matrix, and trending reports, you can visualize changes in your data and compare metrics with different scales using dual axis charts. A dual axis enables you to overlay 2 of these chart types:

- Area - Overlaid
- Column - Clustered
- Line

The **Secondary Axis** section is available when you select the **Add Secondary Axis** check box or select 1 of these chart types as the **Primary Axis**:

- Area - Overlaid
- Column - Clustered
- Line

Related Information

Concepts

[Setup Considerations: Charts](#) on page 37

Reference

[2020R1 What's New Post: Dual Axis and Combination Charts](#)

Concept: Effective and Entry Dates

Workday enables you to specify an effective date when you create or change most business objects.

Effective dates identify when changes go into effect, which might differ from when data entry occurs.

Effective dates can be in the past, present, or future. Example:

Product	Example
Expenses	Specify when new hotel rates take effect.
Human Capital Management	Specify when workers become eligible for time off for the birth of a child.
Pay	Specify when employee raises begin.

Product	Example
	Specify when increased union dues went into effect.
Recruiting	Specify when new hires become official employees.
Student	Specify when students officially enroll in classes for next semester.

Workday never prompts you for an entry date, but always records one.

Entry dates identify when data enters Workday as a completed action. Entry dates can provide a more accurate representation of your data for auditing or security purposes. You can:

- Identify when employees complete learning modules.
- Identify when managers complete performance reviews.
- View employees who had Workday accounts on a certain date.

The 2 date types together enable you to create various types of reporting.

Workday records effective and entry dates in Pacific Standard Time (PST). Example: Workday records employees hired on 2021-03-02T10:30:00 ACT as 2021-03-01T16:30:00 PST. Consider this discrepancy when you report on effective and entry dates.

Example

James in Recruiting hires candidates on 2021-03-01. The candidates start on 2021-04-01, so James sets the effective date for each candidate to 2021-04-01. When he reports on employees as of 2021-03-15, the new hires don't display even though their information entered Workday on 2021-03-01.

Related Information

Concepts

[Concept: Effective Dates](#)

Tasks

[Configure Rule-Based Business Processes](#)

[Edit Business Processes](#)

[Set Up Prompt Options for Custom Reports](#) on page 50

Reference

[The Next Level: Report Performance Recommendations for Large Volume Customers](#)

Reference: Chart Types

Workday enables you to configure output display options for your data by supporting these chart types:

Chart Type	Description
Area - 100%	Plots the trend of the percentage each value contributes to the total for each category over time or categories. Each item in the data series makes up a portion of the area based on its percentage of the category total.
Area - Overlaid	Plots the trend of values over time or categories and overlays each item in the series on top of another.

Chart Type	Description
	<p>Workday plots the first item in a data series first, then overlays the remaining items in the data series.</p> <p>Overlaid area charts display best in 3D.</p>
Area - Stacked	<p>Plots the trend of the amount of each value over time or categories.</p>
Bar - 100%	<p>Displays the percentage that each value contributes to the total for each category in horizontal bars.</p> <p>Each bar represents 1 category. Each item in the data series makes up a portion of the bar width. Workday bases the width of the bar on the percentage of the category total.</p>
Bar - Clustered	<p>Displays the value of each category in horizontal bars.</p>
Bar - Stacked	<p>Displays the amount that each value contributes to the total for each category in horizontal bars.</p> <p>Each bar represents 1 category. Each item in the data series makes up a portion of the bar height. Workday bases the height of the bar on the proportion of the category total.</p>
Bubble	<p>Plots the relationship between triplets of numeric values along a horizontal and vertical axis. 2 values determine the bubble position, while the third value determines the bubble size.</p> <p>You can plot 1 or more data series on a bubble chart. Each data series has a unique color or pattern.</p>
Column - 100%	<p>Displays the percentage that each value contributes to the total for each category in vertical columns.</p> <p>Each column represents 1 category. Each item in the data series makes up a portion of the column based on its percentage of the category total.</p>
Column - Clustered	<p>Displays the value of each category in vertical columns.</p>
Column - Stacked	<p>Displays the amount that each value contributes to the total for each category in vertical columns.</p> <p>Each column represents 1 category. Each item in the data series makes up a portion of the column based on its proportion of the category total.</p>
Donut	<p>Displays the relationship between the whole and each part of that whole.</p> <p>Donut charts display only 1 data series. Each category has a unique color for each donut segment.</p>

Chart Type	Description
Gauge	Displays a single value and its percentage on a gauge, like a speedometer in a car.
Line	<p>Plots data points over time. The slope of the line indicates the trend. Line charts are most useful if you want to display at least 10 data points over a period of time. If you have fewer than 10 data points and you want to display a count or amount at specific times, use a column chart.</p>
Scatter	<p>Plots the relationship between pairs of numeric values along a horizontal and vertical axis. You can plot 1 or more data series in a scatter chart. Each data series has a unique color or pattern.</p>

Using Business Intelligence and Reporting Tools (BIRT), you can display these chart types in 3D:

- Area
- Bar
- Line

For composite, matrix, and trending reports, you can visualize changes in your data and compare metrics with different scales using dual axis charts. A dual axis enables you to overlay 2 of these chart types:

- Area - Overlaid
- Column - Clustered
- Line

The **Secondary Axis** section is available when you select the **Add Secondary Axis** check box or select 1 of these chart types as the **Primary Axis**:

- Area - Overlaid
- Column - Clustered
- Line

Related Information Concepts

[Setup Considerations: Charts](#) on page 37

Reference

[BIRT: Report Designer](#)

[2020R1 What's New Post: Dual Axis and Combination Charts](#)

Reference: Filter Operators

- [Text Operators](#) on page 65
- [Currency and Numeric Operators](#) on page 66
- [Date Operators](#) on page 67
- [Boolean Operators](#) on page 68
- [Single Instance and Multi-Instance Operators](#) on page 68
- [Single Instance Examples](#) on page 70
- [Multi-Instance Examples](#) on page 71
- [Optional Prompts](#) on page 71

Text Operators

Operator	Description
<i>is blank</i>	Field value is empty.
<i>is not blank</i>	Field value isn't empty.
<i>equal to</i>	Field value is equal to comparison value. Case insensitive. Example: Cat is equal to cat.
<i>not equal to</i>	Field value isn't equal to comparison value. Case insensitive. Example: Dog is not equal to cat.
<i>contains</i>	Comparison value is a subset of field value. Case insensitive. Example: Cat contains AT.
<i>contains (case sensitive)</i>	Comparison value is a subset of field value. Example: Cat contains at.
<i>does not contain</i>	Comparison value isn't a subset of field value. Case insensitive. Example: Cat does not contain dog.
<i>does not contain (case sensitive)</i>	Comparison value isn't a subset of field value. Example: Cat does not contain AT.
<i>starts with</i>	Comparison value is a subset of field value, and the first character of the field value matches the first character of the comparison value. Case insensitive. Example: Cat starts with ca.
<i>starts with (case sensitive)</i>	Comparison value is a subset of field value, and the first character of the field value matches first character of comparison value. Example: Cat starts with Ca.
<i>ends with</i>	Comparison value is a subset of field value, and the last character of the field value matches the last character of comparison value. Case insensitive. Example: Cat ends with AT.
<i>ends with (case sensitive)</i>	Comparison value is a subset of field value, and the last character of the field value matches the last character of the comparison value.

Operator	Description
	Example: Cat ends with at.
<i>greater than</i>	<p>Field value comes before the comparison value in alphabetical order.</p> <p>This operator compares alphabetic sort order, not length.</p> <p>Case insensitive.</p> <p>Example: Cat is greater than dog.</p>
<i>greater than or equal to</i>	<p>Field value is the same as or comes before the comparison value in alphabetical order.</p> <p>This operator compares alphabetic sort order, not length.</p> <p>Case insensitive.</p> <p>Examples:</p> <ul style="list-style-type: none"> • Cat is greater than or equal to dog. • Dog is greater than or equal to dog.
<i>less than</i>	<p>Field value comes after comparison value in alphabetical order.</p> <p>This operator compares alphabetic sort order, not length.</p> <p>Case insensitive.</p> <p>Example: Dog is less than cat.</p>
<i>less than or equal to</i>	<p>Field value is the same as or comes after the comparison value in alphabetical order.</p> <p>This operator compares alphabetic sort order, not length.</p> <p>Case insensitive.</p> <p>Examples:</p> <ul style="list-style-type: none"> • Dog is less than or equal to cat. • Cat is less than or equal to cat.

Currency and Numeric Operators

Operator	Description
<i>equal to</i>	<p>Field value is equal to comparison value.</p> <p>Example: 123 is equal to 123.</p>
<i>not equal to</i>	<p>Field value isn't equal to comparison value.</p> <p>Example: 12 is not equal to 123.</p>
<i>greater than</i>	<p>Field value is greater than comparison value.</p> <p>Example: 321 is greater than 123.</p>

Operator	Description
<i>greater than or equal to</i>	<p>Field value is greater than or equal to comparison value.</p> <p>Examples:</p> <ul style="list-style-type: none"> • 321 is greater than or equal to 123. • 123 is greater than or equal to 123.
<i>less than</i>	<p>Field value is less than comparison value.</p> <p>Example: 12 is less than 123.</p>
<i>less than or equal to</i>	<p>Field value is less than or equal to comparison value.</p> <p>Examples:</p> <ul style="list-style-type: none"> • 12 is less than or equal to 123. • 123 is less than or equal to 123.

Date Operators

Operator	Description
<i>is blank</i>	Field value is empty.
<i>is not blank</i>	Field value isn't empty.
<i>equal to</i>	Date value is equal to comparison value.
<i>not equal to</i>	Date value isn't equal to comparison value.
<i>greater than</i>	<p>Date value is later than comparison value.</p> <p>Example: 10/20/2016 is greater than 05/20/2016.</p>
<i>greater than or equal to</i>	<p>Date value is later than or equal to comparison value.</p> <p>Examples:</p> <ul style="list-style-type: none"> • 10/20/2016 is greater than or equal to 10/20/2016. • 10/20/2016 is greater than or equal to 05/20/2016.
<i>less than</i>	<p>Date value is before comparison value.</p> <p>Example: 05/20/2016 is less than 10/20/2016.</p>
<i>less than or equal to</i>	<p>Date value is before or equal to comparison value.</p> <p>Examples:</p> <ul style="list-style-type: none"> • 10/20/2016 is less than or equal to 10/20/2016. • 05/20/2016 is less than or equal to 10/20/2016.

Boolean Operators

Operator	Description
<i>is blank</i>	Field value is empty. Represents False.
<i>is not blank</i>	Field value isn't empty. Represents True.
<i>equal to</i>	Field value is equal to the comparison value. For True, select the Comparison Value check box. For False, clear the Comparison Value check box.
<i>not equal to</i>	Field value isn't equal to the comparison value. For True, clear the Comparison Value check box. For False, select the Comparison Value check box.

Single Instance and Multi-Instance Operators

Field Type	Operator	Usage
Single Instance Multi-instance	<i>exact match with the selection list</i>	Field value matches exactly with comparison value. For single instance fields, this operator restricts a prompt so that it accepts a single value only. To enable a prompt for a single instance field to accept multiple values, use <i>in the selection list</i> .
Single Instance Multi-instance	<i>NOT exact match with the selection</i>	Field value doesn't exactly match the comparison value.
Single Instance Multi-instance	<i>subset of the selection list</i>	Field value is a subset of the comparison value. Blank field values are a subset of the comparison values.
Single Instance Multi-instance	<i>NOT subset of the selection list</i>	Field value isn't a subset of the comparison value. Blank field values are a subset of the comparison values.
Single Instance Multi-instance	<i>superset of the selection list</i>	Comparison value is a superset of the field value. Blank comparison values are a superset of the field values.
Single Instance Multi-instance	<i>NOT superset of the selection list</i>	Comparison value isn't a superset of the field value. Blank comparison values are a subset of the field values.
Single Instance Multi-instance	<i>count is equal to</i>	The number of field values is equal to the comparison value. Example: To view workers with 2 dependents, set a filter for

Field Type	Operator	Usage
		Dependents where <i>count</i> is equal to a Comparison Value of 2.
Single Instance Multi-instance	<i>count</i> is not equal to	The number of field values isn't equal to the comparison value. Example: To view workers with dependents, set a filter for Dependents where <i>count</i> is not equal to a Comparison Value of zero.
Single Instance Multi-instance	<i>count</i> is greater than	The number of field values is greater than the comparison value. Example: To view workers with more than 1 dependent, set a filter for Dependents where <i>count</i> is greater than a Comparison Value of 1.
Single Instance Multi-instance	<i>count</i> is greater than or equal to	The number of field values is greater than or equal to the comparison value. Example: To view workers with 1 or more dependent, set a filter for Dependents where <i>count</i> is greater than or equal to a Comparison Value of 1.
Single Instance Multi-instance	<i>count</i> is less than	The number of field values is less than the comparison value. Example: To view workers with fewer than 2 dependents, set a filter for Dependents where <i>count</i> is less than a Comparison Value of 2.
Single Instance Multi-instance	<i>count</i> is less than or equal to	The number of field values is less than or equal to the comparison value. Example: To view workers with 2 or fewer dependents, set a filter for Dependents where <i>count</i> is less than or equal to a Comparison Value of 2.
Single Instance	<i>in the selection list</i>	Comparison value is 1 of the possible field values. Example: A is in the selection list A, B, C.

Field Type	Operator	Usage
Single Instance	<i>not in the selection list</i>	Comparison value isn't 1 of the possible field values. Example: D is not in the selection list A, B, C.
Multi-Instance	<i>any in the selection list</i>	Field value is 1 of the possible comparison values.
Multi-Instance	<i>none in the selection list</i>	Field value isn't 1 of the possible comparison values.
Single Instance Multi-instance	<i>is empty</i>	Field value is blank.
Single Instance Multi-instance	<i>is not empty</i>	Field value isn't blank.

A field value is a subset of the comparison value if all instances of the field are instances of the comparison. Inversely, the comparison value is a superset of the field value if it contains all instances of the field. Example: The field value is 1, 2, 3 and the comparison value is:

- 1, 2, 3, 4, 5. The comparison value contains all instances of the field value. Therefore, the field value is a subset and the comparison value is a superset.
- 4, 5, 6, 7. The comparison value doesn't contain any instances of the field value. Therefore, the field value isn't a subset and the comparison value isn't a superset.

Single Instance Examples

This table contains examples of expected results for the logical operators that compare single instance field values against a selection list.

Single Instance Field Value	Selection List	<i>in the selection list</i>	<i>not in the selection list</i>	<i>exact match with the selection list</i>	<i>subset of the selection list</i>	<i>superset of the selection list</i>
Atlanta	Chicago	False	True	False	False	False
Chicago	Chicago	True	False	True	True	True
Atlanta	Chicago Sacramento	False	True	False	False	False
Chicago	Chicago Sacramento	True	False	False	True	False
<blank>	Chicago Sacramento	False	True	False	True	False
<blank>	Chicago	False	True	False	True	False
Chicago	<blank>	False	True	False	False	True
<blank>	<blank>	False	True	True	True	True

These operators provide specialized logic that might not be appropriate when comparing a single instance field value against a selection list:

- *exact match with the selection list*
- *subset of the selection list*
- *superset of the selection list*

In most cases, you should use either the *in the selection list* or *not in the selection list* operator.

Multi-Instance Examples

This table contains examples of expected results for the logical operators that compare multi-instance field values against a selection list.

Multi-Instance Field Value	Selection List	<i>any in the selection list</i>	<i>none in the selection list</i>	<i>exact match with the selection list</i>	<i>subset of the selection list</i>	<i>superset of the selection list</i>
Atlanta	Chicago Sacramento	False	True	False	False	False
Chicago	Chicago Sacramento	True	False	False	True	False
Chicago Atlanta	Chicago Sacramento	True	False	False	False	False
Chicago Sacramento	Chicago Sacramento	True	False	True	True	True
Chicago Sacramento Dallas	Chicago Sacramento	True	False	False	False	True
<blank>	Chicago Sacramento	False	True	False	True	False
<blank>	Chicago	False	True	False	True	False
Chicago	<blank>	False	True	False	False	True
<blank>	<blank>	False	True	True	True	True

Optional Prompts

If you want to evaluate blank values as True, you must include an *Or* statement as part of the filter. The *Or* statement prompts the user for a *superset of the selection list*. If the user doesn't select a prompt value when running the report, the *superset of the selection list* filter condition evaluates as True. In this case, an empty prompt value is the equivalent of selecting all possible values.

Example: To prompt for a location and ignore the prompt if the user doesn't enter a location, enter these values in the **Filter on Instances** grid.

And/Or	Field	Operator	Comparison Type
And	<i>Location</i>	<i>in the selection list</i>	<i>Prompt the user for the value</i>
Or	<i>Location</i>	<i>superset of the selection list</i>	<i>Prompt the user for the value</i>

Related Information

Tasks

[Set Up Filter Options for Custom Reports](#) on page 48

Fields and Prompts

Create Analytic Indicators

Prerequisites

Security: *Custom Report Administration* domain in the System functional area.

Context

Analytic indicators enable you to analyze data quickly by viewing visual representations in your reports. You can create report-specific or tenant-wide analytic indicators to:

- Display ratings.
- Highlight data exceptions.
- Illustrate progress.
- Indicate status.
- Monitor thresholds.
- Visually categorize and group data.

Steps

1. Access 1 of these tasks:

- **Create Analytic Indicator.**
- **Edit Custom Report** and select **Create > Create Analytic Indicator for Report** from the **Options** prompt of eligible fields.

2. Select the **Business Object** and the **Field** as the basis of the analytic indicator.

You can use the analytic indicator throughout Workday in reports with matching business objects and fields.

Workday doesn't support analytic indicators for rich text field types.

3. As you complete the task, consider:

Option	Description
Default Help Text	Workday displays the text you enter here as hover text for the visualization when the report runs.
Display Conditions	Workday evaluates the conditions in sequential order until a condition returns as <i>true</i> . Only 1 analytic indicator displays even if Workday returns multiple true conditions. To configure more complex condition rules, use calculated fields.

Option	Description
Enable Display Option by default	When you select this check box, Workday selects the analytic indicator in the Options field whenever you add the corresponding field to a report.
Display Analytic Indicator on Totals	Select this check box to use the analytic indicator whenever Workday displays a total. Otherwise, Workday displays analytic indicators on detail rows on the report.

Example

You can use analytic indicators to:

- Flag data for employee salaries that are out of range, employees on international assignment, and managers with overdue performance reviews.
- Illustrate progress on performance reviews completed for an organization.
- Indicate status of training business process items.
- Visualize ratings of employee performance or vendors.
- Visually highlight salary percent increase and attrition that exceeds or falls below specified limits.

Next Steps

Select the **Hide Analytic Indicator** check box on the **Options** prompt to hide analytic indicators on these cells and rows:

- Calculation cells.
- Data cells.
- Calculation rows.
- Combine data rows.
- Dynamic data rows.
- Lookup data rows.

Related Information

Concepts

[Concept: Analytic Indicators](#) on page 74

[Concept: Calculated Fields](#)

Tasks

[Create Calculated Fields](#)

Create Prompt Sets

Prerequisites

Security: *Report Prompt Set Management* domain in the System functional area.

Context

Prompt sets are groups of interdependent fields that add more flexibility when running reports. They enable you to set up populated values for prompts used in:

- Composite reports and subreports.
- Custom dashboards.
- Report groups.

Example: In financial reporting, fiscal schedules and periods depend on a company. You can configure a prompt set to include the company, fiscal year, and period.

You can use Workday-delivered prompt sets or create your own to define the order of the prompts, make a prompt required, and so on.

Steps

1. Access the **Create Prompt Set** task.
2. (Optional) On the **Description** field, enter a description for the prompt set that Workday displays when you view the prompt set.
3. On the **Category** prompt, select a value to group the prompt sets into functional categories. Example: *Financial Reporting, Payroll, or Talent*.
4. Configure the **Prompt Fields** grid to specify the requirements and values of the prompt set.
5. As you complete the task, consider:

Option	Description
Prompt Field	Workday displays the Description and Category on the related actions menu of a prompt field so you can: <ul style="list-style-type: none"> • Understand which prompt fields with identical names to include in your prompt set. • View additional details about the prompt field.
Display Label on Report	If Workday renames a prompt field, the new name displays in the Display Label on Report column. Workday might rename a prompt field to include more specific text so you can select the correct prompt field when creating a prompt set.
Default Label Override	Specify a name to use instead of the default name for the prompt.

Next Steps

To view detailed information on prompt sets, you can access the:

- **Prompts** tab on the composite report definition. You can view and edit the prompt settings, prompt sets, report-level prompts, and data prompts for each column, row, and cell. You can also view all prompts for each subreport used on the composite report, and add or create a prompt set from the **Prompts** tab.
- **View Prompt Set** report. You can also drill to the instances that use the prompt set from the **Prompt Set Usages** field.

Related Information

Concepts

[Concept: Prompt Sets for Composite Reports](#) on page 171

Reference

[2023R2 What's New Post: Composite Report User Interface](#)

Concept: Analytic Indicators

Analytic indicators enable you to analyze your data quickly by viewing visual representations in your report. You can create and use report-specific or tenant-wide analytic indicators to:

- Display ratings.
- Highlight data exceptions.

- Illustrate progress.
- Indicate status.
- Monitor thresholds.
- Visually categorize and group data.

Consider these conditions when using analytic indicators:

- For the *Total* row in advanced reports, analytic indicators display only on aggregated fields.
- If you select *is empty* as the **Condition**, Workday doesn't display the analytic indicator visualization for empty data in multi-instance or single instance fields.
- In the *Drill to Detail* view for advanced, matrix, and simple reports, Workday might base analytic indicator conditions on fields other than the field associated with the analytic indicator.
- In the matrix view for matrix reports, analytic indicators display only on aggregated fields.
- Workday doesn't support analytic indicators for rich text field types.
- You can configure only 1 analytic indicator for a column on a report.

Related Information

Reference

[Reference: Field Options](#) on page 77

[The Next Level: Other Report Types and Analytic Indicators](#)

Concept: Currency Field Display

You can display currency fields in several reporting, formatting, and web service options.

Currencies and Formatting Options

Formatting options are independent of currency codes. Example: You select a formatting option of `#,##0.00`, Workday determines what decimal and thousands separators to display based on the currency code.

Currencies and Web Services

When you enable a report as a web service, the web service output doesn't include the currency symbol or formatting. On the **Columns** tab, you can select *Show Currency Code Column* from the **Options** prompt to display the currency code in the web service output. Example:

```
<wd:Budget_Amount>1500</wd:Budget_Amount>
<wd:Actual_Amount wd:Currency_Code="USD">1200</wd:Actual_Amount>
```

User's Preferred Currency

You can display the user's preferred currency as a separate column in a report. Create a convert currency calculated field with the **Users Preferred Currency** global field.

Related Information

Tasks

[Convert Currency](#)

[Create Locations](#)

Concept: Global Fields

Global fields are variables and constants that use the Global business object. You can use them in:

- Business process condition rules.
- Custom reports with any report data source.
- Scheduled recurring processes.

You can create custom global fields by creating calculated fields that use the Global business object.

To view all global fields in your tenant, access the **Report Fields** report and select *Global* from the **Business Object** prompt.

Related Information

Reference

[The Next Level: Report Performance Recommendations for Large Volume Customers](#)

Concept: Logical Sort Order

Logical sorting enables Workday to sort your data based on the leftmost column of the report and display your data in a manner that makes sense. Example: Instead of sorting the months alphabetically, you can understand how your data changes over time by sorting logically, such as January, February, and so on. Ordinarily, Workday first sorts data based on the primary business object, then sorts the related business objects according to the contextual relationship to the primary business object. You can use calculated fields to sort by the related business object first.

Your field selection determines if logical sorting is available. Workday enables logical sorting for the lookup range band calculated field and for these report types:

Report Type	Description
Composite	Enable logical sorting for combine data rows.
Matrix and trending	On the Create Custom Report task, enable logical sorting on the: <ul style="list-style-type: none"> Matrix tab for column and row grouping. Drill Down tab for the Drillable Fields grid and the Sort section.
Simple and transposed	Enable logical sorting by accessing the Sort tab on the Create Custom Report task.

Related Information

Tasks

[Set Up Composite Report Rows](#) on page 151

[Set Up Field Values Groups for Matrix Reports](#) on page 134

[Set Up Sort Options for Custom Reports](#) on page 45

Examples

[Example: Sort Fields by the Related Business Object](#) on page 80

Concept: Report Sorting Behavior

Workday uses International Components for Unicode (ICU) collation to compare and sort text strings, making it easier to find data within a list. Because sorting data alphabetically can vary among languages, Workday sorts the data according to the locale of the report runner. Example: The letters A through Z sort differently in English than in Bulgarian, Lithuanian, or Japanese.

Workday takes these characters into consideration when sorting for custom or standard reports and drill-down data:

- Spaces.
- Special characters, such as dashes, parentheses, and tildes.

[Example: Workday sorts data based on the placement of spaces within a text string. Spaces take precedence over letters and numbers.](#)

Sort Order for Spaces Before ICU Collation	Sort Order for Spaces After ICU Collation
1. John Apple 2. Johnny Mango 3. John Pear	1. John Apple 2. John Pear 3. Johnny Mango

Example: Workday sorts data based on the use of special characters within a text string. Special characters take precedence over letters and numbers, but not spaces.

Sort Order for Special Characters Before ICU Collation	Sort Order for Special Characters After ICU Collation
1. 123456789 2. 123-456-789 3. 213456789	1. 123-456-789 2. 123456789 3. 213456789

Note: The current Unicode Standard determines special character precedence. The selection is consistent across tenants.

Related Information

Reference

[ICU Documentation: Collation](#)

Reference: Field Options

When you create a report, you can specify these options for a field. Not every option is available for every field type.

Option	Field Types	Description
<i>[Analytic Indicator]</i>	All	<p>Displays an analytic indicator next to the field.</p> <p>This option is only available for fields with analytic indicators associated with them.</p> <p>To preview the analytic indicator definition, select the related actions menu for this option.</p>
Average	Currency Numeric	Calculates the average for the field and displays it in the subtotal or grand total line on the report.
<i>Display As Thumbnail</i>	Single Instance	<p>Displays an image as a thumbnail.</p> <p>This option is only available for fields with a related business object of Image.</p>
<i>Display Field as Icon</i>	Text	Displays a speech bubble icon instead of the field value. You can view the field value by clicking the icon.

Option	Field Types	Description
<i>Do Not Show if Empty</i>	All	Hides the column containing this field if all values are empty.
<i>Do Not Show On Worklet</i>	All	Hides the field if you deploy the report as a worklet.
<i>Maximum</i>	Currency Numeric	Calculates the maximum value for the field and displays it in the subtotal or grand total line on the report.
<i>Minimum</i>	Currency Numeric	Calculates the minimum value for the field and displays it in the subtotal or grand total line on the report.
<i>Related Tasks Only</i>	Single Instance Multi-instance	Hides the field and displays the related actions menu for the field.
<i>Show No When False</i>	Boolean	Displays <i>No</i> when a Boolean value is false. If you don't select this option, false values display as blank.
<i>Show Blank When Zero</i>	Currency Numeric	Displays a blank value if a numeric field value is zero.
<i>Show Currency Column</i>	Currency	Displays the currency code in a separate column on the report.
<i>Show Currency Symbol</i>	Currency	Displays the currency symbol. Example: \$.
<i>Show Icon Only</i>	All	<p>Displays the analytic indicator only and hides the field value.</p> <p>This option is only available for fields with analytic indicators associated with them.</p> <p>You can only select this option on advanced reports.</p>
<i>Show Report as Executable</i>	Single Instance	<p>Displays the report name as a hyperlink that you can click to run the report.</p> <p>This option is only available for the custom report name field.</p>
<i>Sum</i>	Currency Numeric	Displays the sum of all values for the field in the subtotal or grand total line on the report.

Related Information Concepts

Concept: [Analytic Indicators](#) on page 74

Reference: Field Types

The **Report Fields** report enables you to gain insight into the calculated and Workday-delivered report fields and their types. You can also gain additional information on report fields by accessing the related actions menu.

Field Type	Considerations and Examples
Boolean	<p>Also known as a true/false field type where a field must meet a condition.</p> <p>Example: Is Active Employee or Is Manager.</p>
Currency	<p>Example: Base Pay – Amount or Benefits Annual Rate.</p>
Date	<p>Workday recommends that you view the description of the field to determine what information the field returns. If you select a date field associated with a worker, you might yield results outside the date range of the report. Example: A company hires an employee on January 1, terminates the employee on June 1, and then rehires on September 1. If you create a custom report to list employees with a hire date before July 1, the report includes the employee hired on January 1. However, the report displays September 1 as the hire date because the Hire Date field returns the most current hire date.</p> <p>Example: Date of Birth or Hire Date.</p>
DateTimeZone	<p>Example: End Date/Time or Start Date and Time.</p>
Multi-Instance	<p>Multi-instance field types represent the one-to-many relationship the primary business object has with the related business object. A multi-instance field can contain multiple values with each value representing an instance in the related business object that links to the primary business object.</p> <p>Example: Assigned Organization or Dependents.</p>
Numeric	<p>Example: Age or Location - Scheduled Hours.</p>
Rich Text	<p>A field with text formatting that changes the overall look of the field.</p> <p>Workday doesn't support analytic indicators for rich text field types.</p> <p>Example: Job Description or Overall Comment - Manager.</p>
Self-Referencing	<p>A self-referencing field type returns an instance of the business object.</p> <p>Example: If the data source returns Workers and you configure a field for the primary business object, the self-referencing field returns a Worker.</p>
Single Instance	<p>Single instance field types represent the one-to-one relationship that the primary business object has</p>

Field Type	Considerations and Examples
	with the related business object. A single instance field contains 1 value representing the instance in the related business object that links to the primary business object. Example: Compensation Grade or Position .
Text	Example: Candidate ID or Last Name .
Time	Example: End Time or Start Time .

Related Information

Reference

[Referenz: Grenzwerte für das Reporting](#)

Example: Sort Fields by the Related Business Object

This example illustrates how to sort fields in your report by the related business object.

Context

You want to change how your report that uses the Worker business object sorts data. Instead of sorting by the first column on the report, you want to sort by location. You create 2 calculated fields that use the Worker business object so that you can sort your data by the related business object, Location.

Prerequisites

Security: These domains in the System functional area:

- *Custom Field Management*
- *Custom Report Creation*
- *Manage: All Custom Reports*

Steps

1. Access the **Copy Standard Report to Custom Report** task.

Copy a Workday-delivered standard report that includes location data.

- a) Select *Active Employees - Indexed* from the **Standard Report Name** prompt.
- b) Click **OK**.
- c) Enter *By Location - Active Employees - Indexed* on the **Name** field.
- d) Click **OK** twice.

2. Access the **Create Calculated Field** task.

Create an extract single instance calculated field for the location data.

- a) Enter *ESI Location* on the **Field Name** field.
- b) Select *Worker* on the **Business Object** prompt.
- c) Select *Extract Single Instance* on the **Function** prompt.
- d) Click **OK**.
- e) Select these values on the **Calculation** tab:

Prompt	Value
Source Field	<i>Locations</i>
Condition	<i>Is True</i>

Prompt	Value
Sort Field	<i>Location Name</i>
Sort Direction	<i>Ascending (A to Z)</i>
Instance to be Returned	<i>Last occurrence</i>

f) Click **OK**.

3. Click **Create Another Calculation**.

Create a lookup related value calculated field for the location data.

- Enter *LRV Location* on the **Field Name** field.
- Select *Worker* on the **Business Object** prompt.
- Select *Lookup Related Value* on the **Function** prompt.
- Click **OK**.
- Select these values on the **Calculation** tab:

Prompt	Value
Lookup Field	<i>ESI Location</i>
Return Value	<i>Location</i>

f) Click **OK**.

g) Click **Done**.

4. Access the **Edit Custom Report** task.

Add the *LRV Location* calculated field to your advanced report.

- Select *By Location - Active Employees - Indexed* from the **Report Name** prompt.
- Click **OK**.
- Access the **Sort** tab.
- In the **Sort and Group** section, clear the **Sort by first accessible column** check box.
- Add a row to the grid.
- In the grid, select *LRV Location* from the **Field** prompt.
- Click **OK**.
- Click **Run**.

Result

The lookup related value calculated field sorts your data by the Location Name instead of the Employee ID.

Next Steps

You can create additional calculated fields that enable you to sort your data by fields on the related business object instead of the primary business object.

Run and Schedule Reports

Group Reports

Prerequisites

- Verify that reports you add to the report group have at least 1 saved filter.
- Security: *Scheduled Report Processes* domain in the System functional area.

Context

You can group multiple reports and schedule them to run as a single unit. Example: For financial reporting, you can group reports to run at the end of a fiscal period.

If the reports in a report group share prompt fields, you can use prompt sets to populate those prompts more efficiently. You can also:

- Add a *Report Group* step to a business process so users can share instances of reports or tasks.
- Share report groups so that other users can schedule them.
- Transfer ownership of report groups to other users.

Steps

1. Access the **Create Report Group** task.
2. On the **Prompt Set** prompt, create or select a prompt set.

If you select *Empty Prompt Set* and share a report group that contains prompts, Workday restricts users from entering prompt values when they schedule the report group.

3. (Optional) Select the **Use Excel Template** check box to attach report results to Excel templates.

Instead of generating separate Excel files, Workday creates up to 200 sheets in a single workbook and delivers it to **My Reports**.

4. On the **Prompts** tab, configure the requirements and values for each prompt in the report group.
5. As you complete the grid, consider:

Option	Description
Label for Prompt	Specify a name to use for the prompt field instead of the populated name.
Default Value	(Available if you select <i>Determine default value at runtime</i> or <i>Specify default value</i> as the Default Type .) Select the field or value to use for the prompt field.
Report Tags	Select a tag to categorize the report group and make it easier to search for. Workday adds the report tags to the generated output file of each individual report when you schedule the report group.

6. On the **Reports** tab, select a different saved filter for each report or task that's the same.
7. As you complete the **Report Prompts** grid, consider:

Option	Description
Prompt Field	Select a field from the saved filter of the report prompt.
Value Type	To map a report Prompt Field to a Field from the report group prompt set, select <i>Report Group Prompt</i> . If you map 1 or more report prompt fields to a prompt set field, the prompt set overrides all saved filter values on the report. To ensure that the report runs correctly when you use prompt set field values, map all required report prompt fields.
Field	Select a field from the report group prompt set.

Option	Description
Securing Entity	Select the check box to enable each entity you specify to view only data relevant to their organization.

If you share the report group, you must map all report prompts to the report group prompt set. Otherwise, the person you share the report group with can't run the report group.

8. (Optional) On the **Share Output** tab, configure sharing options for the report output.

Security: *Report Output Sharing* and *Reporting Functionality* domains in the System functional area.

9. As you complete the tab, consider:

Option	Description
Report Output Sharing Options	<p>If you select <i>Share report output with other users</i>, you can specify which security groups and users will:</p> <ul style="list-style-type: none"> • Always be able to view all reports in the report group. • Conditionally be able to view each report as a member of the specified organizational security entity. <p>By sharing the report output with users, you're authorizing them to view the report and its data exactly as you see it, regardless of their security permissions.</p>
Always Share	<p>(Available if you share the report output.) Specify the security groups and users that you want to share all the reports in the report group with.</p> <p>Always Share overrides any sharing you enable based on securing entities.</p>
Share based on Securing Entity	<p>(Available if you share the report output.) Specify the securing entities and security groups you want to share each report with conditionally. These users will only be able to view data relevant to their organizational role.</p>
I agree to the statement above	<p>Select the check box to acknowledge that you understand the implications of sharing the report output with other users.</p>

- 10.(Optional) On the **Share Report Group** tab, configure sharing options for the report group.

Security: *Report Output Sharing* and *Reporting Functionality* domains in the System functional area.

11. As you complete the tab, consider:

Option	Description
Do not Share Report Group	Select so that only you can schedule and view the report group.
Share with all authorized users	Select so that all users who have access to the report data source and data source filter can schedule and view the report group.

Option	Description
	When you share the report group, Workday also shares the saved filter for each report.
Share with specific authorized groups and users	<p>Select so that only the security groups and users you specify can schedule and view the report group.</p> <p>You can only select from security groups and users who have access to the report data source and data source filter.</p>
I agree to the statement above	Select the check box to acknowledge that you understand the implications of sharing the report group with other users.

Next Steps

- Access the **Schedule a Report** task to schedule the report group.
- Select **Report Group > Maintain Excel Template** from the related actions menu of the report group to attach an Excel template.

Related Information

Concepts

[Concept: Report Group Step](#)

[Concept: Report Tags](#) on page 97

Tasks

[Create Prompt Sets](#) on page 73

[Save Filters](#) on page 91

[Schedule Reports or Report Groups](#) on page 87

[Transfer Ownership of Report Groups](#) on page 94

Reference

[Reference: Reporting Limits](#) on page 113

[Workday Community: Using Worksheets Templates to Share Multiple Reports](#)

[The Next Level: Report Distribution: Report Groups and Bursting](#)

Burst Reports

Prerequisites

- Create a report group.
- Security: These domains in the System functional area:
 - Maintain Excel Template*
 - Scheduled Report Processes*

Context

Instead of manually running a report for multiple organizations, you can schedule a bursting set that generates a report for each organization in a prompt field.

Example: Create a bursting set for a financial report that generates 1 report for each company.

Steps

- Access the **Edit Report Group** task.

2. (Optional) Select the **Use Excel Template** check box to attach report results to Microsoft Excel templates.

Workday creates up to 200 sheets in a single workbook and delivers it to **My Reports**.

When you don't attach an Excel template, Workday creates a separate file for each organization you set to burst on.

3. On the **Reports** tab, set up the **Report Prompts** grid.

As you complete the grid, consider:

Option	Description
Prompt Field	<p>Select the organization type that you want to burst on. Examples:</p> <ul style="list-style-type: none"> • <i>Company</i> • <i>Cost Center</i> • <i>Supervisory Organization</i>
Value Type	<p>Select <i>Bursting Set</i>. Don't select <i>Bursting Set</i> for more than 1 Prompt Field. Selecting multiple fields to burst on might cause unexpected report behavior.</p>
Field	<p>Select a global calculated field to narrow down the organizations to include in the bursting set. Example: Select <i>Active Companies</i> for a Prompt Field of <i>Company</i>. You can also create custom calculated fields that narrow down the list of organizations you want to include. If the prompt set for the report group has the same field, the value of Field overrides the prompt set field value when you schedule the report group.</p>
Securing Entity	<p>Secure the report output based on the organization that you selected as the Prompt Field when using an Excel template.</p>

4. On the **Share Output** tab, set up sharing options for the report output.

When you select **Share report output with other users**, consider:

Option	Description
Securing Entity	<p>Select the organization type that you want to use to secure report output. This is the same field that you select the Securing Entity check box for on the Report Prompts grid on the Reports tab.</p>
Security Groups	<p>Select the role-based security group that you want to share the report output with.</p>

Example: Select *Company* as the **Securing Entity** and *Accountant* as the **Security Groups** option to:

- Run the report for each company in your tenant.
- Send the report results to the accountant for each company.

5. (Optional) Select **Report Group > Maintain Excel Template** from the related actions menu of the report group to attach an Excel template.
If you can't access the **Maintain Excel Template** menu option, enable the *Maintain Excel Template* domain security policy in the System functional area.

Next Steps

Access the **Schedule a Report** task and schedule the report group.

Related Information

Tasks

[Create Prompt Sets](#) on page 73

[Group Reports](#) on page 81

[Schedule Reports or Report Groups](#) on page 87

Reference

[The Next Level: Report Distribution: Report Groups and Bursting](#)

Attach Excel Templates to Custom Reports or Report Groups

Prerequisites

- Verify the **System Setup** section in the **Edit Tenant Setup - System** task enables *xlsm* and *xlsx* as file types.
- Enable report group definitions to use Microsoft Excel templates by selecting the **Use Excel Template** check box.
- Security: These domains in the System functional area:
 - *Set Up: Tenant Setup - System*
 - *Custom Report Creation*
 - *Manage: All Custom Reports*
 - *Maintain Excel Template*

Context

You can automate Excel processing and formatting by attaching a custom Excel template to a custom report or report group. Workday only applies your Excel template when you run a report using the **Schedule a Report** task, or when you run the report in the background by clicking **Notify Me Later**. Workday doesn't apply your Excel template when you click the **Export to Excel** icon from the report results.

Workday supports Excel features available in Excel 1997-2010.

Workday doesn't support:

- Password-protected workbooks.
- Signed macros.
- Slicers.

Steps

1. In Excel, create an Excel workbook and include any macros. Save the workbook as an *.xlsx* or *.xlsm* file.

2. In Workday, access the custom report or report group you want to export to Excel.
Attach the Excel template by selecting 1 of these options:
 - For a custom report, select **Custom Report > Maintain Excel Template** from the related actions menu.
 - For a report group, select **Report Group > Maintain Excel Template** from the related actions menu.
3. (Optional) On the **Worksheet Name** prompt, enter the name of an existing sheet on Excel template that you want to populate with the report output. Otherwise, Workday creates a new sheet with the same name as the report and populates that sheet with the report output.
Workday overwrites the existing sheet with the report output.

Next Steps

Access the **Schedule a Report** task, select your report or report group, and select **Excel** as the output type. For report groups, you must also select the **Use Excel Template** check box.

Related Information

Tasks

[Group Reports](#) on page 81

Reference

[Workday Community: Using Worksheets Templates to Share Multiple Reports](#)

Schedule Reports or Report Groups

Prerequisites

Security: *Scheduled Report Processes* domain in the System functional area.

Context

You can use the **Schedule a Report** task to run a report or report group in the background.

When you transfer ownership of a scheduled report or process, the sharing options reset to **Do not share report output**.

Steps

1. Access the **Schedule a Report** task.
2. As you complete the **Report Criteria** tab, consider:

Option	Description
Value Type	If you select <i>Determine Value at Runtime</i> , Workday calculates the selection criteria each time the report runs. Example: Use <i>Determine Value at Runtime</i> for date fields that can vary over time for a recurring process.
Value	If the Value Type is <i>Determine Value at Runtime</i> , the report determines the prompt value each time it runs. You can set the Value to be a calculated field. Example: You can create a calculated field whose value computes as a set number of days before the current date.

Workday only displays this tab when the report contains prompts.

3. On the **Output tab, select an **Output Type**.**

If a report has a high volume of results, Workday might deliver a file type other than the **Output Type** you select.

You can't output search reports as PDFs. The scheduled process fails if you select **Report (PDF)** for a search report.

4. (Optional) For composite reports, select **View in Browser to run the report in the background and receive a notification when the report results are ready.**

The report results are a snapshot from when the background task finished, but the drill-down and outline expansion results are interactive, real-time data. You can click **View Scheduled Report** for up to 5 days from when the report ran to interact with your real-time data, such as drill down on values, collapse and expand hierarchies, interact with charts, and so on.

You can't share the report when you select **View in Browser**.

5. As you complete the **Output tab, consider:**

Option	Description
Report Tags	When you schedule the report group, Workday adds the tags to the generated output file of each individual report.
File to be Deleted After (Days)	Specifies the number of days that Workday retains generated documents or reports.
Do Not Output an Empty Report	Select the check box so that when a report has no results, Workday doesn't create output files or send email notifications. Workday doesn't support this option for standard reports created with XpressO.
Hide Prompt Values	The output will hide the report prompt values/report criteria when you select an Output Type of Excel or Text (CSV) .

6. As you complete the **Schedule tab, consider:**

Option	Description
Priority	Select a priority value of Low , Normal , High , or Critical . Setting a higher priority can reduce potential queuing.

Run Frequency	Criteria
Run Once in the Future	Specify a Start Date , Start Time , and Time Zone .
Daily Recurrence	<ul style="list-style-type: none"> Select a Recurrence Type. If you select Recur Every x Day(s), enter a number between 1 and 366. Specify a Start Time and Time Zone. Specify a Start Date and an End Date.
Weekly Recurrence	<ul style="list-style-type: none"> In the Recur Every x Week(s) field, enter a number between 1 and 52. Select 1 or more Day(s) of the Week. If Recur Every x Week(s) is greater than 1, you can select only 1 day.

Run Frequency	Criteria
	<ul style="list-style-type: none"> Specify a Start Time and Time Zone. Select the Catch Up Behavior. Specify a Start Date and an End Date.
Monthly Recurrence	<ul style="list-style-type: none"> Select 1 or more Month(s) to schedule each recurrence. Select the Recurrence Type and then specify which Day(s) of the Month or Day of the Week. Specify a Start Time and Time Zone. Select the Catch Up Behavior. Specify a Start Date and an End Date.
Dependent	<ul style="list-style-type: none"> Select the Dependency event type that triggers the report schedule. Use the Trigger on Status field to specify what event statuses will trigger the report to run. (Optional) Specify the number of days, hours, or minutes to delay running the report after the trigger.
Custom Recurrence	<ul style="list-style-type: none"> Specify the Default Start Time and Time Zone. Select the Catch Up Behavior. In Active Custom Recurrences, add a custom future scheduled run of the report or report group. <ul style="list-style-type: none"> A validation error will appear if you try to add a row with a date or time in the past. In Elapsed Custom Recurrences, view any scheduled runs of the report or report group that have already been executed.

7. (Optional) On the **Share** tab, share the report output with other users.

You can only share scheduled report output with unconstrained security groups. If you select **Share report output with other users**, you are authorizing the specified users the right to view the report and its data exactly as you see it, regardless of their security.

Result

The output files load in **My Reports**.

Next Steps

Access the **Scheduled Future Processes** report to delete, modify, or suspend a scheduled report.

To disable notification emails for recurring reports that are about to expire, access the **Edit Tenant Setup - Notifications** task and disable **Scheduled Future Processes** for the report. Workday notifies you when 2 or fewer occurrences remain.

Related Information

Concepts

[Concept: My Reports](#) on page 96

[Concept: Workday Scheduled Processes](#)

Tasks

[Increment or Decrement Date](#)

Reference

[Reference: Edit Tenant Setup - Notifications](#)

[Reference: Reporting Limits](#)

[The Next Level: Report Performance Recommendations for Large Volume Customers](#)

[2024R2 Release Note: Schedule Live Composite Reports](#)

[Workday Community: Using Worksheets Templates to Share Multiple Reports](#)

Manage Scheduled Future Processes

Prerequisites

Security: *Scheduled Process Management* domain in the Tenant Non-Configurable functional area.

Context

You can view all background processes scheduled to run once in the future or on a recurring basis. Workday displays batch processes, integrations, and reports. You can perform these actions by accessing the related actions menu of a scheduled future process:

- Activate or suspend.
- Edit or delete.
- Restrict the environments where they run.
- Transfer ownership.
- Set the priority. Setting a higher priority can reduce potential queuing. Workday launches *Critical* priority actions first, and processes them in any order. Workday repeats this process for each lower priority category, in order of priority.

Steps

1. Access the **Scheduled Future Processes** report.
2. Filter the process you want to edit.
3. Select the process on the **Scheduled Process** column to view detailed schedule criteria.
4. Manage the process by accessing the related actions menu of the process on the **Scheduled Process** column.

Next Steps

You can view reports of future occurrences filtered by date or schedule by accessing these reports:

- [View All Scheduled Occurrences by Date](#)
- [View All Occurrences for a Schedule](#)

Access the **Process Monitor** report to view the status of all background processes that Workday is running or ran in the past.

Related Information

Reference

[Reference: Scheduled Future Processes](#)

[The Next Level: Report Performance - Tuning Thresholds](#)

Save Filters

Prerequisites

Enable Save Parameters in the **Advanced** tab on the report you want to save prompt values for.

Context

Instead of manually entering prompt values every time you run a report, you can save the values as a filter to load them automatically.

You can't save filters for search reports.

Steps

1. Run a report you want to save prompt values for.
2. Enter the prompt values you want to save.
3. Enter and save a *Filter Name*.

Result

The next time you run the report, you can select the filter from the **Saved Filters** drop-down menu.

Next Steps

Access the **Manage My Saved Filters** report to edit or delete your saved filters.

Admins can access the **Manage Report Usage** task to view and remove saved filters on custom and standard reports set up by terminated workers.

Manage Report Usage

Prerequisites

Security: These domains in the System functional area:

- *Custom Report Administration*
- *Manage: All Custom Reports*
- *Set Up: Tenant Setup - Reporting and Analytics*

Context

The **Manage Report Usage** task enables report administrators to view report groups and saved filters in a standard or custom report. Report administrators can delete saved filters from a standard or custom report set up by active or terminated users. This removes filters from the report but they will continue to exist in Workday.

Note: You cannot remove a saved filter if it is used in a report group. You cannot remove report groups that have scheduled runs.

Example: If a user changes their job role and loses access to a report with their saved filters, a report admin can then delete the saved filter from that report.

Steps

1. Access the **Manage Report Usage** task.
2. Select a standard or custom report.
3. Select the save filters you want to delete from the report.
4. Confirm selection and delete the saved filters from the report.

Result

The saved filters are no longer in the report.

Next Steps

Users can access the **Manage My Saved Filters** report to edit or delete their saved filters.

Related Information

Tasks

[Save Filters](#) on page 91

Save Searches

Prerequisites

Add facet filters on the report definition where you want to save searches.

Context

When you run a report, you can save your search parameters to load:

- Facet filters.
- Prompt values.
- Search terms.

You can't add facet filters to composite reports or advanced reports with outlining.

You can delete your saved searches by accessing the **Manage My Saved Searches** task. You can't delete a saved search with a **Usage** value of 1 or more.

Steps

1. Run a report.
2. (Optional) Enter the prompt values that you want to save.
3. (Optional) Enter the search terms that you want to save.
4. Select the facet filter values that you want to save.

Related Information

Tasks

[Set Up Advanced Options for Custom Reports](#) on page 55

Concept: Interacting with Report Results

Drilling Down to View Additional Fields

When you enable **Drill Down Options** for matrix, nBox, and trending reports, you can:

- Drill down on a cell value and group results by another field.
- View detail data for summarized amounts.

Detail data displays current field values, but Workday calculates summary values when you run the report. There might be a difference between summary values and detail data if the data changed after you ran the report.

Exporting Report Output

To access report results outside of Workday, you can export report output as:

- PDF.

- Excel file.

When you export the report output as an Excel file, Workday runs the report again in the background. A report that includes date or time fields might have different output in the Excel file than what you view in Workday. Examples: **Current Moment**, **Days Since Completed**.

You can't download search report results as PDFs or Excel files.

Filtering by Facets

For advanced and search reports, you can add a search bar and facet filters that enable users to further filter report results without running the report again.

When you enable **Facet Options**, the report results display a search bar if the report data source contains searchable fields. Workday determines which fields in each data source are searchable. When you search for a term, Workday searches against all searchable fields in the report data source, not just the fields in the report. For search reports, there is a limit of 300,000 instances for a single facet.

Concept: Report Schedules and Weekly Service Update Window

Workday scheduled report runs can perform differently when your tenant enters our Service Update Mode, which occurs 30 minutes before the Weekly Service Update begins.

These scenarios apply to report runs scheduled during the Weekly Service Update:

Scenario	Impact
The report run starts before the tenant enters the Service Update mode and completes in the 30-minute window before the start of the Weekly Service Update.	No impact to the report run.
The report run starts before the tenant enters the Service Update mode and doesn't complete before the start of the Weekly Service Update.	Reports that start but don't complete before the tenant enters the Service Update mode result in an error. Run the report again after the Weekly Service Update completes.
You schedule the report run to start after the tenant enters the Service Update mode.	The report run doesn't start at its scheduled time; the report run starts at the completion of the Weekly Service Update.

For scenarios that can impact your report executions, don't schedule your reports to run during the Weekly Service Update window.

Report Administration

Add Custom Reports to Workday Menus

Prerequisites

Security: *Custom Report Administration* domain in the System functional area.

Context

You can use the **Maintain Custom Reports on Menus** task to make your custom reports more accessible by adding them to the:

- **Sitemap**.
- Related actions menu of a business object, such as Organization or Worker.

To add a custom report to a related actions menu:

- Associate the custom report with only 1 business object and only 1 action category.
- Ensure the report prompts for a business object. Example: Supervisory Organization or Worker.

You can add a maximum of 100 custom reports to Workday menus.

Steps

- Access the **Maintain Custom Reports on Menus** task.
- As you complete the task, consider:

Option	Description
Sitemap Category	(Optional) Add the custom report to a standard menu category.
Related Actions	Select the Business Object and Menu Category to which you want to add the custom report. The associated Prompt Field displays for reference.

Share Custom Report Definitions

Prerequisites

Security: These domains in the System functional area:

- Custom Report Creation*
- Report Definition Sharing - All Authorized Users*
- Report Definition Sharing - Specific Groups*
- Report Definition Sharing - Specific Users*

Context

If you own a custom report, you can share the report definition with other groups or users. Workday considers all security permissions before a user can access and run a shared report.

Workday doesn't support sharing simple reports.

Steps

- Access the custom report that you want to share.
- On the **Share** tab, select an option from the **Report Definition Sharing Options** section.
If you select *Share with specific authorized groups and users*, you can specify authorized groups and users to share the report with, or you can create your own group.

Related Information

Tasks

[Set Up Share Options for Custom Reports](#) on page 54

Reference

[The Next Level: Report Performance - Tuning Thresholds](#)

Transfer Ownership of Report Groups

Prerequisites

Ensure that the user you transfer the report group to has access to all the reports in the report group.

Security: These domains in the System functional area:

- *Custom Report Administration*
- *Manage: All Custom Reports*

Context

When a report group owner transitions to a different role, report administrators can transfer their report groups to another user.

Report group owners can also transfer report groups that they own to other users.

Steps

1. Access the **Transfer Ownership of Report Group** task.

If you're transferring a report group you own but don't have access to the **Transfer Ownership of Report Groups** task, you can select **Report Group > Transfer Ownership** from the related actions menu of your report group.

2. Select a **Report Group** and **New Owner**.
3. Confirm that the new owner has access to all the reports in the report group.

Result

The new owner can edit and schedule the report group.

Related Information

Tasks

[Group Reports](#) on page 81

Translate Custom Reports

Prerequisites

Security: *Data Translation* domain in the System functional area.

Context

You can translate custom reports from the default tenant language to other languages that your tenant supports.

Steps

1. From the related actions menu of a custom report, select **Translation > Translate Instance**.

You can translate these parts of a custom report:

- **Brief Description**
- **Instructions**
- **Label Override**
- **More Info**

2. From the related actions menu of a custom report, select **Custom Report > Translate**.

You can translate these parts of a custom report:

- Column heading overrides.
- Group name overrides for sort fields.
- Labels for prompts.
- Report name.

Next Steps

Access the **Change Preferences** task and change the **Preferred Display Language** to view your translations.

Related Information

Concepts

[Concept: Translations](#)

Concept: Custom Report Deletion

You can access these tasks to delete custom reports that have no usages:

- **Delete Custom Report** enables you to delete 1 report.

You must have access to the *Custom Report Management* and *Manage: All Custom Reports* domains in the System functional area.

When you select a composite report for deletion, you can select the **Delete Subreports** check box to deep delete all subreports referenced in the composite report. You can't delete composite reports or subreports scheduled to run as a future process until you delete or suspend the process.

- **Mass Delete Custom Reports** enables you to delete 1 or more reports.

You must have access to the *Custom Report Management* and *Manage: All Custom Reports* domains in the System functional area.

You can't delete custom reports that you use in:

- Business form layouts.
- Business process steps.
- Other custom reports.
- Report groups.
- Scheduled future processes.

You can't recover deleted reports in your production tenant. Before you delete reports in your production tenant, Workday recommends you:

- Delete them in your Sandbox tenant.
- Discuss reports that you want to delete with report owners.
- Rename or tag reports you want to delete. You can send a report of those custom reports to others who you might impact by their deletion.

If you inadvertently delete reports, you can check your Sandbox tenant for copies before the weekly Sandbox tenant refresh runs.

You can view deleted reports by accessing the **View User or Task or Object Audit Trail** report.

Related Information

Concepts

[Concept: Report Definition Usages](#) on page 97

Reference

[Workday Community: Refresh Exemption Tenant Request](#)

Concept: My Reports

My Reports is a virtual storage area for report output and integration documents. Workday saves report output in **My Reports** when:

- Someone schedules a report and shares the output with you.
- You run a report in the background.
- You schedule a report.
- You generate a spreadsheet from a composite report that includes outlining.

When you open **My Reports**, Workday displays the 10 most recent report output files and integration documents. From the related actions menu of a **File**, you can:

- Assign, create, or remove report tags by selecting **Repository Documents > Maintain Tags**.
- Share report output with up to 2,000 users by selecting **Repository Documents > Shared Users**.

You must have access to the *Report Output Sharing* domain in the System functional area to share report output.

Mobile Support

In the **Mobile** section on the **Edit Tenant Setup - System** task, select these check boxes to disable **My Reports** or enable users on mobile devices to share and import attachments into Drive:

- **Disable My Reports On Mobile**.
- **Enable Attachments to be Imported From or Shared With External Sources**.

Related Information

Concepts

[Concept: Mobile Devices and Features](#)

Reference

[Reference: Edit Tenant Setup - System](#)

[Reference: Core Navigation](#)

Concept: Report Definition Usages

When a report has usages, Workday displays the number of **Report Definition Usages** on the **View Custom Report** task.

You can click the count of **Report Definition Usages** to view the area and usage of the report.

You can't delete reports that you use in:

- Business form layouts.
- Business processes.
- Other custom reports.
- Report groups.
- Scheduled future processes.

Concept: Report Tags

Report tags enable you to categorize reports and report output files for refined searching. You can also add report tags to a report group definition. When you schedule the report group, Workday adds the tags to the generated output file of each report. Access the **View Report Tags** report to view and edit report tags.

You can use these report tag types:

- Prompt value report tags, which you can apply to a report group. You can base tags on the dynamic values of prompts in the report group prompt set. Example: You can select report tags based on prompts for company or cost center.
- Static tags, which you can apply to individual reports or report group definitions. You can select Workday-delivered report tags or create your own from report or report group edit tasks.

On the **Maintain Report Tags** task, you can create and edit report tags. You can also add a description to a report tag. To add or edit a report tag reference ID, use the **Maintain Reference IDs** task.

To create or maintain report tags, you need access to the *Report Tag Management* domain in the System functional area.

Inactivate or Delete Report Tags

You can use the **Maintain Report Tags** task to deactivate or delete report tags. When you:

- Deactivate a report tag, you can't apply the tag to a report output.
- Use a report tag in a report or report group definition, you can't delete it.

Assign and Unassign Report Tags

You can use the **Mass Update Report Tags** task to assign and/or unassign report tags on multiple reports or report groups.

You can use the **View Mass Update Report Tags History** report to view previous mass update report tag changes.

Searching for Reports and Report Output Files Using Report Tags

You can search for reports with a specific report tag by entering the *rdt:* prefix followed by the name of the report tag. Example: Enter *rdt: payroll* to identify custom report definitions tagged with payroll.

You can access the **My Report Output Files** report to search for output files with a specific report tag.

Related Information

Tasks

[Group Reports](#) on page 81

Concept: Temporary Reports

Temporary reports enable you to reduce clutter in your tenant by marking obsolete reports for deletion, and then deleting them in bulk. You can make any custom report temporary.

You can restrict users to create only temporary reports by assigning them to the *Ability to Create Only Temporary Reports* domain. They can still access all other reporting features.

Deleting Expired Temporary Reports

Expired temporary reports remain in your tenant until you run the **Delete My Temporary Report Definitions** task. Report Admins can run the **Delete All Temporary Report Definitions** task to delete all expired temporary report definitions.

You can also schedule the task to run on a regular basis. When the task runs, Workday permanently deletes any temporary reports that expire on or before the current date.

Changing Report Expiration Dates

Temporary reports expire 7 days after you create them. For all report types except for simple reports, you can change the expiration date on the **Advanced** tab of the report definition.

Saving Temporary Report Results

If you need to save temporary report results, you can export them as a spreadsheet or PDF.

Related Information

Concepts

[Concept: Custom Reports](#) on page 12

Tasks

[Activate Pending Security Policy Changes](#)

[Create User-Based Security Groups](#)

[Set Up Advanced Options for Custom Reports](#) on page 55

Reference: Custom Reports with Objects Planned for Retirement

The **All Custom Reports with "Do Not Use" Items** report enables you to identify custom reports that use objects planned for retirement. Workday labels these objects with (*Do Not Use*) because there's a new or better object available. The report lists the *do not use* (DNU) objects in the custom report, so you can make updates appropriately.

Option	Description
Report Run History Start Date Report Run History End Date	The date range you specify determines the count displayed in the Number of Times Executed column on the report. You can select a date range of 6 months.
Custom Report	Displays the custom report that uses an object with a DNU label.
Report Owner	Displays the custom report owner.
Number of Times Executed	Displays the number of times Workday executed the custom report within the report run history date range you specified. The count excludes when the report runs as a worklet.
"Do Not Use" Report Fields	Displays the calculated field and report field with a DNU label that the custom report uses.
"Do Not Use" Data Source	Displays the report data source (RDS) with a DNU label that the custom report uses.
Alternate Data Source	Displays the recommended RDS to use in place of an RDS with a DNU label.
"Do Not Use" Data Source Filter	Displays the RDS filter with a DNU label that the custom report uses.
Area Where Used	Displays all custom report usages in your tenant.
Last Run By	Displays who last ran the custom report, including running the report in the background or as a worklet.
Last Run Date	Displays the date and time within the past 6 months when the custom report last: <ul style="list-style-type: none">• Executed as an integration.• Executed as a worklet.• Ran.• Ran in the background. Workday captures the date and time once per day for each custom report.
Domains Securing Report Definition based on RDS and SMD	Displays the domains that secure the RDS and the domains the RDS uses for the secure method definition (SMD) on the custom report.

Option	Description
	The SMD is for Workday internal use only and it determines security permissions for viewing data in a report.
Domains Securing Alternate RDS	Displays the domains that secure the RDS. Workday recommends you use in place of an RDS with a DNU label.
Enable As Worklet	Indicates whether the custom report is enabled as a worklet.
Available Usage	Displays the embedded and landing pages for the custom report configured as a worklet.
Worklet Landing Pages	Displays the landing pages for the custom report configured as a worklet.
Enable As Web Service	Indicates whether the custom report is enabled as a web service.
Attached Excel Template	Displays the Excel workbook attached to the custom report.

Related Information

Concepts

[Concept: Selecting a Data Source](#) on page 21

Reference

[Reference: Reports for Managing Custom Reports](#) on page 101

Reference: Report Run History

The **Report Run History** report enables you to identify who runs reports and how often. The report can display up to 6 complete months of run history for standard and custom reports. To view more than 6 months of run history, build an integration to extract data once a month.

When you run the report, you can filter for these **Execution Mode** options:

Option	Description
Column Outlining Request	Displays the number of times the report ran with expanded column groupings.
Drill Down	Displays the number of times you drill down the report when the task executes. Drilling down adds to the count. Example: When you drill down twice in a report, 3 counts display. 1 for the initial report execution and 2 for the drill-down selections.
Drill Down - Id Set Details	Displays the number of times you drill down on a cell in a report with paginated results.
Excel Outlining Request	Displays the number of times the report exports to Microsoft Excel and contains expandable groupings.
Facet Selection	Displays the number of times you select a facet for a report when the task executes.

Option	Description
	Facet selection adds to the count. Example: When you run a report and select 2 facets, 3 counts display here: 1 for the initial report execution and 2 for the facet selections.
Internal	Displays the number of times where other tasks ran in the report.
Report	Displays the number of times the reports ran.
Row Outlining Request	Displays the number of times the report ran with expanded row groupings.
Scorecard Metric Reports	Displays the number of times the matrix report ran during calculations of Scorecard Metrics.
Sub Report	Displays the number of times the subreport ran as part of composite reports.
Test Report	Displays the number of times the report ran as a test.
Worklet	Displays the number of times the report ran as a worklet on a dashboard.
WQL	Displays the number of Workday Query Language requests that execute.

To enable the **Report Run History** report, access the **Edit Tenant Setup - Reporting and Analytics** task and select the **Enable Access to Report Run History** check box. Workday begins capturing report run history after you enable the feature and therefore might not initially display any data on the **Report Run History** report.

Related Information

Reference

[Reference: Edit Tenant Setup - Reporting and Analytics](#)

Reference: Reports for Managing Custom Reports

Workday provides these reports to help you create and manage custom reports.

Report	Description
All Background Only Custom Reports	View all custom reports enabled as background only in your tenant.
All Calculated Fields	View all calculated fields in your tenant.
All Custom Reports	View all custom reports in your tenant.
All Custom Reports with "Do Not Use" Items	View all custom reports in your tenant that use objects planned for retirement.
Business Objects by Category	View all business objects for a category.
Business Object Details	View all of these reporting objects for a business object: <ul style="list-style-type: none">• Related business objects.• Report data sources.

Report	Description
	<ul style="list-style-type: none"> Report fields. Reports.
Calculated Fields Defined	View all report-specific and tenant-wide calculated fields configured in your tenant.
Custom Reports for Person	View all custom reports the person owns.
Dashboard Run History	View and filter dashboard usage statistics from the previous 6 months.
My Custom Reports with "Do Not Use" Items	View all custom reports you own that use a data source filter, report data source, or report field planned for retirement.
Report Fields	View all calculated fields and Workday-delivered fields in your tenant.
Report Run History	View the number of times a report ran. If you don't enter any prompt values, the report displays the reports that ran the most frequently in the last 6 months.
View Business Form Layout	View all custom business form layouts created in your tenant.
View Delivered Business Form Layout	View Workday-delivered business forms, such as an IRS form 1099.
View Indexed Fields for Data Source	<p>View the fields in an indexed RDS that Workday indexes for:</p> <ul style="list-style-type: none"> Aggregations. Facets. Filters. Group by.
Workday Data Dictionary	View all Workday-delivered fields for a business object, excluding fields with the <i>(Do Not Use)</i> label and retired fields.
Workday Standard Reports	View all Workday-delivered reports.

Related Information

Reference

[Reference: Custom Reports with Objects Planned for Retirement](#) on page 99

[The Next Level: Factors Impacting Report Performance](#)

Reference: Security Domains for Reporting

You can assign administrators who manage all your report definitions and outputs to these security domains in the System functional area:

Domain	Report Management Task
<i>Manage: All Custom Reports</i>	<ul style="list-style-type: none"> View Custom Report Edit Custom Report Delete Custom Report

Domain	Report Management Task
<ul style="list-style-type: none"> Manage: All Custom Reports Custom Report Administration 	<p>Transfer Ownership of Custom Reports</p> <p>The user you transfer the report to must also have access to the <i>Custom Report Creation</i> domain.</p> <p>Select the Allow Mixed-Language Transactions check box for your Workday account to view all the items you have access to in your preferred language and in English. This check box enables access to tasks and objects that aren't translated in your preferred language when your preferred language is different from the default tenant language. See Steps: Manage Translations.</p>
<i>Data Translation</i>	Translate Custom Report

To provide users with view-only access to custom reports, Workday recommends that you use the *Manage: All Custom Reports* domain in the System functional area.

Related Information

Reference

[The Next Level: Report Security Overview](#)

Report Performance and Limitations

Create Report Performance Logs

Prerequisites

Security: *Core Navigation* domain in the Tenant Non-Configurable functional area.

Context

You can use report performance logs to troubleshoot slow reports.

Steps

- Access the **Edit Report Performance Log Settings** task.
- Select the **Report Log Settings** tab.
- As you complete the tab, consider:

Option	Description
Enabled	Select the Enabled check box to enable Workday to collect the report performance data.
Report Definition(s)	Select the reports that you want to log.
Log Name	Enter a name for the report performance log.
Log Data Until	<p>Select an end date and time that's less than 24 hours from the current time.</p> <p>Each time you run the report before the date and time you set, Workday creates a new log for the report.</p>

Option	Description
Report Timeout Limit (min)	<p>Enter a maximum amount of time for the reports to run before they time out. You can use this option to help you determine why the reports take a long time to run without having to wait for each report to finish.</p> <p>The default value of 0 indicates no timeout limit.</p>
Enable Pagination (ID Set) Details	<p>Select to create:</p> <ul style="list-style-type: none"> 1 report log for the initial set of report results that load. A separate report log for each additional page of report results that you load. <p>Otherwise, Workday creates 1 report log for all the report results that you load.</p> <p>Example: If the Find Candidates report returns 500 instances, Workday creates a total of 11 logs, including:</p> <ul style="list-style-type: none"> 1 log for the report as a whole. 1 log for the initial set of instances that load. 1 log for each additional set of 50 or so instances that load.

- Run the reports that you want to log.

Next Steps

Access the **View Report Performance Logs** report.

Related Information

Reference

[The Next Level: Factors Impacting Report Performance](#)

Reference: Report Performance Log Fields

- [Report Summary](#)
- [Report Performance Metrics](#)
- [Failure Information](#)
- [Report Prompts](#)
- [Field Performance Metrics](#)
- [Subreports](#)
- [Advanced Metrics](#)

Report Summary

Log Field	Description
Log Name	The log name you entered on the Edit Report Performance Log Settings task.
Report Definition	The report selected for logging.
Report Type	A 3-letter abbreviation for the type of report logged. Possible values:

Log Field	Description
	<ul style="list-style-type: none"> • ADV - Advanced • FAC - Faceted Search • MTX - Matrix • TRD - Trending • NBX - nBox • SIM - Simple • TPS - Transposed
Executed by User	The user who ran the report.
Data Source	Data source of the logged report.
Execution Status	<p>Displays if the report ran successfully.</p> <p>If you select the Notify me later check box when you run the report, the original report log displays a status of <i>Failed</i> and creates another report log for the report when it runs in the background.</p>
Data Source Processing Mode	<p>Displays how the report processed the data source: as standard, indexed, or hybrid. This field doesn't display for composite reports.</p> <p>Possible values:</p> <ul style="list-style-type: none"> • Object Graph: The report processed the data source as a standard data source. • Indexed: The report processed the data source as an indexed data source. This processing mode results in the best report performance. • Hybrid: The report processed the data source as an indexed data source with additional functions.
Filter Processing Mode	<p>Displays how the report processed the fields used for filtering: as standard, indexed, or hybrid.</p> <p>Possible values:</p> <ul style="list-style-type: none"> • Object Graph: The report evaluates the fields selected for filtering outside of an indexed data source. • Indexed: The report evaluates the fields selected for filtering inside of an indexed data source. This processing mode results in the best report performance. • Hybrid: The report evaluates the fields selected for filtering both inside and outside of an indexed data source.
Grouping Processing Mode	<p>Displays how the report processed the fields used for grouping: as standard, indexed, or hybrid.</p> <p>Possible values:</p> <ul style="list-style-type: none"> • Object Graph: The report evaluates group by fields outside of an indexed data source.

Log Field	Description
	<ul style="list-style-type: none"> Indexed: The report evaluates group by fields inside of an indexed data source. This processing mode results in the best report performance. Hybrid: The report evaluates group by fields both inside and outside of an indexed data source.
Report Execution Date and Time	Date and time when the report finished running.
Maximum Report Processing Time (s)	<p>Maximum time a report runs before timing out. By default, a report run by a user runs for 30 minutes. A report that ran in the background runs for 6 hours. A report that ran as a worklet runs for 30 seconds.</p>
Subreport Count	(Composite reports only.) Number of subreports run as part of the composite report.
Data Source Instance Count	<p>Number of business object instances the data source returns.</p> <p>This field displays a count of zero if the:</p> <ul style="list-style-type: none"> Data source returns zero instances. Report is a matrix report that's Optimized for Performance. Data source is a hybrid of standard and indexed data sources.
Data Source Instance Count (Post Security Processing)	<p>Number of business object instances remaining after security processing.</p> <p>This field displays a count of zero if the:</p> <ul style="list-style-type: none"> Report runs contextual security on the data source. Report runs contextual security and eliminates all instances from displaying. Report is a matrix report that's Optimized for Performance.
Report Instance Count	<p>Number of business object instances the report returns after security, filter, and other processing.</p> <p>This field displays a count of zero if the report is a matrix report:</p> <ul style="list-style-type: none"> That's Optimized for Performance. And the data source is a hybrid of standard and indexed data sources. <p>If the report is a matrix report that's Optimized for Performance, a unique instance count of all groups displays in the Matrix Summarization section of the:</p> <ul style="list-style-type: none"> Development Report Performance Log. Support Report Performance Log.

Log Field	Description
	If the Report Instance Count is much less than the Data Source Instant Count , consider using a more focused data source to improve report performance.

Report Performance Metrics

Log Field	Description
Total Execution Time (ms)	Time spent running the report. A high value might indicate performance issues. Review the other timing log fields to identify a problem area.
Total CPU Execution Time (ms)	Total time of each concurrent thread for each time bucket. This value doesn't contribute to Total Execution Time (ms) . This field is only available if you enable Parallel Processing .
Initialization Time (ms)	Time spent building the report definition model. During this time, the report evaluates parameter processing and static filters.
Data Source Time (ms)	Time spent identifying the data source and retrieving the business object instances that the report uses. To reduce the data source time, you can use the Data Sources report to find a more targeted and efficient data source for your report.
Data Source Security Time (ms)	Time spent evaluating security access to the data source. This field displays zero if the data source contains no security. If the data source is secured to an unconstrained security group while some instances of the business object are secured to a constrained security group, this field displays the time spent evaluating security access for the constrained security group.
Top Level Filter Time (ms)	Time spent applying all filters in the report definition, including filters at the data source, field, and subfilter levels. This field displays zero if there's no filtering on the data source. To reduce the filter time, you can: <ul style="list-style-type: none"> • Ensure that the top-level filter removes the highest number of instances from your report. • Simplify filter logic. • Try using different fields to filter your report.

Log Field	Description
Contextual Security Filter Time (ms)	<p>Time spent evaluating contextual security access to the data source.</p> <p>This field doesn't display if there's no contextual security on the data source.</p>
Top Level Sort Time (ms)	<p>Time spent applying all sort options in the report definition.</p> <p>This field displays zero if the report:</p> <ul style="list-style-type: none"> • Is a search report based on a Syman data source. • Is a facet selection. • Has paginated results. <p>To reduce the sort time, you can sort by simple field types, such as text fields, instead of by single instance or multi-instance field types.</p>
Processing Time (ms)	<p>Time spent processing all calculations and fields and delivering all business object instances in the report results. Includes time for generating data for fields and columns.</p> <p>This field displays zero if the report ran for the first time and contains paginated results.</p>
Subreport Invocation Time (ms)	<p>(Composite reports only.) Time spent running subreports, including time starting and ending each subreport request.</p>
Filter Tree Time (ms)	<p>Time spent building the filter tree while initializing the report definition.</p> <p>This field displays zero if:</p> <ul style="list-style-type: none"> • There are no filters on the report. • The report execution is an interaction. Example: Drill down, paginated report results, outlining, or facet search.
Report Parameters Evaluation Time (ms)	<p>Time spent evaluating all user-entered prompt values while initializing the report.</p> <p>This field displays zero when:</p> <ul style="list-style-type: none"> • There are no prompts on the report. • The report execution is an interaction and reuses the initial prompt values from the initial report execution. Example: Drill down, paginated report results, outlining, facet search.

Failure Information

This section only displays if the report fails to run.

Log Field	Description
Failure Info Exception Message	Description of why the report failed to run.
Failure Info Fail Type	Report failure type.
Failure Info Main Stats Bucket	The process running at time of report failure.
Failure Info Sub Stats Bucket	The subprocess running at time of report failure.

Report Prompts

The report prompts in this section can come from the data source and data source filters.

Log Field	Description
Prompt Field	Prompt fields that the report evaluates.
Prompt Value(s)	Values for the prompt field.
Count	(Workday Support only.) Count of how many instance prompt values are selected. Possible values: <ul style="list-style-type: none">• Blank: The value for the prompt isn't an instance value.• Zero: No instances were selected for the prompt.• Greater than zero: The number of instance values selected for the prompt.
Hash Code	(Workday Support only.) Hash code used to recreate the instance prompt selected values.

Field Performance Metrics

Log Field	Description
Field	Name of the field in the report, data source, or data source filter.
Parent Field	The parent field for the child calculated field. All child fields below the second level roll up to the second-level child field. In some cases, a field that is either referencing itself or another field is the Parent Field . In some composite reports, there are parents fields due to report nesting.
Field Type	Type of field in the report. Possible values: <ul style="list-style-type: none">• Calculated• Calculated - Report Specific• Computed• Custom Field• Workday Delivered

Log Field	Description
Total Field Security (ms)	Time spent evaluating the security for the field.
Total (ms)	<p>Time spent processing this field, not including Total Field Security time.</p> <p>The total time is the sum of the Data Source Processing time and the Report Processing time.</p>
Initialization (ms)	Time spent initializing static values. Example: Effective moment.
Data Source (ms)	<p>Time spent evaluating the field in the data source.</p> <p>This field displays zero when the data source:</p> <ul style="list-style-type: none"> • Doesn't use the field. • Is indexed and Workday doesn't evaluate the field outside of the data source.
Data Source Security (ms)	<p>Time spent evaluating the field security in the data source.</p> <p>This field displays zero when the field isn't used for data source security.</p>
Contextual Security Filter (ms)	<p>Time spent filtering logic for the data source that calls this field during execution.</p> <p>This field displays zero when there's no contextual security.</p>
Report Processing (ms)	<p>Time spent filtering, sorting, processing, and so on.</p> <p>This field displays zero when the report field is only in the data source.</p>
Times Executed	Number of times the field executes, including when the field nests under other fields.

Subreports

This section is only available for composite reports.

Log Field	Description
Subreport	Name of the subreport in the composite report.
Referenced in Composite Entries	Where the composite report references the subreport.
Report Performance Log	The link to the report performance log for the subreport.

Advanced Metrics

This section is for Workday Support use only.

Related Information

Tasks

[Create Report Performance Logs](#) on page 103

Reference

[The Next Level: Factors Impacting Report Performance](#)

[The Next Level: Report Performance Recommendations for Large Volume Customers](#)

[The Next Level: Report Performance - Tuning Thresholds](#)

[Workday Community: A Practical Guide for High Performance Reporting](#)

Reference: Improving Report Performance

When a report runs slowly, access the **Edit Report Performance Log Settings** task to log the report. You can then access the **View Report Performance Logs** report and click **View** to identify areas for improvement.

Report Performance Log Field	What to Do
Data Source Processing Mode	<p><i>Indexed</i> processing mode results in the best report performance. Ensure that the Data Source Processing Mode is <i>Indexed</i> by:</p> <ul style="list-style-type: none"> Creating a report with an indexed data source. Selecting the Optimized for Performance check box when you create a report to limit your report to indexed fields.
Filter Processing Mode	<p><i>Indexed</i> processing mode results in the best report performance. Access the View Indexed Fields for Data Source report to ensure that the fields you use to filter the report are indexed for filtering. If needed, replace nonindexed fields with indexed fields.</p>
Filter Processing Mode Group Processing Mode	<p>Some fields in an indexed data source aren't indexed for all usages. If you're using an indexed data source and your report still runs slowly, you can:</p> <ul style="list-style-type: none"> Access the View Indexed Fields for Data Source report to confirm that the fields in your report are indexed for filters, facets, aggregation, and group by. Replace nonindexed fields with indexed fields. <p>When creating a report, you can select the Optimized for Performance check box to ensure that the report uses only indexed fields.</p>
Data Source Instance Count Report Instance Count	<p>If the Report Instance Count is much less than the Data Source Instant Count, consider using a more focused data source to improve report performance.</p> <p>Example: Use My Direct Reports instead of filtering Workers for HCM Reporting.</p>

Related Information

Concepts

[Concept: Selecting a Data Source](#) on page 21

[Concept: Indexed Data Sources and Fields](#) on page 18

Tasks[Create Report Performance Logs on page 103](#)**Reference**[Reference: Report Performance Log Fields on page 104](#)[Reference: Reporting Limits on page 113](#)[The Next Level: Factors Impacting Report Performance](#)[Workday Community: A Practical Guide for High Performance Reporting](#)**Reference: Best Practices for Large Volume Reports**

Consider these performance best practices to optimize reports containing large volumes of data:

Object	Best Practice
Report Data Sources	<p>Use indexed report data sources (RDSs) instead of nonindexed RDSs to optimize report performance.</p> <p>For optimal report performance, select the RDS that returns the fewest business object instances that you need.</p> <p>Example: You want to run a report that displays a row for each worker who received a bonus within a specified date range. Instead of using the All Active and Terminated Workers RDS, use the transactional event, such as Payroll Results, as the RDS and then filter for the date range and Bonus type.</p> <p>Example: You want to run a report that displays results for 1 employee only. Instead of filtering a list of employees or setting up a prompt, use the Worker from Prompt RDS.</p>
Subfilters	<p>Use subfilters on advanced reports to filter on a related business object. To avoid nested loops, use the related business object as the primary business object.</p>
Report Fields	<p>Select report fields that target the data you want and use indexed fields to optimize report performance for:</p> <ul style="list-style-type: none"> • Aggregation • Facets • Filtering • Group By <p>From the Global business object, use static global report fields in calculated fields and prompts since they always return the same value.</p>
Filter Field Order	<p>Sort fields in order of most restrictive to least restrictive. Workday evaluates filter conditions in the order that you define them in the report definition.</p>
Calculated Fields in Filter	<p>Use as few calculated fields in filter conditions as possible so that your report is more performant.</p>

Object	Best Practice
High Filter Ratio	<p>Review the High Filter Ratio field on the View Report Performance Logs report to determine if your report is performant. If the ratio between the Data Source Instance Count and Filtered Instance Count is large, the RDS isn't effectively providing the instances you need.</p> <p>Example: Use the My Direct Reports RDS instead of filtering the All Active Workers RDS by manager.</p>
Sorting Report Outputs	<p>Avoid sorting report outputs to optimize report performance. When you enable sorting, Workday loads all the results in the report instead of loading a subset of the results.</p>
Effective Moment	<p>Avoid using an effective date to optimize report performance. Reports that use indexed RDSs don't support effective dates and perform better when you run the report using the current moment.</p>
Restrict Scheduling Permissions	<p>Restrict the number of users permitted to schedule reports to necessary individuals to optimize the performance of your tenant. When many users have permission to schedule reports, admins lose visibility into and control over how users schedule reports. Users might never use the report output or forget the scheduled report ran.</p>

Reference: Reporting Limits

- [Data Sources](#) on page 113
- [Prism Data Sources](#) on page 114
- [Financial Modeled Data Source](#) on page 114
- [Processing](#) on page 115
- [Discovery Board Visualizations](#) on page 115
- [Scheduled Report Output](#) on page 116
- [Reports Run in the Browser](#) on page 117
- [Displaying Report Designer in the Browser](#) on page 119
- [Exporting to Excel](#) on page 119
- [Report Performance Logs](#) on page 119
- [Mobile Devices](#) on page 119

Data Sources

Workday limits the number of returned instances based on the type of report data source (RDS) you use and whether filtering applies. Filtering includes:

- Drill down filters.
- RDS filters.
- RDS security.
- Report filters.

Prefiltering refers to the limit Workday imposes before applying any filters to the report. Postfiltering refers to the limit Workday imposes after applying filters or grouping.

Report Criteria	Returned Instances Limit
Indexed RDS Prefiltering	3 million
Indexed RDS Postfiltering	3 million
Nonindexed RDS Prefiltering	3 million
Nonindexed RDS Postfiltering Pre-grouping	1 million (for grouping only)
Nonindexed RDS Postfiltering Indexed report fields	3 million

If your report displays an error, consider using a different data source filter for indexed data sources or a different data source type. Example: When you use a nonindexed RDS, try using an indexed RDS instead.

For reports that use a Prism data source, Workday returns up to 1 million rows for these report types you run in the background:

- Advanced
- Matrix
- Simple
- Transposed

Prism data sources can return up to 512 MB of data.

Prism Data Sources

Workday limits from where you can query a Prism data source created from a Prism Analytics table that is enabled for analysis.

If the table contains more than 2,000,000,000 rows, then you can't use the Prism data source in a discovery board viz or a custom report as a worklet on a dashboard. You can use the Prism data source in a custom report that you run in the browser or in the background.

Financial Modeled Data Source

Workday limits the data it puts in the financial modeled data source when you set up the financial reporting data model.

Description	Limit
Time duration of journal line data	Up to 3 years, rolling (current year plus 2 years prior)
Maximum number of optional dimensions	15
Maximum number of values per dimension	100,000

Workday returns up to 1,000,000 cells that contain data in the query response.

Processing

Workday limits report processing to:

- 30 minutes for all reports before displaying an error. After 20 seconds, Workday enables you to schedule the report to run as a background process.
- 6 hours for background reports, scheduled reports, and web services. Workday terminates the scheduled background report if processing time takes longer.

You can enable all custom report types, except simple, to run in the background. When you create or edit a custom report, select the **Background Only** check box in the **Report Performance** section on the **Advanced** tab. You can also access the **All Background Only Custom Reports** report to view all custom reports in your tenant with the **Background Only** check box selected.

Discovery Board Visualizations

Workday limits viz query processing to 45 seconds and limits the returned viz data size to 50 MB. Workday displays an error in the viz if the viz query times out at 45 seconds or if the amount of data returned exceeds 50 MB. Example: A table viz fails to display if Workday returns 500 rows and each row of data contains 1 MB of data. This might happen if field values for a text field in a drop zone contain a lot of information, such as survey result data.

Viz Type	Results
Area Chart	<p>Workday returns up to:</p> <ul style="list-style-type: none"> • 100 values on the x-axis. • 250 color groupings per x-axis value, plus the Other group. • 40 million cells, whether or not the cell contains data. Empty cells don't display in a chart viz like they do in a pivot table viz. However, this limitation still applies.
Bar Chart	<p>Workday returns up to:</p> <ul style="list-style-type: none"> • 100 values on the x-axis. • 250 color groupings per x-axis value, plus the Other group. • 40 million cells, whether or not the cell contains data. Empty cells don't display in a chart viz like they do in a pivot table viz. However, this limitation still applies.
Chart	<p>Workday returns up to:</p> <ul style="list-style-type: none"> • 100 values on the x-axis. • 250 color groupings per x-axis value, plus the Other group. • 40 million cells, whether or not the cell contains data. Empty cells don't display in a chart viz like they do in a pivot table viz. However, this limitation still applies.
Donut Chart	Workday returns up to 250 color groupings, plus the Other group.
Heatmap	<p>Workday returns up to:</p> <ul style="list-style-type: none"> • 100 values on the x-axis, plus the Other group.

Viz Type	Results
	<ul style="list-style-type: none"> 100 values on the y-axis, plus the Other group.
Line Chart	<p>Workday returns up to:</p> <ul style="list-style-type: none"> 100 values on the x-axis. 250 color groupings per x-axis value, plus the Other group. 40 million cells, whether or not the cell contains data. Empty cells don't display in a chart viz like they do in a pivot table viz. However, this limitation still applies.
Pivot Table	<p>Workday returns up to:</p> <ul style="list-style-type: none"> 50,000 data rows. 12,000 row groupings (rows displayed in the pivot table). 250 column attribute groupings. 40 million cells, whether or not the cell contains data.
Scatterplot	Workday returns up to 250 color groupings, plus the Other group.
Table	Workday returns up to 50,000 data rows.

When you filter on a field that contains more than 5,000 values, Workday returns up to 5,000 distinct values in the **Filter panel**.

Scheduled Report Output

Access the **Schedule a Report** task to set up a schedule to run custom reports and deliver them to **My Reports**. You can also schedule reports to run as a single unit by grouping and bursting up to:

- 200 report groups that use an Excel template.
- 2,500 report groups that don't use an Excel template, such as a report that's in PDF or a nontemplate XLS format.

The limitation refers to the number of reports generated by the report group.

You can select 1 of these output types for the report:

- Excel*.
- Report (PDF)*.
- Text (CSV)*.
- View in Browser* for composite reports only.

Depending on the file size or number of rows returned for report results, Workday might deliver a file type other than the target **Output Type** you select.

Number of Rows	Supported Formats	Results
Fewer than 10,000	<i>Excel</i> , <i>Report (PDF)</i> , and <i>Text (CSV)</i>	Workday generates the report in the selected Output Type format.
Between 10,000 and 500,000	<i>Excel</i> and <i>Text (CSV)</i>	If you select <i>Excel</i> as the Output Type format, Workday generates the report in <i>Excel</i> .

Number of Rows	Supported Formats	Results
		If you select <i>Report (PDF)</i> or <i>Text (CSV)</i> , Workday generates the report in <i>Text (CSV)</i> format.
Between 500,000 and 1 million	<i>Text (CSV)</i>	Workday generates the report in <i>Text (CSV)</i> format.
More than 1 million	Not supported	Workday doesn't generate a report.

You can use the **Process Monitor** report to determine if Workday switched to another supported format, or if Workday didn't generate the report.

Reports Run in the Browser

Report Type	Results
All	<ul style="list-style-type: none"> The file size limit for report results is 50 MB and 15 GB for scheduled reports. Workday limits report results to 50 MB for composite reports with a scheduled report output of View in Browser. The XML string limit is 2 GB. Workday limits tabular data processing to 5 seconds.
Advanced	<p>Workday returns up to:</p> <ul style="list-style-type: none"> 1,000 instances. 10,000 rows for nonsupported pagination. 50,000 rows for reports with drill to details or supported pagination. <p>Workday processes the Group by Field only for reports with column or row grouping if there are 1 million or fewer post-filter instances. The limit doesn't affect indexed fields.</p>
Composite	<p>The file size limit for composite results with a scheduled report output of View in Browser is 50 MB.</p> <p>Workday returns up to:</p> <ul style="list-style-type: none"> 100,000 cells. 1,000 columns. 16,000 rows. <p>For reports with drill-down, Workday returns up to:</p> <ul style="list-style-type: none"> 50,000 rows for supported pagination. 10,000 rows for nonsupported pagination.
Matrix	<p>Workday returns up to:</p> <ul style="list-style-type: none"> 250 columns. 12,000 rows.

Report Type	Results
	<p>In the report definition, you can add up to 15 summarization rows.</p> <p>For reports with drill-down, Workday returns up to:</p> <ul style="list-style-type: none"> • 50,000 rows for supported pagination. • 10,000 rows for nonsupported pagination. • 80,000 drill-down cells. <p>For reports using Prism data sources, Workday returns up to:</p> <ul style="list-style-type: none"> • 5,000 instances for count distinct aggregations. <p>Workday can process up to 1 million rows for reports with aggregations and up to 40 million rows for:</p> <ul style="list-style-type: none"> • Background reports. • Scheduled reports. • Web services. <p>Workday processes the Group by Field only for reports with column or row grouping if there are 1 million or fewer post-filter instances. The limit doesn't affect indexed fields.</p>
nBox	<p>Workday enables up to 100 images for each nBox cell.</p> <p>For reports with drill-down, Workday returns up to:</p> <ul style="list-style-type: none"> • 50,000 rows for supported pagination. • 10,000 rows for nonsupported pagination.
Search	<p>Workday returns up to 2,000 instances.</p> <p>The limit doesn't affect mass actions within search reports.</p> <p>There is a limit of 300,000 instances for a single facet for search reports.</p>
Simple	<p>Workday returns up to:</p> <ul style="list-style-type: none"> • 1,000 instances. • 50,000 rows.
Transposed	<p>Workday returns up to:</p> <ul style="list-style-type: none"> • 1,000 instances. • 50,000 rows.
Trending	<p>For reports with drill-down, Workday returns up to:</p> <ul style="list-style-type: none"> • 50,000 rows for supported pagination. • 10,000 rows for nonsupported pagination. • 80,000 drill-down cells. <p>Workday can process up to:</p> <ul style="list-style-type: none"> • 1 million rows for reports with aggregated rows.

Report Type	Results
	<ul style="list-style-type: none"> 40 million rows for background reports, scheduled reports, and web services. <p>Workday processes the Group by Field only for reports with column or row grouping if there are 1 million or fewer post-filter instances. The limit doesn't affect indexed fields.</p>

Displaying Report Designer in the Browser

Workday limits the number of:

- Cells for multi-instance columns and fields to 1 million for composite, matrix, and trending reports.
- Top-level rows to 50,000 for all reports.

Your composite report can have an unlimited number of columns and rows. Adding more columns or rows might affect the response time of the report designer. These browser limits restrict what you see in the report designer:

Browser	Rows Displayed	Columns Displayed
Internet Explorer 11	50	20
All other browsers	200	50

Exporting to Excel

Workday adheres to these Microsoft Excel 2007 or newer limitations when exporting a composite report with outlining:

Type	Limit
Columns	16,384
Rows	1,048,576

Report Performance Logs

You can use report performance logs to troubleshoot performance issues in your reports.

Mobile Devices

You can enable dashboards and reports for mobile so that it's easier to view reporting data on Android, iPad, and iPhone devices. Managers and executives can also view metrics and key performance indicators on mobile applications.

Workday designs mobile apps for self-service, so not all reporting features are available. To access all features, sign in on a browser or desktop.

Your tenant configuration determines how dashboards and reports display. For custom reports and worklets on iPads, Workday doesn't support:

- Hiding table borders and column headings.
- Manually refreshing data. The data refreshes every time you access the report or worklet.
- Maximizing reports.
- Using 3D chart options.

For mobile devices, Workday doesn't support:

- Creating composite reports.

- Creating custom dashboards.
- Saving custom prompt values for worklets.
- Using dual-axis and combination charts.
- Viewing all or conditional formatting styles for composite reports.

Workday doesn't support these reports on mobile:

- Calendars.
- XpressO reports with 2 tabs.
- XpressO reports that use data pulled from the related business object.

Dashboard availability depends on your security configuration, but we support many Workday-delivered dashboards on mobile. To determine if Workday enables a dashboard for mobile devices:

1. Access the **Maintain Dashboards** report.
2. From the related actions menu of a dashboard, click **Dashboard > Edit**.
3. Access the **Settings** tab.
4. View the enabled **Device Type** in the **Task Information** section.

Related Information

Tasks

[Create Report Performance Logs](#) on page 103

[Create Report Performance Logs](#) on page 103

Reference

[The Next Level: Breaking Through With Mobile](#)

[2024R2 Release Note: Schedule Live Composite Reports](#)

[The Next Level: Breaking Through with Mobile](#)

Simple Reports

Steps: Create Simple Reports

Prerequisites

Security: These domains in the System functional area:

- *Custom Report Creation*
- *Manage: All Custom Reports*

Context

You can create a simple custom report with options for filtering and sorting data.

Steps

1. [Create Custom Reports](#) on page 40.
2. [Set Up Columns for Simple Reports](#) on page 121.
3. [Set Up Sort Options for Custom Reports](#) on page 45.
4. [Set Up Filter Options for Custom Reports](#) on page 48.

Next Steps

Test the report to ensure Workday displays the data correctly.

When you test a report, Workday displays the first 10 results. When the report includes a:

- Filter, Workday applies the filter to all instances of the primary business object and displays the first 10 results.
- Subfilter, Workday applies the subfilter to the 10 filtered instances and displays the results.

Related Information

Concepts

[Concept: Custom Reports](#) on page 12

[Concept: Business Objects, Data Sources, and Fields](#) on page 17

Set Up Columns for Simple Reports

Prerequisites

- Create a custom simple report.
- Security: These domains in the System functional area:
 - *Custom Report Creation*
 - *Manage: All Custom Reports*

Context

You can select fields from associated business objects to display on simple reports.

Steps

1. Access the **Edit Custom Report** task.
2. As you complete the **Columns** tab, consider:

Option	Description
Order	Select the order that the fields should display in for your report. The first row in the grid represents the first column on the report, the second row represents the second column, and so on.
Field	Select the field associated with the business object to include in your report.
Column Heading Override	Specify a name to use instead of the populated name on this report to ensure that any future renaming by Workday doesn't impact your labels. Workday supports translations for this field on your report.
Format	Select a format to apply to currency and numeric fields. When displaying numbers in <i>Thousands</i> or <i>Millions</i> format, Workday rounds each number independently.
Options	Available options depend on your field type. You can also select the Create prompt to create these custom display options: <ul style="list-style-type: none"> • <i>Create Analytic Indicator</i>, which enables you to use the indicator in other reports throughout your tenant. • <i>Create Analytic Indicator for Report</i>, which enables you to use the indicator only in the current report.

Option	Description
	<ul style="list-style-type: none"> • <i>Create Percentile for Report</i>, which enables you to create custom percentiles up to 2 decimal places to use in your report. Workday uses an approximate value for currency and numeric fields in the percentile (PCTL).

Next Steps

To convert a simple report to an advanced report, access the related actions menu of your simple report and select **Custom Report > Change to Advanced Report Type**.

Related Information

Concepts

[Concept: Advanced Reports](#) on page 127

Reference

[Reference: Field Options](#) on page 77

Advanced Reports

Steps: Create Advanced Reports

Prerequisites

Security: These domains in the System functional area:

- *Custom Report Creation*
- *Manage: All Custom Reports*

Context

You can create an advanced report that includes:

- Multiple levels of headings and subtotals.
- Related business objects.
- Subfilters.

You can also use 1 or more advanced reports as subreports in composite reporting.

Steps

1. [Create Custom Reports](#) on page 40.
Create a custom advanced report.
2. [Set Up Columns for Advanced Reports](#) on page 123.
3. [Set Up Sort Options for Custom Reports](#) on page 45.
4. [Set Up Filter Options for Custom Reports](#) on page 48.
5. [Set Up Prompt Options for Custom Reports](#) on page 50.
6. [Set Up Output Options for Custom Reports](#) on page 51.
7. [Set Up Share Options for Custom Reports](#) on page 54.
8. [Set Up Advanced Options for Custom Reports](#) on page 55.

Next Steps

Test the report to ensure Workday displays the data correctly.

When you test a report, Workday displays the first 10 results. When the report includes a:

- Filter, Workday applies the filter to all instances of the primary business object and displays the first 10 results.
- Subfilter, Workday applies the subfilter to the 10 filtered instances and displays the results.

Related Information

Concepts

[Concept: Advanced Reports](#) on page 127

[Concept: Business Objects, Data Sources, and Fields](#) on page 17

[Concept: Custom Reports](#) on page 12

Tasks

[Set Up Outlining in Advanced Reports](#) on page 126

Set Up Columns for Advanced Reports

Prerequisites

- Create a custom advanced report.
- Security: These domains in the System functional area:
 - *Custom Report Creation*
 - *Manage: All Custom Reports*

Context

You can select fields from associated business objects to display on advanced reports.

Steps

1. Access the **Edit Custom Report** task.
2. As you complete the **Columns** tab, consider:

Option	Description
Order	Select the order that the fields should display in your report. The first row in the grid represents the first column on the report, the second row represents the second column, and so on.
Business Object	Select a self-referencing, single instance, or multi-instance field based on the primary business object.
Field	<p>Select the field associated with the business object to include in your report. If you select a:</p> <ul style="list-style-type: none"> • Self-referencing field on the Business Object column, select a field from the primary business object. • Single instance or multi-instance field on the Business Object column, select a field from a related business object. <p>When you select a multi-instance field on the Business Object column, that field displays as</p>

Option	Description
	<p>a column group heading. Fields from the related business object display as subcolumn headings.</p> <p>Select <i>Count</i> to compute the total of the detail data or summarized rows displayed in your report and display a value of the subtotals and grand totals. Workday displays a value only on subtotals and grand totals and displays a blank value for detail or summarized rows. When counting, Workday doesn't include detail data rows that make up the summarized row nor displayed report rows associated with related business objects.</p> <p>To count the detail data rows that make up the summarized row, select <i>One</i> for the Field and <i>Sum</i> on the Option prompt. Selecting <i>One</i> enables Workday to calculate group totals and grand totals.</p>
Column Heading Override	<p>Specify a name to use instead of the populated name on this report to ensure that any future renaming by Workday doesn't impact your labels. Workday supports translations for this field on your report and web services.</p>
Column Heading Override XML Alias	<p>(Available only after selecting the Enable As Web Service check box on the Advanced tab.)</p> <p>Workday displays a properly formed XML alias based on the selected Field or Column Heading Override.</p> <p>XML aliases must be unique. You can use the Maintain Custom Report XML Alias task to resolve an error caused by duplicate XML aliases.</p> <p>When you translate a report, Workday doesn't translate the Column Heading Override XML Alias.</p>
Format	<p>When displaying numbers in <i>Thousands</i> or <i>Millions</i> format, Workday rounds each number independently.</p> <p>To display 12 decimal places when you export reports to Excel or PDF, you can select <code>#,##0.000000000000</code> or <code>#,##0.###########</code> for these aggregated numeric fields:</p> <ul style="list-style-type: none"> • Average • Maximum • Minimum • Sum <p>The data must include 12 digits to display 12 decimal places, otherwise Workday trails the number with zeros.</p>
Options	Available options depend on your field type.

Option	Description
	<p>You can also select the Create prompt to create these custom display options:</p> <ul style="list-style-type: none"> • <i>Create Analytic Indicator</i>, which enables you to use the indicator in other reports throughout your tenant. • <i>Create Analytic Indicator for Report</i>, which enables you to use the indicator only in the current report. • <i>Create Percentile for Report</i>, which enables you to create custom percentiles up to 2 decimal places to use in your report. Workday uses an approximate value for currency and numeric fields in the percentile (PCTL).

3. (Optional) To override the column heading for a multi-instance field on the **Business Objects** column, complete the **Group Column Headings** grid.

As you complete the grid, consider:

Option	Description
Business Object	<p>Select a multi-instance field that you used in the Business Object column of the first Columns grid.</p> <p>If you enable the report as a web service, add a row for each multi-instance field.</p>
Group Column Heading	<p>Specify a name to use for the column heading. Workday supports translations for this field on your report and web services.</p>
Group Column Heading XML Alias	<p>(Available only after selecting the Enable As Web Service check box on the Advanced tab.)</p> <p>Workday displays a properly formed XML alias based on the selected Business Object or Group Column Heading.</p> <p>XML aliases must be unique. You can use the Maintain Custom Report XML Alias task to resolve an error caused by duplicate XML aliases.</p> <p>When you translate a report, Workday doesn't translate the Group Column Heading XML Alias.</p>

Related Information

Concepts

[Concept: Report-Specific Calculated Fields](#)

[Concept: Reports as a Service \(RaaS\) on page 234](#)

Tasks

[Steps: Create Advanced Reports on page 122](#)

Reference

[Reference: Field Options on page 77](#)

Set Up Outlining in Advanced Reports

Prerequisites

- Create a custom advanced report.
- Security: *Custom Report Creation* domain in the System functional area.

Context

You can use outlining in advanced reports to expand and collapse various levels of data when report results display. You can also use outlining to subtotal currency or numeric data. Workday preserves outlining when you export advanced reports to Microsoft Excel, but all levels of the report display without outlining.

Consider these conditions when using outlining:

- All fields on the report must associate with the primary business object associated with the data source.
- Outlined reports can't display as worklets.
- Outlining doesn't support some languages due to right-to-left formatting limitations.
- When you print to PDF, only the top level of the outline prints.
- Workday doesn't support facet filters in advanced reports with outlining.
- Workday supports a maximum of 8 levels of outlining.

Steps

1. Access the **Edit Custom Report** task.
2. On the **Columns** tab, select *Group Name* for the **Field** as the first column on the report.
3. On the **Sort** tab, select the **Enable Outlining based on Grouping** check box to specify the data to display in your report as an outline.
4. (Optional) To group data and provide a logical separation of data on the report, select the **Display Headers** check box.
5. (Optional) To subtotal numeric data and display the result of the aggregation on the subtotal row of the outlined report:
 - a. Select a currency or numeric value on the **Field** prompt on the **Columns** tab.
 - b. Specify an aggregation on the **Options** prompt.
 - c. Select the **Display Subtotals** check box on the **Sort** tab in the **Sort and Group** section.

Create Gauge Ranges

Prerequisites

Security: *Custom Field Management* domain in the System functional area.

Context

You can configure gauge parameters to use with gauge charts in your advanced reports. The gauge displays a single value and its percentage, like a speedometer in a car.

Steps

1. Access the **Create Gauge Range** task.
2. Enter a unique value in the **Name** field for the gauge range.
3. From the **Type** prompt, select a zone.

You can select up to 5 zones. Each zone must be contiguous and can't overlap values.

4. From the **Decimal Places** prompt, select the number of decimal places to use for the **From Value** in the grid.

Example: If you select **2 Decimal Places** and enter **1** for the **To Value**, Workday displays **1.01** as the **From Value** for the next row in the grid.

5. From the **Rounding** prompt, select a rounding method for Workday to apply in the report results:

- *Round*: Depending on the value, Workday rounds it either down or up. Example: If you enable zero decimal places and have a value of **1.5**, Workday rounds up to **2**. If the value is **1.4**, Workday rounds down to **1**.
- *Round down*: Rounds the value down unconditionally. Example: If you enable zero decimal places and have a value of **1.9**, Workday rounds down to **1**.
- *Round half down*: Halves the number of decimal places in the value. Example: If you enable **4** decimal places and have a value of **2.1234**, Workday halves decimal places of the value to **2.12**.
- *Round up*: Rounds the value up unconditionally. If you enable zero decimal places and have a value of **1.1**, Workday rounds it up to **2**.

6. As you complete the grid, consider:

Option	Description
From Value	<p>Enter a value to configure the lower limit of the gauge range for Zone 1.</p> <p>Workday populates the From Value for each subsequent zone based on the:</p> <ol style="list-style-type: none"> To Value of the previous zone. Number of decimal places specified on the Decimal Places prompt.
To Value	Enter a value to establish the upper limit of the gauge range.
Meaning	Select an indicator for the range. Workday associates each indicator with a color: <ul style="list-style-type: none"> • Bad is red. • Good is green. • Neutral is gray. • Warning is yellow.
Label	Enter a description that displays when the report runs.

Next Steps

Access the **Output** tab of an advanced report that uses a gauge output type and add your configured gauge range to the report.

Related Information

Tasks

[Set Up Output Options for Custom Reports](#) on page 51

Concept: Advanced Reports

Advanced reports enable you to perform many actions on your data from primary business objects and related business objects, including:

- Computing the average, minimum, or maximum value of currency and numeric fields.
- Counting.

- Grouping data up to 9 levels.
- Filtering and sorting data.
- Including group headers and group names in your report to separate your data logically based on the group level hierarchy.
- Outlining data.
- Subtotaling and totaling data based on the group hierarchy configured in the report.
- Summarizing detail data rows.
- Using 1 or more advanced reports as subreports in composite reporting.

You can include fields from the related business objects directly in your report without needing a calculated field. The fields from the related business objects must directly relate to the primary business object.

Related Information

Concepts

[Concept: Business Objects, Data Sources, and Fields](#) on page 17

Reporting Mass Action

Prerequisites

Security: *Custom Report Administration* domain in the System functional area.

Context

Report Administrators can use the Reporting Mass Action task to mass update class report fields in advanced reports. For example, report admins can replace multiple deprecated fields, that are no longer in use, with a suitable field. Users can also view reporting mass action history between a selected time frame.

We recommend running this task in an implementation tenant or preview sandbox tenant before you complete it in your production environment. You can then migrate the reports from sandbox to production. However, these changes will not generate in the reporting mass action history.

The Reporting Mass Action task cannot update the fields within calculated fields.

Steps

1. Access the **Reporting Mass Action** task.
2. Select the **Original Report Field** you want to replace and its **Replacement Report Field**.
To update a DNU field, search for the field using its Workday ID (WID). Example:
WID: 13500000000000000000000000000samplewid. Search by name or WID for other fields.
3. Select the items to replace or select the **Select All** check box to replace all items.
The table displays each occurrence of the original report field in all advanced reports.
4. As you complete the task, consider:

Option	Description
Report Definition	The report that uses the original field.
Referred Instance	The specific instance on a report definition where the CRF is used.
Where Used	The specific area the referred instance is in, such as column, sort, or filter and the type, such as field or business object.
Report Owner	The report owner.
Last Run By	Who last ran the report.

Option	Description
Last Run Date	When the report was last run.

5. Confirm all selections are correct as you can't undo your changes. The task may take a few minutes to complete depending on the number of instances to replace.

Result

The class report fields update automatically.

Next Steps

You can access the **View Reporting Mass Action History** task to view all report definition updates within a selected time frame and by a selected report admin.

Related Information

Reference

[2023R2 What's New Post: Mass Update for Custom Reports](#)

Matrix Reports

Steps: Create Matrix Reports

Prerequisites

Security: These domains in the System functional area:

- *Custom Report Creation*
- *Manage: All Custom Reports*

Context

You can create a matrix report to drill on and report across dimensions as well as group and summarize data. You can also use 1 or more matrix reports as subreports in composite reporting.

Steps

1. [Create Custom Reports](#) on page 40.
Create a custom matrix report.
2. [Set Up Grouping and Summarizing for Matrix Reports](#) on page 130.
3. [Set Up Drill Down for Custom Reports](#) on page 44.
4. [Set Up Filter Options for Custom Reports](#) on page 48.
5. [Set Up Prompt Options for Custom Reports](#) on page 50.
6. [Set Up Output Options for Custom Reports](#) on page 51.
7. [Set Up Share Options for Custom Reports](#) on page 54.
8. [Set Up Advanced Options for Custom Reports](#) on page 55.

Next Steps

Test the report to ensure Workday displays the data correctly.

When you test a report, Workday displays the first 10 results. When the report includes a:

- Filter, Workday applies the filter to all instances of the primary business object and displays the first 10 results.

- Subfilter, Workday applies the subfilter to the 10 filtered instances and displays the results.

Related Information

Concepts

[Concept: Business Objects, Data Sources, and Fields](#) on page 17

[Concept: Matrix Reports](#) on page 137

Tasks

[Set Up Field Values Groups for Matrix Reports](#) on page 134

Reference

[The Next Level: Creating Your Composite Report's Subreports](#)

Examples

[Example: Create a Matrix Report for Employee Data](#) on page 138

Set Up Grouping and Summarizing for Matrix Reports

Prerequisites

- Create a custom matrix report.
- Security: These domains in the System functional area:
 - *Custom Report Creation*
 - *Manage: All Custom Reports*

Context

You can configure the **Matrix** tab on matrix reports to:

- Group instances of the primary business object.
- Summarize metrics for each grouping.

You can use matrix reports as subreports in composite reporting unless the matrix report includes:

- Only percentile summarization fields.
- Text-based count distinct summarization fields.

Steps

1. Access the **Edit Custom Report** task.
2. As you complete the **Column Grouping (Optional)** or the **Row Grouping** section on the **Matrix** tab, consider:

Option	Description
Group by Field	Select a field of 1 of these types: <ul style="list-style-type: none"> • Boolean • Date • Numeric • Single Instance • Text Configure at least 1 row grouping for the report.
Sort Columns/Rows	Select an option so that values sort in ascending or descending: <ul style="list-style-type: none"> • Alphabetical order based on the Group by Field value. • Order based on the column or row total.

Option	Description
	<p>Sorting isn't case-sensitive.</p> <p>When enabled, Workday uses the logical sort order for the field specified in the Group by Field value.</p> <p>The Other column or row and the Total column or row always display as the right-most column or row in the report results.</p>
Options	<p>When you select <i>Sequence Defined in Field Values Group</i> on the Sort Rows prompt, access the Create Field Values Group task to configure sorting options.</p>
Indexed	<p>Workday selects the check box when you select:</p> <ul style="list-style-type: none"> • An indexed data source. • A Group by Field indexed for grouping. <p>If the Indexed check box is clear for a row, your report might run slowly. Consider replacing the Group by Field with a field indexed for grouping so that your report can run faster.</p>
Maximum Number of Columns/Rows	<p>Enter a value to specify the maximum number of column or row results. When the number of columns or rows exceeds the limit, Workday displays an <i>Other</i> column or row that summarizes the remaining values.</p> <p>Workday displays more than 1 <i>Other</i> when:</p> <ol style="list-style-type: none"> a. You select the Sum Remaining Values check box on the Output tab. b. The data exceeds the number of Top n Values that you specify.
Hide Total Column/Row	<p>Select the check box to hide the total column or row in your report. Workday retains the check box selection when you:</p> <ul style="list-style-type: none"> • Copy a standard report that hides column or row totals. • Export your report to Excel or PDF.

3. In the **Define the Field(s) to Summarize** grid, specify how Workday should aggregate the data.

As you complete the grid, consider:

Option	Description
Summarization Type	<p>Specify the aggregation method used for the field. The results of the aggregation method display in the cells on the report or chart, such as a column or donut segment.</p> <p>Select:</p>

Option	Description
	<ul style="list-style-type: none"> <i>Calculation</i> to create a custom calculation based on an arithmetic expression or to look up a prior value. <i>Count Distinct</i> to drill into and view the distinct number of instances based on a field or row in your report results. <p>You can't include a <i>Lookup Prior Value</i> summary calculation on a matrix report when using the report in a scorecard metric calculation.</p>
Summarization Field	<p>This field is inactive when the Summarization Type is <i>Count</i>.</p> <p>Select a currency, instance, numeric, or text field for 1 of these Summarization Type options:</p> <ul style="list-style-type: none"> <i>Average</i> <i>Calculation</i> <i>Count Distinct</i> <i>Maximum</i> <i>Minimum</i> <i>Percentile</i> <i>Sum</i> <p>Workday indexes report fields on Prism RDSs, but might not index all fields on standard RDSs. To select text fields for count distinct on a standard RDS, clear the Optimized for Performance check box on the Advanced tab.</p> <p>For a <i>Calculation Summarization Type</i>, select Create > Create Summarization Calculation for Report or Create > Create System-Wide Summarization Calculation to:</p> <ul style="list-style-type: none"> Create a summary calculation based on an arithmetic expression. Look up a prior value based on: <ul style="list-style-type: none"> Average x time periods. Prior rollup period. Prior time period. Sum x time periods. <p>Note: To create tenant-wide summarization calculations, configure the <i>System-Wide Summarization Calculation Management</i> domain in the System functional area.</p> <p>You can create fields calculated from values in report-specific or tenant-wide calculated fields. For faster report performance, limit the number of calculated fields you include in the report.</p>
Format	<p>The format applies to:</p> <ul style="list-style-type: none"> Numeric labels.

Option	Description
	<ul style="list-style-type: none"> • Table and charted outputs. • The horizontal axis. • The vertical axis. <p>When displaying numbers with <i>Thousands</i> and <i>Millions</i> formatting, Workday rounds each number independently, so a group of numbers might not add up to the total displayed.</p> <p>To display 12 decimal places when you export reports to Excel or PDF, you can select <code>#,##0.000000000000</code> or <code>#,##0.#####0000000000</code> for these aggregated numeric fields:</p> <ul style="list-style-type: none"> • Average • Maximum • Minimum • Sum <p>The data must include 12 digits to display 12 decimal places, otherwise Workday trails the number with zeros.</p>
Options	<p>Specify options that control how the field data displays. The options available depend on the field type, such as currency, date, or text.</p> <p>You can select these options from the Valid Options prompt:</p> <ul style="list-style-type: none"> • <i>Percent of Overall Total</i>: The value at the intersection of a column and row. Workday automatically changes the Format column to a percentage format. • <i>Show Currency Symbol</i>: Workday displays <i>Invalid</i> on fields that aggregate values in different currencies. • <i>Use as Target Line</i>: Creates 1 or more target lines for each data group based on numeric or currency fields. You can configure target lines on the Output tab. <p>You can also select the Create prompt to create these custom display options:</p> <ul style="list-style-type: none"> • <i>Create Analytic Indicator for Report</i>, which creates a report-specific analytic indicator. To create an analytic indicator for use in other reports, access the Create Analytic Indicator task. • <i>Create Detail Data Override</i>. Workday generates a detail data override for your summarization field when your report uses the Trended Workers RDS. You can enter a unique drill-down layout for the field. The detail data that you specify overrides the selections

Option	Description
	<p>on the Drill Down tab. You can select these display options for the columns:</p> <ul style="list-style-type: none"> • Display format. • Drill down window columns displayed. • Field label overrides. • The sort order. <p>When you complete the Create Detail Data Override task, you can select <i>Translate</i> from the related actions menu of the Detail Data Override. The Translate Detail Data Override task enables you to specify an override to translate and a language for translation.</p> <p>You can also control which fields to sort on and the sort direction to use.</p> <ul style="list-style-type: none"> • <i>Create Drill-To Report Link</i>: Use to link to another report from the summarization field. You can also map fields from the source report to the prompt fields of the target report. • <i>Create Percentile for Report</i>, which enables you to create custom percentiles up to 2 decimal places to use in your report. Workday uses an approximate value for currency and numeric fields in the percentile (PCTL).
Indexed	Workday selects the check box based on the indexed RDS, indexed data source filter, and the indexed field you select. The check box indicates if your report has the potential to run faster.

Related Information

Concepts

[Concept: Analytic Indicators](#) on page 74

Tasks

[Create Drill-To Report Links for Matrix Reports](#) on page 135

[Set Up Output Options for Custom Reports](#) on page 51

Reference

[The Next Level: Creating Your Composite Report's Subreports](#)

Examples

[Example: Create a Matrix Report for Employee Data](#) on page 138

Set Up Field Values Groups for Matrix Reports

Prerequisites

- Create a custom matrix report.

- Security: These domains in the System functional area:
 - *Custom Report Creation*
 - *Manage: All Custom Reports*

Context

You can use field values groups in matrix reports to display:

- A field value, even when there are no instances with that value. Example: Add *Below Expectations* to a field values group to display when employees don't have performance ratings.
- Only the values you select.

You can also sort data in a logical order rather than alphanumerically. Example: Sort performance ratings in this order:

- *Below Expectations*
- *Meets Expectations*
- *Exceeds Expectations*

When you create a field values group, you can use it in other reports that use the same field.

Steps

1. Access the **Edit Custom Report** task.
2. As you complete the **Row Grouping or Column Grouping** grid on the **Matrix** tab, consider:

Option	Description
Group by Field	Select a single instance field.
Sort Rows or Sort Columns	(Available options depend on the Group by Field selection.) Select <i>Sequence Defined in Field Values Group</i> to display only the values that you add to the field values group.
Options	Select an existing group or Create Field Values Group .

3. As you complete the **Create Field Values Group** task, consider:

Option	Description
Include Blanks	Select the check box to display a column or row for instances that have a blank value for the Group by Field .
Field Values and Order to be Displayed	Select values for the Instance based on the business object of the Group by Field . Select the order to display the field values in.

Related Information

Concepts

[Concept: Logical Sort Order](#) on page 76

Create Drill-To Report Links for Matrix Reports

Prerequisites

- Create a custom matrix report.

- Security: These domains in the System functional area:
 - *Custom Report Administration*
 - *Custom Report Management*
 - *Manage: All Custom Reports*

Context

You can use drill-to report links to run other reports directly from the results of a matrix report. Example: Create a drill-to link from a summary report containing an overview of ledger account types to a more detailed report that breaks down each ledger account type.

In 2023, Workday performed a one-time conversion to all existing composite reports with drill-to links, moving those drill-to link configurations from the matrix subreport to the composite report for the summarization measure defined on the composite data column. Now, you must configure composite report drill-to links on the composite report itself instead of on the matrix report.

Steps

1. Access your matrix reports from the **Edit Custom Report** task.
2. From the **Options** prompt on the **Define the Field(s) to Summarize** grid, select **Create > Create Drill-To Report Link**.

You can create up to 5 drill-to report links for each summarization and link to any type of report.

As you complete the task, consider:

Option	Description
Drill-To Report Name	Select the report that you want to drill to. The grid displays all prompts from the drill-to report that don't have Do Not Prompt at Runtime selected.
Label	Specify a name to use for the drill-to report instead of the populated name.
Enable Blank Values	Select the check box to enable Workday to pass these values from the source report to the target report: <ul style="list-style-type: none"> • Blank values for text fields. • Zero values for numeric fields. When you clear the check box, Workday omits the field from the target report results. To enable Workday to display a field with a blank value on the target report results, configure the blank field on these Value Type prompts: <ul style="list-style-type: none"> • <i>Use prompt value from source report</i> • <i>Use value from axis dimension</i> Workday supports blank values only on instances and when the operator is <i>In the selected list</i> .
Value Type	Select: <ul style="list-style-type: none"> • <i>Specify default value</i>. • <i>Use prompt value from source report</i> to pass the prompt value from the source report. This

Option	Description
	<p>option applies when the source report has the same prompts as the drill-to report.</p> <ul style="list-style-type: none"> • <i>Use value from axis dimension</i> to pass the value from a group by field on the source report, or a drillable field when you access View By. You can also pass a drillable field value when you configure the field to display on the report output.
Field/Parameter	<p>When you select:</p> <ul style="list-style-type: none"> • <i>Use prompt value from source report</i> from the Value Type prompt, select a prompt field from the source report. • <i>Use value from axis dimension</i> from the Value Type prompt, select a group by field or drillable field from the source report. <p>For multi-instance fields, Workday only passes a single value to the target report. Example: If the Country field on the source report has values of <i>USA</i> and <i>France</i>, Workday only passes 1 value onto the target report.</p>
Value	<p>(Available when you select <i>Specify default value</i> from the Value Type prompt.)</p> <p>Select a populated value for the prompt field.</p>

Next Steps

When you copy the matrix source report, Workday copies the drill-to link to the copied report.

To drill to another report from a:

- Calculation field, drill down on a calculation value.
- Summary row, drill down on a summary value and then select a **View By** field from the matrix subreport.

Related Information

Tasks

[Create Drill-To Report Links for Composite Reports](#) on page 167

Examples

[Example: Create a Drill-To Report Link for Ledger Account Reports](#) on page 139

Concept: Matrix Reports

Matrix reports are similar to pivot tables and crosstabs. You can group data by column or row and configure cells to display summary values where groupings intersect.

Matrix Report Use Cases

You can use matrix reports to:

- Explore data relationships to identify correlations.
- Identify patterns that could predict future behavior.
- Locate anomalies and exceptions and determine their cause.

- Use charts and graphs to find specific quantities and relationships.
- Validate assumptions about how your organization behaves.

You can export matrix reports to Excel or deploy them as worklets. You can use matrix reports as subreports in composite reporting unless the matrix report includes:

- Only percentile summarization fields.
- Text-based count distinct summarization fields.

Matrix Report Capabilities

From matrix report results, you can:

- Drill down on a cell value and group the results by another field.
- Summarize numeric data and display the results in a chart.
- View detail data for summarized amounts.

Detail data is current, but Workday calculates summary values when you run the report. There might be a difference between summary values and detail data if the data changed after you ran the report.

You can't expose matrix reports as a web service.

Related Information

Concepts

[Concept: Global Fields](#) on page 75

Reference

[The Next Level: The Matrix Report](#)

[The Next Level: Creating Your Composite Report's Subreports](#)

Example: Create a Matrix Report for Employee Data

This example illustrates how to set up options in your matrix report to group and summarize employee data.

Context

You want to create a matrix report that provides these insights about employees based on their location:

- The annual salary each employee receives.
- The average age of employees.
- The gender and ethnicity of employees.
- The ratio, as a percentage, of contingent workers to all employees.

Prerequisites

Security: These domains in the System functional area:

- *Custom Report Creation*
- *Manage: All Custom Reports*

Steps

1. Access the **Create Custom Report** task.
2. Enter *Employee Data Matrix Report* as the **Report Name**.
3. From the **Report Type** prompt, select *Matrix*.
4. Clear the **Optimized for Performance** check box.
5. From the **Data Source** prompt, select *All Workers*.
6. On the **Matrix** tab, set up the **Group by Field** in the **Row Grouping** grid.

7. Select *Gender* in the first row and *Race/Ethnicity* in the second row.
8. In the **Column Grouping (Optional)** grid, select *Location* as the **Group by Field**.
9. Enter values for these fields in the **Define the Field(s) to Summarize** grid:

Summarization Type	Summarization Field	Label Override	Format
Average	Age		
Sum	Annual Salary USD (End of Last Year)	Salary	
Calculation		Percentage	#,##0.00%

10. In the grid, set up the ratio by selecting **Create > Create Summarization Calculation for Report** in the **Summarization Field** of *Calculation*.
11. On the **Create Summarization Calculation for Report** task, enter *Contingent Worker to Employee Ratio* in the **Field Name**.
12. From the **Function** drill-down menu, select *Summarization Calculation*.
13. On the **Calculation** tab, select the **Return Zero on Error** check box.
14. In the **Arithmetic Expression** grid, enter these values:

Summarization Type	Field	Operator
Sum	Contingent Worker Counter	/ (Divide)
Sum	Employee Counter	

Workday populates the **Summarization Field** in the **Define the Field(s) to Summarize** grid with your created summarization calculation.

15. Run the report and drill down on the summarized data to interact directly with the report.

Related Information

Concepts

[Concept: Indexed Data Sources and Fields](#) on page 18

Tasks

[Set Up Grouping and Summarizing for Matrix Reports](#) on page 130

[Steps: Create Matrix Reports](#) on page 129

Example: Create a Drill-To Report Link for Ledger Account Reports

This example illustrates how to create a drill-to link from a ledger account summary report to a ledger account detail report.

Context

You're the Chief Financial Officer of Global Modern Services, and you want to create a summary report of debit minus credit amounts for each ledger account type. You also want to create a detailed report of the actual ledger accounts and display the debits and credits for each account.

Using drill-to report links, you can link these reports so that clicking on a value from the summary report takes you to the detailed report.

Prerequisites

Security: These domains in the System functional area:

- *Custom Report Creation*
- *Custom Report Management*

Steps

- Access the **Create Custom Report** task and enter:

Option	Description
Report Name	<i>Ledger Account Details</i>
Report Type	<i>Matrix</i>
Data Source	<i>Journal Lines</i>

- Click **OK**.
- On the **Matrix** tab in the **Row Grouping** grid, select:

Group by Field
<i>Ledger Account Type</i>
<i>Account Posting Rule</i>
<i>Ledger Account</i>

- In the **Column Grouping (Optional)** grid, select **Year** from the **Group by Field** prompt.
- Add 2 rows in the **Define the Field(s) to Summarize** grid, remove the **Count** summarization type, and enter:

Summarization Type	Summarization Field	Label Override	Format
<i>Sum</i>	<i>Ledger/Budget Debit Amount</i>	<i>Debit Amount</i>	<i>#,##0</i>
<i>Sum</i>	<i>Ledger/Budget Credit Amount</i>	<i>Credit Amount</i>	<i>#,##0</i>

- On the **Filter** tab in the **Filter on Instances** grid, add 2 rows and select:

And/Or	Field	Operator	Comparison Type	Comparison Value
<i>And</i>	<i>Ledger Account</i>	<i>in the selection list</i>	<i>Prompt the user for the value and ignore the filter condition if the value is blank</i>	<i>Default Prompt</i>
<i>And</i>	<i>Ledger Account Type</i>	<i>in the selection list</i>	<i>Prompt the user for the value and ignore the filter condition if the value is blank</i>	<i>Default Prompt</i>

- On the **Prompts** tab, select the **Populate Undefined Prompt Defaults** check box.

- In the **Prompt Defaults** grid, add 2 rows and select:

Field	Prompt Qualifier	Default Type
<i>Ledger Account Type</i>	<i>Default Prompt</i>	<i>No default value</i>
<i>Ledger Account</i>	<i>Default Prompt</i>	<i>No default value</i>

- On the **Share** tab, select **Share with all authorized users**.

- Click **OK**.

11. Access the **Create Custom Report** task and enter:

Option	Description
Report Name	Ledger Account Summary
Report Type	Matrix
Data Source	Journal Lines

12. Click **OK**.

13. On the **Matrix** tab in the **Row Grouping** grid, select *Ledger Account Type* from the **Group by Field** prompt.

14. In the **Define the Field(s) to Summarize** grid, remove the *Count* summarization type, and select:

Summarization Type	Summarization Field	Format	Options
Sum	<i>Ledger/Budget Debit minus Credit</i>	#,##0	<i>Create Drill-To Report Link</i>

15. On the **Create Drill-To Report Link** task, enter:

Option	Description
Drill-To Report Name	<i>Ledger Account Details</i>
Label	<i>Ledger Account Details</i>

16. In the grid, select:

Prompt	Value Type	Field/Parameter
Ledger Account Type	<i>Use value from axis dimension</i>	<i>Ledger Account Type</i>
Company	<i>Use prompt value from source report</i>	<i>Company</i>
Year	<i>Use prompt value from source report</i>	<i>Year</i>

17. Click **OK**.

18. Click **OK**.

Result

You can run the **Ledger Account Detail** report for the summarization value of each ledger account type in the **Ledger Account Summary** report.

Related Information

Tasks

[Create Drill-To Report Links for Matrix Reports](#) on page 135

Composite Reports

Setup Considerations: Composite Reports

You can use this topic to help make decisions when planning your configuration and use of composite reports. It explains:

- Why to set them up.
- How they fit into the rest of Workday.
- Downstream impacts and cross-product interactions.

- Security requirements and business process configurations.
- Questions and limitations to consider before implementation.

Refer to detailed task instructions for full configuration details.

What They Are

With composite reports, you can combine data from multiple sources into a single report. You can use report data sources to collate data from these types of subreports:

- Advanced
- Matrix
- Trending

Business Benefits

Composite reports enable you to:

- Consolidate and compare data across multiple data sources and time periods.
- Format reports for browsers, Microsoft Excel, mobile devices, and PDFs.
- Reduce or eliminate manual Excel intervention by incorporating style options directly in the report designer.

Use Cases

- Deliver a detailed financial statement that compares plan and actual data.
- Measure the health of your organization by comparing headcount and turnover.
- Prepare comprehensive payroll documents.
- Track internal metrics for your organization.

Questions to Consider

Questions	Considerations
Which report type should you use as your subreport?	<ul style="list-style-type: none"> • Advanced reports enable you to include dynamic data rows. When you use advanced reports, Workday maintains any sort order defined in the reports in your composite report. • Matrix reports enable you to summarize and drill down on data in your composite report. • Trending reports enable you to analyze trends in financial and employee data.
Which business objects should you enable for filtering and grouping?	<p>The business objects that you enable for filtering and grouping determine the:</p> <ul style="list-style-type: none"> • Data you can reference in your composite report. • Filter criteria you can use on rows. • Groupings you can use on columns. <p>Each subreport must reference all enabled business objects as primary or related business objects.</p>
How should you define prompt values for subreports?	Prompts might not display to report runners in subreports. You can configure prompts by defining prompt values:

Questions	Considerations
	<ul style="list-style-type: none"> • Directly in the subreports. • In the composite report so report runners can easily run the report without needing to provide prompt values each time. <p>You can use custom or Workday-delivered prompt sets to configure populated values for prompts to avoid creating duplicate prompts in your composite report.</p>

Recommendations

Use:

- A consistent naming convention across your subreports to help you find your subreports more easily.
Example: Add *Subreport* to the name of each subreport.
- A lookup date rollup calculated field to compare trended data across different time dimensions when using trending subreports.
- Fewer filters on your subreports so you can access and manage data from the composite report.
- Hierarchies to define the filter criteria when using business objects with hierarchical structures. Workday updates the filter criteria as you update the hierarchy.
- Matrix subreports because you can drill down on and summarize your data.

Requirements

- All subreports that use the trending report type must use the same time dimension.
- The **Group by Field** on your subreports must use the same related business object as the control field column on your composite report.
- Use the *Table* output option on all subreports so that your data displays properly when used on the composite report. You can configure other output options on the composite report.

Limitations

- You can incorporate changes to your organizational hierarchies using effective dates, but not all hierarchies are date effective.
- You can't:
 - Apply outline structures when you use multiple control field columns.
 - Configure column outlining for repeating column groups when a conditional value already exists on a cell.
 - Create composite reports on mobile devices.
 - Export charts to Excel.
 - Freeze columns using the **Grid Preferences** option on the table toolbar when the report has column or row groupings, multilevel column headers, or repeating column groups.
 - Include control field columns in repeating column groups.
 - Retain column width and row height when you export to PDF.
 - Use advanced, matrix, or trending reports with filter aggregations as subreports.
 - Use matrix or trending reports with text-based count distinct summarization fields or only percentile summarization fields as subreports.
 - View conditional formatting or all formatting styles on mobile devices.

Security

Domains	Considerations
<i>Custom Report Creation</i> domain in the System functional area.	Enables you to create and manage custom reports.
<i>Custom Report Management</i> domain in the System functional area.	Enables you to delete, edit, and view custom reports you own.
<i>Formatting Style Management</i> domain in the System functional area.	Enables you to create, manage, and view formatting styles.
<i>Maintain Excel Template</i> domain in the System functional area.	Enables you to attach an Excel template to a report definition.
<i>Manage: All Custom Reports</i> domain in the System functional area.	Enables you to delete, edit, and view all custom reports in your tenant, including reports owned by other individuals.
<i>Outline Structure Management</i> domain in the System functional area.	Enables you to manage outline structures for composite reports.
<i>Report Prompt Set Management</i> domain in the System functional area.	Enables you to create, delete, and edit prompt sets.

Workday determines composite report security based on the security settings of the subreports. If you don't have access to the composite report and subreport, Workday dynamically modifies the report so you view only the fields you have access to.

Reporting

Reports	Considerations
Report Definition Usages	Displays how often you use a subreport.
Validate Composite Report	Displays anomalies, exceptions, and warnings for composite reports so you can take action on them.

Connections and Touchpoints

Workday offers a Touchpoints Kit with resources to help you understand configuration relationships in your tenant. Learn more about the [Workday Touchpoints Kit](#) on Workday Community.

Related Information

Concepts

[Concept: Composite Reports](#) on page 170

[Concept: Formatting Styles](#) on page 171

Reference

[Reference: Reporting Limits](#)

[2024R2 Release Note: Freeze Report Columns](#)

[The Next Level: Composite Reporting Overview](#)

[The Next Level: Composite Reporting for HCM](#)

[The Next Level: Financial Reporting](#)

Steps: Create Composite Reports

Prerequisites

Create the advanced, matrix, or trending reports you want to use as subreports.

Security: These domains in the System functional area:

- *Custom Report Creation*
- *Manage: All Custom Reports*

Context

You can use composite reports to combine 2 or more reports into a single report. Example: You can create a report that displays the gender of all active employees and contingent workers across your organization. You can also create an income statement that compares the actuals and plan data so that you can drill down on the data by ledger account and region.

Unique functionalities for composite reports include:

- Dragging and dropping columns and rows to change their placement in the report.
- Performing cell, column, and row calculations.
- Setting up cells, columns, and rows with unique formatting and reporting options.

Steps

1. [Create Custom Reports](#) on page 40.

Create a custom composite report.

2. (Optional) [Select a Prompt Set](#).

See [Concept: Prompt Sets for Composite Reports](#) on page 171.

3. [Enable Business Objects for Filtering and Grouping](#) on page 146.

Select the business object that you want to use for filtering and grouping your subreport data.

4. [Set Up Composite Report Columns](#) on page 147.

5. [Set Up Composite Report Rows](#) on page 151.

6. [Set Up Composite Report Cells](#) on page 154.

7. [Set Up Additional Options for Composite Reports](#) on page 157.

8. [Set Up Output Options for Composite Reports](#) on page 160.

Next Steps

Test the report to ensure Workday displays the data correctly.

When you test a report, Workday displays the first 10 results. When the report includes a:

- Filter, Workday applies the filter to all instances of the primary business object and displays the first 10 results.
- Subfilter, Workday applies the subfilter to the 10 filtered instances and displays the results.

Related Information

Tasks

[Steps: Create Advanced Reports](#) on page 122

[Steps: Create Matrix Reports](#) on page 129

[Steps: Create Trending Reports](#) on page 191

Enable Business Objects for Filtering and Grouping

Prerequisites

- Create a custom composite report.
- Create the advanced, matrix, or trending reports you want to use as subreports in your composite report.
- Security: These domains in the System functional area:
 - *Custom Report Creation*
 - *Manage: All Custom Reports*

Context

You can enable business objects that filter and group your subreport data, in addition to determining the:

- Data you can reference in your composite report.
- Filter criteria you can use on rows. Example: You can define the filter criteria on lookup data rows using a business object enabled for filtering and grouping.
- Groupings you can use on columns.

Steps

1. Access your composite report from the **Edit Custom Report** task.
2. As you complete the **Business Object Enabled for Filtering and Grouping** grid, consider:

Option	Description
Business Object	<p>Select the business object that matches the dimensions setup in all subreports used in the composite report. Each subreport must reference all enabled business objects as primary or related business objects.</p> <p>Your selection determines the available values for the:</p> <ul style="list-style-type: none"> • Control field column. • Data column. • Lookup data row.
Hierarchy Structure	<p>(Available when the business object has a hierarchical structure.) Specify a hierarchy structure that you can use when you define the filter criteria on a:</p> <ul style="list-style-type: none"> • Data cell. • Data column. • Lookup data row. <p>Example: You can define the filter criteria on a lookup data row in terms of all the values in the Corporate: All Accounts hierarchy structure.</p> <p>To enable Bulk Add Rows on the Rows tab, configure the Business Object and Hierarchy Structure.</p> <p>Workday references only the primary hierarchy for the outline structure.</p>

Option	Description
Hierarchy Effective Date	<p>Select the effective date that Workday uses to retrieve the hierarchies in the hierarchy structure for filtering. Example: You undergo a company-wide reorganization at the beginning of next month. You can use the first day of next month to reference the reorganized hierarchy structure.</p> <p>Consider that:</p> <ul style="list-style-type: none"> • Depending on the field, your selection might be the end date associated with the report period. • Not all hierarchies are date effective.

Next Steps

Set up composite report columns on the **Columns** tab. You can also access the **Table** tab and select **Define**, then the column type from the menu of an undefined column.

Related Information

Reference

[2024R2 Release Note: Mass Create Composite Report Rows](#)

Set Up Composite Report Columns

Prerequisites

- Create a custom composite report.
- Create the advanced, matrix, or trending reports you want to use as subreports in your composite report.
- Security: These domains in the System functional area:
 - *Custom Report Creation*
 - *Manage: All Custom Reports*

Context

You can configure these column types on composite reports:

- Calculation columns display the result of calculations applied on other columns.
- Control field columns set the common dimension across your report.
- Data columns display aggregated data from a subreport.
- Empty columns display empty space between other columns for enhanced visibility.
- Lookup field value columns display attributes of a control field.

You can also create reports by duplicating columns with calculation or data cells. Workday retains these cell configurations:

- Formatting
- Labels
- Options
- Subreports

You can perform bulk actions on columns, including:

- Adding, deleting, and moving columns.
- Editing filter criteria, options, and style options.
- Editing general settings.

Steps

1. Access the **Edit Custom Report** task.
2. (Optional) On the **Columns** tab in the **All Columns** section, mass configure the columns in your report. You can also access the **Table** tab and select **Define**, then the column type from the menu of an undefined column.
3. In the **Control Field Columns** section, click **Add Column**.
4. As you complete the **Outline Data** section, consider:

Option	Description
Outline Structure	Select an outline structure to use in lookup data rows, such as the <i>Ledger Account Outline</i> outline structure. When you use the outline structure in lookup data rows, you can expand and collapse nested groupings of ledger accounts.
Default Outline Structure	Select to use the outline structure as the populated value in the Outline Structure field in lookup data rows.
Expand on Initial Display	Select an option from the prompt to enable expanding second- and third-level data from the primary hierarchy. Microsoft Excel maintains these report settings when you export the composite report.
Outline Effective Date	Workday uses <i>Today</i> when you don't select an option.
Summary Data Below	Select to display the summary or total lines for data rows with outlining at the bottom of the rows.

5. As you complete the **Data Columns** section, consider:

Option	Description
Sub Report Name	You can't select matrix or trending subreports that use: <ul style="list-style-type: none"> • Only percentile summarization fields. • Text-based count distinct summarization fields.
Map Sub Report Prompts	Select values to configure each prompt field when the: <ul style="list-style-type: none"> • Composite report uses a prompt set. • Subreport uses prompts.
Map Fields For Join	Available Join Field options correspond to the business object used on the Control Field column. This enables multiple business objects to be available as dimensions on the same report. Example: The Group by Field Ledger Account and Ledger Account by Name use the same Ledger Account related business object and are available on the same report. You can use the Validate Composite Reports report to identify and fix exceptions when joining subreports for the Map Fields For Join grid.

Option	Description
Field to Aggregate	Available options depend on the Summarization Type that you configure on the subreport.
Drill-To	Configure or manage drill-to report links. See Create Drill-To Report Links for Composite Reports on page 167.

6. As you complete the **Calculation Columns** section, consider:

Option	Description
Expression	<p>Configure formulas and nested functions using these math functions:</p> <ul style="list-style-type: none"> • Difference • Divide • Multiply • PercentIncrease • PercentRemaining • Sum • SumRange <p>See Create Calculation Expressions on page 164.</p>
Reverse the Sign	Select Yes to reverse the natural sign of a value. You can create a row category and reverse the sign of cells in rows associated with that category.
Drill Down Layout Override	<p>Select a value to enable report runners to drill down on data in calculation columns.</p> <p>Workday doesn't support drilling down on custom fields.</p> <p>Select or create a drill-down definition to enable users to drill down on data in calculation columns. On the Create Composite Calculation Drill Down Definition task, in the Drill Down Measures grid, specify measures to include in your drill-down layout. In the Custom View Details grid, specify the business objects to use when you select View Details or the drillable value on the column.</p>

7. As you complete the **Lookup Columns** section, consider:

Option	Description
Control Field Column	Select to display the data in rows sorted by the Return Field value.
Return Field	The value you select must be an attribute of the business object associated with the control field column.

8. As you complete the **Repeating Column Groups** section, consider:

Option	Description
Repeating Field Value Option	Select:

Option	Description
	<ul style="list-style-type: none"> • <i>Prompt User for Value at Run Time</i> to select multiple options that Workday displays when the user runs the report. • <i>Specify Value</i> to specify 1 option for the RCG.
Repeating Field	Available when you select <i>Specify Value</i> from the Repeating Field Value Option prompt. Select a value that's a valid dimension in all subreports referenced by the data columns.
Runtime Repeating Field Options	Available when you select <i>Prompt User for Value at Run Time</i> from the Repeating Field Value Option prompt. Select all options that you want to display users run the report. The options must be valid dimensions in all subreports referenced by the data columns.
Outline Data	<p>You can expand and collapse various levels of data when the report results display.</p> <p>Workday disables column outlining when there's a preexisting conditional value in a cell. When you configure the column outlining first, you can only configure conditional values on calculation cells.</p>

You can configure Repeating Column Groups (RCGs) to enable a series of contiguous columns to repeat based on a value. Example: *Plan* and *Actuals* columns can repeat for each company or cost center. Workday supports RCGs for all column types except control fields.

Result

When you run the report, you can view contextual drill-to report link details from the nested outline structure hierarchies on lookup data rows when you:

- Drill into a dimension.
- Select a leaf node within the outline structure hierarchy.
- Select **View By** on a dimension.

Example

Your outline structure is **Ledger Account > Cost Center > Division > Spend Category**. For Workday to display drill-to report details based on the:

- Nested hierarchy, select a spend category dimension.
- Primary hierarchy, select a ledger account dimension.

Next Steps

Click **Duplicate** to mass create columns. Select their location in relation to another column on the report:

- **First (Top)**
- **Before**
- **After**
- **Last (Bottom)**

You can further configure the duplicated column by clicking **Edit General**. Workday doesn't support duplicating columns that include an RCG.

Refresh the report to populate the report definition with your duplicated columns.

Related Information**Concepts**

[Concept: Analytic Indicators](#) on page 74

Tasks

[Steps: Create Matrix Reports](#) on page 129

Reference

[2024R2 Release Note: Bulk Duplicate Composite Columns and Rows](#)

[2024R1 What's New Post: Composite Report User Interface](#)

[2024R1 What's New Post: Composite Report Expression Builder](#)

[2024R1 What's New Post: Drill-To Report Links for Composite Reports](#)

[The Next Level: Composite Reporting - Control Columns](#)

[The Next Level: Composite Reporting - Data Columns](#)

Set Up Composite Report Rows

Prerequisites

- Create a custom composite report with at least 1 configured column.
- Create the advanced, matrix, or trending reports you want to use as subreports in your composite report.
- Security: These domains in the System functional area:
 - *Custom Report Creation*
 - *Manage: All Custom Reports*

Context

You can set up these row types on composite reports:

- Calculation rows display the result of calculations that reference other rows.
- Combine data rows display all rows from the control field columns for all subreports. You can then apply calculations to create a *Total* row.
- Dynamic data rows filter for instances based on the results of an advanced subreport.
- Empty rows display empty space between other rows for enhanced visibility.
- Lookup data rows display data based on filter criteria. You can use this row type to apply row outline structures.

You can have a total of 200 rows on the report when you bulk add rows, including all row types, empty rows, and so on. Workday disables the **Bulk Add Rows** option when the report has 200 or more rows.

You can also create reports by duplicating rows with cells. Workday retains these cell configurations:

- Formatting
- Labels
- Options
- Subreports

Steps

1. Access the **Edit Custom Report** task.

2. (Optional) On the **Rows** tab in the **All Rows** section, mass configure the rows in your report.

You can also access the **Table** tab and select **Define**, then the row type from the menu of an undefined row.

3. (Optional) Click **Bulk Add Rows** to mass create lookup data rows.

As you complete the task, consider:

Option	Description
Business Object And Hierarchy	Change or view the selected option from the prompt.
Expand All Nodes	Display all nodes in the hierarchy.
Collapse All Nodes	Collapse all nodes and display only the highest node in the hierarchy.
Select Node Only	Individually select nodes to add to the report.
Select Node And Children	Select a node and its immediate children to add to the report.
Select Node And Descendants	Select a node and all its descendants to add to the report.
Insert child nodes first, parent nodes below	Select to add child nodes before their parent. Clear to add nodes in the order they display in the hierarchy.
Exclude immediate parents with only 1 child	Select to add the child node in place of a parent node with only 1 child.
Use Node Value Display Field Override from Outline Structure	Available when you configure the Node Value Display Field Override option on the outline structure. Select to use the overridden values for the row name and row label. Clear to use the default name of the row.

4. (Optional) In the **Lookup Data Rows** section, click **Add Row**.

5. As you complete the section, consider:

Option	Description
Filter Criteria	Workday populates the Filter Data in Sub Report grid based on the control field columns in the report. This determines the rows to include in the report in addition to the filter criteria used for the entire row.
Outline Structure	In the Outline Options section, Workday populates the field based on the selection on the control field column. The outline structure sets up the hierarchy in the report that groups data. Workday doesn't support outlining on multiple control field columns.
Expansion Level	In the Outline Options section, specify the expansion approach that displays when you expand an outline. You can select: <ul style="list-style-type: none"> • <i>Use Row Filter Criteria</i> to expand rows for each hierarchy node and detail instance

Option	Description
	<p>defined in the Filter Criteria section for the report row.</p> <ul style="list-style-type: none"> • <i>Level Number</i> to display an expansion row for each unique value in the hierarchy for that level. • <i>Use Starting Node</i> to display the highest organization or organization node a user has permission to view.
Starting Node	<p>Available when you select <i>Use Starting Node</i> as the Expansion Level. Specify the highest node to display for the current user based on the hierarchical level of the field.</p>
Include Nodes with No Data	<p>In the Outline Options section, select the check box to include and enable expansion on nodes that don't have data.</p>

6. As you complete the **Calculation Rows** section, consider:

Option	Description
Expression	<p>Configure formulas and nested functions using these math functions:</p> <ul style="list-style-type: none"> • Difference • Divide • Multiply • PercentIncrease • PercentRemaining • Sum • SumRange <p>See Create Calculation Expressions on page 164.</p>

7. As you complete the **Combine Data Rows - Sort Rows** section, consider:

Option	Description
By Value	<p>Select a value to sort the data:</p> <ul style="list-style-type: none"> • By total for columns and rows. • Logically for control field columns.

8. As you complete the **Dynamic Row Data - Additional Filter Criteria** section, consider:

Option	Description
Map Sub Report Prompts	<p>Set up prompt fields when you enable:</p> <ul style="list-style-type: none"> • A prompt set for the composite report. • Prompts for the subreport.
Filter Data from Sub Report	<p>Set up the grid to filter rows from the advanced subreport. Workday retains the sort order configuration for the subreport when you run the composite report.</p>

9. As you complete the **Options** prompt in the **Advanced** section of a configured row, consider:

Option	Description
Hide Analytic Indicator	Select to hide analytic indicators configured on columns that impact your row.
Create Conditional Formatting Override	Configure styles and visibility options that apply to true or false conditions.

Next Steps

Click **Delete** on a configured row to view up to 3 levels of cell dependencies for the row before deleting it from the report.

Click **Duplicate** to mass create rows. Workday disables the **Duplicate** option when the report has 200 or more rows. Select their location in relation to another row on the report:

- **First (Top)**
- **Before**
- **After**
- **Last (Bottom)**

You can further configure the duplicated row by clicking:

- **Edit Filter Criteria**
- **Edit Outline Structure**
- **Edit General**

Refresh the report to populate the report definition with your duplicated rows.

Related Information

Concepts

[Concept: Logical Sort Order](#) on page 76

Reference

[2024R2 Release Note: Mass Create Composite Report Rows](#)

[2024R2 Release Note: Bulk Duplicate Composite Columns and Rows](#)

[2024R1 What's New Post: Composite Report Expression Builder](#)

[2023R2 What's New Post: Composite Report User Interface](#)

Set Up Composite Report Cells

Prerequisites

- Create a custom composite report.
- Configure the columns, rows, and subreports for the composite report.
- Security: These domains in the System functional area:
 - *Custom Report Creation*
 - *Manage: All Custom Reports*

Context

You can configure:

- Label cells that display text items on the report, such as headers and titles.
- Data cells that display data from a matrix or trending subreport.
- Calculation cells that display the results of calculations applied to other cells.

You can perform bulk actions on cells. Examples:

- Configure calculation expressions and reverse the sign for calculation cells.
- Configure true/false conditions for conditional value and conditional format cells.
- Maintain filter criteria for data cells.
- Format overrides.

Workday retains the configuration of cells that you duplicate, including the:

- Cell label.
- Options selected for the cell.
- Subreports used in the cell.
- Style formatting you select.

Steps

1. Access the **Edit Custom Report** task.

2. (Optional) On the **Cells** tab in the **All Cells** section, mass configure the cells in your report.

You can also access the **Table** tab and select **Define**, then the cell type from the menu of an undefined cell.

3. (Optional) In the **Label Cells** section, click **Define Cell**.

As you complete the section, consider:

Option	Description
Row Location Column Location	Select the location for the cell where the row and column intersect.
Text Expression	Enter text to display on your report and enclose variables in brackets. Example: <i>Headcount in [V1]</i> .
[V1] Variable... [V4] Variable	When you run the report, Workday replaces the variable with the dynamic value in the variable field, such as the headcount.

4. As you complete the **Data Cells** section, consider:

Option	Description
Sub Report Name	Select an advanced or matrix report to add to your composite report.
Map Sub Report Prompts	Configure each prompt field when the: <ul style="list-style-type: none"> Composite report uses a prompt set. Subreport uses prompts.
Filter Data in Sub Report	Complete the grid to filter rows from the advanced, matrix, or trending subreport. Workday keeps the sort order from the subreport when you run the composite report.
Hide Analytic Indicator	Select the Hide Analytic Indicator check box on the Options prompt to hide visual representations configured on the columns.

5. As you complete the **Calculation Cells** section, consider:

Option	Description
Expression	<p>Configure formulas and nest up to 5 functions for report cells using these math functions:</p> <ul style="list-style-type: none"> • Difference • Divide • Multiply • PercentIncrease • PercentRemaining • Sum <p>For Divide, you can select AbsRef in the denominator to maintain the original cell reference regardless of its duplicated location on the report. Absolute reference doesn't support nesting calculations and doesn't convert a negative value to a positive value.</p> <p>For these functions, Workday defaults <i>Return Zero on Error</i> to true unless you set it to false:</p> <ul style="list-style-type: none"> • Divide • PercentIncrease • PercentRemaining <p>See Create Calculation Expressions on page 164.</p>
Hide Analytic Indicator	<p>Select the Hide Analytic Indicator check box on the Options prompt to hide visual representations configured on the columns.</p>

6. (Optional) Set up conditional value cells by clicking:

- **Define Cell > Conditional Value** in the **All Cells** section.
- **Style > Conditional Format** for calculation, data, or label cell types.

As you complete the section, consider:

Option	Description
True/False Condition	<p>Create or select an override condition. You can specify the rounding behavior for the value when you create an override.</p>
Condition is True	<p>Configure the cell to display zero or the actual value based on whether the condition is true or false.</p>
Condition is False	

Workday displays your configured conditional value override in the **Conditional Value Cells** section where you can clear, edit, or move the configuration.

7. (Optional) Set up conditional formatting cells by clicking:

- **Define Cell > Conditional Format** in the **All Cells** section.
- **Style > Conditional Format** for calculation, data, or label cell types.

Option	Description
True/False Condition	Create or select an override condition. You can specify the rounding behavior for the value when you create an override.
Condition is True	Configure cell visibility and style.
Condition is False	

Workday displays your configured conditional formatting in the **Conditional Format Cells** section where you can clear or edit the configuration.

8. (Optional) As you complete the **Style** section, consider:

Option	Description
Style	Select from Workday-delivered or custom styles. You can create your own style for these attributes by accessing the Create Formatting Style task: <ul style="list-style-type: none"> • Alignment • Border • Column Width • Fill • Font • Gridlines • Number

9. (Optional) Click **Clear** in any section with configured cells to clear dependent report components down to 3 levels of depth in the dependency hierarchy.

Set Up Additional Options for Composite Reports

Prerequisites

- Create a custom composite report.
- Create the advanced, matrix, or trending reports you want to use as subreports in your composite report.
- Security: These domains in the System functional area:
 - *Custom Report Creation*
 - *Manage: All Custom Reports*

Context

You can set up additional options on composite reports to:

- Apply styles and formatting.
- Customize column headings using variables.
- Manage business objects for filtering and grouping.
- Set up drill-to report links.
- Set up headers, footers, and prompt sets.

Steps

1. Access the **Edit Custom Report** task.
2. Click the settings menu.
3. As you complete the **General** tab, consider:

Option	Description
Style	Select a style or select Create Formatting Style to create a custom formatting style.
Business Object	<p>Select the business object that matches the dimensions setup in all subreports used in the composite report.</p> <p>Your selection determines the available values for the:</p> <ul style="list-style-type: none"> • Control field column. • Data column. • Lookup data row.
Hierarchy Structure	<p>Available when the business object has a hierarchical structure. Specify a hierarchy structure that you can use when you define filter criteria on a:</p> <ul style="list-style-type: none"> • Data cell. • Data column. • Lookup data row. <p>Example: You can define the filter criteria on a lookup data row in terms of all the values in the Corporate: All Accounts hierarchy structure.</p> <p>Workday references only the primary hierarchy for the outline structure.</p>
Hierarchy Effective Date	<p>Select the date when Workday retrieves hierarchies for filtering. Example: You undergo a company-wide reorganization at the beginning of next month. You can use the first day of next month to reference the reorganized hierarchy structure.</p> <p>Consider that:</p> <ul style="list-style-type: none"> • Depending on the field, your selection might be the end date associated with the report period. • Not all hierarchies are date effective.

4. As you complete the **Header/Footer** tab, consider:

Option	Description
Text Expression	<p>Enter the text to display on your report and enclose variables in brackets.</p> <p>Example: <i>Last updated on [V1].</i></p>
[V1] Variable... [V4] Variable	Enter dynamic values for Workday to replace the variables with when you run the report.

5. As you complete the **Column Headings** tab, consider:

Option	Description
Style	To format cells: <ol style="list-style-type: none"> <li>Click the Popup Window icon on the Cell Name of the Column Heading Cells grid for the cell that you want to format. <li>From the related actions menu of the View Column Header Cell task, select Column Header Cell > Edit. <li>Select a style.

You can also access the **Column Headings** tab on the composite report definition to add column heading rows, define default styles, and override defaults.

See [Create Column Headings for Composite Reports](#) on page 166.

6. (Optional) On the **Prompts** tab:

- Populate prompt values.
- Connect prompts to a prompt set.
- View and make bulk edits to prompts

7. (Optional) On the **Drill-To** tab, create or manage drill-to report links.

See [Create Drill-To Report Links for Composite Reports](#) on page 167.

8. (Optional) On the **Output** tab, specify the output options for the report.

See [Set Up Output Options for Composite Reports](#).

To set up a chart output, the report definition must:

- Contain no outlining on columns or rows.
- Contain no repeating column groups.
- Include at least 1 combined data row.

9. As you complete the **Advanced** tab, consider: **Composite Options** section on the

Option	Description
Show Prompts Tab in Report Definition	Select to display the Prompts tab on the settings menu and report definition.
Show Hidden Rows, Columns and Cells	Select to override individual settings in the report definition and display cells, columns, and rows unconditionally.
Show Row, Column and Cell definitions in designer	Select to display the Cell , Column , and Row tabs when you select the Report Settings icon. Enables you to view the definitions using the tab-based designer.
Do Not Reverse the Sign	Select to: <ul style="list-style-type: none"> • Display numerical data using the original sign value from a subreport. • Override sign reversals in the report.

Result

When you run your composite report, you can view contextual drill-to report link details from the nested outline structure hierarchies on lookup data rows when you:

- Drill into a dimension.

- Select a leaf node within the outline structure hierarchy.
- Select **View By** on a dimension.

When users run the report, they can freeze columns to improve data visibility when scrolling horizontally by clicking **Grid Preferences** on the table toolbar. Workday disables freezing for composite reports that have:

- Column or row groupings.
- Multilevel column headers.
- Repeating column groups.

If the report doesn't have columns eligible to freeze, Workday doesn't display the **Column Preferences** menu to the report user.

Related Information

Reference

[2024R2 Release Note: Freeze Report Columns](#)

[2024R1 What's New Post: Drill-To Report Links for Composite Reports](#)

[2024R1 What's New Post: Composite Report User Interface](#)

Set Up Output Options for Composite Reports

Prerequisites

- Create a custom composite report.
- Security: These domains in the System functional area:
 - *Custom Report Creation*
 - *Manage: All Custom Reports*

Context

You can use the **Output** tab to specify these options for composite reports:

- Help text.
- Output types, such as chart, table, or layout.
- Worklets.

Steps

1. Access the **Edit Custom Report** task.
2. Access the **Output** tab from the settings menu on your report.
3. As you complete the **Output Type** section, consider:

Option	Description
Chart Chart and Table	You can't select <i>Chart</i> or <i>Chart and Table</i> when your report uses: <ul style="list-style-type: none"> • Column outlining. • Conditionally hidden columns or rows. • Repeating column groups.
Layout	Select to configure the <i>KPI Card</i> or <i>KPI Line</i> and enable key performance indicators for your data.

4. (Optional) As you complete the **Chart Options** section, consider:

Option	Description
Horizontal/Vertical Axis	(Available axes depend on your Chart Type .) Set up both axes for bubble charts. Donut charts don't have axes.
Rows for Charting	Select specific rows to chart for all chart types.
Add Secondary Axis	<p>(Available if you select <i>Area - Overlaid</i>, <i>Column - Clustered</i>, or <i>Line</i> as the Chart Type.) Select the check box to visualize changes in your data and compare metrics with different scales using dual axis charts. A dual axis enables you to overlay 2 of these chart types when you select 1 of them for the Primary Axis:</p> <ul style="list-style-type: none"> • Area - Overlaid • Column - Clustered • Line <p>Select values on the Metrics to Include and Secondary Vertical Axis Chart Types prompts to use on the dual axis chart.</p>
Top n Values	<p>Enter the number of top results to display on your report.</p> <p>Select the Sum Remaining Values check box to display an <i>Other</i> option to view the remaining results. Clear the check box to exclude the remaining results.</p> <p>Example: You can enter <i>10</i> as the Top n Values to view only the top 10 of 22 locations based on the total salary expense of your organization. You can select the Sum Remaining Values check box to summarize the bottom 12 locations.</p>
Sum Remaining Values	<p>Use with the Top n Values option.</p> <p>Example: If you include only the top 10 locations out of 22, you can sum the remaining 12 locations into a single value labeled as <i>Other</i> on the chart.</p>
Target Line Type	<p>Set up target line options for bar and column charts by clicking:</p> <ul style="list-style-type: none"> • Display one target line for all groups, which enables you to select a tenant-wide calculated field to use for drawing a single target line on the chart. • Display a separate target line for each group using metric, which enables you to display a unique target line for each group displayed in a bar or column chart. Select the specific measure or metric to use as a target value when creating the report definition. On the Matrix tab, include at least 1 currency or numeric report field to summarize and to use

Option	Description
	as a target line. To select the report field to use as a target line, select <i>Use as Target Line</i> from the Options prompt.

5. (Optional) Select the **Enable As Worklet** check box in the **Worklet Options** section to enable your report as a worklet.

6. As you complete the section, consider:

Option	Description
Available on	Select the landing pages where you want to display the composite report as a worklet. Example: To configure a report as a worklet on mobile devices, select <i>Mobile Reports</i> .
Maximize Report Options	All reports that you enable as worklets display a View More... link that enables you to click: <ul style="list-style-type: none"> • Display this Worklet when Maximized. Workday runs the report and ignores the maximum number of rows specified for the worklet. The report includes any columns with the Display this Worklet when Maximized option selected in the report definition. • Run a Different Report when Maximized. Workday runs the specified custom report that you have access to.
Refresh Data	Refresh report data for the worklet when you either: <ul style="list-style-type: none"> • Access the worklet. • Sign in to Workday. Consider more frequent refreshes when you expect frequent changes to the report data.

7. (Optional) In the **Help Text** section, enter text in the **More Info** field that provides additional information to help users understand the results of the report.

For reports you run in the browser, Workday displays the text above the report results. For worklets, the text displays when you click **More Information** under the gear icon.

Related Information

Concepts

[Concept: Charts](#) on page 61

[Setup Considerations: Charts](#) on page 37

Reference

[Reference: Chart Types](#) on page 62

Create Outline Structures for Composite Reports

Prerequisites

Security: *Outline Structure Management* domain in the System functional area.

Context

You can use outlining in composite reports to expand and collapse various levels of data when report results display. Workday retains outlining when you export composite reports to Microsoft Excel, enabling you to expand levels of data.

Outline structures set up:

- How the outline behaves when referenced by a composite report.
- The business object that you base the outline on.

You can reuse outline structures in more than 1 composite report definition because they're independent of the report. A composite report can include up to 8 outline levels, but they don't support enforced hierarchies that skip levels.

Steps

1. Access the **Create Outline Structure** task.
2. As you complete the **Primary Hierarchy** section on the **Outline Structure** tab, consider:

Option	Description
Business Object	Select the business object that matches the dimension configuration for the Control Field .
Outline Approach	(Available options depend on the business object that you select.) You can select <i>Use Field Value</i> or <i>Use Hierarchy</i> when the business object contains a hierarchy. When the business object doesn't contain a hierarchy, Workday selects <i>Use Field Value</i> .
Hierarchy Type	(Available when you select <i>Use Hierarchy</i> as the Outline Approach .) Select the hierarchy type of the business object that matches the control field column of the composite report.
Top Level Node	(Available when you select <i>Use Hierarchy</i> as the Outline Approach .) Select the top-level node of the business object that matches the control field column of the composite report.
Last Level	(Available when you select <i>Use Hierarchy</i> as the Outline Approach .) Select the level number or leaf node that is the last level for the hierarchy.
Node Value Display Field Override	Select a field to override the populated label for the node that displays when the report runs. Example: Instead of displaying the node <i>Corporate: Salary & Benefits</i> for a hierarchy outline, you can select <i>Ledger Account Identifier</i> or <i>Ledger Account Summary ID</i> to display the unique ID for the node. When you override the populated value, you can't access the related actions menu or drill into the node.
Detail Value Display Field Override	Select a field to override the populated label for the leaf that displays when the report runs. Example: Instead of displaying populated values for each leaf in the <i>Corporate: Salary & Benefits</i>

Option	Description
	<p>node, you can have these leaves display their <i>Identifier</i>:</p> <ul style="list-style-type: none"> • 6000 • 6010 • 6020 <p>When you override the populated value, you can't access the related actions menu or drill into the leaf.</p>

3. (Optional) Set up hierarchies associated with the business object on the **Expansion Hierarchies** grid. Once you reach the desired level in the primary hierarchy, you can configure subsequent hierarchies to expand the hierarchy.
4. (Optional) From the **First Level** prompt, select the level number or leaf node that starts the hierarchy.
5. (Optional) On the **Expansion Path** tab, configure the subsequent expansions to use once you reach the desired level on the primary hierarchy.

As you complete the tab, consider:

Option	Description
Business Object Enabled	Select the business object used in each subreport.
Business Object Hierarchy	Select the business object that corresponds to the business object selection in the Expansion Hierarchies grid.
Expansion Field	Select a field related to the business object.

Next Steps

You can use the outline structure in your composite report to set up:

- Column outlining in the control field column.
- Filtering using the business object hierarchy.
- Row outlining in a lookup data row.

You can view the outline structure usage in your tenant by accessing the **View Outline Structure** report.

Related Information

Reference

[The Next Level: Composite Reporting - Outline Structures](#)

Create Calculation Expressions

Prerequisites

- Create a custom composite report.
- Security: These domains in the System functional area:
 - *Custom Report Creation*
 - *Manage: All Custom Reports*

Context

You can configure formulas and nest up to 5 functions for calculation cells, columns, or rows on your composite reports.

Steps

1. Access the **Edit Custom Report** task.
2. Access the **Rows, Columns, or Cells** tabs and:
 - Create a calculation row, column, or cell.
 - Select your calculation row, column, or cell.
3. Enter an expression in the **Calculation** section.

You can:

- Enter the cells, columns, or rows for the expression. Example: [R2C2]-[R2C3].
- Select the function to apply to the cells, columns, or rows. Example: Difference([R2C2], [R2C3]).

As you complete the task, consider:

Option	Description
Difference	<p>Select to subtract the second value from the first value.</p> <p>Example: Difference([R2], [R3]), Difference([C2], [C3]), Difference([R2C2], [R2C3]).</p>
Divide	<p>Select to divide the first value by the second value. The second value supports cells when the first value is a column.</p> <p>Example: Divide([C4], [R4C2]), Divide([R2C4], [R4C2]).</p> <p>You can select AbsRef (Absolute Reference) in the denominator to maintain the original cell reference regardless of its duplicated location on the report. Absolute Reference doesn't support nesting calculations and doesn't convert a negative value to a positive value.</p> <p>Example: Divide([R1C2], AbsRef([R2C2])), [R2C3]/AbsRef([R2C4]).</p> <p>Workday defaults <i>Return Zero on Error</i> to true unless you specifically set it to false.</p>
Multiply	<p>Select to multiply 2 values.</p> <p>Example: Multiply([C2], [C3]), Multiply([C2], 1.33), Multiply([R3C2], [R3C3]).</p>
PercentIncrease	<p>Select to return the difference in percentage of the first value from the second value.</p> <p>Example: PercentIncrease([R5], [R6]), where Workday calculates the formula as ([R6]-[R5])/[R5]. PercentIncrease([R1C2], [R1C3]), where Workday calculates the formula as ([R1C3]-[R1C2])/[R1C2].</p> <p>Workday defaults <i>Return Zero on Error</i> to true unless you specifically set it to false.</p>

Option	Description
PercentRemaining	<p>Select to return the percentage remaining after dividing the second value by the first value.</p> <p>Example: PercentRemaining([R5],[R6]), where Workday calculates the formula as ([R6]-[R5])/[R6]. PercentRemaining([R1C2],[R1C3]), where Workday calculates the formula as ([R1C3]-[R1C2])/[R1C3].</p> <p>Workday defaults <i>Return Zero on Error</i> to true unless you specifically set it to false.</p>
Sum	<p>Select to return the sum of multiple values.</p> <p>Example: Sum([R1],[R2],[R3],[R4]), Sum([C2],[C3],[C4],[C5])/[C6], Sum([R1C2],[R1C3],[R1C4]).</p>
SumRange	<p>(Not supported for cells.) Select to return the sum of all columns or rows, from the first column or row to the last column or row.</p> <p>Example: SumRange([R5],[R9]), SumRange([C2],[C15]).</p>

Workday displays valid options for your expressions when you enter a left square bracket, [, in the expression field.

Related Information

Reference

[Reference: Calculation Expressions](#) on page 177

[2024R1 What's New Post: Composite Report Expression Builder](#)

Create Column Headings for Composite Reports

Prerequisites

- Create a custom composite report.
- Configure the columns for the composite report.
- Security: These domains in the System functional area:
 - Custom Report Creation
 - Manage: All Custom Reports

Context

You can use variables to create custom column headings that override populated values and give more meaning to your data. You can control how columns display in your report by applying custom or Workday-delivered styles.

Steps

1. Access your composite report from the **Edit Custom Report** task.
2. On the **Column Headings** tab, click:
 - **Add Row and Override Defaults** to add a header row and enter override values.
 - **Only Override Defaults** to enter override values only.

3. To bulk edit column headings, click **Edit All**.

4. In the **Expression** field, enter the applicable variable.

When you run the report, Workday replaces the variable with the dynamic value you select from the variable prompts.

5. (Optional) Enter text in the **Expression** field to add contextual information for the variable.

Example: In the expression `Last updated on [V1]`, Workday replaces the variable with the **V1** prompt value.

6. (Optional) Select values for the remaining variable prompts.

7. (Optional) From the **Style** column, select a custom or Workday-delivered style.

Result

When you access the **Column Headings** tab on the report definition, Workday displays a similar view of how the column heading displays when the report runs. You can use this preview to understand how you present your data.

Related Information

Reference

[2024R1 What's New Post: Composite Report User Interface](#)

Create Drill-To Report Links for Composite Reports

Prerequisites

- Create a custom composite report.
- Security: These domains in the System functional area:
 - *Custom Report Administration*
 - *Custom Report Management*
 - *Manage: All Custom Reports*

Context

You can use drill-to report links to run other reports directly from the results of another report. Example: Create a drill-to link from a summary report containing an overview of ledger account types to a more detailed report that breaks down each ledger account type.

In 2023, Workday performed a one-time conversion to all existing composite reports with drill-to links, moving those drill-to link configurations from the matrix subreport to the composite report for the summarization measure defined on the composite data column. Now, you must configure composite report drill-to links on the composite report itself instead of on the matrix report.

Steps

1. From the **Edit Custom Report** task, access the **Drill-To**:

- Section when you edit a defined data column.
- Tab from the settings menu of your composite report.

2. Select *Create Drill-To Report Link* from the grid.

As you complete the task, consider:

Option	Description
Drill-To Report Name	Select the report that you want to drill to. The grid displays all prompts from the drill-to report that don't have Do Not Prompt at Runtime selected.

Option	Description
Label	Specify a name to use for the drill-to report instead of the populated name.
Enable Blank Values	<p>Select the check box to enable Workday to pass these values from the source report to the target report:</p> <ul style="list-style-type: none"> • Blank values for text fields. • Zero values for numeric fields. <p>When you clear the check box, Workday omits the field from the target report results.</p> <p>To enable Workday to display a field with a blank value on the target report results, configure the blank field on these Value Type prompts:</p> <ul style="list-style-type: none"> • <i>Use prompt value from source report</i> • <i>Use value from axis dimension</i> <p>Workday supports blank values only on instances and when the operator is <i>In the selected list</i>.</p>
Value Type	<p>Workday populates some prompts with <i>No default value</i> when the composite report doesn't have populated prompt values.</p> <p>Select:</p> <ul style="list-style-type: none"> • <i>Specify default value</i>. • <i>Use prompt value from source report</i> to pass the prompt value from the source report. This option applies when the source report has the same prompts as the drill-to report. • <i>Use value from axis dimension</i> to pass the value from a group by field on the source report, or a drillable field when you access View By. You can also pass a drillable field value when you configure the field to display on the report output. <p>For lookup data rows, you can:</p> <ul style="list-style-type: none"> • Map to multiple prompt values for each prompt. <p>Note: You can't select the same Value Type option more than once on a single prompt.</p> <ul style="list-style-type: none"> • Select <i>Use value from axis dimension</i> to display the Outline Fields prompt, which enables you to map the outline to another dimension. Your Outline Structure prompt selection determines the Outline Fields available.
Field/Parameter	<p>When you select:</p> <ul style="list-style-type: none"> • <i>Use prompt value from source report</i> from the Value Type prompt, select a prompt field from the source report.

Option	Description
	<ul style="list-style-type: none"> • Use value from axis dimension from the Value Type prompt, select a group by field or drillable field from the source report. <p>For multi-instance fields, Workday only passes a single value to the target report. Example: If the Country field on the source report has values of <i>USA</i> and <i>France</i>, Workday only passes 1 value onto the target report.</p>
Value	<p>(Available when you select <i>Specify default value</i> from the Value Type prompt.)</p> <p>Select a populated value for the prompt field.</p>

Result

You can view contextual drill-to report link details from the nested outline structure hierarchies on lookup data rows when you:

- Drill into a dimension.
- Select a leaf node within the outline structure hierarchy.
- Select **View By** on a dimension.

Example

Your outline structure is **Ledger Account > Cost Center > Division > Spend Category**. When you select a **Spend Category** dimension, Workday displays drill-to report details based on the nested hierarchy. Conversely, when you select a **Ledger Account** dimension, Workday displays drill-to report details based on the primary hierarchy.

Next Steps

You can access drill-to report links from these parts of a composite report:

- Calculation columns from the first dimension when you click **View By**.
- Cell values on summary nodes of single hierarchy outlined rows.
- Data columns with or without an outline structure.
- Data columns with or without a repeating column group.
- Data columns directly from the column and the first dimension when you click **View By**.
- Lookup data rows with 1 filter criteria configured and a single instance.
- Summarization values.
- Summary rows.

To drill to another report from a:

- Calculation field, drill down on a calculation value.
- Summary row, drill down on a summary value and then select a **View By** field from the matrix subreport.

Related Information

Tasks

[Create Drill-To Report Links for Matrix Reports](#) on page 135

Reference

[2024R1 What's New Post: Drill-To Report Links for Composite Reports](#)

Concept: Composite Reports

Composite reports use subreports to combine data from multiple data sources into a single report where you can configure:

- Cells, columns, and rows to perform calculations.
- Conditional formatting overrides.
- Display options for columns and rows.
- Drill-down options on calculation columns.
- Formatting.
- Hierarchies to consolidate levels of data.
- Outline structures to better filter data.
- Prompts and prompt sets to specify criteria before running a report.
- Repeating column groups that sort logically or by value.
- Rows for charting.
- Sorting options for combine data rows.
- The report as a chart or worklet.

Composite reports also provide unique configuration and functionality options. You can:

- Deploy the reports as worklets on dashboards.
- Drag and drop columns and rows to change their placement on the report.
- Duplicate columns, data cells, and rows.
- Duplicate columns and rows with calculation or data cells while retaining the cell data and setup.
- Freeze columns by clicking **Grid Preferences** on the table toolbar to improve data visibility when scrolling horizontally.
- Schedule reports to run in the background individually or as part of a report group.

Fixing Errors in Composite Reports

The **Clean Up Custom Report** task enables you to disassociate unused custom subreports and their summarization fields from composite reports so you can delete them. You can access the task from the **Report Definition** option on the related actions menu of custom reports.

Administrators with access to these domains in the System functional area can run this task:

- *Custom Report Administration*
- *Custom Report Management*
- *Manage: All Custom Reports*

The **Validate Composite Reports** report enables you to find and take action on:

- Anomalies
- Exceptions
- Warnings

Administrators with access to the *Custom Report Management* and *Manage: All Custom Reports* domains in the System functional area can run this report. You can also access this report from the related actions menu of composite reports by selecting **Custom Report > Validate**.

You can click **Fix** to enable Workday to take action on invalid reports. Example: Clicking **Fix** enables Workday to remove a duplicate reference to a Web Service ID or fix exceptions when joining subreports for the **Map Fields For Join** grid.

For all other reports that don't display **Fix**, manually update the report.

Related Information

Concepts

[Concept: Advanced Reports](#) on page 127

[Concept: Matrix Reports](#) on page 137
[Concept: Trending Reports](#) on page 198

Tasks

[Steps: Create Advanced Reports](#) on page 122

[Steps: Create Matrix Reports](#) on page 129

[Steps: Create Trending Reports](#) on page 191

Reference

[2024R2 Release Note: Freeze Report Columns](#)

[The Next Level: Composite Reporting Overview](#)

[The Next Level: Other Report Types and Analytic Indicators](#)

Concept: Formatting Styles

You can create formatting styles or use styles provided by Workday to gain more control over the look of the cells, columns, and rows in your composite report. You can apply formatting to composite reports you export to Excel or view in your browser.

When you export the report to PDF, Workday retains all formatting styles for the report, except column width and row height. Workday supports row outlining in PDFs if you expand the rows on the initial display.

In addition to formatting styles, you can:

- Control other display options in the report, such as hiding columns or rows.
- Include blank columns or rows.
- Override the style and visibility of a column, row, or cell, including calculation, data, or empty cells.
- Use analytic indicators.

When using formatting styles, you can't:

- Apply numerical formatting because Workday treats numerical characters in the control field column as text.
- Create report-specific styles.
- View conditional formatting or all formatting styles on mobile devices.

Related Information

Concepts

[Concept: Analytic Indicators](#) on page 74

Concept: Prompt Sets for Composite Reports

Report prompts enable you to customize the information displayed in a report by configuring parameter values before the report runs. You can set up default values for prompts and report data sources with built-in prompts in your report so that you don't have to configure parameter values each time. Prompt sets are groups of interdependent fields that add more flexibility when running reports. You can use custom or Workday-delivered prompt sets to set up populated values for prompts used in:

- Composite reports and subreports, which tie together prompts for subreports that use different report data sources.
- Custom dashboards, which apply to all worklets on the dashboard.
- Report groups, which make it easier to populate prompt values for report groups without having to configure prompts for each report.

You can set up the fields in the prompt set for:

- Data cells.
- Data columns.
- Dynamic data rows.

To view detailed information on prompt sets, access the:

- **Prompts** tab on the composite report definition. You can view and edit the prompt settings, prompt sets, report-level prompts, and data prompts for each column, row, and cell. You can also view all prompts for each subreport used on the composite report, and add or create a prompt set from the **Prompts** tab.
- **View Prompt Set** report. You can also drill into the instances that use the prompt set from the **Prompt Set Usages** field.

Related Information

Tasks

[Create Prompt Sets](#) on page 73

Reference

[2023R2 What's New Post: Composite Report User Interface](#)

[The Next Level: Composite Reporting - Data Columns](#)

Reference: Composite Report Columns

Workday provides these column types for use in composite reports. You can freeze columns to improve data visibility when scrolling horizontally by clicking **Grid Preferences** on the table toolbar. Workday disables freezing for composite reports that have:

- Column or row groupings.
- Multilevel column headers.
- Repeating column groups.

Column	Description
Control Field	<p>Sets up the:</p> <ul style="list-style-type: none"> • Combine data row calculation of control field rows. • Common business object used across multiple data sources in subreports. • Control field used in lookup data rows and lookup field value columns. <p>A report must have at least 1 control field column, but reports with multiple control field columns can't display results in an outline.</p> <p>Workday doesn't support control fields in repeating column groups.</p>
Data	<p>Sets up the data pulled from the subreport. A report must have at least 1 data column, dynamic data row, or lookup data row.</p> <p>Workday aggregates and displays the results of the subreport using the:</p> <ul style="list-style-type: none"> • Aggregation field configured for the data column. • Lookup data for the row as filter criteria. <p>You can enable multiple business objects to be available as dimensions on the same report. Example: The fields <i>Ledger Account</i> and <i>Ledger Account by Name</i> use the same Ledger Account related business object. You can map fields for</p>

Column	Description
	joining so they become available on the same report.
Lookup Field Value	Enables you to include additional data associated with the business object of the control field column. This column type doesn't support fields with built-in prompts.
Calculation	<p>References other columns based on these calculation types:</p> <ul style="list-style-type: none"> • Difference: Subtracts the second value from the first value. • Divide: Divides the first value by the second value. The second value supports cells when the first value is a column. • Multiply: Multiplies 2 values. • PercentIncrease: Returns the difference in percentage of the first value from the second value. • PercentRemaining: Returns the percentage remaining after dividing the second value by the first value. • Sum: Returns the sum of multiple values. • SumRange: Returns the sum of all columns, from the first column to the last column. <p>You can configure drill-down options to specify detail drilling on calculation columns.</p>
Empty	Provides spacing between columns with data. Workday restricts data from the column unless it's overwritten with cell data.
Repeating Column Group	<p>Sets up a column or a series of contiguous columns to repeat based on a value, such as repeating by a company or cost center.</p> <p>You can use repeating column groups on all column types, except control fields.</p> <p>Repeating column groups enable you to:</p> <ul style="list-style-type: none"> • Map subreport dimensions for data cells and columns. • Reference calculation cells and columns in repeating column groups. • Sort a cell value in ascending or descending order. • Use column outlining to expand and collapse various levels of data when the report results display.

Related Information**Reference**[2024R2 Release Note: Freeze Report Columns](#)

[The Next Level: Composite Reporting - Control Columns](#)

[The Next Level: Composite Reporting - Data Columns](#)

Reference: Composite Report Rows

Workday enables you to create these row types in composite reports:

Row	Description
Lookup Data	<p>Enables you to display rows based on filter criteria. The row type works with the business object of the control field columns to determine the data to include in the row. You can associate each control field column with a different business object so you can configure multiple lookup data rows with different Filter Criteria.</p> <p>Example: To display <i>Revenue</i>, configure the lookup data row to include all revenue data, such as <i>All Ledger Accounts</i>.</p> <p>Use Outline Options to configure outline structures so you can expand and collapse various levels of data when the report runs. Workday preserves outlining when you export composite reports to Microsoft Excel, enabling you to expand levels of data.</p>
Combine Data	<p>Enables you to display all rows from the control field column so you can apply calculations to the rows.</p> <p>Configure the By Value prompt in the Sort section to sort the data by total in ascending or descending order. If your By Value selection contains a control field column, you can sort the data logically.</p> <p>Example: For financial reports, you can understand how your data changes over time by sorting the months logically, such as January, February, and so on.</p>
Dynamic Data	<p>Enables you to use the results of an advanced subreport in your report.</p> <p>Workday populates the Map Sub Report Prompts grid with prompts from the subreport, and you can configure Additional Filter Criteria using data from the subreport.</p>
Calculation	<p>Enables you to configure calculations that reference other rows, such as:</p> <ul style="list-style-type: none"> • Difference: Subtracts the second value from the first value. • Divide: Divides the first value by the second value. • Multiply: Multiplies 2 values.

Row	Description
	<ul style="list-style-type: none"> PercentIncrease: Returns the difference in percentage of the first value from the second value. PercentRemaining: Returns the percentage remaining after dividing the second value by the first value. Sum: Returns the sum of multiple values. SumRange: Returns the sum of all rows, from the first row to the last row. <p>You can select the Return Zero on Error check box to determine if the formula is erroneous when the report runs on these calculation types:</p> <ul style="list-style-type: none"> Divide Multiply Percent Increase Percent Remaining
Empty	Enables you to provide spacing between rows of data or label sections of data.

Workday displays these 3 prompts in the **Advanced** section when you edit any row type:

Prompt	Description
Style	Enables you to add formatting to the rows in your report. You can select from custom styles, Workday-delivered styles, or create a style using the Create Formatting Style task.
Category	Enables you to configure the row category, such as <i>Income</i> or <i>Expense Line</i> , or create a style using the Create Composite Row Category task. For rows using calculation columns, you must select <i>For Row Category</i> in the Reverse the Sign section.
Options	Enables you to configure display and style options. You can: <ul style="list-style-type: none"> (Unavailable for empty rows.) Select the Hide Analytic Indicator check box to hide analytic indicators configured on columns that impact your rows. Hide rows. Reverse number signs. Use the Create Conditional Formatting Override task to assign styles to true/false conditions.

Related Information

Concepts

Concept: [Logical Sort Order](#) on page 76

Reference: Composite Report Cells

You can set up these cell types in your composite report to increase the depth and focus of your report. The contents of the intersecting column and row types determine the actions available in each cell.

Cell	Description
Label	<p>Enables you to set up labels, such as <i>Total Number of Employees</i>, at the intersection of a control column and empty row.</p> <p>You can define labels using text expressions and variables. Workday replaces the variables in the text expressions with the values of the variables when the report runs. Example: Workday replaces [V1] with the date in the text expression <i>Last updated on [V1]</i>.</p>
Data	<p>Enables you to retrieve data from your subreport at the intersection of a:</p> <ul style="list-style-type: none"> • Calculation column and calculation row. • Calculation column and empty row. • Data column and calculation row. • Data column and empty row. <p>You can:</p> <ul style="list-style-type: none"> • Apply additional filter data for subreports. • Map subreport prompts. • Select the Hide Analytic Indicator check box to hide analytic indicators configured on columns that impact your cells. <p>Executing subreports for each data cell might impact the performance of the composite report.</p>
Calculation	<p>Enables you to use calculation and data columns in your report to set up calculation cells that reference other cells using these functions on the expression builder:</p> <ul style="list-style-type: none"> • Difference: Subtracts the second value from the first value. • Divide: Divides the first value by the second value. You can select AbsRef in the denominator to maintain the original cell reference regardless of its duplicated location on the report. Absolute reference doesn't support nesting calculations and doesn't convert a negative value to a positive value. • Multiply: Multiplies 2 values. • PercentIncrease: Returns the difference in percentage of the first value from the second value. • PercentRemaining: Returns the percentage remaining after dividing the second value by the first value. • Sum: Returns the sum of multiple values.

Cell	Description
	<p>You can use calculation cells with outlining.</p> <p>For these functions, Workday defaults <i>Return Zero on Error</i> to true unless you specifically set it to false:</p> <ul style="list-style-type: none"> • Divide • PercentIncrease • PercentRemaining <p>Select the Hide Analytic Indicator check box to hide visual representations configured on columns that impact your cells.</p> <p>Workday uses the standard order of operations rule, known as PEMDAS, for mathematical expressions and reads functions from left to right:</p> <ol style="list-style-type: none"> 1. Parentheses 2. Exponents 3. Multiplication 4. Division 5. Addition 6. Subtraction
Conditional Value	<p>Enables you to override the value of an undefined cell at the intersection of a lookup data row and data column. You can set up the cell to display zero or the actual value based on whether the condition is true or false.</p>
Conditional Format	<p>Enables you to override the style and visibility of an undefined cell.</p>

Reference: Calculation Expressions

Calculation expressions enable you to perform mathematical functions on calculation columns, rows, and cells in your composite report.

Function	Description	Examples
Difference	Subtracts the second value from the first value.	$[R5] - [R3]$ <code>Difference([C5],[C3])</code> <code>Difference([R2C2],[R2C3])</code>
Divide	<p>Divides the first value by the second value. The second value supports cells when the first value is a column.</p> <p>You can select AbsRef (Absolute Reference) in the denominator to maintain the original cell reference regardless of its duplicated location on the report. Absolute Reference doesn't</p>	<code>Divide([C3],[C5])</code> <code>Divide([C3],10)</code> <code>Divide([R3],[C5],true)</code> <code>Divide([C3],[C5],false)</code> <code>Divide([C3],[R3C5])</code> $[C3]/1234567890$ <code>Divide([R1C2],AbsRef([R2C2]))</code>

Function	Description	Examples
	<p>support nesting calculations and doesn't convert a negative value to a positive value.</p> <p>Workday defaults the third parameter, <i>Return Zero on Error</i>, to true unless you specifically set it to false.</p> <p>You can divide by a constant value with up to 10 digits.</p> <p>You can't divide by:</p> <ul style="list-style-type: none"> • Decimals. • Negative constant values. • Zero. 	[R2C3]/AbsRef([R2C4])
Multiply	<p>Multiplies 2 values.</p> <p>You can multiply by:</p> <ul style="list-style-type: none"> • Constant values with up to 12 digits. • Decimals with up to 6 decimal places. <p>You can't multiply by zero.</p>	Multiply([C3],[C3]) Multiply([R3],[R4])*[R5]) Multiply([C3],1.04) Multiply([C3],123456789012) Multiply([C3],10) [R3]*[R4]*[R5] [C3]*0.123456 Multiply([R3C2],[R3C3])
PercentIncrease	<p>Returns the difference in percentage of the first value from the second value.</p> <p>Workday defaults the third parameter, <i>Return Zero on Error</i>, to true unless you specifically set it to false.</p>	PercentIncrease([R3],[R5]), where Workday calculates the formula as ([R5]-[R3])/[R5] PercentIncrease([C3],[C5],true) PercentIncrease([R3],[R5],false) PercentIncrease([R1C2],[R1C3]), where Workday calculates the formula as ([R1C3]-[R1C2])/[R1C2].
PercentRemaining	<p>Returns the percentage remaining after dividing the second value by the first value.</p> <p>Workday defaults the third parameter, <i>Return Zero on Error</i>, to true unless you specifically set it to false.</p>	PercentRemaining([R3],[R5]), where Workday calculates the formula as ([R5]-[R3])/[R5] PercentRemaining([C3],[C5],true) PercentRemaining([R3],[R5],false)

Function	Description	Examples
		PercentRemaining([R1C2], [R1C3]), where Workday calculates the formula as ([R1C3]-[R1C2])/[R1C3]
Sum	Returns the sum of multiple values.	Sum([R2], [R3], [R5]) Sum([C5]) [R2]+[R3]+[R4]+[R5]+[R6]+[R7] Sum([R1C2], [R1C3], [R1C4])
SumRange	(Not supported for cells.) Returns the sum of all columns, from the first column to the last column. The first column must precede the last column in the table.	SumRange([C3], [C5]) SumRange([R2], [R9])

Considerations

You can nest up to 5 functions in 1 expression.

Workday uses the standard order of operations rule, known as PEMDAS, for mathematical expressions:

1. Parentheses
2. Exponents
3. Multiplication
4. Division
5. Addition
6. Subtraction

Workday reads functions from left to right. Example: In the expression [C3]/[C2]*[C3], Workday divides, then multiplies the values. However, if the expression is [C3]/(([C2]*[C3])), then Workday multiplies the values in parentheses, then divides.

Related Information

Reference

[2024R1 What's New Post: Composite Report Expression Builder](#)

Example: Create a Report on the Gender Breakdown of Active Workers

This example illustrates how to report on multiple data sources by creating a composite report.

Context

You want to create a report that displays the gender of all active employees and contingent workers. You want to use that data so you can publish a statement on the gender breakdown within your organization.

Steps

1. Access the **Create Custom Report** task.

Create a matrix report for the gender breakdown of all active employees.

- a) Enter *Active Employees Matrix Subreport* on the **Report Name** field.
- b) Select **Matrix** from the **Report Type** prompt.
- c) Clear the **Optimized for Performance** check box.
- d) Select *All Active Employees* from the **Data Source** prompt.
- e) Click **OK**.
- f) On the **Matrix** tab, select *Gender* from the **Group by Field** prompt on the **Row Grouping** grid.
- g) Click **OK**.
- h) Click **Done**.

2. Access the **Create Custom Report** task.

Create a matrix report for the gender breakdown of all contingent workers.

- a) Enter *Contingent Workers Matrix Subreport* on the **Report Name** field.
- b) Select **Matrix** from the **Report Type** prompt.
- c) Clear the **Optimized for Performance** check box.
- d) Select *All Contingent Workers* from the **Data Source** prompt.
- e) Click **OK**.
- f) On the **Matrix** tab, select *Gender* from the **Group by Field** prompt on the **Row Grouping** grid.
- g) Click **OK**.
- h) Click **Done**.

3. Access the **Create Custom Report** task.

Create a composite report for the gender of all active employees and contingent workers.

- a) Enter *Gender Breakdown Composite Report* in the **Report Name** field.
- b) Select **Composite** from the **Report Type** prompt.
- c) In the **Business Object Enabled for Filtering and Grouping** grid, select *Gender* on the **Business Object** prompt.
- d) Click **OK**.
- e) Access the **Control Field Columns** section on the **Columns** tab.
- f) Click **Add Column**.
- g) Enter *Gender* in the **Column Name** field.
- h) Select *First (Top)* from the **Column Location** prompt.
- i) Click **OK**.
- j) In the **Data Columns** section, click **Add Column**.
- k) Enter *Employees* on the **Column Name** field.
- l) In the **Sub Report** section, select *Active Employees Matrix Subreport* from the **Sub Report Name** prompt.
- m) Click **OK**.
- n) In the **Data Columns** section, click **Add Column**.
- o) Enter *Contingent Workers* in the **Column Name** field.
- p) On the **Sub Report** section, select *Contingent Workers Matrix Subreport* from the **Sub Report Name** prompt.
- q) Click **OK**.
- r) Click **Run**.

Result

Workday displays a composite report with the gender breakdown of all active employees and contingent workers. Each gender row displays a count for each worker type that you can drill into and view additional details on.

Related Information**Tasks**

[Steps: Create Matrix Reports on page 129](#)

Example: Composite Reports for Income Statements**Example: Create an Income Statement Using a Composite Report**

These examples illustrate how to set up a composite report and common composite report features.

Context

You want to create an income statement that compares the actuals and plan data, and drill down on the data by ledger account and region. You also want to set up the income statement so that you can quickly interpret the variance between the actuals and plan data.

Prerequisites

Security: These domains in the System functional area:

- *Custom Report Creation*
- *Manage: All Custom Reports*

Steps

1. Create an actuals matrix subreport.

See [Example: Create a Matrix Report for Actuals Data on page 182](#).

2. Create a plan matrix subreport.

See [Example: Create a Matrix Report for Plan Data on page 183](#).

3. Create an income statement.

See [Example: Create an Income Statement Composite Report on page 185](#).

4. Set up a column outline structure with a repeating column group.

See [Example: Set Up a Column Outline Structure on page 186](#).

5. Set up a row outline structure.

See [Example: Set Up a Row Outline Structure on page 187](#).

6. Set up analytic indicators to help identify negative variance data.

See [Example: Set Up Analytic Indicators on page 188](#).

7. Set up a prompt set to connect individual subreport prompts.

See [Example: Set Up a Prompt Set on page 189](#).

8. Set up custom column headings.

See [Example: Set Up Column Headings on page 191](#).

Result

Workday displays an income statement that compares the actuals and plan data, including the variance for regions and ledger accounts. You can drill down on the columns and rows to view more data. Workday also displays custom column headings and formatting.

Related Information**Concepts**

[Concept: Composite Reports on page 170](#)

Example: Create a Matrix Report for Actuals Data

Context

You want to create a matrix report that filters for actuals data that you can view on an income statement.

Prerequisites

Security: These domains in the System functional area:

- *Custom Report Creation*
- *Manage: All Custom Reports*

Steps

1. Access the **Create Custom Report** task.
2. Enter *[Subreport] Actuals* in the **Report Name** field.
3. Select:

Option	Description
Report Type	<i>Matrix</i>
Data Source	<i>Journal Lines for Financial Reporting</i>

4. Click **OK**.
5. In the **Row Grouping** section on the **Matrix** tab, select:

Group by Field	Sort Rows
<i>Cost Center</i>	<i>Alphabetical - Ascending</i>
<i>Fiscal Period - Actual</i>	<i>Alphabetical - Ascending</i>
<i>Ledger Account</i>	<i>Alphabetical - Ascending</i>
<i>Region</i>	<i>Alphabetical - Ascending</i>

6. In the **Define the Field(s) to Summarize** section, delete the values on the populated row.
7. Select:

Summarization Type	Summarization Field	Format
<i>Sum</i>	<i>Ledger/Budget Debit minus Credit</i>	<i>#,##0.00;(#,##0.00)</i>

8. In the **Filter on Instances** section on the **Filter** tab, select:

And/Or	Field	Operator	Comparison Type	Comparison Value
<i>And</i>	<i>Accounting Date</i>	<i>greater than or equal to</i>	<i>Value from another field</i>	<i>Time Series Start Date</i>
<i>And</i>	<i>Accounting Date</i>	<i>less than or equal to</i>	<i>Value from another field</i>	<i>Time Series End Date</i>

9. On the **Prompts** tab, select the **Populate Undefined Prompt Defaults** check box.

10.On the **Prompt Defaults** grid, select:

Field	Default Type	Default Value	Do Not Prompt at Runtime
Company	Specify default value	500.1 Global Modern Services, Inc. (USA)	
Amount Type	Specify default value	Activity	Select the check box.
Ledger	Specify default value	Actuals	Select the check box.
Period	Specify default value	2013 - Mar	
Time Period	Specify default value	Current Period YTD	
Time Series End Date	Determine default value at runtime	Fiscal Time Period End Date	Select the check box.
Time Series Start Date	Determine default value at runtime	Fiscal Time Period Start Date	Select the check box.

11.For each remaining row, select the **Do Not Prompt at Runtime** check box.

12.On the **Share** tab, click **Share with all authorized users**.

13.Click **OK**.

Result

When you run the matrix report, Workday displays the actuals data by the row groupings.

Related Information

Concepts

[Concept: Matrix Reports](#) on page 137

Tasks

[Lookup Date Rollup](#)

[Steps: Create Matrix Reports](#) on page 129

Reference

[Reference: Calculated Field Functions](#)

Example: Create a Matrix Report for Plan Data

Context

You want to create a matrix report that filters for plan data that you can view on an income statement.

Prerequisites

Security: These domains in the System functional area:

- *Custom Report Creation*
- *Manage: All Custom Reports*

Steps

1. Access the **Create Custom Report** task.
2. Enter *[Subreport] Plan* in the **Report Name** field.

3. Select:

Option	Description
Report Type	Matrix
Data Source	Plan Lines for Financial Reporting

4. Click **OK**.

5. In the **Row Grouping** section on the **Matrix** tab, select:

Group by Field	Sort Rows
Cost Center	Alphabetical - Ascending
Fiscal Period - Budget	Alphabetical - Ascending
Ledger Account	Alphabetical - Ascending
Region	Alphabetical - Ascending

6. In the **Define the Field(s) to Summarize** section, delete the values on the populated row.

7. Select:

Summarization Type	Summarization Field	Format
Sum	Ledger/Budget Debit minus Credit	#,##0.00;(#,##0.00)

8. In the **Filter on Instances** section on the **Filter** tab, select:

And/Or	Field	Operator	Comparison Type	Comparison Value
And	Plan Period Start Date	greater than or equal to	Value from another field	Time Series Start Date
And	Plan Period End Date	less than or equal to	Value from another field	Time Series End Date
And	Cost Center Hierarchies	any in the selection list	Value specified in this filter	20.0 Finance 30.0 Human Resources 40.0 Information Technology 50.0 Operations 60.0 Sales & Marketing

9. On the **Prompts** tab, select the **Populate Undefined Prompt Defaults** check box.

10. On the **Prompt Defaults** grid, select:

Field	Default Type	Default Value	Do Not Prompt at Runtime
Company	Specify default value	500.1 Global Modern Services, Inc. (USA)	
Plan Structure	Specify default value	Budget	Select the check box.
Amount Type	Specify default value	Activity	Select the check box.

Field	Default Type	Default Value	Do Not Prompt at Runtime
Period	Specify default value	2013 - Mar	
Time Period	Specify default value	Current Period YTD	
Time Series End Date	Determine default value at runtime	Fiscal Time Period End Date	Select the check box.
Time Series Start Date	Determine default value at runtime	Fiscal Time Period Start Date	Select the check box.
Ledger Account/Summary	Specify default value	Corporate: Income Statement	Select the check box.

11. For each remaining row, select the **Do Not Prompt at Runtime** check box.

12. On the **Share** tab, click **Share with all authorized users**.

13. Click **OK**.

Result

When you run the matrix report, Workday displays the plan data by the row groupings.

Related Information

Concepts

[Concept: Matrix Reports](#) on page 137

Tasks

[Steps: Create Matrix Reports](#) on page 129

Example: Create an Income Statement Composite Report

Context

You want to create an income statement that compares the actual and plan data in Workday by referencing data from your matrix subreports. You want to interpret the variance by creating a column that calculates the difference between the data from the subreports.

Prerequisites

- Create actual and plan subreports.
- Security: These domains in the System functional area:
 - *Custom Report Creation*
 - *Manage: All Custom Reports*

Steps

1. Access the **Create Custom Report** task.
2. Enter *Income Statement* in the **Report Name** field.
3. Select **Composite** from the **Report Type** prompt.
4. On the **Business Object Enabled for Filtering and Grouping** grid, select *Ledger Account* from the **Business Object** prompt.
5. Click **OK**.
6. Access the **Control Field Columns** section on the **Columns** tab.
7. Click **Add Column**.
8. Enter *Ledger Account* in the **Column Name** field.

9. Select *First (Top)* from the **Column Location** prompt.
10. Click **OK**.
11. In the **Data Columns** section, click **Add Column**.
12. Enter **Actuals** in the **Column Name** field.
13. Select *[Subreport] Actuals* from the **Sub Report Name** prompt.
14. Click **OK**.
15. In the **Data Columns** section, click **Add Column**.
16. Enter **Plan** in the **Column Name** field.
17. Select *[Subreport] Plan* from the **Sub Report Name** prompt.
18. Click **OK**.
19. In the **Calculation Columns** section, click **Add Column**.
20. Enter **Variance** in the **Column Name** field.
21. In the **Expression** field in the **Calculation** section, enter **[C3] - [C2]**.
22. Click **OK**.
23. Click **Run**.

Result

Workday displays an income statement that includes the actual and plan data, including the variance for ledger accounts.

Related Information

Concepts

[Concept: Composite Reports](#) on page 170

Tasks

[Steps: Create Composite Reports](#) on page 145

Example: Set Up a Column Outline Structure

Context

You want to set up an income statement that enables you to drill into data by using a:

- Repeating column group that displays the data for each region.
- Drillable column outline structure so you can view data by region.

Prerequisites

- Create actual and plan subreports.
- Create an income statement composite report.
- Security: These domains in the System functional area:
 - *Custom Report Creation*
 - *Manage: All Custom Reports*

Steps

1. Access the **Edit Custom Report** task.
2. Select **Income Statement** from the **Report Name** prompt.
3. Click **OK**.
4. Access the **Repeating Column Groups** section on the **Columns** tab.
5. Click **Add Repeating Column Group**.

6. Select:

Option	Description
Column Span Start	C2
End	C4
Repeating Column Group Name	<i>Repeat by Region</i>
Repeating Field Value Option	<i>Specify Value</i>
Repeating Field	<i>Region</i>

7. On the **Outline Structure** prompt, select **Create > Create Outline Structure**.

8. Select:

Option	Description
Name	<i>Region Outline Structure</i>
Business Object	<i>Region</i>
Outline Approach	<i>Use Hierarchy</i>
Hierarchy Type	<i>Regional Hierarchy</i>
Top Level Node	<i>Global Modern Services Regions</i>
Last Level	<i>Leaf Node</i>

9. Confirm that the populated value in the **Outline Structure** prompt is the outline structure you created.

10. Click **OK**.

11. Click **Run**.

Result

When you run the report, Workday displays a drillable column where you can view actual, plan, and variance data by region.

Related Information

Tasks

[Create Outline Structures for Composite Reports](#) on page 162

Example: Set Up a Row Outline Structure

Context

You want to set up an income statement with a row outline structure that can expand and collapse to view groupings of ledger accounts.

Prerequisites

- Create actual and plan subreports.
- Create an income statement composite report.
- Security: These domains in the System functional area:
 - *Custom Report Creation*
 - *Manage: All Custom Reports*

Steps

1. Access the **Edit Custom Report** task.
2. Select *Income Statement* from the **Report Name** prompt.

3. Click **OK**.
 4. Access the **All Columns** section on the **Columns** tab.
 5. Click **Edit** in the **Actions** column of C1.
 6. From the **Outline Structure** prompt, select *Ledger Account Outline*.
 7. Select the **Default Outline Structure** check box.
 8. Click **OK**.
 9. Access the **General** tab on the settings menu of your report.
 10. In the **Business Object Enabled for Filtering and Grouping** grid, select *Ledger Account Outline* from the **Hierarchy Structure** prompt for the **Ledger Account Business Object**.
 11. Click **OK**.
 12. Access the **Lookup Data Rows** section on the **Rows** tab.
 13. Click **Add Row**.
 14. Enter *Row Outline* in the **Row Name** field.
 15. In the **Filter Criteria** section, select:
- | And/Or | Business Object | Operator | Value |
|------------|-----------------------|-------------------------|--------------------------------|
| <i>And</i> | <i>Ledger Account</i> | <i>in the hierarchy</i> | <i>Corporate: All Accounts</i> |
16. Click **OK**.
 17. Click **Run**.

Result

Workday creates a report with a row that you can expand to view actual, plan, and variance data by specific groups of ledger accounts.

Related Information

Tasks

[Create Outline Structures for Composite Reports](#) on page 162

Example: Set Up Analytic Indicators

Context

You want to interpret the variance between the actual and plan data on your income statement. You want to set up analytic indicators to use colors and shapes so you can quickly identify zero, positive, and negative numbers on the variance column.

Prerequisites

- Create actual and plan subreports.
- Create an income statement using a composite report.
- Security: These domains in the System functional area:
 - *Custom Report Creation*
 - *Manage: All Custom Reports*

Steps

1. Access the **Edit Custom Report** task.
2. Select *Income Statement* from the **Report Name** prompt.
3. Click **OK**.
4. Access the **Calculation Columns** section on the **Columns** tab.

5. Click **Edit** in the **Actions** column of C4.
6. From the **Options** prompt, select **Create > Create Analytic Indicator for Report**.
7. Enter *Negative Analytical Indicator* in the **Display Option Name** field.
8. Select:

Option	Description
Visualization Type	<i>Status - Green/Yellow/Red</i>
Default Visualization	<i>No visualization</i>

9. On the **Display Conditions** grid, add 3 rows.

10. Select:

Column Reference	Condition	Visualization
C4 Variance	<i>greater than</i>	<i>Red diamond</i>
C4 Variance	<i>equal to</i>	<i>Yellow triangle</i>
C4 Variance	<i>less than</i>	<i>Green circle</i>

11. Click **OK**.

12. Confirm that the analytic indicator option is correct and click **OK**.

13. Click **Run**.

Result

When the report runs, Workday displays analytic indicators on the composite report based on the variance. When the variance is:

- Positive, Workday displays a red diamond.
- Zero, Workday displays a yellow triangle.
- Negative, Workday displays a green circle.

Related Information

Concepts

[Concept: Formatting Styles](#) on page 171

Example: Set Up a Prompt Set

Context

You want to set up a prompt set that doesn't notify you more than once for the company and period prompts on the subreport. You also want to specify the prompt order and populated prompt values so you can run the report more easily.

Prerequisites

- Create actual and plan subreports.
- Create an income statement composite report.
- Security: These domains in the System functional area:
 - *Custom Report Creation*
 - *Manage: All Custom Reports*

Steps

1. Access the **Edit Custom Report** task.
2. Select *Income Statement* from the **Report Name** prompt.

3. Click **OK**.
4. Access the settings menu on your report.
5. Access the **Prompt Set** section on the **Prompts** tab.
6. Click **Add Prompt Set**.
7. Select *Financial Composite Reports for Company* from the **Prompt Set** prompt.
8. Click **OK**.
9. Access the **All Columns** section on the **Columns** tab.
10. Click **Edit** in the **Actions** column of **C2**.
11. On the **Map Sub Report Prompts** grid, select:

Prompt Field	Value Type	Value
<i>Company</i>	<i>Use Value From Prompt Set</i>	<i>Company</i>
<i>Period</i>	<i>Use Value From Prompt Set</i>	<i>Period</i>
<i>Time Period</i>	<i>Specify Value</i>	<i>Current Period YTD</i>

12. Click **OK**.
13. Click **Edit** in the **Actions** column of **C3**.
14. On the **Map Sub Report Prompts** grid, select:

Prompt Field	Value Type	Value
<i>Company</i>	<i>Use Value From Prompt Set</i>	<i>Company</i>
<i>Period</i>	<i>Use Value From Prompt Set</i>	<i>Period</i>
<i>Time Period</i>	<i>Specify Value</i>	<i>Current Period YTD</i>

15. Click **OK**.
16. Access the **Report-Level Prompts** section on the **Prompts** tab.
17. Click **Populate Undefined Prompts**.
18. Click **Edit All**.
19. In the grid, select:

Field	Value Type	Prompt Value	Prompt User at Runtime
<i>Company for Financial Reports</i>	<i>Specify default value</i>	<i>500.1 Global Modern Services, Inc. (USA)</i>	Select the check box.
<i>Period</i>	<i>Specify default value</i>	<i>2013 - Dec</i>	Select the check box.
<i>Plan Structure</i>	<i>No default value</i>		Clear the check box.
<i>Translation Currency</i>	<i>No default value</i>		Clear the check box.
<i>Account Translation Rule Set</i>	<i>No default value</i>		Clear the check box.

20. Click **OK**.
21. Click **Run**.

Result

When you run the composite report, Workday displays the *Company* and *Period* prompts and maps the values to the prompt on each subreport.

Related Information**Concepts**

[Concept: Prompt Sets for Composite Reports](#) on page 171

Example: Set Up Column Headings**Context**

You want to create an income statement with variables on the column headings so that you can quickly scan and interpret the data on the report.

Prerequisites

- Create actual and plan subreports.
- Create an income statement composite report.
- Security: These domains in the System functional area:
 - *Custom Report Creation*
 - *Manage: All Custom Reports*

Steps

1. Access the **Edit Custom Report** task.
2. Select *Income Statement* from the **Report Name** prompt.
3. Click **OK**.
4. Access the **Column Headings** tab.
5. Click **Only Override Defaults**.
6. Click **Edit All**.
7. Enter *Actuals YTD - [V1]* in the **Text Expression** field for **C2**.
8. Select *Year* from the **V1** prompt.
9. Enter *Plan YTD - [V1]* in the **Text Expression** field for **C3**.
10. Select *Year* from the **V1** prompt.
11. Click **OK**.
12. Click **Run**.

Result

Workday updates the column headings with the year of the actual and plan data.

Related Information**Tasks**

[Set Up Additional Options for Composite Reports](#) on page 157

Trending Reports

Steps: Create Trending Reports**Prerequisites**

Security: These domains in the System functional area:

- *Custom Report Creation*
- *Manage: All Custom Reports*

Context

You can create a trending custom report to analyze trends in financial and worker data, such as headcount and attrition. You can also use 1 or more trending reports as subreports in composite reporting.

Steps

1. [Create Custom Reports](#) on page 40.
Create a custom trending report.
2. [Set Up Trending Reports](#) on page 193.
3. [Set Up Drill Down for Custom Reports](#) on page 44.
4. [Set Up Filter Options for Custom Reports](#) on page 48.
5. [Set Up Prompt Options for Custom Reports](#) on page 50.
6. [Set Up Output Options for Custom Reports](#) on page 51.
7. [Set Up Share Options for Custom Reports](#) on page 54.
8. [Set Up Advanced Options for Custom Reports](#) on page 55.

Next Steps

Test the report to ensure Workday displays the data correctly.

When you test a report, Workday displays the first 10 results. When the report includes a:

- Filter, Workday applies the filter to all instances of the primary business object and displays the first 10 results.
- Subfilter, Workday applies the subfilter to the 10 filtered instances and displays the results.

Related Information

Concepts

[Concept: Trended Workers Report Data Source](#) on page 28

[Concept: Trending Reports](#) on page 198

Tasks

[Steps: Set Up Tenants for Trended Worker Reporting](#) on page 192

[Set Up the Trended Workers Report Data Source](#) on page 25

Steps: Set Up Tenants for Trended Worker Reporting

Prerequisites

Security: *Set Up: Tenant Setup - Reporting and Analytics* domain in the System functional area.

Context

You can enable your tenant for worker trending data to report on calculated metrics, headcount data, and workforce activity.

Steps

1. Access the **Edit Tenant Setup – Reporting and Analytics** task.
2. Select the **Enable Worker Trending** check box in the **Worker Trending** section.
To view the status of this change, access the **Status** tab on the **Maintain Trended Workers** task.
3. Access the **Domain Security Policies for Functional Area** report to edit permissions for the *Trended Worker Data* domain in the Staffing functional area.
See [Edit Domain Security Policies](#).
4. [Set Up the Trended Workers Report Data Source](#) on page 25.

- Access the **Create Worker Trending Data** task to create trending data and run the task whenever you make changes to configurations on the **Maintain Trended Workers** task.
- Workday recommends you run the task during nonpeak hours to minimize the impact on performance and conserve processing resources for day-to-day activities in your tenant.

Related Information

Concepts

[Concept: Trending Reports](#) on page 198

[Concept: Custom Fields in Custom Reports and Calculated Fields](#)

Tasks

[Steps: Create Trending Reports](#) on page 191

Reference

[Reference: Edit Tenant Setup - Reporting and Analytics](#)

Set Up Trending Reports

Prerequisites

- Create a custom trending report.
- Security: These domains in the System functional area:
 - Custom Report Creation*
 - Manage: All Custom Reports*

Context

You can configure the basic options for a trending report on the **Trending** tab, including:

- Fields to display and summarize in your report.
- Time period for trended data.

You can use trending reports as subreports in composite reporting unless the trending report includes text-based count distinct summarization fields.

Steps

- Access the **Edit Custom Report** task.
- As you complete the **Define the Time Period** section on the **Trending** tab, consider:

Option	Description
Time Field	Select a date or time field from the report data source (RDS) that forms the foundation of the trending report. Example: For reports that use the Trended Workers RDS, select <i>Record Date</i> as the time field.
Group by Time Period Field	Select the initial field for summarizing data into the rows, which can be any date field. You can also select <i>Create Time Period for Report</i> to enter a time period and apply a calendar- or fiscal-based format, such as <i>Year-Quarter</i> . Your format must match the format of the Trending Period . Example: When you configure

Option	Description
	the Trending Period for a fiscal period, the Group by Time Period Field must also be a fiscal period.
Label Override	Enter a value to override the name of the Group by Time Period Field prompt that displays in the report header.
Display Time Period Fields as	<p>Select an option to change the orientation of the report by making the time period fields display as either the columns or the rows.</p> <p>If you select:</p> <ul style="list-style-type: none"> • <i>Columns</i>, add at least 1 Group by Field value in the Row Grouping grid. • <i>Rows</i>, you can add up to 2 Group by Field values in the Column Grouping (Optional) grid.

3. As you complete the **Column Grouping (Optional)** or the **Row Grouping** section, consider:

Option	Description
Sort Columns/Rows	<p>Select an option so that values sort in ascending or descending:</p> <ul style="list-style-type: none"> • Alphabetical order based on the Group by Field value. • Order based on the column or row total. <p>Sorting isn't case-sensitive.</p> <p>When enabled, Workday uses the logical sort order for the field specified in the Group by Field value.</p> <p>The Other column or row and the Total column or row always display as the right-most column or row in the report results.</p>
Indexed	<p>Workday selects the check box when you select:</p> <ul style="list-style-type: none"> • An indexed data source. • A Group by Field indexed for grouping. <p>If the Indexed check box is clear for a row, your report might run slowly. Consider replacing the Group by Field with a field indexed for grouping so that your report can run faster.</p>
Maximum Number of Columns/Rows	<p>Enter a value to specify the maximum number of column or row results. When the number of columns or rows exceeds the limit, Workday displays an <i>Other</i> column or row that summarizes the remaining values.</p> <p>Workday displays more than 1 <i>Other</i> when:</p> <ol style="list-style-type: none"> a. You select the Sum Remaining Values check box on the Output tab.

Option	Description
	b. The data exceeds the number of Top n Values that you specify.
Hide Total Column/Row	<p>Select the check box to hide the total column or row in your report. Workday retains the check box selection when you:</p> <ul style="list-style-type: none"> • Copy a standard report that hides column or row totals. • Export your report to Excel or PDF.

4. In the **Define the Field(s) to Summarize** grid, specify how Workday should aggregate the data.

As you complete the grid, consider:

Option	Description
Summarization Type	<p>Specify the aggregation method used for the field. The results of the aggregation method display in the report cells or chart element, such as a column or donut segment.</p> <p>Select:</p> <ul style="list-style-type: none"> • <i>Calculation</i> to create a custom calculation based on an arithmetic expression or to look up a prior value. • <i>Count Distinct</i> to drill into and view the distinct number of instances based on a field or row in your report results.
Summarization Field	<p>This field is inactive when the Summarization Type is <i>Count</i>.</p> <p>Select a currency, instance, numeric, or text field for 1 of these Summarization Type options:</p> <ul style="list-style-type: none"> • <i>Average</i> • <i>Calculation</i> • <i>Count Distinct</i> • <i>Maximum</i> • <i>Minimum</i> • <i>Percentile</i> • <i>Sum</i> <p>Workday indexes report fields on Prism RDSs, but might not index all fields on standard RDSs. To select text fields for count distinct on a standard RDS, clear the Optimized for Performance check box on the Advanced tab.</p> <p>For a Calculation Summarization Type, select Create > Create Summarization Calculation for Report or Create > Create System-Wide Summarization Calculation to:</p> <ul style="list-style-type: none"> • Create a summary calculation based on an arithmetic expression.

Option	Description
	<ul style="list-style-type: none"> • Look up a prior value based on: <ul style="list-style-type: none"> • Average x time periods. • Prior rollup period. • Prior time period. • Sum x time periods. <p>Note: To create tenant-wide summarization calculations, configure the <i>System-Wide Summarization Calculation Management</i> domain in the System functional area.</p> <p>You can create fields calculated from values in report-specific or tenant-wide calculated fields. For faster report performance, limit the number of calculated fields you include in the report.</p>
Format	<p>The format applies to:</p> <ul style="list-style-type: none"> • Numeric labels. • Table and charted outputs. • The horizontal axis. • The vertical axis. <p>When displaying numbers with <i>Thousands</i> and <i>Millions</i> formatting, Workday rounds each number independently, so a group of numbers might not add up to the total displayed.</p> <p>To display 12 decimal places when you export reports to Excel or PDF, you can select <code>#,##0.000000000000</code> or <code>#,##0.###########</code> for these aggregated numeric fields:</p> <ul style="list-style-type: none"> • Average • Maximum • Minimum • Sum <p>The data must include 12 digits to display 12 decimal places, otherwise Workday trails the number with zeros.</p>
Options	<p>Specify options that control how the field data displays. The options available depend on the field type, such as currency, date, or text.</p> <p>You can select these options from the Valid Options prompt:</p> <ul style="list-style-type: none"> • <i>Percent of Overall Total:</i> The value at the intersection of a column and row. Workday automatically changes the Format column to a percentage format. • <i>Show Currency Symbol:</i> Workday displays <i>Invalid</i> on fields that aggregate values in different currencies.

Option	Description
	<ul style="list-style-type: none"> • <i>Use as Target Line:</i> Creates 1 or more target lines for each data group based on numeric or currency fields. You can configure target lines on the Output tab. <p>You can also select the Create prompt to create these custom display options:</p> <ul style="list-style-type: none"> • <i>Create Analytic Indicator for Report</i>, which creates a report-specific analytic indicator. To create an analytic indicator for use in other reports, access the Create Analytic Indicator task. • <i>Create Detail Data Override</i>. Workday generates a detail data override for your summarization field when your report uses the Trended Workers RDS. You can enter a unique drill-down layout for the field. The detail data that you specify overrides the selections on the Drill Down tab. You can select these display options for the columns: <ul style="list-style-type: none"> • Display format. • Drill down window columns displayed. • Field label overrides. • The sort order. When you complete the Create Detail Data Override task, you can select <i>Translate</i> from the related actions menu of the Detail Data Override. The Translate Detail Data Override task enables you to specify an override to translate and a language for translation. • You can also control which fields to sort on and the sort direction to use. • <i>Create Percentile for Report</i>, which enables you to create custom percentiles up to 2 decimal places to use in your report. Workday uses an approximate value for currency and numeric fields in the percentile (PCTL). <p>If you configure your trending report to include a bar or column chart, you can create 1 or more target lines. To use a field as a target line, select the <i>Use as Target Line</i> option. For multiple target lines, you must include at least 1 currency or numeric field to summarize and 1 currency or numeric field to use as a target line.</p>
Indexed	Workday selects the check box based on the indexed RDS, indexed data source filter, and the indexed field you select. The check box indicates if your report has the potential to run faster.

Related Information**Concepts**[Concept: Reports as a Service \(RaaS\) on page 234](#)[Concept: Report-Specific Calculated Fields](#)**Reference**[Reference: Field Options on page 77](#)

Concept: Trending Reports

Trending reports are similar to matrix reports because you can aggregate, group, and interactively drill across dimensions of your data. Trending reports, however, require you to configure a time period as either the column or row grouping. The time period determines what data Workday includes in the report.

Workday enables you to report on trends in workforce data, such as compensation, headcount, and span of control so you can:

- Analyze important trends in your workforce directly in Workday without needing a third-party analytical tool.
- Compare data to discern patterns and trends over time.
- Create detail data overrides for your summarization fields.
- Drill and take action on your data.

You can use 1 or more trending reports in composite reporting as subreports unless the trending report includes text-based count distinct summarization fields.

Related Information**Tasks**[Steps: Create Trending Reports on page 191](#)[Steps: Set Up Tenants for Trended Worker Reporting on page 192](#)**Reference**[Reference: Reporting Limits](#)[The Next Level: Other Report Types and Analytic Indicators](#)

Transposed Reports

Steps: Create Transposed Reports

Prerequisites

Security: These domains in the System functional area:

- *Custom Report Creation*
- *Manage: All Custom Reports*

Context

You can create a transposed report where rows display as columns for side-by-side comparisons of data.

Steps

1. [Create Custom Reports on page 40](#).
2. [Set Up Rows for Transposed Reports on page 199](#).
3. [Set Up Sort Options for Custom Reports on page 45](#).
4. [Set Up Filter Options for Custom Reports on page 48](#).
5. [Set Up Prompt Options for Custom Reports on page 50](#).

6. [Set Up Output Options for Custom Reports](#) on page 51.
7. [Set Up Share Options for Custom Reports](#) on page 54.
8. [Set Up Advanced Options for Custom Reports](#) on page 55.

Next Steps

Test the report to ensure Workday displays the data correctly.

When you test a report, Workday displays the first 10 results. When the report includes a:

- Filter, Workday applies the filter to all instances of the primary business object and displays the first 10 results.
- Subfilter, Workday applies the subfilter to the 10 filtered instances and displays the results.

Related Information

Concepts

[Concept: Transposed Reports](#) on page 200

[Concept: Custom Reports](#) on page 12

[Concept: Business Objects, Data Sources, and Fields](#) on page 17

Set Up Rows for Transposed Reports

Prerequisites

- Create a custom transposed report.
- Security: These domains in the System functional area:
 - *Custom Report Creation*
 - *Manage: All Custom Reports*

Context

You can configure column headings and fields to display as rows on transposed reports.

Steps

1. Access your transposed report from the **Edit Custom Report** task.
2. (Optional) As you complete the **Column Heading** section on the **Rows** tab, consider:

Option	Description
Heading Line 1 - Field	Select the field to use as the first line of the column heading. Example: <i>Succession Plan Candidate</i> .
Field	Select the field to use as the column heading for Heading Line 2 . Example: <i>Current Position</i> .
Format	Select a format if you selected a currency or numeric Field .
Options	<p>Available options depend on your field type.</p> <p>You can also select the Create prompt to create these custom display options:</p> <ul style="list-style-type: none"> • <i>Create Analytic Indicator</i>, which enables you to use the indicator in other reports throughout your tenant.

Option	Description
	<ul style="list-style-type: none"> • <i>Create Analytic Indicator for Report</i>, which enables you to use the indicator only in the current report. • <i>Create Percentile for Report</i>, which enables you to create custom percentiles up to 2 decimal places to use in your report. Workday uses an approximate value for currency and numeric fields in the percentile (PCTL).
Image Field	Select an image to include. Example: <i>Candidate Photo</i> .

3. As you complete the **Rows** grid, consider:

Option	Description
Row Type	Select <i>Group</i> to indicate that the row represents a header between fields. You can expand and collapse the subsequent rows for each group.
Label Override	Enter a value to: <ul style="list-style-type: none"> • Give your Group a label. • Override the name of the Field selected for the Row Type.
Left Justify All Fields	Clear the check box to right-justify currency and numeric fields.

Related Information

Concepts

[Concept: Report-Specific Calculated Fields](#)

Reference

[Reference: Field Options](#) on page 77

Concept: Transposed Reports

Transposed reports enable you to set up report rows as columns so you can:

- Display an image. Example: When comparing workers, you might want to display a profile picture.
- Display numeric fields as left justified, if needed.
- Group the rows within a column under collapsible headings.
- Perform side-by-side data comparisons.

You can transpose up to 100 rows of data to a columnar format. If the report returns more than 100 rows, a **More** link at the top of the report enables you to view all data in a nontransposed format.

You can build transposed reports using either standard or indexed report data sources.

Related Information

Tasks

[Compare Workers](#)

Reference

[The Next Level: Other Report Types and Analytic Indicators](#)

Search Reports

Steps: Create Search Reports

Prerequisites

Security: These domains in the System functional area:

- *Custom Report Creation*
- *Manage: All Custom Reports*

Context

Search reports enable you to interactively filter report results using facet filters and a search bar. You can also select search results and perform mass actions on them. Example: Use the Workday-delivered **Find Workers** search report to search for workers and add them to a talent pool.

Use an indexed data source to create search reports.

The **Search Results** tab isn't available when you create search reports using these **Learning** data sources:

- **Courses**
- **Learning Content**

You can't:

- Export search reports as spreadsheets or PDFs, or use them to tag workers.
- Print reports that you run as a mass action from a search report using a business form layout.

Steps

1. [Create Custom Reports](#) on page 40.
2. On the **Edit Custom Report** task, set up **Search Results** options.

You can select these **Options** for certain types of fields:

Option	Description
Attachment Field	<p>Includes links to the attachments in the report results.</p> <p>This option is only available for fields with a related business object of Attachment.</p>
Icon Field	<p>Displays the field as an icon in the report results.</p> <p>This option is only available for fields with a related business object of Icon.</p>
Image Field	<p>Display the field as an image in the report results.</p> <p>This option is only available for fields with a related business object of Image.</p>
Detail Result Field	<p>Display the field in an expandable section of each report result. If the first field with <i>Detail Result Field</i> selected is a multi-instance field, it also displays when you collapse the results.</p>

Option	Description
	You can select this option for up to 6 fields per search report.

3. (Optional) [Set Up Sort Options for Custom Reports](#) on page 45.
4. (Optional) [Set Up Filter Options for Custom Reports](#) on page 48.
5. (Optional) [Set Up Prompt Options for Custom Reports](#) on page 50.
6. (Optional) [Set Up Output Options for Custom Reports](#) on page 51.
7. (Optional) [Set Up Share Options for Custom Reports](#) on page 54.
8. (Optional) [Set Up Advanced Options for Custom Reports](#) on page 55.

Next Steps

Test the report to ensure Workday displays the data correctly.

When you test a report, Workday displays the first 10 results. When the report includes a:

- Filter, Workday applies the filter to all instances of the primary business object and displays the first 10 results.
- Subfilter, Workday applies the subfilter to the 10 filtered instances and displays the results.

Related Information

Concepts

[Concept: Business Objects, Data Sources, and Fields](#) on page 17

[Concept: Custom Reports](#) on page 12

[Concept: Indexed Data Sources and Fields](#) on page 18

Example: Export Workers Using a Search Report

This example illustrates how you can export more than 50 workers using a mass action on a search report.

Context

You want to view all current workers on an Excel spreadsheet so you can export the data and identify each worker's full legal name, location, and position.

Prerequisites

Security: These domains in the System functional area:

- *Custom Report Creation*
- *Manage: All Custom Reports*

Steps

1. Access the **Create Custom Report** task and enter:

Option	Description
Report Name	<i>Export Template</i>
Report Type	<i>Advanced</i>
Data Source	<i>Workers for HCM Reporting</i>

2. Click **OK**.

3. In the **Columns** tab, enter:

Business Object	Field
Worker	<i>Full Legal Name</i>
Worker	<i>Location</i>
Worker	<i>Position</i>

4. In the **Filter** tab, add a filter with these values:

Field	Operator	Comparison Type	Comparison Value
Worker	<i>in the selection list</i>	<i>Prompt the user for the value</i>	<i>Default Prompt</i>

5. In the **Prompts** tab, click **Populate Undefined Prompt Defaults**.

6. On the **Prompt Defaults** section, specify:

Field	Do Not Prompt at Runtime
Worker	
Contingent Worker Type	Select the check box.
Employee Type	Select the check box.
Worker Types	Select the check box.

7. Click **OK**.

8. Access the **Find Workers** report.

9. Select **Standard Report > Copy** from the related actions menu.

10. Click **OK**.

11. In the **Advanced** tab, add a row in the **Mass Actions** section.

12. Select **Create Custom Mass Action** from the **Mass Action** prompt and enter:

Option	Description
Name	<i>Find Worker Export to Excel</i>
Executes Report	<i>Export Template</i>

13. Click **OK**.

14. On the **Mass Actions** section, specify:

Option	Description
Mass Action	<i>Find Worker Export to Excel</i>
Name	<i>Export Workers</i>
Output to Excel / Output to PDF	<i>Output to Excel</i>

15. Click **OK** and **Run**.

16. Select all workers and click **Export Workers**.

Result

Workday exports all workers to an Excel spreadsheet with the columns on the advanced report.

Related Information

Tasks

[Set Up Advanced Options for Custom Reports](#) on page 55

nBox Reports

Steps: Create nBox Reports

Prerequisites

Security: These domains in the System functional area:

- *Custom Report Creation*
- *Manage: All Custom Reports*

Context

You can create an nBox report with an indexed data source that counts your data and displays the results on a 2-dimensional matrix. Column and row groupings enable you to compare and visualize objects on the matrix.

Steps

1. [Create Custom Reports](#) on page 40.
Create a custom nBox report.
2. [Set Up Matrix Options for nBox Reports](#) on page 204.
3. (Optional) [Set Up Drill Down for Custom Reports](#) on page 44.
4. (Optional) [Set Up Filter Options for Custom Reports](#) on page 48.
5. (Optional) [Set Up Prompt Options for Custom Reports](#) on page 50.
6. (Optional) [Set Up Output Options for Custom Reports](#) on page 51.
7. (Optional) [Set Up Share Options for Custom Reports](#) on page 54.
8. (Optional) [Set Up Advanced Options for Custom Reports](#) on page 55.
9. Select **N Box Cell > Setup nBox Report** from the related actions menu of the report definition.
Security: *Custom Report Administration* domain in the System functional area.
10. Select the field values that define each column and row.

Next Steps

Test the report to ensure Workday displays the data correctly.

When you test a report, Workday displays the first 10 results. When the report includes a:

- Filter, Workday applies the filter to all instances of the primary business object and displays the first 10 results.
- Subfilter, Workday applies the subfilter to the 10 filtered instances and displays the results.

Related Information

Concepts

[Concept: Business Objects, Data Sources, and Fields](#) on page 17

[Concept: Custom Reports](#) on page 12

[Concept: Indexed Data Sources and Fields](#) on page 18

Set Up Matrix Options for nBox Reports

Prerequisites

Security: These domains in the System functional area:

- *Custom Report Management*
- *Manage: All Custom Reports*

Context

You can use the **Matrix** tab to select the fields you want to group into columns and rows on your nBox report.

Steps

1. Access the **Edit Custom Report** task.
2. As you complete the **Row Grouping** and **Column Grouping** grids on the **Matrix** tab, consider:

Option	Description
Group by Field	Select 1 of these field types: <ul style="list-style-type: none"> • Boolean • Date • Single instance
Label Override Sort Rows/Sort Columns Options Maximum Number of Rows/Maximum Number of Columns	Don't use. Instead, access the Set Up nBox Report task to configure the report columns and rows.

3. As you complete the **nBox Display** section, consider:

Option	Description
Image Field	Select an image to display. Example: You can select <i>Candidate Photo</i> to display an image of a candidate.
Display Option	Select whether Workday should display the image only or include text with the image.

Next Steps

- Set up the rest of the tabs on the report definition.
- Access the **Set Up nBox Report** task to configure the columns and rows on the report.

Worklets and Dashboards

Steps: Set Up Custom Dashboards

Prerequisites

Enable or create the security domains you want to use to secure your dashboard.

Context

You can create a custom dashboard so that users can access related worklets in 1 place.

As you create the dashboard, you can:

- Enable users to add or remove worklets.
- Map a prompt set to the dashboard.
- Set up domain security access.

You can set up a **Dashboard Run History** report to analyze dashboard usage statistics. This report can display up to 6 months of dashboard run history results.

Steps

1. [Create Custom Dashboards](#) on page 206.
2. Access the **Enable Worklet for Dashboards** task.
Select a worklet, then select the dashboard you created.
Security: *Set Up: Tenant Setup - Worklets* domain in the System functional area.
3. For custom reports you want to add to the dashboard as worklets, set up the **Worklet Options** section on the **Output** tab of the report definition.
You must share the report with the security groups you want to access the dashboard before you can add the worklet to the dashboard.
See [Set Up Output Options for Custom Reports](#) on page 51.
4. [Configure Dashboard Content](#) on page 207.
5. (Optional) [Save Custom Prompt Values for Worklets](#) on page 210.
6. (Optional) Access the **Maintain Dashboards** report.
Click **Edit** and access the **Announcements** tab to set up announcements for the dashboard. You can also add a photo, image, or video URL to the announcement.
Security: *Set Up: Tenant Setup - Worklets* domain in the System functional area.
7. (Optional) To enable the **Dashboard Run History** report, access the **Edit Tenant Setup - Reporting and Analytics** task and select the **Enable Access to Dashboard Run History** check box.
Workday begins capturing dashboard run history after you enable the feature and therefore might not initially display any data on the **Dashboard Run History** report. The report also tracks dashboard tab executions.

Related Information

Concepts

[Concept: Dashboards](#)

Reference

[The Next Level: Delivered and Custom Dashboards](#)

[The Next Level: Elevate Users' Experience with Dashboards](#)

[The Next Level: Report Administrator Dashboard](#)

[The Next Level: Reporting Housekeeping](#)

Create Custom Dashboards

Prerequisites

Security: *Set Up: Tenant Setup - Worklets* domain in the System functional area.

Context

You can create a custom dashboard that groups together related worklets.

You can also display custom dashboards as worklets on landing pages.

Steps

1. Access the **Create Custom Dashboard** task.

2. As you complete the task, consider:

Option	Description
Domains	<p>Select 1 or more domains that include the security groups who need access to the dashboard.</p> <p>If a Workday-delivered domain doesn't include all the security groups you need, you can create up to 200 custom domains.</p>
Dashboard Icon	<p>Select an image to represent your dashboard on the Home page.</p>
Dashboard Tabs	<p>Enables you to add up to 6 tabs to the dashboard.</p>
Max Worklets Allowed	<p>Select the maximum number of worklets that you can add to each dashboard tab.</p> <p>You can add up to 6 worklets to each dashboard tab, for a total of 36 worklets.</p>

Next Steps

- Enable reports as worklets so you can add them to the dashboard.
- Access the **Maintain Dashboards** report to add worklets to the dashboard.

Related Information

Concepts

[Concept: Dashboards](#)

Tasks

[Steps: Set Up Custom Dashboards](#) on page 205

[Enable Reports for Related Worklets](#) on page 209

Configure Dashboard Content

Prerequisites

- Enable 1 or more reports as worklets and:
 - Make them available on your custom dashboard.
 - Share them with the appropriate security groups.
- Security: These domains in the System functional area:
 - *Custom Report Creation*
 - *Custom Report Management*
 - *Set Up: Tenant Setup - Worklets*

Context

After you create a custom dashboard, you can:

- Add required or optional worklets to the dashboard.
- Select default values for each prompt set field on the dashboard tab and map them to report prompt fields.

Users can't add or remove required worklets, but they can add or remove optional worklets.

To improve dashboard performance, limit the number of worklets you add to a dashboard tab. The more worklets on a dashboard tab, the longer the load time. When you run the report, the dashboard displays the first 6 worklets in the order they display in the Worklets list.

Steps

1. Access the **Maintain Dashboards** report.
2. Click **Edit** for the dashboard you want to configure.
3. On the **Content** tab, click **Add** to create a dashboard tab.
Create at least 1 tab. You can create up to 6 tabs for each dashboard.
4. As you complete the tab, consider:

Option	Description
Configurable By User	Enable users to add or remove optional worklets from the dashboard tab. You can't select this check box if you select a Prompt Set for the dashboard tab.
Prompt Set	Select a prompt set that can pass prompt values to all worklets on the dashboard tab. Example: If you want to run each worklet on the dashboard tab for the same supervisory organization, you can use the Workday-delivered Workforce Composition prompt set. If you select a prompt set for the dashboard tab, you can't select Configurable By User . You also can't add optional worklets to the dashboard tab. You can't: <ul style="list-style-type: none"> • Add calculated fields to a prompt set. However, if Workday enables the calculated field for prompts, you can use the calculated field as the Default Value for the prompt. Then, you can add that prompt to a prompt set. • Change the prompt set for the dashboard tab after you create it.

5. (Optional) As you complete the **Prompts** section, consider:

Option	Description
Default Type	Select the source of the value for the Prompt Field .
Default Value	If you select <i>Specify default value</i> as the Default Type , select a default prompt value.

6. In the **Worklets** section, create a row for each worklet you want to add.

7. As you complete the section, consider:

Option	Description
Worklet	You can only select custom reports that you enable as worklets and that you share with 1 or more security groups.
Required for Groups	Workday recommends removing security groups that don't need access to this dashboard. Include at least 1 security group. Workday displays the list of security groups who can access the report definition for the worklet.

Option	Description
Required?	<p>Select to prevent users from removing the worklet from the dashboard.</p> <p>If you don't select this check box, the worklet is optional for dashboard users.</p>
Worklet Size	<p>To increase the size of a worklet and display it first in order, select 2X. The default worklet size is 1X.</p>
Worklet Title	<p>Enter an alternate title for the report that displays when you run the worklet on a dashboard.</p>
Map Prompts	<p>This button is only available if the dashboard tab has a prompt set and the worklet has prompts.</p> <p>When you click Map Prompts, Workday automatically maps worklet prompt fields to prompt set fields of the same field type. However, Workday recommends that you manually confirm that the prompt field mappings are what you intend.</p> <p>To fix incorrect mappings between worklet prompt fields and prompt set fields:</p> <ol style="list-style-type: none"> a. Click Map Prompts. b. On the Value Type prompt for the prompt field you want to map, select <i>Use Value from Dashboard Prompt</i>. c. On the Field prompt, select a field from the dashboard prompt set.
Invalid Landing Page Admin Configuration	<p>If there's a conflict between the security domain for the dashboard and for the worklet, this column displays an error message.</p>
Fix	<p>Click to resolve security group conflicts between the worklet and the dashboard.</p>

8. (Optional) Add a menu to your dashboard.

Related Information

Concepts

[Concept: Dashboards](#)

[Concept: Custom Worklets](#) on page 211

Tasks

[Add Dashboard Menus](#)

Reference

[The Next Level: Report Security Overview](#)

Enable Reports for Related Worklets

Prerequisites

Security: These domains in the System functional area:

- *Custom Report Creation*

- Manage: All Custom Reports

Context

You can embed related worklets to deliver contextual information to users as they perform actions in your business processes. Before you can embed worklets, you must enable the reports for related worklets.

Steps

1. Access the **Edit Custom Report** task.
2. Select **Enable As Worklet** on the **Output** tab.
3. Enter *Embedded on Tasks* for the **Available on** section on the **Output** tab.
4. Share the report with required authorized groups on the **Share** tab.
5. On the **Filter** tab, add a filter condition with these settings:

Option	Description
Field	Select a field that the business process definition can map to.
Operator	Select <i>in the selection list</i> as the operator.
Comparison Value	Select <i>Prompt the user for the value</i> as the comparison value.

Next Steps

Make the worklets available on your custom dashboard and share them with the appropriate security groups.

Embed the related worklets in your business processes.

Related Information

Concepts

[Concept: Related Worklets in Business Processes](#)

Tasks

[Embed Related Worklets in Business Processes](#)

[Steps: Display a Quicklinks Worklet on a Dashboard](#) on page 231

[Configure Dashboard Content](#) on page 207

Save Custom Prompt Values for Worklets

Context

On dashboards that don't use prompt sets, Workday enables you to save custom prompt values for worklets.

You can't save custom prompt values for worklets when you access them on mobile devices. However, Workday recognizes the prompt values you select in the desktop browser when you run the worklet on mobile devices. If you don't enter values for required prompts through your desktop browser, the worklet doesn't display on mobile devices. Use the **Mobile Reports** report to set up prompt values for a worklet that is available only on the **Mobile Reports** landing page.

Steps

1. Run a dashboard that doesn't use a prompt set.
2. Click the **Gear** icon on a worklet and select *Edit Settings*.

3. Enter the prompt values you want.

You can select **Restore Default Settings** from the **Gear** icon of the worklet to restore the default prompt values.

Result

Each time you run the dashboard, the worklet runs with the prompt values that you set. However, if you click **View More** on a worklet more than 1 minute after the dashboard loads, you must enter the prompt values again.

Concept: Custom Worklets

You can deploy these types of custom reports as worklets on dashboards or landing pages:

- Advanced
- Composite
- Matrix
- nBox
- Transposed
- Trending

Design Considerations

Workday recommends that you design worklets to load quickly so that they don't time out on a dashboard.

For reports with prompts, Workday recommends that you configure required prompts so that report results display as soon as the dashboard loads:

- Select **Do Not Prompt at Runtime** for required prompt fields.
- Set default prompt values for all required prompt fields.

To maximize available space for a worklet, Workday recommends that you:

- Select the **Display this Worklet When Maximized** option for nonessential fields in the report definition.
- Sort and filter the report to display the most essential data.
- Use charts to visualize and display more data in a worklet.

Sharing Options

When you share a report that you enable as a worklet, users can add the report as a worklet to available dashboards. Example: You can build a headcount report, enable it as a worklet on an HR dashboard, and share it with the HR Partner group. HR Partners can then view the report as a worklet on the HR dashboard.

When you share a report with specific users:

- You can't add it as a worklet to a dashboard.
- Your Setup Administrator can't add it as a required or recommended worklet to a landing page.

Optional and Required Worklets

You can add a custom report to a dashboard as:

- Optional worklets, which users can remove from the dashboard. They can also add optional worklets back to the dashboard.
- Required worklets, which users can't remove from the dashboard.

If there's a conflict between required and optional options for a worklet, the required option always takes precedence.

Worklet Management

You can't hide or delete a worklet unless you remove it from all dashboards and administrator and user configurations.

You can use the **Remove Worklet from Dashboards** task to remove a worklet from dashboards and configurations. You can select specific dashboards to remove the worklet from or remove the worklet from all dashboards.

The **Remove Worklet from Dashboards** task also includes a confirmation page, which enables you to drill down on worklet usage details for user and administrator configurations.

iPad Considerations

When displaying custom reports and worklets on an iPad, Workday ignores options for:

- 3D charts.
- Hiding table borders and column headings.
- Maximizing reports.
- Refreshing data. The data refreshes every time you access the report or worklet.

Related Information

Concepts

[Concept: Custom Reports](#) on page 12

[Concept: Mobile Devices and Features](#)

Tasks

[Set Up Output Options for Custom Reports](#) on page 51

[Set Up Share Options for Custom Reports](#) on page 54

Reference

[The Next Level: Report Security Overview](#)

Concept: Worklet Performance

Optimizing Worklet Performance

For optimal report performance, Workday recommends that you:

- Share worklets with the fewest user groups necessary.
- Use data sources secured to domains with the fewest possible security groups.
- Use the smallest possible data source for the intended users.

Example: For worklets for managers, use a data source such as **My Direct and Indirect Workers** instead of **All Workers**.

- Use an indexed data source.
- Use user-based security groups instead of job-based security groups.

This approach reduces the complexity of the security evaluation required and improves performance of the worklet.

Matrix Worklet Performance

Displaying matrix reports as worklets on the Home page can increase the page load time. The more rows that the report evaluates and summarizes, the longer it takes for the worklet to load.

Instead of using matrix reports as worklets on the Home page, consider:

- Building a report of key custom reports and deploying it as a worklet to your users. The reports on the worklet only execute when the user selects *Run* from the related actions menu.

- Displaying the worklet on the My Team dashboard. The worklet only runs when the user selects it from the dashboard.

Worklet Caching

You can store temporary copies of data for certain worklets instead of running the worklet each time the page refreshes. Workday stores and displays cached worklet data for the remainder of your browser session and each time you refresh the page. Workday recalculates the worklet data when you:

- Select *Refresh* from the Gear icon on the worklet.
- Sign in to Workday again.

Related Information

Concepts

[Concept: Indexed Data Sources and Fields](#) on page 18

Custom Metrics and Scorecards

Steps: Create Custom Metrics and Scorecards

Prerequisites

- Create fiscal schedules for use with any custom scorecards you create.
- Select **Enable Scorecarding** check box in the **Scorecarding** section on the **Edit Tenant Setup - Reporting and Analytics** task.
- Security: *Metric Management* domain in the System functional area.

Context

You can build custom metrics and analytic scorecards to make key information available from a dashboard or home page.

Steps

1. [Set Up Analytic Scorecard Profiles and Metric Sets](#) on page 214.
You can create a metric set to group custom metrics for a scorecard.
2. [Create Custom Metrics](#) on page 215.
3. Access the **Create Custom Dashboard** task and create a custom dashboard for displaying your scorecard.
Include *Metrics Published* as the **Domain** for your dashboard.
4. [Set Up Custom Reports for Scorecards](#) on page 217.
5. [Process Metrics](#) on page 218.
You can process metrics for the current period.
6. (Optional) Initialize metric values for historic periods. On the **Initialize Metric Values** task, you can:
 - Add a new metric and process for historic periods.
 - Reprocess an existing metric for historic periods.
7. (Optional) Schedule calculation of metric values for multiple historic periods on the **Calculate Metric Values** task.

Related Information

Concepts

[Concept: Workday Scorecards](#) on page 219

Tasks

[Steps: Set Up Custom Dashboards](#) on page 205

[Set Up Organization Chart Metrics](#)

Reference

[Reference: Edit Tenant Setup - Reporting and Analytics](#)

[Reference: Metric Calculations for Financials](#)

[Reference: Metric Calculations for Dependent Metrics](#) on page 225

Set Up Analytic Scorecard Profiles and Metric Sets**Prerequisites**

Security: *Metric Management* domain in the System functional area.

Context

You can create an analytic scorecard profile and metric set to group associated metrics for inclusion in a scorecard.

You can create a metric set with up to 20,000 organizations. Workday calculates the number of organizations based on the options you select for:

- Organization type.
- Content nodes, if using a hierarchic organization type.
- Node levels.

Steps

1. Access the **Maintain Analytic Scorecard Profiles and Metric Sets** report.
2. Click **Create Analytic Scorecard Profile**.
3. As you complete the task, consider:

Option	Description
Name	Enter a name for the metric set.
Organization Type	Select the type of organization for the metric set.
Top Level Node	Select the top-level organization associated with the metric set.
Fiscal Schedule	Select the time interval for the metric set. Example: <i>Standard Corporate Schedule</i> , which uses a monthly interval.

4. From your analytic scorecard profile, click **Metric Set Details**.
5. Click **Edit**.

As you complete the task, consider:

Option	Description
Inactive	Inactivate the metric set and disable publishing.
Skip Review	Disable the review process for the metric set.
Include Content	For hierarchic organization types, include any hierarchic content nodes in the levels you select in Top Level Node and Levels from Top . Example: For a metric set based on an Organization Type of <i>Cost Center Hierarchy</i> ,

Option	Description
	selecting this option includes the content nodes in the hierarchy.
Metric Calculation Scope	Include subordinate nodes in the metric set.
Levels From Top	<p>Define which organizations to include in the metric set.</p> <p>Example: If you enter 0, the metric set includes only the organizations you select as Additional Nodes. If you enter 1, the metric set includes only the organization you select as the Top Level Node. If you enter 2, the metric set includes the top-level organization as well as its immediate subordinates.</p>
Additional Nodes	Select any nodes in addition to the Top Level Node to include in the metric set, and the specified levels below that node.
Published Period	Select the period for which you want to retrieve data. For your initial metric set setup, select the period before the first period you want to process.
Run as Scheduled User	For metric calculations based on a matrix report, run the calculation as the user who runs or schedules the Calculate Metric Values task.
Run as Integration User	For metric calculations based on a matrix report, run the calculation as a named integration system user you select.

Next Steps

Create custom metrics for your metric set.

Related Information

Reference

[Reference: Metric Calculations for Financials](#)

Create Custom Metrics

Prerequisites

- Create a metric set.
- For metrics sourced from matrix reports, share the reports with authorized groups or users.
- Security: *Metric Management* domain in the System functional area.

Context

You can create custom metrics to include in scorecards that provide business performance information for a specific organization or user group. For each custom metric you create, you can add:

- Metric sources, including Workday-delivered calculations or custom reports. You can access the **View Metric Calculation** report to see descriptions of Workday-delivered calculations.
- Recommended actions for metric statuses.
- Report links for drill to detail information.
- Target benchmarks.

- Thresholds.

Steps

1. From your analytic scorecard profile, click **Metrics**.
2. Click **Create Custom Metric**.
3. Select the **Workday Metric Calculation Name** to use to calculate the metric. Workday displays metric calculations options based on the organization type specified for the metric set.

You can't use a matrix report that has a *Lookup Prior Value* summary calculation in a metric calculation.

4. Add help text for the metric in **About This Metric**.
5. (Optional) In the **Report Links** section, you can set up hypertext links to 5 reports.

As you complete the **Report Links** grid, consider:

Option	Description
Tag	Specify a label to display instead of <i>Report Link 1</i> and so on, for each Report Link you add in the About This Metric field.
Drill To	Specify the report for each Report Link you add in the About This Metric field.
Map Prompts	Click to add prompt values for a Report Link .

6. On the **Metric Source** tab, specify how Workday calculates the metric values.

As you complete this tab, consider:

Option	Description
Track Target	Click to track the target value for the metric.
Target Source	If you select <i>Online Page</i> as the source, you must also: <ul style="list-style-type: none"> • Set values for the metric set on the Generate Target and Benchmark Lines task. • Set target values for each metric on the Metric Target Values report.
Track Benchmark	Click to track the benchmark value for the metric.
Benchmark Source	If you select <i>Online Page</i> as the source, you must also: <ul style="list-style-type: none"> • Set values for the metric set on the Generate Target and Benchmark Lines task. • Set benchmark values for each metric on the Metric Target Values report. Select <i>WD Matrix Report</i> to use a custom report data as the source for metric calculations.

- On the **Calculation Configuration** tab, set up the metric calculation configuration for Workday-delivered calculations.

When setting up **Actual Amount**, **Target Amount**, or **Benchmark Amount** for metrics sourced from matrix reports, consider:

Option	Description
Matrix Report	Select a custom matrix report that groups by the organization type specified for the metric set.
Value Type	Specify that you want to add a default value, if available, or use the value from the metric calculation.
Value	Specify default values for report prompts.
Aggregation Field	Select the Summarization field from the standard or custom report used to aggregate values.

Next Steps

Set up reports and dashboards for your metrics.

Related Information

Reference

[Reference: Metric Calculations for Financials](#)

Set Up Custom Reports for Scorecards

Prerequisites

Security: These domains in the System functional area:

- Custom Report Creation*
- Metric Management*

Context

When you set up a scorecard, you need to use these reports types as the source for the metrics data:

- A composite report as the main report for your scorecard.
- One or more advanced subreports. Subreports calculate values on the metric rather than in the composite report.

You can manually create custom reports for your scorecard, or you can create a composite report and underlying subreports from your analytic scorecard profile with these predefined settings:

- Drilling.
- Layout.
- Prompt defaults.

Steps

- From your analytic scorecard profile, click **Reports and Dashboards**.

2. Click **Scorecard Report**.

As you complete the task, consider:

Option	Description
Dashboard	Select the dashboard for your report, or click Create > Create Custom Dashboard .
Metric	Select a metric for your report, or click Create > Create Custom Metric .
Formatting Style	Select a formatting option for your metric.
Enable Drilling to	Select to display additional information and report links.
Target	Select the target for your metric value: <ul style="list-style-type: none"> • <i>Actual Value</i> • <i>Target Value</i>
Share Option	Subreports of the scorecard report inherit the share option that you select. This share option can impact subreports that are referenced in other composite reports outside the scorecard report.

Next Steps

Initialize and publish metric values.

Related Information

Tasks

[Steps: Set Up Custom Dashboards](#) on page 205

Reference

[Reference: Custom Scorecard Report Definition](#) on page 221

Process Metrics

Prerequisites

Security: *Metrics Management* domain in the System functional area.

Context

You can run these metric processes at the end of the scorecard period to update report data for your analytic scorecard:

- Initialize
- Reinitialize
- Calculate
- Review
- Publish

Steps

1. From your analytic scorecard profile, click **Process**.
2. Click:
 - **Initialize** to process metrics for the current period.
 - **Reinitialize** to reprocess metrics for the current period.

3. Click:
 - **Calculate** to calculate metrics for the metric set.
 - **Recalculate** to recalculate metrics you select for the current period.
4. (Optional) Access the **Start Metric Review** task.
Reviewers can comment, send back, or approve the metrics.
5. Click **Publish**.
6. (Optional) Click **Delete** to delete metric values for a specific period from the metric set.
You can also select **Delete Metric Values > Run** from the related actions menu of an analytic scorecard profile to select more delete options.

Result

Workday displays up to the last 6 published periods for the metric set.

Next Steps

Click **Results** next to a processed period to access the **Metric Processing Status by Metric and Period** report, which displays metric processing history.

Click **Errors** to access the **Error in Details** report, which displays metric job errors.

Review Metrics

Prerequisites

- The scorecard administrator runs the **Start Metric Review** task.
- Security: *Metrics in Review* domain in the System functional area.

Context

When the scorecard administrator runs the **Start Metric Review** task, metrics reviewers receive a notification to review the metric set.

Steps

1. Access the **Scorecard Reviewer** report.
2. Select the **Metric Set, Organization, and Period** you want to review.
3. In the **Mark Reviewed/Comment** column, select **Analytic Metric Values > Add Comment for Metric** from the related actions menu for each metric.

Next Steps

The scorecard administrator can make necessary adjustments and publish the metric set.

Concept: Workday Scorecards

A Workday scorecard is a snapshot of important metrics for a specific organization and time period. Supported organization types include:

- Academic Unit and Academic Unit Hierarchy.
- Business Unit and Business Unit Hierarchy.
- Company and Company Hierarchy.
- Cost Center and Cost Center Hierarchy.
- Custom Organizations.
- Location and Location Hierarchy.

- Regional Hierarchy.
- Supervisory.

Scorecard data can include:

- Metric descriptions.
- Metric trending from the prior period to the current period.
- Review comments about individual metrics.
- Status and recommendations to address a metric.
- Target and actual values.
- The period for which data computes and aggregates, such as a particular month or quarter.

You can base each metric on a scorecard on a Workday or external data source using:

- A matrix report.
- A Workday-delivered calculation.

Scorecard Results

Calculated metric values might differ from custom matrix report results that you use as a benchmark source for your metrics. Reports use the latest data from the data source when you run the report, while analytic metric values are a snapshot from the time that you calculate the metrics. Analytic metric values don't include any data that has:

- An effective date after the date of the snapshot.
- An effective date before the date of the snapshot, but hasn't been processed at the time of the snapshot.

Scorecards also remove inactive organizations by default, while custom reports don't. However, you can configure your report to filter out inactive organizations.

Scorecard Roles

Scorecard roles are:

- Scorecard administrators, who have access to the *Metrics Management* domain and, optionally, the *Manage: Metric Values* domain in the System functional area.
- Scorecard reviewers, who have access to the *Metrics in Review* domain in the System functional area.
- Scorecard users, who have access to the *Metrics Published* domain in the System functional area.

Workday-Delivered Scorecards

Workday provides preconfigured scorecards, such as:

- Financial Executive Scorecard.

Workday-delivered scorecards include:

- Composite reports and related subreports.
- Dashboards.
- Drill-to reports, when applicable.
- Metric sets and metrics.
- Prompt sets.

Custom Scorecards

In addition to using Workday-delivered scorecards, you can also create custom scorecards. If creating custom scorecards, you must provide additional training and security configuration for roles supporting scorecards.

Workday recommends contacting Workday Professional Services to implement custom scorecards.

Metric Calculations Report

The **Metric Calculations** report lists Workday-delivered metric calculations and includes:

- A detailed description.
- The metrics based on the calculations.
- The organization types supported.

Migrating Scorecards

Using Object Transporter, you can migrate scorecard components in this order:

1. Metric sets. Object Transporter automatically moves any metrics, as well as the metric configurations and drill-to reports associated with the metrics in the metric set.
2. Composite reports. Object Transporter also migrates the associated:
 - Analytic indicators.
 - Prompt sets.
 - Subreports.
3. Dashboards.

Related Information

Tasks

[Create Custom Metrics for HCM](#)

Reference

[Reference: Metric Calculations for Financials](#)

Reference: Custom Scorecard Report Definition

You can create a **Scorecard Report** from an analytic scorecard profile, which includes a complete composite report and underlying advanced subreport. You can also create your own custom composite report and subreport on the **Create Custom Report** task.

The subreport definition for a scorecard includes these settings:

Option	Description
Data Source	Scorecard subreports use the <i>All Analytic Metric Values</i> data source.
Data Source Filter	Specifies the filter for your scorecard audience: <ul style="list-style-type: none"> • <i>All Metrics</i> for administrators. • <i>Metrics for Review</i> for reviewers. • <i>Published Metrics</i> for users.
Field (Columns tab)	Select <i>Metric Value</i> in the Field prompt in the grid. Also add a row in the grid and select <i>Metric</i> in the Field prompt.
Field (Filter tab)	Select <i>Organization</i> in the Field prompt in the grid. Also add a row in the grid and select <i>Period</i> in the Field prompt.

The composite report definition for a scorecard includes these settings:

Tab	Field	Description
General	Prompt Set	<p>Specifies a Workday-delivered prompt set or a custom prompt set.</p> <p>To create a custom prompt set, click Create > Create Prompt Set, and include fields for:</p> <ul style="list-style-type: none"> • <i>Metric Organization</i> • <i>Metric Set</i> • <i>Metric Period</i>
General	Business Object	Composite reports for metric scorecards must include the <i>Analytic Metric Values</i> as the Business Object in the Business Object Enabled for Filtering and Grouping grid.
Prompts	Effective Date, Entry Date	Specifies date and time settings for Runtime Date Prompts .
Prompts	Field	<p>Specifies these required prompt defaults:</p> <ul style="list-style-type: none"> • <i>Metric Organization</i> • <i>Metric Set</i> • <i>Metric Period</i>
Output	Output Type	The <i>KPI Line</i> and <i>KPI Card</i> layout types return the metric value, status, trend, target, and comment from the lookup field value columns.
Output	Enable as Worklet	Enables the composite report as a worklet for your dashboard.

The composite report definition for a scorecard also includes these column and row types:

Column Type/Row Type	Description
Control Field Column	Maps to the <i>Analytic Metric Values Business Object</i> , and returns values based on the metrics defined in the row and lookup values defined in the columns.
Lookup Field Value Columns	Returns fields from the <i>Analytic Metric Values Business Object</i> , and returns values for each metric defined as a row.
Dynamic Data Row	Returns values for a single metric when you filter the results of the subreport. Workday maps prompts from the subreport to pull in metric values for the <i>Organization</i> and <i>Period</i> specified in the prompt set.

Reference: Scorecard Results

On the **Maintain Analytic Scorecard Profiles and Metric Sets** report, you can set up metric sets for an **Organization Type** that is:

- Hierarchical with hierachic content.
Examples: *Location Hierarchy* and *Location*, *Academic Unit Hierarchy* and *Academic Unit*.
- Hierarchical with nonhierachic content.
Examples: *Cost Center Hierarchy* and *Cost Center*.

Depending on the options you select for the metric set, Workday displays varying results in the related scorecards.

Scorecard Results for a Hierarchy with Hierachic Content Organization Type

Organization Type Example	Content Included	Scorecard Results
<i>Location Hierarchy</i>	No	<ul style="list-style-type: none"> • Location hierarchy nodes in the Top Level Node you select. • Additional Nodes you select.
<i>Location Hierarchy</i>	Yes	<ul style="list-style-type: none"> • Location hierarchy nodes in the Top Level Node you select. • Locations explicitly included in any of the location hierarchy nodes in the Top Level Node you select. Workday excludes content for subordinate locations that aren't explicitly in the hierarchy. • Nodes and locations explicitly included in the Additional Nodes you select.
<i>Location</i>	Not applicable	<ul style="list-style-type: none"> • Locations explicitly included in any of the location hierarchy nodes within the level you select in Top Level Node. • Location you select in Additional Nodes.
<i>Academic Unit Hierarchy</i>	No	<ul style="list-style-type: none"> • Academic unit hierarchy nodes in the Top Level Node you select. • Additional Nodes you select.
<i>Academic Unit Hierarchy</i>	Yes	<ul style="list-style-type: none"> • Academic hierarchy nodes in the Top Level Node you select. • Academic units explicitly included in any of the academic unit hierarchy nodes in the Top Level Node you

Organization Type Example	Content Included	Scorecard Results
		<p>select. Workday excludes content for subordinate academic units that aren't explicitly in the hierarchy.</p> <ul style="list-style-type: none"> Nodes and academic units explicitly included in the Additional Nodes you select.
<i>Academic Unit</i>	Not applicable	<ul style="list-style-type: none"> Academic units explicitly included in any of the academic unit hierarchy nodes within the level you select in Top Level Node. Academic units you select in Additional Nodes. <p>Since <i>Academic Unit</i> is role-enabled, Workday also traverses the <i>Academic Unit</i> content hierarchy.</p>

Scorecard Results for a Hierarchy with Non-Hierachic Content Organization Type

Organization Type Example	Content Included	Scorecard Results
<i>Cost Center Hierarchy</i>	No	<ul style="list-style-type: none"> Cost center hierarchy nodes in the Top Level Node you select. Additional Nodes you select.
<i>Cost Center Hierarchy</i>	Yes	<ul style="list-style-type: none"> Cost center hierarchy nodes in the Top Level Node you select. Cost centers explicitly included in any of the cost center hierarchy nodes in the Top Level Node you select. Nodes and cost centers explicitly included in the Additional Nodes you select.
<i>Cost Center</i>	Not applicable	<ul style="list-style-type: none"> Cost centers in any part of the cost center hierarchy level you select in Top Level Node. Cost centers you select in the Additional Nodes prompt.

Scorecard Result Discrepancies

Calculated metric values might differ from custom matrix report results that you use as a benchmark source for your metrics. Reports use the latest data from the data source when you run the report, while analytic metric values are a snapshot from the time that you calculate the metrics. Analytic metric values don't include any data that has:

- An effective date after the date of the snapshot.
- An effective date before the date of the snapshot, but hasn't been processed at the time of the snapshot.

Scorecards also remove inactive organizations by default, while custom reports don't. However, you can configure your report to filter out inactive organizations.

Reference: Metric Calculations for Dependent Metrics

Workday provides a number of metric calculations for use with custom scorecards. Some Workday product areas (Example: HCM and Projects) provide Workday-delivered calculations for specific use cases.

Workday also enables you to combine the *WD Simple Arithmetic* calculation with other metrics to form dependent metrics.

Workday-Delivered Calculation	Description	Organizations	Configuration Options
WD Simple Arithmetic	<p>Enables you to create a metric based on other metrics. You can map up to 6 existing metrics to variables named A, B, C, D, E, and F to create new metrics. You don't need to use all variables. Example: You can use A and B, or A and C, or A and E, or all 6 variables. Workday calculates the value of each of the metrics A, B, C, D, E, and F first, and then calculates the value of the dependent metric.</p> <p>Use Multiplication effectively changes the division operator (/) to a multiplication operator (*).</p> <p>Reverse Sign reverses the positive/negative sign of the calculation result.</p> <p>Calculation: $(A - B) / (C - D) / (E - F)$ or $(A - B) * (C - D) * (E - F)$.</p> <p>Custom Metric</p> <p>Examples: To create a <i>Revenue Per Headcount</i> metric, assign a <i>Revenue</i> metric to A and a <i>Headcount</i> metric to C.</p> <p>To create a <i>Days Sales Outstanding</i> metric,</p>	<p>Supervisory Organization Cost Center Hierarchy Custom Organization Custom Organization Hierarchy Project Project Hierarchy</p>	<p>A, B, C, D, E, F (variables mapped to existing metrics)</p> <p>Use Multiplication</p> <p>Reverse Sign</p>

Workday-Delivered Calculation	Description	Organizations	Configuration Options
	assign a <i>Revenue</i> metric to A, <i>Accounts Receivables</i> metric to C, and <i>Number of Days</i> metric to E.		

Related Information**Concepts**

[Concept: Workday Scorecards](#) on page 219

Business View Data Sources

Concept: Business View Data Sources

A business view data source is a type of Workday-delivered data source that blends together data from multiple Workday-delivered data sources and curates the total list of fields.

A business view data source blends data from multiple data sources, known as component data sources, each of which have their own primary business object. However, the business view data source itself has its own primary business object with the same name as the data source.

You can use Business View data sources like standard and indexed data sources, with some exceptions listed below.

Depending on the individual business view data source, Workday might:

- Join data from multiple component data sources.
- Union data from multiple component data sources.
- Filter instances (records) of data.
- Curate the final list of fields from the component data sources, reducing complexity and potential confusion.

Workday delivers business view data sources and standard reports that use business view data sources, such as the:

- All Workday-Delivered and Custom Reports business view data source.
- All Workday-Delivered and Custom Reports by Report Source standard matrix report.
- All Workday-Delivered and Custom Reports standard advanced report.

Supported Functionality on Business View Data Sources

You can create these types of custom reports using a business view data source:

- Advanced. Most features are supported. These features aren't supported:
 - Facets
 - Enable as Web Service
 - Enable for Prism
 - Enable for Worksheets
 - Analytical Indicators

- Matrix. Most features are supported. These features aren't supported:
 - Facets
 - Lookup Prior Value summary calculation
 - Enable for Worksheets
 - Analytical Indicators
 - Similar to Prism data sources, configuring Drill Down and Drill By is required to use these features.
- Simple. All features are supported.

You can't use a business view data source for:

- Scorecard reports
- Drill-to reports
- WQL queries
- Dashboards
- Discovery boards

Note: For detailed information on Reporting Limits, see [Reference: Reporting Limits](#) on page 113.

Concept: Business View Data Source Security

Workday applies security to the data in a business view data source based on the security defined on the underlying data. Users only have access to data in a business view data source if they also have access to the underlying data as secured by existing domains.

For each component data source that contributes data to the business view data source, Workday selects a security domain to enforce the data (instances, fields, and field values) that comes from the component data source.

One of the component data sources is designated as the primary component data source. Each business view data source has multiple domains that secure it, and they all come from each component data source. The domain for the primary component data source is a required domain for creating reports using the business view data source.

To create reports using a business view data source, you must have access to:

- The domain of the primary data source.
- The domain that controls the field used in any filter condition defined in the business view.

When you run a report using a business view data source:

- You must have access to the domain of the primary data source.
- If the report defines a filter, then you must have access to the domain that controls the field used in the filter condition.
- If a matrix report includes a Group By field, then you must have access to the domain that controls the grouping field.
- If a matrix report includes a Summarization field, then you must have access to the domain that controls the Summarization field.
- If a matrix report includes a field in View By or Drill Down, then you must have access to the domain that controls the View By or Drill Down field.
- To see specific data records, fields, and field values in the report, you must have access to the domains that secure those data records, fields, and values.

Custom Data Sources

Set Up Extended Indexed Data Sources

Prerequisites

- Create the *Custom Data Source Extension Approval Event* business process and security policy in the System functional area.
- Security: *Manage: Custom Data Sources* domain in the System functional area.

Context

You can set up an extended indexed data source that includes fields suitable for indexing.

Steps

1. Access the **Maintain Custom Data Source** report and click **Create Data Source Extension**.
2. Select the **Data Source** that you want to add fields to. Example: You can add fields to the **Job Applications** data source.
3. (Optional) Review the **Data Source Filters** and **Delivered Indexed Fields** tabs.
4. As you complete the **Additional Fields** tab, consider:

Option	Description
Source Field	<p>You can add fields suitable for indexing for these field types:</p> <ul style="list-style-type: none"> • Calculated fields from your tenant. • Custom fields from your tenant. • Delivered fields from the primary business object for the data source. <p>To check if a field is suitable for indexing, use the Field Suitability for Business Object task or from the related actions menu for a field, select Indexing Information.</p>
Usages	Displays usage for the Source Field in your tenant.

5. On the **Maintain Custom Data Source** report, click **Submit for Approval** to submit the draft data source for security approval.

Result

Workday sends an approval request to the data source approver in **My Tasks**. The approver can review security and approve or deny the data source.

Next Steps

On the **Maintain Custom Data Source** report, you can click **Publish** to schedule publishing of an approved, unpublished extended custom data source. You can also:

- Click **Create New Version** to update fields for a published extended custom data source.
- Click **View** next to a data source and navigate to the **Status** tab to view publishing history and indexing processing time.

Related Information

Reference

[The Next Level: Extended Indexed Data Sources](#)

Concept: Extended Indexed Data Sources

Workday enables you to extend some Workday-delivered indexed data sources by adding a limited number of these field types:

- Calculated fields from your tenant.
- Custom fields from your tenant.
- Nonindexed delivered fields from the primary business object.

Workday indexes the fields you add, enabling you to create high-performing reports for executive dashboards and scorecards.

An extended indexed data source provides functionality similar to a Workday-delivered data source, including:

- Drilling on summary data in reports based on the indexed data source.
- Support for all report types. Advanced and matrix reports with multiple filters yield the greatest performance benefit from indexed data sources.
- Support for scorecards, worklets, and worksheets.

When you create a custom report based on an extended indexed data source and you include facets, you can search on these field types in report results:

- Indexed delivered fields.
- Text fields that you add to the data source.

Field Suitability for Indexing

Security is one reason some fields aren't suitable for indexing. Example: A multi-instance field contains 3 values. If some users should only have access to 1 or 2 of the values, Workday doesn't index the multi-instance field.

Workday displays an error message when you try to add a field to your data source that isn't suitable for indexing. Workday also displays an alternate field, if one is available. You can also:

- Access the **Field Suitability for Business Objects** report, which enables you to display indexing suitability for fields on a business object.
- Select the related actions menu for any field to check if the field is **Suitable for Indexing**.

Data Source Security

Workday recommends that you set up a user-based security group for the data administrator and assign the group to the *Manage: Custom Data Sources* security domain.

Data Source Approval and Publishing Process

When the data administrator submits a draft version of an extended indexed data source for approval, Workday sends a pending review action to the security administrator's or approver's **My Tasks**. The security administrator or approver reviews the security domains for the calculated fields in the extended indexed data source. After approval, the data administrator can publish the data source.

Workday schedules an hourly background publishing process job that indexes the fields that you add to the data source. For any calculated fields that you add, Workday creates a duplicate field with the same name. You can use the duplicate calculated field in custom reports to ensure that your report still runs in **Optimized for Performance** mode.

After indexing completes for all fields, Workday marks the data source as *Published*. You can click **View** for a data source on the **Maintain Custom Data Source** to view the **Status** tab, which displays the details on the background indexing job.

You can create a *Custom Data Source Extension Approval Event* business process for data source approval and publishing steps.

Versioning Process

Workday supports versioning for an extended indexed data source. Only 1 version of an extended indexed data source can be in *Published* status; Workday marks other versions as *Historical*.

The data administrator can edit the extended indexed data source to add new fields. Every new draft version requires security review and approval.

Related Information

Reference

[The Next Level: Factors Impacting Report Performance](#)

Maintain Custom Data Source for the Worker Business Object

Prerequisites

- Create a *Custom Data Source Approval Event* business process and security policy in the System functional area.
- Security: *Manage: Custom Data Sources* domain in the System functional area.

Context

Note: Workday recommends creating an extended indexed data source instead of a custom worker data source. See [Set Up Extended Indexed Data Sources](#) on page 228. You can only access the **Maintain Custom Worker** report if you've previously created a custom worker data source in your tenant.

Steps

1. Access the **Maintain Custom Worker** report.
2. Click **Edit** next to a draft data source.
3. On the **General** tab, select an **Effective Date Field for Processing** that Workday uses when indexing fields.
Example: Use *Termination Date* as the effective date to index data records for terminated workers.
4. On the **Filter** tab, set up the data source filters.

As you complete the tab, consider:

Option	Description
Condition	Select a Boolean-type field associated with the Primary Business Object for the custom data source.
Domain	Select 1 or more valid domains for the data source.
Default	Select to display the filter as the default for the custom data source in a report definition. A custom data source must always have only 1 data source filter.

5. On the **Fields** tab, add a row in the **Fields** grid for each field you want to add to the data source.

As you complete the tab, consider:

Option	Description
Source Field	Select fields from the Source Business Object , including calculated fields.
Category	Select a new display category in which to place the field you add.
Domain	Select or override the domain to secure the Source Field .
Inactive	Select this check box to ensure that the Source Field doesn't display in field prompts.

6. On the **Security** tab, select fields from the **Securing Entity Fields** prompt to set up contextual security for the filters and fields.

Example: Add *Supervisory Organization* as the securing entity to ensure that a manager can access data only for employees that they manage.

Result

Workday sends an approval request to the data source approver in **My Tasks**. The approver can review security and approve or deny the custom data source.

Next Steps

On the **Maintain Custom Worker** report, click **Submit for Approval** to submit the draft data source for security approval.

Once approved, click **Publish** on the **Maintain Custom Worker** report. You can also:

- Click **Create New Version** to add more fields to a published data source.
- Click **View** next to a data source and navigate to the **Data** tab to view publishing history.

Quicklinks

Steps: Display a Quicklinks Worklet on a Dashboard

Context

Quicklinks enable you to link to external websites from Workday. You can use a Quicklinks worklet to display collections of links, such as an internal help portal or benefits information.

You can display Quicklinks on:

- Announcements.
- Custom reports and worklets.
- Dashboards.
- Dashboard menus.

Steps

1. [Edit Domain Security Policies](#).

Select the **System** functional area. Ensure that the Quicklinks domain is enabled and that the correct security groups have access to it.

2. [Maintain Quicklinks](#) on page 232.
Create or edit the Quicklinks you want to use.
3. (Optional) Access the **Create Quicklink Group** task.
Organize related Quicklinks into a Quicklink group.
Security: *Set Up: System* domain in the System functional area.
4. (Optional) [Create Custom Dashboards](#) on page 206.
Create a custom dashboard if there isn't an existing dashboard you want to display the Quicklinks on.
5. [Create a Quicklinks Worklet](#) on page 233.
6. [Configure Dashboard Content](#) on page 207.
Add the Quicklinks worklet to a dashboard.

Maintain Quicklinks

Prerequisites

Security: *Set Up: System* domain in the System functional area.

Context

Quicklinks enable you to link to external websites from Workday. You can display Quicklinks in:

- Announcements.
- Custom reports and worklets.
- Dashboards.
- Dashboard menus.

Steps

1. Access the **Maintain Quicklinks** task.
2. Add a new row and enter a **Name** and **URL**.
3. (Optional) Set a **Condition Rule** so that the Quicklink only displays under certain conditions within a dashboard.
Condition rules applied to Quicklinks don't work in custom reports.
4. (Optional) Click **View Details** to navigate to a quicklink location and remove the link.

The **View Quicklink Usage Details** grid provides information on where the quicklink is used in your tenant, including on the **Edit Tenant Setup – System** task. If you have security permissions to access the location, you can click the link in the grid to navigate to the quicklink location.

We don't display the **View Details** button on a quicklink row when the quicklink isn't in use in your tenant or doesn't have a relationship with other objects in your tenant. When you don't see the **View Details** button on the row, you can delete the quicklink from the **Maintain Quicklinks** task.

Next Steps

Add the Quicklink to a:

- Custom report or worklet.
- Dashboard menu or announcement.
- Quicklink group.

Related Information

Tasks

[Steps: Display a Quicklinks Worklet on a Dashboard](#) on page 231

Create a Quicklinks Worklet

Prerequisites

- Set Condition Rules for Quicklinks.
- Create a dashboard or landing page to display the worklet on.
- Security: These domains in the System functional area:
 - *Custom Report Creation*
 - *Manage: All Custom Reports*
 - *Quicklinks*

Context

You can create a Quicklinks worklet to display external website links on a dashboard.

Steps

1. Access the **Create Custom Report** task.
 2. Select **Advanced** on the **Report Type** prompt.
 3. Clear the **Optimized for Performance** check box.
 4. Select **Quicklinks** on the **Data Source** prompt.
 5. On the **Columns** tab, select *Quicklink Item* on the **Field** prompt.
 6. (Optional) [Set Up Sort Options for Custom Reports](#) on page 45.
 7. On the **Filter on Instances** grid on the **Filter** tab, select from these options:
 - To display all the Quicklinks within a group, select *Quicklink Group* on the **Field** prompt. Select an **Operator** value and select 1 or more groups on the **Comparison Value** prompt.
 - To display a specific Quicklink, select *Quicklink Item* on the **Field** prompt. Select an **Operator** value and select 1 or more Quicklinks on the **Comparison Value** prompt.
 - To display only Quicklinks that a user has access to, select *Valid for Worker* on the **Field** prompt. Select an **Operator** value and select the **Comparison Value** check box.
- If you don't set any filter conditions, the report displays all Quicklinks.
8. On the **Output** tab, select the **Enable As Worklet** check box in the **Worklet Options** section.
 9. Select an appropriate **Worklet Icon**.
 10. On the **Available on** prompt, select the dashboard where you want to display the worklet.
 11. On the **Share** tab, select the appropriate sharing options.

Next Steps

Add the worklet you created to the dashboard you selected on the **Available on** prompt.

Related Information

Tasks

[Steps: Display a Quicklinks Worklet on a Dashboard](#) on page 231

Reports as a Service (RaaS)

Concept: Reports as a Service (RaaS)

Introduction to RaaS

You can enable advanced and search reports as web services. Workday Web Services enable access to report results through URLs, which you can use in:

- Custom Workday Extend applications.
- Integrations between Workday and external business services. Example: Payroll or benefits providers.
- External reporting tools to access Workday data. Example: Microsoft Excel.

Output options for web services include:

- CSV
- GData
- JSON
- RSS
- Simple XML
- Workday XML

Before enabling a standard report as a web service, consider copying the standard report to a custom report. To avoid any disruption to your integration processes if Workday updates a standard report, enable the custom report as a web service instead.

GET RaaS requests fail if you enable a custom report as a web service and the username of the report owner contains a backslash (\) character.

RaaS Namespaces

When you enable a custom report as a web service, Workday generates a unique RaaS namespace for the report, using this format:

`urn:com.workday.report/Report_Name`

To minimize disruptions to integrations that use the report output, the RaaS namespace doesn't change when the report name or report owner changes.

You can edit the namespace for a custom report. However, consider:

- Workday doesn't verify that a RaaS namespace is unique.
- If an integration uses the report as a web service, you must update it with the new namespace.

Web Service Output Types

Output Type	Description
CSV	<p>You can use the CSV output option when you want to import data into a spreadsheet as simply and quickly as possible. You don't need to know XML or schemas.</p> <p>If you output data to a CSV file that uses UTF-8 encoding, append this query parameter to your web service URL: <code>&bom=true</code></p> <p>This parameter ensures that other applications, such as Microsoft Excel, can correctly interpret the encoding and display the characters in the CSV file.</p>

Output Type	Description
	<p>For advanced reports that have Group Column Headings, the CSV output doesn't retain the column groupings or column group headings.</p> <p>The columns in the CSV output might not match the order of the columns in the report definition.</p>
GData	<p>You can use GData output for integrations with Google gadgets.</p>
JSON	<p>You can use the JSON output option in system-to-system integrations that require the JSON format.</p>
RSS	<p>You can enable any advanced custom report as an RSS web service, which users can subscribe to as an RSS feed. Users can monitor updates in a tenant through an RSS feed without logging in to Workday.</p>
Simple XML	<p>Simple XML simplifies Workday XML so that other desktop applications can process it. Simple XML changes:</p> <ul style="list-style-type: none"> • Single instance fields to simple string-type elements. • Multi-instance fields to simple string-type elements. • Multi-instance fields within the primary business object to simple string-type elements, with a semicolon separating each value. • Date fields that don't contain times to dates only, with no times or offset from GMT. <p>You can use simple XML for basic desktop integrations with other reporting tools, such as Microsoft Excel or Crystal Reports.</p> <p>The Simple XML output option provides these URLs:</p> <ul style="list-style-type: none"> • Simple XML: The simplified XML output from a report. • XSD: The schema definition associated with the simplified XML.
Workday XML	<p>The Workday XML option outputs the literal XML code from Workday. This option might be useful in REST- or SOAP-based integrations. Workday XML might be too complex for some integration needs. Example: Quickly creating a refreshable report with Microsoft Excel. In these cases, Simple XML might be more appropriate.</p> <p>The Workday XML output option provides 3 URLs:</p> <ul style="list-style-type: none"> • Workday XML: The pure XML output from a report that might be useful for REST-based integrations.

Output Type	Description
	<ul style="list-style-type: none"> XSD: The schema definition associated with the Workday XML. WSDL: Web Services Definition Language, often used with SOAP.

Related Information

Tasks

[Create Workday Accounts Automatically](#)

[Edit Workday Accounts](#)

[Steps: Set Up Outbound EIB](#)

Concept: Accessing RaaS Output

Reports as REST-Based Web Services

To access report output for a REST-based web service integration, select **Web Services > View URLs** from the related actions menu of the report definition. You must enter values for required prompts before you can access report output.

You can either:

- Download the output file.
- Right-click the output you want and select **Copy URL**.

Reports as SOAP-Based Web Services

To build a SOAP-based web service integration, you need access to the Web Services Definition Language (WSDL) definition underlying the report. Using the WSDL, you can define integrations from external applications that need to access Workday report data.

To access the WSDL definition, select **Web Services > View URLs** from the related actions menu of the report definition. You must enter values for required prompts before you can access report output.

You can either:

- Click the **WSDL** link and copy the definition.
- Right-click **WSDL** and select **Copy URL**.

Some XML reporting tools support specifying a schema with a data source to help interpret and validate the data. To access the schema associated with a report:

- From the related actions menu of the report definition, select **Web Service > View WSDL**.
- Select all the XML from the opening `<xsd:schema>` tag to the closing `</xsd:schema>` tag.
- Copy the XML or save it to a file, as your reporting tool requires.

Report Output URL

The URL for report output follows this pattern:

```
https://<workday-
url>/<tenant>/<username>/<report_name>?<prompt_1>=<prompt_1_value>&<prompt_2>=<prompt_2_value>
```

URL Parameter	Description	Example
<workday-url>	The URL of your Workday tenant.	www.myworkday.com
<tenant>	The name of your Workday tenant.	gms

URL Parameter	Description	Example
<username>	The owner of the report (user who created the report).	/lmcneil
<report_name>	The name of the report with spaces replaced by underscores.	Organization_Headcount
<prompt_1> <prompt_2>	The Label for Prompt XML Alias value of the report prompt, which you can view on the Prompts tab of the report definition.	Organization Include_Subordinate_Organizations
<prompt_1_value> <prompt_2_value>	For report prompts that take a single instance value, the URL parameters follow this pattern: <code><prompt>%21WID=<WID></code> . For report prompts that take multiple instance values, the URL parameters follow this pattern: <code><prompt>%21WID=<WID_1>!<WID_2></code> . Otherwise, the URL parameters follow this pattern: <code><prompt>=<prompt_value></code> .	Prompts that take a single instance value: Organization %21WID=cb550da820584750aae8f807882fa79a&Include_Subordinate_Organizations=1 Prompts that take multiple instance values: Location %21WID=d951e85593ad4daf88dc1bfabf06f5799b99ca2246d9bcf405fbc0a96b1d All other prompts: Include_Subordinate_Organizations=1
<format>	The format of the report output. Valid values for <code>format</code> include: <ul style="list-style-type: none">• csv• gdata• json• rss• simplexml	json

Example: `https://www.myworkday.com/gms/lmcneil/Organization_Headcount?Organization%21WID=cb550da820584750aae8f807882fa79a&Include_Subordinate_Organizations=1&format=json`

Related Information

Tasks

[Steps: Set Up Outbound EIB](#)

Concept: Reports as RSS Feeds

You can view a report as an RSS feed using a feed reader that permits SSL/HTTPS or HTTP basic authentication.

To copy the RSS URL for a standard report:

1. Click the RSS feed icon. A new page opens.
2. Copy the URL from the browser address bar. Workday might prompt you to sign in before the page displays.

To copy the RSS URL for a custom report:

1. On the report definition, select **Web Services > View URLs** from the related actions menu and enter any required prompt values.

2. Right-click the **RSS** link and select *Copy URL*.

If the feed reader prompts you to sign in, you can use your Workday username and password.

Workday Query Language (WQL)

Concept: Workday Query Language (WQL)

Workday Query Language (WQL) enables you to use SQL-like syntax to access Workday data using data sources and fields instead of reports. WQL enables you to query Workday for data and explore:

- Data sources.
- Data source filters.
- Fields.

Enabling WQL

WQL requires you to register an API client for your tenant. Register it in your tenant using the **Register API Client for Integrations** task. You don't have to register an API client when you're using WQL in a Workday Extend app.

When you register the API client for WQL, select **System** from the **Scope (Functional Areas)** prompt.

When you manage the refresh token, select a Workday account that has access to execute reports. The API calls use this account.

Security

To use WQL, you need access to the *Workday Query Language* domain in the System functional area. You can only view and use data sources and fields that you have security access to within a WQL query.

WQL and RaaS Usage Metrics Report

Integration developers with security access to the *Manage: All Custom Reports* domain in the System functional area can use this report to monitor usage trends for API requests over time. The report displays WQL and Reports as a Service (RaaS) executions for outbound integrations. It returns counts for a rolling 90 days by dimensions, such as time and source of request. The report uses the **WQL/RaaS Usage Metrics** report data source.

Note: You can only view report results in your Production tenant.

Related Information

Tasks

[Register API Clients for Integrations](#)

Reference

[2022R2 What's New Post: Workday Query Language \(WQL\)](#)

[2022R1 What's New Post: Workday Query Language \(WQL\)](#)

[2021R2 What's New Post: Workday Query Language \(WQL\)](#)

[Reference: WQL REST API](#) on page 242

Convert Reports to WQL Queries

Prerequisites

Security: *Workday Query Language* domain in the System functional area.

Context

You can convert advanced and matrix reports to Workday Query Language (WQL) and use the resulting WQL query in integrations to extract data from Workday.

Steps

1. Access the **Convert Report to WQL** report.
2. Select a report to convert.
You can only select reports you have access to.
3. Complete any prompts that the report contains, as required.

Result

Workday displays the WQL query and indicates whether the query is valid. Some report definitions might have configurations that prevent the report from creating a valid WQL query.

When advanced or matrix reports contain values in the **Column Heading Override** column, Workday includes the value as an alias in the converted WQL query. When a report contains fields from related business objects, Workday uses the value in the **Group Column Heading** column as the alias in the converted WQL query.

Workday displays a table listing any components of the report that you can't convert to WQL.

Next Steps

Insert the WQL query into the `query` parameter of the `WQL GET /data` API call.

When your query exceeds 2,048 characters, insert the query into the request body of the `POST /data` API call.

Related Information

Reference

[Reference: WQL REST API](#) on page 242

View WQL Query Results

Prerequisites

Security: *Workday Query Language* domain in the System functional area.

Context

You can test Workday Query Language (WQL) queries in your tenant as an alternative to testing them in third-party applications. Workday returns up to 500 rows of results, providing you with a response you can use to continue developing your query.

Steps

1. Access the **View WQL Query Result** report.
2. Enter a WQL query for which you want to view sample results.
Workday truncates the results to 500 rows when you enter a query:
 - Without a limit.
 - With a limit greater than 500.
3. (Optional) To save the query for later use, enter a name for it and click **Save**.
You can access the **Manage My Saved Filters** report later to retrieve the saved query.

Example

When you enter this query:

```
SELECT location, count()
FROM allWorkers
GROUP BY location
ORDER BY count ()
LIMIT 4
```

Workday returns the discrete count of locations in ascending order because of the clause ORDER BY count ():

Location	Count
Main Campus	419
Pleasanton	1042
San Francisco	1103
London	1172

To sort the discrete count of locations in descending order, specify:

```
ORDER BY count () desc
```

Related Information

Reference

[Reference: Reporting Limits](#) on page 113

[Reference: WQL Result Limits](#) on page 247

Concept: Related Business Objects in WQL

You can access fields from a related business object (RBO) in the SELECT clause using curly bracket {} notation.

You can also filter query results by RBO fields using the WHERE ON clause. In WHERE ON clauses, omit the curly bracket {} notation for the RBO fields.

The responses from these endpoints now return the related business object for each field:

- GET /dataSources/{ID}/fields
- GET /dataSources/{ID}/dataSourceFilters/{subresourceID}

Syntax

```
SELECT field1{relatedBusinessObjectField1, relatedBusinessObjectField2}
  FROM dataSource
```

Example: `SELECT dependents{age} FROM allWorkers`

You can reference a single field or multiple, comma-separated fields from an RBO field.

You can also assign a custom alias to an RBO field. Example: `dependents{age} as DependentsAge`

Examples

Return the worker and multiple fields from the **Dependents** RBO in 1 group:

```
SELECT worker, dependents{legalName_FirstName, legalName_LastName, age}
```

```
FROM allWorkers
```

Return the worker and multiple fields from the **Dependents** RBO as separate groups:

```
SELECT worker, dependents{legalName_FirstName} as FirstName,
dependents{legalName_LastName} as LastName, dependents{age} as Age
FROM allWorkers
```

When you call multiple fields separately from the same lookup field, use a unique field alias.

Limitations

When the lookup field for the RBO is multi-instance, Workday only supports up to 500 values for the RBO field. Example: You specify a worker as a primary business object and worker dependents as the RBO. When the query returns more than 500 dependents for a worker, WQL displays an error.

You can't access fields from RBOs:

- In queries that use a `GROUP BY` clause.
- Outside of the `SELECT` and `WHERE ON` clauses.

When you use a third-party API client, you might need to encode the query first. Some third-party clients don't process curly bracket {} notation.

Example query before encoding:

```
SELECT worker, dependents{legalName_FirstName} as FirstName FROM allWorkers
```

Example query after encoding:

```
SELECT%20worker%2C%20dependents%7BlegalName_FirstName%7D%20as%20FirstName
%20FROM%20allWorkers
```

Related Information

Concepts

[Concept: Business Objects, Data Sources, and Fields](#) on page 17

Reference

[2022R2 What's New Post: Workday Query Language \(WQL\)](#)

Concept: Pagination of WQL Query Results

When you first execute a query, the Workday Query Language (WQL) in the query parameter runs and builds a cache that returns a maximum of 10,000 rows. You can access additional rows by paginating through the result set using the `limit` and `offset` parameters in the REST API call for your WQL query.

Note: WQL caches page limitation requests for only the length of a user session.

To view any remaining results, use these parameters:

Parameter	Description
<code>limit</code>	Specifies the number of rows in 1 page of results. Values must be between zero and 10,000.
<code>offset</code>	Specifies the starting row for the result set. Used by the <code>limit</code> parameter. In the initial request for the first page of results, omit the <code>offset</code> parameter or set it to zero.

Note: Workday reserves the keyword `LIMIT` for both a clause and a pagination parameter. The `LIMIT` keyword isn't case-sensitive. We use uppercase and lowercase to help differentiate between clauses and pagination parameters.

- Use the `LIMIT` clause to limit the number of total rows returned in a query response.
- Use the `limit` parameter to specify how many rows to display per page of query response.

Examples

Depending on where you make WQL requests from, the base URL that you use differs.

WQL Request Source	Base URL to Use
Workday tenanted host	<code>https://{{hostname}}/api/wql/{{version}}/{{tenant}}</code>
WCP API Gateway	<code>https://api.workday.com/wql/{{version}}</code>

To return 1,000 rows starting with the first row of the result set:

```
{baseURL}/data?limit=1000&offset=0&query=select worker, location from allWorkers
```

To return the next 1,000 rows, increase the offset to 1,000:

```
{baseURL}/data?limit=1000&offset=1000&query=select worker, location from allWorkers
```

Related Information

Reference

[Reference: WQL Result Limits](#) on page 247

Reference: WQL REST API

Use the WQL REST API to return:

- A list of data sources and data source filters.
- Details about a specific data source.
- The primary business objects for a specific data source.
- Fields in a data source.
- The related business object for a specific field.

You can use the information from the response to construct a WQL request in:

- The `query` parameter of the `GET /data` endpoint.
- The request body of the `POST /data` endpoint.

Before you construct your request, you can make calls with the `GET /dataSources/` and `GET /dataSources/{{ID}}` endpoints to verify the correct alias names to use.

See [Reference: WQL Aliases](#) on page 246.

Both tenanted hosts and the Workday Cloud Platform (WCP) API Gateway support WQL requests. Depending on where you make WQL requests from, the base URL that you use differs.

WQL Request Source	Base URL to Use
Workday tenanted host	<code>https://{{hostname}}/api/wql/{{version}}/{{tenant}}</code>
WCP API Gateway	<code>https://api.workday.com/wql/{{version}}</code>

GET /data

Returns the data from a WQL query. Use this request for queries with less than 2,048 characters. You can only view data you have security access to. You execute WQL using the `query` parameter.

Syntax: `{baseURL}/data?query={myquery}`

Example query:

```
{baseURL}/data?query=SELECT location, max(yearsOfService) FROM allWorkers GROUP BY location
```

Example JSON response:

```
{
  "total": 152,
  "data": [
    {
      "location": {
        "descriptor": "Academic Location WATS 1",
        "id": "5403216f5ef810381796f3bb216504f5"
      },
      "max(yearsOfService)": "20"
    },
    ...
  ]
}
```

Workday clears cached WQL query results after 15 minutes. To clear the cache manually, you can add `offset=0` to your query. Example:

```
{baseURL}/data?offset=0&query=SELECT firstName, location FROM allWorkers
```

POST /data

Returns the data from a WQL query. Use this request for queries between 2,048 and 16,000 characters. You can only view data you have security access to. You execute WQL using the `query` parameter. Place the `query` parameter and query in the request body of the API call.

Syntax: `{baseURL}/data/`

Example request body:

```
{
  "query" : "SELECT location, max(yearsOfService) FROM allWorkers GROUP BY location"
}
```

Example JSON response:

```
{
  "total": 152,
  "data": [
    {
      "location": {
        "descriptor": "Academic Location WATS 1",
        "id": "5403216f5ef810381796f3bb216504f5"
      },
      "max(yearsOfService)": "20"
    },
  ]
}
```

```

    ...
}
```

GET /dataSources

Returns a collection of data sources for use in a WQL query. The request also returns the primary business object for the data sources.

Syntax: {baseUrl}/dataSources/

Example query: {baseUrl}/dataSources

Example JSON response:

```
{
  "total": 1722,
  "data": [
    {
      "id": "6d34556ff015100012a60a4bb1ce0b92",
      "descriptor": "Student Applications",
      "alias": "studentApplications",
      "description": "Accesses the Student Application object and returns one row for each application. Includes data source filters with built-in prompts. You can use this data source to list student applications and related data.",
      "primaryBusinessObject": {
        "Descriptor": "Student Application",
        "id": "8b7dc084c617100028ff0f3bdbf000ac"
      },
    },
    ...
  ]
}
```

GET /dataSources/{ID}

Returns a data source for the specified ID for use in a WQL query. The request also returns the primary business object for the data source.

Syntax: {baseUrl}/dataSources/<datasource_wid>

Example query:

```
{baseUrl}/dataSources/aae24a47e36110000a37dcb7628d000d
```

Example JSON response:

```
{
  "id": "aae24a47e36110000a37dcb7628d000d",
  "descriptor": "Indexed In Progress ~Worker~ Calibration Placements",
  "primaryBusinessObject": {
    "descriptor": "Indexed In Progress ~Worker~ Calibration Placements",
    "id": "aae24a47e36110000a37dd177601000e"
  },
  "requiredParameters": [...],
  "filterIsRequired": false,
  "optionalParameters": [...],
  "supportsEntryDate": false,
  "alias": "indexedInProgressWorkerCalibrationPlacements",
  "supportsEffectiveDate": false,
```

```

"description": "Accesses a ~worker's~ in progress ~worker~ calibration
event as the primary business object and the ~worker's~ attributes as the
secondary business object. Returns the calibrated values specific to a
~worker~ for an in progress Calibration event."
}

```

GET /dataSources/{ID}/fields

Returns the fields of a specific data source for use in a WQL query. The request also returns the related business object for each field.

Syntax: {baseURL}/dataSources/<datasource_wid>/fields

Example query:

```
{baseURL}/datasources/aae24a47e36110000a37dcb7628d000d/fields
```

Example JSON response:

```
{
  "total": 2967,
  "data": [
    {
      "id": "09d50672a44001ea5d41efcf6419a00",
      "descriptor": "Trended Worker Org for Cost Center_Current_QA (tenant
setup)",
      "alias": "cf_TrendedWorkerOrgForCostCenter_Current_QATenantSetup",
      "type": "Single instance",
      "relatedBusinessObject": {
        "descriptor": "Position Set",
        "id": "373872302e7e4afe96aa37c0dd93e53e"
      }
    },
    ...
  ]
}
```

GET /dataSources/{ID}/fields/{subresourceID}

Returns details for a particular field when the ID for the field is specified as the {subresourceID}. The request also returns the related business object for each field.

Syntax: {baseURL}/dataSources/<datasource_wid>/fields/{subresourceID}

Example query:

```
{baseURL}/dataSources/aae24a47e36110000a37dcb7628d000d/
fields/09d50672a44001ea5d41efcf6419a00
```

Example JSON response:

```
{
  "id": "09d50672a44001ea5d41efcf6419a00",
  "descriptor": "Trended Worker Org for Cost Center_Current_QA (tenant
setup)",
  "relatedFields": [...],
  "relatedBusinessObject": {
    "descriptor": "Position Set",
    "id": "373872302e7e4afe96aa37c0dd93e53e"
  },
  "type": "Single instance",
  "alias": "cf_TrendedWorkerOrgForCostCenter_Current_QATenantSetup"
}
```

```
}
```

GET /dataSources/{ID}/dataSourceFilters

Returns the data source filters for a specific data source for use in a WQL query.

Syntax: {baseURL}/dataSources/<datasource_wid>/dataSourceFilters

Example query:

```
{baseURL}/dataSources/6d34556ff015100012a60a4bb1ce0b92(dataSourceFilters)
```

Example JSON response:

```
{
  "total": 6,
  "data": [
    {
      "id": "432abca0a751100008144ff171b8000a",
      "descriptor": "Student Applications for Admissions Cohort Finalize Decisions",
      "alias": "studentApplicationsForAdmissionsCohortFinalizeDecisions",
      "optionalParameters": [
        {
          "type": "Single Instance",
          "description": "The Application Grouping for this Student Application.",
          "alias": "applicationGrouping"
        }
      ],
      "description": "Return Applications that are valid for Publication with this Cohort\n- has an Admissions Decision\n- Decisions Published Status is Confidential - For Internal Use Only\n- No Inactive Status"
    },
    ...
  ]
}
```

Related Information

Concepts

[Concept: Workday Query Language \(WQL\) on page 238](#)

Tasks

[Register API Clients for Integrations](#)

Reference: WQL Aliases

When you create Workday Query Language (WQL) queries, you use aliases to refer to:

- Data sources.
- Data source filters.
- Fields and calculated fields.
- Parameters (built-in prompts).

All Workday-delivered objects have a corresponding WQL alias. Workday creates aliases for calculated fields, whether Workday-delivered or not. You can edit aliases for calculated fields.

Retrieving Aliases by REST API Calls

You can return WQL aliases by calling the appropriate REST API endpoint.

Base URL: <https://{{hostname}}/api/wql/{{version}}/{{tenant}}>

Base URL for Workday Extend: <https://api.workday.com/wql/{{version}}>

Alias	REST API Endpoint
All data sources.	GET {{baseUrl}}/dataSources
Single data source.	GET {{baseUrl}}/dataSources/{{WorkdayID}}
All data source filters and associated prompts.	GET {{baseUrl}}/dataSources/{{WorkdayID}}/dataSourceFilters
Single data source filter and associated prompts.	GET {{baseUrl}}/dataSources/{{WorkdayID}}/dataSourceFilters/{{WorkdayID}}
Fields and calculated fields.	GET {{baseUrl}}/dataSources/{{WorkdayID}}/fields

Retrieving Aliases in Workday

To retrieve aliases, you can:

- Create a custom report on the **Data Sources** or **Fields** report data source using the **WQL Alias** report field. The report returns the WQL alias only for data sources that Workday has enabled for reporting.
- View WQL aliases for fields, calculated fields, or data sources from the related actions menu.

Note: To ensure the aliases you specify in your query are correct:

1. Call the GET /dataSources endpoint to determine the ID (also known as the Workday ID, or WID) for your datasource. Use the alias query parameter to filter the list of data sources.
2. Call the GET /dataSources/{ID} endpoint to view the details of your data source using the WID from the GET /dataSources call. The GET /dataSources/{ID} endpoint returns the correct aliases to use in your query.

Reference: WQL Result Limits

WQL queries return a maximum of 1 million rows. Both tenanted hosts and the Workday Cloud Platform (WCP) API Gateway (api.workday.com) support WQL requests, with these response timeout limits:

- Tenanted hosts: 30-minute timeout.
- WCP API Gateway: 5-minute timeout.

Refer to this table for query and `LIMIT` clause behavior.

Rows Returned By Query	LIMIT Clause in WQL Query	Query Behavior
>1 million	None	Query fails.
>1 million	<=1 million	Query succeeds and returns a maximum of 1 million rows. You can view 10,000 rows at a time.
<=1 million	None or <=1 million	Query succeeds and returns all rows. You can view 10,000 rows at a time.

Note: Workday reserves the keyword `LIMIT` for both a clause and a pagination parameter. The `LIMIT` keyword isn't case-sensitive. We use uppercase and lowercase to help differentiate between clauses and pagination parameters.

- Use the `LIMIT` clause to limit the number of total rows returned in a query response.
- Use the `limit` parameter to specify how many rows to display per page of query response.

Related Information

Concepts

Concept: [Pagination of WQL Query Results](#) on page 241

Reference: WQL and RaaS Comparisons

Use the tables to compare how Workday Query Language (WQL) and Reports as a Service (RaaS) support the various ways you can extract data from Workday.

Feature Support Summary

Feature	Supported by WQL	Supported by RaaS
Access fields from a Global business object.	No	Yes
Use the percentile function as an aggregation operator in SELECT clauses.	No	Yes
Use the GROUP BY clause to aggregate results.	Yes	No
Paginate results.	Yes	No

Use Cases

Use Case	WQL Support	RaaS Support
Group your extract by 1 or more dimensions.	Supported. You can use the GROUP BY clause to aggregate results by various dimensions.	Not Supported.
Download the results in partitions instead of 1 large response.	Supported. You can paginate results 10,000 rows at a time using the LIMIT and OFFSET parameters.	Not Supported.
Extract data using web services.	Supported with RESTful web services.	Supported with RESTful and SOAP web services.
Dynamically change the query extract without signing in to Workday.	Supported. Because WQL requests are string values, you can change the request outside of Workday.	Supported. You can dynamically update parameters in the URL.
Persist the definition of an extract to enable collaboration.	You can save a WQL query outside of Workday.	Supported. RaaS is a Report as a Service and, as such, can persist report definitions in Workday.
Audit the extraction to identify changes and revert them as necessary.	Not Supported.	Supported. Because RaaS persists report definitions, you can track changes.

Use Case	WQL Support	RaaS Support
		through the Workday audit framework.
Extract data from multiple environments without having to create or migrate reports across tenants.	Supported. You can change the request URL for WQL as needed to point to any customer tenant.	Not Supported. To extract a report from another tenant, you must migrate the report to that tenant.
Extract small to moderately sized result sets.	Supported. Up to 1 million rows.	Supported. Up to 1 million rows.
Extract data within time limits.	<ul style="list-style-type: none"> 30-minute timeout for WQL requests from a Workday tenanted host. 5-minute timeout for WQL API calls from the Workday Cloud Platform (WCP) Gateway (api.workday.com). 	<ul style="list-style-type: none"> 6-hour timeout for RaaS SOAP requests from a tenanted host. 1-hour timeout for RaaS REST requests from a tenanted host. 5-minute timeout for RaaS API calls from the Workday Cloud Platform (WCP) Gateway (api.workday.com).
Extract results in multiple formats.	You can extract results in JSON.	Supported. You can extract results in these formats: <ul style="list-style-type: none"> CSV. GData. JSON. RSS. Simple XML. Workday XML.
Extract only the appropriate data for the issuing user.	Supported. WQL honors object and data-level security based on the issuing user.	Supported. RaaS honors object and data-level security based on the issuing user.
Create outbound integrations with only limited knowledge of Workday custom reports.	Supported. You don't have to understand the Workday Report Writer to use WQL. WQL is similar to standard database languages.	You must have some knowledge of Workday reporting.
Start an integration from a Workday standard report.	Supported. You can use the Convert Report to WQL report to convert Workday advanced and matrix reports to WQL.	Supported. You can copy and customize standard and advanced reports for outbound integrations.
Programmatically explore any of these items: <ul style="list-style-type: none"> Data sources. 	Supported.	Not Supported. Create a report definition in Workday and complete the

Use Case	WQL Support	RaaS Support
<ul style="list-style-type: none"> Fields of data sources. Data source filters. 	<p>WQL provides APIs for data sources, data source filters, and fields.</p> <p>To query any data sources, filters, and fields in WQL, you must have access to them in Workday.</p>	<p>prompts for data sources, filters, and fields.</p>

WQL Reference

PARAMETERS

You can add a PARAMETERS clause at the beginning of a Workday Query Language (WQL) query to specify built-in prompt values for:

- Data sources.
- Data source filters.
- Report fields.

Specify values for report fields in the PARAMETERS clause. You can specify values for data sources and data source filters in the PARAMETERS or FROM clause, but not both.

Syntax

```
PARAMETERS parameter1 = value1,...parameterN
```

Arguments

Argument	Description
<i>parameter1, parameter2, ...parameterN</i>	The alias for a parameter.
<i>value1, value2, ...valueN</i>	The value of the parameter that you want to query.

Comparison Operators

Operator	Field Data Type Compatibility	Description
=	Boolean Date Numeric Text	Equal.

Examples

To specify the `reportingDate` parameter for the `contractRates` field and the `company` parameter for a data source in the PARAMETERS clause:

```
PARAMETERS reportingDate = "2018-01-01", company =
  cb550da820584750aae8f807882fa79a
SELECT contractRateSheet, contractRates
FROM contractRateSheetsForCompany
```

To specify the `reportingDate` parameter for the `contractRates` field in the PARAMETERS clause and the `company` parameter for a data source in the FROM clause:

```
PARAMETERS reportingDate = "2018-01-01"
SELECT contractRateSheet, contractRates
FROM contractRateSheetsForCompany(company =
cb550da820584750aae8f807882fa79a)
```

To specify the parameters for a data source filter in the PARAMETERS clause:

```
PARAMETERS projectsAndProjectHierarchies =
(0c0bbf2e124810a26765415bb08406c5), includeSubordinateProjectHierarchies =
true
SELECT projectObject
FROM projects (dataSourceFilter =
projectsByProjectsProjectHierarchiesFilter)
```

Limitations

- You can only specify the same parameter once in the query. `PARAMETERS field_1=val1, field1=val2` is invalid.
- You must specify the `dataSourceFilter` in the FROM clause.

Related Information

Reference

[FROM](#) on page 253

SELECT

Returns field values from Workday data sources. Workday Query Language (WQL) requires this clause in all queries.

You can only access fields that:

- Workday has authorized for use with the Workday Report Writer or default areas.
- The current processing Workday account has permission to access.

Syntax

```
SELECT field1 AS myAlias, function(field2),
      field1{relatedBusinessObjectField1}, ...fieldN
FROM dataSourceAlias
```

Arguments

Argument	Description
<code>field1, field2, ...fieldN</code>	The WQL alias for the field you want to access. If 2 or more fields have the same alias, WQL returns the first field defined in Workday.
<code>myAlias</code>	(Optional) Rename the column header in the response. Example: <code>SELECT max(yearsOfService) as Seniority</code> You can't use a WQL keyword as a custom alias.

Argument	Description
	<p>WQL doesn't support escape character syntax.</p> <p>WQL supports some special characters and spaces in single or double quotes. Examples:</p> <ul style="list-style-type: none"> • ~ • @ • \$ • * • - • _ • / • ? • : • ;
<i>function</i>	<p>(Optional) You can use these aggregation functions with fields:</p> <ul style="list-style-type: none"> • AVG(<i>field</i>) • COUNT() • COUNT(DISTINCT <i>field</i>) • MAX(<i>field</i>) • MIN(<i>field</i>) • SUM(<i>field</i>) <p>COUNT() doesn't take any arguments.</p>
<i>relatedBusinessObjectfield1</i>	<p>The field of the related business object for which you want to filter results.</p>

Aggregation Functions

Aggregation Function	Description
AVG(<i>field</i>)	Returns the average value of a numeric field.
COUNT()	Returns the number of instances matching the query criteria.
COUNT (DISTINCT <i>field</i>)	Returns the unique number of instances matching the query criteria. Use only on text and single instance fields.
MIN(<i>field</i>)	Returns the minimum value of a field.
MAX(<i>field</i>)	Returns the maximum value of a field.
SUM(<i>field</i>)	Returns the total sum of a numeric field.

Example

To return worker information from a data source:

```
SELECT worker, fullName, location FROM allWorkers
```

Limitations

WQL doesn't support `SELECT *`.

FROM

Specifies the data source and data source filter the `SELECT` clause retrieves data from. Workday requires this clause in any Workday Query Language (WQL) query.

You can only access fields that:

- Workday has authorized for use with the Workday Report Writer or default areas.
- The current processing Workday account has permission to access.

Syntax

To query data from a data source:

```
FROM dataSourceAlias
```

To query data from a data source with a data source filter:

```
FROM dataSourceAlias(dataSourceFilter=filterAlias, filterPrompt1=value1,
                     filterPrompt2=value2)
```

To query data from a data source using entry and effective date filters:

```
FROM dataSourceAlias(effectiveAsOfDate=date, entryMoment=dateTime)
```

Arguments

Argument	Description
<code>dataSourceAlias</code>	The alias for the data source you want to access.
<code>dataSourceFilterAlias</code>	(Optional) The alias for the data source filter you want to use.
<code>effectiveAsOfDate</code> <code>effectiveAsOfMoment</code> <code>entryDate</code> <code>entryMoment</code>	<p>(Optional) Run the query as of an effective date or entry date. Only supported for Standard Workday-delivered data sources.</p> <p>If you don't specify an effective or entry moment, the query returns results as of the current date and time.</p> <p>WQL supports these formats:</p> <ul style="list-style-type: none"> • Effective Date: <code>effectiveAsOfDate="2018-01-01"</code> • Effective Date and Time: <code>effectiveAsOfMoment="2018-01-01 11:45:08"</code> • Entry Date: <code>entryDate="2019-01-01"</code> • Entry Date and Time: <code>entryMoment="2019-01-01 12:30:25Z"</code>

Argument	Description
	<p>WQL supports dates and datetimes in Coordinated Universal Time (UTC) or Pacific Standard Time (PST).</p> <p>WQL returns an error if you specify an <code>effectiveAsOfMoment</code> or an <code>entryMoment</code> when the data source doesn't support these values.</p>
<code>value1, value2, ...valueN</code>	Values for the built-in data source prompts.
<code>instance1, instance2, ...instanceN</code>	<p>The Workday ID of the field value you want to match.</p> <p>When you run a query, Workday validates the format of the Workday ID and fails the query when the format is invalid.</p>
<code>inst_refId</code>	The reference ID type of a field in the conditional expression.
<code>referenceID</code>	<p>The reference ID of the field value you want to match.</p> <p>Example: (<code>inst_refId = referenceID</code>)</p>

Examples

Return worker name from the **All Workers** data source:

```
SELECT fullName FROM allWorkers
```

Return a student name, academic unit, and level from the **Student Applications** data source and by specifying a data source filter:

```
SELECT firstName, academicUnit, academicLevel
FROM studentApplications (dataSourceFilter =
    studentApplicationsByAcademicUnitAndAcademicLevel, academicUnit = {Workday
        ID}, academicLevel = {Workday ID})
```

Return worker name in ascending order from the **All Workers** data source, using the effective moment and entry moment of the data values.

```
SELECT worker
FROM allWorkers (effectiveAsOfDate="2018-01-01", entryMoment="2019-01-01
12:30:00")
ORDER BY worker ASC
```

WHERE

Specifies one or more conditional expressions that filter the results of the query. Workday evaluates expressions in parentheses first in conditional expressions. Use the `AND` and `OR` logical operators to separate conditional expressions in Workday Query Language (WQL).

Syntax

```
WHERE
```

```

field1 = value1
AND field2 IN (instance1, instance2)
OR field3 IN (inst_refId = referenceID)

```

Arguments

Argument	Description
<i>field1, field2, ...fieldN</i>	The alias for a field in the conditional expression.
<i>value1, value2, ...valueN</i>	The value of the field you want to match.
<i>instance1, instance2, ...instanceN</i>	The Workday ID of the field value you want to match. When you run a query, Workday validates the format of the Workday ID and fails the query when the format is invalid.
<i>inst_refId</i>	The reference ID type of a field in the conditional expression.
<i>referenceID</i>	The reference ID of the field value you want to match. You can filter by the reference ID with or without double quotes. Examples <ul style="list-style-type: none"> • (inst_refId = "referenceID") • (inst_refId = referenceID)

Comparison Operators

Operator	Field Data Type Compatibility	Description
=	Boolean Date Numeric Text	Equal.
>	Date Numeric	Greater than.
>=	Date Numeric	Greater than or equal to.
<	Date Numeric	Less than.
<=	Date	Less than or equal to.

Operator	Field Data Type Compatibility	Description
	Numeric	
!=	Boolean Date Numeric Text	Not equal.
contains	Text	The comparison value is a subset of the field value. Case insensitive. Example: Cat contains AT.
not contains	Text	The comparison value isn't a subset of the field value. Case insensitive. Example: Cat doesn't contain dog.
endswith	Text	The comparison value is a subset of field value. The last character of the field value matches the last character of the comparison value. Case insensitive. Example: Cat ends with AT.
in	Instance Text	The field matches 1 or more possible values for a condition.
is empty	Boolean Date Instance Numeric Text	The field has no value.
is not empty	Boolean Date Instance Numeric Text	The field has a value.
not in	Instance Text	The field doesn't match any possible values for a condition.

Operator	Field Data Type Compatibility	Description
startswith	Text	The comparison value is a subset of the field value. The first character of the field value matches the first character of the comparison value. Case insensitive. Example: Cat starts with CA.

Date and Time Formats

WQL supports dates and datetimes in Coordinated Universal Time (UTC) or Pacific Standard Time (PST).

Date and Time	Format
Date	YYYY-MM-DD
Time (24-hour clock)	HH:MM:SS
Datetime with time zone	PST: YYYY-MM-DD HH:MM:SS UTC: YYYY-MM-DD HH:MM:SSZ

Examples

Return worker and location fields from the **allWorkers** data source where the location is San Francisco and the Workday ID is a specific worker:

```
SELECT worker, location
FROM allWorkers
WHERE location in (Location_ID = San_Francisco_site) AND worker in
(3895af7993ff4c509cbea2e1817172e0)
```

Return billable transactions that were approved between 7:15 AM on August 1, 2020 and 7:45 AM on August 30, 2020, using Coordinated Universal Time (UTC) by adding Z to the datetime values:

```
SELECT billableProject, projectCompany, approvalDate
FROM billableProjectTransactions
WHERE (approvalDate >= '2020-08-01 07:15:00Z' AND approvalDate <=
'2020-08-30 07:45:00Z')
```

Limitations

WHERE ON clauses must go before WHERE clauses.

WHERE ON

Specifies the fields to filter from related business objects (RBOs) in the SELECT clause. Workday evaluates expressions in parentheses first in conditional expressions. Use the AND and OR logical operators to separate conditional expressions in Workday Query Language (WQL).

Syntax

```
WHERE ON
relatedBusinessObject1 relatedBusinessObjectField1 = value1
AND relatedBusinessObjectField2 IN (instance1, instance2)
```

```

    OR relatedBusinessObjectField3 IN (inst_refId = referenceID)
WHERE ON
    relatedBusinessObject2 relatedBusinessObjectField1 = value1

```

Omit the braces {} notation for RBO fields.

Arguments

Argument	Description
<i>relatedBusinessObject1</i>	The RBO of the fields for which you want to filter results.
<i>relatedBusinessObjectfield1</i> , <i>relatedBusinessObjectfield2</i> , ... <i>relatedBusinessObjectfieldN</i>	The fields of the related business objects for which you want to filter results.
<i>value1</i> , <i>value2</i> , ... <i>valueN</i>	The values of the fields you want to match.
<i>instance1</i> , <i>instance2</i> , ... <i>instanceN</i>	The Workday IDs of the field values you want to match. Workday fails queries with invalid ID formats.
<i>inst_refId</i>	The reference ID type of a field in the conditional expression.
<i>referenceID</i>	The reference ID of the field value you want to match. You can filter by the reference ID with or without double quotes. Examples: <ul style="list-style-type: none"> • (inst_refId = "referenceID") • (inst_refId = referenceID)

Comparison Operators

Operator	Field Data Type Compatibility	Description
=	Boolean Date Numeric Text	Equal.
>	Date Numeric	Greater than.
>=	Date Numeric	Greater than or equal to.
<	Date	Less than.

Operator	Field Data Type Compatibility	Description
	Numeric	
<=	Date Numeric	Less than or equal to.
!=	Boolean Date Numeric Text	Not equal.
contains	Text	The comparison value is a subset of the field value. Case insensitive. Example: Cat contains AT.
not contains	Text	The comparison value isn't a subset of the field value. Case insensitive. Example: Cat doesn't contain dog.
endswith	Text	The comparison value is a subset of field value. The last character of the field value matches the last character of the comparison value. Case insensitive. Example: Cat ends with AT.
in	Instance Text	The field matches 1 or more possible values for a condition.
is empty	Boolean Date Instance Numeric Text	The field has no value.
is not empty	Boolean Date Instance Numeric Text	The field has a value.

Operator	Field Data Type Compatibility	Description
not in	Instance Text	The field doesn't match any possible values for a condition.
startswith	Text	The comparison value is a subset of the field value. The first character of the field value matches the first character of the comparison value. Case insensitive. Example: Cat starts with CA.

Date and Time Formats

WQL supports dates and datetimes in Coordinated Universal Time (UTC) or Pacific Standard Time (PST).

Date and Time	Format
Date	YYYY-MM-DD
Time (24-hour clock)	HH:MM:SS
Datetime with time zone	PST: YYYY-MM-DD HH:MM:SS UTC: YYYY-MM-DD HH:MM:SSZ

Examples

Return results from the **allWorkers** data source and **location** RBO by workers who:

- Are over 50.
- Work more than 23 hours.

```
SELECT worker, location{addresses}, age FROM allWorkers
  WHERE ON location addresses is NOT EMPTY
    WHERE defaultWeeklyHours > 23 AND age > 50
```

Return results from the **allWorkers** data source and **location** and **dependents** RBOs by workers whose:

- Pay is a currency specified by a Workday ID.
- Dependents' last names start with the letter N.
- Age is over 50.
- Location is in 2 specific cities.

```
SELECT worker, location{addresses}, dependents{legalName_LastName}, age FROM
  allWorkers
  WHERE ON location addresses is NOT EMPTY AND currency in
    (9e996ffdd3e14da0ba7275d5400baf4)
      WHERE ON dependents legalName_LastName startswith "N"
        WHERE age > 50 OR location in (043e71ed793b1054de6213435945000c,
          d13a7c46a06443c4a33c09afbd72c73)
```

Limitations

WHERE ON clauses must go before WHERE clauses.

Related Information**Concepts**

[Concept: Related Business Objects in WQL on page 240](#)

Reference

[SELECT on page 251](#)

[2022R2 What's New Post: Workday Query Language \(WQL\)](#)

ORDER BY

Sorts the results in ascending or descending order, based on 1 or more fields. WQL sorts data alphabetically, not logically.

Syntax

```
ORDER BY
    field1 ASC, field2 DESC
```

Arguments

Argument	Description
<i>field1, field2, ...fieldN</i>	The aliases for the fields by which you want to sort your results.
ASC	Sort results in ascending or descending alphabetical order.
DESC	

GROUP BY

Combines rows that have the same values into summary rows. Example: Group number of workers by location.

Syntax

```
GROUP BY
    field1, field2, ...fieldN
```

Arguments

Argument	Description
<i>field1, field2, ...fieldN</i>	The aliases for the fields by which you want to group results.

Example

Return the location and the maximum years of service for a worker at that location from the **allWorkers** data source:

```
SELECT location, max(yearsOfService)
FROM allWorkers
GROUP BY location
```

Limitations

You can't group by:

- Aggregated fields. Examples: `SUM(field1)`, `AVG(field1)`.
- Currency fields.
- Multi-instance fields.

HAVING

Filters a group or an aggregate by a search condition. You can only use `HAVING` with the `GROUP BY` clause.

You can only access fields that:

- Workday has authorized for use with the Workday Report Writer or default areas.
- The current processing Workday account has permission to access.

Syntax

```
HAVING condition
```

Aggregation Functions

You can use these aggregation functions in a search condition:

Aggregation Function	Description
<code>AVG(field)</code>	Returns the average value of a numeric field.
<code>COUNT()</code>	Returns the number of instances matching the query criteria.
<code>COUNT(DISTINCT field)</code>	Returns the unique number of instances matching the query criteria. Use only on text and single instance fields.
<code>MIN(field)</code>	Returns the minimum value of a field.
<code>MAX(field)</code>	Returns the maximum value of a field.
<code>SUM(field)</code>	Returns the total sum of a numeric field.

Example

Return the count of workers by location where the number of workers is greater than 100:

```
SELECT location, count() as Count_Workers
FROM allWorkers
GROUP BY location HAVING count() > 100
```

LIMIT

Returns records up to the maximum number that you specify.

Syntax

```
LIMIT integer
```

Arguments

Argument	Description
<i>integer</i>	The maximum number of records to return.

Example

Returns the full names for the first 10 records in the **allWorkers** data source:

```
SELECT fullName
FROM allWorkers
ORDER BY fullName ASC
LIMIT 10
```

Limitations

- `LIMIT` value must be greater than zero and less than 1 million.
- Because the `LIMIT` clause first retrieves the entire set of results before returning the number of records you specify, using this clause doesn't improve the performance of your query.

Business Form Layouts

Create Business Form Layouts with Report Designer in Workday Studio

Steps: Create a Business Form Layout

Prerequisites

Before you can prepare custom reports for use with a business form layout, you must complete these prerequisites:

- Select `.rptdesign` as an enabled file type for uploading to Workday in **Edit Tenant Setup - System**. To translate the static text in your report designs, you must also enable the `.properties` file type.
- Download and install Workday Studio, including Report Designer.
- Familiarize yourself with the Workday Studio documentation and tutorials for Report Designer.

In addition, for each report definition that you create, ensure that you're either the report owner or that the report owner has shared the report definition with you. Also, ensure that the security for the report fields permits all anticipated users to access the report. Otherwise, the report might display incomplete data for some users.

Context

Creating a business form layout requires you to use both Workday and Report Designer. Perform step 1 in Workday, and all subsequent steps in Report Designer. The steps for creating and using a business form layout are as follows:

Steps

1. [Prepare a Custom Report to Be Used with a Business Form Layout](#) on page 264.
Prepare a custom report in Workday to use with a business form layout in Report Designer.
2. Create a business form layout for a custom report using Report Designer in Workday Studio.
See [Steps: Create Business Form Layouts with Report Designer](#) on page 272.

3. Upload a Business Form Layout and Attach It to a Custom Report on page 266.

Associate a report design (*.rptdesign*) file created with Report Designer in Workday Studio with a custom report in Workday.

4. Run and Print a Custom Report that Uses a Business Form Layout on page 268.

Print a custom report using a business form layout associated with it in Workday.

Next Steps

Sign into Workday Studio and create the business form layout for the report.

Related Information

Concepts

[Concept: Creating Business Form Layouts](#) on page 269

Tasks

[Create a Business Form Layout in Workday Studio](#) on page 265

[Run and Print a Custom Report that Uses a Business Form Layout](#) on page 268

[Upload a Business Form Layout and Attach It to a Custom Report](#) on page 266

Reference

[Reference: Edit Tenant Setup - System](#)

Prepare a Custom Report to Be Used with a Business Form Layout

Prerequisites

Before you can prepare custom reports for use with a business form layout, ensure the following prerequisites have been met:

- Select *.rptdesign* as an allowed file type for uploading to Workday in [Edit Tenant Setup - System](#).
- Download and install Workday Studio, including Report Designer.
- Familiarize yourself with the Workday Studio documentation and tutorials for Report Designer.

In addition, for each report definition that you create, ensure that you are either the report owner or that the report owner has shared the report definition with you.

Context

The following steps take place in Workday (as opposed to Workday Studio). After completing the steps below for preparing a custom report for use with a business form layout, you can then use Workday Studio to create a report design file (which defines the layout) for the report.

Steps

1. Sign in to Workday.
2. Identify or create the custom report for which you want to create a business form layout. The custom report must be of the *Advanced* report type.
3. On the **Advanced** tab of the report definition, select the **Enable As Web Service** option.
4. Optionally, follow the steps below to save the report data (XML) and XML schema (XSD) for later use in Workday Studio. You can browse for and use web-enabled reports that are stored in either your Sandbox or Production tenant directly within Report Designer. So this step is necessary only if you want to work with your report design *offline* in Workday studio (that is, when you are not connected, or do not

have the ability to connect to, your Workday tenant). To export the report data and schema, follow the steps below.

- a) As a related action on the report, select **Web Service > View URLs**.
- b) Select **Workday XML > REST > Workday XML**. When the XML source code appears, save it as an XML file to your local drive.
- c) Select **Workday XML > XSD > XSD**. When the XSD source code appears, save it as an XSD file to your local drive. (**Note:** Use your browser's Save Page As feature to accomplish this step. Do not copy and paste the text from the browser. Copying and pasting is error prone, especially in cases where characters from non-western fonts are used.)

After completing this step, you'll have 2 files (an XML file and an XSD file) on your local drive that you'll use as a basis for creating a business form layout in Workday Studio.

Note: The Workday XML saved in step 4 contains whatever data is returned by the report definition. Therefore, you should consider security and privacy policies when deciding where to store the XML file and who should have access to it.

Next Steps

Sign into Workday Studio and create the business form layout the report. For more information, see [Create a Business Form Layout in Workday Studio](#) on page 265.

Related Information

Tasks

[Steps: Create Advanced Reports](#) on page 122

Reference

[Reference: Edit Tenant Setup - System](#)

Create a Business Form Layout in Workday Studio

Prerequisites

Prepare a Workday custom report for use with a business form layout.

Context

These steps take place in Workday Studio, not Workday. After completing the steps below for creating a business form layout, you can then deploy the report design directly from Workday Studio. You can also go back into Workday and attach the business form layout to a custom report.

Steps

1. Sign in to Workday Studio.
2. Navigate to Report Designer.
3. When selecting your Workday Report Data Source, get the report description and report data by connecting directly to your Workday tenant. You can also follow the documentation in Workday Studio to import the report data (XML) and XML schema (XSD) you previously saved from Workday to create your business form layout.
4. Either deploy the report design directly from within Workday Studio, or save the business form layout as an *.rptdesign* file type on your local drive.

Result

After completing this step, you've either deployed the report design directly from Workday Studio or had an *.rptdesign* file type on your local drive. If you opted to save the *.rptdesign* file to your local drive, you must attach this file to a custom report in Workday.

Next Steps

If you don't deploy your report design directly from Workday Studio, sign into Workday to upload your business form layout and attach it to a custom report.

Upload a Business Form Layout and Attach It to a Custom Report

Prerequisites

Before uploading a business form layout and attaching it to a custom report, you must first create a business form layout in Workday Studio using Report Designer.

Context

If you have associated a report design (an *.rptdesign* file) with a Workday custom report directly in Workday Studio, then your business form layout is already attached to your custom report, and the use of the process described in this topic isn't necessary.

These steps take place in Workday (as opposed to Workday Studio). After completing the steps below for uploading and attaching a business form layout to a custom report, you can then run the report and use the custom layout.

You can attach multiple custom layouts to a single report definition. However, a single custom layout can be associated with only 1 custom report.

Steps

1. Sign in to Workday.
2. As a related action on the report to which you want to add a business form layout, select **Layouts > Manage Layouts**.
3. From the **Manage Layouts** grid, click + (the *plus* icon) to add a new row for a new business form layout.
4. Click the prompt button on the right side of the new row.
5. From the prompt, select **Create > Create Business Form Layout** and click **OK** to attach a new business form layout.
This step opens the **Create Business Forms Layout** task. (You also can access the **Create Business Form Layout** task directly from the Workday search bar or from the Workday menu.)
From the prompt, you also can select **Active Custom Business Forms using Report Design** to select from a list of existing business form layouts that have previously been attached to this report. Another option is to select **Active Custom Business Forms using Stylesheet**. You would only use this option if you needed to attach an XSL stylesheet to define the business form layout, rather than using a business form layout created in Report Designer. In general, this documentation assumes that you would use Report Designer to create a business form layout, which is typically the best practice.
6. Enter a **Description** for the business form layout.
7. Click the **Active** check box to enable this business form layout to display in the **Active Custom Business Forms using Report Design** prompt.
8. Enter a number of days for the **Resulting Document Expiration Offset (in Days)**. This is the number of days that the resulting document (the PDF printed using the business form layout) will be available in Workday after you generate it. The maximum value allowed is 25,000.
Note: Ensure that the expiration offset you specify here complies with your organization's document retention policy. Workday automatically deletes documents after the offset number of days. You can't recover these documents.
9. Optionally enter a **Comment** for the business form layout.
10. Select **Report Design** and click the associated prompt button.
11. From the prompt, select **Create > Create Custom Business Form Report Design Attachment**.

12. Click **Select files** and select the *.rptdesign* file you created in Report Designer. You can also drag and drop the file onto the task.
13. Click **Upload** to upload the selected *.rptdesign* file and then click **OK**.
14. The **Apply Report Design separately to each row** setting affects how Workday uses the *.rptdesign* file when generating a PDF document. This is a design decision for the author of the *.rptdesign* file. Consult with them before selecting the check box. More details on this setting and a description of its implications are included in the documentation on Report Designer in Workday Studio.
15. Select the **Override Streamlined Document Processing** option if applicable.
16. Select the **Force printed PDFs to download** option to override the **Force printed PDFs to download** setting in **Edit Tenant Setup - System** for a specific business form layout. Example: You have a large custom report that you want to email or save.
17. Select the **Custom Report** to which you're attaching the business form layout.
18. Select any **Tokens** to be used with this business form layout.
You can upload image files to use in your business form layout, such as a company logo or a signature image. Each image must be given a **Token Name** in the business form layout. Click **+** (the *plus* icon) in the **Tokens** grid and enter a token name for each image that your business form layout will use. Click **OK** when all required token names are created. (Don't click **Close**.)
If you do add tokens, then after you finish creating the business form layout, you must also configure it as follows:
 - a. As a related action on the business form layout, select **Business Form Layout > Configure**.
 - b. Select a **Token**.
 - c. To the right, click **Browse** and select an image file from your local drive or network. Images can be in BMP, GIF, JPEG, or PNG format.
 - d. Click **Upload** to upload the image to Workday.
 - e. You can optionally add a **Comment** to clarify the nature of the image (example: logo or signature). You can return to **Configure Business Form Layout** if you need to delete or change an image.
 - f. Click **OK**; then click **Close**.
- Note:** Tokens are needed only if the report design created in Workday Studio requires them. If you're unsure if tokens are needed, consult the person who created the *.rptdesign* file.
19. (Optional) Specify your translation preferences for the business form. You can upload translation properties files to provide translations of static text in your business form layouts. This enables you to output business forms in multiple languages from a single report design. Specify *.properties* as a valid upload file type in the **File Type Setup Instructions** section of the **Edit Tenant Setup - System** task. Then specify any previously uploaded **Translations** properties files (or create new ones) as follows:
 - Select a **User Language** and an associated **Custom Business Form Report Design Translation Attachment**. Each attachment should correspond to a translation properties file that you've uploaded. You have the option to create a new translation attachment directly from this task, in which case you can browse for and upload a translation properties file from your computer.
 - Select **Default Translation** to set the default translation language. This is the language that will be used to print the business form if there isn't a translation available in the user's preferred language.
20. If the attached business form layout is to be the default layout, then as a related action on the report, select **Layouts > Manage Layouts** and select the business form layout as the **Default Print Layout**. Specify a default print layout even if there's only a single business form layout attached to the report.

Result

After completing this step, you'll be able to achieve the final objective of printing a custom report using an attached business form layout, since a relationship between these 2 objects has now been established.

Next Steps

The final step is to print the custom report using the business form layout you've created. For more information, see [Run and Print a Custom Report that Uses a Business Form Layout](#) on page 268.

Related Information

Tasks

[Create a Business Form Layout in Workday Studio](#) on page 265

Run and Print a Custom Report that Uses a Business Form Layout

Prerequisites

Before printing a custom report that uses a business form layout, you must first upload a business form layout (defined by an *.rptdesign* file) to Workday and attach it to the custom report.

PDFs generated for Workday custom reports may require you to install language packs when viewing the document using Adobe Reader. Adobe Reader will prompt you and install the language pack for you. This task only needs to be completed once. This is likely to happen if you are viewing a PDF that includes Chinese characters on a computer that is not typically used for viewing Chinese documents. This is normal behavior and helps to reduce the size of the PDFs by not including the required fonts in every PDF generated.

Context

The following steps take place in Workday (as opposed to Workday Studio). This is the final step in using a business form layout: printing a report that uses the business form layout that you've designed in Report Designer.

Steps

1. Sign in to Workday.
2. Select and run a custom report that has a business form layout attached.

Note: You also can print a business form from the report step of a business process.

3. Print the report.

When you run a report that has a business form layout attached, a **Print** button appears and persists at the bottom center of the browser window. It is always visible, even when you scroll vertically. To print the report using the business form layout, select either:

- a) The **Print** button described above.
- b) The standard *Print* icon located at the top right of all custom report results.

If you schedule the report using the **Schedule a Report** task, and multiple business form layouts are available for the report, you can identify exactly which business form layout to use for the scheduled report. To do so, select the **Business Form (PDF)** output type on the **Output** tab of the **Schedule a Report** task, and specify the business form layout to be used.

4. When a business form is finished processing, a message appears near your sign-in name and you receive a notification.

Result

A PDF is generated based on the report definition and the selected business form layout. If there is only a single business form layout for the report, then the process of generating the PDF file starts immediately when you select to print the report. If multiple, active business form layouts are attached to the report, then you are prompted to select which business form layout to use before the PDF is generated.

When the PDF file generation is complete, the resulting PDF file is sent to **My Reports** and you receive a notification. Note that if you use **Process Monitor** to check the status of a report that you've attempted to print, the name of the process is *Print Service Retrieve Report and Generate PDF*.

If the total time required to run a custom report and generate the associated PDF document using a business form layout exceeds 2 hours, the process terminates, and its status in Process Monitor changes from *Processing* to *Failed*. Similarly, if the Print Layout page discussed in step 4 above is still open, it also displays a message to alert you that the process has failed.

Related Information

Concepts

[Concept: Report Step](#)

Tasks

[Upload a Business Form Layout and Attach It to a Custom Report](#) on page 266

Concept: Creating Business Form Layouts

Workday enables you to design and use business form layouts for meeting the exact layout specifications required by your organization. These specifications might include rich text formatting, headers and footers, page breaks, and exact placement of labels, data, spaces, and margins. Report Designer in Workday Studio enables you to use all these types of layout features and more. It is an easy-to-use, graphical layout tool designed specifically for this purpose.

Note that Workday enables you to share your report designs with other Workday customers through solutions sharing. You can upload your report designs so that other customers can use them or modify them. Similarly, you can download and use report designs created by others.

Use Cases for Business Form Layouts

Workday delivers a number of business form layouts as part of individual Workday applications. However, you also have the ability to create custom business form layouts as needed. There are 3 main scenarios for which you might create a business form layout:

- You want to use a business form layout for a custom report that you've created in Workday.
- A Workday-delivered report (a *standard* report) has a delivered business form layout, but you want to override the delivered business form layout with a custom business form layout. Depending on the specific application with which the layout is used, you might have the ability to override the delivered business form layout directly within the application as described in your Workday application documentation. In addition, you also have the ability to copy any Workday standard report to a custom report; you can then attach a custom business form layout to the custom report. For more information on copying a standard report to a custom report, see [Concept: Custom Reports](#) on page 12.
- You want to use a custom business form layout for a standard report that does not have a delivered business form layout. As with the preceding case, you'd first have to copy the standard report to a custom report.

Business Form Layout Considerations

The following recommendations can help you be successful when creating and using custom business form layouts:

- **Use Workday's Custom Report Writer to get the data you want, and use Report Designer to get the layout you want.** Report Designer is a powerful tool, and it might be tempting to use all of its capabilities, including the ability to filter and manipulate data. However, because it is critical that you keep your report definition (in Workday) in sync with your custom business form layout (in Workday Studio), it is highly recommended that you follow the approach below:
 - **In Workday:** Use the Custom Report Writer to create an *advanced report* definition that completely satisfies the data reporting requirements for a given report, including any filters, calculated fields, and so on.
 - **In Workday Studio:** Use Report Designer *solely to manipulate the layout of the report*. It's generally best to avoid using this tool to manipulate data, filter report results, or make calculations.

Using this approach not only helps to keep your report definition and business form layout in sync, but also makes your reporting solution easier to understand, modify, and troubleshoot.

- **Keep your Workday report definition and business form layout in sync.** If you delete a field from your report definition (like *Legal Name - First Name*, for example) and that field is used by a business form layout, the business form layout will replace the deleted field (*Legal Name - First Name*, in this case) with a blank space. On the other hand, if you add a field to an existing report definition upon which a business form layout is based, the business form layout ignores the new field, unless you update the business form layout to reflect the new field.

Related Information

Concepts

[Concept: Custom Reports](#) on page 12

Reference

[Reference: File Size and Printing Limits](#)

[Reference: Supported Configuration Types for Solutions](#)

Workday Report Designer

Setup Considerations: Report Designer

Note: The solutions described in this section are not part of the Workday Service. See [Legal Notice](#) for details.

You can use this topic to help make decisions when planning your configuration and use of Workday Report Designer. It explains:

- Why to set it up.
- How it fits into the rest of Workday.
- Downstream impacts and cross-product interactions.
- Security requirements and business process configurations.
- Questions and limitations to consider before implementation.

Refer to detailed task instructions for full configuration details.

What It Is

Report Designer is a graphical tool for working with business form layouts. A business form layout is a specific design that you can apply to a PDF containing the results of a Workday report.

Many Workday-delivered reports have built-in business form layouts. You can use those existing layouts without reference to Report Designer. However, you do need Report Designer to customize them or to create your own from scratch for use with your custom reports.

Report Designer isn't available in your Workday tenant. It's a separate tool, based on the Eclipse platform. You must download and install the latest version of Workday Studio, before you can install Report Designer.

Business Benefits

Report Designer gives you control over the exact layout and composition of your Workday report PDFs. It enables you to tailor your presentation of Workday data to your exact business requirements.

You can use Report Designer to customize:

- Rich text formatting.
- Charts and graphs.
- Images and logos.
- Tables.

- Headers and footers.
- Page breaks.

Use Cases

There are 3 main scenarios in which you should use Report Designer:

- You want to override the existing business form layout for a Workday-delivered report.
- A Workday-delivered report doesn't have an existing business form layout and you want to create one.
- You want to create a business form layout for a custom report you've created in Workday.

Questions to Consider

Question	Considerations
Do existing Workday report layouts meet my needs?	Report Designer is an entirely optional supplemental tool. If every Workday report you run has a business form layout that meets your needs, you don't need to use Report Designer.
Do I have an existing Workday Studio installation?	Workday Studio is an integration-building tool. It contains a menu option that enables you to download Report Designer. However, you need to install the latest version of Workday Studio first. When the process is complete, Studio and Report Designer are separate perspectives in your Eclipse installation.
Do I have a Java Development Kit installed?	Workday Studio requires a Java™ Development Kit (JDK) that's compatible with Java version 8. Install a suitable JDK before you can install Studio. And you must install Studio before you can install Report Designer.

Recommendations

Although Report Designer is an application of the Eclipse Business Intelligence and Report Tools (BIRT) project, don't install the BIRT engine separately. The **Install Report Designer** option under Studio's **Workday** menu provides everything you need.

You can preview your report design PDFs in Report Designer, but you should always perform final testing in Workday.

Requirements

Before installing Report Designer, you must download and install Workday Studio. Studio requires a Java™ Development Kit (JDK) that's compatible with Java version 8.

Before using Report Designer, you must select *.rptdesign* as an allowed file type for uploading to Workday in the **Edit Tenant Setup - System** task.

Limitations

Report Designer can only work with Advanced custom reports. You can't base your design on multiple reports.

Tenant Setup

To use the custom layouts for Report Designer, you must override Workday-delivered layouts in the relevant functional area. You can find details in the Edit Tenant Setup topic for that functional area.

Security

To generate a PDF from a report, you must have security permission to view all of its fields, so self-service isn't always possible. Example: an Administrator might need to generate Compensation Statements because individual workers lack security for some of the relevant fields.

Business Processes

You can use a Report Designer custom layout in a Business Process as a part of a Report step.

Reporting

You can base your report design on any single Advanced custom report.

Integrations

You can use Report Designer custom layouts to create PDFs in Studio integrations.

Connections and Touchpoints

Workday offers a Touchpoints Kit with resources to help you understand configuration relationships in your tenant. Learn more about the [Workday Touchpoints Kit](#) on Workday Community.

Related Information

Concepts

[Setup Considerations: Print Checks and Advices](#)

[Setup Considerations: Payslips](#)

Tasks

[Download and Install Workday Studio](#)

Reference

[The Next Level: BIRT: Report Designer](#)

[The Next Level: General Tips and Tricks](#)

[The Next Level: How to Get Started With BIRT](#)

[The Next Level: BIRT Resources Guide](#)

[The Next Level: BIRT Job Aids](#)

Creating and Deploying Report Designs

Steps: Create Business Form Layouts with Report Designer

Context

Before you can create a business form layout in Workday, you must create a report design. A report design requires a project, a design file, and data from a Workday report.

Steps

1. [Create Report Design Projects](#) on page 273.

Create a report design project to provide a framework that collects all files associated with your report design.

2. Create Report Design Files on page 273.

Report design files are where you define the layout of your design.

3. Create Data Sources on page 274.

Provide an XSD schema that describes the custom report and an XML file that contains sample data.

4. Create Data Sets on page 274.

Configure the data available from a data source.

5. Create and preview your report design.

6. Deploy Report Designs to Workday on page 276.

You must deploy your design to Workday before you can use it as a business form layout.

Related Information

Reference

[The Next Level: Build BIRT Expertise - Video Shorts](#)

Create Report Design Projects

Prerequisites

Open the Report Designer perspective.

Context

You must create a report design project to provide a framework that collects all the files associated with your report design.

Steps

1. Create a new project from the **File** menu by selecting **New > Project**.
2. Select **Business Intelligence and Reporting Tools > Report Project**.
3. Enter a **Project name**. Your new project displays in the **Navigator** view.

Create Report Design Files

Prerequisites

Create a report design project.

Context

A report design file is where you define the custom arrangement that you want to deploy to Workday as a business form layout.

Steps

1. Create a new report from the **File** menu by selecting **New > Report**.
2. Select a project and provide a name for the report design. Report design files have the filename extension `.rptdesign`.
3. Select a template to apply to your design.

Related Information

Reference

[The Next Level: Report Design Files and Configurations](#)

Create Data Sources

Prerequisites

Create a report design file.

Context

To create a report design, you must provide a description of the custom report in the form of an XSD schema and, if you want to preview the design locally, some sample data in the form of an XML file.

Steps

1. In the **Data Explorer** view, right-click **Data Sources** and select **New Data Source**.
2. You must first specify the custom report XSD schema that you would like to use with your report design. Accept the default selection of **Create from a data source type in the following list**. From the list of data source types, select **Workday Report Data Source**.
3. Enter a **Data Source Name**.
4. If you are not already connected to your Workday environment, click **Update Your Connection Details**. Specify your connection details.
5. To select a report description from your Workday tenant, click **From Workday**. If you have previously downloaded an appropriate XSD schema, click **Local Description File** to select it from your local machine.
6. If you click **From Workday**, the **Report Browser** dialog box opens on the **Filter Custom RaaS Reports** section. Here you can use the **Environment** drop-down list and the **Reports owned by me** check box to filter the reports that Studio offers for your selection. You can also enter the report name, or part of it, in the **Report name** field.
7. From the list of filtered reports in the **Select Report** section, select the one that you want to use in your report design.
8. If you wish to preview your design locally without deploying to Workday, you must specify sample data for the report design. To select sample data from your Workday tenant, click **From Workday**. If you have previously downloaded an appropriate XML file, click **Local Data File** to select it from your local machine.
9. If you click **Download from Workday**, the **Download Sample XML Report** dialog box opens. Specify the report design **Project** you're working on and enter a **File name** for the sample data XML file. Note that by default, the **Download Report Subset** check box is selected, which limits the downloaded report to 10 entries. Click **Download**.
10. After you specify the XML schema and sample XML for your Workday Report Data Source, click **Test Connection**. Report Designer checks that the XSD and XML files exist, the XSD schema file is valid, and the sample XML is valid.
11. The new data source displays in the **Data Explorer** view.

Note: One efficient way to unit test is to download a custom report run's data and schema (XML and XSD files, respectively) and assign them as the data source for a BIRT report design. Doing so enables you to assess the result as you add each data element to the design. You can test various scenarios by adding new fields (update both the XSD and XML files) or by manipulating the XML data.

Create Data Sets

Prerequisites

Create a report design data source.

Context

Data sets define which data is available to a report design from a data source.

Steps

1. In the **Data Explorer** view, right-click the **Data Sets** folder and select **New Data Set**. The **New Data Set** wizard opens.
2. Under **Data Source Selection**, select a data source. You can filter the available data sources by entering text in the filter field.
3. Enter a **Data Set Name**, then click **Finish** to open the **Edit Data Set** window.
4. As you complete the task, consider:

Option	Description
Data Source	Displays the data source that the data set is based on. You can only use 1 data source in Report Designer, so there are no options in the Select Data Source drop-down list.
Output Columns	Displays the XML schema element values for each of the columns that you added as rows to your custom report in Workday. Select an output column and click Edit to change Type , Alias , Display Name , or Display Name Key .
Computed Columns	Displays each of the computed columns that you added as rows to your custom report in Workday. Select a computed column and click Edit to change its Column Name , Data Type , Expression , Aggregation , or Filter . You can also click New to add new computed columns but this is bad practice. Always add new computed columns in Workday.
Filters	Displays any filters you defined in Workday to reduce the number of rows included in the output document. Select a filter and click Edit to change its Expression , Operator , or Value . You can also click New to add a new filter but this is bad practice. Always add new filters in Workday.
Settings	Enables you to change the number of rows that Report Designer retrieves from the report data source. By default, it retrieves every row. To set a limit, clear the Fetch all rows from data source check box and enter your preferred maximum number of rows in the Max number of rows to fetch from data source field.
Preview Results	Enables you to preview the data set results that Report Designer retrieves from the specified data source.

5. The newly created data set displays in the **Data Explorer** view, with 1 element for each of the fields in the relevant custom report. Expand the data set element to view the data fields that it contains.

Deploy Report Designs to Workday

Prerequisites

Ensure that your tenant is configured to upload files with the .rptdesign extension to Workday.

Context

When you've finished work on your report design, you must deploy it to Workday before you can use it as a business form layout.

Steps

1. In the **Navigator** view, right-click your report design file and select **Deploy > Deploy to Workday**.
2. In the **Deploy Report Design to Workday** dialog box, click **Select Custom Report** to specify the relevant custom report in Workday. The correct custom report might already be named in the **Custom Report** field.
3. In the **Create or Select a Business Form Layout for which to Deploy this Report Design** section, the **Create Business Form Layout** check box is selected by default. To specify a business form layout for which you've already deployed the report design, select the **Select Business Form Layout** check box and select from the associated drop-down list.
4. As you configure the business form layout, consider:

Option	Description
Description	Use this field to enter a description for the business form layout.
Active	This check box, which is selected by default, activates the layout for the custom report.
Document Expiration	Use this field to enter the number of days until the resulting PDF document expires. If you need to access the PDF after expiration, you can rerun the report.
Comment	(Optional) Use this field to enter a comment.
Apply per row	This check box, which is selected by default, tells Workday to apply the report design to each row of the relevant custom report. If you clear the check box, Workday applies the report design to the report's data as a whole.
Use as the Default Business Form Layout	This check box is only enabled if there's already a report design associated with the custom report in Workday. If there is, select the check box to set the current design as the default business form layout for printing the custom report.

5. Click **Deploy**.

Concept: Report Designer Overview

When you run a report, Workday displays the results and enables you to download a PDF version. You can associate this PDF with a specific design called a business form layout. Report Designer is a graphical tool that enables you to create your own designs. Then you can deploy them as business form layouts in your Workday tenant.

There are 3 main scenarios in which you might use Report Designer:

- You want to create a business form layout for a custom report you've created in Workday.
- Workday provides a standard report with a delivered business form layout, but you want to customize the business form layout.
- You want to use a customized business form layout for a standard report because it doesn't have a Workday-delivered business form layout. For this use case, make sure to first copy the standard report to a custom report.

Workday provides Report Designer as part of the Workday Studio Eclipse development environment and uses the open-source Business Intelligence and Reporting Tools (BIRT) software. Ensure that you have the latest version of the Workday Studio.

Report Designer gives you control over a number of useful design factors, including these elements:

- Rich text formatting.
- Charts and graphs.
- Images and logos.
- Tables.
- Headers and footers.
- Page breaks.

Related Information

Reference

[The Next Level: BIRT: Report Designer](#)

[The Next Level: General Tips and Tricks](#)

Concept: Data Sources, Data Sets, and Tables

When creating a report design, you must provide a description of the report's structure and some sample data. Together, these are known as the design's data source.

Note: If you wish to apply your design to a custom Workday report, the report must be enabled as a web service. The **Enable as Web Service** option is only available on *Advanced* custom reports.

You use the Report Designer **Data Source** wizard to retrieve the report's structure in the form of its XML Schema and sample data in the form of an XML file.

Report Designer displays the data structure of the source Workday report as **Data Sets**. Each data set displays the fields that were defined for a business object in the report.

A Workday report can contain fields from secondary business objects that are related to the primary business object. Report Designer displays fields from any secondary business objects as additional data sets. A report can also contain individual fields that occur multiple times. Report Designer displays these fields as additional data sets too.

In Report Designer, you use tables to present the data taken from a Workday report. You can create tables by dragging whole data sets into your report design. Each row in the report has a corresponding column in the table.

Note: It is best practice, when possible, to base your report design on a single table or grid.

Reference: Data Type Mapping

Workday supports a fixed set of data types in its reports. Report Designer data types can differ slightly. This table describes how Workday data types map to Report Designer data types.

Workday Data Type	Report Designer Data Type	Notes
Text	String	
Decimal	Decimal	

Workday Data Type	Report Designer Data Type	Notes
Boolean	Boolean	By default, Boolean data type values display as <i>true</i> or <i>false</i> in a report's PDF. However, you can add logic to the report design (using a JavaScript expression, for example) to have it display <i>yes</i> or <i>no</i> in the PDF instead.
Date	Date	
DateTime	Timestamp	
Currency	Decimal	Workday provides a Show Currency Code Column option for currency values. If you select this option when creating or editing a custom report, Workday displays an additional Currency column when you run the report. In Report Designer, this selection translates to an additional Currency field in the data set.
Multi-instance	Secondary Data Set	Multi-instance type fields represent the one-to-many relationship a primary business object has with a related business object. A multi-instance field can contain multiple values, with each value representing an instance in the related business object that is linked to the primary business object.
Reference ID	String	A Reference ID is a unique identifier for a specific instance of a business object in Workday.
Rich Text	String	Report Designer treats rich text values as strings. However, these values can contain HTML tags. To display the formatted text in a PDF, rather than the HTML tags, use the Dynamic Text component from the Report Designer palette.

Designing and Formatting Reports

Add Labels to Report Designs

Prerequisites

Create a report design file.

Context

Use labels for static text that will need to be translated.

Steps

1. Drag a **Label** report item from the **Palette** to the required position on the **Layout** tab of the main view. An empty text field displays.
2. In the empty text field, enter text for the label.
3. Use the **Properties** tab of the **Property Editor** view to configure the properties of the label. Note that you can apply formatting to a label as a whole but you can't format individual words.

Add Text Blocks to Report Designs

Prerequisites

Create a report design file.

Context

Use text blocks for longer pieces of text. Text blocks can contain plain text, HTML, or inline expressions.

Steps

1. Drag a **Text** report item from the **Palette** to the required position on the **Layout** tab of the main view. An empty text box displays.
2. Enter your text in the large blank space.
3. To tell Report Designer how to interpret your text, select the relevant option from the content type drop-down list:
 - *Auto*
 - *HTML* (default)
 - *Plain*
4. When entering HTML, you can add tags manually or use the tag shortcuts on the toolbar. To use the shortcuts, highlight the relevant text and click a tag in the toolbar. Report Designer adds the tags around the selected text.
5. To change the type of tags that are displayed in the toolbar, select from the category list on the left of the toolbar. The options are:
 - *Formatting*
 - *Layout*
 - *Content*
 - *Lists*
 - *Dynamic Text*

Report Designer interprets dynamic text as JavaScript. Select this option when you want to use an expression to manipulate data before the report displays it. You can edit the text box again at any time by double-clicking it.

Add Dynamic Text to Report Designs

Prerequisites

Create a report design file.

Context

Use dynamic text to create expressions using a combination of literal values, fields, operators, variables, and functions that evaluate to a single value.

Steps

1. Drag a **Dynamic Text** report item from the **Palette** to the required position on the **Layout** tab of the main view.
2. Enter your expression in the **Expression** field. Enclose literal text in double quotation marks. Use the shortcut buttons to quickly add operators. Add terms by making selections in the **Category** and **Sub-category** lists, then double-clicking in the **Double click to insert** list.
3. If you're adding dynamic text to a table that's bound to a data set, the **Available Column Bindings** option displays in the category list, showing rows from that data set.

Add Rotated Dynamic Text to Report Designs

Prerequisites

Create a report design file.

Context

You can add rotated text to your report designs using angles of 90, 180, or 270 degrees. Report Designer treats rotated text as an image and might not always render it perfectly, so you should use this feature only when strictly necessary.

Steps

1. To add rotated text to your report design, drag the **Rotated Dynamic Text** item from the **Palette** view to the required position on the **Layout** tab of the main view.
2. To add literal text, enter it between quotation marks in the **Text Content** field.
3. To add an expression, click **Invoke Expression Builder**. Enter your expression in the **Expression** field. Enclose literal text in double quotation marks. Use the shortcut buttons to add operators quickly. Add terms by making selections in the **Category** and **Sub-category** lists, then double-clicking in the **Double click to insert** list.
4. From the **Rotation Angle** drop-down list, select 0, 90, 180, or 270 degrees.

Add Data Sets and Data Set Fields to Report Designs

Prerequisites

Create a report design file.

Context

Data sets define which data from a report is available to a report design. You can add an entire data set to a design to form a table or you can add data set fields individually.

Steps

1. To add an entire data set to a report design, drag the data set node from the **Data Explorer** view to the required position on the **Layout** tab of the main view.
2. Select the Workday report columns that you want to bind to columns in the report design, then click **OK**. Report Designer adds the data set to your design in the form of a table.

3. To add an individual data set field to a report design, drag the field node from the **Data Explorer** view to the required position on the **Layout** tab of the main window.

Add Images to Report Designs

Prerequisites

Create a report design file.

Context

You can add 2 types of images to your report designs: images that are part of a layout, such as company logos, and images that Workday returns as reports results data.

Steps

1. Drag an **Image** report item from the **Palette** to the required position on the **Layout** tab of the main view.
2. Select a source for your image. As you do so, consider:

Option	Description
URI	This option enables you to specify a web link to an image. You can also specify tokens, which you create in the Workday application by uploading images to the business form layout configuration. Using tokens means that you don't have to update your report design when you change an image in Workday. Report Designer displays a placeholder for token images, rather than the image itself.
Embedded image	This option enables you to browse to an image file. Report Designer embeds the image in the report design.
Dynamic image	This option enables you to include images that are returned as report results data.

3. To add a URI, enter the web link or token in the **Enter URI** field.
4. To add an embedded image, click **Add Image** and browse to the file that you want to add.
5. To add a dynamic image, click **Select Image Data**. The **Select Data Binding** window displays.
6. From the **Data Set** drop-down list, select the data set from which to retrieve the image.
7. Select the check box beside the row that contains the image. Click **OK**. The dynamic image expression is inserted into the **Enter dynamic image expression** field.

Report fields that were defined using the **Base64 Image Data** field display as images within PDF documents only.

Add Background Images to Master Pages

Prerequisites

Create a report design file.

Context

In the **Master Page** view, you can add background images to your report design as tokens or as embedded images.

Steps

1. To add a background image to the master page, on the **Property** tab of the **Property Editor - Master Page** view, select the **Advanced** tab.
2. If your image is web-based, select **URL** from the **Value** drop-down list of the **Background image type** property. Enter the URL in the **Value** field of the **Background image** property.
3. Alternatively, if your image is stored locally, select **Embedded Image** from the **Value** drop-down list of the **Background image type** property. Click the browse icon next to the **Value** field of the **Background image** property and select the image.
4. Use other fields in the **Background** section on the **Advanced** tab to specify the background image's size and position, and whether it's displayed once or in a repeating pattern.

Add Grids to Report Designs

Prerequisites

Create a report design file.

Context

You can add grids to your report design to help you arrange items. Unlike tables, grids are simple layout devices. They don't iterate through the data rows that a data set returns. Grids are typically used to display a single instance object field value.

Steps

1. To add a grid to your report design, drag the **Grid** item from the **Palette** view to the required position on the **Layout** tab of the main view.
2. Specify the number of columns and rows that you want to see in your grid. You can now drag data set items from the **Data Explorer** view or report items from the **Palette** view to each cell in the grid.
3. Adjust the size and appearance of your grid's cells on the **General** tab of the grid's **Properties** view. Grid cells have no default height or width values. Workday recommends that you don't impose any. Adding height and width values can cause the generated PDF to have unwanted line breaks.
If you add a grid within a grid, avoid truncating values by ensuring that the column width of the outer grid is greater than the column width of the inner grid.
4. By default, grid cell borders are invisible. To adjust border visibility, edit the **Values** under the **Box** heading on the **Advanced** tab of the cell's **Properties** view.
5. You can create nested grids by dragging a new grid to a cell of an existing grid.

Add Lists to Report Designs

Prerequisites

Create a report design file.

Context

You can add lists to your report design to help you present items in **Header**, **Detail**, and **Footer** rows.

Steps

1. To add a list to your report design, drag the **List** item from the **Palette** view to the required position on the **Layout** tab of the main view. Report Designer displays **Header**, **Detail**, and **Footer** rows.
2. Drag data set items from the **Data Explorer** view or other layout items from the **Palette** view to the list's rows.

Add Tables to Report Designs

Prerequisites

Create a report design file.

Context

Tables are at the heart of most report designs. They lay out information in row and column form but they're more than simple grids - tables iterate through all the data rows that a data set returns. Tables are typically used to display multi-instance object field values.

Steps

1. To add a table to your report design, drag the **Table** item from the **Palette** view to the required position in the **Layout** tab of the main view.
2. From the **Data Set** drop-down list, select the data set that contains the columns you want to bind, then select the columns. You can adjust the table's binding on the **Binding** tab of the **Property Editor - Table** view. By default, a table returns all entries within a data set.
3. Specify the number of columns and details rows that you want to see in your table.
4. (Optional) Specify the order your results are returned in on the **Sorting** tab of the **Property Editor - Table** view. You can use any field in the data set bound to the table as a sorting key. The sorting field doesn't have to be part of the table's output.
5. (Optional) Specify 1 or more conditions that must be met for an entry to be output in a table on the **Filters** tab of the **Property Editor - Table** view. If you specify multiple conditions, the entry is only returned if they evaluate to true.
6. (Optional) Adjust the appearance of your table's cells on the **General** tab of the table's **Property Editor** view. Table cells have no default height or width values. Workday recommends that you don't impose any. Adding height and width values can cause the generated PDF to have unwanted line breaks.
If you add a table within a table, avoid truncation of values by ensuring that the column width of the outer table is greater than the column width of the inner table.
7. (Optional) Improve readability by assigning a color to every other table row. On the **Highlights** tab of the **Property Editor - Table** view:
 - a) In the **Condition** section, specify `row.___rownum%2 Not Equal to 0`.
 - b) Select the **Background Color** of your choice.

Add Charts to Report Designs

Prerequisites

Create a report design file.

Context

Charts are a useful way to represent data or the relationships between sets of data. Report Designer offers a variety of ways to chart your data, and it is important that you choose the correct type. For example, a particular set of data might work best when presented as a bar chart.

Steps

1. To add a chart to your report design, drag the **Chart** report item from the **Palette** view to the required location on the **Layout** tab of the main view.

2. On the **Select Chart Type** tab of the **New Chart** dialog box, choose the type of chart that you would like to use. Different options are available for different chart types. For example, charts may offer multiple Y axes or 3D views.

Note: Charts with an **Output Format** set to **SVG** do not render when a PDF is generated on Workday's servers, so ensure that you select **PNG**, **JPG**, or **BMP**.

3. On the **Select Data** tab, specify the 2 types of data that Report Designer needs to create your chart: the Category series and the Value series. Think of these as your chart's X and Y axes. To add a series, drag a column heading from the **Data Preview** section to the **Category (X) Series** or **Value (Y) Series** field.

Note: Some chart types use slightly different names for the **Category** and **Value** fields, but the principle is always the same.

4. On the **Format Chart** tab, edit the chart's formatting properties to your liking. Select a chart element from the **Chart Area** or **Series** categories on the left of the tab and adjust its properties on the right.

Add Barcodes to Report Designs

Prerequisites

Create a report design file.

Context

You can encode information in a variety of barcode formats and add them to your report designs.

Steps

1. Drag a **Dynamic Text** report item from the **Palette** to the required position on the **Layout** tab of the main view.
2. In the Expression Builder, select the **BIRT Functions** category and the **IDAutomation** subcategory, then double-click the barcode encoder you want to use. Example: Code128c.
Report Designer adds an expression in the Expression Builder.
3. Select the data you want to encode from the **Available Column Bindings** or **Available Data Sets** categories and their subcategories, then double-click it to enter. Report Designer adds it to the expression.
To encode a string literal, add it in quotation marks between the parentheses in the expression.
4. From the **Font** drop-down list on the **General** tab of the **Properties** view, select a barcode font that's supported by your selected encoder.

Next Steps

Preview your report design.

Group Report Data

Prerequisites

Create a report design file.

Context

Report Designer enables you to group a set of rows within a report by the values of one particular column. For example, the grouping feature allows you to:

- Aggregate and summarize a grouping and add this information to the report.
- Add titles or other text to the beginning of each group.

- Add averages, counts, subtotals, and other summary information to the beginning or end of each group.
- Insert a page break before or after each group.

Note:

If you need to group custom report data, wherever possible use the grouping functionality that Workday provides for custom report configuration before creating your report design.

In addition, due to performance issues inherent in BIRT, Workday recommends that you don't use Report Designer's group-by feature for data sets where the custom report data exceeds 10 MB.

Steps

1. Bind the primary data set to a table within the main body of the report. In the **Property Editor - Table** view, select the **Binding** tab, then select the primary data set from the **Data Set** drop-down list.

Note: The Workday runtime has to make at least one complete scan of a data set to find all the values for the column it's grouping on. The runtime must also store the grouped-by data in memory until it has rendered the complete data set. Keep this factor in mind when you're considering using this feature. We recommend using grouping only on data sets that are relatively small and never when you are using the **Apply report design separately for each row** option.

2. In the **Outline** view, expand the **Body > Table > Groups** node. Right-click **Groups** and select **Insert Group**.
3. As you specify the group's properties, consider:

Option	Description
Name	The group name.
Group On	The data set column to group on.
Expression	The data binding expression for the column.
Sort direction	Ascending or descending.

Note:

After grouping has occurred, a display row number might not match the row order of the initial data, leading to incorrect joining of primary and secondary data sets. If you want to add a secondary data set binding to a report with a grouped primary data set, you must set the `PrimaryRowNumber` parameter from the primary data set using a new column named `Row_Number`, which is added automatically.

To do so, click **Data Set Parameter Binding** in the **Property Editor - Table** view and give the `PrimaryRowNumber` parameter the value `row["Row_Number"]`.

Be aware that the expression `row.__rownum` was used in Report Designer for Workday 17 and Workday 18. It is important to understand the difference between these 2 expressions:

- The new `row["Row_Number"]` expression is a column placed in the data set by the Workday extensions. It indicates the row order of the report data item in the report data coming from the server.
 - The former `row.__rownum` expression was a special expression that indicated the row number at display time of the data set item.
4. To add text or other report items to the end or beginning of every grouping, use the group header and footer. Example, you can add an aggregation of one of the fields, based on the grouping. First add a column binding for the aggregation, then add that to the table group footer.

Edit Master Pages

Prerequisites

Create a report design file.

Context

You can make adjustments that are reflected on every page of your report design by editing its master page.

Steps

1. To edit the master page of report design, select the **Master Page** tab in the main view.
2. Drag report items from the **Palette** view to the master page's header or footer.

Note:

The master page footer automatically includes the current date and time, which it retrieves using the JavaScript `new Date()` function.

3. Use the **Properties** tab of the **Property Editor – Master Page** view to adjust properties such as header and footer dimensions, text size, and background color.

Prevent Broken Image Links from Displaying

Prerequisites

Create a report design file.

Context

Report Designer displays a broken image link when it can't locate an image specified in a Workday report. You can prevent the broken link symbol from appearing in generated reports by adjusting the properties of the image.

Steps

1. Select an image or image place-holder.
2. On the **Visibility** tab of its **Properties** view, select the **Hide Element** check box.
3. In the **Expression** field, enter `row["Photo.Photo"] == null`, where Photo is the column heading value for the image field in your report. Example: `EmployeeHeadshot.EmployeeHeadshot`. This expression checks if the image is present, and hides it for all outputs if it's missing.

Display Multiple Labels on the Same Line

Prerequisites

Create a report design file.

Context

By default, report items display on successive lines. But there are many situations in which you need items to display side by side on the same line. Example: you might want to begin a form letter with 'Dear' followed by a name.

Steps

1. To display successive items on the same line within a grid or table, select one of them and open its **Property Editor** view.
2. Select the **General** tab.
3. From the **Display** drop-down list, select **Inline**.
4. Repeat steps 1 through 3 for each item that you want to display on the same line.

Display Rich Text Data in Tables

Prerequisites

Create a report design that uses Workday data of the type Rich Text.

Context

When you drag a data set into a report design to form a table, each cell contains a **Data** report item, by default. These treat text as a simple string and lose any rich text formatting that might have been applied in the associated Workday custom report. To display the correctly formatted text within your generated PDF, replace the cells' **Data** report items with **Dynamic Text** report items.

Steps

1. Delete the **Data** report item from the cell in the table.
2. Drag a **Dynamic Text** report item from the **Palette** view to the same cell.
3. In the **Expression Builder**, select *Available Column Bindings* from the **Category** list.
4. Select the **Table** element that corresponds to the appropriate data set from the **Sub-Category** list.
5. Double-click the data set row that you require. Expression Builder inserts the appropriate expression in the **Expression** field.
6. Click **OK**. Report Designer displays the expression within the dynamic text report item in the cell.

Apply Global Formatting

Prerequisites

Create a report design file.

Context

Although you can edit the formatting options for each item in your report design individually, you might sometimes wish to apply the same formatting style to an entire layout.

Steps

1. To apply formatting to an entire report design, open the **Outline** view.
2. Expand the **Styles** node.
3. Right-click **Report** and select **Edit Style**.
4. In the **Edit Style** dialog box, edit formatting options such as font size and color.

Use JavaScript to Conditionally Alter Layout

Prerequisites

Create a report design file.

Context

You can use JavaScript expressions to conditionally alter the layout of your report design. For example, you might want to change the font color in a particular field, based on values in the report.

Steps

1. On the **Layout** or **Master** tab of the main view, select the report item to which you want to apply conditional formatting.

2. Open the item's **Property Editor** view and select the **Highlights** tab.
3. Click **Add** to create your new formatting rule. The rule has 2 parts: a condition and a format. When the condition is met, Report Designer applies the format.
4. In **Condition** section of the **New Highlight** dialog box, set the condition that you want to test for. In the field on the left, specify the first part of the conditional expression. Click **Fx** to enter JavaScript expressions in the Expression Builder.
5. In the central drop-down list, select an operator.
6. In the field on the right, specify the final part of the conditional expression. Example completed conditional expression: `row["OrderTotal"] Greater Than 1000`.
7. In the **Format** section, specify the formatting that should apply if the condition is met. Example: set the font color to red.

Related Information

Reference

[The Next Level: Javascript Sample Code](#)

Insert Page Breaks

Prerequisites

Create a report design file.

Context

When creating a design for a multipage report, you might want to specify page breaks to better organize the material. For example, a report might contain subreports that would look better on separate pages.

Steps

1. To add a page break after a report item, select the item and open its **Properties Editor** view.
2. On the **Page Break** tab, from the **After** drop-down list, select **Always**.

Create Report Design Templates

Prerequisites

Create a report design project.

Context

The Report Designer **New Report** wizard includes a number of predefined design templates. You can also create templates of your own for inclusion in the wizard.

Steps

1. Create a new template from the **File** menu by selecting **New > Template**.
2. Select a project and provide a name for the report design. Report design templates have the filename extension `.rpttemplate`.
3. In the **Display Name** field, enter the name that will be visible to users in the **New Report** wizard.
4. (Optional) You can also enter a **Description** and select an image to associate with the new template.

- After you create the new template, you must register it with the **New Report** wizard to make it available to others. To do so, select **File > Register Template with New Report Wizard...**

Note: To remove a custom template from the **New Report** wizard, you must delete it from the Report Designer custom templates folder. To locate this folder, select **Window > Preferences** and navigate to **Report Design > Template**.

Result

The template you created is now available from the **New Report** wizard, using the display name you provided. If you included a description and a specific image, they too are displayed in the wizard.

Navigate Report Designs Using the Outline View

Prerequisites

Create a report design file.

Context

By default, the **Outline** view is displayed in the lower left-hand corner of the Report Design perspective, beside the **Navigator** view. This tree-structure view is useful for navigating complex layouts in your report design.

Steps

- In the **Outline** view, expand your report design, then expand the **Body** node.
- Select a report item. Report Designer highlights the corresponding item on the **Layout** view.
You can expand grid report items in order to display their rows and cells. You can also expand lists, tables, and cross tabs to display their contents.

Update Report Designs to Match Custom Report Changes

Prerequisites

Create a report design file.

Context

If you modify a custom report in Workday after you've created a report design, you must update the report design file to reflect the changes.

Steps

- In the **Data Explorer** view, right-click the data source for your report design, then select **Edit**.
- Click **From Workday**, then enter the report name.
- Select the report, then click **Finish**.
- Double-click a data set to open the **Edit Data Set** window. Click **OK** to update the data set for your report design. Repeat for each data set in your report design.
- Preview the report by selecting **Run > View Report > In Web Viewer**.
- Click **Export Report**. Select **PDF** from the **Export Format** drop-down list. Click **OK** to display a list of fields that are no longer valid in your report design.
- Update any fields listed in the error messages.

Example: If a field has been renamed, double-click the field in the **Layout** view of Report Designer to open the **Edit Data Binding** window. Click the **JavaScript Syntax** button, then use the **Expression Builder** to select the new field from the available data sets.

Debug JavaScript in Report Designs

Prerequisites

Create a report design containing JavaScript.

Context

Before you can use Eclipse's debugging tools with JavaScript that's part of a report design, you need to perform some extra steps.

Steps

1. In the **Script** view, place a breakpoint on the line that you're interested in debugging. To do so, double-click the margin to the left of the script.
2. In the **Navigator** view, right-click the `.rptdesign` file, then select **Debug As > Debug Configurations....**
3. In the left navigation pane of the **Debug Configurations** dialog box, select **Report**, then click **New** in the toolbar.
4. In the **Output** section, select **PDF** from the **Format** drop-down list. Then select the **Open generated file when finished** check box.
5. Click **Apply**, then click **Debug**.
6. Select **Window > Open Perspective > Other** and open the **Debug** perspective.
7. Debug using the standard Eclipse debugging tools.

Note: Right-clicking the report design, then selecting **Report > Debug Report** uses default settings only, and attempts to print to an HTML file without displaying the output. Don't use this option.

Concept: Applying a Report Design Separately to Each Row

On the **Layout > Manage Layouts** page in Workday, the **Apply report design separately to each row** check box controls how Workday applies your report design to the custom report data.

- If you select the check box, Workday breaks the data from the report into individual rows. It then applies the report design individually to each row of data, generates multiple individual PDF documents, and merges them together into a single PDF document.
- If you don't select the check box, Workday applies the report design to the data returned by the report as a whole.

Note: Workday automatically enables the **Apply report design separately to each row** option for bulk prints.

Selecting the **Apply report design separately to each row** check box allows you to make assumptions when creating a report design.

- If you select **Apply report design separately to each row**, you can assume that there will only ever be a single row of data. This can be useful when dealing with complex layouts, or where the report design includes headers and footers. You can also assume that the page numbers will be reset for each row.
- If you don't select **Apply report design separately to each row**, you can assume that your report design should contain a table for the primary data set.

Concept: Report Designer Fonts

In Report Designer, the **Font** drop-down list displays only fonts that are available on the Workday server. Workday provides these font families to the report design at runtime:

- IDAutomationOCR-A
- IDAutomationOCR-A6LPI

- IDAutomationOCR-AIII
- IDAutomationOCR-AIV
- IDAutomationOCR-B
- IDAutomationOCR-BIII
- IDAutomationOCR-BIV
- Roboto Light
- Roboto Regular
- Roboto Medium
- SansSerif
- Serif

Note: Workday doesn't support the Arial font.

For barcodes, Workday provides these font families:

- IDAutomationC128L
- IDAutomationC128M
- IDAutomationC128S
- IDAutomationC128XL
- IDAutomationC39L
- IDAutomationC39M
- IDAutomationC39S
- IDAutomationC39XL
- IDAutomationHC39L
- IDAutomationHC39M
- IDAutomationHC39S
- IDAutomationHC39XL
- IDAutomationUPCEANL
- IDAutomationUPCEANM
- IDAutomationUPCEANS

For check printing, Workday provides IDAutomationMICR.

Unicode and Internationalization of Text in Report Designs

Unicode is a computing industry standard for the consistent encoding, representation, and handling of text in most of the world's writing systems. Each Unicode character can be represented by a different character encoding, also known as a *code point*, the most commonly used being UTF-8 and UTF-16.

A computer font is an electronic data file containing a set of glyphs, characters, or symbols where each of the glyphs, characters, or symbols is a visual representation of a character encoding. There are now many fonts based on Unicode, for example, TrueType and OpenType. These font formats map Unicode code points to glyphs, characters, or symbols.

Unicode-based fonts typically focus on supporting only basic ASCII, or particular sets of characters or symbols. These are the reasons for this approach to font design:

- Applications and documents rarely need to render characters from more than one or two writing systems.
- Fonts tend to demand resources in computing environments.
- Designing a consistent set of rendering instructions for tens of thousands of glyphs, characters, or symbols constitutes a massive task.

FAQ: Font Issues in Report Designs

Why won't any text render in my report design?

If the text doesn't render at all in your report, it might mean that one of these elements doesn't cover all the code points for all the characters in your locale:

- A **Font** property you've selected for a report item.
- A **Font** style setting for the entire report.
- A default **Font** Workday runtime has selected for your report.

If this is the case, check your data (including translation labels) and select *Arial Unicode MS* as the new **Font** value where appropriate. Once completed, print your report with the new report design.

Why will most of the text render, but certain characters are corrupted or missing?

If some text renders, but certain characters are corrupted or missing, it might mean that one of these only partially covers some of the code points used by the text in your report:

- A **Font** property you've selected for a report item.
- A **Font** style setting for the entire report.
- A default **Font** Workday runtime has selected for your report.

If this is the case, check your data (including translation labels) and select *Arial Unicode MS* as the new **Font** value where appropriate. Once completed, print your report with the new report design.

What do I do when the text appears to be truncated on the page?

If the text appears truncated, you need to examine the space that you've allocated for the text to be rendered in your report design. Ensure that the text area is large enough to fully display the text in the selected font.

What do I do when traditional Chinese characters render incorrectly in PDFs viewed in Chrome?

You might find that a Workday-generated PDF containing traditional Chinese characters doesn't render properly when viewed in Chrome. If this is the case, use another browser or PDF viewer to display the PDF. Alternatively, install the PDF Viewer extension from the Chrome Web Store in order to view the PDF in Chrome.

Sharing Report Designs

Export Report Design Projects

Prerequisites

Create a Report Designer project.

Context

You might wish to share projects with other Report Designer users. To do so, export the project to an archive file. Other users can then import the project into Report Designer and modify the design, if required.

Steps

1. Right-click the project in the **Navigator** view and select **Export...**
2. Expand the **General** folder and select **Archive File**.
3. On the **Archive file** screen, select which of the project's files you wish to export. All of the contents are selected by default.
4. Click **Browse** and navigate to the folder you'd like to export to, then specify a filename for the archive file.

Import Report Design Projects

Prerequisites

Have access to an exported Report Designer project archive file.

Context

Another Report Designer user might wish to share a project with you. When they have exported the project as an archive file, you can then import it.

Steps

1. Right-click in the **Navigator** view and select **Import....**
2. Expand the **General** folder and select **Existing Projects into Workspace**.
3. On the **Import Projects** screen, select the **Select archive file** option.
4. Click **Browse** beside **Select archive file** and navigate to the archive file you'd like to import. Once imported, the project displays in the **Navigator** view.

Concept: Workday Solution Sharing and Report Designs

When you share a custom report with other Workday users, you also automatically share any report designs associated with it, as well as any configured translations. Workday users of the importing tenant can print the custom report in exactly the same way as users of the exporting tenant.

If you don't want to share a report design with a custom report, make a copy of the report and remove the design from the business form layout. Share the copy rather than the original.

Translation Support

Steps: Translate Labels Using Resource Files

Prerequisites

Create a report design file.

Context

Report Designer can automatically translate label text using user-configured locale-based resource files. When you generate a PDF, Report Designer selects the relevant resource file, based on the user's preferred language setting, and performs the translation. This means that different users who need to generate documents in their own language can use the same business form layout.

Steps

1. [Create a Translation Resource File for the Default Locale Language](#) on page 294
Provide a resource file for the default locale's language even though you aren't translating the label text into that language.
2. [Create Translation Resource Files for the Target Languages](#) on page 295
Provide resource files for each target language that you wish to offer as a translation option.
3. [Associate Labels with Resource File Key Pairs](#) on page 296
Associating a label with a resource file key pair in the default locale language enables Report Designer to match the same key pair in the target language.

4. Preview a Translated Report Design on page 296

You can preview a translated report design before deploying it to Workday by changing your locale preference.

Related Information

Reference

[The Next Level: BIRT Translations](#)

[The Next Level: Translating BIRT Output](#)

Create a Translation Resource File for the Default Locale Language

Prerequisites

Create a report design file.

Context

You must provide certain resource files to enable automatic label translation in Report Designer. One of these is a file that associates a resource key with some text in the default locale language. Other resource files provide text for that same key in a target language. Report Designer can then swap the default locale language text for the target language text when it encounters the key that they have in common.

Steps

1. To create a resource file, select **File > New > Other....** Expand the **General** node and select **Untitled Text File**.
2. Add keys to the text file in the format **Key=Value**, where **Key** is the name you want to give to the resource key and **Value** is the appropriate text in the default locale language. Example: **Terms=Your employment with our Company includes the following agreed upon terms: . Give each new key its own line in the text file.**

Note: Resource file keys can't contain spaces.

3. Save the text file in the relevant project folder with the filename **translations.properties**.

Note: The translation resource file for the default locale doesn't have a locale suffix such as **en_US** or **fr_FR**. Translation resource files for target languages do have these suffixes.

4. You must now associate the resource file with the report design file. To do so, open the design file and select the **Resources** tab of the **Property Editor - Report** view.
5. In the **Properties Files** section, add the **translation.properties** file you just created.

Example

The following text is an example of a **translation.properties** resource file's contents:

Dear=Dear

Congratulations=Congratulations on joining our team. We're excited to have you!

Terms=Your employment with our Company includes the following agreed upon terms:

Date_Of_Hire=Date of Hire:

Business_Title=Business Title:

Manager_Name=Manager Name:

Organization=Organization:

Location=Location:

Base_Pay_Amount=Base Pay Amount:

Hire_Advice=Please be advised that your employment with the Company will be "at-will", which means that either you or the Company may terminate your employment at any time, for any reason or no reason, with or without notice. There is no promise by the Company that your employment will continue for a set period of time or that your employment will be terminated only under peculiar circumstances.

Sincerely=Sincerely,

Create Translation Resource Files for the Target Languages

Prerequisites

Create a report design file.

Context

To enable automatic label translation in Report Designer, you must create a resource file that associates keys with text in the default locale language. You also require resource files that provide text for those keys in your target languages. Each target language must have a resource file.

Steps

1. To create a resource file, select **File > New > Other...**. Expand the **General** node and select **Untitled Text File**.
 2. Add keys to the text file in the format **Key=Value**, where **Key** is the name you want to give to the resource key and **Value** is the appropriate text in the target language. Give each new key its own line in the text file.
- Note:** You must provide a key pair for each key pair in the original language, as defined in `translations.properties`.
3. Save the text file in the relevant project folder with the filename `translations_[locale_id].properties`, where `[locale_id]` is the IEFT code for the target language. Example: `translations_fr_FR.properties`.

Note: You don't need to associate target language resource files with your report design. When you add the source language resource file `translations.properties` file, Report Designer automatically picks up the others.

Example

The following text is an example of a `translation_fr_FR.properties` resource file's contents:

Dear=Cher

Congratulations=Félicitations pour rejoindre notre équipe. Nous sommes ravis de vous avoir!

Terms=Votre emploi avec notre société comprend les éléments suivants modalités convenues:

Date_Of_Hire=Date d'embauche:

Business_Title=Titre Affaires:

Manager_Name=Nom du gestionnaire:

Organization=Organisation:

Location=Emplacement:

Base_Pay_Amount=Montant du Salaire de Base:

Hire_Advice=S'il vous plaît noter que votre travail avec la Société sera «à volonté», ce qui signifie que vous ou la Société peut mettre fin à votre contrat de travail à tout moment, pour n'importe quelle raison ou sans raison, avec ou sans préavis. Il n'y a pas de promesse par la Société que votre emploi se poursuivra

pendant une période de temps définie ou que votre emploi sera terminé que dans des circonstances particulières.

Sincerely=Sincèrement,

Associate Labels with Resource File Key Pairs

Prerequisites

Create a translation resource file for the default locale language.

Context

When you have created a translation resource file for the default locale language, you must then associate its labels with key pairs in that file.

Steps

1. Select a label in your report design. In the **Property Editor - Label** view, select the **Localization** tab.
2. Click **Browse**. The **Select Key** dialog box shows all of the key pairs that you defined in your **translations.properties** resource file.
3. Add the pair that is appropriate for your label.
4. Repeat steps 1 through 3 for each label that requires translation.

Note:

- The first properties file in the list is the default properties file. The **Layout** view uses it to display the report design's label content.
- Report Designer previews use the properties file associated with the locale that you select in **Preferences > Preview** to display the label content and translate the text.
- After you deploy a report design with translation resource files to Workday, the server runtime selects the properties file whose suffix corresponds to the user's Preferred Display Language. If a language-specific file isn't available, it selects the default properties file.

Preview a Translated Report Design

Prerequisites

Create a report design file and the resource files that enable the translation of its labels.

Context

Report Designer uses your locale preference to determine which language to use when previewing a translated report. You must have created a translation resource file for any language you want to preview in.

Steps

1. To set the locale preference, select **Window > Preferences**.
2. Expand the **Report Design** node and select **Preview**.
3. From the **Choose your locale** drop-down list, select a locale.
4. To preview the report, select **Run > View Report > As PDF**.

After you deploy a report design with translation resource files to Workday, the server runtime selects the properties file automatically, based on the .properties suffix string included in the filename that corresponds to the user's preferred display language, or the default properties file, if a language-specific file isn't available. The first properties file in the list is the default file for the business form layout that uses the report design.

Result

Report Designer previews the report with its label text translated into the language specified in the locale preference.

Conditionalize Label Translation with JavaScript

Prerequisites

Create a report design file and the resource files that enable the translation of its labels.

Context

You can use an `onCreate` JavaScript to override the translation context on a report design. This enables Report Designer to translate label text based on a specified condition, rather than the language preference of the user running the print task.

Steps

1. To add an `onCreate` script, select a label on the **Layout** tab of your report design, then select the **Script** tab.
2. From the **Script** drop-down list, select **onCreate**.
3. In the text pane, add the appropriate JavaScript.

Example

This example overrides the default language and provides appropriate translation if the locale is `fr_CA`:

```
importPackage(Packages.java.util);
if(row[ "Locale" ]=="fr_CA")
{
var lc = new Locale("fr_CA");
this.text = reportContext.getMessage( "Dear" , lc );}
```

Troubleshooting: Translation Issues on Custom Reports

Cause	Solution
You didn't upload translation resource files to the report design.	<p>Make sure you set up Workday Report Designer to translate from resource files.</p> <p>See Steps: Translate Labels Using Resource Files on page 293.</p>
If the worker associated with the report doesn't have a preferred display language, Workday translates the report based on the worker's locale.	<ol style="list-style-type: none"> 1. Access the Transfer Ownership of Custom Reports task. <p>Assign yourself as the owner of the report.</p> <p>Security: These domains in the System functional area:</p> <ul style="list-style-type: none"> • <i>Custom Report Administration</i> • <i>Manage: All Custom Reports</i>

Cause	Solution
	<p>2. Access the Change Preferences task.</p> <p>Select a preferred display language or preferred locale. Workday translates the report based on the preferences you select.</p> <p>Security: The <i>Core Navigation</i> domain in these functional areas:</p> <ul style="list-style-type: none"> • Adaptive Insights for Financial Plans • Adaptive Insights for Headcount Plans • Tenant Non-Configurable <p>3. Preview a Translated Report Design on page 296.</p>

Related Information

Concepts

[Concept: Country-Specific Information, Locales, and Languages](#)

Tasks

[Run and Print a Custom Report that Uses a Business Form Layout](#) on page 268

Previewing and Printing

Preview Report Designs as PDFs

Prerequisites

Create a report design file.

Context

You should always test the PDF output of your design within the Report Designer environment before you deploy it to Workday.

Steps

1. Select **Run > View Report > In Web Viewer**. This action doesn't immediately generate a PDF. First, it produces a paginated HTML view.
2. To display the PDF output, click **Export Report**. Select **PDF** as the **Export Format**. The **Fit To** option is set to **Auto** by default. In some cases, this default setting doesn't paginate the PDF correctly and selecting **Actual Size** achieves a better result.

Note: The PDF that this method generates is the closest match for the layout that the report design generates after it deploys to Workday. You can also generate a PDF by selecting **Run > View Report > As PDF**. This option immediately generates a PDF document that is quite close to the output that the Workday runtime generates. For example, it displays page breaks, allowing you to view the output for multi-page reports as individual pages within the PDF. However, report designs that include page numbers and JavaScript that depends on the use of event handlers might not display exactly as they would when deployed to Workday.

Print Custom Reports after Design Deployment

Prerequisites

Create a report design file and deploy it to Workday for use as a business form layout.

Steps

1. Sign in to your Workday tenant and search for the custom report.
2. Click **Print** to generate a PDF that applies the new report design. The **Print Layout** page displays with a message indicating that the print job has been submitted for processing.
You can't print in Proxy mode.
3. Click **Refresh**. Workday displays a link to the generated PDF file.
A link to the PDF is also available in the **My Reports** area, as indicated by the **Status** message.
4. Click the link to the PDF file, then click **OK** to open the file.

PDFs generated for Workday custom reports might require you to install language packs when viewing the document using Adobe Reader. You only need to complete this task once. This is likely to happen if you're viewing a PDF that includes Chinese characters on a computer that isn't typically used for viewing Chinese documents. This is normal behavior and helps to reduce the size of the PDFs, by not including the required fonts in every PDF generated.

Always print checks at 100% scale to ensure that the MICR line appears correctly.

Examples

Example: Create a Report Design with a Single Data Set

This example illustrates how to create a simple report design based on a custom report with a primary business object only.

Context

Your workplace activities committee often needs to send letters to San Francisco-based workers, announcing corporate activities. They ask you to create a report design for this purpose using placeholder text. First, you need to create a custom report in Workday to select employees located in San Francisco. The custom report employs a primary business object only, resulting in a single Report Designer data set.

Steps

1. Sign in to your Workday GMS tenant.
2. Access the **Create Custom Report** task.
3. Configure these values:

Option	Value
Report Name	<i>Activity Announcement</i>
Report Type	<i>Advanced</i>
Data Source	<i>All Active Employees</i>
Enable As Web Service	Select this check box.

4. On the **Columns** tab, configure these values:

Business Object	Field	Column Heading Override XML Alias
Employee	Legal Name - First Name	First_Name
Employee	Full Legal Name	Full_Name
Employee	Primary Address - Full	Address
Employee	Current Worker	Signatory

5. On the **Filter** tab, add a filter condition with these values:

Option	Value
And/Or	And
Field	Location
Operator	<i>in the selection list</i>
Comparison Type	<i>Value specified in this filter</i>
Comparison Value	San Francisco

6. Open Report Designer in Workday Studio.
7. Create a report project named *Activity Announcement*. In that project, create a report file named *Activity Announcement.rptdesign*.
8. Create a Workday data source and download some sample data:
 - a) Create a new **Workday Report Data Source** named *Activity Announcement Data*.
 - b) Download the report description for the **Activity Announcement** custom report from Workday.
 - c) Download sample report data from Workday and name the file *Activity Announcement Sample.xml*.
9. Create a new data set with these values:

Option	Value
Data Source Selection	<i>Activity Announcement Data</i>
Data Set Type	<i>Workday Primary Report Data Set</i>
Data Set Name	<i>Employees</i>

10. Add a table to the layout:
 - a) Drag a **Table** report item to the **Layout** tab of the main window.
 - b) Specify 1 column and 1 details row.
 - c) Select *Employees* from the **Data Set** drop-down list.
 - d) Select all available binding columns.
 - e) Delete the header and footer rows.
 - f) Drag the detail row border to increase its size.
 - g) On the **General** tab of the table's **Property Editor** view, enter *Employees* in the **Name** field.
11. Add a local image file of your company logo to the layout:
 - a) Drag an **Image** report item to the **Employees** table.
 - b) Select the **Embedded image** check box and click **Add Image...** to locate your image file.

12. Drag these items in this order to the **Layout** view from either the **Employees** data set or the **Palette**:

Item	Location	Text	Actions
Full Name	Employees data set	N/A	On the Padding tab of the field's Property Editor view, configure the Top padding to 12 points.
Address	Employees data set	N/A	N/A
Data	Palette	N/A	<ul style="list-style-type: none"> Configure the Display Name as <i>Preparation Date</i>, and select <i>Date</i> from the Data Type drop-down list. Enter <code>new Date()</code> in the Expression field. Configure the Top padding to 12 points.
Label	Palette	Dear	<ul style="list-style-type: none"> Ensure that you add a space after <i>Dear</i>. On the General tab of the label's Property Editor view, select <i>Inline</i> from the Display drop-down list. Configure the Top padding to 20 points.
First Name	Employees data set	N/A	Configure the Display as <i>Inline</i> .
Label	Palette	,	Configure the Display as <i>Inline</i> .
Text	Palette	[REPLACE THIS TEXT WITH DETAILS OF YOUR EVENT] <i>Sincerely,</i>	Configure the Top padding to 6 points.
Signatory	Employees data set	N/A	Configure the Top padding to 30 points.

13. Delete the date expression from the footer in the **Master Page** view.

14. Save and preview your design.

Next Steps

Deploy your design to Workday for use as a business form layout.

Example: Create a Report Design with Multiple Data Sets

This example illustrates how to create a report design based on a custom report that includes primary and secondary business objects, as well as multi-instance fields.

Context

Your HR department asks you to create a report design for a letter outlining employee benefit enrollments. You need to create a Workday custom report that includes a secondary business object and a multi-instance field. This means that you need to create a data set for the primary business object, another for the secondary business object, and a third for the multi-instance field.

Steps

1. Sign in to your Workday GMS tenant.
2. Access the **Create Custom Report** task. Configure these values:

Option	Value
Report Name	<i>Employee Benefit Enrollments</i>
Report Type	<i>Advanced</i>
Data Source	<i>All Active and Terminated Workers</i>
Enable As Web Service	Select this check box.

3. On the **Columns** tab, enter these values:

Business Object	Field	Column Heading Override	Column Heading Override XML Alias
Worker	<i>Legal Name - Last Name</i>	<i>Last Name</i>	<i>Last_Name</i>
Worker	<i>Legal Name - First Name</i>	<i>First Name</i>	<i>First_Name</i>
Worker	<i>Employee ID</i>	<i>Employee ID</i>	<i>Employee_ID</i>
Worker	<i>Supervisory Organization</i>	<i>Organization</i>	<i>Supervisory_Organization</i>
Worker	<i>First Day of This Calendar Year</i>	<i>Benefit Enrollment Date</i>	<i>Benefit_Enrollment_Date</i>
Worker	<i>Current Worker</i>	<i>Signatory</i>	<i>Signatory</i>
Worker	<i>Work Address - Full</i>	<i>Work Address</i>	<i>Work_Address</i>
Benefit Elections	<i>Benefit Type</i>	<i>Benefit Type</i>	<i>Benefit_Type</i>
Benefit Elections	<i>Benefit Provider</i>	<i>Benefit Provider</i>	<i>Benefit_Provider</i>
Benefit Elections	<i>Coverage</i>	<i>Coverage</i>	<i>Coverage</i>
Benefit Elections	<i>Dependents</i>	<i>Dependents</i>	<i>Dependents</i>
Benefit Elections	<i>Current Election Coverage Begin Date</i>	<i>Current Election Coverage Begin Date</i>	<i>Effective_Date</i>
Benefit Elections	<i>Group Number</i>	<i>Group Number</i>	<i>Group_Number</i>

4. Add a **Group Column Heading** for the secondary business object. Enter *Benefit Elections* in both the **Business Object** and **Group Column Heading** fields.

5. Open Report Designer in Workday Studio.
6. Create a report project named *Employee Benefit Enrollment Letter*. In that project, create a report file named *Employee Benefit.rptdesign*.
7. Create a Workday data source and download some sample data:
 - a) Create a new **Workday Report Data Source** named *Employee Benefit Enrollments Data*.
 - b) Download the report description for the **Employee Benefit Enrollments** custom report from Workday.
 - c) Download sample report data from Workday and name the file *Employee Benefit Enrollments Sample.xml*.
8. Create the data set relating to the primary business object, Worker, with these values:

Option	Value
Data Source Selection	<i>Employee Benefit Enrollments Data</i>
Data Set Type	<i>Workday Primary Report Data Set</i>
Data Set Name	<i>Worker</i>

Report Designer displays XML schema element values and names for the columns that you added as rows to your custom report for the Worker business object in Workday. Note that Report Designer adds a **Row_Number** column automatically to support grouping.

9. Create the data set relating to the secondary business object, Benefit Elections, with these values:

Option	Value
Data Source Selection	<i>Employee Benefit Enrollments Data</i>
Data Set Type	<i>Workday Secondary Report Data Set</i>
Data Set Name	<i>Benefit Elections</i>
Business Object	<i>Benefit Elections</i>

Report Designer displays the XML schema element values for each of the columns that you added as rows to your custom report for the Benefit Elections business object in Workday, and their display names. It also displays a warning message about an empty **PrimaryRowNumber** input parameter value. You'll configure this later, so dismiss the message.

10. Review the fields in your custom report in Workday. You will find that **Dependents** is a multi-instance field, as indicated by the multi-instance icon.
11. Create another secondary data set relating to the **Dependents** multi-instance field in your custom report:

Option	Value
Data Source Selection	<i>Employee Benefit Enrollments Data</i>
Data Set Type	<i>Workday Secondary Report Data Set</i>
Data Set Name	<i>Dependents</i>
Business Object	<i>Benefit Elections/Dependents</i>

Report Designer displays the XML schema element value for the **Dependents** multi-instance field, and its display name. Again, it also displays a warning message about an empty **PrimaryRowNumber** input parameter value. As before, dismiss the message.

12.Add a table to the layout:

- a) Drag a **Table** report item to the **Layout** tab of the main window.
- b) Configure 1 column and 1 details row.
- c) Select **Worker** from the **Data Set** drop-down list.
- d) Select all available binding columns.
- e) Delete the header and footer rows.
- f) Drag the detail row border to increase its size. Doing so makes its rows a fixed size, which could result in truncated data. To ensure that the table can grow to accommodate the data displayed within it, select the guide cell for the table's only row. On the **General** tab of the row's **Property Editor** view, delete the value from the **Height** field.
- g) On the **General** tab of the table's **Property Editor** view, add **Worker** in the **Name** field.

13.Add a local image file of your company logo to the layout:

- a) Drag an **Image** report item to the **Worker** table.
- b) Select the **Embedded image** check box, then click **Add Image...** to browse to an appropriate image file.

14.Add the **Work Address** field to the layout:

- a) Drag the **Work Address** field from the **Worker** data set to the **Worker** table in the **Layout** view.
- b) On the **Padding** tab of the **Work Address** item's **Property Editor** view, configure the **Top** and **Bottom** values to 12 points.

15.Add the current date to the layout:

- a) Drag a **Data** item to the **Worker** table, and position it below the previous item.
- b) Enter **Preparation Date** as the **Display Name** and select **Date** from the **Data Type** drop-down list.
- c) Click **JavaScript Syntax**. Select **Native JavaScript Functions > Date**, then double-click **Date()** to enter the new **Date()** expression.

16.Add a salutation to the layout:

- a) Drag a **Dynamic Text** item to the **Worker** table, and position it below the previous item.
- b) Configure this expression in the **Expression Builder**: "Dear " + row["First_Name"] + " " + row["Last_Name"] + ", ". You can enter the row parts of the expression by selecting **Available Column Bindings > Table - Worker**, then double-clicking **First_Name** or **Last_Name**.
- c) Configure the salutation item top and bottom padding to 6 points.

17.Add introductory text to the layout:

- a) Drag another **Dynamic Text** report item to the **Worker** table, and position it below the previous item.
- b) Configure this expression in the **Expression Builder**: "Thank you for completing the Benefit Enrollment process. We are very pleased to present your Benefits Statement. You are enrolled in the following plans as of " + row["Benefit_Enrollment_Date"] + ". " You can enter the row part of the expression by selecting **Available Column Bindings > Table - Worker**, then double-clicking **Benefit_Enrollment_Date**.
- c) Configure the introductory text item top and bottom padding to 6 points.

- 18.** Add the **Benefit Elections** data set to the layout as an embedded table and configure the **PrimaryRowNumber** input parameter value:
- Drag the **Benefit Elections** data set to the **Worker** table, and position it below the previous item. Select all available binding columns.
 - Name the new table *Benefits*.
 - On the **Binding** tab of the **Benefits** table's **Property Editor** view, click **Data Set Parameter Binding**.
 - Select the **PrimaryRowNumber** parameter, then click **Edit**.
 - Click **JavaScript Syntax**. Select **Available Column Bindings > Table - Worker**, then double-click **RowNum** to enter the `row.__rownum` expression. This expression returns the current row number, so that the corresponding benefit election details are returned for each worker.
 - Delete the footer row in the **Benefits** table.
- 19.** Add the **Dependents** data set to the layout as an embedded table and configure both the **PrimaryRowNumber** and **SecondaryRowNumber** input parameter values:
- Add a new column to the right of the **Coverage** column.
 - Drag the **Dependents** data set from the **Data Explorer** view, and position it within the detail row of the column you just created. The data set has just one available binding column. Select it.
 - Drag the **Dependents** column heading into the heading row between **Coverage** and **Effective Date**.
 - Delete the header and footer rows in the embedded **Dependents** table.
 - Name the new embedded table *Dependents*.
 - On the **Binding** tab of the **Dependents** table's **Property Editor** view, click **Data Set Parameter Binding**.
 - Select the **PrimaryRowNumber** parameter, then click **Edit**.
 - Click **JavaScript Syntax**. Select **Available Column Bindings > Table - Worker**, then double-click **RowNum** to enter the `row._outer.__rownum` expression. Note that the expression is formed this way because the **Dependents** table is nested within the **Worker** table.
 - Select the **SecondaryRowNumber** parameter, then click **Edit**.
 - Click **JavaScript Syntax**. Select **Available Column Bindings > Table - Benefits**, then double-click **RowNum** to enter the `row.__rownum` expression.
- 20.** Add a closing paragraph to the layout:
- Drag a **Label** item to the **Worker** table, and position it below the previous item.
 - Add this text to the label: If you have any questions or find your enrollment in error, please contact the Benefits Department.
 - Configure the closing paragraph item top and bottom padding to 6 points.
- 21.** Add a sign-off to the layout:
- Drag another **Label** item to the **Worker** table, and position it below the previous item.
 - Add this text to the label: Sincerely,
 - Configure the sign-off item top and bottom padding to 6 points.
- 22.** Add a signatory to the layout:
- Drag the **Signatory** field from the **Worker** data set to the **Worker** table in the **Layout** view, and position it below the previous item.
 - To make room for a signature, configure the signatory item top padding to 40 points.
- 23.** Include a page break after each letter:
- In the **Worker** table's **Property Editor** view, select the **Page Break** tab.
 - From the **After** drop-down list, select *Always*.

24. Change the background color of the **Benefits** table. Make the text in its header row bold and left-justified:
 - a) On the **General** tab of the table's **Property Editor** view, click **Background color**, and select a suitable color.
 - b) Select the guide cell for the table's header row. On the **General** tab of the row's **Property Editor** view, click **B** and click **Left**.
25. Delete the date expression from the footer in the **Master Page** view.
26. Save and preview your design.

Next Steps

Deploy your design to Workday for use as a business form layout.

Example: Create a Report Design with Resource-Based Translation

This example illustrates how to create a report design that uses resource files to translate label text based on the user's location.

Context

A colleague asks you to create a report design for a high-level summary of the current employment situation at Global Modern Services, using resource files to enable translation. You need to create a custom report in Workday to select the relevant data. The design uses a single data set. The default locale language for the report is English. The target language is German.

Steps

1. Sign in to your Workday GMS tenant.
2. Access the **Create Custom Report** task. Configure these values:

Option	Value
Report Name	<i>Positions Vacant</i>
Report Type	<i>Advanced</i>
Data Source	<i>Companies</i>
Enable As Web Service	Select this check box.

3. On the **Columns** tab, configure these values:

Business Object	Field	Column Heading Override	Column Heading Override XML Alias
Company	<i>Name</i>	<i>Name</i>	<i>Name</i>
Company	<i>Position Count - Total including Subordinate Organizations</i>	<i>Positions - Total</i>	<i>Positions_-_Total</i>
Company	<i>Positions Filled - Count</i>	<i>Positions - Filled</i>	<i>Positions_-_Filled</i>
Company	<i>Position Count - Fillable</i>	<i>Positions - Vacant</i>	<i>Positions_-_Vacant</i>
Company	<i>Average Age</i>	<i>Average Employee Age</i>	<i>Average_Age</i>

4. Open Report Designer in Workday Studio.
5. Create a report project named *Positions Vacant*. In that project, create a report file named *Positions Vacant.rptdesign*.

6. Create a Workday data source and download some sample data:
 - a) Create a new **Workday Report Data Source** named *Positions Vacant Data*.
 - b) Download the report description for the **Positions Vacant** custom report from Workday.
 - c) Download sample report data from Workday and name the file *Positions Vacant Sample.xml*.
7. Create the data set relating to the primary business object, Company:

Option	Value
Data Source Selection	<i>Positions Vacant Data</i>
Data Set Type	<i>Workday Primary Report Data Set</i>
Data Set Name	<i>Positions</i>

Report Designer displays XML schema element values and names for the columns that you added as rows to your custom report for the Worker business object in Workday.

8. Create a table using the **Positions** data set:
 - a) Drag the **Positions** data set to the **Layout** tab of the main window.
 - b) Select all available binding columns.
 - c) Delete the footer row.
 - d) On the **General** tab of the table's **Property Editor** view, enter *Positions* in the **Name** field.
9. Create a translation resource file for the default locale language and associate it with the report design file:
 - a) Select **File > New > Other....** Expand the **General** node and select *Untitled Text File*.
 - b) Add keys to the text file. Use the format **Key=Value**, where **Key** is the name you supply for the resource key and **Value** is the appropriate text in English. Give each key its own line in the text file:

Key	Value
Name	Name
Total	Positions - Total
Filled	Positions - Filled
Vacant	Positions - Vacant
Age	Average Age

- c) Save the text file in the **Positions Vacant** project folder with the filename *translations.properties*.
- d) On the **Resources** tab of the report design file's **Property Editor** view, add the **translations.properties** properties file.

10. Create a translation resource file for the target language:

- a) Select **File > New > Other....** Expand the **General** node and select *Untitled Text File*.
- b) Add keys to the text file. Use the format **Key=Value**, where **Key** is the name you supply for the resource key and **Value** is the appropriate text in German. Give each key its own line in the text file:

Key	Value
Name	Name der Firma
Total	Positionen - Total
Filled	Positionen - Gefüllt
Vacant	Positions - Frei

Key	Value
Age	Durchschnittsalter

- c) Save the text file in the **Positions Vacant** project folder with the filename *translations_de_DE.properties*.

11. Associate column headings with resource file key pairs:

- Select the **Name** column heading.
- On the **Localization** tab of its **Property Editor** view, click **Browse**.
- Select the **Name** key pair.
- Repeat substeps a through c for each column heading.

12. Delete the date expression from the footer in the **Master Page** view.

13. Preview the translation in Report Designer.

- Save your design and preview it as normal by selecting **Run > View Report > As PDF**. The table's header row displays in English.
- Change Report Designer's locale by selecting **Window > Preferences > Report Design > Preview** and then selecting **German (Germany)** from the **Choose your locale** drop-down list.
- Preview the design again. The table's header row displays in German.

Next Steps

Deploy your design to Workday for use as business form layout.

Example: Create a Report Design for a Letter

This example illustrates how to create a report design for a new hire letter.

Context

Your talent acquisition team often needs to send new hire letters to successful applicants. They ask you to create a report design for this purpose using a placeholder text. You'll use a custom report definition and Workday Report Designer to create the new hire letter design.

Steps

1. Sign in to your Workday GMS tenant.

If you don't have a Workday GMS tenant, you can use any QA tenant in your Sandbox with the correct security access.

2. Access the **Create Custom Report** task.

3. Configure these values:

Option	Value
Report Name	<i>My New Hire Letter Report</i>
Report Type	<i>Advanced</i>
Enable As Web Service	Select this check box.
Optimized for Performance	Clear this check box.
Data Source	<i>All Active Employees</i>

4. On **Edit Custom Report > Columns**, configure these values:

Business Object	Field	Column Heading Override	Column Heading Override XML Alias
<i>Employee</i>	<i>Company</i>	<i>Company</i>	<i>Company</i>
<i>Employee</i>	<i>Legal Name in General Display Format</i>	<i>Employee Name</i>	<i>Employee_Name</i>
<i>Employee</i>	<i>Legal Name - First Name</i>	<i>Employee First Name</i>	<i>Employee_First_Name</i>
<i>Employee</i>	<i>Hire Date</i>	<i>Date of Hire</i>	<i>Date_of_Hire</i>
<i>Employee</i>	<i>Business Title</i>	<i>Business Title</i>	<i>Business_Title</i>
<i>Employee</i>	<i>Manager Preferred Name in General Display Format</i>	<i>Manager</i>	<i>Manager</i>
<i>Employee</i>	<i>Supervisory Organization</i>	<i>Organization</i>	<i>Organization</i>
<i>Employee</i>	<i>Location - Name</i>	<i>Location</i>	<i>Location</i>
<i>Employee</i>	<i>Total Base Pay Annualized - Amount</i>	<i>Amount</i>	<i>Amount</i>
<i>Employee</i>	<i>Total Base Pay Annualized - Currency</i>	<i>Currency</i>	<i>Currency</i>
<i>Employee</i>	<i>Work Address - Full</i>	<i>Work Address</i>	<i>Work_Address</i>
<i>Employee</i>	<i>Primary Address - Full</i>	<i>Primary Address</i>	<i>Primary_Address</i>
<i>Employee</i>	<i>Current Worker</i>	<i>Signatory</i>	<i>Signatory</i>
<i>Employee</i>	From the prompt, select Create Calculated Field for Report and configure these values: <ul style="list-style-type: none">• Field Name: <i>Current Worker Business Title</i>• Business Object: <i>Employee</i>• Function: <i>Lookup Related Value</i>• Lookup Field: <i>Current Worker</i>• Return Value: <i>Business Title</i>	<i>Signatory Business Title</i>	<i>Signatory_Business_Title</i>

5. On the **Filter** tab, add a filter condition with these values:

Option	Value
And/Or	<i>And</i>
Field	<i>Worker</i>

Option	Value
Operator	<i>in the selection list</i>
Comparison Type	<i>Prompt the user for the value</i>
Comparison Value	<i>Default Prompt</i>

6. On the **Prompts** tab, add a **Prompt Defaults** row with these values:

Option	Value
Field	<i>Worker</i>
Prompt Qualifier	<i>Default Prompt</i>
Label for Prompt	<i>Worker</i>
Default Type	<i>No default value</i>

7. On the **Share** tab, select the **Share with all authorized users** check box.
8. Open Report Designer in Workday Studio.
9. Create a report project named *New Hire Letter*. In that project, create a report file named *New Hire Letter.rptdesign*.
10. Create a Workday data source and download some sample data:
- Create a new **Workday Report Data Source** named *New Hire Letter Data Source*.
 - Download the report description for the **My New Hire Letter Report** custom report from Workday.
 - Download sample report data from Workday and name the file *New Hire Letter.xml*.
 - Select **Report Parameters > Select literal values > Select Worker Instances** and search worker instances to include in the report.

Note: You can select multiple worker instances for the report. Report Designer displays a check mark when you select a worker and shows how many items you've selected. You can click the items link to view the selected worker instances or remove them from your selection.

11. Create a new data set with these values:

Option	Value
Data Source Selection	<i>New Hire Letter Data Source</i>
Data Set Type	<i>Workday Primary Report Data Set</i>
Data Set Name	<i>Employees</i>

12. Add a local image file of the company logo to the layout:
- In the **Palette** view, drag an **Image** report item to the **Layout** tab of the new hire letter design file.
 - Select the **Embedded image** option, then click **Add Image...** to browse to an appropriate image file.
 - Insert the image in the report design.
13. Add the **Company** field to the layout:
- In the **Data Explorer** view, expand the **Employees** data set node.
 - Drag a **Company** data set item to the layout and position it below the image.
14. Drag a **Work Address** data set item to the layout and position it below the previous item.
15. Add the **Employee Name** field to the layout:
- Drag a **Employee Name** data set item to the layout and position it below the previous item.
 - On the **Padding** tab of the field's **Property Editor** view, configure the **Top** padding to 12 points.
16. Drag a **Primary Address** data set item to the layout and position it below the previous item.

17.Add a salutation to the layout:

- In the **Palette** view, drag the **Label** report item to the layout and position it below the previous item.
- Enter Dear in the label field. Add a space after the text.
- On the **General** tab of the field's **Property Editor** view, configure **Display** to *Inline*.
- Configure the top padding of this field to 12 points.
- Drag a **Employee First Name** data set item to the layout and position it below the previous item.
- Configure the display of this field to *Inline*.

18.Add the introductory text to the layout:

- Drag a **Label** report item to the layout and position it below the previous item.
- Enter this text in the field:

Congratulations on joining our team. We are excited to have you!

- Configure the top padding of this field to 12 points.

19.Add a statement for the terms of employment to the layout:

- Drag a **Label** report item to the layout and position it below the previous item.
- Enter this text in the field:

Your employment with our company includes the following agreed upon terms:

- Configure the top padding to 12 points and bottom padding to 6 points for this field.

20.Add details for the terms of employment to the layout:

- In the **Palette** view, drag the **Grid** report item to the position below the previous item.
- Configure these values:

Option	Value
Number of columns	2
Number of rows	6

- Drag a **Label** report item to each of the 6 rows of the first column of the grid.
- In each of the label fields, enter these values:

- *Date of Hire*:
- *Business Title*:
- *Manager Name*:
- *Organization*:
- *Location*:
- *Base Pay Amount*:

- Select the cell above the labels, then apply bold formatting.
- Drag these data set items to the second column of the grid:

Label	Data Set Item
<i>Date of Hire</i> :	Date of Hire
<i>Business Title</i> :	Business Title
<i>Manager Name</i> :	Manager
<i>Organization</i> :	Organization
<i>Location</i> :	Location
<i>Base Pay Amount</i> :	Amount

- Configure the display of the **Amount** field to *Inline*.
- Drag a **Currency** data set item to the amount field beside **Amount**, then configure its display to *Inline*.

- 21.** Define custom background colors for each column of the grid:
 - a) Select 1 column.
 - b) On the **General** tab of the **Property Editor** view, click the **Background color** button.
 - c) Select a basic color.
 - d) Click the **Define Custom Colors >>** button, then select a variation on the color based on Lum or Hue values.
 - e) Click the **Add to Custom Colors** button to save your color choice.
- 22.** Add more text to the layout:
 - a) In the **Palette** view, drag the label report item, and position it below the grid.
 - b) Enter this text in the label field:
 Please be advised that your employment with the Company will be "at-will", which means that either you or the Company may terminate your employment at any time, for any reason or no reason, with or without notice. There is no promise by the Company that your employment will continue for a set period of time or that your employment will be terminated only under peculiar circumstances.
 - c) Configure the top padding of the field to 12 points.
- 23.** Add a sign-off to the layout:
 - a) Drag a **Label** report item and position it below the previous item.
 - b) Add this text to the label: *Sincerely,*
 - c) Configure the top padding of the field to 12 points.
- 24.** Add a signatory to the layout:
 - a) Drag a **Signatory** data set item and position it below the previous item.
 - b) Drag a **Signatory Business Title** data set item and position it below the **Signatory** item.
 - c) Configure the top padding to 6 points for each of these items.
- 25.** On the **Master Page** tab, delete the date expression from the footer.
- 26.** Save and preview your design.

Next Steps

Deploy your design to Workday for use as a business form layout.

Example: Create a Report Design With Dynamic Translation Based on Preferred Locale

This example illustrates how to use scripts to dynamically translate label text on custom reports based on the worker's preferred locale instead of the language preference of the user who prints the report.

Context

Your HR department wants you to create a report design for a new hire letter that prints a custom report with the translated text based on the worker's locale preference. You need to create a custom report in Workday and run the report for the worker Logan McNeil, whose account has the preferred locale set to French (Canada).

Steps

1. Create a report design for a new hire letter. See [Example: Create a Report Design for a Letter](#).

2. Configure the preferred locale for the new hire letter report:

- Sign in to your Workday GMS tenant.
- Access the **Edit Custom Report** task.
- From the **Report Name** prompt, select *My New Hire Report*.
- On the **Columns** tab, add a row and specify these values:

Business Object	Field	Column Heading Override	Column Heading Override XML Alias
Employee	<i>Preferred Locale</i>	<i>Locale</i>	<i>Locale</i>

- Click **OK** and **Done**.

3. Configure the locale preferences of the worker Logan McNeil:

- Sign in to the Workday GMS tenant as Logan McNeil: `lmcneil`.
- In **My Account > Change Preferences**, set the **Preferred Locale** prompt to *Français (Canada)-fr_CA*.
- Click **OK and Done**.
- Sign out of this account.

4. Open Report Designer in Workday Studio.

5. Create a report project named *Translation With Scripts*.

6. Move or copy the *New Hire Letter.rptdesign* report file you created earlier and place it in the *Translation With Scripts* project.

7. Create a Workday data source and download some sample data:

- Create a new **Workday Report Data Source** named *New Hire Letter Data Source*.
- Download the report description for the **My New Hire Letter Report** custom report from Workday.
- Download sample report data from Workday and name the file *New Hire Letter.xml*
- Select **Report Parameters > Select literal values > Select Worker Instances** and specify *Worker* instances to include in the report, then click **OK**.
- Click **Download and Test Connection**.
- When the Report Designer displays a **Success** message, click **OK** and **Finish**.

8. Create a new data set with these values:

Option	Value
Data Source Selection	<i>New Hire Letter Data Source</i>
Data Set Type	<i>Workday Primary Report Data Set</i>
Data Set Name	<i>Employees</i>

9. Create a Translation Resource File for the Default Locale Language.

- a) Add this text to the resource file:

Dear=Dear

Congratulations=Congratulations on joining our team. We are excited to have you!

Terms=Your employment with our Company includes the following agreed upon terms:

Date_of_Hire=Date of Hire:

Business_Title=Business Title:

Manager_Name=Manager Name:

Organization=Organization:

Location=Location:

Amount=Base Pay Amount:

Disclaimer=Please be advised that your employment with the Company will be "at will", which means that either you or the Company may terminate your employment at any time, for any reason or no reason, with or without notice. There is no promise by the Company that your employment will continue for a set period of time or that your employment will be terminated only under peculiar circumstances.

Sincerely=Sincerely,

- b) Name the resource file *translation.properties*.

10. Create Translation Resource Files for the Target Languages.

- a) Add this text to the resource file:

Dear=Cher(ère)

Congratulations=Félicitations pour avoir rejoint notre équipe. Nous sommes ravis de vous compter parmi nous!

Terms=Votre emploi au sein de notre entreprise est soumis aux conditions suivantes :

Date_of_Hire=Date d'embauche :

Business_Title=Titre professionnel :

Manager_Name=Nom du gestionnaire :

Organization=Organisation :

Location=Emplacement :

Amount=Montant du salaire de base :

Disclaimer=Veuillez noter que votre emploi au sein de la Société sera « à volonté », ce qui signifie que vous ou la Société pouvez mettre fin à votre emploi à tout moment, pour quelque raison que ce soit ou sans raison, avec ou sans préavis. La Société ne promet aucunement que votre emploi se poursuivra pendant une période de temps déterminée ou que votre emploi prendra fin uniquement dans des circonstances particulières.

Sincerely=Sincèrement,

- b) Name the resource file *translations_fr_CA.properties*.

11. Associate the resource files with the report design file:

- a) In the **Property Editor - Report** view, select the **Resources** tab.

- b) Click **Add File...** and add these files to the **Properties Files** list:

- *translations.properties*
- *translations_fr_CA.properties*

12. Associate Labels with Resource File Key Pairs.

13. Add the *onCreate* script for the translatable text for each label report item:

- In the **Layout** view of your design, click the **Dear** label.
- From the **Script** tab, select *onCreate* from the **Scripts** list.
- In the text pane, add this script for the label:

```
importPackage(Packages.java.util);
if(row["Locale"]=="fr_CA")
{
var lc = new Locale("fr_CA");
this.text = reportContext.getMessage("Dear", lc);}
```

- Repeat steps a. through c. for each label that requires dynamic translation.
- Save your work.

You can check whether there's a script associated with a label report item in the **Advanced** tab in **Property Editor**.

14. To access the preferred locale for each worker at runtime, add a table to the layout:

- In the **Outline** view, right-click the **Body** node, then select **Insert Element**.
- Double-click the **Table** element and configure these values:

Number of columns	1
Number of details	1
Number of details	<i>Employees</i>

You only need the detail row of your table. To delete the header and footer rows, right-click in the row guide cell, then select **Delete**.

15. Move the existing report items from the **Body** node in the **Outline** view to **Detail Row** in the table:

- Expand **Detail Row** down to the **Cell** level.
- Select the nodes below the **Body** node that you want to move by pressing the *Shift* key, followed by the **Image** node, and the last **Data** node.
- Right-click and select **Cut**, then right-click on the detail row **Cell** node and select **Paste**.

16. Save and preview your design.

Result

When you print the **My New Hire Letter Report** for *Logan McNeil*, the *onCreate* scripts translate the label text in the report into French, using the key values in the *translations_fr_CA.properties* file.

Next Steps

Deploy your design to Workday for use as business form layout.

Example: Create a Report Design With a Chart

This example illustrates how to create a report design that includes a chart.

Context

Your HR department wants you to create a report design for a summary of the employee total compensation package that includes a pie chart with the breakdown by the reward type. You need to create a Workday custom report with a primary business object for workers and a secondary business object for total compensation items.

Steps

1. Sign in to your Workday GMS tenant.

If you don't have a Workday GMS tenant, you can use any QA tenant in your Sandbox with the correct security access.

2. Create a copy of the **Employee Total Rewards** custom report:

- Access the **Employee Total Rewards** custom report and specify 1 or more workers.
- From the related actions menu of the report, select the **Custom Report > Copy** option.
- Name the new report **My Employee Total Rewards**.
- Click **OK**.

3. Remove the unnecessary items from the report:

- On the **Columns** tab of the report, delete these rows:

Business Object	Field	Column Heading Override
Worker	<i>Total Number of Shares Granted</i>	<i>Shares Granted Total</i>
Worker	<i>Calculated Grant Value - RSU</i>	<i>Calculated Grant Value RSU</i>
Worker	<i>Calculated Grant Value - ISO</i>	<i>Calculated Grant Value ISO</i>
Worker	<i>Calculated Grant Value - NSO</i>	<i>Calculated Grant Value NSO</i>
Worker	<i>RSU Shares Granted</i>	<i>RSU Shares Granted</i>
Worker	<i>ISO Shares Granted</i>	<i>ISO Shares Granted</i>
Worker	<i>NSO Shares Granted</i>	<i>NSO Shares Granted</i>
Worker	<i>Percent of Stock Options Vested</i>	<i>Percent of Stock Options Vested</i>
Worker	<i>Color 1 to Color 7.</i>	<i>Color 1 to Color 7.</i>
Worker	<i>Label 1 to Label 7.</i>	<i>Label 1 to Label 7.</i>
Worker	<i>Company Logo URL</i>	<i>Company Logo URL</i>
Stock Grants	All rows.	All rows.

- In the **Group Column Headings** grid, remove the *Stock Grants* business object row.

- In the **Subfilter** tab, remove the *Total Rewards Items (Do Not Use)* business object.

- Click **OK**.

4. Open Report Designer in Workday Studio.

5. Create a report project named *My Employee Total Rewards*. In that project, create a report file named *My Employee Total Rewards.rptdesign*.

6. Create a Workday data source and download some sample data:

- Create a new **Workday Report Data Source** named *My Employee Total Rewards*.
- Download the report description for the **My Employee Total Rewards** custom report from Workday.
- Download sample report data from Workday and name the file *My Employee Total Rewards.xml*.

7. Create the data set relating to the primary business object, Workers, with these values:

Option	Description
Data Source Selection	<i>My Employee Total Rewards</i>
Data Set Type	<i>Workday Primary Report Data Set</i>

Option	Description
Data Set Name	Workers

Report Designer displays XML schema element values and names for the columns that you added as rows to your custom report for the Worker business object in Workday. Note that Report Designer adds a **Row_Number** column automatically to support grouping.

8. Create the data set relating to the secondary business object, Total Compensation Items, with these values:

Option	Description
Data Source Selection	<i>My Employee Total Rewards</i>
Data Set Type	<i>Workday Secondary Report Data Set</i>
Data Set Name	<i>Totals</i>
Business Object	<i>Total Compensation Items</i>

Report Designer displays the XML schema element values for each of the columns that you added as rows to your custom report for the Total Compensation Items business object in Workday, and their display names. It also displays a warning message about an empty **PrimaryRowNumber** input parameter value. You'll configure this later, so dismiss the message.

9. Add a table to the layout:

- a) In the **Outline** view, right-click the **Body** node and select **Insert Element**.
- b) Double-click the **Table** element and configure these values:

Option	Description
Number of columns	1
Number of details	1
Data Set	Workers

You only need 1 column and 1 detail row of your table. To delete the header and footer rows, as well as additional columns, right-click in the guide cell, then select **Delete**.

10. Add **Grid 1** to the table:

- a) In the **Outline** view, right-click the **Cell** node located under **Detail > Row**, then select **Insert Element**.
- b) Double-click **Grid** and configure 2 columns and 1 row.
- c) Right-click the first **Cell** node under **Grid > Row**, then select **Insert Element**.
- d) Double-click the **Image** report item and select **Embedded image**, then click **Add Image...** to browse to the company logo image file.
- e) Right-click the second **Cell** node under **Grid > Row**, then select **Insert Element**.
- f) Double-click **Dynamic Text** and select **Available Column Bindings > Table**, then insert the column binding for **Year**.

Note: If you can't find the required column binding, click **Edit Bindings...** and refresh the list.

- g) Enter " Executive Rewards" after the + sign and click **OK**.
- h) Drag the **Worker** data set from the **Data Sets > Workers** node to the second column, below the dynamic text report item.
- i) In the **Property Editor - Data** view, align the inserted items to the right.
- j) In the **Property Editor - Grid** view, name this grid **Grid 1** and collapse the grid.
- k) Save your work.

11. Add Grid 2 to the table:

- As before, insert a grid, then configure 1 column and 1 row.
- In the **Property Editor - Grid** view, select the *Totals* secondary data set from the **Data Set** list.
- From the **Data Set Parameter Binding...** > **Edit** option, click **JavaScript Syntax**.
- In the **Expression Builder**, select **Available Column Bindings** > **Table** and double-click **RowNum** to enter the `row.__rnum` expression.
- Add a chart to the grid.

Note:

Report Designer doesn't currently support live preview for charts. You'll need to disable live preview before adding the chart. To do that, clear the **Enable Live Preview in the chart builder** check box in **Report Design > Chart** in the **Preferences** menu.

Right-click the **Grid > Row > Cell** node, then select **Insert Element**.

- Double-click **Chart** and configure these values:

Field	Value
Select Chart Type	Pie
Output Format	<p>Select 1 of these options:</p> <ul style="list-style-type: none"> • <i>PNG</i> • <i>JPG</i> • <i>BMP</i> <p>If you select the <i>SVG</i> format option, the chart won't render when you generate a PDF.</p>

- Click **Next**.
- On the **Select Data** tab, select and drag the **Target Employer Contribution** column to the **Slice Size Definition** list for *Series 1*. Report Designer inserts the `row["Target_Employer_Contribution"]` expression as the *Series 1* value.
- Select and drag the **Total Compensation Item** column to the **Category Definition** list.
- Click **Next**.
- On the **Format Chart** tab, format these values for the **Series** chart type:

Field	Value
Value Series	Delete the <i>Series 1</i> title.
Value Series > Labels	<p>Configure the Fonts field to:</p> <ul style="list-style-type: none"> • Font size <i>6</i>. • Bold formatting <i>B</i>.

- On the **Format Chart** tab, format these values for the **Chart Area** chart type:

Field	Value
Title	<i>Your Estimated Awards</i>
Plot	<p>Configure these Area Format settings:</p> <ul style="list-style-type: none"> • Anchor: <i>Top Left</i>. • Stretch: <i>Vertical</i>. • Insets (Points): Set all values to <i>0</i>.
Legend > Layout	Configure these settings:

Field	Value
	<ul style="list-style-type: none"> Orientation: <i>Vertical</i>. Position: <i>Left</i>. Anchor: <i>Middle</i>. Insets (Points): Set all values to <i>0</i>.
Legend > Entries	Configure the Fonts field to: <ul style="list-style-type: none"> Font size <i>6</i>. Bold formatting <i>B</i>.

m) Click **Apply** and **Finish**.

n) Name the grid **Grid 2** and save your work.

12. Add Grid 3 to the table:

a) Insert a grid with 3 columns and 2 rows.

b) Add a background color to the first column of the grid:

Field	Value
Property Editor - Column > Background color > Define Custom Colors	Add these colors to Custom Colors : <ul style="list-style-type: none"> Red: <i>11</i>. Green: <i>109</i>. Blue: <i>168</i>.
Property Editor - Row > Border > Color	<ul style="list-style-type: none"> Custom colors: <i>RGB (11, 109, 168)</i>. Border: <i>All Borders</i>.

You can always resize the column to create a narrow colored strip by dragging the column handle.

c) In the **Outline** view, right-click the second cell of the first row, then select **Insert Element**.

d) Double-click the **Dynamic Text** option and enter this text:

```
row[ "Year" ] + " Base Salary"
```

e) In the **Property Editor - Dynamic Text** view, configure bold formatting and select the *12* font size.

f) In the **Outline** view, expand **Data Sets > Workers** and drag the *ER Base Pay Total* field to the third column, first row of the grid.

g) In the **Property Editor - Data** view, configure bold formatting, right alignment, and select the *12* font size.

h) In the **Outline** view, right-click the second cell of the second row, then select **Insert Element**.

i) Double-click **Label** and enter this text:

```
Base pay calculated for January 1 to December 31:
```

j) In the **Property Editor - Label** view, configure the *Inline* display setting and select the *9* font size.

k) In the **Outline** view, expand **Data Sets > Workers** and drag the *ER Base Pay Total* field to the second column, second row of the grid, just after the previous label.

l) In the **Property Editor - Data** view, configure the *Inline* display setting and select the *9* font size.

m) In the **Property Editor - Grid** view, specify the *12* bottom margin value.

n) Name the grid **Grid 3** and save your work.

13. Add Grid 4 to the table:

- Insert a grid with 3 columns and 3 rows.
- As before, add a background color to the first column of the grid:

Field	Value
Property Editor - Column > Background color	<i>Green</i>
Property Editor - Row > Border	<ul style="list-style-type: none"> Color: <i>Green</i>. Border: <i>All Borders</i>.

- As before, add the dynamic text to the second cell, first row of the grid:

"Employer Allowance Contribution for " + row["Year"]

- Configure bold formatting and select the 12 font size.
- In the **Outline** view, expand **Data Sets > Workers** and drag the *ER Allowances Total* field to the third column, first row of the grid.
- Configure bold formatting and select the 12 font size.
- Add this dynamic text to the second cell, second row of the grid:

"Your Total Employer Allowance Plan Contribution was: " +
row["ER_Allowances_Total"]

- In the **Property Editor - Dynamic Text** view, select the 9 font size and the 6 bottom padding value.
- Add this dynamic text to the second cell, third row of the grid:

"Your Contribution to your Allowance Plan was: " +
row["EE_Allowances_Total"]

- In the **Property Editor - Dynamic Text** view, select the 9 font size, the 6 bottom padding value, and the 12 bottom margin value.
- Name the grid **Grid 4** and save your work.

14. Add Grid 5 to the table:

- Insert a grid with 3 columns and 3 rows.
- Add a background color to the first column of the grid:

Field	Value
Property Editor - Column > Background color > Define Custom Colors	Add these colors to Custom Colors : <ul style="list-style-type: none"> Red: 251. Green: 155. Blue: 26.
Property Editor - Row > Border > Color	<ul style="list-style-type: none"> Custom colors: <i>RGB (251, 155, 26)</i>.

Field	Value
	<ul style="list-style-type: none"> • Border: All Borders.

- c) Add this dynamic text to the second cell, first row of the grid:
 "Employer Benefit Contribution for " + row["Year"]
- d) Configure bold formatting and select the 12 font size.
- e) In the **Outline** view, expand **Data Sets > Workers** and drag the *ER Benefits Total* field to the third column, first row of the grid.
- f) In the **Property Editor - Data** view, configure bold formatting, right alignment, and select the 12 font size.
- g) Add this dynamic text to the second cell, second row of the grid:
 "Your Total Employer Benefit Plan Contribution was: " +
 row["ER_Benefits_Total"]
- h) In the **Property Editor - Dynamic Text** view, select the 9 font size and 6 bottom padding.
- i) Add this dynamic text to the second cell, third row of the grid:
 "Your Contribution to your Benefit Plan was: " + row["EE_Benefits_Total"]
- j) In the **Property Editor - Dynamic Text** view, select the 9 font size, the 6 bottom padding value, and the 12 bottom margin value.
- k) Name the grid **Grid 5** and save your work.

15. Add Grid 6 to the table:

- a) Insert a grid with 3 columns and 3 rows.
- b) Add a background color to the first column of the grid:

Field	Value
Property Editor - Column > Background color	Red
Property Editor - Row > Border	<ul style="list-style-type: none"> • Color: Red. • Border: All Borders.

- c) Add this dynamic text to the second cell, first row of the grid:
 "Target " + row["Year"] + " Management Incentive Plan Award"
- d) Configure bold formatting and select the 12 font size.
- e) In the **Outline** view, expand **Data Sets > Workers** and drag the *ER Incentive Total* field to the third column, first row of the grid.
- f) In the **Property Editor - Data** view, configure bold formatting, right alignment, and select the 12 font size.
- g) Add this dynamic text to the second cell, second row of the grid:
 "Your Target Award is calculated using the estimated " + row["Year"] + "
 Base Salary shown above."
- h) In the **Property Editor - Dynamic Text** view, select the 9 font size and 6 bottom padding.
- i) Add this dynamic text to the second cell, third row of the grid:
 "Your current Target Award as a percentage of Base Salary is: " +
 row["Bonus_Target_Percent"] + row["Percent_Sign"]
- j) In the **Property Editor - Dynamic Text** view, select the 9 font size, the 6 bottom padding value, and the 12 bottom margin value.
- k) Name the grid **Grid 6** and save your work.

16. Add Grid 7 to the table:

- Insert a grid with 2 columns and 1 row.
- Add a background color to the first column of the grid:

Field	Value
Property Editor - Column > Background color > Define Custom Colors	Add these colors to Custom Colors : <ul style="list-style-type: none"> Red: 255. Green: 223. Blue: 223.
Property Editor - Row > Border > Color	<ul style="list-style-type: none"> Custom colors: <i>RGB (255, 223, 223)</i>. Border: <i>All Borders</i>.

- Add this dynamic text to the first cell of the grid:

"Total Estimated " +row["Year"] + " Compensation"

- In the **Outline** view, expand **Data Sets > Workers** and drag the *Total Compensation Amount* field to the second column of the grid.
- In the **Property Editor - Data** view, configure bold formatting, right alignment, and select the 12 font size.
- Name the grid **Grid 7** and save your work.

17. To remove extra pages from the end of the report, modify the report layout preferences:

- In the **Outline** view, select the *My Employee Total Rewards.rptdesign* top-level report design node.
- In the **Property Editor - Report** view, select the **Auto Layout** layout preference.

18. Save and preview your design.**Next Steps**

Deploy your design to Workday for use as a business form layout.

Example: Create a Report Design With an Embedded Background Image

This example illustrates how to create a report design with a background image for an employee certificate.

Context

Your HR department wants you to create a certificate to recognize employees for accomplishing their goals. You need to create a Workday custom report that includes a primary business object and 2 single-instance related business objects.

Prerequisites

Create a background image for your certificate and name it *Certificate.png*.

Steps**1. Sign in to your Workday GMS tenant.**

If you don't have a Workday GMS tenant, you can use any QA tenant in your Sandbox with the correct security access.

2. Access the **Create Custom Report task. Configure these values:**

Field	Value
Report Name	<i>My Team's Certificates</i>
Report Type	<i>Advanced</i>

Field	Value
Optimized for Performance	Clear this check box.
Data Source	<i>My Team's Goals</i>
Web Service Enable	Select this check box.

3. On the **Columns** tab on the **Edit Custom Report** page, define custom columns for the primary business object, Goal.

- a) Add a row for the employee name and configure these values:

Field	Value
Business Object	<i>Worker for Goal</i>
Field	<i>Legal Name</i>
Column Heading Override	<i>Employee Name</i>
Column Heading Override XML Alias	<i>Employee_Name</i>

- b) Add a row for the goal and configure these values:

Field	Value
Business Object	<i>Goal</i>
Field	<i>Goal</i>
Column Heading Override	<i>Goal</i>
Column Heading Override XML Alias	<i>Goal</i>

- c) Add a row for the completion date and configure these values:

Field	Value
Business Object	<i>Goal</i>
Field	<i>Completed On</i>
Column Heading Override	<i>Completed On</i>
Column Heading Override XML Alias	<i>Completed_On</i>

- d) Add a row for the goal status and configure these values:

Field	Value
Business Object	<i>Goal</i>
Field	<i>Status</i>
Column Heading Override	<i>Status</i>
Column Heading Override XML Alias	<i>Status</i>

- e) Add a row for the signatory and configure these values:

Field	Value
Business Object	<i>Current Worker</i>
Field	<i>Legal Name</i>
Column Heading Override	<i>Signatory</i>

Field	Value
Column Heading Override XML Alias	<i>Signatory</i>

4. In the **Group Column Headings** grid, define secondary business objects.

- a) Add a row for the current worker and configure these values:

Field	Value
Business Object	<i>Current Worker</i>
Group Column Heading	<i>Current Worker</i>
Group Column Heading XML Alias	<i>Current_Worker</i>

- b) Add a row for the worker for goal and configure these values:

Field	Value
Business Object	<i>Worker for Goal</i>
Group Column Heading	<i>Worker</i>
Group Column Heading XML Alias	<i>Worker</i>

5. On the **Filter** tab, configure the filter conditions.

- a) Add a new row and configure these values:

Field	Value
And/Or	<i>And</i>
Field	<i>Completed On</i>
Operator	<i>greater than</i>
Comparison Type	<i>Prompt the user for the value</i>
Comparison Value	<i>Default Prompt</i>

- b) Add another row and configure these values:

Field	Value
And/Or	<i>And</i>
Field	<i>Status</i>
Operator	<i>in the selection list</i>
Comparison Type	<i>Value specified in this filter</i>
Comparison Value	<i>4 - Successfully Complete</i>

6. On the **Prompts** tab, define the prompt fields.

- a) Add a new row for the reporting type field and configure these values:

Field	Value
Field	<i>Reporting Type</i>
Prompt Qualifier	<i>Ignore this field.</i>
Label for Prompt	<i>Reporting Type</i>
Label for Prompt XML Alias	<i>Reporting_Type</i>

Field	Value
Default Type	No default value
Required	Select this check box.

- b) Add a new row for the completion date field and configure these values:

Field	Value
Field	Completed On
Prompt Qualifier	Default Prompt
Label for Prompt	Completed After
Label for Prompt XML Alias	Completed_After
Default Type	No default value
Required	Select this check box.

7. Click **OK** and then click **Test**. Workday displays the **Reporting Type** and **Completed After** prompts that you configured.
 - a) On the **Reporting Type** prompt, select *Either*.
 - b) On the **Completed After** calendar prompt, select a date in the past.
 - c) Click **OK**. Workday returns a result for your custom report definition.
8. Open Report Designer in Workday Studio.
9. Create a report project named *Employee Certificates*. In that project, create a report file named *Employee Certificates.rptdesign*.
10. Create a Workday data source and download some sample data:
 - a) Create a new **Workday Report Data Source** named *Employee Certificates*.
 - b) Download the report description for the **My Team's Certificates** custom report from Workday.
 - c) Download sample report data from Workday and name the file *Employee Certificates.xml*. As you download the sample data, configure these values:

Option	Description
Reporting Type	<i>Either</i>
Completed After	Select a date that's a number of years in the past.

11. Create the data set relating to Employee Goals with these values:

Option	Description
Data Source Selection	<i>Employee Certificates</i>
Data Set Type	<i>Workday Primary Report Data Set</i>
Data Set Name	<i>Employee Goals</i>

12. Add a scanned form as an embedded image to the layout:
 - a) In the **Outline** view, right-click the **Embedded Images** node, then select **New Embedded Image**.
 - b) Select the *Certificate.png* background image file on your device and click **Open**.
 - c) In the **Property Editor - Master Page** view, access the **Advanced** tab.
 - d) In the **Background** section, configure these values:

Field	Value
Background image	<i>Certificate.png</i>
Background image type	<i>Embedded Image</i>

Field	Value
Background size height	<ul style="list-style-type: none"> Measure: 8.5. Units: <i>in.</i>
Background size width	<ul style="list-style-type: none"> Measure: 11. Units: <i>in.</i>

- e) In the **Orientation** section, select the *Landscape* value.
f) Delete the footer containing the date and time. To do that, right-click the footer and select **Delete**.

13.Add a table to the layout:

- a) In the **Outline** view, right-click the **Body** node, then select **Insert Element**.
b) Double-click the **Table** element and configure these values:

Field	Value
Number of columns	1
Number of details	1
Data Set	<i>Employee Goals</i>

You only need the detail row of your table. To delete the header and footer rows, as well as additional columns, right-click in the guide cell, then select **Delete**. Your table now contains a single detail row.

- c) Drag the table border towards the page boundary, using the background image as a guide.
d) Save your work.

14.Add a grid to the layout:

- a) In the **Outline** view, right-click the **Cell** node located under **Detail > Row**, then select **Insert Element**.
b) Double-click **Grid**.
c) Configure 1 column and 8 rows.
d) Drag the first row in the grid downwards and place the border below the first 2 lines of text.

15.Add the employee name data to the second row of the grid:

- a) In the **Outline** view, right-click the second cell node, then select **Insert Element**.
b) Double-click the **Data** element, then click **JavaScript Syntax**.
c) Configure this expression in the **Expression Builder**: `row["Worker.Employee_Name"]`. You can enter the row parts of the expression by selecting **Available Data Sets > Employee Goals**, then double-clicking **Worker.Employee_Name**.
d) Enter *Employee Name* as the display name for **New Data Binding**, then click **OK**.
e) In the **Property Editor - Data** view, configure the alignment to *Center* and font size to 24.

16.Drag the third row in the grid downwards by dragging its border below the next line of text.

17.Add the goal data item to the fourth row in the grid:

- a) In the **Outline** view, right-click the fourth cell node, then select **Insert Element**.
b) Double-click the **Data** element, then click **JavaScript Syntax**.
c) Configure this expression in the **Expression Builder**: `row["Goal"]`. You can enter the row parts of the expression by selecting **Available Column Bindings > Table**, then double-clicking **Goal**.

Note: If you can't find the required column binding, click **Edit Bindings...** and refresh the list.

- d) Enter the name of the goal as the display name for **New Data Binding**, then click **OK**.
e) In the **Property Editor - Data** view, configure the alignment to *Center* and font size to 18.

18.Drag the fifth row below the next line of text.

19.Add the completion date data item to the sixth row in the grid:

- a) In the **Outline** view, right-click the sixth cell node, then select **Insert Element**.
- b) Double-click the **Data** element, then click **JavaScript Syntax**.
- c) Configure this expression in the **Expression Builder**: `row["Completed On"]`. You can enter the row parts of the expression by selecting **Available Column Bindings > Table**, then double-clicking **Completed_On**.
- d) Enter *Completed On* as the display name and *Date* as the data type for **New Data Binding**, then click **OK**.

Note: *Date* is a non-string data type value. You must specify the correct **Data Type** value, *Date*, for the **Completed On** data item.

- e) In the **Property Editor - Data** view, configure the alignment to *Center* and font size to *16*.

20.Drag the seventh row below the line for the manager's signature.

21.Insert a nested grid in the eighth row:

- a) In the **Outline** view, right-click the eighth cell node, then select **Insert Element**.
- b) Insert a grid with 3 columns and 1 row. Report Designer inserts a nested three-column grid with a single row in the eighth row in the grid.
- c) Expand the new nested grid report item, right-click the second cell in the row, then select **Insert Element**.
- d) Double-click the **Data** element, then click **JavaScript Syntax**.
- e) Configure this expression in the **Expression Builder**: `row["Current_Worker.Signatory"]`. You can enter the row parts of the expression by selecting **Available Column Bindings > Table**, then double-clicking **Current_Worker.Signatory**. This expression returns the **Signatory** value for each row in the report
- f) Enter *Signatory* as the display name for **New Data Binding**, then click **OK**.
- g) Drag **Signature** data item column by its right border and position it below the signature line, then right-align the data value.

Note: To prevent your report design extending beyond page boundaries, you can ensure that the:

- **Height** node property doesn't have a value.
- **Header** and **Footer** values are set to *0 in*.

22.Save and preview your design.

Next Steps

Deploy your design to Workday for use as a business form layout.

Example: Print a Custom Report in a Workday Studio Integration

This example illustrates how to extract the custom report data from Workday and generate a PDF file using Workday Studio.

Context

Your HR department asks you to generate a new hire letter in PDF format. You'll use a custom report definition and Workday assembly project in Workday Studio to generate the PDF.

Prerequisites

- Create a report design for a new hire letter with the dynamic translation based on locale. See [Example: Create a Report Design With Dynamic Translation Based on Preferred Locale](#).
- Create a letter outlining employee benefit enrollments. See [Example: Create a Report Design with Multiple Data Sets](#).

Steps

1. Sign in to your Workday GMS tenant.
2. Access the **Create Custom Report** task.
 - a) Configure these values:

Option	Value
Report Name	<i>Employee Benefit Enrollments</i>
Report Type	<i>Advanced</i>
Enable As Web Service	Select this check box.
Optimized for Performance	Clear this check box.
Data Source	<i>All Active and Terminated Workers</i>

- b) On the **Columns** tab on the **Edit Custom Report** page, configure these values:

Business Object	Field	Column Heading Override	Column Heading Override XML Alias
Worker	<i>Legal Name - Last Name</i>	<i>Last Name</i>	<i>Last_Name</i>
Worker	<i>Legal Name - First Name</i>	<i>First Name</i>	<i>First_Name</i>
Worker	<i>Employee ID</i>	<i>Employee ID</i>	<i>Employee_ID</i>
Worker	<i>Supervisory Organization</i>	<i>Organization</i>	<i>Organization</i>
Worker	<i>First Day of This Calendar Year</i>	<i>Benefit Enrollment Date</i>	<i>Benefit_Enrollment_Date</i>
Worker	<i>Current Worker</i>	<i>Signatory</i>	<i>Signatory</i>
Worker	<i>Business Title</i>	<i>Signatory Business Title</i>	<i>Signatory_Business_Title</i>
Worker	<i>Work Address - Full</i>	<i>Work Address</i>	<i>Work_Address</i>
Benefit Elections	<i>Benefit Type</i>	<i>Benefit Type</i>	<i>Benefit_Type</i>
Benefit Elections	<i>Benefit Provider</i>	<i>Benefit Provider</i>	<i>Benefit_Provider</i>
Benefit Elections	<i>Coverage</i>	<i>Coverage</i>	<i>Coverage</i>
Benefit Elections	<i>Dependents</i>	<i>Dependents</i>	<i>Dependents</i>
Benefit Elections	<i>Current Election Coverage Begin Date</i>	<i>Effective Date</i>	<i>Effective_Date</i>
Benefit Elections	<i>Group Number</i>	<i>Group Number</i>	<i>Group_Number</i>

- c) Add a **Group Column Heading** for the secondary business object, Benefit Elections. Enter *Benefit Elections* for both the **Business Object** and **Group Column Heading** fields.
3. Open Workday Studio.
4. Create a new **Workday Assembly Project** named *CallPrintPdf*.
5. In the **Project Explorer** view, right-click *CallPrintPDF/ws/WSAR-INF* and create a new *My_Report_Designs* folder.

6. Add these components to your assembly project and link them together:

Component Type	ID
workday-in	StartHere
workday-out-rest	RequestCustomReportData
Async-mediation	SetReportandReportDesignVars
PdfPrintStep	GeneratePDF
Async-mediation	UploadToWorkday

7. Configure the Report Service on the **StartHere** workday-in component.

- a) In the **Properties** view, access the **Services** tab for the **StartHere** workday-in component.
- b) Select the **Create Report Service** icon and name it *StartHere*.
- c) Select the **Add New Entry** icon and enter these values:

Option	Value
Alias	<i>mynewhireletter</i>
Description	<i>My New Hire Letter Report</i>
Report Reference	<i>My New Hire Letter Report</i>

8. Configure the **RequestCustomReportData** workday-out-rest component.

- a) On the **RequestCustomReportData** workday-out-rest component, select **Select a RaaS Report** on the **Extra Path** property.
- b) On the **Filter Custom RaaS Reports** page, specify *Employee Benefit Enrollments* for the custom report name, then click **Next**.
- c) Select the report, then click **Finish**.
- d) Specify *EmployeeBenefitEnrollments* for **Report Alias**, then click **Finish**.
- e) On the **Extra Path** property on the workday-out-rest component, enter
`@{intsys.reportService.getExtrapath('mynewhireletter')}?Worker!
Employee_ID=21099!21189.`

9. Configure the **SetReportandReportDesignVars** async-mediation component.

- a) Add 2 write steps on **Properties** tab of the **async-mediation** assembly component and configure these values:

Step 1	Step 2
StepID: <i>WriteReportToVariable</i> Input value: <i>message</i> Output value: <i>variable</i> Variable name: <i>test.workday.report</i>	StepID: <i>CopyReportDesignToVariable</i> Input value: <i>message</i> Output value: <i>variable</i> Variable name: <i>test.report.design</i>

- b) Using the **Message Builder**, add a static-file element.

Specify `@{ 'my_report_designs/New_Hire_Letter.rptdesign' }` as the report design file location in the **Input File** property.

- 10.** On the **Properties** view of the **GeneratePDF** PDF print step component, click the **Select Parameter** button on the **Parameters** tab.

Configure these parameters:

Parameter Name	Value
pdf.report.design.variable	<i>test.report.design</i>
pdf.workday.report.variable	<i>test.workday.report</i>
pdf.timezone	<i>CET</i>
pdf.language	<i>fr_FR</i>
pdf.locale	<i>fr_FR</i>
pdf.business.form.layout.wid	<i>fbbe44a681251000039acc2ff657000a</i>
pdf.report.design.wid	<i>fbbe44a6812510000399fdf02c3f0006</i>
pdf.apply.report.design.per.row	<i>true</i>

- 11.** Store the generated PDF file with the *UploadToWorkday* async-mediation component.

- Add a **Store** step component with an Output MIME type of *application/pdf*. Name the **Output** variable *test.document.reference*.
- Right-click the project in the **Project Explorer** and select **Deploy to Workday**.
- In the **Cloud Explorer**, right-click the **StartHere** workday-in integration node , then select **Launch Integration**.

- 12.** Access the PDF file on the *W:Drive*.

- Select the **Process Monitor** view, then click the **Workday: Process Monitor** icon.
- Sign in to Workday and click **Menu > W:Drive**.
- On the **My Reports** tab, in the **File Name** column, click the **PDF** icon.

Related Information

Concepts

[Concept: Common Components](#)

Discovery Boards

Steps: Set Up Tenant for Discovery Boards

Context

Set up your tenant for discovery boards to gain insights for informed business decisions by:

- Exploring your data using interactive visualizations.
- Sharing business insights by creating a dashboard-like experience for end users.

Workday reserves the right to suspend a customer's access to Discovery Boards on Workday-delivered data sources if required to maintain tenant performance and stability. Workday will work with the affected customer to address issues in order to resume their access to Discovery Boards.

Steps

- Set up your tenant for Drive.

See [Steps: Set Up Drive](#).

2. (Optional) Select the Preferred Display Language for your tenant.

See [Steps: Manage Translations](#).

Discovery Boards are localized to French Canadian, Japanese, and Korean. Workday localizes country-specific formatting for these field types:

- Currency
- Date/Time
- Numeric

Workday formats the date as DD/MM/YYYY for these locales:

- en_AU (Australia).
- en_GB (Great Britain).
- en_HK (Hong Kong SAR China).
- en_IE (Ireland).
- en_IN (India).
- en_NZ (New Zealand).
- en_SG (Singapore).

For en_CA (Canada) and en_ZA (South Africa), Workday formats the date as YYYY-MM-DD. Workday defaults the date formatting to MM/DD/YYYY for en_PH (Philippines) and all other locales. See [Concept: Country-Specific Information, Locales, and Languages](#).

3. Create User-Based Security Groups.

Create an unconstrained security group, such as a user-based security group, for your discovery board users, and assign users.

Note: Ensure that every user who has access to the *Discovery Boards: Create* domain also has access to the *Drive* domain.

Example: You can define or update these security groups (administered by the Security Configurator group):

Group Name	Group Type
Discovery Board Administrator	User-Based
Report Writer	User-Based

4. Edit Domain Security Policies.

Create or edit a security policy for these domains in the System functional area. Workday suggests that you use the security groups you created and edited along with the System Auditor group.

Domain	Security Groups	Task Permissions
<i>Discovery Boards: Administration</i>	Discovery Board Administrator System Auditor	View and Modify View only
<i>Discovery Boards: Create</i>	Discovery Board Administrator, Report Writer System Auditor Note: Ensure that every user who has access to the <i>Discovery Boards: Create</i> domain also has access to the <i>Drive</i> domain.	View and Modify View only
<i>Discovery Boards: Manage Curated Data Source Field List</i>	Discovery Board Administrator System Auditor	View and Modify View only

Domain	Security Groups	Task Permissions
<i>Discovery Boards: Manage Curated Data Source List</i>	Discovery Board Administrator System Auditor	View and Modify View only
<i>Discovery Boards: Manage Drilling Field Lists</i>	Discovery Board Administrator System Auditor	View and Modify View only
<i>Discovery Boards: Manage Delivered Discovery Boards</i>	Discovery Board Administrator System Auditor	View and Modify View only
<i>Discovery Boards: Set Up Discovery Board as a Worklet</i>	Discovery Board Administrator System Auditor	View and Modify View only

5. Activate Pending Security Policy Changes.

Related Information

Reference

[The Next Level: Enable Discovery Boards in Your Tenant](#)

Reference: Reporting Limits

- [Data Sources](#) on page 332
- [Prism Data Sources](#) on page 333
- [Financial Modeled Data Source](#) on page 333
- [Processing](#) on page 333
- [Discovery Board Visualizations](#) on page 334
- [Scheduled Report Output](#) on page 335
- [Reports Run in the Browser](#) on page 336
- [Displaying Report Designer in the Browser](#) on page 338
- [Exporting to Excel](#) on page 338
- [Report Performance Logs](#) on page 338
- [Mobile Devices](#) on page 338

Data Sources

Workday limits the number of returned instances based on the type of report data source (RDS) you use and whether filtering applies. Filtering includes:

- Drill down filters.
- RDS filters.
- RDS security.
- Report filters.

Prefiltering refers to the limit Workday imposes before applying any filters to the report. Postfiltering refers to the limit Workday imposes after applying filters or grouping.

Report Criteria	Returned Instances Limit
Indexed RDS Prefiltering	3 million
Indexed RDS	3 million

Report Criteria	Returned Instances Limit
Postfiltering	
Nonindexed RDS Prefiltering	3 million
Nonindexed RDS Postfiltering Pregrouping	1 million (for grouping only)
Nonindexed RDS Postfiltering Indexed report fields	3 million

If your report displays an error, consider using a different data source filter for indexed data sources or a different data source type. Example: When you use a nonindexed RDS, try using an indexed RDS instead.

For reports that use a Prism data source, Workday returns up to 1 million rows for these report types you run in the background:

- Advanced
- Matrix
- Simple
- Transposed

Prism data sources can return up to 512 MB of data.

Prism Data Sources

Workday limits from where you can query a Prism data source created from a Prism Analytics table that is enabled for analysis.

If the table contains more than 2,000,000,000 rows, then you can't use the Prism data source in a discovery board viz or a custom report as a worklet on a dashboard. You can use the Prism data source in a custom report that you run in the browser or in the background.

Financial Modeled Data Source

Workday limits the data it puts in the financial modeled data source when you set up the financial reporting data model.

Description	Limit
Time duration of journal line data	Up to 3 years, rolling (current year plus 2 years prior)
Maximum number of optional dimensions	15
Maximum number of values per dimension	100,000

Workday returns up to 1,000,000 cells that contain data in the query response.

Processing

Workday limits report processing to:

- 30 minutes for all reports before displaying an error. After 20 seconds, Workday enables you to schedule the report to run as a background process.
- 6 hours for background reports, scheduled reports, and web services. Workday terminates the scheduled background report if processing time takes longer.

You can enable all custom report types, except simple, to run in the background. When you create or edit a custom report, select the **Background Only** check box in the **Report Performance** section on the **Advanced** tab. You can also access the **All Background Only Custom Reports** report to view all custom reports in your tenant with the **Background Only** check box selected.

Discovery Board Visualizations

Workday limits viz query processing to 45 seconds and limits the returned viz data size to 50 MB. Workday displays an error in the viz if the viz query times out at 45 seconds or if the amount of data returned exceeds 50 MB. Example: A table viz fails to display if Workday returns 500 rows and each row of data contains 1 MB of data. This might happen if field values for a text field in a drop zone contain a lot of information, such as survey result data.

Viz Type	Results
Area Chart	Workday returns up to: <ul style="list-style-type: none"> • 100 values on the x-axis. • 250 color groupings per x-axis value, plus the Other group. • 40 million cells, whether or not the cell contains data. Empty cells don't display in a chart viz like they do in a pivot table viz. However, this limitation still applies.
Bar Chart	Workday returns up to: <ul style="list-style-type: none"> • 100 values on the x-axis. • 250 color groupings per x-axis value, plus the Other group. • 40 million cells, whether or not the cell contains data. Empty cells don't display in a chart viz like they do in a pivot table viz. However, this limitation still applies.
Chart	Workday returns up to: <ul style="list-style-type: none"> • 100 values on the x-axis. • 250 color groupings per x-axis value, plus the Other group. • 40 million cells, whether or not the cell contains data. Empty cells don't display in a chart viz like they do in a pivot table viz. However, this limitation still applies.
Donut Chart	Workday returns up to 250 color groupings, plus the Other group.
Heatmap	Workday returns up to: <ul style="list-style-type: none"> • 100 values on the x-axis, plus the Other group. • 100 values on the y-axis, plus the Other group.
Line Chart	Workday returns up to:

Viz Type	Results
	<ul style="list-style-type: none"> • 100 values on the x-axis. • 250 color groupings per x-axis value, plus the Other group. • 40 million cells, whether or not the cell contains data. Empty cells don't display in a chart viz like they do in a pivot table viz. However, this limitation still applies.
Pivot Table	<p>Workday returns up to:</p> <ul style="list-style-type: none"> • 50,000 data rows. • 12,000 row groupings (rows displayed in the pivot table). • 250 column attribute groupings. • 40 million cells, whether or not the cell contains data.
Scatterplot	Workday returns up to 250 color groupings, plus the Other group.
Table	Workday returns up to 50,000 data rows.

When you filter on a field that contains more than 5,000 values, Workday returns up to 5,000 distinct values in the **Filter panel**.

Scheduled Report Output

Access the **Schedule a Report** task to set up a schedule to run custom reports and deliver them to **My Reports**. You can also schedule reports to run as a single unit by grouping and bursting up to:

- 200 report groups that use an Excel template.
- 2,500 report groups that don't use an Excel template, such as a report that's in PDF or a nontemplate XLS format.

The limitation refers to the number of reports generated by the report group.

You can select 1 of these output types for the report:

- *Excel*.
- *Report (PDF)*.
- *Text (CSV)*.
- *View in Browser* for composite reports only.

Depending on the file size or number of rows returned for report results, Workday might deliver a file type other than the target **Output Type** you select.

Number of Rows	Supported Formats	Results
Fewer than 10,000	<i>Excel</i> , <i>Report (PDF)</i> , and <i>Text (CSV)</i>	Workday generates the report in the selected Output Type format.
Between 10,000 and 500,000	<i>Excel</i> and <i>Text (CSV)</i>	<p>If you select <i>Excel</i> as the Output Type format, Workday generates the report in <i>Excel</i>.</p> <p>If you select <i>Report (PDF)</i> or <i>Text (CSV)</i>, Workday generates the report in <i>Text (CSV)</i> format.</p>

Number of Rows	Supported Formats	Results
Between 500,000 and 1 million	<i>Text (CSV)</i>	Workday generates the report in <i>Text (CSV)</i> format.
More than 1 million	Not supported	Workday doesn't generate a report.

You can use the **Process Monitor** report to determine if Workday switched to another supported format, or if Workday didn't generate the report.

Reports Run in the Browser

Report Type	Results
All	<ul style="list-style-type: none"> The file size limit for report results is 50 MB and 15 GB for scheduled reports. Workday limits report results to 50 MB for composite reports with a scheduled report output of View in Browser. The XML string limit is 2 GB. Workday limits tabular data processing to 5 seconds.
Advanced	<p>Workday returns up to:</p> <ul style="list-style-type: none"> 1,000 instances. 10,000 rows for nonsupported pagination. 50,000 rows for reports with drill to details or supported pagination. <p>Workday processes the Group by Field only for reports with column or row grouping if there are 1 million or fewer post-filter instances. The limit doesn't affect indexed fields.</p>
Composite	<p>The file size limit for composite results with a scheduled report output of View in Browser is 50 MB.</p> <p>Workday returns up to:</p> <ul style="list-style-type: none"> 100,000 cells. 1,000 columns. 16,000 rows. <p>For reports with drill-down, Workday returns up to:</p> <ul style="list-style-type: none"> 50,000 rows for supported pagination. 10,000 rows for nonsupported pagination.
Matrix	<p>Workday returns up to:</p> <ul style="list-style-type: none"> 250 columns. 12,000 rows. <p>In the report definition, you can add up to 15 summarization rows.</p> <p>For reports with drill-down, Workday returns up to:</p>

Report Type	Results
	<ul style="list-style-type: none"> • 50,000 rows for supported pagination. • 10,000 rows for nonsupported pagination. • 80,000 drill-down cells. <p>For reports using Prism data sources, Workday returns up to:</p> <ul style="list-style-type: none"> • 5,000 instances for count distinct aggregations. <p>Workday can process up to 1 million rows for reports with aggregations and up to 40 million rows for:</p> <ul style="list-style-type: none"> • Background reports. • Scheduled reports. • Web services. <p>Workday processes the Group by Field only for reports with column or row grouping if there are 1 million or fewer post-filter instances. The limit doesn't affect indexed fields.</p>
nBox	<p>Workday enables up to 100 images for each nBox cell.</p> <p>For reports with drill-down, Workday returns up to:</p> <ul style="list-style-type: none"> • 50,000 rows for supported pagination. • 10,000 rows for nonsupported pagination.
Search	<p>Workday returns up to 2,000 instances.</p> <p>The limit doesn't affect mass actions within search reports.</p> <p>There is a limit of 300,000 instances for a single facet for search reports.</p>
Simple	<p>Workday returns up to:</p> <ul style="list-style-type: none"> • 1,000 instances. • 50,000 rows.
Transposed	<p>Workday returns up to:</p> <ul style="list-style-type: none"> • 1,000 instances. • 50,000 rows.
Trending	<p>For reports with drill-down, Workday returns up to:</p> <ul style="list-style-type: none"> • 50,000 rows for supported pagination. • 10,000 rows for nonsupported pagination. • 80,000 drill-down cells. <p>Workday can process up to:</p> <ul style="list-style-type: none"> • 1 million rows for reports with aggregated rows. • 40 million rows for background reports, scheduled reports, and web services. <p>Workday processes the Group by Field only for reports with column or row grouping if there are</p>

Report Type	Results
	1 million or fewer post-filter instances. The limit doesn't affect indexed fields.

Displaying Report Designer in the Browser

Workday limits the number of:

- Cells for multi-instance columns and fields to 1 million for composite, matrix, and trending reports.
- Top-level rows to 50,000 for all reports.

Your composite report can have an unlimited number of columns and rows. Adding more columns or rows might affect the response time of the report designer. These browser limits restrict what you see in the report designer:

Browser	Rows Displayed	Columns Displayed
Internet Explorer 11	50	20
All other browsers	200	50

Exporting to Excel

Workday adheres to these Microsoft Excel 2007 or newer limitations when exporting a composite report with outlining:

Type	Limit
Columns	16,384
Rows	1,048,576

Report Performance Logs

You can use report performance logs to troubleshoot performance issues in your reports.

Mobile Devices

You can enable dashboards and reports for mobile so that it's easier to view reporting data on Android, iPad, and iPhone devices. Managers and executives can also view metrics and key performance indicators on mobile applications.

Workday designs mobile apps for self-service, so not all reporting features are available. To access all features, sign in on a browser or desktop.

Your tenant configuration determines how dashboards and reports display. For custom reports and worklets on iPads, Workday doesn't support:

- Hiding table borders and column headings.
- Manually refreshing data. The data refreshes every time you access the report or worklet.
- Maximizing reports.
- Using 3D chart options.

For mobile devices, Workday doesn't support:

- Creating composite reports.
- Creating custom dashboards.
- Saving custom prompt values for worklets.
- Using dual-axis and combination charts.
- Viewing all or conditional formatting styles for composite reports.

Workday doesn't support these reports on mobile:

- Calendars.
- XpressO reports with 2 tabs.
- XpressO reports that use data pulled from the related business object.

Dashboard availability depends on your security configuration, but we support many Workday-delivered dashboards on mobile. To determine if Workday enables a dashboard for mobile devices:

1. Access the **Maintain Dashboards** report.
2. From the related actions menu of a dashboard, click **Dashboard > Edit**.
3. Access the **Settings** tab.
4. View the enabled **Device Type** in the **Task Information** section.

Related Information

Tasks

[Create Report Performance Logs](#) on page 103

[Create Report Performance Logs](#) on page 103

Reference

[The Next Level: Breaking Through With Mobile](#)

[2024R2 Release Note: Schedule Live Composite Reports](#)

[The Next Level: Breaking Through with Mobile](#)

Discovery Board Concepts

Concept: The Discovery Board Workflow

Discovery Boards is an analytical tool that enables line-of-business professionals to conduct self-service analysis with low-barrier to entry in a modern and interactive user interface.

A discovery board is your starting point for data analysis, similar to a project workspace. The discovery board is the canvas for discovering and sharing data insights. You typically create discovery boards from Workday Drive, and opening the board opens the workspace in Workday where you can create visualizations.

Each section explains each phase of the data analysis workflow in a discovery board from selecting data, visualizing it, and sharing with others. Although we describe these phases in a linear fashion, usually the editing process is iterative.

Phase 1: Create a discovery board as the workspace

The first phase is to create a discovery board that you can use as your workspace for analyzing data. There are multiple methods available for creating a discovery board:

- Create a new discovery board from Workday Drive.
- Copy an existing discovery board in Workday Drive.
- Make a copy of a Workday-delivered discovery board from the **Delivered Discovery Boards** report.

Who does this phase?	Data Analysts or Report Writers
Where can I read more details?	Steps: Create a Discovery Board on page 353 Copy Workday-Delivered Discovery Boards on page 353 The Next Level: Quick Sheet: Create Discovery Boards

Phase 2: Select and configure data in a viz

Discovery boards contain 1 or more vizes where you analyze data in data sources. When you create a new discovery board, Workday creates a single empty viz by default. You can edit, copy, and delete existing vizes, and create new ones.

Each viz analyzes data in a single data source. To analyze data in a viz, you:

- Select the data source.
- Select and configure prompt values for data sources that include built-in prompts.
- Select data source filters for data sources that include them.

You can analyze data in different types of data sources:

- Workday-delivered data sources. Workday makes some Workday-delivered data sources available for use in discovery boards.
- Prism data sources. If your tenant is enabled for Prism Analytics, you can use any Prism data source.
- Extend application data sources. If an Extend app is installed on your tenant, you can also use the app's data sources, including those from:
 - Business objects
 - Business processes (event business objects)

Who does this phase?	Data Analysts or Report Writers
Where can I read more details?	Concept: Vizzes on page 343 Steps: Create Visualizations on page 354 Set Up the Viz Data Source on page 355 Set Up Prompt Values for Discovery Boards on page 356 Concept: Viz Filters on page 380 Filter Data in a Viz on page 376

Phase 3: Configure and modify a viz

After you select a data source for a viz, you can select the fields to analyze, configure how the fields are used, and modify the overall appearance of the data in the viz.

Most of the time you spend on creating and editing discovery boards is for this phase.

When you configure and modify a viz, you:

- Select what type of viz to create, such as Chart, Donut Chart, Waterfall, or Pivot Table.
- Select which fields to include in the viz. The fields you use either measure quantitative values or group together multiple data records into a single data point (referred to as a mark). For more information, see [Concept: Summarization and Attribute Viz Fields](#) on page 347.

- Modify the appearance of the selected viz type. Example: Depending on the viz type, you can:
 - Override display names in the viz.
 - Change the formatting of numeric and currency data.
 - Change the color palette applied to a viz.
 - Adjust the size of each mark based on a measurement (summarization field).
 - Group data by color.
 - Select a horizontal or vertical orientation for the marks on the viz.
 - Select the Grouping of the marks on the viz, such as Cluster, Overlay, Stack, or Stack to 100.
 - Select the type of marks for each y-axis, such as area, bar, or line.
 - Create a dual axis chart.
 - Create a combination chart by selecting different mark types for each y-axis in a dual axis chart.
 - Highlight data in a Table viz.
- Filter data in a viz at either the viz-level or sheet-level.
- Limit and sort the data in the viz to focus on what's important.

Who does this phase?	Data Analysts or Report Writers
Where can I read more details?	<p>Concept: Discovery Board Workspace on page 346</p> <p>Concept: Visualization Types on page 343</p> <p>Concept: Using Drop Zones in a Viz on page 349</p> <p>Steps: Modify Visualizations on page 363</p> <p>Concept: Interactive Viz Queries on page 348</p> <p>Concept: Chart Viz Mark Types on page 349</p> <p>Concept: Summarization and Attribute Viz Fields on page 347</p> <p>Sort Data in a Viz on page 378</p> <p>Limit Viz to the Top N Values on page 379</p> <p>Reference: Supported Fields in Discovery Boards on page 362</p>

Phase 4: Prepare the viz and board for viewers

You need to prepare the board and vizzes on it for users who will view it. Discovery board viewers can include other users and even yourself. Users who view a discovery board can't perform all the functions that a discovery board editor can, but editors can choose to make some lightweight capabilities available to viewers.

To prepare a discovery board for viewers, you can:

- Prepare each viz. You can:
 - Rename.
 - Add a description.
 - Resize.
- Arrange the vizzes. You can:
 - Create up to 10 vizzes on a sheet.
 - Arrange the vizzes on a sheet. Discovery boards use a grid layout.
 - Create multiple sheets to contain different vizzes.
 - Rename each sheet.
- Give viewers lightweight control over the data returned in a viz by creating controls. When you create controls for any of the vizzes in a board, Workday displays a Control panel that enables viewers to filter the data they see based on the available controls.

Who does this phase?	Data Analysts or Report Writers
Where can I read more details?	Concept: Discovery Board Workspace on page 346 Concept: Discovery Board Controls on page 350 Set Up Prompt Values for Discovery Boards on page 356 Filter Data in a Viz on page 376

Phase 5: Share the insights and board with others

You can share the insights you find in a discovery board with others. You can:

- Share a specific discovery board with individual users or all users in a security group.
- Create a custom report using the data and configurations from some viz types.
- Download vizzes as CSV or PNG image files to your local computer.

Who does this phase?	Data Analysts or Report Writers
Where can I read more details?	Concept: Sharing Discovery Boards on page 351 Export a Viz as a Custom Report on page 380 Download Visualizations on page 381 Concept: Discovery Board Security on page 352 Reference: File Actions in Drive Based on File Type Reference: File Actions in Drive Based on Permissions

Optional Administrative Functions

Discovery Board Administrators have additional functionality available to them that's not available to discovery board editors and viewers. Depending on your access, you can:

- Curate the data sources that are displayed on the Data Source panel in discovery boards for editors. This list makes it easier for editors to see the data sources available to them. Editors can choose to display all data sources.
- Curate different lists of fields so that it's easier for discovery board editors to find the right fields to use when building vizzes. You can curate these types of field lists:
 - Data source fields
 - Drill By fields
 - Show Details fields
- You can add discovery boards as worklets on the Home page. This enables users to access their most commonly used discovery boards without needing to go to Drive.

Who does this phase?	Discovery Board Administrators
Where can I read more details?	Set Up Curated Data Sources on page 358 Set Up Curated Field Lists on page 358 Set Up Discovery Boards as Home Page Worklets on page 361

Related Information

Reference

[The Next Level: Discovery Boards Guidance](#)

Concept: Vizzes

A viz (visualization) is a graphical or textual representation of certain fields selected from a data source. Vizzes might be charts, tables, or more. Use vizzes to explore and analyze your data interactively.

Discovery boards have 1 or more sheets, and each sheet can display up to 10 vizzes. The individual vizzes on a sheet can be:

- Related, meaning they use the same underlying data source and data source filter.
- Unrelated, meaning they use different data source and data source filter.

To create a viz on your discovery board, select a data source. To display data in a viz, drag and drop fields into the various drop zones. Vizzes display inside panels (or boxes) in the workspace area of a discovery board sheet.

The drill panel gives you more control over your vizzes by enabling you to:

- Add vizzes to a sheet, and each sheet can display up to 10 vizzes.
- Display the details of a data point to the transaction level.
- Export vizzes to the Report Writer.
- Use different dimensions to drill into viz measure data.

Concept: Visualization Types

Visualizations enable you to display data from a data source either graphically or textually. The viz type determines the drop zones in the Builder panel and how the data is visually displayed in the viz.

Workday provides several viz types that enable you to decide how to explore and display the data. Some viz types are compatible with custom reports, enabling you to create a report from the viz using the data and configurations in the viz. Other viz types are optimized for use in discovery boards and can't be exported to custom reports.

Viz Type	Description
Chart (Matrix report-compatible)	<p>A Chart is a viz type that displays data graphically, representing each point of data as a mark on the chart. Chart vizzes support several mark types, enabling you to create different types of charts, such as bars, lines, points, and more.</p> <p>A chart display summarized (aggregated) data grouped and filtered by the selected attribute fields.</p> <p>You can think of a chart in a discovery board as a recipe with these components:</p> <ul style="list-style-type: none"> • Attribute and summarization fields • Axis placement (X-Axis and Y-Axis) • Appearance encodings (such as Color and Size) • Mark type (such as Point, Line, and Bar) <p>When you create a report from this viz type, Workday creates a Matrix report.</p>
Donut Chart (Matrix report-compatible)	<p>A Donut Chart is a viz type that displays a circle divided into segments with a hole in the center that displays the total value of all segments. Each segment represents a percentage of the total.</p> <p>Donut chart vizzes show relative sizes at a glance. The human eye can't easily distinguish between segments that have similar sizes, especially if there are many very small segments (marks). Workday recommends using a donut chart viz under these circumstances:</p> <ul style="list-style-type: none"> • You only have 1 summarization field to display in the viz.

Viz Type	Description
	<ul style="list-style-type: none"> All values to display in the viz are positive (no zero or negative values). The attribute values to display represent part of a whole. The number of attribute values to display is low, such as less than 10. You can sort and filter an attribute field to reduce the values displayed. <p>Donut chart vizzes can't display negative or zero values in the Angle drop zone. When a summarization field contains those values, Workday displays a warning icon in the upper right corner of the viz. Click the warning icon to learn how many values do and don't display in the viz.</p> <p>When you create a report from this viz type, Workday creates a Matrix report.</p>
Pivot Table (Matrix report-compatible)	<p>A Pivot Table is a viz type that displays attribute and summarized data in a tabular format. Pivot tables have complex headers that are ideal for comparing multiple fields against one another.</p> <p>Pivot tables are similar to tables, but with the added feature of adding grouping to rows and columns. Due to their detailed headers, pivot tables are useful for comparing data that contains subcategories, so you can access several levels of detail in 1 place. You can choose to hide or show row totals and column totals to control how much data is displayed</p> <p>You might want to create a pivot table if you want to see the raw data comprising the points on a chart viz, instead of a graphical representation of it.</p> <p>When you create a report from this viz type, Workday creates a Matrix report.</p>
Table (Advanced report-compatible)	<p>A Table is a viz type that displays the data in a tabular, spreadsheet format.</p> <p>A table is a viz with attribute fields only in the Columns drop zone. Its format is closest to what you might see in a CSV file. Tables are optimal for when you'd like a granular, simple display of data that has several attribute fields in it.</p> <p>When you create a report from this viz type, Workday creates an Advanced report.</p>
Area Chart	<p>An Area Chart is a viz type that displays metrics connected by line segments as a continuum, filling in the space between the lines with color. Similar to Line Charts, Area Charts typically display trends over time.</p> <p>Area Charts provide more options for grouping the categories than Chart vizzes.</p> <p>You can't create a report from this viz type.</p>
Bar Chart	<p>A Bar Chart is a viz type that displays metrics for categories of data as either vertical or horizontal bars.</p> <p>Bar Charts provide more options for grouping and orienting the categories than Chart vizzes.</p> <p>You can't create a report from this viz type.</p>
Heatmap	<p>A Heatmap is a viz type that compares 2 attributes by a common metric (a summarization field).</p> <p>Heatmaps enable you to use color to see variations in the data.</p> <p>You can't create a report from this viz type.</p>

Viz Type	Description
KPI Chart	<p>A KPI Chart is a viz type that displays a measure and its progress toward a specified target.</p> <p>Use a KPI viz on aggregated numeric or currency data. When you create or edit a KPI, you can display:</p> <ul style="list-style-type: none"> The base measure. An optional comparison measure. The variance (difference) between the base measure and the comparison measure. A visual cue that indicates the progress toward the target. <p>You can't create a report from this viz type.</p>
Line Chart	<p>A Line Chart is a viz type that displays metrics connected by line segments as a continuum, typically as a trend over time.</p> <p>You can't create a report from this viz type.</p>
Scatterplot	<p>A Scatterplot is a viz type that compares 2 metrics (summarization fields), grouped by a set of common attributes (color and size).</p> <p>Scatterplots show how a metric correlates to another metric. Example: You can use a Scatterplot to show the relationship between population size and income.</p> <p>You can't create a report from this viz type.</p>
Waterfall	<p>A Waterfall is a viz type that displays the incremental transitions of quantitative values that increase or decrease.</p> <p>Use a Waterfall viz to visualize and understand the progression of a specific value and how it's influenced by positive and negative factors. Example: Use a Waterfall to display how headcount is influenced by hiring and terminations.</p> <p>You can use either Numeric or Currency metrics in a Waterfall viz.</p> <p>By default, Waterfalls display the Total (the end value), which summarizes all values and calculates how all the increments affect the starting value. Optionally, you can hide the Total.</p> <p>You can create a Waterfall viz using either of these methods:</p> <ul style="list-style-type: none"> One field each in the Measures and Dimensions drop zones. Workday displays how the values of a dimension field incrementally increase or decrease the value of a measure field. Example: You can perform expense analysis by the categories defined in a single dimension field. Multiple fields in the Measures drop zone. Workday displays each field in order on the x-axis, using the top field as the starting value. <p>You can't create a report from this viz type.</p>

Related Information Reference

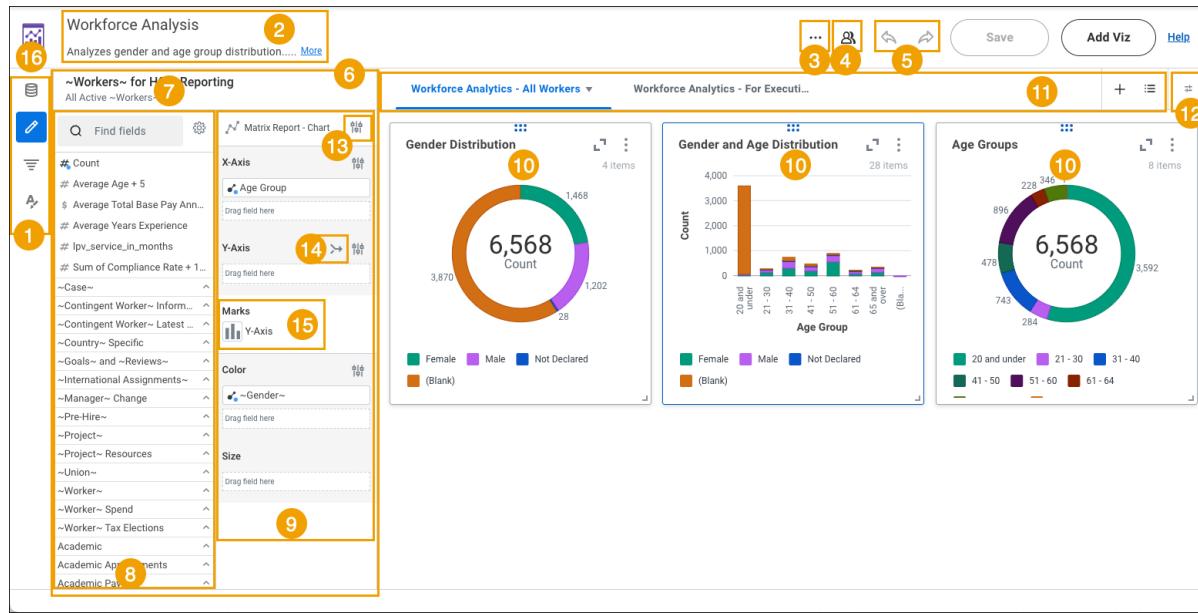
[The Next Level: Discovery Board Visualization Examples](#)

Concept: Discovery Board Workspace

When you open a discovery board, Workday opens the workspace in View mode. View mode enables you to view the discovery board, but not make any changes. If you have Can View or Can Comment permission on the discovery board, you view the discovery board in view mode.

If you're the owner or if you have Can Edit permission on the discovery board, you can click **Edit** to switch to Edit mode. Edit mode enables you to make changes to the discovery board and save it.

You see these workspace components in edit mode:



1. Panels for editing a viz. The left side panel is where you navigate between the data source panel, builder panel, filter panel, configuration panel, and formatting panel to edit and configure a viz. Click an icon to hide or open a particular panel. You might want to hide a panel to see more of the workspace.
2. Board title and description. Click in either field to enter or edit text.
3. Menu options for the board.
4. Share button. Click to share a board with an individual user or a security group.
5. Undo and redo buttons.
6. Builder panel. The builder panel contains the options for configuring the selected viz in the workspace. You select the type of viz to create, such as Chart or Pivot Table, drag fields into the drop zones, and configure any drop zone or field options. You can narrow the list of fields by filtering the field list.
7. Data source used in the selected viz. You can change the data source in the viz by clicking the data source panel.
8. Field list. Expand a category to see the fields in that category. All summarization fields for a particular Numeric or Currency field are grouped under the field. Hover over the Numeric or Currency field and click the double chevron icon to expand it to see the related summarization fields.
9. Drop zones and drop zone options. The available drop zones and options vary by viz type.
10. Visualization.
11. Sheet controls.
12. Control panel. The control panel displays the controls linked to the prompts and filters that viewers and editors can use to provide input values.
13. Viz type options.
14. Select a dual or merged Y-axis (Area Chart, Bar Chart, Chart, and Line Chart vizzes only).
15. Select mark type (Chart viz only).
16. Back to Drive button.

The left side panel includes these icons:

- Data source panel. View or change the data source for the selected viz.
- Builder panel. Build the viz by selecting the fields and configuring options for the selected viz.
- Filter panel. Filter the data in the selected viz or all vizzes on the sheet.
- Configuration panel. Configure how vizzes display data, such as managing the sort order of fields or overriding populated values for **Drill By** and **Show Details**.
- Formatting panel. View or change formatting options for the selected viz or all vizzes on the board, such as changing the assigned color.

Concept: Summarization and Attribute Viz Fields

All fields used in vizzes serve one of these field roles: either attribute or summarization. Attribute and summarization fields control how Workday analyzes and groups data in a viz.

Field Role	Attribute	Summarization
Alternate Name	Dimension	Measure
Description	<p>Attribute fields typically contain qualitative data, such as names, dates, or geographical data</p> <p>Attribute fields describe a property of an entity. The data answers who, what, when, and where questions and can be any field type on a data source.</p> <p>Use attribute fields to categorize and group your data. Attribute fields affect the level of detail in the view.</p>	<p>Summarization fields typically contain things you can measure, such as numeric and quantitative values.</p> <p>Summarization fields are numeric values that represent aggregated data from multiple data records. Example: Summarization fields can represent total dollar amounts, average salary, or count distinct of workers.</p> <p>Summarization fields enable you to analyze the attributes as categories.</p>
Field Types Supported	<p>Fields of all field types can be an attribute field.</p> <p>When you use a Currency or Numeric field as an attribute field, the values displayed in the viz are individual, finite, discrete values.</p>	<p>Fields with these field types can be a summarization field:</p> <ul style="list-style-type: none"> • Numeric • Currency • Text • Instance <p>Workday automatically creates summarization fields for each supported field type in the discovery board builder panel.</p> <p>To access the summarizations for a field, click the field in the builder panel to see the list of summarizations. Workday displays all the aggregate functions that the field supports, such as AVG, MAX, or COUNT_DISTINCT.</p> <p>The supported aggregate functions depend on the field type and the type of data source.</p>
Examples	<ul style="list-style-type: none"> • Gender • Full Name • Is Hourly 	<ul style="list-style-type: none"> • SUM(Sales) • COUNT_DISTINCT(Full Name)

	<ul style="list-style-type: none"> • Hire Date • Journal 	<ul style="list-style-type: none"> • AVG(Total Base Pay Annualized in GBP) • MEDIAN(Total Base Pay Annualized in GBP)
--	--	---

You can place attribute and summarization fields only in some drop zones in a viz depending on the viz type. Some viz types, such as Chart and Pivot Table, must contain at least 1 summarization field. If you don't use a summarization field in a drop zone, Workday uses the Count summarization in the viz, which is a count of all data records.

You can use some numeric data as either an attribute or summarization field, such as length. However, some numeric data isn't continuous and you should use them only as an attribute, such as USA zip codes.

Supported Aggregate Functions for Summarization Fields

Field Type	Supported Aggregate Functions
Numeric, Currency	<p>All data source types support:</p> <ul style="list-style-type: none"> • AVG • MAX • MIN • SUM <p>Workday-delivered data sources also support:</p> <ul style="list-style-type: none"> • MEDIAN • PERCENTILE • 5 • 10 • 25 • 50 (the same value as median) • 75 • 90 • 95 • 97 • 98 • 99
Instance, Text	<p>All data source types support:</p> <ul style="list-style-type: none"> • COUNT_DISTINCT

Related Information

Reference

[2024R2 Feature Note: Median and Percentile Summarizations in Discovery Boards](#)

Concept: Interactive Viz Queries

When you build a visualization in a discovery board, you're actually creating queries against a data source. The act of dragging a field to a drop zone creates a query that is sent to the data source, fetches the requested data, and then visually renders the results as a chart or table.

By default, the viz automatically updates the data when you make a change. However, you can temporarily turn off live, automatic updates of the data for all vizzes in the board. You might want to disable automatic updates to improve performance if the board contains many vizzes with a lot of data. To turn off the live

updates, select **Automatically Update** from the discovery board menu. When you change a viz, such as changing a field in a drop zone, Workday displays an empty viz until you click **Update now** in a viz.

When some people think of queries, they think of SQL (the structured query language used to access data stored in a relational database). Viz queries aren't written in SQL, they're constructed by your actions in the discovery board. However, it might help to understand how data is requested and returned if we make a comparison with SQL.

If a viz query were expressed in SQL, it would look something like this statement (the clauses are listed in the order that they're processed):

```
SELECT <attributes in builder>, <summarizations in builder>
    FROM <data source>
    WHERE <attributes in filters>
    GROUP BY <attributes in builder>
    ORDER BY <attribute sort options>
    LIMIT <attribute limit options>
```

Note that the query is constructed based on the field role (summarization or attribute), and where the fields are placed in the drop zones.

Concept: Using Drop Zones in a Viz

To analyze data in a visualization, you place (drag and drop) fields from the list of fields into the drop zones (such as X-Axis) in the builder panel. The fields and their locations determine the placement and visual appearance of the data in your viz.

Workday automatically selects the best visual representation for the combination of summarization and attribute fields you add to the drop zones.

When you select a field from the panel and start to drag it over, the appearances of the drop zones change to help guide your placement of the field in the builder panel. Drop zones permit either summarization and attribute fields. A grayed out drop zone means that the drop zone doesn't apply to the selected field. A highlighted drop zone means that the drop zone is available for the selected field.

As you work with drop zones, consider:

- Some drop zones permit multiple fields and some limit the number of fields. As you drag and drop fields, the drop zones provide instructional text and highlighted drop zone areas to help you build your viz.
- The position of attribute fields in drop zones, such as X-Axis and Columns, determines the grouping order in the viz.
- You can remove a field from a drop zone by clicking the **X** next to the field name.
- You can drag a new field directly on top of an existing field to replace it.

Concept: Chart Viz Mark Types

In a Chart visualization, Workday displays the data as a collection of marks. A mark is the visual representation of a metric value calculated for a group of input rows.

The mark type controls the shape of data in a Chart viz, and how data points are visually represented. When you create a Chart viz in a discovery board, you can select the mark type from the **Marks** drop-down menu.

How Workday renders a particular chart depends on the mark type along with the placements of summarization and attribute fields in the drop zones.

Mark Type	Description
Bar	Workday displays each mark as a rectangular bar with its length proportional to the value it represents.

Mark Type	Description
Point	Workday displays each mark as a dot, with its position determined by the values on the 2 axes (Cartesian coordinates).
Line	Workday displays each mark as an end point of a straight line, with a straight line connected between marks. You might use a line chart to visualize a trend in summarization data over time with the line drawn chronologically.
Area	Like a line chart, Workday displays each mark as an end point of a straight line, but fills the space between the marks and the horizontal axis with a color. Similar to a line chart, an area chart typically displays summarization data over time, and is typically used to compare 2 or more quantities. However, unlike lines, area charts are typically used to represent cumulative totals rather than individual totals. You might use an area chart to illustrate how the member of an attribute contributes to an overall trend.
Auto	Workday selects the best mark type based on the fields in the drop zones.

Concept: Discovery Board Controls

When you create or edit a discovery board, you can give discovery board viewers some control over the data returned in the board by creating controls. A control is a configurable input that provides viewers some lightweight data analysis capabilities over the discovery board that they view.

Each control is associated with and linked to a controllable, either a prompt or a filter. When editors or viewers select a value in a control, Workday applies that value as the input to the associated controllable.

When you view a discovery board with controls listed in the control panel, you can select a viz to see which controls impact that viz. Workday displays a small, blue circle icon to the left of each control name that impact the selected viz.

To create a control, select the **Create Control and Link** option from either a prompt menu or filter menu.

When you select **Create Control and Link** for a controllable, Workday:

- Creates a control and links it to the controllable.
- Displays a control panel on the right side of the discovery board workspace. Workday displays the control panel in both edit mode and view mode.
- Places the control at the bottom of the control panel. Workday creates 2 controls when you configure a filter that uses the is between operator.

You can create a control for:

- Any prompt.
- Filters that use an operator that accepts a filter value, such as the operator is greater than or is in list. You can't create a control for filters that don't accept values, such as filters with the operator is empty or is not blank.

When you create a control, you can:

Control Action	Notes
Change the name of the control.	Select Rename from its menu in the control panel.

Control Action	Notes
	<p>Workday uses the prompt or filter name as the control name automatically. Because some prompts and fields have the same name, you can create multiple controls with the same name.</p> <p>Note that when you create a control from a filter that uses the in between operator, Workday creates 2 controls and uses both the field name and control operator to define the control name.</p>
Change the order in the control panel.	<p>Drag and drop a control in the control panel to change its order.</p> <p>By default, Workday displays the controls in the control panel in the order you create them. The order of the controls doesn't affect the data because Workday applies an AND condition between all controls. However, you might want to change the order to group together similar controls.</p>
Remove the control.	<p>Select Remove from its menu in the control panel.</p> <p>When you remove a control, Workday:</p> <ul style="list-style-type: none"> • Removes the control from the control panel. • Retains the associated controllable in the data source panel or filter panel, but removes the link. • Moves any input value currently defined in the control input to the controllable input. <p>Additionally, Workday automatically removes a control when you perform an action on its associated controllable that renders the control obsolete. Example: The controllable is a filter and you update the filter, or disable the filter.</p>

Related Information

Tasks

[Set Up Prompt Values for Discovery Boards](#) on page 356

[Filter Data in a Viz](#) on page 376

Reference

[2023R1 What's New Post: Discovery Board Controls](#)

Concept: Sharing Discovery Boards

You can share a discovery board with an individual user or a security group. You share a discovery board by:

- Clicking the **Share** button from the board.
- Using Workday Drive.

Consider these requirements:

- To share a discovery board, you must be the owner or have Can Edit permission if the owner enables editors to share.
- To share a discovery board with a security group:
 - Your tenant must be set up for group sharing on Drive using the **Configure Group Sharing in Drive** task.
 - Discovery boards must be shareable with the security group.
- You can give users and groups Can View or Can Edit permission.
- To give Can View permission, the user or group you share with must have permission on at least 1 data source used in the discovery board.

- To give Can Edit permission, the user or group must have access to the *Discovery Boards: Create* domain.

Note: Discovery Boards use Workday Drive to share an individual discovery board. If Drive hasn't been translated into the language that a user selected as their display language, your security administrator must access the **Edit Workday Account** task for the user and select the **Allow Mixed-Language Transactions** option. This makes the Drive user interface visible to the user in English. For details on setting up Drive, see [Steps: Set Up Drive](#).

Concept: Discovery Board Security

Workday enforces security when someone views or edits a discovery board. To view a discovery board, you must have permission on at least 1 data source used in it.

Each viz in a discovery board uses a single data source. To see a viz when editing or viewing a discovery board, you must have permission on that data source. Workday enforces contextual security, which determines what data displays for each user.

How Workday displays the discovery board depends on your data source access and board permission:

Discovery Board Permission	Details
Can Edit	<p>When you edit a discovery board, Workday:</p> <ul style="list-style-type: none"> • Displays a placeholder for every viz, but only displays the data if you have permission on the data source. • Displays every sheet even if you don't have permission on any data source used in the sheet.
Can View	<p>When you view a discovery board, Workday:</p> <ul style="list-style-type: none"> • Hides a viz if you don't have permission on the data source. • Reorganizes the vizzes on a sheet if you don't have permission on 1 or more vizzes. • Hides a sheet if you don't have permission on at least 1 data source used in the sheet.

Example: A discovery board includes 2 vizzes total, one using the Workers for HCM Reporting data source and the other using the Journal Lines for Financial Reporting data source. The discovery board owner shared the discovery board with user Jennifer, giving her Can Edit permission and with users Ricardo and Shannon, giving them Can View permission. Jennifer has access to Journal Lines for Financial Reporting, but not to Workers for HCM Reporting. Ricardo has access to Workers for HCM Reporting, but not to Journal Lines for Financial Reporting. Shannon doesn't have permission on either data source.

With this tenant configuration, you should expect to observe these behaviors:

- Jennifer is able to view and edit the discovery board.
- When Jennifer views the discovery board in either view or edit mode, she sees 1 viz with data and a placeholder for the other viz with an error message. Workday displays an error message instead of the data in the viz that uses the Journal Lines for Financial Reporting data source because she doesn't have permission on that data source.
- Ricardo is able to view the discovery board.
- When Ricardo views the discovery board in view mode, he sees only the 1 viz that uses the Journal Lines for Financial Reporting data source. He doesn't see any indication that the board might contain other vizzes that he doesn't have permission on.
- Shannon cannot view the discovery board because she doesn't have permission on any data source used in it.
- Jennifer and Ricardo only see data records and field values that they have access to. The viz doesn't display records and field values they don't have access.

- Jennifer and Ricardo only see fields that they have access to. Example: If a viz uses a data source they have access to, but it includes a field they don't have access to, then they can't view the data in the viz. Instead, they see a different error message.

Workday-Delivered Discovery Boards

Copy Workday-Delivered Discovery Boards

Prerequisites

- Set up your tenant for Drive.
- Security: *Discovery Boards: Manage Delivered Discovery Boards* domain in the System functional area.

Context

You can use Workday-delivered discovery boards as a starting point when configuring discovery boards. You can make copies of Workday-delivered discovery boards and share them using Drive.

You can customize copied discovery boards by:

- Adding visualizations to the discovery board.
- Editing the copied discovery boards in Drive.
- Removing visualizations.

Changes Workday makes to Workday-delivered discovery boards don't apply to copies.

Steps

1. Access the **Delivered Discovery Boards** report.
2. Select the discovery board you want to copy.
3. Click **Make a Copy**.

Result

Workday displays a link to the discovery board copy in Drive.

Next Steps

You can:

- Customize the discovery board by adding visualizations.
- Share the discovery board with users.

Related Information

Reference

[2021R2 What's New Post: Buyer Manager Insights with Discovery Boards](#)

[2021R2 What's New Post: Delivered Discovery Boards](#)

Creating Discovery Boards

Steps: Create a Discovery Board

Prerequisites

These domains in the System functional area:

- *Discovery Boards: Create*
- *Drive*

Context

Discovery boards enable you to perform drag and drop analysis by iteratively asking questions around data in a data source. Use a discovery board to create 1 or more visualizations, which are graphical representation of certain data fields selected from a data source.

Steps

1. Access the Drive Home page.
2. Select **New > Discovery Board**.
You can also duplicate an existing discovery board by right-clicking it and selecting **Make a Copy**.
3. Enter a name.

Result

Workday creates a discovery board and adds it to your list of documents on the **My Files** view in Drive. The discovery board contains 1 empty visualization to begin your analysis.

Next Steps

You can:

- Enter an explanatory description below the board title to help viewers understand the board's purpose and scope.
- Open the discovery board and edit the empty visualization, and add more visualizations as desired.
- Add your discovery board as a worklet on the Home page.
- Share the board with other users and assign their access to the board.
- Permanently delete discovery boards by accessing the **Drive Permanent File Delete** task.

Related Information

Tasks

[Set Up Discovery Boards as Home Page Worklets](#)

Reference

[The Next Level: Discovery Boards Guidance](#)

[The Next Level: Quick Sheet: Create Discovery Boards](#)

Steps: Create Visualizations

Prerequisites

Security: These domains in the System functional area:

- *Drive*
- *Discovery Boards: Create*

Context

You can explore and analyze data in a data source interactively by using a visualization (viz) in a discovery board.

Steps

1. Access **Drive**.

You can also access your discovery board as a worklet from the Home page.

2. Select the discovery board you want to edit.
3. (Optional) To enable live updates, select **Automatically Update** from the related actions menu of the discovery board. When you disable the automatic update, you can manually update the viz by clicking **Update Now**.
4. [Set Up the Viz Data Source](#) on page 355.
5. On the **Builder panel**, select a viz type.
See [Concept: Visualization Types](#) on page 343.
6. Drag and drop fields into the drop zones to analyze the data.
7. (Optional) To display only the fields administrators configured in curated field lists, enable **Show only curated fields** from the related actions menu of the discovery board. When you disable the curated field list, Workday displays all available fields to discovery board users.
Discovery board administrators can configure curated field lists for the primary business object of the data source.

Next Steps

You can:

- Add a description to the viz by selecting **Add Description** from the related actions menu of the viz.
- Change how Workday displays your vizzes by dragging the viz to a new location on the sheet to reposition it.
- Modify your viz to change how Workday displays data.
- Duplicate the viz by selecting **Duplicate** from the related actions menu.

Related Information

Concepts

- [Concept: Discovery Board Workspace](#)
- [Concept: Using Drop Zones in a Viz](#)
- [Concept: Interactive Viz Queries](#)

Tasks

- [Steps: Modify Visualizations](#)
- [Set Up Curated Field Lists](#)
- [Set Up Discovery Boards as Home Page Worklets](#)

Reference

- [The Next Level: Discovery Boards Guidance](#)
- [The Next Level: Quick Sheet: Create Discovery Boards](#)

Set Up the Viz Data Source

Prerequisites

These domains in the System functional area:

- *Drive*
- *Discovery Boards: Create*

Context

Every visualization (viz) in a discovery board analyzes data in a data source.

When you create a discovery board, you select the data source to analyze in the first viz. When you add a new viz or duplicate an existing viz, Workday automatically selects the same data source as the previously selected viz. You can change the data source used in a viz by using the Data Source panel.

When you select a data source and save the discovery board, Workday automatically creates a **Recommended Data Sources** section in the Data Source panel. This list displays a maximum of 10 recommended data sources in alphabetical order based on the most recently used and most frequently used data sources. Users can disable **show recommended data sources** from the discovery board related actions.

If your tenant has Prism Analytics enabled, Workday lists both Prism data sources and the supported Workday-delivered data sources you have access to.

For Workday-delivered data sources, you have more options to configure for the data source, such as data source filters and prompts built into data sources or fields.

Steps

1. Select a viz in a discovery board.
2. Click the data source panel icon on the left side of the discovery board workspace.
3. Select a data source from the list when creating a new discovery board.
Workday displays data sources that you have permission on. If your Discovery Boards administrator curated the list of data sources, then Workday lists the data sources you have permission on from that curated list. To view all data sources that you have permission on, disable **Show only curated data sources** from the discovery board related actions.
4. (Optional) Save the discovery board to view your selected data source in the **Recommended Data Sources** list.
5. (Optional) Click the left arrow next to the data source name to select a different data source.
6. (Workday-delivered data sources) Select all required and any optional data source filters and prompts.

Result

Workday applies the selected data source and displays the builder panel so you can analyze the data in the data source.

Set Up Prompt Values for Discovery Boards

Prerequisites

These domains in the System functional area:

- *Drive*
- *Discovery Boards: Create*

Context

The data sources used in a discovery board might include prompts that are built-in to the data source or fields. Built-in prompts can:

- Filter down the data in your data source. Example: Worker Type prompt built-in to the Trended Workers data source.
- Be a parameter that influences data results. Example: Currency and Account Translation Rule Set prompts built-in to the Translated Debit Amount field.

You can select the values for the built-in prompts when you edit a discovery board. Built-in prompts are either required or optional.

You can select values for most built-in prompts. Workday supports prompts that use any field type supported in discovery boards except for:

- *Currency*
- *DateTime*

- Numeric
- Text

When you configure a prompt in a discovery board, by default:

- You select a static value for the prompt.
- The prompt value applies to all vizzes on a sheet that use the same combination of the selected data source and data source filter.
- The prompt is visible in edit mode only.

Steps

1. Select a viz that uses the combination of data source and data source filter you want to configure.
2. Select the data source panel icon on the left side of the discovery board workspace.
3. In the **Sheet Prompts** section, select 1 or more values for a built-in prompt.
4. (Optional) Select the prompt menu and select an option to change the properties of the prompt:

Option	Description
Determine Value Dynamically	<p>Use this option to change the prompt from static to dynamic, meaning that Workday determines the prompt value based on some context, such as the current date or current user.</p> <p>When you update a prompt to be dynamic, select a field that determines the prompt value dynamically. These fields are on the Global business object. These Global fields aren't available:</p> <ul style="list-style-type: none"> • Fields with built-in prompts. • Calculated fields with these functions: <ul style="list-style-type: none"> • Date Constant • Lookup Field with Prompts • Numeric Constant • Prompt for Value • Text Constant <p>Example: In a date prompt's input, you select the field First Day of This Month. When you view the discovery board, Workday:</p> <ul style="list-style-type: none"> • Determines the first day of the current month. • Uses that value for the prompt. • Displays data in the viz based on that prompt value. <p>In view mode, dynamically determined viewer-exposed prompts display the resulting values, not the field on the Global business object.</p>
Override at Viz	<p>Use this option to override the value of the prompt for the selected viz.</p> <p>When you override a sheet-level prompt at the viz-level, Workday moves the prompt from the Sheet Prompts section to the Viz Overrides section on the data source panel.</p> <p>You can remove a viz override by selecting Clear Override from the prompt menu in the Viz Overrides section.</p>
Create Control and Link	<p>Use this option to create a control and link it to the prompt, giving viewers control over the data returned.</p>

Option	Description
	<p>When you select a value in a control, Workday applies that value as the input to the linked prompt.</p> <p>Any changes you make to the values of a control in view mode only apply to view mode in your current session. Example: You are in view mode and select different values for the control, and then switch to edit mode. Workday reverts the control values to the saved version of the discovery board.</p> <p>See Concept: Discovery Board Controls on page 350.</p>

Related Information

Reference

[2022R1 What's New Post: Discovery Boards Prompts](#)

[2021R2 What's New Post: Viewer Access for Discovery Boards](#)

Set Up Curated Data Sources

Prerequisites

Security: *Discovery Boards: Manage Curated Data Source List* subdomain in the System functional area.

Context

You can curate the data sources to display on the **Data Source** panel in discovery boards. This list makes it easier for discovery board users to view the data sources available to them. By default, when you create a data source list, Workday only displays the data sources in that list. Users can also display all data sources.

Steps

1. Access the **Maintain Data Source List for Discovery Boards** report.
2. Click **Add Data Sources**.
Select the data sources to display on your discovery board. The **Data Sources to Add** grid only displays the data sources supported in discovery boards.
3. Click **Enable in Discovery Boards**.
Once you enable a data source list, you can disable it by clicking **Disable in Discovery Boards**.
4. (Optional) To modify the list, click **Add Data Sources** or **Remove Data Sources**. The **Data Sources to Remove** grid displays the data sources currently on the curated data sources list.

Result

When you create a discovery board, Workday displays the list of curated data sources in the **Data Source** panel.

Set Up Curated Field Lists

Prerequisites

Security: These domains in the System functional area:

- *Discovery Boards: Manage Curated Data Source Field List*
- *Discovery Boards: Manage Drilling Field Lists*

Context

You can configure curated field lists so that it's easier for discovery board editors to find the right fields to use when building visualizations. For all visualizations except tables, you can perform better ad hoc analysis and reporting by configuring fields to drill into and view details for.

Steps

- Access the **Maintain Field Lists for Discovery Boards** report.
- Select a **Business Object** to base the curated field list on.

All data sources with the primary business object you select share the same curated field list.

- As you complete the **Data Source Fields** tab, consider:

Option	Description
Enable in Discovery Boards	<p>(Available after you add fields to the curated field list.) Click to enable the curated list that you configured in discovery boards. Once clicked, you can click Disable in Discovery Boards to disable the curated field list.</p> <p>From the related actions menu of the discovery board, you can click Show only curated fields:</p> <ul style="list-style-type: none"> Off to display all available fields. On to display only the fields configured in the curated field list.
Add Fields	<p>Click to access the Add Fields to Data Source Field List for Discovery Boards task. The Fields to Add grid displays all fields available to populate the curated field list.</p>
Remove Fields	<p>(Available after you add fields to the curated field list.) Click to access the Remove Fields from Data Source Field List for Discovery Boards task. The Fields to Remove grid displays the fields currently on the curated field list.</p>
Selected Fields	<p>The grid displays all fields added to the curated field list that users view when creating visualizations.</p> <p>The Where Used column displays a usage count for each curated field. The count includes Workday internal development usages.</p>

- On the **Drill By Fields** tab, click **Edit Drill By Field List** to access the **Edit Drill By Field List for Discovery Boards** task. You can manage the fields you use to drill into visualization measure data. If you don't configure fields on the **Drill By Fields** tab, **Drill By** won't display on visualizations.
- As you complete the tab, consider:

Option	Description
Enable in Discovery Boards	<p>Click to enable the drill by field list that you configured in discovery boards. Once clicked, you can click Disable in Discovery Boards to display all available drill by fields for the business object you selected.</p>

Option	Description
Selected Grouping Fields	The grid displays all fields added to the drill by field list that users view when creating visualizations. You can select the Default Sort for each field that determines the display order for the drill by fields. Example: When you select a drill by field in a visualization, Workday displays a new table. The new table displays the Default Sort you selected for the drill by data.

Discovery boards don't support drilling on:

- Blank or *Other* values.
- Fields that you can't filter on.
- Lookup prior value calculated fields.

6. On the **Show Details Fields** tab, click **Edit Show Details Field List** to access the **Edit Show Details Field List for Discovery Boards** task. You can manage the fields Workday displays when you view the details of a data point to the transaction level.

If you don't configure fields on the **Show Details Fields** tab, **Show Details** won't display on visualizations.

7. As you complete the tab, consider:

Option	Description
Enable in Discovery Boards	Click to enable the show details field list that you configured in discovery boards. Once clicked, you can click Disable in Discovery Boards to disable the show details field list.
Selected Fields	<p>The grid displays all fields added to the show details field list that users view when creating visualizations. You can select the Default Sort for each field that determines the display order for fields when you view details. Example: When you click Show Details on a visualization data point, Workday displays a new table. The new table displays the Default Sort option you selected for the show details data.</p> <p>To change the order of the Show Details fields displayed in a visualization, remove the fields, then add them in the desired order.</p>

Result

Workday displays:

- Curated fields when you build discovery board visualizations if the data source has a primary business object with a curated field list configured.
- Options on the visualization to drill into and view details for your data.

Next Steps

You can drill into or view details for visualizations and display the resulting data in a pivot table or table. You can then click:

- **Add to Sheet** to add a visualization to a sheet. Each sheet can display up to 10 visualizations. Workday disables **Add to Sheet** if the visualization you drill into or view details for includes a lookup date rollup calculated field.
- **Export as a Report** to export a visualization to the Report Writer. Workday disables **Export as a Report** if:
 - The visualization you drill into or view details for includes a lookup date rollup calculated field.
 - You don't have access to the *Custom Report Creation* domain in the System functional area.

Related Information

Reference

[The Next Level: Enable Discovery Boards in Your Tenant](#)

Set Up Discovery Boards as Home Page Worklets

Prerequisites

Enable People Experience to customize the Home page.

Security: These domains in the System functional area:

- *Discovery Boards: Set Up Discovery Board as a Worklet*
- *Set Up: Tenant Setup - Worklets*

Context

You can add discovery boards as worklets on the Home page. This enables users to access their most commonly used discovery boards without needing to go to Drive.

Steps

1. Access the **Maintain Dashboards** report.
2. Click **Edit** in the **Home** dashboard row.
3. In the **Content** tab, add a worklet row in the **Worklets** grid.
4. As you complete the grid, consider:

Option	Description
Worklet	Select the Discovery Boards folder and then select the discovery board that you want to set as a worklet.
Required for Groups	Select the security groups that you want to have access to the discovery board worklet.
Required	Select the check box to set the discovery board worklet as Required .

5. (Optional) For users in security groups that don't require the discovery board worklet:
 - a) Access the **Configure My Worklet Landing Pages** task.
 - b) Select the **Home** landing page.
 - c) In the **Optional Worklets** section, select the discovery board to display.

Result

The discovery board worklet displays on the Home page.

Related Information

Reference

[2022R2 What's New Post: Discovery Boards Worklets on the Home Page](#)

Reference: Supported Fields in Discovery Boards

When you create or edit a discovery board, Workday lists the supported fields in the field list.

For Prism data sources, Workday supports:

- Every field in the Prism data source.
- Tenant-wide summarization calculations.
- The global calculated field functions supported in Prism data sources.

For Workday-delivered data sources, Workday supports:

- Workday-delivered fields.
- Tenant-wide summarization calculations.
- Tenant-wide calculated fields that use these functions:
 - Aggregate Related Instances
 - Arithmetic Calculation
 - Build Date
 - Concatenate Text
 - Convert Currency
 - Convert Text to Number
 - Count Related Instances
 - Date Constant
 - Date Difference
 - Evaluate Expression
 - Evaluate Expression Band
 - Extract Multi-Instance
 - Extract Single Instance
 - Format Date
 - Format Number
 - Format Text
 - Increment or Decrement Date
 - Lookup Date Rollup
 - Lookup Field with Prompts
 - Lookup Hierarchy
 - Lookup Hierarchy Rollup
 - Lookup Organization
 - Lookup Organizational Roles
 - Lookup Range Band
 - Lookup Related Value
 - Lookup Translated Value
 - Lookup Value As Of Date
 - Numeric Constant
 - Substring Text
 - Sum Related Instances
 - Text Constant
 - Text Length
 - True/False Condition

Workday doesn't support:

- Fields on the Global business object.

- Fields that use these field types:
 - DateTime
 - DateTimeZone
 - Rich Text
 - Time

If you use a Self-referencing Instance field in a viz, it displays as a Single Instance field.

Note: Use optimized fields whenever possible to improve performance. When creating or editing a viz, Workday displays a blue dot and tip text messages on fields optimized for performance. Data source fields might be optimized for different purposes. You can achieve better performance when you use fields optimized for grouping, aggregation, or filtering. Workday optimizes all fields in Prism data sources, and some fields in indexed Workday-delivered data sources.

Related Information

Concepts

[Concept: Prism Data Sources](#)

Modifying Visualizations

Steps: Modify Visualizations

Prerequisites

Security: These domains in the System functional area:

- *Drive*
- *Discovery Boards: Create*

Context

You can change discovery board visualizations (vizzes) to control the way Workday displays viz data.

Steps

1. Access the viz in a discovery board.
2. (Optional for Area Chart, Bar Chart, Chart, and Line Chart viz types) To compare metrics with different scales, select **Dual** on the Y-Axis drop zone to enable the Y-Axis (Left) and Y-Axis (Right) drop zones. Drag and drop summarization fields in both Y-Axis drop zones to display values on opposite axes of the chart.
3. (Optional for Bar Chart or Waterfall viz types) Select a horizontal or vertical **Orientation** for the marks on the viz.
4. (Optional for Area Chart and Bar Chart viz types) Select the **Grouping** of the marks on the viz, such as Cluster, Overlay, Stack, or Stack to 100.
5. (Optional for the Chart viz type) Select the type of **Marks** for each y-axis, such as area, bar, or line. When you create a dual axis chart, you can make a combination chart by selecting different mark types for each y-axis.
6. (Optional) [Adjust Mark Size in a Viz](#) on page 364.
7. (Optional) [Change Viz Colors](#) on page 365.
8. (Optional) [Highlight Data in a Viz](#) on page 365.
9. (Optional) [Group Data by Color in a Viz](#) on page 364.
10. (Optional) [Change Field Options for Visualizations](#) on page 366.
11. (Optional) [Set Up Visualization Options](#) on page 367.

- 12.(Optional) [Change the Formatting of a Numeric or Currency Summarization in a Viz](#) on page 371.
- 13.(Optional for the KPI viz type.) [Set Up KPI Viz Options](#) on page 372.
- 14.(Optional for the Waterfall viz type.) [Set Up Waterfall Viz Options](#) on page 373.
- 15.(Optional for the Donut Chart viz type.) [Set Up Donut Chart Options](#) on page 374.
- 16.(Optional) [Filter Data in a Viz](#) on page 376.
- 17.(Optional) [Sort Data in a Viz](#) on page 378.
- 18.(Optional) [Limit Viz to the Top N Values](#) on page 379.

Related Information

Concepts

[Concept: Discovery Board Workspace](#) on page 346

[Concept: Using Drop Zones in a Viz](#) on page 349

Tasks

[Steps: Create Visualizations](#) on page 354

Adjust Mark Size in a Viz

Prerequisites

Security: *Discovery Boards: Create* domain in the System functional area.

Context

You can adjust the size of Point mark types in Chart and Scatterplot visualizations. To adjust the size based on the field value per mark, add a summarization field to the **Size** drop zone.

Steps

1. Select a Scatterplot viz or a Chart viz with **Point** as the mark type.
2. Drag a summarization field from the field panel to the **Size** drop zone.

Group Data by Color in a Viz

Prerequisites

Security: *Discovery Boards: Create* domain in the System functional area.

Context

For some viz types, you can add a field to the Color drop zone to encode the marks so the groups are visually differentiated.

Most viz types, such as Chart and Donut Chart, accept an attribute field in Color, which creates additional groupings in the viz. Heatmap vizzes accept a summarization field in Color.

Steps

1. (Area Chart, Bar Chart, Chart, and Line Chart viz) Select a viz with at least 1 attribute field in the **X-Axis** drop zone.
2. (Donut Chart viz) Select a Donut Chart viz with a summarization field in the **Angle** drop zone.
3. (Heatmap viz) Select a Heatmap viz.
4. Place a field in the **Color** drop zone.

Suppose you have a Chart viz, and you place the worker field in **X-Axis**, Count in **Y-Axis**, and the gender field in **Color**. The viz groups the workers by gender and uses a different color for each gender.

Related Information**Concepts**

[Concept: Color in Discovery Boards](#) on page 375

Tasks

[Change Viz Colors](#) on page 365

Change Viz Colors

Prerequisites

Security: These domains in the System functional area:

- *Drive*
- *Discovery Boards: Create*

Context

You can select color palettes to use for your discovery boards and assign color options at the viz level.

Steps

1. Open a discovery board and click the **Formatting** panel.
2. Select a color palette to use for the board and any board-level color overrides.
3. To override board-level palettes and overrides, select a viz and set any field value overrides for the viz.
When you override a palette color, Workday assigns the next color in the palette to the next field value, and so on, if multiple overrides exist.
4. Clear any overrides that you no longer need.

Related Information**Concepts**

[Concept: Color in Discovery Boards](#) on page 375

Tasks

[Group Data by Color in a Viz](#) on page 364

Highlight Data in a Viz

Prerequisites

Security: These domains in the System functional area:

- *Drive*
- *Discovery Boards: Create*

Context

You can highlight data in a table viz at column, row, or individual cell level using the formatting panel to emphasize specific aspects of the table data. You can highlight values with conditional formatting or highlight values based on set conditions.

Example: Set the font to bold type for all values greater than or equal to 500 to highlight those values in the table.

Steps

1. Open a discovery board and click the **Formatting** panel.
2. Select the entire table or the column you want to highlight.

3. Add formatting, conditional formatting, or remove the selection via the related actions menu.
Conditional formatting is not compatible with non-numeric fields.
4. (Optional) Add filter operators to highlight values based on set conditions:
 - Greater than or equal to
 - Greater than
 - Between
 - Less than or equal to
 - Less than
 - Equals
 - Not equal to
5. (Optional) Highlight a value with formatting options:
 - Bold
 - Italic
 - Underline
 - Text Color
 - Cell Background Color

Result

Workday applies the selected formatting to the table and highlights the relevant data.

Related Information

Tasks

[Steps: Modify Visualizations](#) on page 363

Change Field Options for Visualizations

Prerequisites

Security: *Discovery Boards: Create* domain in the System functional area.

Context

You can change field names and how Workday displays summarization data for fields in your viz. You can also change the display name of drop zones and reset to the default name.

For Waterfall viz types, click **Viz Options** to configure the display name.

For KPI viz types, you can change the display names in the **Configuration panel**.

Steps

1. (Optional) On the **Builder panel**, access the drop zone menu, select **Field Options** and update the **Field Display Name**. Select **Reset to default name** to revert to the original display name.

You can enter a unique display name for these viz types:

Viz Type	Drop Zones
Area Chart	X-Axis, Y-Axis
Bar Chart	X-Axis, Y-Axis
Bubble Chart	X-Axis, Y-Axis
Chart	X-Axis, Y-Axis
Donut Chart	Angle, Color

Viz Type	Drop Zones
Heatmap	X-Axis, Y-Axis, Color
Line Chart	X-Axis, Y-Axis
Scatterplot	X-Axis, Y-Axis

2. (Available for all viz types except KPI and Waterfall.) Select a field in a drop zone and select **Field Options**.
3. (Available for Pivot Table vizes.) From **Field Options**, in the **Display As** drill down menu, you can display the summarization field as a percentage of a total.
Overall Total is unavailable when the pivot table includes rows only.
4. (Optional) In the **Field Display Name** field, enter a unique display name.

Related Information

Tasks

[Set Up Waterfall Viz Options](#) on page 373

[Set Up KPI Viz Options](#) on page 372

Set Up Visualization Options

Prerequisites

Security: These domains in the System functional area:

- *Drive*
- *Discovery Boards: Create*

Context

You can configure vizes to customize the display, such as managing the sort order of fields and overriding populated values for **Drill By** and **Show Details**.

Steps

1. Access the **Configurations** panel on your visualization.
2. (Optional for Pivot Table viz types) As you complete the **Columns** section, consider:

Option	Description
Reset to default	Select to reset all configuration on the selected viz.
Sort Order	Change the sort order to: <ul style="list-style-type: none"> • <i>Alphabetical - Ascending</i> or <i>Alphabetical - Descending</i> • <i>Value Total - Ascending</i> or <i>Value Total - Descending</i>
Number of column groupings	Set the number of column groupings. There is a maximum limit of 250.
Total	Select the Hide Column Totals check box to hide the total column value, which displays the cumulative effect of all increments in the last bar using a separate color.

3. (Optional for Pivot Table viz types) As you complete the **Rows** column, consider:

Option	Description
Reset to default	Select to reset all configuration on the selected viz.
Sort Order	Change the sort order to: <ul style="list-style-type: none"> <i>Logical - Ascending</i> or <i>Logical - Descending</i> for fields with logical sorting enabled. <i>Alphabetical - Ascending</i> or <i>Alphabetical - Descending</i> <i>Value Total - Ascending</i> or <i>Value Total - Descending</i>
Number of row groupings	Set the number of row groupings. There is a maximum limit of 12000.
Total	Select the Hide Row Totals check box to hide the total row value, which displays the cumulative effect of all increments in the last bar using a separate color.

4. (Optional for Area Chart, Bar Chart, Chart, and Line Chart viz types) As you complete the **X-Axis** section, consider:

Option	Description
Reset to default	Select to reset all configuration on the selected viz.
Sort Order	Change the sort order to: <ul style="list-style-type: none"> <i>Alphabetical - Ascending</i> or <i>Alphabetical - Descending</i> <i>Value Total - Ascending</i> or <i>Value Total - Descending</i> <i>Field - Alphabetical Ascending</i> or <i>Field - Alphabetical Descending</i>
Number of axis groupings (Max 100)	Set a limit for the number of axis groupings. If you set a limit, select the Summarize remaining values check box to display an <i>Other</i> grouping on the x-axis to view the remaining results. Clear the check box to exclude the remaining results.
Display Name	Change the axis display name or select Reset to default name to revert to the original display name.

5. (Optional for Area Chart, Bar Chart, Chart, and Line Chart viz types) As you complete the **Y-Axis** section, you can change the **Axis display name** or select **Reset to default name** to revert to the original display name.

6. (Optional) As you complete the **Color** section, consider:

Option	Description
Reset to default	Select to reset all configuration on the selected viz.
Sort Order	Change the sort order to:

Option	Description
	<ul style="list-style-type: none"> • <i>Alphabetical - Ascending</i> or <i>Alphabetical - Descending</i> • <i>Value Total - Ascending</i> or <i>Value Total - Descending</i> • <i>Field - Alphabetical Ascending</i> or <i>Field - Alphabetical Descending</i>
Number of groupings (Max 250)	Set the limit for the number of groupings. If you set a limit, select the Summarize remaining values check box to display an <i>Other</i> grouping on the x-axis to view the remaining results. Clear the check box to exclude the remaining results.
Display Name	(Optional for Donut Charts) Change the display name or select Reset to default name to revert to the original display name.

7. (Optional for Area Chart, Bar Chart, Line Chart, Matrix Chart, Heatmap, and Scatterplot viz types) As you complete the **Options** section, consider:

Option	Description
Data Labels	Select Display data labels to show data values as text on the viz. For Area, Bar, and Line viz types: <ul style="list-style-type: none"> • Select All to display data labels for all measures on the viz. • Select Custom and then select the specific measure(s) to display data labels for. (For Matrix charts, if Point is selected, only the All option is available). If there is not enough space on the viz to display data labels without overlapping, some labels may be hidden. You can try to: <ul style="list-style-type: none"> • Select only specific measures to display labels for. • Configure decimal points to shorten the data label. • Expand the viz for more display room. • For stacked bar charts, zoom into the chart until the label displays.
(Optional Area Chart, Bar Chart, and Line Chart) Reference Lines	Select Add Line to add a reference line to compare data against specific values. Select the Line Type and your specifications for the reference line: <ul style="list-style-type: none"> • Constant value • Measure • Workday Delivered Fields Select the Label Display for your reference line: <ul style="list-style-type: none"> • Name and Value

Option	Description
	<ul style="list-style-type: none"> • Name • Value <p>You can add multiple reference lines. Remove or disable reference lines from the related actions menu.</p> <p>Note: If there is 1 measure in the drop zone and this is used as a reference line, the default <i>Count</i> measures the viz. To use the same measure as a Y-axis value and a reference line, the user must add the measure to the Y-axis drop zone twice and identify 1 of these measures as the reference line.</p>

8. (Optional for KPI viz types) Complete the **Comparison Measure** and **Indicator** tabs, see [Set Up KPI Viz Options](#) on page 372.

9. (Optional) As you complete the **Show Details** section, consider:

Option	Description
Enable Show Details for this viz	Turn the toggle: <ul style="list-style-type: none"> • On to enable the viz to display Show Details when you select aggregated marks and cells. • Off to disable the viz from displaying Show Details.
Override default fields and settings	Turn the toggle: <ul style="list-style-type: none"> • On to enable custom field configurations for Show Details. • Off to revert fields to the default values set up by your admin.
Field	(Available when you toggle on Override default fields and settings .) Add, remove, or reorder fields for the viz.
Sort Order	(Available when you toggle on Override default fields and settings .) Manage the sort order of Show Details fields by selecting <i>Alphabetical - Ascending</i> or <i>Alphabetical - Descending</i> .

10. (Optional) As you complete the **Drill By** section, consider:

Option	Description
Enable Drill By for this viz	Turn the toggle: <ul style="list-style-type: none"> • On to enable the viz to display Drill By when you select aggregated marks and cells. • Off to disable the viz from displaying Drill By.
Override default fields and settings	Turn the toggle: <ul style="list-style-type: none"> • On to enable custom field configurations for Drill By. • Off to revert fields to the default values set up by your admin.

Option	Description
Field	(Available when you toggle on Override default fields and settings .) Add, remove, or reorder fields for the viz.
Sort Order	(Available when you toggle on Override default fields and settings .) Manage the sort order of Drill By fields by selecting: <ul style="list-style-type: none"> • <i>Alphabetical - Ascending</i> or <i>Alphabetical - Descending</i>. • <i>Value Total - Ascending</i> or <i>Value Total - Descending</i>. • <i>Logical - Ascending</i> or <i>Logical - Descending</i> for fields with logical sorting enabled.

Related Information

Tasks

- [Set Up KPI Viz Options](#) on page 372
- [Set Up Waterfall Viz Options](#) on page 373
- [Set Up Donut Chart Options](#) on page 374

Reference

- [2023R2 What's New Post: Discovery Board Visualization Defaults](#)

Change the Formatting of a Numeric or Currency Summarization in a Viz

Prerequisites

Security: *Discovery Boards: Create* domain in the System functional area.

Context

You can specify the number format for Numeric or Currency summarization fields displayed in a viz. When you edit a KPI or Waterfall viz, the number formatting you specify applies to every summarization field.

Steps

1. Select a viz that includes a summarization field.
2. Hover over a summarization field in a drop zone and select **Formatting**.
3. Select the desired formatting option:

Option	Description
Custom	Select a format from the list of supported values or enter a custom format. Workday displays an error message for unsupported formats.
Automatic	Workday automatically determines the best display based on the data in the viz.
Numeric	<ul style="list-style-type: none"> • Select how to display the Negative Values. • Select the number of Decimal Places to round the data to. • Select the Display Unit from Thousands (K), Millions (M), Billions (B), or Trillions (T).

Option	Description
	<ul style="list-style-type: none"> Select or clear the Include thousands separators check box.
Currency	<ul style="list-style-type: none"> Select how to display the Negative Values. Select the number of Decimal Places to round the data to. Select the Display Unit from Thousands (K), Millions (M), Billions (B), or Trillions (T). Select or clear the Include thousands separators check box. Select or clear the Include currency symbols check box.
Percentage	<ul style="list-style-type: none"> Select how to display the Negative Values. Select the number of Decimal Places to round the data to.

4. Select **Reset to Default** to revert to the original values and formatting.

The sample value displays an indication of how the formatting looks in the viz.

Set Up KPI Viz Options

Prerequisites

Security: *Discovery Boards: Create* domain in the System functional area.

Context

When you create or edit a KPI viz, you can configure some KPI-specific options, such as:

- The variance (difference) between a base measure and a comparison measure. To display the variance, you must include a field in the **Comparison Measure** drop zone.
- The variance (difference) between the metrics from a base time period and a comparison time period. To display the variance, you must include a field in the **Date** drop zone.
- A visual cue that indicates the progress toward the intended result. The visual cues use an icon and/or prominent background color to indicate progress. You can add rules that define when the current value is expected, a warning, or critical. For time comparisons, you can add rules that indicate whether a KPI is on a positive or negative trend.

Steps

- Select a KPI viz.
- On the **Configurations** panel, define how to calculate the variance in the **Comparison Measure** or **Period Comparison Date** tab.
- (Optional) Select how to display the variance. For percentages, select the number of **Decimal Places** to display.
- (Optional) Define the base and comparison periods for time period comparison using dynamic or static dates.
- (Optional) Enable or disable **Show Date Ranges on Visualization** from the related actions menu to view or hide the date ranges for the base period and/or comparison period on the viz.

6. (Optional) Select the **Indicators** tab, and add 1 or more rules that define progress toward the intended result.
 - a) Select which value to evaluate against in each rule, either the **Base measure value** or **Percentage of target**. For date values, select **Base Measure Value**, **Variance as a Value**, or **Variance as a Percentage**.
 - b) In the first rule, define the rule conditions by selecting the comparison operator, comparison value, and the visual indicator to display.
 - c) (Optional) Click **Add Rule** to add another rule.
 - d) To change the order of rules, click the handle on the right side of a rule and drag into the desired position.

Workday evaluates the rules in order starting at the top. The viz displays the indicator for the first matching rule.

Related Information

Reference

[2021R2 What's New Post: KPI Viz Type for Discovery Boards](#)

Set Up Waterfall Viz Options

Prerequisites

Security: *Discovery Boards: Create* domain in the System functional area.

Context

When you create or edit a Waterfall viz, you can configure how to display the data and labels in the viz.

You can create a Waterfall viz using either of these methods:

- One field each in the **Measures** and **Dimensions** drop zones. Workday displays how the values of a dimension field incrementally increase or decrease the value of a measure field. Example: You can display headcount (measure field) by fiscal period (dimension field). You can change the sort order of the dimension field values.
- Multiple fields in the **Measures** drop zone. Workday displays each field in order on the x-axis, using the top field as the starting value. You can change the order of the measure values in the viz by changing the order of the fields in the Measures drop zone.

The method you use to create a Waterfall viz determines the viz options you can configure.

Steps

1. Select a Waterfall viz.
2. On the **Builder** panel, click **Viz Options**.
3. As you complete this step, consider:

Option	Description
Show data labels	Display the data value as text above each incremental increase or decrease.
Hide Start Value	By default, Workday uses the first value on the x-axis as the start value and applies the Start color displayed in the viz legend to the first value. When you enable this option, Workday: <ul style="list-style-type: none"> • Hides the Start label from the viz legend. • Changes the color of the first value on the x-axis to use either the Increase or Decrease assigned color according to the field value.

Option	Description
Hide total	Hide the total value, which displays the cumulative effect of all increments in the last bar using a separate color.
Sort Order	(Dimension drop zone only) Select how to sort the values from the field in the Dimensions drop zone. You can sort the data alphabetically, logically, or numerically in ascending or descending order.
Limit	(Dimension drop zone only) You can apply a limit on the number of field values displayed on the axis with the dimension field. For more information on limiting data, see Limit Viz to the Top N Values on page 379.
Axis display names	Override the default names that display on the x-axis and y-axis of the viz.
Measure display names	Override the default display names for each field in the Measures drop zone. When the viz has multiple fields in the Measures drop zone, Workday uses these display names for the first measure and each incremental measure.
Label display name	Override the default display name for the total value (if included).

Related Information

Reference

[2022R2 What's New Post: Waterfall Viz Type for Discovery Boards](#)

Set Up Donut Chart Options

Prerequisites

Security: *Discovery Boards: Create* domain in the System functional area.

Context

When you create or edit a Donut Chart viz, you can configure how to display the data and labels in the viz.

Steps

1. Select a Donut Chart.
2. On the **Builder** panel, click **Angle Options**.
3. As you complete this step, consider:

Option	Description
Angle Display Name	The label to display in the center of the donut chart.
Show Value Data Labels	Display the data label next to each segment as a numeric value.
Show Percentage Data Labels	Display the data label next to each segment as a percentage value.

Option	Description
Hide Total	Hide the total value that is displayed in the center of the donut chart.
Space Out Segments	Increase the spacing between each segment of the donut chart. The viz tile must be big enough to display the spacing between segments.
Show Leader Lines	Display lines from each segment to its data label.

Concept: Color in Discovery Boards

You can use color in discovery boards to apply more meaning to your vizzes. We provide a variety of color palettes to help differentiate data across vizzes. Use the Formatting panel to make color selections for:

- Board level: Select a palette and specify any field value overrides.
- Viz level: Select a viz and specify any field value overrides.

Palettes and Overrides

You pick a color palette for a board and then assign colors that are meaningful. Example: You could assign colors to represent specific products or functional areas: a beverage company could use the branding colors of the top 5 competitors on its vizzes to quickly identify each product while analyzing the data (such as red for Coke and blue for Pepsi).

You can change the overall color aesthetic on discovery boards without having to change each viz manually. You can select from a variety of color palettes, including ones that are color-blind friendly or high contrast to differentiate colors more easily.

You can override field value colors for most viz types:

Viz Type	Overrides Available
Bar Chart	Yes
Line Chart	Yes
Area Chart	Yes
Scatterplot	Yes
Heatmap	No
KPI	NA
Waterfall	Yes
Chart	Yes
Donut Chart	Yes

Color Assignment Rules and Considerations

- Colors from the selected palette are assigned dynamically, so the color assignment might change based on the data in the viz. If you want to apply a specific color to a data value, assign the color manually as an override to persist the color. Color assignments made by the system are based on the legend items returned in the viz query, which takes instance-level and cell-level security into consideration.
- Color assignments for measures apply to all data sources used on the board. Color assignments for dimensions are specific to the data source and can be different.

- Color assignments depend on whether there's a field in the Color drop zone on the Builder panel. Until there's a dimension in the Color drop zone, color assignments are driven by measures.
- Color assignments are persisted when switching between chart types that support color assignments.
- For Waterfall charts, there's a 4-color palette that represents the start, increase, decrease, and total data values. You can swap the increase and decrease colors from the palette to make those selections more meaningful. Example: For a decrease that is actually a positive trend, assign a color that visually represents the trend (green instead of red).

Related Information

Tasks

[Group Data by Color in a Viz](#) on page 364

[Change Viz Colors](#) on page 365

Reference

[2022R2 What's New Post: Color in Discovery Boards](#)

Filtering and Sorting Data in Visualizations

Filter Data in a Viz

Prerequisites

These domains in the System functional area:

- *Drive*
- *Discovery Boards: Create*

Context

You can constrain data in a viz by filtering on an attribute field. Viz filters enable you to filter data in a single viz, while sheet filters enable you to filter data on all vizzes in the sheet that use the same data source. You can reorder filters or move the filter to a different filter group.

As you filter data in a viz, consider:

- Some filter operators will be slower than others.
- Workday applies the filter in the order that they're listed in the filter panel. Consider placing filter conditions that constrain the largest amount of data toward the top of the filter panel for better performance.

Steps

1. Access your discovery board from **Drive**.

You can also access your discovery board as a worklet from the Home page. See [Set Up Discovery Boards as Home Page Worklets](#).

2. Select a viz that uses the combination of data source and data source filter you want to filter.

3. Select the filter panel on the left side of the discovery board workspace.

4. Add a filter to the **Sheet Filters** or **Viz Filters** section.

5. As you complete the task, consider:

Option	Description
Field	Select the field that you want to filter. Workday doesn't support lookup date rollup calculated fields on sheet or viz filters.

Option	Description
Filter Operator	Workday displays the operators available for the selected field.
Filter Values	Available options depend on the selected field and filter operator.
AND/OR Filter Conditions	Use a combination of AND/OR filter conditions on viz or sheet level. You can change the AND filter to OR and vice versa.
Nested Group	Add a nested filter group at each filter level. Nesting levels are indicated through the brackets around the group and numbered headings. You can apply up to 4 levels of nesting.

6. (Optional) Select the filter menu and select an option to change the properties of the filter:

Option	Description
Determine Value Dynamically	<p>Use this option to change the filter from static to dynamic, meaning that Workday determines the filter value based on some context, such as the current date or current user.</p> <p>When you update a filter to be dynamic, select a field that determines the filter value dynamically. These fields are on the Global business object. These Global fields aren't available:</p> <ul style="list-style-type: none"> • Fields with built-in prompts. • Calculated fields with these functions: <ul style="list-style-type: none"> • Date Constant • Lookup Field with Prompts • Numeric Constant • Prompt for Value • Text Constant <p>Example: In a date filter's input, you select the field First Day of This Month. When you view the discovery board, Workday:</p> <ul style="list-style-type: none"> • Determines the first day of the current month. • Uses that value for the filter. • Displays data in the viz based on that filter value.
Move to Sheet and Move to Viz	<p>Use this option to change which vizes the filter applies to.</p> <p>A viz filter applies to the selected viz, and a sheet filter applies to all vizes on the sheet that use the same data source and data source filter.</p>
Create Control and Link	<p>Use this option to create a control and link it to the filter, giving viewers control over the data returned.</p> <p>When you select a value in a control, Workday applies that value as the input to the linked filter.</p> <p>Any changes you make to the values of a control in view mode only apply to view mode in your current session. Example: You are in view mode and select different values for the control, and then switch to edit mode. Workday reverts the control values to the saved version of the discovery board.</p>

Option	Description
	See Concept: Discovery Board Controls on page 350.
Remove	Deletes the filter from the discovery board.
Disable	Use this option to turn off the filter temporarily without removing it.

Related Information**Concepts**[Concept: Viz Filters](#) on page 380[Concept: Discovery Board Controls](#) on page 350**Tasks**[Limit Viz to the Top N Values](#) on page 379[Set Up Discovery Boards as Home Page Worklets](#) on page 361**Reference**[2023R1 What's New Post: Discovery Board Controls](#)[2023R1 What's New Post: Discovery Board Filters](#)

Sort Data in a Viz

Prerequisites[Security: Discovery Boards: Create domain in the System functional area.](#)**Context**

You can sort attribute data in a visualization to arrange the data in a meaningful order for analysis, such as:

- Alphabetically
- Chronologically
- Logically
- Numerically

Additionally, in the view mode for a table, you can sort the table data on a single column header by ascending or descending and reset to the default sort depending on the sort options available for the column data.

You can sort the data in a Waterfall viz when there's a field in the **Dimensions** drop zone. For details, see [Set Up Waterfall Viz Options](#) on page 373.**Steps**

1. Select a viz with at least 1 attribute field in a drop zone.
2. (Area Chart, Bar Chart, Chart, Heatmap, and Line Chart viz) Click the drop zone options for the **X-Axis** or **Color** drop zone.
3. (Donut Chart and Scatterplot viz) Click the drop zone options for the **Color** drop zone.
4. (Pivot Table viz) Click the drop zone options for the **Columns** or **Rows** drop zone.
5. (Table viz) Hover over an attribute field in the **Columns** drop zone and select **Table Options**.
6. Select the **Sort Order**.

When you add fields to a viz, Workday automatically sorts the data by **Logical Sort**. For example, Workday will sort the months of the year in a chronological order starting with January rather than in

an alphabetical order. If **Logical Sort** isn't applicable to the viz, Workday automatically sorts the data alphabetically (chronologically and numerically for date and numeric fields) in ascending order.

For Donut Charts, the first mark in a sorted list starts at the Y-axis, which is the top half of a vertical line going through the circle. The next mark in the sorted list displays next to the first in a clock-wise rotation.

Limit Viz to the Top N Values

Prerequisites

Security: *Discovery Boards: Create* domain in the System functional area.

Context

Another way to filter data in a visualization is to apply a limit on the number of attribute values displayed. You can limit attribute values in these viz types:

- Area Chart
- Bar Chart
- Chart
- Donut Chart
- Heatmap
- Line Chart
- Scatterplot
- Pivot Table

Workday limits the data if the number of unique values exceeds the configured limit. Workday automatically defines different limit values depending on the viz type and drop zone. Example: Workday automatically limits the **Color** drop zone in Donut Chart vizzes to 20 values. You can change the limit values of different drop zones, up to a different maximum for each.

Limiting data in a viz works with how you sort the data. You can change how you sort the data when you edit the limit settings.

For most viz types, you can sum all other values into a single value labeled Other. You can't sum all other values in a Pivot Table viz.

You can limit the values in a Waterfall viz when there's a field in the **Dimensions** drop zone. For details, see [Set Up Waterfall Viz Options](#) on page 373.

Steps

1. Select a viz with at least 1 attribute field in a drop zone.
2. Click the drop zone options for the **X-Axis**, **Columns**, **Rows**, or **Color** drop zone that contains an attribute field.
When you change the orientation of a Bar Chart viz to horizontal, you can click the **Y-Axis** drop zone options.
3. Select the number of values to **Limit**.
4. (Optional for Area Chart, Bar Chart, Chart, Donut Chart, Heatmap, Line Chart, and Scatterplot) Select **Sum Remaining Values**.

Related Information

Reference

[Reference: Reporting Limits](#) on page 113

Concept: Viz Filters

You can filter on an attribute field to constrain the data Workday displays in discovery board sheets and visualizations. Filtering on a field enables you to include records in the viz based on the values of the selected field.

Create and edit filters on the **Filter panel**. You can create these types of filters:

- Viz filters, which apply only to the selected viz.
- Sheet filters, which apply to all vizzes on the sheet that use the same data source and data source filter.

You can create multiple sheet and viz filters on a field with a combination of AND and OR filters. You can reorder filters and move a filter to a different filter group.

As you create filters, consider that Workday doesn't support lookup date rollup calculated fields on sheet or viz filters.

Related Information

Tasks

[Filter Data in a Viz](#) on page 376

Sharing Visualization Insights

Export a Viz as a Custom Report

Prerequisites

Security: These domains in the System functional area:

- *Custom Report Creation*
- *Discovery Boards: Create*

Context

You can create a custom report using the data and configurations from these viz types:

- Chart
- Donut Chart
- Pivot Table
- Table

When you create a report from a viz, consider:

- Each time you create a report from a viz, Workday creates a new report definition.
- Fields not supported in discovery boards might display in custom reports. Example: Discovery boards don't support time field types, but Report Writer does. If you use a datetime field, Workday displays only the date in a viz, but displays the date and time in the custom report.
- The chart and sort options you select for the viz might not display the same way in the custom report.
- The drill by and show details fields you set up might differ in the custom report.
- The type of report that Workday creates depends on the viz type.
 - A Chart and Donut Chart viz becomes a Matrix report with the chart and table displayed.
 - A Pivot Table viz becomes a Matrix report with only the table displayed.
 - A Table viz becomes an Advanced report.
- For Chart and Donut Chart vizzes, color overrides aren't exported.
- Workday assigns you as the owner of the report.
- Workday sets the report definition sharing options to **Don't share report definition**.
- You can edit the report definition after Workday creates the report.

Steps

1. Select a viz.
2. Select **Create Report** from the viz menu in the upper right corner.
3. Enter the name of the report definition.

Result

Workday creates the report definition and runs the report. You can view the report immediately in a new tab.

Download Visualizations

Prerequisites

Security: *Discovery Boards: Create* domain in the System functional area.

Context

You can download visualizations as CSV or PNG image files to your computer.

Steps

1. Select a viz.
2. (Available for all viz types except Matrix Report - Pivot Tables and Advanced Report - Tables.) Select **Download as PNG** from the related actions menu of the viz.
3. (Available for Matrix Report - Pivot Tables and Advanced Report - Tables only.) Select **Download as CSV** from the related actions menu of the viz.

You can also select **Download as CSV** from the related actions menu of **Drill By** and **Show Details** results.

Downloading large volumes of data might impact the performance of your browser. You can't download multiple CSV files simultaneously.

4. (Optional) Access the **Text Import Wizard** in Microsoft Excel to display localized text from the CSV file.

You can access the **Text Import Wizard** by:

- Clicking **Data > From Text/CSV** from the menu bar of Excel.
- Accessing Excel, then selecting the downloaded file.

Result

Workday generates a CSV or PNG file and saves it to the directory configured in your browser. The filename is the same as the viz name, and the viz title and description (if populated) export along with the viz.

When you open the CSV file, consider the application you select might impose limitations different from Workday. Example: Microsoft Excel limits the number of characters in each cell to 32,767.

Prism Analytics

Steps: Set Up Tenant for Prism Analytics

Prerequisites

You need to create a Tenant Management case with Workday and create a Tenant - Setup Feature request to provision Prism Analytics hardware for your tenant.

Security: *Security Configuration* domain in the System functional area.

Context

Set up Prism Analytics to enable data administrators and data analysts to create tables and datasets for blending Workday and non-Workday data that data analysts can analyze inside Workday.

Steps

- 1. Create User-Based Security Groups.**

Create security groups for your data administrators and data analysts, and assign users.

Example: You can define these security groups (administered by the Security Configurator group):

- Prism Data Writer
- Prism Data Administrator

- 2. Create Prism Access Security Groups.**

Create security groups for your data administrators and data analysts, and assign unconstrained security groups. This security group type doesn't accept users directly. Instead, you associate 1 or more unconstrained security groups with the group.

Example: You can define these security groups (administered by the Security Configurator group):

Group Name	Unconstrained Security Group to Associate
Prism Data Writer (Prism Access)	Prism Data Writer
Prism Data Administrator (Prism Access)	Prism Data Administrator
Security Administrator (Prism Access)	Security Administrator
Security Configurator (Prism Access)	Security Configurator

- 3. (Optional) Create Role-Based Security Groups.**

Note: When you create a role-based (constrained) security group for any of the dataset-related roles, you must select **Role has access to the positions they support** for the **Access Rights to Multiple Job Workers** option.

- 4. Access the Maintain Functional Areas task.**

Select the **Enabled** check box for the **Prism Analytics** functional area.

5. Edit Domain Security Policies.

Create or edit a security policy for these domains:

- *Prism Datasets: Create*
- *Prism Datasets: Manage*
- *Prism Datasets: Owner Manage*
- *Prism Datasets: Publish*
- *Prism: Manage Data Source*
- *Prism: Manage Relax Sharing*
- *Prism: Tables Create*
- *Prism: Tables Manage*
- *Prism: Tables Owner Manage*
- *Prism: Manage Connection*
- *Prism: Manage File Containers*

Workday suggests that you use the security groups you created.

Domain	Security Groups	Task Permissions
<i>Prism Datasets: Create</i>	Prism Data Administrator (Prism Access), Prism Data Writer (Prism Access)	View and Modify
<i>Prism Datasets: Manage</i>	Prism Data Administrator (Prism Access) Security Configurator (Prism Access), Security Administrator (Prism Access)	View and Modify View only
<i>Prism Datasets: Owner Manage</i>	Prism Data Administrator (Prism Access), Security Administrator (Prism Access)	View and Modify
<i>Prism Datasets: Publish</i>	Prism Data Administrator (Prism Access), Security Configurator (Prism Access)	View and Modify
<i>Prism: Manage Data Source</i>	Security Configurator (Prism Access)	View and Modify
<i>Prism: Manage Relax Sharing</i>	Prism Data Administrator (Prism Access)	View and Modify
<i>Prism: Tables Create</i>	Prism Data Administrator (Prism Access), Prism Data Writer (Prism Access)	View and Modify
<i>Prism: Tables Manage</i>	Prism Data Administrator (Prism Access) Security Configurator (Prism Access), Security Administrator (Prism Access)	View and Modify View only
<i>Prism: Tables Owner Manage</i>	Prism Data Administrator (Prism Access), Security Administrator (Prism Access)	View and Modify
<i>Prism: Manage Connection</i>	Prism Data Administrator, Prism Data Writer	View and Modify
<i>Prism: Manage File Containers</i>	Employee as Self, Contingent Employee as Self (optional)	View and Modify

6. Activate Pending Security Policy Changes.

7. Set Up Dataset Sharing on page 492.

8. Set Up Table Sharing on page 489.

9. (Optional) Enable users with Dataset Viewer permission to see dataset transformations. Workday recommends not enabling this option if you've shared a dataset that contains potentially sensitive data.
 - a) Access the **Edit Tenant Setup - Reporting and Analytics** task.
 - b) Select **Enable Prism Dataset View Transformations** in the Prism Analytics section.
- 10.(Optional) [Enable Contextual Publishing for Datasets](#) on page 510.
- 11.(Optional) Customize notification settings.
 - a) Access the **Edit Tenant Setup - Notifications** task.
 - b) Select the **System** notification group in the **Notification Delivery Settings** section.
 - c) Customize these notification settings:
 - **Prism Data Acquisition Notification**
 - **Prism wBucket Complete Notification**
 - d) Select the **Prism Analytics** notification group.
 - e) Customize these notification settings:
 - **Manual Dataset Publish Notifications**
 - **Prism Data Change Notification**
 - **Scheduled Dataset Publish Notifications**

You can only mute or unmute email notifications.

See [Reference: Edit Tenant Setup - Notifications](#).

Related Information

Concepts

[Concept: Security in Prism Analytics](#) on page 498

Tasks

[Create Prism Access Security Groups](#)

Reference

[Community article: Setup Feature Tenant Request](#)

[2021R1 What's New Post: Dataset Viewer](#)

[2021R1 What's New Post: Prism Analytics Security Domains](#)

Steps: Set Up Tenant for Analytic Data Source

Prerequisites

- Security: *Security Configuration* domain in the System functional area.
- Set up the tenant for Prism Analytics.

Context

Set up your tenant so you can install and configure analytic data sources, and make them available for data analysts to use.

Steps

1. [Create User-Based Security Groups](#).

Create security groups for your data administrators and data analysts, and assign users.

2. Access the **Maintain Functional Areas** task.

Select the **Enabled** check box for the **Analytical Framework** functional area.

See [Steps: Enable Functional Areas and Security Policies](#)

[3. Edit Domain Security Policies.](#)

Create or edit a security policy for the *Manage: Analytic Data Sources* domain. Workday suggests that you use the security group you created and provide both View and Modify task permissions.

[4. Activate Pending Security Policy Changes.](#)

Related Information

Concepts

[Concept: Workday-Delivered Analytic Data Sources](#) on page 527

Tasks

[Steps: Set Up Tenant for Prism Analytics](#) on page 382

[Steps: Enable Functional Areas and Security Policies](#)

Concept: Prism Analytics Data Management Workflow

With Workday Prism Analytics, you can analyze your Workday and non-Workday data together without having to export it into a separate data warehouse and BI (business intelligence) application. This makes analysis faster, easier, more secure, and performed in a location where users can take action on it.

What are the steps involved in going from raw data (both internal and external to Workday) to visualizations and reports in Workday? What skills do you need to perform each step? This section explains each phase of the data workflow from transforming data to analyzing it.

Phase 1: Create Tables and Data Change Tasks to Bring in Data

The first phase in the data management workflow is to bring data into the Prism Analytics Data Catalog. You can bring in external data or Workday transactional data. The Data Catalog is where data analysts can see what data is available to them.

You bring in data by creating a table. A table is a Prism Analytics object that stores (materializes) data and represents it in a tabular format. A table has a schema and contains data that's valid against the schema.

After you create a table, you create a data change task to load or change data in the table. You can create connections from Workday to external servers and data warehouses to bring in data as the source of a data change task.

Example: You create a table to contain external operational data, and then create a data change task that loads that data from a delimited file on an external server into the table. You create a schedule for the data change task to run on a recurring basis.

Example: You create a table and data change task using data in a Workday custom report.

If you're familiar with ETL workflows (extract, transform, and load), tables and data change tasks together encompass the extract logic.

Who does this phase?	Data Administrators or Data Analysts.
Where can I read more details?	Concept: Tables on page 391 Steps: Create a Table by File Upload on page 415 Steps: Create Table from a Workday Report on page 417 Steps: Create a Table Manually on page 420 Edit a Table on page 445 Concept: Data Change Tasks on page 480 Concept: Data Change Task Connections on page 482 Create a Data Change Task on page 473

	Create a Data Change Task Schedule on page 479 Concept: Data Catalog on page 396 Concept: Creating Reports to Import into Tables and Datasets on page 388
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Phase 2: Create Derived Datasets to Transform the Data

After you've brought in data into the Data Catalog, you create derived datasets based on tables and other datasets to transform, enrich, and join the data. Create a derived dataset to describe the processing logic that you need to prepare the data for analysis.

Derived datasets contain information on how to process, blend, and transform the data you import into them. Transforming data is an iterative process and typically involves creating multiple derived datasets based on other tables and derived datasets. You can:

- Create new fields by creating a Prism calculated field.
- Add 1 or more stages in a derived dataset that perform different actions, such as aggregating, joining, or filtering. Some stage types can change either the number of records or fields in the dataset.

Example: You can create a derived dataset that aggregates data into groups using a Group By stage, and then create another derived dataset based on this dataset that joins the aggregated data with another dataset using a Join stage.

Example: You can create a Prism calculated field to calculate the point of sales revenue per store.

From the perspective of an ETL workflow, the derived dataset encompasses the transform logic.

Who does this phase?	Data Administrators or Data Analysts.
Where can I read more details?	Concept: Datasets on page 394 Concept: Dataset Workspace on page 394 Steps: Create a Derived Dataset on page 428 Add a Prism Calculated Field to a Dataset on page 450 Concept: Dataset Stages on page 401 Manage Dataset Fields on page 454 Add a Stage to a Dataset on page 453 Reference: Explode Stages on page 461 Reference: Filter Stages on page 461 Reference: Group By Stages on page 462 Reference: Join Stages on page 463 Reference: Union Stages on page 465 Reference: Unpivot Stages on page 466 View Table and Dataset Lineage on page 433

Phase 3: Apply Security to the Data

Workday applies no security to the objects inside the Data Catalog. External data doesn't have any security applied to it, and when you bring Workday data into the Data Catalog, Workday removes the existing security from the fields in the tables and datasets. As a result, any user who has access to a table or dataset in the Data Catalog can see all data in the objects they have access to.

Before you make any data in the Data Catalog available for analysis, you need to apply security to the data using the existing Workday security domains. Applying security to the data you plan to make available for analysis enables you to take advantage of Workday's strong, configurable security model for external data as well as Workday data.

You configure the data security by editing the data source security on the dataset or table, but Workday applies the security to the data in the form of a Prism data source (see next phase).

Who does this phase?	Security Administrators or Data Administrators.
Where can I read more details?	Concept: Security in Prism Analytics on page 498 Edit Prism Data Source Security on page 495

Phase 4: Make the Data Available for Analysis

You can decide which data in the Data Catalog to make available for analysis by creating a Prism data source from either a table or dataset. When Workday creates a Prism data source, it loads the data source with the data from the table or dataset, and applies the appropriate security restrictions to the data source, fields, records, and field values.

The way you create a Prism data source depends on the Data Catalog object:

- Table. Edit the table schema and select the **Enable for Analysis** option.
- Dataset. Publish the dataset. On the View Dataset Details report, select **Quick Actions > Publish**.

Workday applies the security domains configured in the data source security for the table or dataset, or it applies the *Prism: Default to Dataset Access* security domain if no data source security was configured. The *Prism: Default to Dataset Access* domain provides contextual access to a Prism data source based on your access to the underlying table or dataset.

You can use Prism data sources in visualizations and reports like any Workday delivered data source.

From the perspective of an ETL workflow, enabling a table for analysis and publishing a dataset are the load part of the process.

Who does this phase?	Data Administrators or Data Analysts.
Where can I read more details?	Concept: Making Prism Data Available for Analysis on page 514 Edit a Table on page 445 Concept: Dataset Publish Schedules on page 515 Create Dataset Publish Schedules on page 512 Publish a Dataset as a Prism Data Source Manually on page 511

Phase 5: Analyze and Visualize the Data

After a Prism data source is available, Report Writers can use it to create discovery boards and reports.

Related Information

Concepts

[Concept: Security in Prism Analytics](#) on page 498

Tasks

[Steps: Create a Table Manually](#) on page 420

[Steps: Create a Dataset with External Data \(SFTP Server\)](#) on page 421

[Steps: Create a Dataset with External Data \(Upload a File\)](#) on page 424

[Steps: Create a Dataset Using Workday Data](#) on page 425

[Steps: Create a Derived Dataset](#) on page 428

[Edit Prism Data Source Security](#) on page 495

[Publish a Dataset as a Prism Data Source Manually](#) on page 511

[Create Dataset Publish Schedules](#) on page 512

Reference

[The Next Level: Prism Analytics Community Guide](#)

[The Next Level: Move up the Workday Maturity Curve: Considerations in Defining an Analytics Strategy](#)

[The Next Level: Create a Vaccine Management Solution Using Prism and Discovery Boards](#)

[The Next Level: Estimating Prism Projects - Creating an Estimator Framework](#)

[The Next Level: Scoping a Prism Project](#)

Concept: Creating Reports to Import into Tables and Datasets

To create a table or base dataset from a Workday report, or to use a Workday report as a source in a data change task, the report must be configured:

- As an advanced report.
- As a web service.
- For Prism Analytics. Select the **Enable for Prism** check box in the **Advanced** tab of the custom report.

There are some limitations when creating reports to import into base datasets or tables or when running a data change task:

- Workday doesn't support selecting reports when the report includes fields from a related business object that have a many to 1 relationship with the primary business object.
- If your custom report includes a Currency field, you must select the **Show Currency Column** check box in the **Field Options** column for the Currency field, located in the **Columns** tab of the report.
- Workday doesn't support bringing in data from Multi-instance fields that exist in a Custom Object. When the custom report includes Multi-instance fields from a Custom Object, Workday populates those fields in tables and base datasets with NULLs.
- Workday fails the data change activity when the report used as data change task source returns more than 30,000,000 rows.
- For selecting reports for tables and data change tasks, Workday doesn't support using reports that use a business view data source, such as Learning Assignments by Learning Organization. Previously, these were called combined data sources.
- Prism doesn't support effective dating of instance fields in custom reports. The data returned is always as of the current time.

To optimize performance when running a data change task, consider these options:

- Use indexed data sources whenever possible.
- Use data sources that provide the smallest possible set of data that meets your needs. Example: If you're interested in compensation-related transactions, use employee compensation events instead of all business process transactions.

Note: If you're new to Workday, you don't have access to create or edit base datasets.

Related Information

Tasks

[Steps: Create Table from a Workday Report](#) on page 417

[Steps: Create a Dataset Using Workday Data](#) on page 425

Concept: Prism Data Sources

A Prism data source is a type of data source that gets its data from a Prism Analytics table or dataset.

Typically, Prism data sources blend together Workday and non-Workday data.

Prism data sources are different than Workday-delivered data sources in several ways. Prism data sources:

- Are created by a colleague at your organization.
- Have their own primary business object that isn't linked to any other business object in Workday.
- Can become inactive. When a Prism data source is inactive, it exists in the tenant, but is empty and unavailable for querying in reports and discovery board visualizations.
- Can be deleted from your tenant. You can only remove a Prism data source when no reports or vizes currently use the associated Prism data source.
- Only support some report types.
- Only support some field types.
- Only support some calculated fields. Some of the supported calculated fields provide limited functionality.

Prism data sources also have their own security. Security group access controls who can see a Prism data source.

With the appropriate permissions, you can:

- Create a viz in a discovery board using the Prism data source.
- Create a custom report using the Prism data source.
- View a Prism data source by accessing the **View Prism Data Source** report.
- Make the Prism data source inactive.
- Remove the Prism data source from the tenant.

Supported Custom Reports on Prism Data Sources

You can create these types of custom reports using a Prism data source:

- **Advanced.** Some features aren't supported, such as Subfilters. Workday only displays features that it supports. Also, only add a field from a related business object when necessary. Fields from related business objects might impact report performance.
- **Composite.** The Prism data source must include at least 1 Instance field.
- **Matrix.** Most features are supported. Lookup Prior Value isn't supported.
- **Simple.** All features are supported.
- **Transposed.** All features are supported.

Supported Calculated Fields on Prism Data Sources

You can create these calculated fields using Prism data sources:

- Arithmetic Calculation
- Build Date
- Concatenate Text
- Convert Text To Number
- Date Constant
- Date Difference
- Evaluate Expression
- Format Date
- Format Number
- Format Text
- Increment or Decrement Date
- Lookup Date Rollup
- Numeric Constant
- Substring Text
- Text Constant

- Text Length
- True/False Condition

Workday only makes available calculated fields that are supported for Prism data sources.

There are some limitations when creating some calculated fields:

- Calculated fields only work on supported field types. Example: date-related functions work only on fields of type Date.
- You can't use Instance or Multi-Instance fields in some calculated fields, such as Format Text and Substring Text. This is because Instance and Multi-Instance fields in Prism data sources only include the unique identifier information (also known as a WID), not the display name.

Related Information

Concepts

[Concept: Prism Analytics Data Management Workflow](#) on page 385

[Concept: Deleting Prism Data](#) on page 524

Tasks

[Unpublish a Dataset](#) on page 522

[Delete Rows from a Prism Data Source](#) on page 523

Reference

[The Next Level: Prism Analytics Community Guide](#)

Reference: External Data Limits

Workday enforces limits when you create a table or base dataset using the REST API or the UI. The limits apply when you:

- Create a table or base dataset in the UI by uploading a file. Workday creates and uses a bucket.
- Create a data change task in the UI by uploading a file. Workday creates and uses a file container.
- Run a data change task in the UI by uploading a file. Workday creates and uses a file container.
- Upload a file to a file container using the REST API.
- Create a bucket using the REST API.
- Upload a file to a bucket using the REST API.
- Publish a dataset.

Note: If you're new to Workday, you don't have access to create or edit base datasets.

Workday enforces these limits:

Limit	Value
Maximum size of a single file	256 MB compressed
Maximum number of buckets that can be created or edited in a 24-hour rolling period	24,000
Maximum number of data change activities and bucket completions that can be run in a 24-hour rolling period	24,000
Maximum number of concurrent uploads using any method	10
Maximum number of files in all file containers and buckets in a 24-hour rolling period	50,000
Maximum size of all files in all file containers and buckets in a 24-hour rolling period	125 GB compressed
Maximum number of fields in a table.	1,000

Limit	Value
Maximum number of fields in a dataset, including Prism calculated fields, when you publish.	1,000

Related Information

Tasks

Steps: [Create a Table by File Upload](#) on page 415

[Create a Data Change Task](#) on page 473

Steps: [Create a Dataset with External Data \(SFTP Server\)](#) on page 421

Steps: [Create a Dataset with External Data \(Upload a File\)](#) on page 424

[Upload a New File to a Dataset](#) on page 431

Table and Dataset Concepts

Concept: Tables

A table is a Workday Prism Analytics object that stores (materializes) data and represents it in a tabular format. A table has a user-defined schema and only contains data that's valid against the schema. The data in tables is backed by a distributed columnar data store.

You create tables to bring in data from multiple sources and store it in a central location, the Data Catalog (similar to a data warehouse). You can then join, transform, blend, and enrich table data using derived datasets based on the table. Use derived datasets to prepare data for analysis.

Note: If you're new to Workday, you don't have access to create or edit base datasets.

Tables Compared to Base Datasets

A table is similar to a base dataset with important differences.

Concept	Tables	Base Datasets
Schema	<p>You define the table schema before you load data into the table. If you're familiar with databases, this is commonly referred to as schema-on-write.</p> <p>You can still change the table schema, but there are requirements and limitations. Example: You can add/remove fields at any time, but if you want to change the field type, the table must be empty (zero rows). Schema changes are destructive. Example: if you remove a field, you lose all data contained in the field.</p>	<p>Base datasets control underlying data stored in files. Dataset schemas describe how to read (and later transform) the data stored in those files. If you're familiar with databases, this is commonly referred to as schema-on-read.</p> <p>Although you can change the dataset schema at any time, you must make sure that the schema matches the data in the underlying files so that it recognizes the data correctly. If the schema doesn't match the file, then Prism sets value as null.</p>
Source type	<p>Tables can accept data from any type of source at any time, such as file upload, a dataset, or REST API.</p> <p>Create data change tasks to load data into and change data in a table. You can use a different source type for each</p>	<p>A base dataset only accepts data from the same source type that you used when you created the dataset. That is, if you create a dataset using SFTP, it will only accept data from an SFTP server.</p>

Concept	Tables	Base Datasets
	<p>data change task that works on the same target table.</p> <p>Example: You create 2 data change tasks that use the same target table and these source types:</p> <ul style="list-style-type: none"> • A delimited file that inserts data. • A derived dataset that updates data. 	
Data validation	<p>When you load data into a table, Workday validates the data against the defined schema.</p> <p>If the value for a field doesn't match the field type or other field parameters (such as date format), then Workday marks the entire row as invalid and doesn't include the row in the table. Instead, the row is sent to an error file that you can download.</p>	<p>When you publish a dataset, Workday reads the data stored on disk and validates it against the current schema of the base dataset.</p> <p>If the value for a field doesn't match the field type or other field parameters (such as date format), then Workday marks that field value as NULL and includes the row in the published Prism data source.</p>
NULL handling	<p>Every field allows NULL values unless you configured it as required.</p> <p>Workday distinguishes between NULL values and empty string values in Text fields when reading a delimited source file to load data into a table.</p> <p>If a delimited file contains:</p> <ul style="list-style-type: none"> • 2 consecutive field delimiters only, then Workday treats the field value as NULL. Example: "Smith" , , "Tom" • 2 consecutive field delimiters with the 2 consecutive quote characters in between, then Workday treats the field value as an empty string. Example: "Smith" , " " , "Tom" 	<p>Every field allows NULL values.</p> <p>Workday doesn't distinguish between NULL values and empty string values in delimited files.</p>
Name restrictions	<p>Tables have 2 names:</p> <ul style="list-style-type: none"> • Name. This is a display name that displays in the Data Catalog. You can change the display name. • API Name. This is a unique name used to reference the table in the API. You can't change the table API name after you create the table. <p>Table fields also have a display name and an API Name. You can change the display name at any time. However, you can't change the API name after you create the field and save the table.</p>	<p>Base (and derived) datasets have 2 names:</p> <ul style="list-style-type: none"> • Name. This is the name that displays in the Data Catalog. You can change the display name. Publishing renamed datasets won't affect reports or discovery boards that use the original names. • API Name. This is a unique name used to reference the dataset in the API. You can't change the dataset API name after you create the dataset. <p>Dataset fields only allow 1 name and you can change it at any time. But you must</p>

Concept	Tables	Base Datasets
	<p>Display, API, and field API names must be unique and conform to the name validation rules.</p> <p>See Reference: Naming Guidelines on page 437 for more details.</p>	<p>ensure to fix any downstream errors that might result from changing the field name.</p> <p>Display and API names must be unique and conform to the name validation rules.</p>
Deleting data	<p>You can remove all rows (truncate) or some rows (delete) from a table.</p> <p>You can selectively delete rows based on a key field. You might want to do this when you append data to the table and you need to remove the rows added from a particular load.</p>	You can remove all rows (truncate) from a base dataset. You can't delete a subset of rows.
Make Prism data source	Use the Enable for Analysis option when you create or edit the table schema to create a Prism data source.	Publish the dataset to create a Prism data source.
Row count	Workday knows exactly how many rows of data exist in a table, and it displays the number of rows in the Data Catalog and on the View Table Details report.	Workday doesn't know how many rows of data exist in a base dataset.

Related Information

Concepts

[Concept: Datasets](#) on page 394

Reference

[2020R1 What's New Post: Prism Analytics Tables](#)

[Reference: Naming Guidelines](#) on page 437

Concept: Table Error File

When you load data into a table, Workday validates the data against the defined schema.

If the value for a field doesn't match the field type or other field attributes (such as date format), then Workday marks the entire row as invalid and doesn't include the row in the table. Instead, Workday sends the row to an error file that you can download.

Use the error file to get a list of all rows that failed to load into the table. You can fix the errors in the data, remove the extra fields that Workday adds, and load the fixed data into the table.

The error file:

- Is a CSV file.
- Includes all fields defined in the table schema plus fields for troubleshooting:
 - Error Code
 - Error Message
- Includes all failed rows up to a maximum of 10,000 rows. If there are more than 10,000 error rows, then Workday rejects the load with a status of Failed.

To download the error file, access either:

- The **Activities** tab on the **View Table Details** report.
- The **Activities** tab on the **Prism Management Console** report.

Click the download icon for an activity that included some errors. For a list of error codes, see [Reference: Table Error File Error Codes](#).

Related Information

[Reference](#)

[Reference: Table Error File Error Codes](#) on page 415

Concept: Datasets

A dataset is a Prism Analytics object that describes some processing logic to manipulate some underlying data. You create datasets to transform, blend, and combine data to prepare it for analysis.

You can create these types of datasets:

- **Base dataset.** A base dataset is a dataset that brings data into the Prism Analytics Data Catalog and controls the underlying data that it brings in. A base dataset can bring in either Workday or non-Workday (external) data. Workday data comes from the output of a custom report, and external data comes from external source files.
- **Derived dataset.** A derived dataset is a dataset that imports data from 1 or more existing tables or datasets. The source data of a derived dataset comes from the output of existing tables and datasets. You use derived datasets to blend together data from different sources, such as Workday data and non-Workday data. Some stage types, such as Join and Union, are only available to derived datasets.

By bringing in both external and Workday data, you can create derived datasets to blend, transform, and enrich them together. This enables you to analyze your Workday and non-Workday data together without having to export it into a separate electronic data warehouse and business intelligence (BI) application.

You create base and derived datasets from the **Data Catalog** report using the **Create** button. You create a base dataset when you select these options from the **Create** button menu:

- **from File.** This option creates a base dataset with external data that you upload in the browser.
- **from SFTP.** This option creates a base dataset with external data that Workday retrieves from an SFTP server using an integration.
- **from Custom Report.** This option creates a base dataset with Workday data.

You create a derived dataset when you select the **Derived Dataset** option from the **Create** button menu.

Note: If you're new to Workday, you don't have access to create or edit base datasets.

Concept: Dataset Workspace

The **Edit Dataset Transformations** task is where you make changes to the dataset definition to manipulate data. This task acts like a single page application, meaning you can interact with elements on the task dynamically as if it were its own application. You can also make all the changes you want, such as adding Prism calculated fields and stages. When you're done, click **Save** to save all changes to the dataset.

If you have permission to edit a dataset, you can access the **Edit Dataset Transformations** task using these methods:

- Right-click the dataset name on the **Data Catalog** report and select **Edit Transformations**.
- Select **Edit Transformations** from the **Quick Actions** on the **View Dataset Details** report.
- Access the **Edit Dataset** task and select the dataset name that you want to edit.
- When creating a dataset for the first time, the workflow leads you to the **Edit Dataset Transformations** task.

When you view the **Edit Dataset Transformations** task, you see these components:

The screenshot shows the 'Edit Dataset Transformations' task for a dataset named 'DDS lemonade sales'. The interface includes:

- Pipeline list:** Shows the primary pipeline and imported tables ('TBL lemonade sales'). A 'Change Pipeline' button is highlighted (1).
- Example Data Table:** Displays 39 rows of sample data with columns: Hot_Day, Date, Total_Sales, Cost_Center, Lemons_U, and Sales_in_USD.
- Stage Details:** Shows Stage ID 2 - Manage Fields with 1 Calculated Field.
- Inspector Panel:** Provides detailed information about the selected field '\$ Sales in USD', including Field Type (Currency), Expression Function (BUILD_CURRENCY([Total_Sales], "USD")), and Top Values (USD: 100%, NULL: 0%).

1. Pipeline list. (Derived datasets only.) Click **Change Pipeline** to view a collapsible panel that lists all tables and datasets that you've imported into the derived dataset. Importing a table or dataset creates a new pipeline. You can also use this panel to add a new pipeline by importing an additional table or dataset. When you select an item in the pipeline list, the pipeline details panel displays the details for that pipeline.
2. Pipeline details panel. This panel displays every stage in the dataset pipeline, starting with the first stage that created the pipeline. For base datasets that can be an Import or Parse stage depending on where the source data comes from. For derived datasets, it's an Import stage. You can:
 - Add, edit, and delete stages.
 - Manage dataset fields.
 - View stage descriptions.
 - View the number and names of Prism calculated fields in a stage.
 - Collapse this panel to increase the available space in the example data table.
3. Example data table. The example data table takes up most of the space on the **Edit Dataset Transformations** task. It displays the current view of the data (records and fields) for the output of the currently selected pipeline stage.
4. Inspector panel. This panel displays when you select a field in the example data table. You can hide this panel to increase the available space in the example data table. This panel has these tabs:
 - **Field Info.** This tab displays detailed information about the selected field, including statistics on the values in the field. All statistics are based on the data currently shown in the example data table. Therefore, to get more precise numbers, increase the number of example rows.
 - **Functions Library.** This tab displays the functions that you can use in a Prism calculated field expression, including description, syntax, and an example. You can search for a specific function. You can click the + icon next to the function name to insert the function at the current location in the Prism calculated field expression.

5. Prism calculated field expression bar. Click **Add field** to add a new Prism calculated field, and then enter the field expression. You can:
 - Use the expression bar later to edit the field expression.
 - Expand the expression builder to create and view multiline expressions.
 - Edit the field name in the inspector panel.
 6. Stage statistics and search bar. For a selected stage, you can see the number of:
 - Fields
 - Prism calculated fields
 - Field-related errors
- You can see the ID for stages. The stage ID is a unique ID that Workday assigns to the stage based on the order you added the stage to the dataset. For each stage you add, the stage ID increases.
- If you use Microsoft Excel, there are potential limits on the number of characters your cells can contain when you download all values.
7. Download example data.
 8. Search for a field and navigate to it directly.
 9. Example data controls. Use this menu to filter the example data displayed in the dataset.
 10. Table and list view. You can view the example data table as a table or a list. The field list view navigator enables you to see distinct, null, median, and top values at a glance. When you edit a new dataset, the default view is table view. Each time you change the view, the last view you select becomes the default view.
 11. Edit dataset details. Use the configuration icon to open a pop-up where you can:
 - Change the dataset display name.
 - Create and edit tags.
 - Edit the dataset description.
 - View the dataset API name.

12. Dataset actions menu. Use this menu to quickly access the **View Dataset Details** and **View Dataset Lineage** reports.

Note: If you're new to Workday, you don't have access to create or edit base datasets.

Related Information

Concepts

[Concept: Dataset Stages](#) on page 401

[Concept: Dataset Pipelines](#) on page 401

[Concept: Prism Expression Language](#) on page 529

Tasks

[Change the Dataset Example Rows](#) on page 457

Reference

[2021R1 What's New Post: Dataset Viewer](#)

Concept: Data Catalog

The **Data Catalog** report is your starting point for using Workday Prism Analytics. The report displays the data available to you. If you have the appropriate permissions, you can:

- Bring in and store data from multiple sources using tables.
- Create derived datasets to transform the data.
- Create data change tasks to change data in a table using data from a source.

You can also:

- Customize your view of datasets and tables by filtering them.
- See details for a selected object, such as a description, tags, or dependencies.

- Access details about reportable rows and Prism usage.
- Access documentation that supports your use of Prism Analytics using the **Help** button.

When you view the **Data Catalog** report, you see these components:

The screenshot shows the Prism Analytics Data Catalog interface. On the left is the **Data Catalog** details panel (1), which includes tabs for **All Data**, **Tables**, **Datasets**, **Connections**, **Data Change Tasks**, **Data Change Activities**, and **Dataset Activities**. It also has buttons for **Create**, **Activities Dashboard**, **Prism Usage**, and **Help**. The main area (2) displays the **All Data** catalog with a table showing datasets and tables. The table has columns for Name, Type, Recent Activity, and Last Modified. Two entries are shown: **DDS Lemonade Sales** (Derived Dataset) and **TBL Lemonade Sales** (Table). The DDS entry shows a green checkmark and the message "Data Load Successful 2 minutes ago". The right side (3) is the **DDS Lemonade Sales** inspector panel, which provides detailed information about the dataset, including its API name (**DDS_Lemonade_Sales**), description (empty), last modified by (Betty Liu), and dependencies. It also lists imports from **TBL Lemonade Sales** and shows fields like **Cost_Center** and **Date**. The top navigation bar includes a search bar, a filter button (6), a results count (5), a search button (4), and user notifications (10+).

1. Data Catalog details panel. From this panel, you can:

- Create datasets and tables.
- Create data change tasks.
- Create connections.
- View dataset publishing activities in the **Dataset Activities** tab.
- View all Prism-related activities in the **Prism Management Console**.
- View data change activities.
- View Prism usage details.
- Open the Prism Analytics Data Management User Guide in a new browser tab. The entire documentation is also available in the Workday Community if you have access to Community.

2. Main Data Catalog view. This view displays all the data that you have permission to view. Right-clicking a dataset or table displays a list of actions that you can perform.

3. Inspector panel. This panel displays when you select an object in the Data Catalog. You can hide this panel to increase the available space in the main Data Catalog view. This panel displays detailed information about the selected object, including:

- If a dataset is **Enabled for Analysis**. If enabled (published), you can create reports and visualizations with the dataset. If enabled and outdated, the dataset is published but has changed since it was last published.
- Tags assigned to a dataset or table form the inspector panel. Selecting a tag in the panel displays the datasets or tables filtered by the tag.
- Both upstream and downstream data change tasks associated with a table. Selecting a data change task will direct you to the **View Data Change Task** page for that task.

4. Search for objects to filter the list of objects in the Data Catalog.

5. The number of objects displayed.

6. Filter by tags.

You can add or edit tags to organize your data if you have editor permission when you:

- Create a derived dataset.
- Create a table.
- View a dataset or table.
- Edit a table.

Note: Tags you create are visible to all.

If you remove a tag from a dataset or table, the tag still displays in the tag menu if another dataset or table uses the tag.

If you change browsers or laptops, the tag filters you select in the **Data Catalog** report won't persist.

Workday doesn't store tag names but rather a randomly generated identifier for each tag. This is consistent with how Workday stores other filters in Data Catalog.

7. Filter the **Data Catalog** report based on when objects were last modified.

Workday automatically applies a **Last 7 days** filter that you can edit or delete.

Note: If you delete the filter, Workday will reapply it when you change sessions.

If you edit the filter without deleting it, Workday persists those changes to other sessions.

Workday provides the **Prism Datasets and Tables** data source to help you create reports and discovery boards about Prism Analytics tables and datasets. Although this is an indexed data source, none of the fields in it are indexed. As a result, it behaves like a standard data source.

Concept: Prism Management Console

You can use the **Prism Management Console** report to review the history of Prism activities and assess the resources that they take up on a specific day. The report displays information on these tabs:

- Overview
- Activities

Overview Tab

The **Overview** tab displays these charts:

Chart	Description
Daily Activity Tracker	<p>This is a bar chart that displays these activities in 10-minute intervals:</p> <ul style="list-style-type: none"> • Total number of jobs • Maximum concurrently waiting jobs <p>You can drill-down on an interval to see a new Running & Waiting Jobs chart that displays:</p> <ul style="list-style-type: none"> • The activities running concurrently. • How long each activity ran for. • Which activities are waiting.
Running & Waiting Jobs	<p>This chart displays</p> <ul style="list-style-type: none"> • Running Time. The job execution time from its start to end. • Preprocessing Time. The time between you requesting a job and it starting to wait. All jobs have some preprocessing time, but certain jobs that retrieve data from another server might take longer depending on how long it takes for the server to respond.

Chart	Description
	<ul style="list-style-type: none"> Wait Time. The time a job waits after acquiring all data in preprocessing and before running. Any job beyond the max number of concurrently running jobs enters the waiting stage. The max number of concurrently running jobs depends on the resources available in your tenant.
Successfully Completed Activities	Displays the number of completed activities.
Longest Run Time	Displays the 5 longest activity run times for the time period.
Longest Job Waiting Time	Displays the 5 longest activity wait times for the time period.

Activities Tab

The **Activities** tab displays a list of all activities for a given date range and their status. You can view activities for a specified date range up to 180 days.

You can also select an activity to open the Inspector Panel with more details.

Concept: Dataset Schema Changes

A schema is a set of rules that define how data is organized, structured, and constrained. Various Workday artifacts and components have a schema, including datasets and dataset components.

A dataset might consist of multiple schemas depending on how it's configured. Each of these dataset components has its own schema:

- The files containing external data that you load into a base dataset.
- The custom report you create to bring Workday data into a base dataset.
- The input to a stage. For the first stage in a base dataset, this schema is determined by the dataset source.
- The output of a stage. For the last stage in the Primary Pipeline, this schema determines the output schema of the entire dataset.

Note: If you're new to Workday, you don't have access to create or edit base datasets.

Schema changes can happen anywhere in a dataset. Schemas change when you add new fields or remove existing fields, such as when you:

- Add a Prism calculated field.
- Hide or expose a field.
- Add a stage that adds or deletes fields in that stage.

Schemas can also change in base datasets when you:

- Upload an external file.
- Import a file from an SFTP server.
- Import data from a custom report.

Where changes occur in a dataset can affect other dataset components. Changes to dataset schemas can break components that were based on the original schema. Where changes occur can also affect how you manage changes.

Note: When you change the schema and Workday imports the new source file into the dataset, you must open the dataset and save the changes. If you don't save the dataset, Workday continues to use the old schema definition. The next time you publish the dataset, you might get inconsistent data in the Prism data source.

When you import data that changes the schema of a base dataset from an SFTP server or custom report, you must manually edit the base dataset to incorporate the changes. When new fields get added to the

dataset due to the source schema changing, Workday hides them automatically. Expose the new fields and save the base dataset to include the fields in the dataset schema.

Workday recommends that you ensure that the dataset is up to date and includes the fields you want. In most cases, you use the Manage Fields stage to manage dataset schema changes.

Manage Fields

The Manage Fields stage uses the output of the previous stage as a baseline from which to monitor changes. When this baseline changes, Workday warns you in the pipeline details panel. If the baseline changes, in the Manage Fields stage, Workday:

- Displays all new and removed fields.
- Doesn't yet include all changes in the dataset schema.
- Displays no data in the example table.

Workday recommends that you:

- Add a Manage Fields stage at the beginning of the Primary Pipeline of a derived dataset when you want to monitor the schema of the table or dataset from which it's derived.
- Add a Manage Fields stage at the end of the Primary Pipeline of a dataset that you intend to publish. This enables you to detect any schema changes that might break reports that use the Prism data source of this published dataset.
- Add a Manage Fields stage at the end of a pipeline when you need to hide fields or expose new fields.
- Add a Manage Fields stage in a base dataset to ensure that no future integration can unintentionally remove an existing field.
- Include no more than 2 Manage Fields stages in a single pipeline.

In some cases, Workday handles schema changes without using a Manage Fields stage. Example: When uploading a new version of a source file into a base dataset, Workday handles schema changes based on the source file header row:

Source File Contains Header Row	Result
Yes	<p>Workday uses the field names in the header row of the base dataset to determine which fields are in the new source file.</p> <p>You can add or delete fields anywhere in the source file. If the field names in the source file don't change, Workday updates the schema of the base dataset into which you import the new source file.</p>
No	<p>Workday handles changes that occur only at the end of the source file.</p> <p>You can only add new fields at the end of the source file. If you do so, Workday updates the schema of the base dataset into which you're importing the new source file.</p>

Related Information

Tasks

[Manage Dataset Fields](#) on page 454

[Steps: Create a Dataset with External Data \(SFTP Server\)](#) on page 421

[Steps: Create a Dataset Using Workday Data](#) on page 425

Reference

[The Next Level: Prism Analytics Best Practices](#)

Concept: Dataset Pipelines

Datasets contain 1 or more pipelines. A pipeline is a container of stages that models the flow of how data should be transformed in a dataset. It consists of an ordered list of stages, each of which define how to modify the data at that point in the pipeline. Pipelines can contain 1 or more stages.

Every dataset has a primary pipeline and might have zero or more additional pipelines.

The first stage in a pipeline brings in data from the dataset source. Stages listed after the first stage in a pipeline take the output of the previous pipeline as the input to the current stage. If you're familiar with ETL workflows (extract, transform, and load), each stage is 1 step in a development pipeline.

The last stage of any pipeline is the output for that pipeline. The output of the Primary Pipeline is the output of the entire dataset. Therefore, when you publish a dataset, the output of the Primary Pipeline will be materialized as the data in the Prism data source.

Related Information

Tasks

[Add a Stage to a Dataset](#) on page 453

Concept: Dataset Stages

A stage is a dataset component that takes in data, transforms it in some way, and outputs modified data. A stage performs a single computational function, such as joining data with a Join stage or importing data from the dataset source with an Import stage.

Adding a stage can change the number of records and fields in the dataset.

Prism Analytics supports these stage types:

Stage Type	Description
Import	Workday creates this stage automatically as the first stage in derived datasets because they import a table or another dataset as the source. You can't delete or add an Import stage.
Parse	Workday creates this stage automatically for base datasets. You can't delete or add an Parse stage. Note: If you're new to Workday, you don't have access to create or edit base datasets.
Explode	Use an Explode stage to convert a multi-instance field into an instance field. Workday takes each instance value in the multi-instance field and creates a new record for each value. For details, see Reference: Explode Stages .
Filter	Use a Filter stage to constrain the number records in the dataset based on a filter condition. For details, see: Reference: Filter Stages .
Group By	Use a Group By stage to aggregate records of data into groups. For details, see: Reference: Group By Stages .
Join	Use a Join stage to join the data in this dataset with the data that you import from another dataset or table based on the relationship between a field in each set of data.

Stage Type	Description
	<p>Deleting a Join stage disconnects but keeps the stage's pipeline. If you don't want to keep the disconnected pipeline, delete it or use it in another Join stage.</p> <p>For details, see: Reference: Join Stages.</p>
Manage Fields	<p>Use a Manage Fields stage to view field changes, hide fields, or edit fields.</p> <p>For details, see: Manage Dataset Fields.</p>
Union	<p>Use a Union stage to combine the records from this dataset with the records from another dataset or table that you import.</p> <p>Deleting a Union stage disconnects but keeps the stage's pipeline. If you don't want to keep the disconnected pipeline, delete it or use it in another Union stage.</p> <p>For details, see: Reference: Union Stages.</p>
Unpivot	<p>Use an Unpivot stage to convert fields (columns) to records (rows) in the dataset.</p> <p>For details, see:</p> <ul style="list-style-type: none"> • Concept: Unpivot Stages • Reference: Unpivot Stages • Example: Unpivot Stock Vesting Data in a Dataset

Related Information

Tasks

[Add a Stage to a Dataset](#) on page 453

Reference

[Reference: Dataset Stages](#) on page 413

Concept: Unpivot Stages

The Unpivot stage enables you to arrange the data in derived datasets in a way that is more meaningful to you. You can convert fields (columns) to rows. The unpivot process consolidates data from 2 or more similar fields into a pair of new fields:

- A field created from the original field names (referred to as Input Fields)
- A field created from the original field values (referred to as Output Values)

When you unpivot:

- Workday populates the new fields with the values you specified for the unpivot.
- Workday repeats row values in the input fields you didn't include in the unpivot.

You can:

- Apply the unpivot to all field types.
- Rename your output values.
- Specify names for your pairs of new fields.
- Unpivot up to 150 input fields within each Unpivot stage.
- Create multiple pairs of new fields within each Unpivot stage.
- Add or delete an Unpivot stage anywhere in pipelines of a derived dataset.

Workday recommends that you create multiple pairs of new fields in a single Unpivot stage rather than 1 pair of new fields in many Unpivot stages.

Related Information**Reference**[Reference: Unpivot Stages](#) on page 466[2020R2 What's New Post: Unpivot Stage](#)**Examples**[Example: Unpivot Stock Vesting Data in a Dataset](#) on page 469

Concept: Dataset Field Origin

You can see where a dataset field originates in pipelines for derived datasets. When tracing a field's origin, Workday searches for the location where the field is first introduced. Workday displays the most upstream field that you have permission on. To see the first occurrence of a field, you must have permission to view or edit transformations on all the datasets in the field's lineage including its first occurrence.

Examples of original fields include:

- Fields in base datasets created from version 1 of the Prism Analytics REST API.
- Fields in the Parse stage of a base dataset.
- Fields in tables.
- Fields in the Unpivot and Group by stages if the field is created within the stage.
- Output fields in the Union stage.
- Prism calculated fields.

Note: If you're new to Workday, you don't have access to create or edit base datasets or to version 1 of the Prism Analytics REST API.

Related Information**Tasks**[View Field Lineage](#) on page 434

Concept: Field Lineage

You can see the lineage of a dataset field and all transformations involving the field across different datasets. You can also trace the lineage of a calculated field and all dependent fields used in it. When tracing the lineage of a field, Workday displays the stages involving the field across all datasets or tables that you have permission on. Specific stage information for each stage is displayed in the inspector panel.

Related Information**Tasks**[View Field Lineage](#) on page 434**Reference**[2022R2 What's New Post: Field Lineage for Prism Analytics](#)

Concept: Table and Dataset Field Types

Each table and dataset field has a field type attribute. The field type is often referred to as a data type in other data applications.

The field type determines:

- What kind of values the field can hold.
- Which functions can use the field as an argument. Example: The CONCAT function only accepts Text fields as arguments.

When you create a table, you define the field type of each field. When you load data into a table from a delimited file, Workday validates the data against the defined schema. If the value for a field doesn't match the field type or other field parameters (such as date format), then Workday marks the entire row as invalid and doesn't include the row in the table. Instead, Workday sends the row to an error file that you can download.

When you create a base dataset using external data, Workday attempts to guess the field type of each field by examining some of the data. However, you can change the field type if Workday assigned the wrong field type or if you want to apply a different field type.

Note: If you change the input field type in the last stage before a Manage Fields stage, the new field type must be compatible with the changed field type.

When you create a base dataset from a custom report, Workday maps the Workday field types to dataset field types.

For Prism calculated fields, the expression result determines the field type for that field. If a Prism calculated field expression is `TO_INT(zipcode)`, then the field type for that field is Integer.

Note: Workday recommends using the Numeric field type in datasets where possible. When you use a different numeric field type, such as Double, you risk losing precision and getting erroneous results depending on the data and calculations in the dataset. In base datasets, set the field type as `Numeric(x,y)`. You can also change the field type in a derived dataset using the CAST function. Example: `CAST([salary] AS decimal(12,4))`

Note: If you're new to Workday, you don't have access to create or edit base datasets.

Table and Dataset Field Types

Tables and datasets use these field types:

Table or Dataset Field Type	Description	Range of Values
Boolean	A Workday specific field type that contains boolean values.	True, False
Currency	A variable length decimal value that supports a maximum of 20 digits before the decimal point and a maximum of 6 digits after the decimal point, combined with a Workday-recognized, 3-digit currency code.	Currency values can represent any valid positive or negative value given the specified number of digits before and after the decimal point.
Date	Date combined with a time of day with fractional seconds based on a 24-hour clock.	Date range: January 1, 1753, through December 31, 9999 Time range: 00:00:00 through 23:59:59.997 Internally, Workday stores all Date type data in UTC format (coordinated universal time). If you bring in external data with time zone information, Workday converts the data to UTC. If you bring in external data with no time zone information, Workday doesn't convert the data and stores it as UTC.
Double	Double-precision 64-bit floating point number.	4.94065645841246544e-324d to 1.79769313486231570e+308d (positive or negative)
Instance	A Workday-specific field type that contains Workday Instance values. Each field also retains	A hexadecimal value that references a WID.

Table or Dataset Field Type	Description	Range of Values
	information about the business object the Instance field is based on. Instance fields represent a 1-to-1 relationship between 2 objects.	
Integer	32-bit integer (whole number).	-2,147,483,648 to 2,147,483,647
Long	64-bit long integer (whole number).	-9,223,372,036,854,775,808 to 9,223,372,036,854,775,807
Multi-Instance	A Workday-specific field type that contains a set of (zero or more) Workday Instance values. Each field also retains information about the business object the Instance values are based on. Multi-Instance fields represent a 1-to-many relationship between 2 objects.	Zero or more instance values (hexadecimal values that reference a WID) separated by a pipe character (). When you bring in multi-instance fields from a delimited file, the pipe-delimited instance values must be enclosed in the configured quotation character.
Numeric	A variable length numeric value that supports a total of 38 digits before and after the decimal point, but a maximum of 18 digits after.	Numeric values can represent any valid positive or negative value given the specified number of digits before and after the decimal point. All Numeric fields have an associated number of digits before and after the decimal point (similar, but not identical, to precision and scale). When you create a table or dataset from a Workday report, Workday assigns the digit values to the Numeric field. When you create a table or dataset from external data, you can specify the digit values for Numeric fields. Example: Numeric(19, 2) can store any value from 0.00 to 9,223,372,036,854,775,807.99 and Numeric(19, 0) can only store whole numbers from 0 to 9,223,372,036,854,775,807.
Text	Variable length non-Unicode text (also known as string) data.	Maximum text length of 2,147,483,647 characters.

Mapping Report Field Types to Table and Dataset Field Types

When you create a table or dataset from a custom report, Workday:

- Creates a field in the table or dataset for every report field that uses a supported field type.

- Assigns a field type to the fields in the table or dataset.

Workday only retains report fields that have field types that tables and datasets support. Workday doesn't include any field that uses an unsupported table or dataset field type.

After creating a table or dataset from a custom report, verify that the assigned field types are correct for your table or dataset needs. Example: You might need to change a field type from Numeric to Integer to match the field type when joining the dataset with another dataset.

This table explains how a report field type maps to a table or dataset field type when you create a table or dataset.

Report Field Type	Table or Dataset Field Type	Notes
Numeric	Numeric, Integer, or Long	<p>The field type in the table or dataset depends on the number of digits before and after the decimal point in the report:</p> <ul style="list-style-type: none"> Integer. Zero digits after, and less than or equal to 9 digits before the decimal point. Long. Zero digits after, and greater than 9 digits and less than or equal to 18 digits before the decimal point. Numeric. All other Numeric values. <p>For Numeric fields, Workday assigns the number of digits before and after the decimal point based on the values in the custom report.</p>
Text	Text	
Rich Text	Not supported	
Date	Date	
DateTimeZone	Not supported	
Time	Not supported	
Currency	Currency	
Boolean	Boolean	
Multi-Instance	Multi-Instance	<p>Tables and datasets only include Multi-Instance report fields that are located in:</p> <ul style="list-style-type: none"> The primary business object. A related business object that has a 1-to-1 relationship with the primary business object.
Single Instance	Instance	
Self-Referencing Instance	Instance	

Mapping Table and Dataset Field Types to Prism Data Source Field Types

When you enable a table for analysis or publish a dataset, Workday creates a Prism data source.

This table lists the field types Workday uses in a Prism data source:

Table or Dataset Field Type	Prism Data Source Field Type	Notes
Text	Text	
Boolean	Boolean	
Date	Date	Workday doesn't include any time information in the Date field in the Prism data source. Workday deletes any time information in the Date field when it creates the Prism data source.
Currency	Currency	
Integer	Numeric	
Long	Numeric	
Double	Numeric	
Numeric	Numeric	Workday writes Numeric fields with a maximum of 20 digits before and 6 digits after the decimal point. If a Numeric field contains a value that exceeds these maximums, then Workday rounds down the value when it creates the Prism data source.
Instance	Single Instance	Workday assigns the business object name associated with the Instance field in the dataset.
Multi-Instance	Multi-Instance	Workday assigns the business object name associated with the Multi-Instance field in the dataset.

Related Information

Tasks

[Change Dataset Field Types on page 455](#)

Reference

[Reference: Currency Format Requirements for External Data on page 439](#)

[The Next Level: Prism Analytics Best Practices](#)

Concept: NULL Values in Tables and Datasets

If a field value in a table or dataset is empty, it's considered a NULL value. When you enable a table for analysis or publish a dataset, Workday replaces all NULL values with a default value in the Prism data source. Prism data sources, discovery boards, and reports have no concept of NULL values.

How Tables Process NULL Values

A value can be NULL because the raw data from the source is missing values for a particular field.

How Datasets Process NULL Values

A value can be NULL for these reasons:

- The raw data from the source is missing values for a particular field.
- The raw data from an external data source can't be parsed for the specified field type.
- A Prism calculated field expression returns an empty or invalid result.
- The dataset contains a Join stage and:
 - You configure an outer join (you include all rows from at least one of the dataset pipelines).
 - There's no match from 1 pipeline to the other.

If you're familiar with SQL, this is similar to an unjoined foreign key.

Default Values by Field Type

Workday replaces NULLs with these values in a Prism data source:

Field Type	Value in Prism Data Source
Boolean	False
Currency	0 (with an empty currency code)
Date	(Blank) Note: If the date value in a table that is enabled for analysis is 0000-12-31T23:59:59.999Z, then Workday displays inconsistent result.
Numeric, Double, Integer, Long	0
Instance	(Blank)
Multi-Instance	(Blank)
Text	(Blank)

NULL Values in Expressions

Prism Analytics uses expressions in Prism calculated fields, Filter stages, and when defining custom example data in a derived dataset. The way datasets treat NULL values in expressions is consistent with SQL standard. That means:

- Arithmetic calculations on numeric fields that involve a NULL return NULL. Example: 5 + NULL returns NULL.
- Comparison operations that result in a Boolean field that involve a NULL return NULL. Example: 5 > NULL returns NULL.

Currency fields have 2 components to the field value (the currency code and currency value), and as a result, they handle NULLs a little differently than numeric fields in arithmetic calculations.

- Addition and subtraction calculations on Currency fields that involve a NULL return NULL. Example: TO_CURRENCY("5.00 USD") + NULL returns NULL.
- Addition and subtraction calculations on Currency values that use different currency codes return NULL. Example: TO_CURRENCY("5.00 USD") + TO_CURRENCY("5.00 EUR") returns NULL.

You can't use Currency fields in comparison operations. However, you can test for NULL values by using this syntax:

```
value IS NULLvalue IS NOT NULL
```

For more details about boolean expressions, see [Reference: Boolean Expressions](#).

NULL Values in Filter Stages

When you filter on a field using an expression similar to [field] != MyValue, Workday filters out all records that have a value of MyValue or NULL. The logic behind this behavior is:

- Comparison operators that involve a NULL return NULL.
- Workday evaluates NULL boolean values as False.

NULL Values in Group By Stages

When you create a Group By stage, you select a dataset field for grouping and another field for summarizing. How Workday treats NULL values depends on how you use the field:

- For grouping fields, any NULL values result in their own group.
- For summarization fields, NULL handling depends on the summarization type.

Summarization Type	Description
Average	Returns the average of all valid numeric values in the group. It sums all values in the provided expression and divides by the number of valid (not NULL) rows. If a Currency field contains multiple currency codes, the result is NULL.
Count	Returns the number of all rows in a group (counts all values, both NULL and non-NUL). If a Currency field contains multiple currency codes, the result is NULL.
Maximum	Returns the greatest of all non-NULL values, and NULL if all values are NULL. If a Currency field contains multiple currency codes, the result is NULL.
Minimum	Returns the lowest of all non-NULL values, and NULL if all values are NULL. If a Currency field contains multiple currency codes, the result is NULL.
Sum	Returns the total of all non-NULL values, and NULL if all values are NULL. If a Currency field contains multiple currency codes, the result is NULL.

Related Information

Concepts

[Concept: Table and Dataset Field Types](#) on page 403

Reference

[Reference: Currency Format Requirements for External Data](#) on page 439

Concept: Prism Calculated Fields

A Prism calculated field is a user-created field that generates its values based on a calculation or condition, and returns a value for each input row. Values are computed based on expressions that can contain values from other fields, constants, mathematical operators, comparison operators, or built-in row functions.

Use Prism calculated fields to:

- Derive meaningful values from base fields, such as calculating someone's age based on their birthday.
- Do data cleansing, such as substituting 1 value for another.
- Compute new data values based on a number of input variables, such as calculating a profit margin value based on revenue and costs.

Sometimes you need several steps to achieve the result that you want. You can use the result of a Prism calculated field in the expressions of other Prism calculated fields, enabling you to define a chain of processing steps.

When you create a Prism calculated field, the inspector panel displays for the new field. To see a list of available functions, click the **Functions Library** tab in the inspector panel.

You can extract and export the expressions used in dataset pipelines as CSV files from the **View Dataset Lineage** report.

Related Information

Concepts

[Concept: Prism Expression Language on page 529](#)

Tasks

[Add a Prism Calculated Field to a Dataset on page 450](#)

Reference

[The Next Level: Prism Analytics Best Practices](#)

Concept: Hiding Dataset Fields

A data administrator can control what fields of a dataset are visible. Hidden fields aren't visible further along in the development process. Example: if you hide a field in a stage in a pipeline, that field isn't visible in a later stage. Hidden fields aren't included in the Prism data source of a published dataset, or in an imported dataset of a derived dataset.

You might decide to hide a field to:

- **Protect sensitive data.** In some cases, you might want to hide fields to protect sensitive information. You can hide detail fields, but still allow access to summary information. Suppose that you have a dataset containing employee salary information. You might want to hide salaries per person, but still enable analysts to view average salary by department.
- **Hide unpopulated or sparse data fields.** You might have fields in your raw data that didn't have any data collected. The data collected might be too sparse to be valid for analysis. Suppose that a web application has a placeholder field for comments, but it was never implemented on the website so the comments field is empty. Hiding the field prevents analysts from using a field with mostly null values when they analyze the data.
- **Use a calculated field instead of the fields that it's based on.** You might add a Prism calculated field to transform the values of the raw data. You want your users to analyze the transformed values, not the raw values. Suppose that you have a "return reason code" field where the reason codes are numbers (1, 2, and 3). You could transform the numbers to the actual reason information (such as Didn't Fit, Changed Mind, and Poor Quality), so the data is more usable during analysis.
- **Hide Prism calculated fields that do interim processing.** As you work on your dataset to cleanse and transform the data, you might need to add interim Prism calculated fields to achieve a final result. These fields are necessary to do a processing step, but aren't intended for final consumption. You can hide these working fields so they don't clutter later stages or the dataset details.

Hide a field in the Manage Fields stage by unselecting the check box for a field. Although you can also hide a field in the inspector panel, it's a best practice to hide fields in the Manage Fields stage.

Related Information

Concepts

[Concept: Prism Analytics Data Management Workflow on page 385](#)

Concept: Dataset Integration Schedules

Schedules for base dataset integrations enable you to specify when, how often, and under what criteria to import data into a base dataset. Workday enables you to import data into a base dataset immediately on an ad hoc basis or according to a preconfigured schedule.

You can schedule the integration to run:

- Once in the future.
- On a recurring basis (Example: daily, weekly, or monthly).
- Only after another Prism scheduled process completes at a status you specify.

Note: If you're new to Workday, you don't have access to create or edit base datasets.

Integration Schedule Types

Schedule Type	Description
Recurring	An integration schedule that runs at specified intervals, such as daily, weekly, or monthly.
Dependent	An integration schedule that depends on the completion of another Prism scheduled process. For your dependency criteria, you can specify: <ul style="list-style-type: none"> The process type, such as another Prism data integration. The status that triggers integration, such as the process type successfully completing. Example: When the <i>Prism Data Acquisition Future Process</i> completes with no warnings or errors, begin integration. Note: A Prism Analytics integration schedule can depend only on another Prism-related process, such as bringing data into a base dataset or publishing another dataset.

As you create an integration schedule, consider these actions that you can perform on it:

Action	Description
Activate	Activate a suspended integration schedule.
Change Schedule (recurring schedules only)	Edit the run frequency (daily, monthly, weekly), start time, and date range for the integration schedule. You can also change to another scheduled recurring process.
Delete	Permanently delete the integration schedule.
Edit Environment Restrictions	Select the environment in which you want the scheduled integration to run.
Edit	(Recurring Schedules) Edit the schedule name, recurrence criteria, and range of recurrence dates. To change the run frequency, use Change Schedule . (Dependent Schedules) Edit the schedule name, dependency, trigger status, and timed delay configurations.
Edit Scheduled Occurrence (recurring schedules only)	Update the schedule date and time for one particular occurrence of the scheduled request.

Action	Description
	You can also delete a particular occurrence of the scheduled integration.
Run Now	Run the integration schedule immediately on an ad hoc basis.
Suspend	Suspend use of the integration schedule. You can activate a suspended schedule.
Transfer Ownership	Transfer ownership of an integration schedule. Every process must have an assigned owner for the process to run. Example: Transfer ownership if the assigned owner becomes inactive. The person you transfer ownership to must have the appropriate security access.
View All Occurrences (recurring schedules only)	View all future occurrences of an integration schedule within a specified range of dates and times.
View Details	(Recurring schedules) View schedule details, such as recurrence criteria, error messages, the schedule owner and creator, and the next 10 scheduled integrations if applicable. (Dependent schedules) View schedule details, such as the dependency configuration, the schedule creator and owner, and the number of times run.

Related Information

Tasks

[Manage Dataset Integration Schedules](#) on page 430

[Steps: Create a Dataset with External Data \(SFTP Server\)](#) on page 421

[Steps: Create a Dataset Using Workday Data](#) on page 425

Concept: Prism Audit Report

Workday enables you to view audits of modifications to Prism artifacts, such as datasets and tables, using the **Prism Audit Report** report. You can run this report on any dataset or table to view all upstream changes that affect the dataset or table that you audit. This increases your productivity by providing a single location to view all upstream changes affecting a published dataset instead of viewing audit trail Prism snapshots for each dataset and table.

You must have access to the *System Auditing* domain to run the **Prism Audit Report**.

The report returns changes to Prism artifacts that are in the upstream lineage of the Prism artifact that you're auditing. Each record in the report represents a different edit to the audited artifact or one of its upstream artifacts.

The **Prism Audit Report** includes changes made to these Prism artifacts:

- Datasets
- Tables
- Data change tasks, including activities
- The datasets and tables that are upstream from a data change task that uses a dataset or table as its source.

Each record includes the details of every change, including the:

- Before value.
- After value.
- Difference between the before and after values.

- User who made the change.
- Time stamp.
- Category and sub-category.
- Additional information to help you find the location of the change in the entire lineage, such as:
 - Artifact Name
 - Stage ID
 - Stage Type
 - Pipeline segment. This field describes in which Prism pipeline the artifact resides. Workday describes the pipeline segment using the name of either the data change task that modifies data in a table or the most downstream derived dataset.

Workday organizes each record into a different category to help you filter the report to view only the changes you're interested in. Each category has different sub-categories to provide more context for the type of change, and to help you find where the change was made.

The report uses these categories:

Prism Audit Category	Description
Data	Not applicable. Workday doesn't include any changes in this category.
Data Operation	Includes activities that add, remove, or update data, such as truncate table operations, data change activities, publishing a dataset, or enabling a table for analysis.
Documentation	Includes changes to the Prism artifact that describe or document some aspect of the artifact, such as a field name or dataset description.
Error	Includes system errors only.
Security	Not applicable. Workday doesn't include any changes in this category.
Summary	Summarizes how other changes can affect the Prism artifact as whole, such as the final list of all output fields, or summarizing the final order of dataset stages.
Transformation	Includes changes to the Prism artifact that can transform existing data, such as a Prism calculated field or a dataset Join stage.

Related Information

Reference

[2023R2 What's New Post: Prism Analytics Auditing](#)

Reference: Dataset Stages

Prism Analytics supports these stage types:

Stage Type	Description
Import	<p>The first stage in every pipeline in a derived dataset is an Import stage. An Import stage imports data from a source, and for derived datasets that source is the output of a table or an existing dataset. Workday automatically creates an Import stage when necessary.</p> <p>You can't delete or add an Import stage.</p>

Stage Type	Description
Parse	<p>A Parse stage is a type of stage that enables you to describe the source data in a tabular format. Workday automatically displays the Parse stage when you create a dataset using external data.</p> <p>You can't delete or add a Parse stage.</p> <p>Note: If you're new to Workday, you don't have access to create or edit base datasets.</p>
Explode	<p>An Explode stage is a type of stage that converts a multi-instance field into an instance field. Workday takes each instance value in the multi-instance field and creates a new row for each value.</p> <p>You can add or delete an Explode stage in the middle or at the end of a pipeline.</p>
Filter	<p>A Filter stage is a type of stage that constrains rows in a dataset based on the filter criteria you define. Add Filter stages to limit the data in the dataset for analysis, such as on a particular region or year.</p> <p>You can add or delete a Filter stage in the middle or at the end of a pipeline.</p>
Group By	<p>A Group By stage is a type of stage that enables you to summarize (aggregate) multiple values in a dataset by specified groups. You can summarize the values using a summarization type, such as MIN, MAX, or SUM. Add Group By stages to get data to the appropriate level that you need to join the data in 1 dataset with another dataset.</p> <p>You can add or delete a Group By stage in the middle or at the end of a pipeline.</p>
Join	<p>A Join stage is a type of stage that combines fields from 2 dataset pipelines based on common values that exist in each pipeline. Add Join stages to view and use related data from different datasets. You can add Join stages to derived datasets only.</p> <p>You can add or delete a Join stage anywhere in the Primary Pipeline.</p>
Manage Fields	<p>A Manage Fields stage is a type of stage that enables you to view field changes, select fields, and edit fields.</p> <p>You can add or delete a Manage Fields stage in the middle or at the end of a pipeline.</p>
Union	<p>A Union stage is a type of stage that combines data from similar fields in different datasets into a single field. Add Union stages to:</p> <ul style="list-style-type: none"> • Combine datasets that have similar, but not identical schema. • Combine datasets with the same schema but with source data from different locations, such as different SFTP servers. <p>You can add Union stages to derived datasets only.</p> <p>You can add or delete a Union stage anywhere in the Primary Pipeline.</p>
Unpivot	<p>An Unpivot stage is a type of stage that converts fields (columns) to rows. Add an Unpivot stage to consolidate data from 2 or more similar fields into a pair of new fields.</p> <p>You can add Unpivot stages to derived datasets only.</p>

Stage Type	Description
	You can add or delete an Unpivot stage in the middle or at the end of a pipeline.

Related Information**Concepts**[Concept: Dataset Stages](#) on page 401**Reference: Table Error File Error Codes**

When you view an error file for a table load, you might see these errors:

Error Code	Notes
3000	The number of fields in the source doesn't match the number of fields in the wBucket schema. You use wBuckets when you load data into a table using the REST API.
3001	Invalid data - Text field
3002	Invalid data - Integer field. When the precision and scale of a Numeric field indicates that the field should contain integer values only, you might see this error. Example: Numeric(9,0)
3003	Invalid data - Numeric field
3004	Invalid data - Date field
3005	Invalid data - Boolean field
3006	Invalid data - Instance field
4000	The number of characters for the Text field exceeds the maximum allowed (32,000 characters).
4003	The numeric value is too large for the defined precision and scale for the Numeric field.
5000	This error code can correspond to either of these errors: <ul style="list-style-type: none"> The error file has reached its maximum of 10 MB and has stopped recording new error messages. The number of characters for the entire row of data exceeds the maximum allowed (500,000 characters).

Related Information**Concepts**[Concept: Table Error File](#) on page 393**Creating Tables and Datasets****Steps: Create a Table by File Upload****Prerequisites**

Security: *Prism: Tables Create* domain in the Prism Analytics functional area.

Context

You can create a table by uploading 1 or more delimited files.

Workday:

- Uses the field information in the first file to define the table fields.
- Loads the data in the files into the table.

When you create a table by file upload, you can:

- Upload up to 100 files. All files must use the same schema.
- Modify the field type that Workday guesses for each field. Example: You can change the field type from Numeric to Text, or from Text to Multi-Instance.
- Add other fields to the table schema.
- Create a data change task to load data from files you upload into the new table.

Steps

1. Access the **Data Catalog** report.
2. Select **Create > Table**.
3. Enter the **Table Name**. You can change the table name when you edit the table.
4. (Optional) Change the **Table API Name**.

Workday automatically selects an API name based on the table name that you enter, modifying it to make it meet the name requirements. Click **Change** to change the API name. You can't change this name after you finish creating the table.

5. (Optional) Select **Enable for Analysis** to create a Prism data source using the data in this table.

Workday recommends enabling a table for analysis after:

- You apply the appropriate data source security to the table.
- The table contains the data that you want and receives new and updated data from a data change task.

6. (Optional) Create or edit 1 or more **Tags** to organize the table in the Data Catalog.

7. (Optional) Add a **Description** to help others understand what data this table contains.

8. On the **Select Schema Source** step, select **File Upload**.

9. Select 1 or more delimited files to upload.

When you upload multiple files, each file must use the same schema. Workday supports delimited files that are RFC 4180-compliant. For more information, see [RFC 4180](#).

10. On the **Edit Parsing Options** step, define how to parse the data in the file.

See [Parse External Data in a Table](#) on page 442.

11. On the **Edit Schema** step, review the fields Workday created based on the parsed file, and modify the fields if necessary.

Select a field in the list and view the field details in the inspector panel on the right side. You might want to:

- **Change** the field API Name. You can't change the API name after you save the table.
- Change the **Field Type** if Workday assigned the wrong field type. Example: Workday assigned the Numeric field type to a field with zip code data because the example rows it evaluated only contained numerals. But you know that some zip code values might contain letters or a hyphen, so you change the field type to Text.
- Change other field attributes, such as Date Format, based on the field type.
- Define some field constraints that ensure the accuracy and reliability of the data in the table, such as Required or Use as External ID.

See [Reference: Table Field Attributes](#) on page 446.

12.(Optional) Click Add Field to add 1 or more fields. In the inspector panel for the field, configure the field attributes.

See [Reference: Table Field Attributes](#) on page 446.

Result

Workday creates the table and starts loading the data in the files into the table. To view the data load progress you can go to:

- The **Activities** tab on the [View Table Details](#) report.
- The **Activities** tab on the [Prism Management Console](#) report.

Refresh the page to get the most recent status.

Next Steps

To load data from a delimited file to the table again, create a data change task for the table.

If there were errors loading data into the table, download the error file from the data load from these locations:

- The **Activities** tab of the [View Table Details](#) report.
- The **Activities** tab of the [Prism Management Console](#) report.

Related Information

Concepts

[Concept: Prism Analytics Data Management Workflow](#) on page 385

[Concept: Tables](#) on page 391

[Concept: Table and Dataset Field Types](#) on page 403

[Concept: Table Error File](#) on page 393

Tasks

[Parse External Data in a Table](#) on page 442

Reference

[Reference: WPA_Fields](#) on page 441

[Reference: Supported File Formats for External Data in Tables and Datasets](#) on page 439

[Reference: Table Field Attributes](#) on page 446

[Reference: Naming Guidelines](#) on page 437

[Reference: External Data Limits](#) on page 390

[The Next Level: Prism Analytics Data Acquisition Best Practices](#)

Steps: Create Table from a Workday Report

Prerequisites

Security: *Prism: Tables Create* domain in the Prism Analytics functional area.

Context

You can create a table based on an existing Workday custom report by selecting a report as the schema source. Workday retains only the fields with field types that tables currently support.

When you create a table from a report, you can:

- Add other fields to the table schema.
- Create a data change task to load data from the report into the new table.

Steps

1. Access the **Data Catalog** report.
2. Select **Create > Table**.
3. Enter the **Table Name**. You can change the table name when you edit the table.
4. (Optional) Change the **Table API Name**.

Workday automatically selects an API name based on the table name that you enter, modifying it to make it meet the name requirements. Click **Change** to change the API name. You can't change this name after you finish creating the table.

5. (Optional) Select **Enable for Analysis** to create a Prism data source using the data in this table.

Workday recommends enabling a table for analysis after:

- You apply the appropriate data source security to the table.
- The table contains the data that you want and receives new and updated data from a data change task.

6. (Optional) Create or edit 1 or more **Tags** to organize the table in the Data Catalog.

7. (Optional) Add a **Description** to help others understand what data this table contains.

8. On the **Select Schema Source** step, select **Workday Report**.

9. Select the Workday custom report.

10. On the **Edit Schema** step, review the fields Workday created based on the report, and modify the fields if necessary.

Select a field in the list and view the field details in the inspector panel on the right side.

11. (Optional) Click **Add Field** to add 1 or more fields. In the inspector panel for the field, configure the field attributes.

Result

Workday creates an empty table using the schema defined in the report.

Next Steps

Create a data change task using the same report as the source to load data into the table from the report.

Related Information

Concepts

[Concept: Creating Reports to Import into Tables and Datasets](#) on page 388

[Concept: Prism Analytics Data Management Workflow](#) on page 385

[Concept: Tables](#) on page 391

[Concept: Table and Dataset Field Types](#) on page 403

Reference

[Reference: WPA_Fields](#) on page 441

[Reference: Table Field Attributes](#) on page 446

[Reference: Naming Guidelines](#) on page 437

[The Next Level: Prism Analytics Best Practices](#)

Steps: Create Table from an Existing Table or Dataset

Prerequisites

Security:

- *Prism: Tables Create* domain in the Prism Analytics functional area.

- Any of these requirements:
 - *Prism: Tables Manage* domain in the Prism Analytics functional area.
 - *Table Viewer* or *Dataset Viewer* permission on the existing table or dataset.
 - *Table Editor* or *Dataset Editor* permission on the existing table or dataset.
 - *Table Owner* or *Dataset Owner* permission on the existing table or dataset.

Context

You can create a table based on an existing dataset or other table by selecting an existing table or dataset as the schema source. Workday defines the new table schema based on the output schema of the existing table or dataset.

If the existing dataset includes a Double field, consider converting it to a Numeric field in the dataset before creating the table.

When you create a table from an existing table or dataset, you can:

- Add other fields to the table schema.
- Create a data change task to load data from the existing table or dataset into the new table.

Steps

1. Access the **Data Catalog** report.
2. Select **Create > Table**.
3. Enter the **Table Name**. You can change the table name when you edit the table.
4. (Optional) Change the **Table API Name**.

Workday automatically selects an API name based on the table name that you enter, modifying it to make it meet the name requirements. Click **Change** to change the API name. You can't change this name after you finish creating the table.

5. (Optional) Select **Enable for Analysis** to create a Prism data source using the data in this table.

Workday recommends enabling a table for analysis after:

- You apply the appropriate data source security to the table.
- The table contains the data that you want and receives new and updated data from a data change task.

6. (Optional) Create or edit 1 or more **Tags** to organize the table in the Data Catalog.

7. (Optional) Add a **Description** to help others understand what data this table contains.

8. On the **Select Schema Source** step, select **Existing Table or Dataset**.

9. Select the dataset or table.

10. On the **Edit Schema** step, review the fields Workday created based on the existing dataset or table, and modify the fields if necessary.

Select a field in the list and view the field details in the inspector panel on the right side. You might want to:

- Define some field constraints that ensure the accuracy and reliability of the data in the table, such as Required or Use as External ID.
- Change other field attributes, such as Digits Before and Digits After, based on the field type.

See [Reference: Table Field Attributes](#) on page 446.

11. (Optional) Click **Add Field** to add 1 or more fields. In the inspector panel for the field, configure the field attributes.

Result

Workday creates an empty table using the schema that you defined.

Next Steps

Create a data change task to load data into the table.

Related Information

Concepts

[Concept: Prism Analytics Data Management Workflow](#) on page 385

[Concept: Tables](#) on page 391

[Concept: Table and Dataset Field Types](#) on page 403

Reference

[Reference: Table Field Attributes](#) on page 446

[Reference: Naming Guidelines](#) on page 437

[Reference: WPA_Fields](#) on page 441

Steps: Create a Table Manually

Prerequisites

Security: *Prism: Tables Create* domain in the Prism Analytics functional area.

Context

You can create a table by manually defining each field in the table schema. When you create a table manually, the table is empty. You can create a data change task to load data into the table.

Steps

1. Access the **Data Catalog** report.
2. Select **Create > Table**.
3. Enter the **Table Name**. You can change the table name when you edit the table.
4. (Optional) Change the **Table API Name**.

Workday automatically selects an API name based on the table name that you enter, modifying it to make it meet the name requirements. Click **Change** to change the API name. You can't change this name after you finish creating the table.

5. (Optional) Select **Enable for Analysis** to create a Prism data source using the data in this table.

Workday recommends enabling a table for analysis after:

- You apply the appropriate data source security to the table.
- The table contains the data that you want and receives new and updated data from a data change task.

6. (Optional) Create or edit 1 or more **Tags** to organize the table in the Data Catalog.

7. (Optional) Add a **Description** to help others understand what data this table contains.

8. On the **Select Schema Source** step, select **Manual Input**.

The **Edit Schema** step displays where you can define each field in the table schema.

9. Click **Add Field** to add 1 or more fields.

10. In the inspector panel for the field, configure the field attributes.

See [Reference: Table Field Attributes](#) on page 446.

Next Steps

Create a data change task to load data into the table.

Related Information**Concepts**

[Concept: Prism Analytics Data Management Workflow](#) on page 385

[Concept: Tables](#) on page 391

[Concept: Table and Dataset Field Types](#) on page 403

Reference

[Reference: WPA_Fields](#) on page 441

[Reference: Supported File Formats for External Data in Tables and Datasets](#) on page 439

[Reference: Table Field Attributes](#) on page 446

[Reference: Naming Guidelines](#) on page 437

[The Next Level: Prism Analytics Best Practices](#)

Steps: Create a Dataset with External Data (SFTP Server)**Prerequisites**

Security: *Prism Datasets: Create* domain in the Prism Analytics functional area.

Context

You can create a base dataset using external data by transferring data from an SFTP server. You might want to create a base dataset that gets its data from an external server when the server regularly collects or adds new data. You configure how often the dataset gets new data from the server.

Note: If you're new to Workday, you don't have access to create or edit base datasets.

For integration runs that transfer data from the SFTP server to succeed:

- The number of files must be less than 5,000.
- The time to transfer the data must be less than 5 hours.

Each file from the server should be less than 1 GB compressed (less than 10 GB uncompressed approximately).

Steps

1. Access the **Data Catalog** report.

2. Select **Create > from SFTP**.

On the **Create Dataset Retrieval - Configure File Retrieval** task, you configure how to import the data from the SFTP server.

3. In the **Files** section, enter the filename or a filename pattern that represents 1 or more files.

The filename is case-sensitive. You can use the asterisk (*) and question mark (?) characters as wild cards to specify a filename pattern. Use the asterisk (*) to specify zero or more characters, and use the question mark (?) to specify exactly 1 character.

4. In the **Transport** section, specify how to connect to the SFTP server:

Option	Description
SFTP Address	<p>Use this format: <code>sftp://domain_name</code> or <code>sftp://IP_address</code></p> <p>To specify a port number, add it to the end of the domain name or IP address. If you don't specify a port number, Workday uses port 22.</p>

Option	Description
Directory	(Optional) The directory on the server that contains the files. Directory names are case-sensitive. Include a leading slash (/) only for a full path, not a relative path.
Use Temp File	<p>Writes the imported data to a temporary file in Workday with a randomly generated name. After the data import is complete, Workday automatically renames the file to the correct name.</p> <p>You might want to enable this option if the data import takes a very long time and might not finish before the next scheduled time to import data from the same server.</p>
Authentication Method and Details	<p>Select the type of security authentication that the SFTP server uses:</p> <ul style="list-style-type: none"> • User Name / Password. • SSH Authentication. This option uses secure shell key authentication using X.509 certificates.

5. (Optional) In the **File Utilities** section, Consider these options:

Option	Description
Delete After Retrieval	Deletes the files on the SFTP server after the data is imported into the dataset. If Workday is unable to delete the files from the SFTP server, the data retrieval fails.
Decompress	<p>Don't enable this option for datasets.</p> <p>You can transfer files that are compressed or not. For compressed files, Workday only supports gzip compression.</p>
Decrypt Using	If you want to decrypt the imported files using Pretty Good Privacy (PGP), select a PGP Private Key Pair.

6. (Optional) In the **Environment Restrictions** section, at the **Restricted To** prompt, select the environment in which you want to use the settings defined in the **Transport** section.

If you leave this option empty, Workday applies the transport settings to each environment in which the dataset integration runs. When a dataset integration runs in a particular environment, such as Implementation or Production, the transport settings only work if the **Restricted To** option matches the current environment. When the current environment and the configured environment don't match, the dataset integration fails and retrieves no files from the SFTP server. You might want to restrict the transport settings to a particular environment to avoid inadvertently transferring test data to a non-test endpoint.

Example: You create the dataset in an Implementation environment and select Implementation in **Restricted To**. Later, you migrate this dataset to a Production environment and the next time the dataset integration runs, the integration fails. To ensure that the dataset integration runs successfully in the Production environment, edit the dataset integration details and either clear the **Restricted To** option or change it to Production.

- On the **Create Dataset Retrieval - Schedule Request Type** task, in **Run Frequency**, specify how often to import data from the SFTP server.

If you're importing the data once in the future or on a schedule, specify the criteria for either on the **Create Dataset Retrieval - Schedule Integration** task.

After the dataset is created, you can run the integration to bring in data to the dataset on an ad hoc basis. From the related actions menu of the **View Dataset Details** report, select **Dataset > Run Integration Now**.

Note: You can't bring data into the same dataset at times that overlap with each other.

- Specify a unique name for the dataset.

The dataset name is what displays in the Data Catalog. You can change the name when you create, edit, or copy the dataset.

- (Optional) Change the dataset API name. Workday automatically selects an API name based on the dataset name you enter, modifying it to make it meet the name requirements. You can't change this name after you finish creating the dataset.

- (Optional) Create or edit 1 or more tags to organize the dataset in the Data Catalog.

- (Optional) Add a description to help others understand the data in this dataset. You can change the description when you edit the dataset.

- Select how you want to update the data in the dataset when it receives new data from an integration run.

Option	Description
Replace	Workday deletes the existing data in the dataset and replaces it with the data it imports from the SFTP server.
Append	<p>Workday keeps the existing data in the dataset and adds to it the new data it imports from the SFTP server.</p> <p>Workday imports all data in all files during every integration run. Append mode is different than incrementally updating data in a dataset. Whether the data in the dataset gets updated incrementally depends on if the SFTP server contains only incremental updates since the last integration run.</p> <p>The file schema must meet these requirements:</p> <ul style="list-style-type: none"> All files in every integration run must use the same parsing options (including the header row configuration) that were used during the first integration run. The fields must be in the same order in all files in every integration run. If the schema in a subsequent integration run contains new fields, the new fields must be located at the end of all previous fields. If the file schema in a subsequent integration run deletes one or more fields, the deleted fields must be at the end. Ensure that if the schema deletes fields, no future schema adds new fields, otherwise the integration run will fail. To ensure that all future integrations run successfully, always keep existing fields in the schema and only add new fields. If necessary, you can include empty (NULL) values in existing fields. All files in a single integration must use the same schema.

Note: An integration fails when the schema of the new data doesn't contain a field that currently exists in the dataset, and the removed field is used in a stage in the dataset. Example: If the dataset includes

a Manage Fields stage and the integration brings in data that is missing a field in the dataset, the integration fails. That's because the Manage Fields stage works on every field in the dataset.

13.Click **Save**.

Workday creates the dataset, but it has no data until Workday imports the data and fields from the SFTP server during the first integration run. Depending on when you scheduled the data to import, the dataset might be empty for some time. Workday also adds 2 fields that provide information about each integration run. See [Reference: WPA_Fields on page 441](#).

14.(Optional) Change the name of your integration schedule. See [Manage Dataset Integration Schedules on page 430](#).

15.Access the **Data Catalog** report, right-click the dataset you just created, and select **Edit**.

16.Configure how to parse the data in the files from the SFTP server.

See [Parse External Data in a Dataset on page 447](#).

17.(Optional) [Add a Stage to a Dataset on page 453](#).

You can add only some stage types to base datasets.

18.(Optional) [Add a Prism Calculated Field to a Dataset on page 450](#).

You can add a Prism calculated field to any stage.

Related Information

Concepts

[Concept: Dataset Workspace on page 394](#)

[Concept: Datasets on page 394](#)

[Concept: Dataset Stages on page 401](#)

[Concept: Dataset Pipelines on page 401](#)

Reference

[Reference: Supported File Formats for External Data in Tables and Datasets on page 439](#)

[Reference: WPA_Fields on page 441](#)

[Reference: Naming Guidelines on page 437](#)

[Reference: External Data Limits on page 390](#)

[The Next Level: Prism Analytics Best Practices](#)

Steps: Create a Dataset with External Data (Upload a File)

Prerequisites

Security: *Prism Datasets: Create* domain in the Prism Analytics functional area.

Context

You can create a base dataset using external data by uploading a file. You might want to create a base dataset by uploading a file when the data in the file is less likely to change over time.

When you create a base dataset by uploading a file, the source data in the dataset remains the same over time. However, you can change the data in the dataset later by uploading a new file to the dataset. See [Upload a New File to a Dataset on page 431](#).

Note: If you're new to Workday, you don't have access to create or edit base datasets.

Steps

1. Access the **Data Catalog** report.
2. Select **Create > from File**.
3. Navigate to a file on your local machine and open it.

The maximum size file you can upload is 500 MB.

4. Define how to parse the data in the file.

See [Parse External Data in a Dataset](#) on page 447.

5. Specify a unique name for the dataset.

The dataset name is what displays in the Data Catalog. You can change the name when you create, edit, or copy the dataset.

6. (Optional) Change the dataset API name. Workday automatically selects an API name based on the dataset name you enter, modifying it to make it meet the name requirements. You can't change this name after you finish creating the dataset.

7. (Optional) Create or edit 1 or more tags to organize the dataset in the Data Catalog.

8. (Optional) Add a description to help others understand the data in this dataset. You can change the description when you edit the dataset.

9. (Optional) [Add a Stage to a Dataset](#) on page 453.

You can add only some stage types to base datasets.

- 10.(Optional) [Add a Prism Calculated Field to a Dataset](#) on page 450.

You can add a Prism calculated field to any stage.

Related Information

Concepts

[Concept: Dataset Workspace](#) on page 394

[Concept: Datasets](#) on page 394

[Concept: Dataset Stages](#) on page 401

[Concept: Dataset Pipelines](#) on page 401

Tasks

[Upload a New File to a Dataset](#) on page 431

Reference

[Reference: Supported File Formats for External Data in Tables and Datasets](#) on page 439

[Reference: Naming Guidelines](#) on page 437

[Reference: External Data Limits](#) on page 390

[The Next Level: Prism Analytics Best Practices](#)

Steps: Create a Dataset Using Workday Data

Prerequisites

Security: *Prism Datasets: Create* domain in the Prism Analytics functional area.

Context

You can create a base dataset using Workday data. You do this by creating a base dataset using an existing Workday custom report as the source for the dataset.

You configure how often the dataset gets new data from the report.

Workday retains only the fields with field types that datasets currently support.

Note: If you're new to Workday, you don't have access to create or edit base datasets.

Steps

1. Access the **Data Catalog** report.

2. Select Create > from Custom Report.

Workday displays reports that meet the eligibility requirements for importing into Prism. See [Concept: Creating Reports to Import into Tables and Datasets](#) on page 388.

On the **Create Dataset Retrieval - Configure Report Retrieval** task, you configure how to import the data from the custom report.

3. Select a Custom Report that has the data you want to import into this dataset.

4. In the Report Criteria table, select values for the report prompts, if applicable.

Workday filters the report data with the specified values as the report runs and before importing the data into the dataset. As you complete this step, consider:

Option	Description
Value Type	This option affects how Workday determines the value for this field prompt: <ul style="list-style-type: none"> Specify Value. Workday uses the same value that you specify here each time it runs the report to import data into the dataset. Determine Value at Runtime. Workday uses the current value in a field you specify each time it runs the report to import data into the dataset.
Value	Workday uses the value or field you select here to filter the data in the report.

5. (Optional) In the Environment Restrictions section, at the **Restricted To** prompt, select the environment in which you want to use the settings defined in the **Transport** section.

If you leave this option empty, Workday applies the transport settings to each environment in which the dataset integration runs. When a dataset integration runs in a particular environment, such as Implementation or Production, the transport settings only work if the **Restricted To** option matches the current environment. When the current environment and the configured environment don't match, the dataset integration fails and retrieves no data from the specified custom report. You might want to restrict the transport settings to a particular environment to avoid inadvertently transferring test data to a non-test endpoint.

Example: You create the dataset in an Implementation environment and select Implementation in **Restricted To**. Later, you migrate this dataset to a Production environment and the next time the dataset integration runs, the integration fails. To ensure that the dataset integration runs successfully in the Production environment, edit the dataset integration details and either clear the **Restricted To** option or change it to Production.

6. On the Create Dataset Retrieval - Schedule Request Type task, in **Run Frequency**, specify how often to import data from the custom report.

If you're importing the data once in the future or on a schedule, specify the criteria for either on the **Create Dataset Retrieval - Schedule Integration** task.

After the dataset is created, you can run the integration to bring in data to the dataset on an ad hoc basis. From the related actions menu of the **View Dataset Details** report, select **Dataset > Run Integration Now**. You can't bring data into the same dataset at times that overlap with each other.

Note: An integration fails to bring in new data from the custom report when the report schema doesn't contain a field that currently exists in the dataset, and the removed field is used in a stage in the dataset. Example: If the dataset includes a Manage Fields stage and the integration brings in data that is missing a field in the dataset, the integration fails. That's because the Manage Fields stage works on every field in the dataset.

7. Specify a unique name for the dataset.

The dataset name is what displays in the Data Catalog. You can change the name when you create, edit, or copy the dataset.

8. (Optional) Change the dataset API name. Workday automatically selects an API name based on the dataset name you enter, modifying it to make it meet the name requirements. You can't change this name after you finish creating the dataset.
9. (Optional) Create or edit 1 or more tags to organize the dataset in the Data Catalog.
- 10.(Optional) Add a description to help others understand the data in this dataset. You can change the description when you edit the dataset.
- 11.Select how you want to update the data in the dataset when it receives new data from an integration run.

Option	Description
Replace	Workday deletes the existing data in the dataset and replaces it with the data it imports from the custom report.
Append	Workday keeps the existing data in the dataset and adds to it the new data it imports from the custom report. Workday imports all data in the report during every integration run, resulting in duplicate data in the dataset. Select append mode for a custom report dataset when you want a snapshot of the custom report data to maintain history in the dataset for trending use cases. Note: Ensure that you don't change the Column Heading Override XML Alias values in the custom report definition. Workday uses these values to map fields from the custom report into the dataset.

12.Click **Save.**

Workday creates the dataset, but it has no data until Workday runs the report and then imports the data and fields from the report during the first integration run. Depending on when you scheduled the data to import, the dataset might be empty for some time. Workday also adds 2 fields that provide information about each integration run. See [Reference: WPA_Fields](#) on page 441.

- 13.(Optional) Change the name of your integration schedule. See [Manage Dataset Integration Schedules](#) on page 430

14.Access the **Data Catalog** report, right-click the dataset you just created, and select **Edit**.

- 15.(Optional) [Add a Stage to a Dataset](#) on page 453.

You can add only some stage types to base datasets.

- 16.(Optional) [Add a Prism Calculated Field to a Dataset](#) on page 450.

You can add a Prism calculated field to any stage.

Related Information

Concepts

[Concept: Dataset Workspace](#) on page 394

[Concept: Datasets](#) on page 394

[Concept: Dataset Stages](#) on page 401

[Concept: Dataset Pipelines](#) on page 401

[Concept: Creating Reports to Import into Tables and Datasets](#) on page 388

Reference

[Reference: WPA_Fields](#) on page 441

[Reference: Naming Guidelines](#) on page 437

[The Next Level: Prism Analytics Best Practices](#)

Steps: Create a Derived Dataset

Prerequisites

Security:

- *Prism Datasets: Create* domain in the Prism Analytics functional area.
- Any of these requirements:
 - *Prism Datasets: Manage* domain in the Prism Analytics functional area.
 - *Dataset Viewer* permission on the dataset to import into the derived dataset.
 - *Dataset Editor* permission on the dataset to import into the derived dataset.
 - *Dataset Owner* permission on the dataset to import into the derived dataset.

Context

When you first create a derived dataset, Workday creates the Primary Pipeline. Import other datasets into the derived dataset so you can blend data together.

You can add a stage to any pipeline in the dataset. However, some stages, such as the Join stage, can only be added to the Primary Pipeline.

When you add a Join or Union stage to the Primary Pipeline, you must select another pipeline in the derived dataset to blend with the Primary Pipeline. Workday uses the last stage of that pipeline as the input to the Join or Union stage.

Steps

1. Access the **Data Catalog** report.
2. Select **Create > Derived Dataset**.
3. Select a table or dataset from the list.
4. Specify a unique name for the dataset.
The dataset name is what displays in the Data Catalog. You can change the name when you create, edit, or copy the dataset. See [Reference: Naming Guidelines](#).
5. (Optional) Change the dataset API name. Workday automatically selects an API name based on the dataset name you enter, modifying it to make it meet the name requirements. You can't change this name after you finish creating the dataset.
See [Reference: Naming Guidelines](#).
6. (Optional) Create or edit 1 or more tags to organize the dataset in the Data Catalog.
7. (Optional) Add a description to help others understand the data in this dataset. You can change the description when you edit the dataset.
8. Click **Edit Transformations** to access the **Edit Dataset Transformations** task.
9. The **Edit Dataset Transformations** task displays 1 pipeline (the Primary Pipeline) that contains an **Import** stage.
10. Create 1 or more additional pipelines by importing an existing dataset.
See [Import a Table or Dataset into a Derived Dataset](#) on page 429.
11. (Optional) [Add a Stage to a Dataset](#) on page 453.
You can add any stage type to derived datasets, but you can add some stage types to the Primary Pipeline only. To blend data from 2 pipelines, consider adding a Join stage to the Primary Pipeline. For details on the stage types that you can add, see [Concept: Dataset Stages](#).
12. (Optional) [Add a Prism Calculated Field to a Dataset](#) on page 450.
You can add a Prism calculated field to any stage in any pipeline.

Related Information

Concepts

[Concept: Dataset Workspace](#) on page 394

[Concept: Datasets](#) on page 394

[Concept: Dataset Stages](#) on page 401

[Concept: Dataset Pipelines](#) on page 401

Reference

[Reference: Naming Guidelines](#) on page 437

[The Next Level: Prism Analytics Best Practices](#)

Import a Table or Dataset into a Derived Dataset

Prerequisites

- Any of these security requirements:
 - *Prism Datasets: Manage* domain in the Prism Analytics functional area.
 - *Dataset Editor* permission on the derived dataset.
 - *Dataset Owner* permission on the derived dataset.
- Any of these security requirements:
 - *Prism Datasets: Manage* domain in the Prism Analytics functional area.
 - *Dataset Viewer* permission on the dataset to import into the derived dataset.
 - *Dataset Editor* permission on the dataset to import into the derived dataset.
 - *Dataset Owner* permission on the dataset to import into the derived dataset.

Context

A derived dataset is based on 1 or more existing tables or datasets. Use derived datasets to blend and combine together data from multiple sources. In order to blend and combine data from multiple sources, you need to import multiple tables or datasets into the derived dataset. When you first create a derived dataset, you base it on an existing table or dataset. Afterward, you must import other tables or datasets into the derived dataset.

When you import a table or dataset into a derived dataset, Workday creates a new pipeline. The pipeline name is the same as the table or dataset name you import. You can add stages to the new pipeline.

Once a derived dataset has multiple tables or datasets imported into it, you can add a stage, such as a Join stage, to the Primary Pipeline to blend data with any other pipeline.

Steps

1. Access the **Edit Dataset Transformations** task for a derived dataset.
2. In the **Pipelines** panel, click **Add Pipeline**.
3. Select a table or dataset from the list.

Result

The **Pipelines** panel displays the new pipeline with the first stage being an **Import** stage. The pipeline name is the same as the table or dataset you imported.

Next Steps

- (Optional) Add a stage, such as a Join stage, that blends together data from the Primary Pipeline and the pipeline you added.

Related Information**Tasks**

[Steps: Create a Derived Dataset](#) on page 428

Manage Dataset Integration Schedules

Prerequisites

Security: *Prism Datasets: Manage* domain in the Prism Analytics functional area.

Context

You can manage how you set up integration schedules for base datasets created from:

- SFTP
- Custom reports

You can schedule the integration to run:

- Once in the future.
- On a recurring basis (Example: daily, weekly, or monthly).
- Only if another Prism scheduled process completes at a status you specify.

Note: If you're new to Workday, you don't have access to create or edit base datasets.

Steps

1. Access the **View Dataset Details** report for the dataset.
2. From the related actions menu, select **Dataset > Edit Integration Details**.
3. (Recurring schedules) As you set up the schedule, consider:

Option	Description
Catch Up Behavior	Select how many times the scheduled integration runs after maintenance issues cause errors. Example: If you schedule an integration to run multiple times in a week when your environment is down for maintenance, you can limit the process to run once instead of catching up all missed occurrences.

4. (Dependent schedules) As you set up the schedule, consider:

Option	Description
Dependency	Select a Prism-related schedule on which the dataset integration schedule depends.
Trigger on Status	Select the status of the scheduled future process that causes the dataset integration to run. Workday recommends using one of the completed statuses. Example: You select Prism Integration and an integration schedule called <i>Dataset Integration Schedule: Monthly Acquisition Expenses</i> . In the Trigger on Status field, you select Completed . Workday brings data into the dataset only after the <i>Dataset Integration Schedule: Monthly</i>

Option	Description
	Acquisition Expenses integration successfully completes.
Time Delayed Configuration	(Optional) Specify the number of days, hours, or minutes to delay running the dataset integration after the trigger. You might want to delay integration to review the latest source files.

5. (Optional) Change the name of the schedule in the **Request Name** field. Workday assigns a name to the schedule based on the name of the dataset and prepends *Dataset Integration Schedule:* to the name.
6. (Optional) Perform actions such as transferring ownership of the schedule or editing 1 scheduled occurrence.
 - a) Access the **View Integration Details** report for the dataset.
 - b) Find the integration schedule in the **Request Name** column on the **Schedules** tab.
 - c) From the related actions menu of the integration schedule, select **Schedule Future Process** and then the desired action.

Result

Workday imports data into the dataset based on the criteria you specified.

You can view the status of all scheduled integration processes in the **Process Monitor** and **Scheduled Future Processes** reports. The status includes the date and time of the last successful integration. The last successful integration date informs you about the freshness of the data brought into the dataset. Example: If the last successful integration date is 1 week ago, but your integration schedule is set to run daily, this discrepancy could indicate a failure in the integration process.

Related Information

Concepts

[Concept: Dataset Integration Schedules](#) on page 411

Upload a New File to a Dataset

Prerequisites

- Any of these security requirements:
 - *Prism Datasets: Manage* domain in the Prism Analytics functional area.
 - *Dataset Editor* permission on the dataset.
 - *Dataset Owner* permission on the dataset.

Context

When you create a base dataset by uploading a file, the data in that dataset stays the same over time. If you have a new version of the source file, you can upload it to the same base dataset. You might want to upload a new file to update an existing base dataset instead of creating a new base dataset. When you update an existing base dataset, you maintain any relationships with derived datasets that depend on the existing base dataset.

When you upload a new file, all existing data is replaced with the data in the new file.

Note: If you're new to Workday, you don't have access to create or edit base datasets.

Sometimes, the fields in the source file might change, also known as a schema change. Fields might be added, deleted, or moved. When the schema changes and the new file is imported into the base dataset, you must edit the dataset and save it to incorporate the changes in the dataset. If you don't save the

dataset, it'll continue to use the old schema definition. The next time the dataset is published, you might get inconsistent data in the Prism data source.

Note: Uploading a file fails when the schema of the new file doesn't contain a field that currently exists in the dataset, and the removed field is used in a stage in the dataset. Example: If the dataset includes a Manage Fields stage and you try to upload a file that is missing a field in the dataset, the upload fails. That's because the Manage Fields stage works on every field in the dataset.

Steps

1. Access the **View Dataset Details** report for the dataset you want to update with new data.
2. Click **Upload File**.
3. In the confirmation dialog, click **Upload**.
4. Navigate to and select the local file.
5. If Workday successfully uploads the file, navigate to the **Edit Dataset Transformations** task.
If the schema changed, the **Save** button is active.
6. If the Save button is active, click **Save** to apply schema changes.

Result

Workday replaces the data in the dataset with the data in the file you uploaded. It updates the fields in the dataset if the schema in the uploaded file is different.

Next Steps

Verify that no schema changes broke any Prism calculated fields, stages, derived datasets, or Workday reports that depend on the dataset whose schema changed.

Related Information

Concepts

[Concept: Dataset Schema Changes](#) on page 399

Tasks

[Steps: Create a Dataset with External Data \(Upload a File\)](#) on page 424

Reference

[Reference: External Data Limits](#) on page 390

View Prism Data Usage

Prerequisites

- Any of these security requirements:
 - *Prism Datasets: Manage* domain in the Prism Analytics functional area.
 - *Prism Datasets: Owner Manage* domain in the Prism Analytics functional area.
 - *Prism: Tables Manage* domain in the Prism Analytics functional area.
 - *Prism: Tables Owner Manage* domain in the Prism Analytics functional area.
 - *Prism Datasets: Publish* domain in the Prism Analytics functional area.
 - *Dataset Viewer* permission on 1 or more datasets.
 - *Dataset Editor* permission on 1 or more datasets.
 - *Dataset Owner* permission on 1 or more datasets.
 - *Table Viewer* permission on 1 or more tables.
 - *Table Editor* permission on 1 or more tables.
 - *Table Owner* permission on 1 or more tables.

Context

You can view how much Prism data your organization has used on your tenant. You might want to view your Prism data usage to ensure you're in compliance with your purchase agreement with Workday.

Workday displays this data usage information:

- **Reportable Rows.** This value summarizes all rows in published datasets and tables enabled for analysis in your tenant, including the datasets and tables that you don't have permission on.
- **Table and dataset usage.** This grid lists all tables and datasets that you have permission on, and includes the disk space used and number of reportable rows per table and dataset.

A Reportable row is a row that counts toward the reportable row entitlement in your purchase agreement when your organization purchased Workday Prism Analytics. Workday calculates reportable rows differently for datasets and tables:

- Tables. When you enable a table for analysis, Workday counts each physical row as a reportable row.
- Datasets. When you publish a dataset, Workday counts a physical row as a reportable row if the total character count in the physical row is 1000 characters or less. When the character count in a physical row exceeds 1000 characters, Workday counts each 1000 character increment as an additional reportable row. Example: A physical row contain 3005 characters, so Workday calculates 4 as the reportable row count. If you're new to Prism Analytics, Workday counts each physical row as a reportable row for both datasets and tables.

Note: Prism stores each instance value using the Workday ID (WID) which is 16 characters. Multi-instance fields can contain multiple instance values, so they can easily increase the reportable row count in published datasets. Example: A Multi-Instance field with 200 values counts as 3,200 characters, causing the physical row to count as 4 reportable rows at a minimum.

Steps

1. Access the **Data Catalog** report.
2. Click **Prism Usage**.

View Table and Dataset Lineage

Prerequisites

- Any of these security requirements for dataset lineage:
 - *Prism Datasets: Manage* domain in the Prism Analytics functional area.
 - *Prism Datasets: Owner Manage* domain in the Prism Analytics functional area.
 - *Prism Datasets: Publish* domain in the Prism Analytics functional area.
 - *Dataset Viewer* permission on the dataset.
 - *Dataset Editor* permission on the dataset.
 - *Dataset Owner* permission on the dataset.
- Any of these security requirements for table lineage:
 - *Prism: Tables Manage* domain in the Prism Analytics functional area.
 - *Prism: Tables Owner Manage* domain in the Prism Analytics functional area.
 - *Prism Datasets: Publish* domain in the Prism Analytics functional area.
 - *Table Viewer* permission on the table.
 - *Table Editor* permission on the table.
 - *Table Owner* permission on the table.

Context

When you bring in data and transform it in Prism Analytics, you can create complex workflows containing multiple tables and datasets. You create a derived dataset by importing a table or dataset on which the derived dataset is based. The derived dataset depends on the table or dataset you import into it. You can visually see these dependencies by viewing the lineage for a table or dataset.

Viewing the lineage enables you to see dependencies, and to trace the origin of a derived dataset back to its tables and base datasets. The lineage gives you insight into the potential consequences of changes you make to your data (impact analysis).

Note: If you're new to Workday, you don't have access to create or edit base datasets.

Steps

1. Access the **Data Catalog** report.
2. Right-click a table or dataset whose lineage you want to view, and select **View Lineage**.

On the **View Table Lineage** or **View Dataset Lineage** report, the graph displays dependencies in both directions from the selected object where applicable:

- Upstream and downstream dependencies. When you view the lineage of a derived dataset, the graph displays the datasets imported into the derived dataset, and any other derived datasets that import this derived dataset. Similarly, when you view the lineage of a table, we display the upstream datasets brought into a table through a data change task.
- Downstream dependencies only. When you view the lineage of a table or base dataset, the graph displays any derived datasets that import this table or base dataset.

Related Information

Tasks

[View Dataset Dependencies](#) on page 435

Reference

[The Next Level: Prism Performance and Troubleshooting Tips](#)

View Field Lineage

Prerequisites

Any of these security requirements:

- *Prism Datasets: Manage* domain in the Prism Analytics functional area.
- *Prism Datasets: Owner Manage* domain in the Prism Analytics functional area.
- *Prism Datasets: Publish* domain in the Prism Analytics functional area.
- *Dataset Editor* permission on the dataset.
- *Dataset Owner* permission on the dataset.
- *Dataset Viewer* permission on the dataset and the tenant is configured to have the **Enable Prism Dataset Transformations** check box enabled.

Context

When you bring in data and transform it in Prism Analytics, you can create complex workflows containing multiple transformation stages across various datasets. You can visually see the different stages and datasets a field passed through up that point by viewing the lineage for the field.

Steps

1. Access the **View Dataset Lineage** report for a derived dataset.

2. Select the field whose lineage that you want to view, and select **View Field Lineage**.

On the View Field Lineage report, the graph displays all transformations involving data in the field up to that point across all datasets you have access to.

When you access the View Field Lineage report, you start at the field that you selected, the root node, and you can:

- Select a node to view details in the inspector panel on the stage represented in that node.
- Control your view of the lineage by expanding and collapsing chevrons in the graph.
- View the changes across different datasets and tables, differentiated by a colored outline encompassing all nodes in a dataset.
- Navigate through decision nodes, where there's a divergence in the lineage.
- View all nodes in datasets and tables that you have at least View Table or View Transformations permissions for.
- Trace the lineage of all dependent fields for calculated fields.

Related Information

Concepts

[Concept: Dataset Field Origin](#) on page 403

[Concept: Field Lineage](#) on page 403

Reference

[2022R2 What's New Post: Field Lineage for Prism Analytics](#)

View Dataset Dependencies

Prerequisites

- Any of these security requirements:
 - *Prism Datasets: Manage* domain in the Prism Analytics functional area.
 - *Prism Datasets: Owner Manage* domain in the Prism Analytics functional area.
 - *Prism Datasets: Publish* domain in the Prism Analytics functional area.
 - *Prism Datasets: Create* domain in the Prism Analytics functional area.
 - *Dataset Viewer* permission on the dataset.
 - *Dataset Editor* permission on the dataset.
 - *Dataset Owner* permission on the dataset.

Context

You create a derived dataset by importing a table or dataset on which the derived dataset is based. The derived dataset depends on the table or dataset you import into it. You can view these dataset dependencies.

Steps

1. Access the **Data Catalog** page.
2. Select a dataset to open its inspector panel.
3. Scroll down to the **Imported By** section to view the derived datasets that imported the selected dataset.

Reference: Supported Date Formats for External Data in Tables and Datasets

External data that you bring into the Data Catalog might contain fields with date or time values. Workday only supports some date formats. How Workday uses the date formats depends on the object you create:

- Table. When you define a Date field in the schema of a table, you can specify any of the supported date formats. The date values in the external data must match the specified date format in order for the row to be valid and loaded into the table.
- Base dataset. If Workday recognizes the format of a date field in the external file, it automatically assigns the Date field type when parsing the file.

Note: If you're new to Workday, you don't have access to create or edit base datasets.

Workday supports these date formats as well as any shortened versions of them:

Format Type	Format
Date and time	yyyy-MM-dd'T'HH:mm:ss.SSSZZ yyyy-MM-dd'T'HH:mm:ssZZ yyyy-MM-dd'T'HH:mm:ss EEE, dd MMM yyyy HH:mm:ss Z MM/dd/yy h:mm:ss a ZZ MM/dd/yy h:mm:ss a MM/dd/yy H:mm:ss ZZ MM/dd/yy H:mm:ss yy-MM-dd h:mm:ss a ZZ yy-MM-dd h:mm:ss a yy-MM-dd H:mm:ss ZZ yy-MM-dd H:mm:ss yyyy-MM-dd HH:mm:ss.SSS
Date only	yyyy-MM-ddZZ yy-MM-dd yyyy-MM-dd MM/dd/yy
Time only	'T'HH:mm:ssZZ 'T'HH:mm:ss HH:mm:ssZZ HH:mm:ss

Related Information

Concepts

[Concept: Table and Dataset Field Types](#) on page 403

Tasks

[Change Dataset Field Types](#) on page 455

Reference

[TO_DATE](#) on page 551

Reference: Naming Guidelines

Table and Dataset Names

Workday suggests that you follow these naming restrictions and recommendations. Workday might not enforce all naming restrictions depending on how you create the dataset.

Note: If you're new to Workday, you don't have access to create or edit base datasets.

Name Type	Table	Dataset (base and derived)
Name	<p>This is the display name.</p> <ul style="list-style-type: none"> Must be unique in the Data Catalog. Table names are case insensitive. Can contain a maximum of 255 characters. Can include any character, including multi-byte characters, as long as all characters are UTF-8 encoded. Can't start with a space or WPA_. Can't end with a space. 	<p>This is the display name.</p> <ul style="list-style-type: none"> Must be unique in the Data Catalog. Dataset names are case insensitive. Can contain a maximum of 255 characters. Can include any character, including multi-byte characters, as long as all characters are UTF-8 encoded. Can't start with a space or WPA_. Can't end with a space. <p>For datasets created from SFTP or custom reports, Workday enforces only these display name restrictions:</p> <ul style="list-style-type: none"> Must be unique in the Data Catalog. Dataset names are case insensitive. Can contain a maximum of 255 characters.
API Name	<ul style="list-style-type: none"> Must be unique in the Data Catalog. Table API names are case insensitive. Can contain a maximum of 255 characters. Can only include alphanumeric and underscore characters. Must start with a letter. Must end with an alphanumeric character. Can't start with WPA_. 	<ul style="list-style-type: none"> Must be unique in the Data Catalog. Dataset API names are case insensitive. Can contain a maximum of 255 characters. Can only include alphanumeric and underscore characters. Must start with a letter. Must end with an alphanumeric character. Can't start with WPA_.
Field Name	<p>This is the display name.</p> <ul style="list-style-type: none"> Can't start with a space or with WPA_. <p>Table field names are case insensitive.</p>	<p>This is the display name.</p> <ul style="list-style-type: none"> Can't start with (or with WPA_. Must be unique within the dataset. <p>Dataset field names are case sensitive.</p>
Field API Name	<ul style="list-style-type: none"> Must be unique in the table. Table API field names are case insensitive. 	Workday uses dataset API field names as the dataset field display names.

Name Type	Table	Dataset (base and derived)
	<ul style="list-style-type: none"> • Can contain a maximum of 255 characters. • Can only include alphanumeric and underscore characters. • Must start with a letter. • Can't end with an underscore character. • Can't start with WPA_. 	

Data Change Task Names

Data change task names:

- Must be unique in the Data Catalog. Data change task names are case insensitive.
- Can contain a maximum of 255 characters.
- Can include any character, including multi-byte characters, as long as all characters are UTF-8 encoded.
- Can't start with a space or WPA_.
- Can't end with a space.

Data change task API names:

- Must be unique in the Data Catalog. Table API names are case insensitive.
- Can contain a maximum of 255 characters.
- Can only include alphanumeric and underscore characters.
- Must start with a letter.
- Must end with an alphanumeric character.
- Can't start with WPA_.

Connection Names

SFTP connection names:

- Must be unique.
- Are case insensitive.
- Can contain a maximum of 255 characters.
- Can include any character, including multi-byte characters, as long as all characters are UTF-8 encoded.

Prism Data Source Names

The Prism data source name comes from the display name of the published dataset or the table enabled for analysis.

wBucket Names

- Must be unique.
- Can contain a maximum of 255 characters.
- Can only include alphanumeric and underscore characters.
- Must start with a letter.
- Can't end with an underscore character.
- Can't start with WPA_.

Reference: Supported File Formats for External Data in Tables and Datasets

To bring in non-Workday data as a table or base dataset, Workday parses the data into records (rows) and fields. All characters must be UTF-8 encoded.

Note: If you're new to Workday, you don't have access to create or edit base datasets.

Tables and base datasets support these source file formats:

Format	Description
Delimited Text	<p>A delimited file is a plain text file format for describing tabular data. Comma-separated value (CSV) files are the most common delimited files. It refers to any file that:</p> <ul style="list-style-type: none"> • Is plain text (typically ASCII or Unicode characters) • Has 1 record per line. • Has records divided into fields. • Has the same sequence of fields for every record. <p>Records are separated by line breaks, and fields within a line are separated by a delimiter (usually a comma character). If the delimiter also exists in the field values, it must be escaped. Workday supports single character escapes (such as a backslash), as well as enclosing field values in double quotes (as is common with CSV files).</p>

Reference: Currency Format Requirements for External Data

External data that you bring into a table or base dataset might contain fields with currency values. If Workday recognizes the format of a Currency field, it automatically assigns the Currency field type.

Note: If you're new to Workday, you don't have access to create or edit base datasets.

For Workday to recognize a single field value as valid currency data, it must meet these requirements:

- It must contain a numeric amount.
- The numeric amount can only use a period as the decimal separator.
- The numeric amount can't use any character to separate thousands.
- It must contain a valid 3-digit currency code that Workday recognizes.
- The 3-digit currency code can occur either before or after the numeric amount.
- It can contain valid currency symbols that Workday recognizes, but it must also contain the 3-digit currency code.
- It can't contain extraneous characters, but can contain extra spaces before or after the numeric amount or currency code.

If a Currency field contains any value that doesn't meet these requirements, Workday treats the value as NULL.

Example: Workday recognizes these single data values as valid currency data:

- 3000.00 USD
- \$3000.00 USD
- USD 3000.00
- USD \$3000.00
- -\$3,000.00 USD
- (\$3,000.00) USD

Related Information**Concepts**

[Concept: Table and Dataset Field Types](#) on page 403

Tasks

[Change Dataset Field Types](#) on page 455

[Add a Prism Calculated Field to a Dataset](#) on page 450

Reference: Date Format Symbols

Workday recognizes specific characters as symbols to represent part of a date format when you create and edit tables and base datasets. This section describes the symbols to use and the patterns use them in when you define your date format. The count and order of the symbols determine the date format.

Note: If you're new to Workday, you don't have access to create or edit base datasets.

Workday treats any characters in the pattern that aren't in the ranges of a-z or A-Z as quoted delimiter text. Example: Workday treats the slash (/) and colon (:) characters delimiter text even if they aren't escaped with single quotes.

Symbol	Meaning	Presentation	Examples	Notes
G	era	text	AD	
C	century of era (0 or greater)	number	20	
Y	year of era (0 or greater)	year	1996	Numeric presentation for year and week year fields are handled specially. Example: If the count of 'y' is 2, the year will be displayed as the zero-based year of the century, which is two digits.
x	week year	year	1996	Numeric presentation for year and week year fields are handled specially. Example: If the count of 'y' is 2, the year will be displayed as the zero-based year of the century, which is two digits.
w	week number of week year	number	27	
e	day of week (number)	number	2	
E	day of week (name)	text	Tuesday; Tue	If the number of pattern letters is 4 or more, the full form is used; otherwise a short or abbreviated form is used.

Symbol	Meaning	Presentation	Examples	Notes
y	year	year	1996	
D	day of year	number	189	
M	month of year	month	July; Jul; 07	3 or more uses text, otherwise uses a number
d	day of month	number	10	If the number of pattern letters is 3 or more, the text form is used; otherwise the number is used.
a	half day of day	text	PM	
K	hour of half day (0-11)	number	0	
h	clock hour of half day (1-12)	number	12	
H	hour of day (0-23)	number	0	
k	clock hour of day (1-24)	number	24	
m	minute of hour	number	30	
s	second of minute	number	55	
S	fraction of second	number	978	
z	time zone	text	Pacific Standard Time; PST	If the number of pattern letters is 4 or more, the full form is used; otherwise a short or abbreviated form is used.
Z	time zone offset/id	zone	-0800; -08:00; America/Los_Angeles	'Z' outputs offset without a colon, 'ZZ' outputs the offset with a colon, 'ZZZ' or more outputs the zone ID.
'	escape character for text-based delimiters	delimiter		
"	literal representation of a single quote	literal	'	

Reference: WPA_Fields

When you create any table or a base dataset that uses an integration, Workday automatically creates extra fields in the table or base dataset. These fields help you to uniquely identify rows in the table or base dataset from different integration runs.

Note: If you're new to Workday, you don't have access to create or edit base datasets.

Field Name	Description
WPA_LoadID	<p>This field returns a value of type Text containing a unique identifier of the integration run or data load activity that imported the current row of data into the dataset or table.</p> <p>Workday adds this field to both tables and datasets.</p>
WPA_LoadTimestamp	<p>This field returns a value of type Date (to the millisecond) containing the date and time of the integration run that imported the current row of data into the dataset or table.</p> <p>Workday adds this field to both tables and datasets.</p>
WPA_RowID	<p>This field returns a value of type Text containing a unique row identifier for each row in a data load activity or integration run.</p> <p>Workday adds this field to tables.</p>
WPA_UpdateID	<p>This field returns a value of type Text containing a unique identifier of the data load activity that updated the current row of data in the table.</p> <p>Workday adds this field to tables.</p>
WPA_UpdateTimestamp	<p>This field returns a value of type Date (to the millisecond) containing the date and time of the data load activity that updated the current row of data in the table.</p> <p>Workday adds this field to tables.</p>

You can't modify or delete these fields, but you can hide them. Use these fields with the other fields to uniquely identify rows of data in the table or dataset from multiple integrations.

You can also use these fields to group data together from a single data load or integration. Example: you can create a Group By stage and group on the WPA_LoadID field and Count the number of rows from each integration run.

Related Information

Tasks

[Steps: Create a Dataset with External Data \(SFTP Server\)](#) on page 421

[Steps: Create a Dataset Using Workday Data](#) on page 425

Editing Tables

Parse External Data in a Table

Prerequisites

Security:

- *Prism: Tables Create* domain in the Prism Analytics functional area when creating a table.

- Any of these security requirements when editing a table:
 - Prism Datasets: Owner Manage* domain in the Prism Analytics functional area.
 - Prism Datasets: Manage* domain in the Prism Analytics functional area.
 - Table Editor* permission on the table.
 - Table Owner* permission on the table.
 - Can Insert Table Data* permission on the table.

Context

When you load a delimited file into a table, you must define how Workday parses the data. You define the parsing options on the **Edit Parsing Options** step when you load data into a table, such as creating a table by uploading a file, or when adding more rows to an existing table.

Workday supports delimited files that are RFC 4180-compliant. For more information, see [RFC 4180](#).

Steps

- Access the **Edit Parsing Options** step for loading data into a table.
- Configure the parsing options.

As you complete this task, consider:

Option	Description
Row Delimiter	Specifies the single character that separates rows (or records) in your source data files. In most delimited files, rows are separated by a new line, such as the line feed character, carriage return character, or carriage return plus line feed. Line feed is the standard new line representation on UNIX-like operating systems. Other operating systems (such as Windows) might use carriage return individually, or carriage return plus line feed. Selecting Any New Line causes Workday to recognize any of these representations of a new line as the row delimiter.
Field Delimiter	Specifies the single character that separates the fields (or columns) of a row in your source data files. Comma is the most common field delimiter.
Field Names	Specifies the default name of each field. You can change the field names after you finish defining the parsing options. Field names must conform to the name validation rules. Workday automatically treats the first line in each source file as a header row instead of as a row of data. If you don't want to use the first line as names for your fields, clear Use values from first row .
Escape Character	Specifies the single character used to escape the Quote Character or another instance of the Escape Character when a Quote Character is specified. Workday reads an escape character as data only if it's escaped with another escape character. If your data values contain quote characters as data, those characters must be escaped and the entire field value must be enclosed with the Quote Character . If not, then Workday assumes that the quote character denotes a new field.

Option	Description
Quote Character	<p>The character that encloses a single field value, if any.</p> <p>Some delimited files use the quote character to enclose individual data values. The quote character is typically the double quote character ("").</p> <p>If a field value contains a field delimiter as data, then the field value must be enclosed in the Quote Character, otherwise Workday assumes that the field delimiter denotes a new field.</p> <p>If a field value contains the quote character as data, then the field value must be enclosed in the Quote Character and it must be escaped, either by the Escape Character or another quote character.</p> <p>If a field value contains a row delimiter (such as a new line character) as data, then the field value must be enclosed in the Quote Character.</p> <p>Suppose that you have a row with these 3 data values:</p> <pre>weekly special wine, beer, and soda "2 for 1" or 9.99 each</pre> <p>If the field delimiter is a comma, the quote character is a double quote, and the escape character is a double quote, then a correctly formatted row in the source data looks like:</p> <pre>"weekly special", "wine, beer, and soda", "" "2 for 1" " or 9.99 each"</pre>
Comment Character	<p>Specifies the character that represents a comment at the beginning of a line of text. Workday ignores every line in the external file that starts with the comment character. Example: Select # as the Comment Character to ignore lines that start with #.</p> <p>When the Comment Character is empty, Workday reads all lines as rows of data.</p>
Rows to ignore	<p>Specifies the number of lines at the beginning of the file to ignore when reading the source file. To use this with the Use values from first row option, ensure that the line containing the field names is visible and is the first remaining line.</p>
Jagged Rows	<p>Select these options when the schema of the source file isn't an exact match of the table schema, and you want Workday to ignore any missing or extra fields at the end of the file schema.</p>
Field Options	<p>These options control how to handle whitespace characters in Text fields.</p> <ul style="list-style-type: none"> • Trim leading spaces outside quotes. This option removes whitespace characters outside the quotes of Text fields before the quote character. • Trim trailing spaces outside quotes. This option removes whitespace characters outside the quotes of Text fields after the quote character.

Option	Description
	<ul style="list-style-type: none"> Trim leading spaces in quotes. This option removes whitespace characters inside the quotes of Text fields at the beginning of the field value. Trim trailing spaces in quotes. This option removes whitespace characters inside the quotes of Text fields at the end of the field value.

Related Information

Tasks

[Steps: Create a Table by File Upload](#) on page 415

Reference

[Reference: Naming Guidelines](#) on page 437

Edit a Table

Prerequisites

Any of these security requirements:

- Prism Datasets: Owner Manage* domain in the Prism Analytics functional area.
- Prism Datasets: Manage* domain in the Prism Analytics functional area.
- Table Editor* permission on the table.
- Table Owner* permission on the table.
- Table Schema Editor* permission on the table.

Context

You can edit a table by:

- Changing the table display name.
- Changing the schema.

You can change the table schema by:

- Adding fields.
- Deleting fields.
- Changing field attributes (including field type).

You can only change field attributes when the table contains no data.

When you edit a table, Workday enables you to change the table schema. If you have no change, you can select **Next** to edit the table attributes by:

- Changing the table display name.
- Enabling it for analysis.
- Adding or removing tags.

Steps

- Access the **View Table Details** report for a table.
- Select **Edit Schema** from the **Quick Actions** button, or from the related actions menu, select **Table > Edit**.
- (Optional) Click **Add Field** to add 1 or more fields. In the inspector panel for the field, configure the field attributes.
See [Reference: Table Field Attributes](#) on page 446.
- (Optional) Delete a field by clicking the trash can in the right-most column of a field in the list.

5. (Optional) Change the field attributes of an existing field.
 - a) Select a field in the list, and view the field details in the inspector panel on the right side.
 - b) In the inspector panel for the field, change the field attributes. You can't change the API name.

See [Reference: Table Field Attributes](#) on page 446.

6. Click **Next**.

7. (Optional) Change the **Table Display Name**.

8. (Optional) Select **Enable for Analysis** to create a Prism data source using the data in this table.

Workday recommends enabling a table for analysis after:

- You apply the appropriate data source security to the table.
- The table contains the data that you want and receives new and updated data from a data change task.

9. (Optional) Create or edit 1 or more **Tags** to organize the table in the Data Catalog.

Related Information

Concepts

[Concept: Tables](#) on page 391

Reference

[Reference: Naming Guidelines](#) on page 437

Reference: Table Field Attributes

When you add or edit a field in a table in the Data Catalog, you define these attributes:

Field Attribute	Notes
Display Name	You can change this name at any time. The name must conform to name validation rules.
API Name	The API name must be unique in the table. Workday automatically selects an API name based on the field name you enter, modifying it to make it meet the name requirements. Click Change to change the API name. You can't change the API name after you save the table.
Field Type	Select the field type that the values in this field must match to be recognized as valid data. You need to configure additional field attributes for some field types you select.
Date Format	(Required for Date fields) Select the date format that the values in this field must match to be recognized as valid date data.
Digits Before and Digits After	(Required for Numeric fields) Enter the maximum number of digits before and after the decimal point that the values in this field can have to be recognized as valid numeric data. The sum of these 2 options must be less than or equal to 38.
Business Object	(Required for Instance and Multi-Instance fields) Select the business object to associate with the values in this Instance field.
Report Field	(Optional for Instance and Multi-Instance fields) The context information for the Instance or Multi-Instance field. To enter or change the report field, enter the Workday ID.
Description	(Optional) Add a helpful field description that explains the meaning and data value characteristics of the field.

Field Attribute	Notes
Required	Specifies that the field must contain data. Make a field required to ensure it doesn't contain a NULL value when you insert or update data in the table. When you insert or update data in a table and this field is NULL, Workday rejects the row and instead includes it in the error file.
Default Value	<p>Use the Default Value to define a value for a field if the uploaded source file schema doesn't include that field. When the source file schema doesn't include a field, Workday uses the default value for all rows in the source file.</p> <p>Note: The Default Value is only used when the source file schema is missing a field, not when a particular field value is NULL.</p>
Use as External ID	<p>Use this attribute to mark a single field in a table as a key. Specify a field as the external ID when the values in the field uniquely identify each row from its source.</p> <p>Define a field as the external ID if you want to update or delete data in the table based on data in an external file. This attribute is similar to a primary key in a relational database.</p> <p>When using this attribute, consider:</p> <ul style="list-style-type: none"> • You can only define 1 field in a table as the external ID field. • Ensure that each field value in the external ID field is unique. If the field values aren't unique, you'll get unexpected results. Workday doesn't enforce the uniqueness. • You can't define a default value for fields used as an external ID. The field value must come from the external source and can't be NULL. • Workday automatically marks the external ID field as required.

Related Information

Concepts

[Concept: Tables](#) on page 391

Reference

[Reference: Naming Guidelines](#) on page 437

Editing Datasets

Parse External Data in a Dataset

Prerequisites

- Base dataset using external data (from uploading a file or connecting to a server) exists in the Data Catalog.

- Security:
 - *Prism Datasets*: Create domain in the Prism Analytics functional area when creating a dataset.
 - Any of these security requirements when editing an existing dataset:
 - *Prism Datasets*: Manage domain in the Prism Analytics functional area.
 - *Dataset Editor* permission on the dataset.
 - *Dataset Owner* permission on the dataset.

Context

When you bring external data into a base dataset, you must describe the source data in a tabular format. You do this by describing how to parse the data.

Note: If you're new to Workday, you don't have access to create or edit base datasets.

Your data must:

- Be in plain text file format.
- Have 1 record per line.
- Have the same sequence of fields for every record separated by a common delimiter (such as a comma or tab).

Delimited records are separated by line breaks, and fields within a line are separated by a special character called the delimiter (usually a comma or tab character). If the delimiter also exists in the field values, it must be escaped. Base datasets support single character escapes (such as a backslash), as well as enclosing field values in double quotes.

Steps

1. Access the **Edit Dataset Transformations** task for a base dataset using external data.
2. Edit the Parse stage.

As you complete this task, consider:

Option	Description
Row Delimiter	<p>Specifies the single character that separates rows (or records) in your source data files.</p> <p>In most delimited files, rows are separated by a new line, such as the line feed character, carriage return character, or carriage return plus line feed. Line feed is the standard new line representation on UNIX-like operating systems. Other operating systems (such as Windows) might use carriage return individually, or carriage return plus line feed. Selecting Any New Line causes Workday to recognize any of these representations of a new line as the row delimiter.</p>
Field Delimiter	<p>Specifies the single character that separates the fields (or columns) of a row in your source data files. Comma and tab are the most common field delimiters.</p>
Field Names	<p>Specifies the default name of each field. You can change the field names in the Parse stage after you finish defining the parsing options.</p> <p>Field names must follow naming validation rules.</p> <p>Workday automatically treats the first line in each source file as a header row instead of as a row of data. If you don't want to use the</p>

Option	Description
	first line as names for your fields, deselect the Field Names check box.
Escape Character	<p>Specifies the single character used to escape the Quote Character or another instance of the Escape Character when a Quote Character is specified. Workday reads an escape character as data only if it's escaped with another escape character.</p> <p>If your data values contain quote characters as data, those characters must be escaped and the entire field value must be enclosed with the Quote Character. If not, then Workday assumes that the quote character denotes a new field.</p> <p>For comma-separated values (CSV) files, it's common practice to escape field delimiters by enclosing the entire field value within double quotes. If your source data uses this convention, then you should specify a Quote Character.</p>
Quote Character	<p>Some delimited files use the quote character to enclose individual data values. The quote character is typically the double quote character (").</p> <p>If a field value contains a field delimiter as data, then the field value must be enclosed in the Quote Character, otherwise Workday assumes that the field delimiter denotes a new field.</p> <p>If a field value contains the quote character as data, then the field value must be enclosed in the Quote Character and it must be escaped, either by the Escape Character or another quote character.</p> <p>If a field value contains a row delimiter (such as a new line character) as data, then the field value must be enclosed in the Quote Character and Field values contain new lines must be selected.</p> <p>Suppose that you have a row with these 3 data values:</p> <pre>weekly special wine, beer, and soda "2 for 1" or 9.99 each</pre> <p>If the field delimiter is a comma, the quote character is a double quote, and the escape character is a backslash, then a correctly formatted row in the source data looks like:</p> <pre>"weekly special","wine, beer, and soda","\\"2 for 1\\" or 9.99 each"</pre>
Rows to ignore	Specifies the number of lines at the beginning of the file to ignore when reading the source file while creating and publishing the dataset. To use this with the From First Table Row option, ensure that the line containing the field names is visible and is the first remaining line.
Field values contain new lines	Check this option if your source data might contain new line characters as part of a field value.

Option	Description
	<p>When enabled, Workday reads the new line characters inside quote characters as part of the field value instead of as a row delimiter. Workday interprets any row delimiter character outside of quote characters as a new record.</p> <p>Enabling this option might impact the time to publish a dataset if Workday reads very large source files.</p> <p>Note that you might get unexpected results if you enable this option and the source file has malformed data (such as when a field value has either an opening or closing quote character, but not both). Try to ensure that your source data is well formed when using this option.</p>
Trim trailing and leading whitespace characters in Text fields	Select this check box if you want to remove whitespace characters at the beginning and end of Text fields.

Related Information

Tasks

[Add a Stage to a Dataset](#) on page 453

[Steps: Create a Dataset with External Data \(SFTP Server\)](#) on page 421

[Steps: Create a Dataset with External Data \(Upload a File\)](#) on page 424

Reference

[Reference: Naming Guidelines](#) on page 437

Examples

[Example: Bring in International-Formatted Numeric Fields](#) on page 471

Add a Prism Calculated Field to a Dataset

Prerequisites

- Any of these security requirements:
 - Prism Datasets: Manage* domain in the Prism Analytics functional area.
 - Dataset Editor* permission on the dataset
 - Dataset Owner* permission on the dataset.

Context

You can transform data in a dataset by adding Prism calculated fields to the dataset. Prism calculated fields change the number of fields in a dataset, they don't change the number of records.

A Prism calculated field contains these components:

Component	Description
Name	The name you specify is the field display name.
Expression	<p>The expression describes a processing step that you want to perform on the data in other fields in the dataset. Expressions can include:</p> <ul style="list-style-type: none"> References to other fields as input. Constant values as literal text, numeric, or date values. Functions from the Prism expression language. Arithmetic, comparison, and logical operators.

Component	Description
	For more information, see Concept: Prism Expression Language on page 529.
Field type	<p>The expression determines the return value field type.</p> <p>If the expression includes a function, then the return value of the function determines the field type.</p> <p>If the expression doesn't include any function, then the operator determines the field type:</p> <ul style="list-style-type: none"> • Arithmetic operators result in one of the numeric field types, depending on the input field types used in the expression. Example: Long * Integer results in a Long field, and Long * Numeric results in a Numeric field. Workday doesn't guarantee that each calculated field value will fit in the new field. Any calculated value that doesn't fit in the new field type becomes NULL. Workday automatically determines the digits before and after the decimal for Numeric field types. Numeric fields support a total of 38 digits before and after the decimal point, and a maximum of 18 digits after. • Comparison operators result in a Boolean field. • Logical operators result in a Boolean field.

You might need to create several Prism calculated fields to achieve the result you want. You can use the result of a Prism calculated field in the expressions of other Prism calculated fields to define a chain of processing steps.

You might want to use a Prism calculated field to:

Field Purpose	Example
Convert a field type to another field type.	<p>Change an Integer field type to a Long field type, so that you can use the EPOCH_MS_TO_DATE function on it. Example:</p> <pre>EPOCH_MS_TO_DATE(TO_LONG([Date in MS]))</pre>
Perform an arithmetic calculation.	<p>Calculate the net profit based on the revenue and expenses. Example:</p> <pre>[Revenue] - [Expenses]</pre> <p>Calculate the percent of total revenue for a particular sale. Example:</p> <pre>([Sale]/[Total Revenue])*100</pre>
Extract values from a different field.	<p>Extract the currency codes from a currency field using the EXTRACT_CODE function. Example:</p> <pre>EXTRACT_CODE([Revenue])</pre>
Combine the values from 2 Text fields into 1 Text field.	<p>Combine separate fields consisting of Last Name and First Name into 1 field using the CONCAT function. Example:</p> <pre>CONCAT([First Name], " ", [Last Name])</pre>

Field Purpose	Example
Test for a particular condition.	<p>Test whether the year is between 2019 and 2020, inclusive. Example:</p> <pre>[year] BETWEEN 2019 AND 2020</pre>
Pad the beginning of a Text field with leading zeros.	<p>The [EEID] is a Text field containing numeric data of varying lengths, and you want to create an [Employee ID] field that is always 7 characters long, including leading zeros where needed.</p> <p>Create a calculated field called [PaddedID] that adds enough zeros to the beginning of [EEID] to create a full string, even if [EEID] is an empty string. Example:</p> <pre>CONCAT("0000000", [EEID])</pre> <p>Then create a calculated field called [Employee ID] that returns the last 7 characters of the [PaddedID] field. Example:</p> <pre>SUBSTRING([PaddedID], (LENGTH([PaddedID])-7), 30)</pre>
Return a particular date given a Date field.	<p>The [EFF_Date] field is a Date field, and you want to calculate and return the last day of the current month.</p> <pre>DATE_ADD(DATE_ADD(TRUNC([EFF_Date], "month"), 1, "month"), -1, "day")</pre>

To delete a Prism calculated field, access the **Edit Dataset Transformations** task, and select the menu for the Prism calculated field you want to remove and select **Delete Field**. Deleting a field might cause errors if other Prism calculated fields refer to the deleted field.

Steps

1. Access the **Edit Dataset Transformations** task for a dataset.
 2. Select a dataset pipeline (required for derived datasets) and stage into which to add the Prism calculated field.
 3. Select **Add Field**.
 4. Enter an expression in the expression editor.
If you use Currency fields that contain different codes, Workday treats the result of those calculations as NULL.
 5. In the inspector panel, enter a name. Field names must follow naming validation rules.
 6. Save the Prism calculated field by clicking **Enter** or **Return** on your keyboard.
Clicking another field on the page also saves the changes to the Prism calculated field.
 7. (Optional) You can insert single and multiline comments into any location within a Prism expression. Workday treats all text between these characters as comments: /* */
- Note:** Workday won't consider the data values as comments if you enclose these characters and the comment within double quotation marks.

Related Information

Concepts

[Concept: Prism Calculated Fields](#) on page 409

[Concept: Hiding Dataset Fields](#) on page 410

[Concept: Prism Expression Language](#) on page 529

Reference

[Reference: Naming Guidelines](#) on page 437

[The Next Level: Prism Analytics Best Practices](#)

Examples

[Example: Bring in International-Formatted Numeric Fields](#) on page 471

Add a Stage to a Dataset

Prerequisites

Any of these security requirements:

- *Prism Datasets: Manage* domain in the Prism Analytics functional area.
- *Dataset Editor* permission on the dataset.
- *Dataset Owner* permission on the dataset.

Context

Add stages to change your data from 1 format to another format.

One way you transform data in a dataset is by adding a stage. There are different types of stages. For details, see [Concept: Dataset Stages](#).

You can add a new stage to the end of any pipeline in your dataset. Some stage types can only be added to derived datasets, not to base datasets.

Note: If you're new to Workday, you don't have access to create or edit base datasets.

Steps

1. Access the **Edit Dataset Transformations** task for a dataset.
2. (Required for derived datasets) Select the dataset pipeline where you want to add the stage.
Select the primary pipeline of a derived dataset for some stage types, such as Join or Union.
Base datasets have only 1 pipeline, which is the primary pipeline.
3. Click **Add Stage**, and select the type of stage to add.

You can add these stage types:

- [Explode](#)
- [Filter](#)
- [Group By](#)
- [Join](#)
- [Manage Fields](#)
- [Union](#)
- [Unpivot](#)

4. Configure the stage parameters.

The parameters you define depend on the type of stage that you're adding.

5. (Optional) Add a description while editing any stage except the Import stage of a derived dataset.

Related Information

Reference

[Reference: Filter Stages](#) on page 461

[Reference: Group By Stages](#) on page 462

[Reference: Join Stages](#) on page 463

[Reference: Union Stages](#) on page 465

Manage Dataset Fields

Prerequisites

- *Prism Datasets*: Create domain in the Prism Analytics functional area when creating a dataset.
- Any of these security requirements:
 - *Prism Datasets*: Manage domain in the Prism Analytics functional area.
 - *Dataset Editor* permission on the dataset.
 - *Dataset Owner* permission on the dataset.

Context

You can use the Manage Fields stage to view field changes, select fields, and edit fields.

Note: Decide on field names before you define Prism calculated fields and stages. Changing a field name later on will break Prism calculated field expressions and stages that rely on it.

Steps

1. Access the **Edit Dataset Transformations** task.
2. Add a Manage Fields stage to edit fields in the dataset.

Workday recommends that you add the Manage Fields stage at the:

- Beginning of the primary pipeline of a derived dataset.
- End of a primary pipeline that you intend to publish.

3. As you complete the Manage Fields stage, consider:

Option	Description
Input Name	Clear the check box to hide the field from future stages. You can hide fields to protect sensitive data or to use a calculated field instead of the fields that it's based on. Hide unpopulated or sparse fields or Prism calculated fields that do interim processing.
Output Name	<p>Ensure that the new name:</p> <ul style="list-style-type: none"> • Doesn't start with (or with WPA_. • Is unique within the dataset. • Is unique to any potential future field names that come from the source files. <p>When you change a field name in the dataset and add a new field with the same name, you get unexpected results in the data when the schema updates.</p>
Output Type	<p>The field type determines which functions can use the field as an argument. Create a Prism calculated field to change a field type to a Date or Currency field type or to change a Currency field type to a numeric field type.</p> <p>For numeric types, you can specify the number of digits that go before and after the decimal point.</p> <p>For Instance and Multi-Instance types, you can select the business object name and report</p>

Option	Description
	<p>field associated with the values in the field. To select a report field, enter the Workday ID.</p> <p>Numeric field types include Integer, Long, Double, or Numeric.</p>

Related Information

Concepts

[Concept: Hiding Dataset Fields](#) on page 410

[Concept: Prism Calculated Fields](#) on page 409

[Concept: Table and Dataset Field Types](#) on page 403

Tasks

[Add a Prism Calculated Field to a Dataset](#) on page 450

[Convert Dataset Text Fields to Date Fields](#) on page 456

Change Dataset Field Types

Prerequisites

- Any of these security requirements:
 - Prism Datasets: Manage* domain in the Prism Analytics functional area.
 - Dataset Editor* permission on the dataset.
 - Dataset Owner* permission on the dataset.

Context

You can change the field type of a field in a dataset. You might want to change the field type to:

- Accommodate some calculations you want to do.

Example: You could change an Integer field type to a Long field type to use the EPOCH_MS_TO_DATE function on it.
- Convert a Text field containing Workday ID values (WIDs) to an Instance field.
- Convert a Text field containing date values into a Date field.

Use the Manage Fields stage to change most field types. However, create a Prism calculated field to make these field type changes:

From Field Type	To Field Type	Function
Text	Date	TO_DATE
Currency	Numeric, Double, Integer, or Long	EXTRACT_AMOUNT
Numeric, Double, Integer, or Long	Currency	BUILD_CURRENCY
Text	Currency	TO_CURRENCY
Instance, Multi-Instance	Multi-Instance	CREATE_MULTI_INSTANCE

Steps

- Access the **Edit Dataset Transformations** task.
- Select a dataset pipeline.
- Add a Manage Fields stage.

4. Edit the Manage Fields stage by changing the field type in the Output Type drop-down menu.

Note: Every Instance field type must have a business object name. If you change the field type to Instance, click the settings icon and enter the business object name.

Related Information

Concepts

[Concept: Table and Dataset Field Types](#) on page 403

[Concept: Prism Calculated Fields](#) on page 409

Tasks

[Add a Prism Calculated Field to a Dataset](#) on page 450

Reference

[Reference: Currency Format Requirements for External Data](#) on page 439

Convert Dataset Text Fields to Date Fields

Prerequisites

- Dataset with a Text field containing date data.
- Any of these security requirements:
 - *Prism Datasets: Manage* domain in the Prism Analytics functional area.
 - *Dataset Editor* permission on the dataset.
 - *Dataset Owner* permission on the dataset.

Context

You can create a Prism calculated field to convert a Text field containing date values to a Date field.

Steps

1. Access the **Edit Dataset Transformations** task for a dataset.
2. Select a dataset pipeline and stage into which to add the Prism calculated field.
3. Add a new field.
4. In the expression editor for this new field, enter an expression that uses the TO_DATE function.

When you enter the expression using the TO_DATE function, make sure that you use the Text field you want to convert and the date format that best matches the values in that Text field. To quickly enter a field name, type a left square bracket ([).

Suppose that you have a field called *start_date* that contains data that looks like 25-May-2017. Use this expression:

```
TO_DATE( [start_date] , "dd-MMM-yyyy" )
```

5. In the inspector panel, enter a name. Field names must follow name validation rules.
6. Save the Prism calculated field by clicking **Enter** on your keyboard.

Clicking another field on the page also saves the changes to the Prism calculated field.

Result

Prism creates a new field and populates it by converting the data to the Date field type.

Related Information

Concepts

[Concept: Table and Dataset Field Types](#) on page 403

[Concept: Prism Calculated Fields](#) on page 409

Tasks

[Change Dataset Field Types on page 455](#)

[Add a Prism Calculated Field to a Dataset on page 450](#)

Reference

[Reference: Supported Date Formats for External Data in Tables and Datasets on page 435](#)

[Reference: Naming Guidelines on page 437](#)

Change the Dataset Example Rows

Prerequisites

- Any of these security requirements:
 - *Prism Datasets: Manage* domain in the Prism Analytics functional area.
 - *Prism Datasets: Owner Manage* domain in the Prism Analytics functional area.
 - *Dataset Editor* permission on the dataset.
 - *Dataset Owner* permission on the dataset.
 - *Dataset Viewer* permission on the dataset and the tenant is configured to have the **Enable Prism Dataset Transformations** check box enabled.
- Any of these requirements:
 - *Dataset Viewer* permission on the source base dataset.
 - *Dataset Editor* permission on the source base dataset.
 - *Dataset Owner* permission on the source base dataset.
 - *Table Viewer* permission on the source table.
 - *Table Editor* permission on the source table.
 - *Table Owner* permission on the source table.

Context

Workday displays a subset of dataset rows to give you insight into your source data when you edit a dataset. You can change the example data to select between:

- **No Example.** You can disable all example data temporarily to improve responsiveness if your dataset has a lot of fields. After you make some changes to the dataset, such as adding a new stage or calculated field, you can then enable the example data by selecting the number of rows to display.
- **Default.** Workday displays the first 20,000 rows from the table or base dataset.
- **Custom Example.** For derived datasets, you can define rules to curate what data you see and how each stage impacts it. When you apply rules to the custom example data displayed, Workday reads the data from the sources again and updates the statistics and field information for each field in the inspector panel.

You might want to define custom example rows to get more precise statistics on each field in the inspector panel.

Note: If you have permissions to view the **View Dataset Transformations** report, then you can change example data but won't be able to save the example data configuration.

Note: If you're new to Workday, you don't have access to create or edit base datasets.

Steps

1. Access the **Edit Transformations** task for a derived dataset.
2. Select **Default Example**.
This field changes to reflect the current example option selected.
3. Select **Custom Example**.

4. Select **Add First Rule**.

You can add 1 rule per base dataset or table.

5. Select a source.

Workday displays the tables and base datasets that you have permission to view.

6. (Optional) Add a **Description** to help others understand how the rule impacts the data.

7. **Specify Conditions** by creating a conditional rule for the data.

You can add 1 or more conditions.

8. (Optional) Select **Convert to Advanced**.

Use the Prism expression language to write a boolean expression. For more information and examples, see [Reference: Boolean Expressions](#) on page 467.

You can convert rule conditions created in Basic mode to rule expressions in Advanced mode. If you switch back to Basic mode from Advanced mode, you need to define rule conditions again. Workday doesn't convert Advanced mode rule expressions to Basic mode rule conditions.

9. **Apply** the rule.

You can only save the rule if you have *Dataset Editor* permission for the current derived dataset.

10.(Optional) **Download Example Data**.

You can download the example data displayed to view a snapshot of how your stages impact the data before publishing.

Result

Workday applies the rule to the example data and displays rows that meet the defined conditions.

Next Steps

You can copy the rules in this derived dataset and paste them into a different derived dataset that imports the same tables and base datasets by selecting the related actions menu by the custom example rule.

Related Information

Reference

[Reference: Boolean Expressions](#) on page 467

[2022R2 What's New Post: Custom Examples for Prism Dataset Transformations](#)

View Pipeline Snapshot Comparison

Prerequisites

Any of these security requirements:

- *Prism Datasets: Manage* domain in the Prism Analytics functional area.
- *Prism Datasets: Owner Manage* domain in the Prism Analytics functional area.
- *Prism Datasets: Publish* domain in the Prism Analytics functional area.
- *Dataset Owner* permission on the dataset.
- *Dataset Editor* permission on the dataset.
- *Dataset Viewer* permission on the dataset and the tenant is configured to have the **Enable Prism Dataset Transformations** check box enabled.

Have a derived dataset that has been published multiple times.

Context

You can find changes in datasets and tables easily and securely to help you debug any issues encountered during dataset publishes. You can select 2 publish activities of a dataset to compare changes made to its pipeline between snapshots.

A pipeline is a collection of datasets and tables that are upstream from a dataset and comprise the upstream lineage until it reaches base datasets or tables.

Workday displays the **Pipeline Snapshot Comparison** report and highlights all changes made between pipeline snapshots using a color scheme defined in the legend.

Steps

1. Access the **View Dataset Details** report. From the **Data Catalog** you can:
 - Double-click a dataset.
 - Right-click a dataset, and select **View** from the menu.
 - Select a dataset, and select **View** from the actions menu on the right side of the selected row.
2. On the **Activities** tab, select 2 publish activities.
If you want to select a different publish activity to compare, clear one of your selected activities first. You must clear one of your selected activities to select a different activity.
3. Select **Compare**.
4. Workday opens the **Pipeline Snapshot Comparison** report and displays information you have permission on. Workday displays different information depending on the component:

Component	Description
Dataset and Table List	Workday lists the upstream datasets and tables in the pipeline that impact this dataset. The report displays datasets and tables you have at least Dataset Viewer permission on.
Comparison Window	Workday: <ul style="list-style-type: none"> • Displays a side-by-side comparison of the stages in the selected dataset or table. • Highlights any differences between snapshots. Workday displays different information depending on your permissions. The window displays the stage information if you have either of these permissions on the dataset selected: <ul style="list-style-type: none"> • Dataset Editor. • Dataset Viewer permission, and your tenant is configured to enable the Enable Prism Dataset Transformations check box. The window displays View the output fields if: <ul style="list-style-type: none"> • You have Dataset Viewer permission, and your tenant is not configured to enable the Enable Prism Dataset Transformations check box. • The dataset imports a dataset or table you don't have Dataset Viewer permission on. • You select a table. If you see the details for only 1 snapshot, then the dataset or table selected was either added or removed from the pipeline between snapshots.
Color Legend	The definition of what each highlighted color represents.

5. Click the stage in the comparison window to compare the details between activities. You can view the definition, calculated fields, and output fields of the selected stage.

Concept: Dataset Example Data

When you're editing dataset transformations, you can view how your changes affect an example of the data. This view enables you to see how different stages impact your data.

You can change the data displayed by selecting any of these example options:

Example Option	Description	Security Requirements
No Example	No data displayed. This option has the fastest load time.	<i>Dataset Editor</i> permission or better on the dataset.
Default Example	Workday displays a subset of the data, enabling you to assess how different stages affect a subset of your data.	<i>Dataset Editor</i> permission or better on the dataset.
Custom Example	<p>This option is only available for derived datasets. You can create rules with different filter criteria for different subsets of your data. These rules enable you to curate what data you see and how each stage impacts it.</p> <p>You can add 1 rule per base dataset or table used in the derived dataset. The rules you define are specific to this derived dataset and don't affect other datasets with the same base dataset or table. When adding a filter stage, you can add more complex filter criteria similar to the Filter stage.</p>	<ul style="list-style-type: none"> • <i>Dataset Editor</i> permission or better on the derived dataset. • Any of these security requirements: <ul style="list-style-type: none"> • <i>Dataset Viewer</i> permission or better on the base dataset. • <i>Table Viewer</i> permission or better on the table.

Note: If you have permissions to view the **View Dataset Transformations** report, then you can change example data but won't be able to save.

Workday displays up to 20,000 rows when you select either Default or Custom Example.

Comparing Example Data to Published Data

Workday displays example data on a limited number of records, which typically is less than the number of records published in a dataset. If the dataset uses a Join stage and 1 or more Prism calculated fields after the Join stage, the example data displayed might be different than the published data. The published data is correct because it works on all data from the sources.

Example: Your dataset includes a Join stage using a right outer join and a Prism calculated field with a CASE function that evaluates the value in a field from the secondary (right) pipeline. The example data might not find a match and return NULL for the field value, whereas the published data finds a match and returns a non-null value. As a result, the CASE function returns a different value in the example data than in the published data.

Related Information

Reference

[2022R2 What's New Post: Custom Examples for Prism Dataset Transformations](#)

Reference: Explode Stages

You can convert a multi-instance field into an instance field. Workday takes each instance value in the multi-instance field and creates a new row for each value. All other fields are persisted in every new row created. Workday recommends using this stage in a derived dataset.

Explode Stage Option	Description
Select the field to explode	<p>You can select a multi-instance field in the dataset to explode. The selected field will be dropped from the dataset in subsequent stages</p> <p>Workday will drop any report field associated with the multi-instance field. You can add a report field in a Manage Fields stage.</p>
Name of the newly created field	Workday recommends using a name similar to the original multi-instance field name to facilitate auditing.

Related Information

Concepts

[Concept: Dataset Stages](#) on page 401

Tasks

[Add a Stage to a Dataset](#) on page 453

Reference

[2023R1 What's New Post: Explode Stage for Datasets](#)

Reference: Filter Stages

You can convert filter conditions created in Basic mode to filter expressions in Advanced mode. If you switch back to Basic mode from Advanced mode, you need to define filter conditions again. Workday doesn't convert Advanced mode filter expressions to Basic mode filter conditions.

Edit Mode	Description
Basic	<p>This mode displays prompts to help you define filter criteria, creating filter conditions.</p> <p>This mode is useful if you don't want to learn the details of the Prism Analytics expression language to write a filter expression manually.</p>
Advanced	<p>This mode enables you to define the filter criteria by writing an expression (the filter expression). Filter expressions must evaluate to true or false.</p> <p>This mode is useful if you want to write a filter expression that can't be expressed in Basic mode.</p>

For information on how Workday handles NULL values when using a Filter stage, see [Concept: NULL Values in Tables and Datasets](#).

Basic Mode

Define these options when you configure Filter stages in Basic mode:

Filter Stage Option	Description
If All/If Any	<ul style="list-style-type: none"> If All—All filter conditions must be met for a row to remain in the output of the Filter stage. This option works like using an AND operator between each filter condition. If Any—Any filter condition can be met for the row to remain in the output of the Filter stage. This option works like using an OR operator between each filter condition.
Filter Condition	<p>Click Add Filter to add a new filter condition. Select a field and operator from the prompts, and then enter a value in the empty text field. Workday reads the value in the text field exactly as is. You don't need to add any quotation marks or escape characters for Text field types.</p> <p>If the field you select is a currency field, you can enter an amount and select a currency code or select only a currency code.</p> <p>When the filter condition is configured as desired, click the check mark button to save the filter condition to the Filter stage. You can change the filter condition at any time by clicking its edit button.</p>

Advanced Mode

In Advanced mode, use the Prism expression language to write a boolean expression. Example:

`TO_STRING([zip code]) LIKE("94*")`

For more information and examples, see [Reference: Boolean Expressions](#) on page 467.

You can insert single and multiline comments into any location within a Prism expression. Workday treats all text between these characters as comments: `/* */`

Note: Workday won't consider the data values as comments if you enclose these characters and the comment within double quotation marks.

Related Information

Concepts

[Concept: Dataset Stages](#) on page 401

Tasks

[Add a Stage to a Dataset](#) on page 453

Reference

[Reference: Boolean Expressions](#) on page 467

[Reference: Join Stages](#) on page 463

[Reference: Union Stages](#) on page 465

[Reference: Currency Format Requirements for External Data](#) on page 439

Reference: Group By Stages

As you complete this stage, consider:

Group By Stage Option	Description
Choose Grouping Fields	Select 1 or more fields by which to group values together. If you summarize (aggregate) values in a group that contains different currency codes, Workday returns NULL values.
Add Summarization Fields	Define 1 or more summarization types (aggregate functions) that apply to each grouping field.

You can select from these summarization types:

Summarization Type	Description
Average	Average returns the average of all valid numeric values for the specified grouping field. It sums all values in the specified field and divides by the number of valid (NOT NULL) rows. You can calculate the average on any numeric field.
Count	Count returns the number of rows for the specified grouping field.
Max	Max returns the largest (maximum) value from the specified grouping field. You can calculate the maximum on any numeric or date field.
Min	Min returns the smallest (minimum) value from the specified grouping field. You can calculate the minimum on any numeric or date field.
Sum	Sum returns the total of all values from the specified grouping field. You can calculate the sum on any numeric field.

Related Information

Concepts

[Concept: Dataset Stages](#) on page 401

Tasks

[Add a Stage to a Dataset](#) on page 453

Reference

[Reference: Filter Stages](#) on page 461

[Reference: Union Stages](#) on page 465

[The Next Level: Prism Analytics Best Practices](#)

Reference: Join Stages

You can include 2 datasets (dataset pipelines) in a Join stage. You can add additional Join stages in the pipeline if you need to join multiple datasets.

Join Stage Option	Description
Join Pipeline	Select a dataset pipeline to join with the primary pipeline. If there aren't any pipelines available, select Add Another Pipeline to create a pipeline by importing a dataset.

Join Stage Option	Description
Match Rows	<p>Select 1 or more fields from each dataset pipeline whose values should match each other. Select the fields that uniquely identify rows in each dataset pipeline. Defining the matching rows is similar to defining a primary key/foreign key relationship in relational database terms.</p> <p>You can also select an optional suggestions link that displays Workday recommended join keys. The suggestions are based on the number of matching rows between fields in the example data.</p>
Join Type	<p>Select the join type. The join type specifies which rows from each dataset pipeline to include in the join result.</p> <ul style="list-style-type: none"> • Inner Join. Workday includes rows that have matching values that exist in both pipelines. If a row from 1 pipeline doesn't match a row in the other pipeline, the row is omitted from the join result. • Left Outer Join. Workday includes all rows in the Primary pipeline and searches for a matching row in the other pipeline. If there's no matching row in the other pipeline, Workday populates each field from the other pipeline with NULL values. When the imported pipeline includes multiple matching rows, then Workday includes both rows in the join result. • Right Outer Join. Workday includes all rows in the imported dataset pipeline and searches for a matching row in the Primary pipeline. If there's no matching row in the Primary pipeline, Workday populates each field from the Primary pipeline with NULL values. When the Primary pipeline includes multiple matching rows, then Workday includes both rows in the join result. • Full Outer Join. Workday includes all rows from both pipelines. If a row from 1 pipeline doesn't match a row in the other pipeline, Workday populates each field from the nonmatching pipeline with NULL values. When there are multiple matching rows, Workday includes all rows in the join result. <p>Note that Workday replaces all NULL values with default values when you publish the dataset.</p>
Select Fields	<p>Select which fields from each pipeline to include in the join result. Any field you don't include is dropped from that stage in the pipeline and all later stages.</p>

Related Information**Concepts**

[Concept: Dataset Stages](#) on page 401

Tasks

[Add a Stage to a Dataset](#) on page 453

Reference

[Reference: Filter Stages](#) on page 461

[Reference: Group By Stages](#) on page 462

[The Next Level: Prism Performance and Troubleshooting Tips](#)

[2023R1 What's New Post: Join Stage Suggestions](#)

Reference: Union Stages

You can include 2 datasets (dataset pipelines) in a Union stage, and add additional Union stages in the pipeline if you need to combine multiple datasets. If you're familiar with SQL, the Union stage is the equivalent of a UNION ALL operator.

Define at least 1 set of matched fields (field mapping) in a Union stage before saving it. If you don't specify a field in an input dataset for a field mapping, Workday will use a NULL value in that field from that input dataset.

Union Stage Option	Description
Union Pipeline	Select a dataset pipeline to combine with the primary pipeline. If there aren't any pipelines available, select Add Another Pipeline to create a pipeline by importing a dataset.
Match Fields—Union Output	The name of the field that will be output from the Union stage for each field mapping.
Match Fields—Primary Pipeline	The field from the primary pipeline to match with a field from the union pipeline.
Match Fields— <i>Union pipeline name</i>	The field from the union pipeline to match with a field from the primary pipeline.
Rematch	Click this button if you want to discard all field mappings and return to the default field mappings that Workday detects and configures.
Clear All	Click this button to discard all field mappings. Then define at least 1 field mapping in the Union stage before saving it.
Include All	Click this button to create a field mapping for each field in the input dataset pipeline. Then you can select which fields to match from the other input dataset pipeline.

Preparing Fields from Input Datasets

The datasets you want to combine in a Union stage might not have the same schema. Example: One dataset might have first name and last name information in a single field, and the other has that information in 2 fields. When this is the case, you can create Prism calculated fields for each input dataset so that you can combine them in a Union stage.

You can create Prism calculated fields for input datasets in these locations:

- In the original dataset. Any Prism calculated field you create in a dataset is available to both that dataset and any derived dataset that imports it as an input dataset.
- In the dataset pipeline of the derived dataset. Any Prism calculated field you create in a pipeline stage of a derived dataset is available only to that derived dataset. It doesn't get pushed back to the original input dataset. You might want to create a Prism calculated field in the pipeline of an imported dataset if you need a field to use a different field type, but you don't want to change the field type of the original dataset. Example: You could create a Prism calculated field to change a zip code field from Integer to Text to match it with a Text zip code field in another input dataset.

Related Information

Concepts

[Concept: Dataset Stages](#) on page 401

Tasks

[Add a Stage to a Dataset](#) on page 453

Reference

[Reference: Filter Stages](#) on page 461

[Reference: Group By Stages](#) on page 462

[Reference: Join Stages](#) on page 463

Reference: Unpivot Stages

For Workday to convert fields (columns) to rows in derived datasets, follow these requirements:

Requirement	Description
Number of Input Fields	<p>Select at least 2 input fields to unpivot.</p> <p>Enter the same number of input fields for every group of input fields that you unpivot in a single Unpivot stage.</p> <p>Example: If you select 5 input fields to unpivot, each subsequent group of input fields that you unpivot in the stage must contain 5 input fields.</p> <p>If you unpivot multiple groups of input fields, the total number of input fields you can use for all groups together in a single Unpivot stage is 150.</p>
Input Field Types	<p>Select input fields that are the same field type, such as Text or Numeric. You can unpivot all field types.</p> <p>If you select input fields consisting of Instance or Multi-Instance fields, these input fields must use the same business object.</p> <p>If you select input fields consisting of Numeric fields, these input fields must have the same number of digits specified before and after the decimal point.</p>
Output Field Names	<p>Enter unique names for all pairs of new fields created from unpivoting.</p>

Related Information

Concepts

[Concept: Unpivot Stages](#) on page 402

Reference

[2020R2 What's New Post: Unpivot Stage](#)

Examples

[Example: Unpivot Stock Vesting Data in a Dataset](#) on page 469

Reference: Boolean Expressions

A boolean expression is an expression that evaluates to true or false. You can use the Prism expression language to write boolean expressions in:

- Filter expressions. Use Advanced mode when configuring a dataset Filter stage.
- Custom example rule expressions. Use Advanced mode when configuring a rule for the dataset custom example.
- Prism calculated fields. Example: Use a boolean expression in the CASE function.

The typical format of a boolean expression is:

```
field_name comparison_operator comparison_value
```

The comparison value must be of the same field type as the field in the expression.

You can also use logical operators (such as AND and OR) or arithmetic operators (such as + or /) to define more complex expressions.

When the field name includes a space or a special character, enclose the field name in square brackets: [ticker symbol].

When the comparison value is for a Text field type, enclose the value in double quotes (""). Example:

```
[Zip Code] = "94111-5224"
```

Comments in Expressions

You can insert single and multiline comments into any location within a Prism expression. Workday treats all text between these characters as comments: /* */

Note: Workday won't consider the data values as comments if you enclose these characters and the comment within double quotation marks.

Text Field Examples

```
[movie title] LIKE ("* and the*")
[contingent workers] IN ("Larry", "Curly", "Moe")
schedule NOT IN ("Saturday", "Sunday")
status IS NOT NULL
```

Numeric and Currency Field Examples

```
TO_STRING([zip code]) LIKE("94*")
[sale price] < 50.00
age >= 21
((EXTRACT_AMOUNT([Total Sales]) > 1000) AND (EXTRACT_CODE_TEXT([Total Sales]) == "USD"))
```

Date Field Examples

```
[purchase date] BETWEEN 2019-06-01T00:00:00.000Z AND  
2019-07-31T00:00:00.000Z  
  
[graduation] >= 1990-01-01
```

Instance and Multi-Instance Field Examples

```
INSTANCE_IS_SUPERSET_OF([Cost Center - Manager], [Cost Center])  
  
[Cost Center] IS EMPTY  
  
[Journal Lines] IS NOT NULL  
  
[Cost Center 1] != [Cost Center 2]  
  
NOT INSTANCE_EQUALS([Cost Center 1], [Cost Center 2])  
  
INSTANCE_CONTAINS_ANY([Regions], "070b0d082eee44e1928c808cc739b35f",  
"f4c49debb3dc483baa8707dfe683503c")
```

Boolean Expressions on Date Type Fields

Boolean expressions on Date type fields must be in either of these formats:

```
yyyy-MM-ddTHH:mm:ss:SSSZ  
yyyy-MM-dd
```

Don't enclose comparison values for Date fields in quotation marks or use any other punctuation.

When specifying a range of dates, always write the earlier date first.

If the boolean expression is a shortened version of the full format, then any values not included are assigned a value of zero (0). Example: the expression BETWEEN 2019-06-01 AND 2019-07-31 is equivalent to this expression:

```
BETWEEN 2019-06-01T00:00:00.000Z AND 2019-07-31T00:00:00.000Z
```

The expression above doesn't include any values from July 31, 2019. To include values from July 31, 2019, use BETWEEN 2019-06-01 AND 2019-08-01.

Boolean Expressions on Currency Type Fields

Currency type fields in boolean expressions must be in a format recognized by Workday. If a Currency field contains any value that doesn't meet these requirements, Workday treats the value as NULL.

You can use multiple currency codes. Example:

```
((EXTRACT_CODE_TEXT([Annual Salary]) == "EUR") AND (EXTRACT_AMOUNT([Annual  
Salary]) >= 90000))  
OR  
((EXTRACT_CODE_TEXT([Annual Salary]) == "USD") AND (EXTRACT_AMOUNT([Annual  
Salary]) >= 100000))
```

Related Information

Concepts

[Concept: Prism Expression Language on page 529](#)

Tasks

[Change the Dataset Example Rows](#) on page 457

Reference

[Reference: Filter Stages](#) on page 461

[Comparison Operators](#) on page 543

Example: Unpivot Stock Vesting Data in a Dataset

This example illustrates how to create an Unpivot stage in a dataset to transpose fields (columns) of data into rows of data.

Context

You have a CSV file of stock vesting data for your workers. The workers' stock vests in 3 installments, with a different number of shares on each date. The file contains 1 row of data for each worker, and a separate field for each vesting date and the number of shares that vested on each date.

The CSV file contains these rows and fields:

Name	Vest Date 01	QTY Vest 01	Vest Date 02	QTY Vest 02	Vest Date 03	QTY Vest 03
Dominique	04/01/2020	80	07/01/2020	85	10/01/2020	92
Desmond	02/01/2021	70	05/03/2021	65	08/02/2021	79
Stacey	02/01/2021	90	05/03/2021	80	08/02/2021	90

You need to transpose the data so that you have:

- A field that contains all vesting dates for each worker.
- A field that contains the number of shares that vested on each date for each worker.

Prerequisites

Create a table by uploading a CSV file using the data in this example. See [Steps: Create a Table by File Upload](#) on page 415.

Create a derived dataset from the table. See [Steps: Create a Derived Dataset](#) on page 428.

Security: *Prism Datasets: Manage* domain in the Prism Analytics functional area.

Steps

1. From the **View Dataset Details** report of the derived dataset, click **Edit**.

2. Click **Add Stage**, and select **Unpivot**.

First, we'll unpivot the 3 date input fields, `Vest_Date_01`, `Vest_Date_02`, and `Vest_Date_03`.

3. Click the plus sign next to **Output Values** so you have a total of 3 pairs of prompts.

4. Select these values in the **Input Fields** and **Output Values** prompts:

Input Fields	Output Values
<code>Vest_Date_01</code>	Vesting Date 01
<code>Vest_Date_02</code>	Vesting Date 02
<code>Vest_Date_03</code>	Vesting Date 03

5. In **Field Names from Input**, enter `Vesting Schedule`.

6. In **Values from Output**, enter `Vesting Dates`.

7. Click **Preview** to see the results of the settings you've made so far.

On the **Output Fields** tab, Workday displays the results of the changes you defined in the Unpivot stage. Workday:

- Removes the input fields you selected.
- Displays the 2 new fields using the field names you defined.
- Displays the new rows created using data from the removed input fields. In this example, Workday displays 9 rows total.

8. Click the plus sign in the upper right corner of the Unpivot stage panel. Clicking the plus sign creates another group of input fields that you can unpivot into rows.

Next, we'll unpivot the 3 quantity input fields, QTY_Vest_01, QTY_Vest_02, and QTY_Vest_03.

9. Click the plus sign next to **Output Values** so you have a total of 3 pairs of prompts.

10. In the **Input Fields** and **Output Values** prompts, enter these values:

Input Fields	Output Values
QTY_Vest_01	Quantity Vesting 01
QTY_Vest_02	Quantity Vesting 02
QTY_Vest_03	Quantity Vesting 03

11. In **Field Names from Input**, enter Quantity Schedule.

12. In **Values from Output**, enter Number of Shares.

13. Click **Preview** to see the results of the settings you've made so far.

On the **Output Fields** tab, Workday displays the results of the changes you defined in the Unpivot stage.

14. Click **Done**, and click **Save**.

Result

The output of the Unpivot stage contains these rows and fields:

Name	Vesting Schedule	Vesting Dates	Quantity Schedule	Number of Shares
Dominique	Vesting Date 01	04/01/2020	QTY Vesting 01	80
Dominique	Vesting Date 02	07/01/2020	QTY Vesting 02	85
Dominique	Vesting Date 03	10/01/2020	QTY Vesting 03	92
Desmond	Vesting Date 01	02/01/2021	QTY Vesting 01	70
Desmond	Vesting Date 02	05/03/2021	QTY Vesting 02	65
Desmond	Vesting Date 03	08/02/2021	QTY Vesting 03	79
Stacey	Vesting Date 01	02/01/2021	QTY Vesting 01	90
Stacey	Vesting Date 02	05/03/2021	QTY Vesting 02	80
Stacey	Vesting Date 03	08/02/2021	QTY Vesting 03	90

Next Steps

(Optional) Add a Manage Fields stage after the Unpivot stage to hide the Quantity Schedule field. In this example, the Quantity Schedule field contains data that is redundant with the Vesting Schedule field.

Related Information

Concepts

[Concept: Unpivot Stages](#) on page 402

Reference

[Reference: Unpivot Stages](#) on page 466

[2020R2 What's New Post: Unpivot Stage](#)

Example: Bring in International-Formatted Numeric Fields

This example describes how to use Prism Analytics to bring in external data that includes a numeric field containing International-formatted numbers.

Context

Your company has a delimited file with numeric data formatted using periods to separate thousands and commas to separate decimals. You want to bring this data into Prism Analytics as a Numeric field so that you can perform calculations on the data. However, Workday only recognizes data in an external file as valid numeric data when it:

- Uses a period as the decimal mark.
- Doesn't use any character to separate thousands.

You have a comma delimited (CSV) file with this data:

```
Key,Amount
1,"9.000,1222"
2,"11.111,2333"
3,"9.999.999,34"
4,"7.777.777,45"
5,"8.888,56"
```

In your file, no value has more than 4 digits after the decimal mark.

Prerequisites

Create a table by file upload, using the CSV file to define the source schema. The table should have these fields:

- **Key** of type Numeric
- **Amount** of type Text

Create a derived dataset based on the table, and use DDS Intl as the dataset name.

Security:

- *Prism: Tables Create* domain in the Prism Analytics functional area.
- *Prism: Manage File Containers* domain in the Prism Analytics functional area.
- *Prism Datasets: Create* domain in the Prism Analytics functional area.
- *Prism Datasets: Manage* domain in the Prism Analytics functional area.

Steps

1. Access the **Edit Dataset Transformations** task for the DDS Intl dataset.

2. Create a Prism calculated field that removes the thousands separators by replacing any period with an empty string.

a) Select **Add Field**.

b) Enter this expression in the expression editor, and press Enter or Return on your keyboard:

```
REGEX_REPLACE([Amount], "\.", "")
```

c) In the inspector panel, enter this as the field name: **Amount no thousands**

3. Create a Prism calculated field that replaces the decimal comma with a decimal period.

a) Select **Add Field**.

b) Enter this expression in the expression editor, and press Enter or Return on your keyboard:

```
REGEX_REPLACE([Amount no thousands], ",", ".")
```

c) In the inspector panel, enter this as the field name: **Amount decimal period**

4. Create a Prism calculated field that adds any negative sign that exists at the end of the value to the front of the value.

a) Select **Add Field**.

b) Enter this expression in the expression editor, and press Enter or Return on your keyboard:

```
CASE WHEN SUBSTRING([Amount decimal period], LENGTH([Amount decimal period])-1, LENGTH([Amount decimal period])) = "-"
THEN CONCAT("-", REGEX_REPLACE([Amount decimal period], ",", ""))
ELSE [Amount decimal period]
END
```

c) In the inspector panel, enter this as the field name: **Amount minus sign**

5. Create a Prism calculated field that removes any minus sign at the end of the value.

a) Select **Add Field**.

b) Enter this expression in the expression editor, and press Enter or Return on your keyboard:

```
CASE WHEN SUBSTRING([Amount minus sign], LENGTH([Amount minus sign])-1,
LENGTH([Amount minus sign])) = "-"
THEN SUBSTRING([Amount minus sign], 0, LENGTH([Amount minus sign])-1)
ELSE [Amount minus sign]
END
```

c) In the inspector panel, enter this as the field name: **Amount final**

6. Create a Prism calculated field that converts the [Amount final] Text field to a Numeric field.

a) Select **Add Field**.

b) Enter this expression in the expression editor, and press Enter or Return on your keyboard:

```
CAST([Amount final] AS Decimal(20, 4))
```

c) In the inspector panel, enter this as the field name: **Amount Numeric**

7. Select **Add Stage** and then select **Manage Fields**.

8. Hide these fields by clicking the eye icon:

- Amount
- Amount no thousands
- Amount decimal period
- Amount minus sign
- Amount final

9. Select **Done**.

10. Save your dataset.

Result

The dataset contains these fields:

- Key as type Numeric
- Amount Numeric as type Numeric, with 20 digits before the decimal and 4 digits after.

Changing Data in Tables

Create a Data Change Task

Prerequisites

Security:

- *Prism: Manage File Containers* domain in the Prism Analytics functional area when uploading a file.
- *Prism: Manage Connection* domain in the Prism Analytics functional area to use a source connection.
- Any of these security requirements:
 - *Prism: Tables Owner Manage* domain in the Prism Analytics functional area.
 - *Prism: Tables Manage* domain in the Prism Analytics functional area.
 - *Table Owner* permission on the table.
 - *Table Editor* permission on the table.
 - *Can Delete Table Data* permission on the table.
 - *Can Insert Table Data* permission on the table.
 - *Can Truncate Table Data* permission on the table.
 - *Can Update Table Data* permission on the table.

Context

You can change the rows of data in a table by creating and running a data change task. You can:

- Insert new rows.
- Update specific rows based on a key field.
- Delete specific rows based on a key field.
- Insert new and update existing rows in the same activity, known as an upsert operation.

How you change the rows in the table depends on the operation you select, such as upsert or delete, and the source data. The source you specify must contain the rows you want to change in the table, such as new rows to insert, or existing rows to update or delete.

To create, edit, or view a data change task on a target table, you must have permission on the target table. Example: To create a data change task using the upsert operation, you must have both insert and update permission on the target table.

Steps

1. Access the **Data Catalog** report.
2. Select **Create > Data Change Task**.

You can change the data change task name at the top of the left side panel.

3. On the **Source** step, select the source that contains the data you want to change in the target table.

Workday uses the file upload source type by default. Click **Change Connection** to select a different source type. As you select a source type, consider:

Option	Description
File Upload	Select 1 or more delimited files.

Option	Description
	<p>When you upload multiple files, each file must use the same schema. Workday supports RFC 4180-compliant delimited files. For more information, see RFC 4180.</p> <p>When you select file upload as the source type, configure the Source Options to define how to parse the file.</p>
Workday Report	<p>Select an existing Workday custom report.</p> <p>Workday displays reports that meet the eligibility requirements for importing into tables. See Concept: Creating Reports to Import into Tables and Datasets on page 388.</p> <p>In the Prompts section, select how to specify the values for prompts defined in the report:</p> <ul style="list-style-type: none"> • Specify Value. Select 1 or more values from the list. • Determine Value at Runtime. Select an option from the list that Workday uses to determine the prompt value based on some context, such as the current date or current user. <p>You can select Reset from Report to update all prompts and prompt settings with those defined in the report definition. You can use this button when there's a change in the custom report prompt settings that needs to be reflected in the data change task. If you previously changed a prompt value in the data change task, you need to change it again.</p> <p>Note: Workday displays most dependent prompts. Workday does not display prompts dependent on other prompts using Time field data.</p>
Data Catalog	<p>Select an existing dataset or table.</p>
SFTP	<p>Select an SFTP connection that connects to an SFTP server containing 1 or more delimited files.</p> <p>When the SFTP connection contains multiple files, each file must use the same schema. Workday supports RFC 4180-compliant delimited files. For more information, see RFC 4180.</p> <p>For SFTP sources, you must also upload 1 local delimited file that uses the same schema as the files on the SFTP server. Workday uses the uploaded file to determine how to parse the SFTP files. Workday doesn't load the data from the uploaded file to the table.</p> <p>When you select SFTP as the source type, configure the Source Options to define how to parse the uploaded file.</p>
Amazon S3	<p>Select an Amazon S3 connection.</p> <p>When you use an Amazon S3 connection, you define:</p> <ul style="list-style-type: none"> • The objects to read when the data change task runs. • The source schema so Workday knows how to read each object. <p>See Select an Amazon S3 Connection in a Data Change Task on page 478 for details.</p>

Option	Description
	<p>When you run a data change task with an Amazon S3 connection, Workday:</p> <ul style="list-style-type: none"> • Connects to Amazon using the access key credentials configured in the connection. • Retrieves the objects defined in the data change task Object Pattern field. • Uses the parsing options defined in the data change task Source Options step to read the objects retrieved from the S3 bucket. <p>See Create an Amazon S3 Connection on page 483.</p>
Salesforce	<p>Select a Salesforce connection.</p> <p>Define the data to retrieve when the data change task runs. You can select a Salesforce object using the Select button or enter a SQL SELECT statement in the Query Expression. When you select an object, Workday populates the Query Expression with the appropriate SQL statement. You can edit the expression to refine the query further.</p> <p>When you run a data change task with a Salesforce connection, Workday:</p> <ul style="list-style-type: none"> • Connects to Salesforce through BasicAuth or OAuth depending on how the connection is configured. • Retrieves objects defined by the SQL query in the Source Object section. <p>See Create a Salesforce Connection on page 484.</p>
Snowflake	<p>Select a Snowflake connection.</p> <p>Define the data to retrieve when the data change task runs. You can select a Snowflake table using the Select button or enter a SQL SELECT statement in the Query Expression.</p> <p>When you select a table, Workday populates the Query Expression with the appropriate SQL statement and places backtick characters (`) around each Snowflake table, catalog, and schema. You can edit the expression to refine the query further. The backtick characters are optional, but Workdays adds them automatically just in case a Snowflake table, schema, or catalog uses a SQL key word.</p> <p>When you run a data change task with a Snowflake connection, Workday:</p> <ul style="list-style-type: none"> • Connects to Snowflake using Basic or Key Pair authentication, depending on how the connection is configured. • Retrieves the data defined by the SQL Query Expression or Source Object. <p>See Create a Snowflake Connection on page 488.</p>

4. On the **Source Options** step, define how to parse the data in the files you uploaded for file upload or SFTP sources.
 - a) [Parse External Data in a Table](#) on page 442.
 - b) Review the fields Workday created based on the parsed file, and modify the fields if necessary.

Select a field in the list and view the field details in the inspector panel on the right side. You might need to:

 - Change the **Field Type** when Workday assigns the wrong field type. Workday assigns the field type based on the first few rows only. Example: Workday assigns the Numeric field type to a field with ZIP code data because the example rows that it evaluates only contain numerals. However, based on your knowledge of the source data, you know that some ZIP code values contain letters or a hyphen, so you change the field type to Text.
 - Change other field attributes based on the field type to ensure that Workday correctly parses the data, such as Digits Before, Digits After, or Date Format.

See Reference: [Table Field Attributes](#) on page 446.

5. On the **Target** step, select the target table that contains the data you want to change.
(Optional) You can also create a table using the schema defined in the **Source** step, by clicking the **Create Table from Source Schema** button (Security: *Prism Datasets: Create* domain).

Workday defines the table schema using the source schema. You can also:

- Select a field as an External ID.
- Select any required fields.

For more information on creating tables, see [Steps: Create a Table Manually](#) on page 420.

6. Select the target operation to perform on the target table using the source data.

Option	Description
Insert	Workday keeps the existing data in the table and adds the new data in the source. This operation is also known as Append.
Truncate and Insert	Workday deletes the existing data in the table and replaces it with the data in the source. This operation is also known as Replace.
Delete	Workday deletes a row from the table when it matches a row in the source.
Update	Workday updates a row in the table when it matches a row in the source. To select this operation, you must use a table where you configured 1 field as the external ID.
Upsert	Workday updates a row in the table when a matching row already exists and inserts the row when it doesn't exist. To select this operation, you must use a table where you configured 1 field as the external ID.

7. On the **Mapping** step, select a field in the target table to use as the operation key for delete, update, or upsert operations.

You can specify 1 of these target table fields:

- The field configured as the external ID in the table: You can use this field for delete, update, or upsert operations.
- WPA_LoadID: You can use this field for delete or update operations only.
- WPA_RowID: You can use this field for delete or update operations only.

8. Select a source field for each target field that you want to modify. Workday requires that you map any field used as the operation key.

Workday lists the source fields that are compatible for a specific target field. If Workday doesn't list a source field you want, verify the source field attributes, such as the digits before, digits after, or business object. You can navigate to the **Source Options** step to change the field attributes for file upload and SFTP sources.

You can click **Reset Matches** to revert all mappings you changed to the simple match algorithm that Workday uses by default. The simple match algorithm:

- Is case insensitive.
- Ignores spaces.
- Ignores underscore characters.
- Matches on the field API name.
- Won't match fields with different field types.

9. On the **Review** step, verify the information. You can go back to any previous step and make any correction if necessary.

10. Click **Finish** and select **Run Without Saving**, **Save and Run Now**, or **Save**.

Result

When you save the data change task, Workday creates the data change task object and displays it on the **Data Change Tasks** tab of the **Data Catalog** report.

When you run the data change task, Workday starts a data change activity to change the data in the table based on the data in the source. You can view the data change activity progress and history on:

- The **Activities** tab of the **View Table Details** report. To fix errors on a table following a data change, download the error file from the data change activity. Workday only creates an error file for data change activities that use a file upload as the source.
- The **Data Change Activities** tab of the **Data Catalog** report.
- The **Prism Management Console** report. You can view an active dashboard of all Prism-related activities for the last 180 days. For more information, see [Concept: Prism Management Console](#) on page 398.
- The **Prism Activities Monitor** report. You can view a detailed list of all types of Prism-related activities for a given date range.

Next Steps

To fix errors on a table following a data change, download the error file from the data change activity on the **Activities** tab of the **View Table Details** report. Workday only creates an error file for data change activities that use file upload or SFTP sources.

Related Information

Concepts

[Concept: Data Change Tasks](#) on page 480

[Concept: Mapping Fields in Data Change Tasks](#) on page 482

[Concept: Creating Reports to Import into Tables and Datasets](#) on page 388

Tasks

[Create an SFTP Connection](#) on page 486

Reference

[Reference: Table Field Attributes](#) on page 446

[Reference: External Data Limits](#) on page 390

[2022R1 What's New Post: Report Sources for Data Change Tasks](#)

[2022R1 What's New Post: SFTP Sources for Data Change Tasks](#)

[2021R2 What's New Post: Prism Analytics Data Management](#)

Select an Amazon S3 Connection in a Data Change Task

Context

When you use an Amazon S3 connection in a data change task, you define:

- The objects to read when the data change task runs.
- The source schema so Workday knows how to read each object.

You define this information using these options on the **Source** step of the data change task:

- **Object Pattern.** Specify an object pattern that defines the objects to read for each data change activity. Workday uses this object pattern each time the data change task runs.
- **Source Schema.** Select 1 object in the bucket that has the same schema as the objects that will be read in each data change activity. Workday uses this object on the **Source Options** step of the data change task when you configure how to parse each object. Workday doesn't load the data from this object to the table.

When you run a data change task with an Amazon S3 connection, Workday:

1. Connects to Amazon using the access key credentials configured in the connection.
2. Retrieves the objects defined in the data change task **Object Pattern** field.
3. Uses the parsing options defined in the data change task **Source Options** step to read the objects retrieved from the S3 bucket.

Steps

1. Navigate to the **Data Catalog**.
2. Select **Create > Data Change Task**.
3. On the **Source** step, select the Amazon S3 connection you want to use.
4. Select **Amazon S3**, and select the Amazon S3 connection you want to use.
5. In the **Object Pattern** field, enter the Amazon S3 object pattern that matches every object you want Workday to read when the data change task runs.
 - a) The object pattern is case-sensitive.
 - b) You can use the asterisk (*) to specify zero or more characters.
 - c) You can specify objects in folders in S3 by including the folder path prefix in the object pattern.
Example: `folder1/folder2/logs*.csv.gz`
 - d) Each object that matches the pattern must use the same schema.
6. Select **Source Schema**.
7. Enter an object pattern to view a list of objects that you can select from.
When searching for an object to select as the source schema, Workday only lists matching objects that are 256 MB (uncompressed) or less that use a format supported by Workday.
8. Select an object and click **Select**. Workday reads the schema of the object.
9. Click **Next**.
10. On the **Source Options** step, define how to parse the data in the object you selected. Review the fields Workday created based on the parse file, and modify the fields if necessary.

Next Steps

Finish configuring the data change task as usual.

Related Information

Concepts

[Concept: Data Change Task Connections](#) on page 482

Tasks

[Create an Amazon S3 Connection](#) on page 483

Reference

[2023R2 What's New Post: Amazon S3 Connections for Data Change Tasks](#)

Create a Data Change Task Schedule

Prerequisites

Security:

- *Prism Datasets: Owner Manage* domain in the Prism Analytics functional area.
- *Prism Datasets: Manage* domain in the Prism Analytics functional area.
- *Table Editor* permission on the table.
- *Table Owner* permission on the table.
- *Can Delete Table Data* permission on the table.
- *Can Insert Table Data* permission on the table.
- *Can Truncate Table Data* permission on the table.
- *Can Update Table Data* permission on the table.

Context

You can create a schedule for running a data change task. You can:

- Create a schedule for data change tasks that use any source type other than file upload.
- Create 1 active schedule per data change task.
- Define schedules to run on a recurring basis (Example: daily, weekly, or monthly).
- Define schedules to run only if another Prism scheduled process completes at a status you specify.

Steps

1. Access the **View Data Change Task** report. From the **Data Catalog** you can:

- Double-click a data change task.
- Right-click a data change task, and select **View** from the menu.
- Select a data change task, and select **View** from the actions menu on the right side of the selected row.

2. Select **Data Change Task > Create Schedule** from the related actions menu of the data change task.

Workday only displays the **Create Schedule** option for data change tasks that support schedules.

3. In **Run Frequency**, specify how often to run the data change task.

The choices include creating a dependent schedule.

4. Select the criteria for the schedule.

5. (Recurring schedules) As you configure the schedule, consider:

Option	Description
Priority	Unavailable for data change task schedules.
Catch Up Behavior	Select how many times the scheduled data change runs after maintenance issues cause errors.

6. (Dependent schedules) As you configure the schedule, consider:

Option	Description
Dependency	Select a Prism-related schedule on which the data change task schedule depends.

Option	Description
	Note: You can't expire dependent data change task schedules. If you need to prevent a dependent schedule from running, you must suspend it and then delete it.
Trigger on Status	Select the status of the scheduled future process that causes the data change task to run. Workday recommends using one of the completed statuses.
Time Delayed Configurations	(Optional) Specify the number of days, hours, or minutes to delay running the data change task after the trigger.

Result

Workday runs the data change task based on the criteria that you specify, creating a data change activity. View the status of all data change activities on the:

- **Data Change Activities** tab of the **Data Catalog** report.
- **Prism Management Console** report.
- **Prism Activities Monitor** report.

Workday assigns a name to the schedule based on the name of the data change task and prepends *Execute Data Change Schedule:* to the name. You can change the name of the schedule in the **Request Name** field when you edit the schedule. Workday displays this name in the **Prism Activities Monitor**, **Process Monitor**, and **Scheduled Future Processes** reports to help you identify a specific process request.

Next Steps

From the related actions menu of the data change task, you can:

- View the schedule details.
- Edit the schedule.
- Expire the schedule (recurring schedules only).

Related Information

Reference

[Reference: External Data Limits](#) on page 390

[2021R2 What's New Post: Data Change Tasks](#)

Concept: Data Change Tasks

A data change task is a Prism Analytics object that defines how to change the data in a Prism Analytics table using data from a specified source. You can save data change tasks and run them at any time.

Create a data change task to output the transformed data from a derived dataset into a table. Example: You have a base dataset with data from a custom report, and you have a derived dataset that transforms the data in the base dataset. You can create a data change task that uses data from the derived dataset and loads it into a table.

You specify a data operation type, such as insert or delete, that instructs how to use the data in the source to change the table rows. You can create 1 or more data change tasks per table.

You create, edit, and manage data change tasks from the Data Catalog. Access the **Data Change Tasks** tab on the **Data Catalog** report to view all data change tasks you have permission on.

To create, view, or edit a data change task for a specific table, you must have permission to modify data in that table. Example: To create a data change task on the Claims table using the upsert operation, you must have permission to insert and update data in the Claims table.

You can:

- Run a data change task on a schedule, or manually on an ad hoc basis.
- Edit the data change task, such as change the operation type or field mapping, before you run it.
- Delete the data change task.
- View the data change activities to see the number of rows affected by the data change task and to download any failed rows.
- You can run data change tasks that use the insert operation into the same table concurrently when the source is any type except a dataset or table. Example: You can create multiple data change tasks that read data from a SFTP connection and insert data into the same table and create schedules for them that overlap.

You can use data change tasks to define these components:

Component	Description
Source	<p>The object that contains the data that you want to load into the target table. Example: A custom report, a delimited file that you upload, a connection, or a Data Catalog object, such as a dataset.</p> <p>Depending on the source type, you might need to define additional source options, such as parsing options.</p>
Target table	<p>The table with the data you want to change using the source data.</p> <p>You can either:</p> <ul style="list-style-type: none"> • Create a table when you create a data change task. Use the Create Table from Source Schema button on the Target step of the data change task. The target table schema exactly matches the source schema of the data change task. • Create a table before you create a data change task. Use the Create button on the Data Catalog.
Target operation	<p>The data operation to perform on the target table using the source data. Workday lists the operations supported for the selected source type.</p> <p>You can specify:</p> <ul style="list-style-type: none"> • Insert • Delete • Truncate and Insert • Update • Upsert
Mapping	<p>The specifications for matching source fields to the target table fields.</p> <p>You can match a source field to 1 or more target table fields.</p>

Data Change Activities

When you run a data change task, Workday generates a data change activity. Each data change activity modifies the data in the table, based on the operation specified in the data change task and the data in the source.

You can view previously run data change activities on:

- The **Data Change Activities** tab on the **Data Catalog** report. The Data Change Activities tab displays all activities for all data change tasks and tables.

- The **Activities** tab on the **View Table Details** report. The Activities tab displays all activities for that table, both from data change activities and other data load activities. Example: You might have a different data load activity if you created the table from a file upload.
- The **Prism Management Console** report. The report displays all activity for the last 180 days. For more information, see [Concept: Prism Management Console](#) on page 398.

Related Information

Reference

[2021R2 What's New Post: Prism Analytics Data Management](#)

Concept: Mapping Fields in Data Change Tasks

When you create or edit a data change task, you define how to map fields from the source to target table fields. When you define the field mappings:

- You can map some or all target fields.
- Workday marks the target field specified as the delete key, update key, or upsert key as required. When the target operation is delete, the only field you need to map is the delete key field.
- Workday displays source fields that are compatible with the target field.

Numeric fields are compatible when the digits before and after the decimal in the source field are less than or equal to the digits in the target field. Example: You can map an Integer or Numeric (8,0) source field to a Numeric(10,0) or Numeric(12,2) target field, but you can't map a Numeric(20,6) to a Numeric(20,5).

Instance and Multi-Instance fields are compatible when the business object for both fields are the same.

Related Information

Reference

[2021R2 What's New Post: Prism Analytics Data Management](#)

Managing Connections

Concept: Data Change Task Connections

You can create connections from Workday to external servers and data warehouses to bring data into Prism Analytics. After creating a connection, you can use it as a source in 1 or more data change tasks.

When you run a data change task with a connection, Workday:

- Connects to the external server using the access credentials configured in the connection.
- Retrieves the data defined in the data change task.

All connections define how to connect to the external server, and most don't specify what data to retrieve. Instead, when you use the connection in a data change task, you define the data to bring into Prism, such as the object, table, or data defined in a SQL SELECT statement. The exceptions are SFTP connections that also specify the data to retrieve in addition to the external server information.

Connection	Description
Amazon S3 (Simple Storage Solution)	<p>Amazon S3 connections:</p> <ul style="list-style-type: none"> • Define a specific bucket in an Amazon region. • Define the AWS access keys to authenticate against Amazon to access the S3 bucket. <p>Note: You must add a tag to the AWS Identity and Access Management (IAM) user with a key of <code>workday-type</code> and a value of <code>integration with no whitespaces</code>. This tag is case-sensitive.</p>

Connection	Description
Salesforce	<p>You can connect to Salesforce using:</p> <ul style="list-style-type: none"> • BasicAuth • OAuth 2.0 with JWT <p>To use OAuth to connect to Salesforce, you must:</p> <ul style="list-style-type: none"> • Connect to a Salesforce Connected App or External Client App. • Download or copy the certificate to the Salesforce app to enable authentication. <p>Because you download the certificate to connect to the Salesforce app, you can only have 1 connection per Salesforce app across all tenants.</p> <p>An OAuth connection allows you to determine what objects the connection has access to from the Salesforce app.</p>
SFTP	<p>SFTP connections:</p> <ul style="list-style-type: none"> • Define how to connect to and authenticate against the server. • Define the files to get from the server. <p>You can connect to an SFTP server using these authentication methods:</p> <ul style="list-style-type: none"> • User name and password • SSH authentication
Snowflake	<p>You can connect to Snowflake using:</p> <ul style="list-style-type: none"> • Basic authentication • Key Pair authentication <p>When you use Key Pair authentication, Workday generates and stores a private key on the Workday tenant and generates a public key for you to copy (2048-bit RSA key pair). You must copy the public key and assign it to the user in Snowflake to enable authentication.</p> <p>Because you assign the tenant-generated public key to the Snowflake user in order to connect to Snowflake, you can only have 1 connection per Snowflake user across all tenants using Key Pair authentication.</p>

Related Information

Reference

[2023R2 What's New Post: Amazon S3 Connections for Data Change Tasks](#)

Create an Amazon S3 Connection

Prerequisites

Security: *Prism: Manage Connection* domain in the Prism Analytics functional area.

Context

You must create an Amazon S3 connection before using it as a source in a data change task.

After you create a connection, Workday displays it on the **Connections** tab of the **Data Catalog** report. You can right-click the connection to view or edit it.

Steps

1. Navigate to the **Data Catalog**.
2. Select **Create > Connection**.
3. Select **Amazon S3**.
4. As you complete the task, consider:

Option	Description
Name	The connection name must be unique in the Data Catalog. Workday displays this name in the Data Catalog and when you select a connection in a data change task.
Description	(Optional) Workday recommends using the description to define the use of the connection and help differentiate between different connections.
Bucket Name	The name of the S3 bucket that contains the files you want to use as a source in a data change task.
Region	Select the region where the bucket is located.
AWS Access Key ID / AWS Secret Access Key	The Amazon access key required to access the bucket. Workday saves this information to use whenever you use this connection.

5. (Optional) Use the **Test Connection** button to verify that Workday can connect to Amazon S3 using the connection information you configured.

Result

Workday creates the Amazon S3 connection and displays it on the **Connections** tab in the **Data Catalog**.

Related Information

Tasks

[Create a Data Change Task](#) on page 473

[Select an Amazon S3 Connection in a Data Change Task](#) on page 478

Reference

[2023R2 What's New Post: Amazon S3 Connections for Data Change Tasks](#)

Create a Salesforce Connection

Prerequisites

Security: *Prism: Manage Connection* domain in the Prism Analytics functional area.

Context

You can create a Salesforce connection and use it as a source in a data change task.

After you create a connection, Workday displays it on the **Connections** tab of the **Data Catalog** report. You can right-click the connection to view or edit it.

If you use OAuth to connect to Salesforce, you can determine what objects the connection has access to from the Salesforce Connected App or External Client App.

Steps

1. Navigate to the **Data Catalog**.
2. Select **Create > Connection**.
3. Select **Salesforce**.
4. As you complete the task consider:

Option	Description
Name	The connection name must be unique in the Data Catalog. Workday displays this name in the Data Catalog and when you select a connection in a data change task.
Description	(Optional) Workday recommends using the description to define the use of the connection and help differentiate between different connections.
Use Sandbox	When selected, Workday connects to your Salesforce sandbox environment instead of the production environment.
Authentication Type	<p>Select how to connect to Salesforce:</p> <ul style="list-style-type: none"> • BasicAuth • OAuth 2.0 with JWT <p>To use OAuth to connect to Salesforce, you must have either a Salesforce Connected App or External Client App. Workday recommends that you assign the Full Access OAuth scope to the Connected App or External Client App. If you don't want to assign Full Access, then you must assign these OAuth scopes:</p> <ul style="list-style-type: none"> • api • refresh_token • id • web

5. If you use BasicAuth, use your Salesforce account information in these fields:
 - User Name
 - Password
 - Security Token
6. If you use OAuth authentication, use your Salesforce account information in these fields:
 - Client ID
 - User Name
 - Client Secret

Note: The user must be authorized or pre-authorized in the Salesforce app.

7. (Required for OAuth authentication) Download or copy the authentication certificate created by Workday, and upload it to your Salesforce Connected App or External Client App.

- (Optional) Use the **Test Connection** button to verify that Workday can connect to Salesforce using the connection information you configured.

Result

Workday creates the Salesforce connection and displays it on the **Connections** tab in the **Data Catalog**.

Related Information

Tasks

[Create a Data Change Task](#) on page 473

Reference

[2024R1 Release Note: Salesforce Connections for Data Change Tasks](#)

Create an SFTP Connection

Prerequisites

Security: *Prism: Manage Connection* domain in the Prism Analytics functional area.

Context

You can create a connection to an SFTP server so that you can use it as a source in a data change task to load external data into a table. SFTP connections:

- Can be used in 1 or more data change tasks as the source.
- Define how to connect to and authenticate against the server.
- Define the files to get from the server.

When you run a data change task that uses the SFTP connection as the source, Workday connects to the SFTP server using the configured authentication credentials and fetches the specified files. For the data change activity to succeed:

- The number of files must be less than 5,000.
- The time to transfer the data must be less than 5 hours.

Each file from the server should be less than 1 GB compressed (less than 10 GB uncompressed approximately).

Use the **Test Prism SFTP Connection** task to verify that Workday can connect to the SFTP server and retrieve files.

Steps

- Access the **Create Prism SFTP Connection** task.

You can also select **Create > Connection** from the Data Catalog.

- As you complete this task, consider:

Option	Description
Name	Workday displays the name in the Data Catalog. You can change the name at any time.
Description	Enter a description that describes the SFTP server and configured file pattern.
File Name/Pattern	Enter the filename or a filename pattern that represents 1 or more files. The filename is case-sensitive. You can use the asterisk (*) and question mark (?) characters as wild cards to specify a filename

Option	Description
	pattern. Use the asterisk (*) to specify zero or more characters, and use the question mark (?) to specify exactly 1 character.
SFTP Address	<p>Use this format: <code>sftp://domain_name</code> or <code>sftp://IP_address</code></p> <p>To specify a port number, add it to the end of the domain name or IP address. If you don't specify a port number, Workday uses port 22.</p>
Directory	The directory on the server that contains the files. Directory names are case-sensitive. Include a leading slash (/) only for a full path, not a relative path.
Use Temp File	<p>Writes the imported data to a temporary file in Workday with a randomly generated name. After the data import is complete, Workday automatically renames the file to the correct name.</p> <p>You might want to enable this option if the data import takes a very long time and might not finish before the next scheduled time to import data from the same server.</p>
Host Key Fingerprint	The encryption key that the SFTP server will use for SSH communications.
Authentication Method and Details	<p>Select the type of security authentication that the SFTP server uses:</p> <ul style="list-style-type: none"> • User Name / Password. • SSH Authentication. This option uses secure shell key authentication using X.509 certificates.
Delete After Retrieval	Deletes the files on the SFTP server after the data is loaded into the target table. If Workday is unable to delete the files from the SFTP server, the data retrieval fails.
Decompress	<p>Don't enable this option for data change tasks and tables.</p> <p>You can transfer files that are compressed or not. For compressed files, Workday only supports gzip compression.</p>
Decrypt Using	If you want to decrypt the imported files using Pretty Good Privacy (PGP), select a PGP Private Key Pair.
Restricted To	<p>Select the environment in which you want to use the settings defined in the Transport section.</p> <p>If you leave this option empty, Workday applies the transport settings to each environment in which the data change activity runs. When a data change activity runs in a particular environment, such as Implementation or Production, the transport settings only work if the Restricted To option matches the current environment. When the current environment and the configured environment don't match, the data change activity fails and retrieves no files from the SFTP server. You might want to restrict the transport settings to a particular environment to avoid inadvertently transferring test data to a non-test endpoint.</p> <p>Example: You create the SFTP connection and a data change task in an Implementation environment and select Implementation in</p>

Option	Description
	Restricted To. Later, you migrate this SFTP connection and data change task to a Production environment. The next time the data change activity runs, it fails. To ensure that the data change activity runs successfully in the Production environment, edit the SFTP connection and either clear the Restricted To option or change it to Production.

Result

Workday creates the SFTP connection and displays it on the **Connections** tab in the Data Catalog.

Next Steps

Create a data change task using the SFTP connection as the source to load data into the table.

Related Information

Tasks

[Create a Data Change Task](#) on page 473

Reference

[Reference: Naming Guidelines](#) on page 437

[2022R1 What's New Post: SFTP Sources for Data Change Tasks](#)

Create a Snowflake Connection

Prerequisites

Security: *Prism: Manage Connection* domain in the Prism Analytics functional area.

Context

You can create a Snowflake connection and use it as a source in a data change task.

After you create a connection, Workday displays it on the **Connections** tab of the **Data Catalog** report. You can right-click the connection to view or edit it.

Steps

1. Navigate to the **Data Catalog**.
2. Select **Create > Connection**.
3. Select **Snowflake**.
4. As you complete the task consider:

Option	Description
Name	The connection name must be unique in the Data Catalog. Workday displays this name in the Data Catalog and when you select a connection in a data change task.
Description	(Optional) Workday recommends using the description to define the use of the connection and help differentiate between different connections.
URL	The URL of the Snowflake account.
Warehouse	The Snowflake warehouse to access.

Option	Description
Snowflake Role	(Optional) The role of the Snowflake user. When no role is specified, Workday uses the user's default role.
Authentication Type	<p>Select how to connect to Snowflake:</p> <ul style="list-style-type: none"> Basic Auth. Workday connects to Snowflake using the user credentials of the specified Snowflake account. Key Pair. Workday uses a private key and public key pair that you can use to securely authenticate to Snowflake. <p>When you use Key Pair authentication, Workday generates and stores a private key on the Workday tenant and generates a public key for you to copy (2048-bit RSA key pair). You must copy the public key and assign it to the user in Snowflake to enable authentication.</p>
User Name	Enter the Snowflake user to connect as.
Password	(Required for Basic authentication.) The password associated with the configured Snowflake user name.

5. (Required for Key Pair authentication) Copy the public key and assign it to the user in Snowflake to enable authentication.

Note: Because you assign the tenant-generated public key to the Snowflake user in order to connect to Snowflake, you can only have 1 connection per Snowflake user across all tenants using Key Pair authentication.

6. (Optional) Use the **Test Connection** button to verify that Workday can connect to Snowflake using the connection information you configured.

Result

Workday creates the Snowflake connection and displays it on the **Connections** tab in the **Data Catalog**.

Related Information

Tasks

[Create a Data Change Task](#) on page 473

Reference

[2024R2 Release Note: Snowflake Connections for Data Change Tasks](#)

Securing Data in Tables and Datasets

Set Up Table Sharing

Prerequisites

Security: *Set Up: Assignable Roles* domain in the Organization and Roles functional area.

Context

To enable sharing a table with another user or security group, you create tenant-specific roles that correspond to the table-related Workday provided roles. Sharing tables is a way to control access to individual tables.

Steps

1. Access the **Maintain Assignable Roles** task.
2. Set up roles for the table-related Workday-provided roles.

When you set up these tenant-specific roles, consider:

- The name you enter in **Role Name** becomes the prompt value in the **Permission** column on the **Edit Table Sharing** task.
- The security groups you select in **Role Assignees Restricted to** determine which users and groups you can share a table with. Select user-based security groups for the Prism roles.
- The security groups you select in **Assigned/Reviewed by Security Groups** determine which users can share a table.

Add the roles in the table below, but substitute security groups that your organization needs instead of Prism Data Writer and Prism Data Administrator:

Role Name	Workday Role	Enabled for	Self-Assign	Role Assignees Restricted to	Assigned/Reviewed by Security Groups
Table Owner - Prism	01. Table Owner - Prism	Prism Tables	Yes	Prism Data Writer Prism Table Owner (Workday Owned) Security Administrator	Prism Data Administrator Prism Table Owner (Workday Owned) Security Administrator
Table Editor - Prism	02. Table Editor - Prism	Prism Tables		Prism Data Writer Prism Table Owner (Workday Owned) Security Administrator	Prism Data Administrator Prism Table Owner (Workday Owned) Security Administrator
Table Schema Editor - Prism	03. Table Schema Editor - Prism	Prism Tables		Prism Data Writer Prism Table Owner (Workday Owned) Security Administrator	Prism Data Administrator Prism Table Owner (Workday Owned) Security Administrator

Role Name	Workday Role	Enabled for	Self-Assign	Role Assignees Restricted to	Assigned/Reviewed by Security Groups
Table Viewer - Prism	04. Table Viewer - Prism	Prism Tables		Prism Data Writer	Prism Data Administrator Prism Table Owner (Workday Owned) Security Administrator
Table Schema Viewer - Prism	05. Table Schema Viewer - Prism	Prism Tables		Prism Data Writer	Prism Data Administrator Prism Table Owner (Workday Owned) Security Administrator
Can Truncate Table Data - Prism	06. Can Truncate Table Data - Prism	Prism Tables		Prism Data Writer	Prism Data Administrator Prism Table Owner (Workday Owned) Security Administrator
Can Delete Table Data - Prism	07. Can Delete Table Data - Prism	Prism Tables		Prism Data Writer	Prism Data Administrator Prism Table Owner (Workday Owned) Security Administrator
Can Update Table Data - Prism	08. Can Update Table Data - Prism	Prism Tables		Prism Data Writer	Prism Data Administrator Prism Table Owner (Workday Owned) Security Administrator

Role Name	Workday Role	Enabled for	Self-Assign	Role Assignees Restricted to	Assigned/Reviewed by Security Groups
Can Insert Table Data - Prism	09. Can Insert Table Data - Prism	Prism Tables		Prism Data Writer Prism Data Administrator Prism Table Owner (Workday Owned) Security Administrator	Prism Data Administrator Prism Table Owner (Workday Owned) Security Administrator
Can Select Table Data - Prism	10. Can Select Table Data - Prism	Prism Tables		Prism Data Writer Prism Data Administrator Prism Table Owner (Workday Owned) Security Administrator	Prism Data Administrator Prism Table Owner (Workday Owned) Security Administrator

Note: You can substitute any user-based security groups your organization has created for Prism-related tasks instead of selecting Prism Data Writer or Prism Data Administrator.

Related Information

Concepts

[Concept: Sharing Tables and Datasets](#) on page 501

Tasks

[Share a Table with Others](#) on page 494

Set Up Dataset Sharing

Prerequisites

Security: *Set Up: Assignable Roles* domain in the Organization and Roles functional area.

Context

To enable sharing a dataset with another user or security group, you create tenant-specific roles that correspond to the dataset-related Workday provided roles. Sharing datasets is a way to control access to individual datasets.

Steps

1. Access the **Maintain Assignable Roles** task.

- Set up roles for these Workday-provided roles: *Prism Dataset Owner*, *Prism Dataset Editor*, and *Prism Dataset Viewer*.

When you set up these tenant-specific roles, consider:

- The name you enter in **Role Name** becomes the prompt value in the **Permission** column on the **Edit Dataset Sharing** task.
- The security groups you select in **Role Assignees Restricted to** determine which users and groups you can share a dataset with. Select user-based security groups for the Prism roles.
- The security groups you select in **Assigned/Reviewed by Security Groups** determine which users can share a dataset.

Add the roles in the table below, but substitute security groups that your organization needs instead of Prism Data Writer and Prism Data Administrator:

Role Name	Workday Role	Enabled for	Self-Assign	Role Assignees Restricted to	Assigned/Reviewed by Security Groups
Dataset Owner	01. Prism Dataset Owner	Prism Dataset	Yes	Prism Data Writer	Prism Data Administrator Prism Dataset Owner (Workday Owned) Security Administrator
Dataset Editor	02. Prism Dataset Editor	Prism Dataset		Prism Data Writer	Prism Data Administrator Prism Dataset Owner (Workday Owned) Security Administrator
Dataset Viewer	03. Prism Dataset Viewer	Prism Dataset		Prism Data Writer	Prism Data Administrator Prism Dataset Owner (Workday Owned) Security Administrator

Note: You can substitute any user-based security groups your organization has created for Prism-related tasks instead of selecting Prism Data Writer or Prism Data Administrator.

Related Information

Concepts

[Concept: Sharing Tables and Datasets on page 501](#)

Tasks

[Share a Dataset with Others on page 494](#)

Share a Table with Others

Prerequisites

Any of these security requirements:

- *Prism: Tables Owner Manage* domain in the Prism Analytics functional area.
- *Table Owner* permission on the table.

Context

When you create a table, you're the table owner. Being the owner of a table means you have **Table Owner** permission on the table. As a table owner, you can share it with other users and security groups. The table sharing feature is a way to control access to individual tables.

You might want to share a table with someone else so they can edit it, or import it into a derived dataset.

Table permissions control either:

- Metadata. Example: Table Schema Editor, Table Schema Viewer.
- Data. Example: Can Delete Table Data, Can Truncate Table Data, Can Select Table Data, Can Insert Table Data.
- Metadata and Data. Example: Table Owner, Table Editor, Table Viewer.

Steps

1. Access the **View Table Details** report.
2. Select **Actions > Security > Edit Table Sharing**.
3. Assign a user or security group to the desired **Permission**.

Note: When you grant someone one of the data permissions, that user must have access to view the table schema. Example: If you want to grant Can Insert Table Data permission, you must also grant either Table Schema Viewer or Table Viewer permission.

4. (Optional) Share the table with more users, or remove access from users listed in the table.
5. When you're done sharing the table with others, click **OK**.

Related Information

Concepts

[Concept: Sharing Tables and Datasets on page 501](#)

[Concept: Relax Sharing Options on page 502](#)

[Concept: Sharing Datasets Using Relax Sharing Rules on page 504](#)

Tasks

[Set Up Table Sharing on page 489](#)

Share a Dataset with Others

Prerequisites

Any of these security requirements:

- *Prism Datasets: Owner Manage* domain in the Prism Analytics functional area.
- *Dataset Owner* permission on the dataset.

Context

When you create a dataset, you're the dataset owner. Being the owner of a dataset means you have **Dataset Owner** permission on the dataset. As a dataset owner, you can share it with other users and security groups. The dataset sharing feature is a way to control access to individual datasets.

To share a derived dataset, you need owner permission on the current dataset and either:

- Relax Sharing Rules enabled and functional on the current dataset, or
- At least viewer permission on all upstream objects up until you reach the base datasets and tables, or until you reach a dataset with Relax Sharing Rules enabled and functional.

Note: If you're new to Workday, you don't have access to create or edit base datasets.

You might want to share a dataset with someone else so they can edit it, or import it into another derived dataset.

Note: If you want to share a derived dataset with someone, they must also have at least viewer permission on all upstream objects up until you reach the base datasets and tables, or until you reach a dataset with Relax Sharing Rules enabled and functional.

Steps

1. Access the **View Dataset Details** report.
2. Select **Actions > Security > Edit Dataset Sharing**.
3. Add a new row to the table, and select the **Permission** to assign to a user or security group.

You can configure these permissions:

Option	Description
Dataset Viewer	Users with this permission can: <ul style="list-style-type: none"> • View this dataset. • Import this dataset into a derived dataset.
Dataset Editor	User with this permission can do all tasks of a dataset viewer plus: <ul style="list-style-type: none"> • Make changes to (edit) this dataset.
Dataset Owner	User with this permission can do all tasks of a dataset editor plus: <ul style="list-style-type: none"> • Delete this dataset. • Share this dataset.

4. (Optional) Share the dataset with more users, or remove access from users listed in the table.
5. When you're done sharing the dataset with others, click **OK**.

Related Information

Concepts

[Concept: Security in Prism Analytics](#) on page 498

[Concept: Relax Sharing Options](#) on page 502

[Concept: Sharing Datasets Using Relax Sharing Rules](#) on page 504

Edit Prism Data Source Security

Prerequisites

- Security: *Prism: Manage Data Source* domain in the Prism Analytics functional area.

Context

Before you make Prism data in a table or dataset available for analysis, configure the security (security domains and securing entities) that Workday applies to the data in the Prism data source. You configure the data source security by editing the table or dataset, but Workday applies the security to the data in the Prism data source.

The configured securing entities work with the configured security domains and their security groups to determine which users have access to which rows, fields, and field values in a Prism data source.

A securing entity is an Instance or Multi-Instance field that you use to constrain access to particular instance values for reporting and analytics. A securing entity:

- Is typically a role-enabled Instance field, such as Cost Center or Supervisory Organization.
- Is the Person Instance field (secured to the *Person Data: Person Reports* domain) for self-service security groups.
- Determines which instance values Workday displays to a user based on the role assigned to the user.

Use securing entities to control row-level and field value-level access in a Prism data source for users in constrained security groups.

For a user to have access to a particular row or field value in a Prism data source, they must be a member of 1 of these security groups:

- An unconstrained security group that has permissions on a domain configured in the data source security.
- A constrained security group that has permissions on a domain configured in the data source security, and the corresponding securing entity is configured.

Workday restricts user access to data in a Prism data source for these security groups:

- All unconstrained
- Role-based constrained
- Aggregation when role-based
- Intersection when role-based

Workday has tested and supports using securing entity fields that use these business objects:

- Company
- Company Hierarchy
- Cost Center
- Cost Center Hierarchy
- Person
- Location Hierarchy
- Region
- Region Hierarchy
- Supervisory Organization

Note:

When no data source security is configured for the Prism data source, Workday applies the *Prism: Default to Dataset Access* security domain. The *Prism: Default to Dataset Access* domain provides contextual access to a Prism data source based on your access to the underlying table or dataset.

You can't explicitly configure the *Prism: Default to Dataset Access* security domain when you define data source security. When you access the **View Data Source Security** or **Edit Table** tasks and they indicate that the *Prism: Default to Dataset Access* security domain has been configured, that means that no domain has been configured explicitly. To view the domain that's currently applied to a Prism data source, access the **View Prism Data Source** report.

Steps

1. Access the **Edit Data Source Security** task for the table or dataset you want to apply security to.
 2. In the **Domains** prompt, select 1 or more security domains to use to determine who can see the Prism data source.
If you specify a security domain that has a constrained security group, then you must specify an appropriate securing entity.
 3. (Optional) In the **Securing Entities** prompt, select 1 or more fields in the dataset. Workday lists the Instance or Multi-Instance fields in the table or dataset that act as securing entities.
The securing entities work with the:
 - **Data Source Security** domains to determine row-level access for a user.
 - **Field Level Security** domains to determine field value-level access for a user.
- Note:** Workday uses any in common logic when evaluating the contextual security using a Multi-Instance field.
- Note:** When you specify more than 1 securing entity that relates to the same security group, Workday uses the OR condition between them. Depending on how your security groups are set up, a user might see some additional rows or field values. Make sure you test the report results to ensure that the report produces expected results for each user.
4. In the **Default Domain(s) for Dataset Fields** prompt, select 1 or more security domains that Workday applies to every field in the Prism data source unless you override the domain for a particular field in the next section.
- Note:** When you add new fields to the table or dataset, Workday applies this default domain to the new fields. You might want to consider specifying a domain with more restrictive access. Then you can override the default domain on a per field basis to allow more access as necessary.
5. (Optional) You can select different domains to apply to specific fields to override the default domains.
 6. Review any **Security Configuration Audit** messages to learn more about any issues with the configured securing entities and domains.
 7. (Optional) Click **Back** to make any changes to the configured security options based on the audit messages.
 8. Select the **Apply Security** check box to apply your changes.

If you want to restrict access to rows using any of these security group types, Workday can't honor those restrictions:

- Segment-based security groups
- Job-based security groups
- Manager's Manager security group

9. (Required for datasets) Publish the dataset again to apply the new security configuration to the Prism data source.

See [Publish a Dataset as a Prism Data Source Manually](#) on page 511.

Result

Workday saves the security information. You can view the current security status by selecting **Actions > Security > View Data Source Security**.

Example

Suppose that you select these domains containing these security groups. To enforce contextual security at the row-level and field value-level, then use these fields as securing entities:

Security Domain	Contains This Security Group	Use This Securing Entity
Custom Domain 28	HR Partner (By Location)	Location
Custom Domain 29	Manager	Supervisory Organization
Custom Domain 30	HR Administrator	<p>None required.</p> <p>HR Administrator is an unconstrained security group, so it doesn't require a securing entity.</p>
Public Reporting Items	None.	<p>None required.</p> <p>This domain provides access to all publicly available fields and Workday-delivered data sources.</p>

Next Steps

Create the Prism data source by enabling the table for analysis or publishing the dataset. Workday applies the security restrictions to the data in the Prism data source.

Concept: Security in Prism Analytics

Prism Analytics uses Workday's strong, flexible, and configurable security model to control access to data, objects, and tasks. Which users have access to what data depends on where in the Prism data workflow they are. For more information on the workflow, see [Concept: Prism Analytics Data Management Workflow](#) on page 385.

Phase 1 and Phase 2: Create and Edit Tables, Datasets, and Data Change Tasks

In the first and second phases in the data management workflow, you bring data into the Prism Analytics Data Catalog and then transform it. You create and edit these objects in the Data Catalog:

- Tables. Tables include metadata and all data rows in the table.
- Derived datasets. Datasets include metadata and a subset of data as a small collection of example rows.
- Data change tasks. Data change tasks include a small collection of example rows from the target table, and from the source if it's another dataset or table.

When it comes to security with tables, data change tasks, and datasets, you control access to the metadata and data together.

Table and Dataset Security

Workday controls who can do what with tables and datasets in these ways:

Method	Notes
Security administrator grants access	<p>Your Workday security administrator can configure Workday security domains to grant groups of users to be able to create, edit, or manage tables and datasets. Depending on how the administrator configures the security domains, some users might be able to create, view, edit, or act as an owner of all tables and datasets. Your Workday security administrator can configure these Workday security domains to grant access to groups of users:</p> <ul style="list-style-type: none"> • <i>Prism Datasets: Create</i> • <i>Prism Datasets: Manage</i> • <i>Prism Datasets: Owner Manage</i>

Method	Notes
	<ul style="list-style-type: none"> • <i>Prism: Manage Data Source</i> • <i>Prism: Tables Create</i> • <i>Prism: Tables Manage</i> • <i>Prism: Tables Owner Manage</i>
Table sharing and dataset sharing	<p>The user who created a table or dataset can share it with particular users and grant different levels of access to each user.</p> <p>When you create a table or dataset, you're the table owner or dataset owner. Being the owner means that you have Table Owner or Dataset Owner permission on the table or dataset. As an owner, you can grant different levels of access by assigning permissions to another user. Example: You can assign Table Viewer or Can Truncate Table Data permission to a table, or Dataset Editor permission to a dataset.</p>

Access to a table or dataset is unconstrained. This means that any user who can create or view a table or dataset can view all fields and data (example data for datasets and data change tasks), regardless of the origin of the data. When you create a table or base dataset from a Workday report, Workday removes all security domains configured for the business objects in the table or dataset.

Note: If you're new to Workday, you don't have access to create or edit base datasets.

This unconstrained access only applies when you use these tasks and reports:

- View Table Details
- Edit Table
- View Dataset Details
- Edit Dataset Transformations
- View Dataset Transformations
- Create Data Change Task
- Edit Data Change Task

It doesn't apply to the data in a Prism data source.

Instead, you define the data source security to apply to the data in the Prism data source before making the data available for analysis.

Data Change Task Security

You can't configure access on a data change task directly. Instead, Workday controls your access to a data change task based on:

- Your target table permissions. Workday uses these table permission types:
 - Table Viewer
 - Table Editor
 - Table Owner
 - Can Delete Table Data
 - Can Insert Table Data
 - Can Update Table Data
- The specified operation type. You need permission to change data in the table that is compatible with the specified operation type. Example: To create or edit a data change task on the Claims table using the upsert operation, you must have permission to insert and update data in the Claims table.
- Your source access. You need permission to view the source, such as view permission on a custom report, source dataset, or SFTP connection. You don't need view permission on the source when the type is file upload.

Workday doesn't enable users to have view permission only on a data change task. If you have permission to edit a data change task, then you have permission to view it.

If you meet the source access requirement, then you can perform the actions below with the specified target table permissions:

	Table Viewer Only	Table Viewer and Can Delete/Insert/Update Table Data	Table Editor or Table Owner
View a data change task.	No	Yes	Yes
Create a data change task.	No	Yes, but you can only select an operation type that is compatible with your table permissions.	Yes
Edit the data change task operation type.	No	Yes, but you can only select an operation type that is compatible with your table permissions.	Yes
Edit the data change task source.	No	Yes, but you need permission on the new source.	Yes, but you need permission on the new source.
Edit other data change task properties (not the source or operation).	No	Yes	Yes

Phase 3: Apply Security to the Data

You define the security that Workday will apply to the Prism data source before you make the data in the Data Catalog available for analysis. By applying security to the Prism data source, you can ensure that both Workday and non-Workday data have the proper restrictions applied when viewed in a discovery board or report.

You configure the data source security by editing the table or dataset, but Workday applies the security to the data in the Prism data source.

Define the data source security after the data is ready to be exposed to other users by giving them access to the Prism data source.

To configure the data source security, you must access to the *Prism: Manage Data Source* security domain. For details, see [Edit Prism Data Source Security](#) on page 495.

You can restrict access to the data in a Prism data source at these levels:

- **Data source-level.** Specify 1 or more security domains that apply to the Prism data source that Workday creates. These domains determine which users can see the Prism data source. This is sometimes known as table-level security. If you don't configure any domain, Workday uses the *Prism: Default to Dataset Access* domain.
- **Row-level.** Optionally, you can enforce row-level security by specifying in the **Securing Entities** prompt 1 or more Instance or Multi-Instance fields in the table or dataset, such as Supervisory Organization. The securing entities work with the configured data source-level security domains to determine which users have access to which rows (and field values) in a Prism data source.
- **Field-level.** Specify 1 or more security domains to apply to the fields in the Prism data source. These domains determine which users can see each field in the Prism data source.
- **Field value-level.** Workday uses any configured **Securing Entities** with the configured field-level security domains to determine which users have access to which field values in a Prism data source.

Phase 4: Make the Data Available for Analysis

When you make Prism data available for analysis, Workday creates the Prism data source, loads it with the transformed data, and applies the appropriate security restrictions to the data.

The way you create a Prism data source and the security required depend on the Data Catalog object. For more information, see [Concept: Making Prism Data Available for Analysis](#) on page 514.

Optionally, you can create a Prism data source without any data source security configured. When no data source security is configured, Workday applies the *Prism: Default to Dataset Access* security domain to the Prism data source. The *Prism: Default to Dataset Access* domain provides contextual access to a Prism data source based on your access to the underlying table or dataset.

Phase 5: Analyze and Visualize the Data

Workday controls access to data in a Prism data source according to the configured data source security. The configured data source security determines who can see the Prism data source, and which rows, fields, and field values each user can see when they query the Prism data source in a discovery board or report.

Related Information

Tasks

[Share a Dataset with Others](#) on page 494

[Edit Prism Data Source Security](#) on page 495

Concept: Sharing Tables and Datasets

Workday enables you to have fine-grained control over what you can do with tables and datasets. Sharing tables and datasets is a way to control access to individual tables and datasets.

When your tenant is set up for table and dataset sharing, table owners and dataset owners can share a table or dataset with another user or security group. Example: You can control who can view a dataset, edit the schema of a table, insert data into a table, or delete table data.

How Inherited Permissions Work to Enable Table and Dataset Sharing

Workday provides sharing permission control using Workday roles, Workday-owned security groups, and inherited permissions.

Most Workday roles are tied to an organization. However, table-related and dataset-related Workday roles are tied to an object type, the table or dataset. By tying a role to an object type, Workday enables you to control which permissions a user inherits for a particular table or dataset.

Workday maps each table-related and dataset-related role to a Workday owned security group, and that security group automatically inherits permissions from 1 or more security domains.

Example: Workday maps the Workday role "Table Schema Editor" to the "Prism Table Schema Editor (Workday Owned)" security group, and that security group inherits View and Modify permissions on the *Prism: Tables Manage Schema* domain.

Example: Workday maps the Workday role "Prism Dataset Editor" to the "Prism Dataset Editor (Workday Owned)" security group, and that security group inherits View and Modify permissions on the *Prism: Datasets Manage* domain.

As a result of these connections, you can enable table and dataset sharing by creating a tenant-specific role and mapping it to a table-related or dataset-related Workday role. The tenant-specific role becomes the table or dataset permission that you can share with others.

Related Information

Tasks

[Share a Table with Others](#) on page 494

[Share a Dataset with Others](#) on page 494

Concept: Relax Sharing Options

By default, to access the current dataset, you must have access to all upstream datasets and tables.

Example: To share a derived dataset, you must have owner permission on the derived dataset and at least viewer permission on all upstream datasets and tables.

However, you can relax some permission requirements so that users require access on fewer upstream datasets and tables to have access to the current dataset.

To relax the sharing restrictions with tables and datasets, Workday provides these options when you edit dataset sharing and table sharing:

Option Name	Description
Relax Sharing Rules	<p>When you enable Relax Sharing Rules on a table or dataset:</p> <ul style="list-style-type: none"> • Owners of datasets derived from this table or dataset only need a viewer role on this table or dataset to share their derived dataset. • (Derived datasets only) Owners of this dataset can share it with other users without requiring those users to have a role on any upstream datasets or tables. <p>You can protect sensitive data in upstream datasets and tables by eliminating the need for access by using Relax Sharing Rules in downstream datasets.</p>
Prevent Relax Sharing on Derived Datasets	<p>When you enable Prevent Relax Sharing on Derived Datasets, Workday revokes the Relax Sharing Rules functionality on all downstream derived datasets.</p> <p>You might want to enable Prevent Relax Sharing on Derived Datasets to prevent others from sharing derived datasets they own without requiring your permission on this table or dataset.</p> <p>Note: The Relax Sharing Rules option is only functional when no dataset or table upstream from it has Prevent Relax Sharing Rules on Downstream Datasets enabled.</p>

To configure these options, you must have access to the *Prism: Manage Relax Sharing* domain in the Prism Analytics functional area.

Example: You create a table called Payrolls that contains sensitive data, and you create a derived dataset off of it called Filtered Payrolls that filters out the sensitive data. You want Norman Chan to view the Filtered Payrolls dataset, but not the Payrolls table. To accomplish this sharing scenario, you enable Relax Sharing Rules on Filtered Payrolls, and then assign Norman Chan viewer permission on it. Now, Norman can view Filtered Payrolls and create a derived dataset from it even though he doesn't have viewer permission on the Payrolls table. Also, he can share the derived dataset he created without having owner permission on Filtered Payrolls or Payrolls.

To do this...	You must have...
<ul style="list-style-type: none"> • View the current dataset details or table. • Import the current dataset or table into a derived dataset. 	At least viewer permission on the current dataset or table, and either:

To do this...	You must have...
	<ul style="list-style-type: none"> Relax Sharing Rules enabled and functional on the current dataset or table, or At least viewer permission on all upstream objects up until you reach the base datasets and tables, or until you reach a dataset with Relax Sharing Rules enabled and functional.
<ul style="list-style-type: none"> View the current dataset transformations. Copy the current dataset (derived datasets only). 	<p>At least viewer permission on the current dataset, and either:</p> <ul style="list-style-type: none"> Relax Sharing Rules enabled and functional on the current dataset or table and at least viewer permission on each dataset or table that is imported into the current dataset, or At least viewer permission on all upstream objects up until you reach the base datasets and tables, or until you reach a dataset with Relax Sharing Rules enabled and functional.
Edit the current dataset or table.	<p>At least editor permission on the current dataset or table, and either:</p> <ul style="list-style-type: none"> Relax Sharing Rules enabled and functional on the current dataset or table and at least viewer permission on each dataset or table that is imported into the current dataset, or At least viewer permission on all upstream objects up until you reach the base datasets and tables, or until you reach a dataset with Relax Sharing Rules enabled and functional.
Share the current dataset or table (the action that is specific to owners).	<p>Owner permission on the current dataset or table, and either:</p> <ul style="list-style-type: none"> Relax Sharing Rules enabled and functional on the current dataset or table, or At least viewer permission on all upstream objects up until you reach the base datasets and tables, or until you reach a dataset with Relax Sharing Rules enabled and functional.
View the lineage of the current table or dataset.	<p>At least viewer permission on the current dataset or table.</p> <p>Note that when you view lineage, you only see the upstream or downstream tables and dataset on which you have viewer permission (or better).</p>

Note: If you're new to Workday, you don't have access to create or edit base datasets.

Related Information

Tasks

[Share a Table with Others](#) on page 494

[Share a Dataset with Others](#) on page 494

Concept: Sharing Datasets Using Relax Sharing Rules

The relax sharing options work with table and dataset sharing permissions to determine which users can access a table or dataset. The kind of access users have determines their ability to:

- View the table or dataset.
- Make a copy of the table or dataset.
- Import the table or dataset into a derived dataset.
- Edit the table or dataset.
- Share the table or dataset with other users.

Scenario 1

In the first scenario, Beth Liu made multiple tables and datasets, and shared some of them with Norman Chan and Dawn Myers.

The Data Catalog includes these tables and datasets:

Table or Dataset	Owners	Viewers	Relax Sharing Rules Enabled	Prevent Relax Sharing on Derived Datasets Enabled
Payrolls (table)	bliu	nchan	No	No
Filtered Payrolls	bliu, nchan	dmyers	No	No
Stock Grants (table)	bliu	None	No	No
Filtered Stock Grants	bliu, nchan	dmyers	No	No
Employee Grants	bliu	nchan, dmyers	No	No

The dataset lineage for the Employee Grants dataset looks like this:



Beth Liu, Norman Chan, and Dawn Myers have this table and dataset access:

Table or Dataset	Beth Liu	Norman Chan	Dawn Myers
Payrolls	Can share, edit, and view	Can view	No access
Filtered Payrolls	Can share, edit, and view	Can edit, can view	No access
Stock Grants	Can share, edit, and view	No access	No access
Filtered Stock Grants	Can share, edit, and view	No access	No access
Employee Grants	Can share, edit, and view	No access	No access

Table or Dataset	Beth Liu	Norman Chan	Dawn Myers
Employee Grants	Can share, edit, and view	No access	No access

Although Norman Chan is an owner of Filtered Payrolls, he can't share it with others because he only has View permission on the upstream dataset Payrolls.

Scenario 2

This scenario is based on the previous scenario. Beth Liu enabled the Relax Sharing Rules check box on the Filtered Payrolls and Filtered Stock Grants datasets.

The Data Catalog includes these tables and datasets:

Table or Dataset	Owners	Viewers	Relax Sharing Rules Enabled	Prevent Relax Sharing on Derived Datasets Enabled
Payrolls	bliu	nchan	No	No
Filtered Payrolls	bliu, nchan	dmyers	Yes	No
Stock Grants	bliu	None	No	No
Filtered Stock Grants	bliu, nchan	dmyers	Yes	No
Employee Grants	bliu	nchan, dmyers	No	No

The dataset lineage for the Employee Grants dataset looks like this. The green check marks indicate that Relax Sharing Rules is enabled.



Beth Liu, Norman Chan, and Dawn Myers have this table and dataset access:

Table or Dataset	Beth Liu	Norman Chan	Dawn Myers
Payrolls	Can share, edit, and view	Can view	No access
Filtered Payrolls	Can share, edit, and view	Can share, edit, and view	Can view
Stock Grants	Can share, edit, and view	No access	No access
Filtered Stock Grants	Can share, edit, and view	Can share and view	Can view
Employee Grants	Can share, edit, and view	Can view	Can view

With Relax Sharing Rules enabled on Filtered Payrolls and Filtered Stock Grants:

- Norman can share Filtered Payrolls because he no longer needs owner permission on the upstream object Payrolls.
- Norman can share Filtered Stock Grants because he no longer needs owner permission on the upstream object Stock Grants, but he can't edit Filtered Stock Grants because he doesn't have viewer permission on the upstream object Stock Grants.
- Norman can view Employee Grants because he no longer needs viewer permission on all upstream objects.
- Dawn can view Filtered Payrolls, Filtered Stock Grants, and Employee Grants because she no longer needs viewer permission on all upstream objects.

Scenario 3

This scenario is based on the previous scenario. Norman Chan created a derived dataset titled DDS Norman by importing the Employee Grants dataset.

The Data Catalog includes these tables and datasets:

Table or Dataset	Owners	Viewers	Relax Sharing Rules Enabled	Prevent Relax Sharing on Derived Datasets Enabled
Payrolls	bliu	nchan	No	No
Filtered Payrolls	bliu, nchan	dmyers	Yes	No
Stock Grants	bliu	None	No	No
Filtered Stock Grants	bliu, nchan	dmyers	Yes	No
Employee Grants	bliu	nchan, dmyers	No	No
DDS Norman	nchan	None	No	No

The dataset lineage for the DDS Norman dataset (as viewed by a Prism Data Administrator who can view all objects) looks like this:



Beth Liu, Norman Chan, and Dawn Myers have this table and dataset access:

Table or Dataset	Beth Liu	Norman Chan	Dawn Myers
Payrolls	Can share, edit, and view	Can view	No access
Filtered Payrolls	Can share, edit, and view	Can share, edit, and view	Can view
Stock Grants	Can share, edit, and view	No access	No access

Table or Dataset	Beth Liu	Norman Chan	Dawn Myers
Filtered Stock Grants	Can share, edit, and view	Can share and view	Can view
Employee Grants	Can share, edit, and view	Can view	Can view
DDS Norman	No access	Can edit, view	No access

Norman Chan didn't share DDS Norman with Beth Liu, so Beth doesn't see it in her Data Catalog and she doesn't know that it exists.

Although Norman created DDS Norman (he's the owner), he isn't able to share it with other users because he only has Viewer permission on Employee Grants, not Owner permission. To share a dataset, you must have Owner permission on all upstream objects up until you reach a dataset or table with Relax Sharing Rules enabled and functional. On the dataset or table with Relax Sharing enabled, you only need Viewer permission.

Scenario 4

This scenario is based on the previous scenario. Beth Liu enabled the Relax Sharing Rules check box on the Employee Grants dataset.

Table or Dataset	Owners	Viewers	Relax Sharing Rules Enabled	Prevent Relax Sharing on Derived Datasets Enabled
Payrolls	bliu	nchan	No	No
Filtered Payrolls	bliu, nchan	dmyers	Yes	No
Stock Grants	bliu	None	No	No
Filtered Stock Grants	bliu, nchan	dmyers	Yes	No
Employee Grants	bliu	nchan, dmyers	Yes	No
DDS Norman	nchan	None	No	No

The dataset lineage for the DDS Norman dataset (as viewed by a Prism Data Administrator who can view all objects) looks like this:



Beth Liu, Norman Chan, and Dawn Myers have this table and dataset access:

Table or Dataset	Beth Liu	Norman Chan	Dawn Myers
Payrolls	Can share, edit, and view	Can view	No access

Table or Dataset	Beth Liu	Norman Chan	Dawn Myers
Filtered Payrolls	Can share, edit, and view	Can share, edit, and view	Can view
Stock Grants	Can share, edit, and view	No access	No access
Filtered Stock Grants	Can share, edit, and view	Can share and view	Can view
Employee Grants	Can share, edit, and view	Can view	Can view
DDS Norman	No access	Can share , edit, view	No access

With Relax Sharing Rules enabled on Employee Grants (Norman has Viewer permission on Employee Grants), Norman can share DDS Norman with others.

Scenario 5

This scenario is based on the previous scenario. Norman Chan enabled the Relax Sharing Rules check box on DDS Norman, and shared DDS Norman with Dawn Myers, giving her Owner permission.

Table or Dataset	Owners	Viewers	Relax Sharing Rules Enabled	Prevent Relax Sharing on Derived Datasets Enabled
Payrolls	bliu	nchan	No	No
Filtered Payrolls	bliu, nchan	dmyers	Yes	No
Stock Grants	bliu	None	No	No
Filtered Stock Grants	bliu, nchan	dmyers	Yes	No
Employee Grants	bliu	nchan, dmyers	Yes	No
DDS Norman	nchan, dmyers	None	Yes	No

The dataset lineage for the DDS Norman dataset (as viewed by a Prism Data Administrator who can view all objects) looks like this:



Beth Liu, Norman Chan, and Dawn Myers have this table and dataset access:

Table or Dataset	Beth Liu	Norman Chan	Dawn Myers
Payrolls	Can share, edit, and view	Can view	No access

Table or Dataset	Beth Liu	Norman Chan	Dawn Myers
Filtered Payrolls	Can share, edit, and view	Can share, edit, and view	Can view
Stock Grants	Can share, edit, and view	No access	No access
Filtered Stock Grants	Can share, edit, and view	Can share and view	Can view
Employee Grants	Can share, edit, and view	Can view	Can view
DDS Norman	No access	Can share, edit, view	Can share, edit, view

With Relax Sharing Rules enabled on DDS Norman while giving Dawn Myers Owner permission, Dawn can share, edit, and view DDS Norman. Beth Liu is unaware that DDS Norman exists and that Dawn can share it with others.

Scenario 6

This scenario is based on the previous scenario. Beth Liu enabled the Prevent Relax Sharing on Derived Datasets check box on Filtered Stock Grants.

Table or Dataset	Owners	Viewers	Relax Sharing Rules Enabled	Prevent Relax Sharing on Derived Datasets Enabled
Payrolls	bliu	nchan	No	No
Filtered Payrolls	bliu, nchan	dmyers	Yes	No
Stock Grants	bliu	None	No	No
Filtered Stock Grants	bliu, nchan	dmyers	Yes	Yes
Employee Grants	bliu	nchan, dmyers	Yes	No
DDS Norman	nchan, dmyers	None	Yes	No

The dataset lineage for the DDS Norman dataset (as viewed by a Prism Data Administrator who can view all objects) looks like this. The red circle with the line through it indicates the dataset that has Prevent Relax Sharing on Derived Datasets enabled:



Beth Liu, Norman Chan, and Dawn Myers have this table and dataset access:

Table or Dataset	Beth Liu	Norman Chan	Dawn Myers
Payrolls	Can share, edit, and view	Can view	No access
Filtered Payrolls	Can share, edit, and view	Can share, edit, and view	Can view
Stock Grants	Can share, edit, and view	No access	No access
Filtered Stock Grants	Can share, edit, and view	Can share and view	Can view
Employee Grants	Can share, edit, and view	Can view	Can view
DDS Norman	No access	Can edit, view	Can edit, view

Now that Prevent Relax Sharing on Derived Datasets is enabled on Filtered Stock Grants:

- Norman Chan can't share DDS Norman.
- Dawn Myers can't share DDS Norman.

Because Prevent Relax Sharing on Derived Datasets is enabled on Filtered Stock Grants, it cancels out the effect of Relax Sharing Rules being enabled on both Employee Grants and DDS Norman.

Related Information

Tasks

[Share a Table with Others](#) on page 494

[Share a Dataset with Others](#) on page 494

Preparing Data for Analysis

Enable Contextual Publishing for Datasets

Prerequisites

Security: These domains in the System functional area:

- *Security Activation*
- *Security Configuration*

Context

When you create and edit datasets, you typically need to build reports and visualizations to test the data you're transforming in the dataset. To test your work, you must publish your dataset, which requires access to the *Prism Datasets: Publish* domain.

You can set up your tenant to restrict users to publish datasets based on their contextual access to the dataset. Contextual publishing enables dataset users to publish a dataset based on their dataset permission, such as Dataset Owner or Dataset Editor.

You might want to enable contextual publishing to enable dataset users to test their work without giving them unconstrained access to publish all datasets.

To enable contextual publishing, you must have already enabled dataset sharing by creating assignable roles that correspond to dataset-related Workday roles.

Steps

1. Create a role-based (constrained) security group.

Select 1 of these roles for the **Assignable Role**:

- Dataset Owner
- Dataset Editor

Select **Role has access to the positions they support** for the **Access Rights to Multiple Job Workers** option.

You can create a role-based (constrained) security group to enable users to publish datasets they have Dataset Owner permission on. Example:

Security Group Property	Example
Name	Dataset Owner (role-based)
Assignable Role	Dataset Owner
Access Rights to Organizations	Applies To Current Organization And Unassigned Subordinates
Access Rights to Multiple Job Workers	Role has access to the positions they support

2. Edit the domain security policy for the *Prism Datasets: Publish* domain in the Prism Analytics functional area.

Add the role-based (constrained) security group you created, and assign both View and Modify task permissions.

3. Activate pending security policy changes.

Publish a Dataset as a Prism Data Source Manually

Prerequisites

- Security: *Prism Datasets: Publish* domain in the Prism Analytics functional area.

Context

This section describes how to publish a dataset immediately on an ad hoc basis.

Steps

1. Access the **View Dataset Details** report for the dataset you want to publish.

2. Click **Publish**, or from the related actions menu, select **Publishing > Publish Dataset**.

Workday:

- Reads the source data in the dataset.
- Transforms the source data using the transformation logic defined in the dataset.
- Creates a Prism data source and loads it with the transformed data. The Prism data source has the same name as the dataset display name.
- Applies the appropriate security restrictions to the data.

3. View the publishing process status from the **Publishing Activities** tab on the **View Dataset Details** report.

Refresh the browser to see the most current status. The status includes the date and time that Workday last published the dataset successfully. The last successful published date informs you about the freshness of the data in the Prism data source. Example: If the last successful publish date is 1 week

ago, but your publishing schedule is set to publish daily, this discrepancy could indicate a failure in the publishing process.

You can also view the status of manually run publish requests in the **Prism Management Console** report or the **Process Monitor** report. For more information, see [Concept: Prism Management Console](#) on page 398.

4. (Optional) You can cancel the publishing process by clicking **Cancel Publishing** on the **View Dataset Details** report.

Result

You can view the Prism data source by accessing the **View Prism Data Source** report, and selecting the name of the dataset you published.

Related Information

Tasks

[Unpublish a Dataset](#) on page 522

Reference

[The Next Level: Prism Analytics Data Acquisition Best Practices](#)

[The Next Level: Prism Performance and Troubleshooting Tips](#)

Create Dataset Publish Schedules

Prerequisites

Security: *Prism Datasets: Publish* domain in the Prism Analytics functional area.

Context

You can create a publish schedule for a dataset. You can schedule the publish to run:

- On a recurring basis (Example: daily, weekly, or monthly).
- Only if another Prism scheduled process completes at a status you specify.

You can't publish the same dataset at times that overlap with each other.

Steps

1. Access the **View Dataset Details** report for the dataset you want to publish.
2. From the related actions menu, select **Publishing > Create Schedule**.
3. In **Run Frequency**, specify how often to publish the dataset. The choices include creating a dependent publish schedule.
4. Select the criteria for the schedule.
5. (Recurring schedules) As you configure the schedule, consider:

Option	Description
Priority	Unavailable for publish schedules.
Catch Up Behavior	Select how many times the scheduled publish runs after maintenance issues cause errors. Example: If you schedule a publish to run multiple times in a week when your environment is down for maintenance, you can limit the process to run once instead of catching up all missed occurrences.

6. (Dependent schedules) As you configure the schedule, consider:

Option	Description
Dependency	Select a Prism-related schedule on which the publish schedule depends.
Trigger on Status	<p>Select the status of the scheduled future process that triggers publishing the dataset.</p> <p>Workday recommends using one of the completed statuses.</p> <p>Example: You select Publish Dataset as your process type and a future publish schedule called All Currencies. In the Trigger on Status field, you select Completed.</p> <p>Workday publishes the dataset only after the scheduled All Currencies publish successfully completes.</p>
Time Delayed Configuration	(Optional) Specify the number of days, hours, or minutes to delay publishing the dataset after the trigger. You might want to delay publishing to review the latest source files.

7. (Optional) Change the name of your publish schedule.

Workday assigns a name to the schedule based on the name of the dataset and prepends *Publish Schedule*: to the name. You can change the name of the schedule in the **Request Name** field when you edit the schedule. Workday displays this name in the **Process Monitor** and **Scheduled Future Processes** reports to help you identify a specific process request.

Result

Workday publishes a dataset based on the criteria that you specify. When publishing, Workday:

- Reads the source data in the dataset.
- Transforms the source data using the transformation logic defined in the dataset.
- Creates a Prism data source if it doesn't already exist and loads it with the transformed data.
- Applies the appropriate security restrictions to the data.

View the status of all scheduled publishing processes on:

- The **Dataset Activities** tab of the **Data Catalog** report.
- The **Prism Management Console** report. For more information, see [Concept: Prism Management Console](#) on page 398.
- The **Prism Activities Monitor** report.

Refresh the browser to see the most current status. The status includes the date and time (UTC) that Workday last published the dataset successfully. The last successful publish date informs you about the freshness of the data in the Prism data source. Example: If the last successful publish date is 1 week ago, but you set your publish schedule to publish daily, this discrepancy could indicate a failure in the publishing process.

Related Information

Concepts

[Concept: Security in Prism Analytics](#) on page 498

Reference

[FAQ: Dataset Publish Schedules](#) on page 518

[The Next Level: Prism Analytics Best Practices](#)

Examples

[Example: Create Dependent Publish Schedules for Datasets](#) on page 517

Concept: Making Prism Data Available for Analysis

You can make Prism data in the Data Catalog available for analysis by creating a Prism data source from either a table or dataset. When Workday creates a Prism data source, it:

- Loads the data source with the data from the table or dataset.
- Applies the appropriate security restrictions to the data source, fields, records, and field values.

The way you create a Prism data source depends on the Data Catalog object:

Prism Object	Method	Security Requirements
Table	Use the Enable for Analysis option when you create or edit the table schema. See Edit a Table on page 445.	Any of these security requirements: <ul style="list-style-type: none"> • <i>Prism Datasets: Owner Manage</i> domain • <i>Prism Datasets: Manage</i> domain • <i>Table Editor</i> permission on the table • <i>Table Owner</i> permission on the table • <i>Table Schema Editor</i> permission on the table
Dataset	Publish the dataset. You can create a publish schedule or publish a dataset manually on an ad hoc basis. See Create Dataset Publish Schedules on page 512 and Publish a Dataset as a Prism Data Source Manually on page 511.	<i>Prism Datasets: Publish</i> domain

Workday applies the security domains configured in the **Edit Data Source Security** task for the table or dataset.

When you first create a table or dataset, no security domain is applied to the data source. However, you can still create a Prism data source if you haven't specified a security domain for it. Workday applies the *Prism: Default to Dataset Access* security domain if no domain has been configured. The *Prism: Default to Dataset Access* domain provides contextual access to a Prism data source based on your access to the underlying table or dataset.

Workday recommends making Prism data available analysis after you edit the data source security for the table or dataset.

Related Information

Concepts

[Concept: Prism Data Sources](#) on page 388

Tasks

[Unpublish a Dataset](#) on page 522

Reference

[The Next Level: Prism Analytics Best Practices](#)

[The Next Level: Prism Performance and Troubleshooting Tips](#)

Concept: Dataset Publish Schedules

Schedules for publishing datasets enable you to specify when, how often, and under what criteria to publish a dataset. Publish schedules differ from publishing immediately on an ad hoc basis using **Run Now**.

Publish Schedule Types

You can create these types of schedules:

Schedule Type	Description
Recurring	A publish schedule that runs at specified intervals, such as daily, weekly, or monthly.
Dependent	<p>A publish schedule that depends on the completion of another Prism scheduled process. For your dependency criteria, you can specify:</p> <ul style="list-style-type: none"> • The process type, such as bringing data into a dataset. • The status that triggers publishing, such as the process type successfully completing. <p>Example: When the <i>Prism Data Acquisition Future Process</i> completes with no warnings or errors, begin publishing.</p> <p>Note: A Prism Analytics publish schedule can depend only on another Prism-related process, such as bringing data into a dataset or publishing another dataset.</p>

After you create a publish schedule, consider these actions that you can perform on it:

Action	Description
Activate	Activate a suspended publish schedule.
Change Schedule (recurring schedules only)	Edit the run frequency (daily, monthly, weekly), start time, and date range for the publish schedule. You can also change to another scheduled recurring process.
Delete	<p>Permanently delete the publish schedule.</p> <p>Note: When you delete a schedule, Workday removes the schedule information from your tenant, but retains any historical information about previous schedule runs.</p>
Edit Environment Restrictions	Select the environment in which you want the scheduled publish to run.
Edit Schedule	<p>(Recurring Schedules) Edit the schedule name, recurrence criteria, and range of recurrence dates.</p> <p>Note: To change the run frequency, use Change Schedule.</p>

Action	Description
	(Dependent Schedules) Edit the schedule name, dependency, trigger status, and timed delay configurations.
Edit Scheduled Occurrence (recurring schedules only)	Update the schedule date and time for one particular occurrence of the scheduled request. You can also delete a particular occurrence of the scheduled publish.
Expire Schedule	Permanently stop the publish schedule. Expiring a schedule doesn't delete it. Note: You can't activate an expired schedule. You can't expire dependent publish schedules. If you need to prevent a dependent schedule from running, you must suspend it and then delete it.
Run Now	Publish the dataset immediately on an ad hoc basis.
Suspend	Suspend use of the publish schedule. You can activate a suspended schedule.
Transfer Ownership	Transfer ownership of a publish schedule. Every process must have an assigned owner for the process to run. You might want to transfer ownership if the assigned owner becomes inactive. The person you transfer ownership to must have the appropriate security access.
View All Occurrences (recurring schedules only)	View all future occurrences of a publish schedule within a specified range of dates and times.
View Schedule	(Recurring schedules) View schedule details, such as recurrence criteria, error messages, the schedule owner and creator, and the next 10 scheduled launches if applicable. (Dependent schedules) View schedule details, such as the dependency configuration, the schedule creator and owner, and the number of times run.

Related Information

Tasks

[Create Dataset Publish Schedules](#) on page 512

Reference

[FAQ: Dataset Publish Schedules](#) on page 518

[The Next Level: Prism Analytics Best Practices](#)

[The Next Level: Prism Performance and Troubleshooting Tips](#)

Concept: Coordinating Publish Schedules with Dataset Integration

The last base dataset integration that completes before publishing begins determines the freshness of data in a Prism data source. To ensure that data is as fresh as possible in a Prism data source created from a published dataset, schedule enough time for an integration to complete before a dataset publishing job begins.

As you create publish schedules for datasets that have scheduled integrations, consider how these scenarios affect the freshness of data in the Prism data source:

Scenario	Impact
Base dataset integration completes before a scheduled publish begins.	The published dataset will use the latest available data from the dataset source file.
Base dataset integration completes after a scheduled publish begins.	The published dataset will use the data from the dataset source file that existed before integration began.

To help ensure that an integration completes before publishing begins, you can create a publish schedule that depends on the successful integration of the data.

Note: If you're new to Workday, you don't have access to create or edit base datasets.

Related Information

Tasks

[Create Dataset Publish Schedules](#) on page 512

Example: Create Dependent Publish Schedules for Datasets

This is an example of a publish schedule with a dependency.

Context

As an HR Analyst, you're responsible for creating a weekly report that includes employee hiring and turnover data from your New York office. You'd like the data in the report to be as fresh as possible. You need to:

- Bring in the latest hiring and turnover data from your New York office every Monday morning.
- Make the data available for reporting only after you've brought in the latest data.

Prerequisites

- Create a base dataset from SFTP. Schedule the integration to occur every Monday at 8 a.m. EST. Name the base dataset *New York Hiring and Turnover Weekly*. Run the integration once to enable the publish option.
- Security: *Prism Datasets: Publish* domain in the Prism Analytics functional area.

Note: If you're new to Workday, you don't have access to create or edit base datasets.

Steps

1. Access the **View Dataset Details** report for the *New York Hiring and Turnover Weekly* dataset.
2. From the related actions menu of the **View Dataset Details** report, select **Publishing > Create Schedule**.
3. In **Run Frequency**, select **Dependent**.
4. In **Dependency**, select **Prism > Dataset Integration Schedule: New York Hiring and Turnover Weekly**.
5. In **Trigger on Status**, select **Completed**.

Result

Workday publishes the *New York Hiring and Turnover Weekly* dataset only after the successful integration of data from the SFTP server.

The HR Analyst can:

- View the publish schedule request in the **Process Monitor** and **Scheduled Future Processes** reports.
- View the status of all data change activities that have already run on these reports:
 - **Dataset Activities** tab of the **Data Catalog** report.
 - **Prism Management Console**
 - **Prism Activities Monitor**

Related Information

Concepts

[Concept: Making Prism Data Available for Analysis](#) on page 514

[Concept: Dataset Publish Schedules](#) on page 515

Tasks

[Create Dataset Publish Schedules](#) on page 512

[Steps: Create a Dataset with External Data \(SFTP Server\)](#) on page 421

FAQ: Dataset Publish Schedules

- [How do I edit a publish schedule?](#) on page 518
- [How do I edit or delete only 1 occurrence of a recurring publish schedule?](#) on page 518
- [How do I change a recurring publish schedule?](#) on page 518
- [How do I edit environment restrictions for a publish schedule?](#) on page 519
- [How do I delete a publish schedule?](#) on page 519
- [How do I expire a publish schedule?](#) on page 519
- [How do I suspend a publish schedule?](#) on page 519
- [How do I activate a suspended publish schedule?](#) on page 519
- [How do I view the details of a publish schedule?](#) on page 519
- [How do I view all occurrences of a recurring publish schedule?](#) on page 519
- [How do I immediately run a publish schedule on an ad hoc basis?](#) on page 519
- [How do I transfer ownership of a publish schedule?](#) on page 520

How do I edit a publish schedule?

From the related actions menu of the **View Dataset Details** report, select **Publishing > Edit Schedule**.

How do I edit or delete only 1 occurrence of a recurring publish schedule?

1. From the related actions menu of the **View Dataset Details** report, select **Publishing > View Schedule**.
2. From the related actions menu of the **View Scheduled Future Process** report, select **Schedule Future Process > Edit Scheduled Occurrence**.

How do I change a recurring publish schedule?

1. From the related actions menu of the **View Dataset Details** report, select **Publishing > View Schedule**.
2. From the related actions menu of the **View Scheduled Future Process** report, select **Schedule Future Process > Change Schedule**.

How do I edit environment restrictions for a publish schedule?

1. From the related actions menu of the **View Dataset Details** report, select **Publishing > View Schedule**.
2. From the related actions menu of the **View Scheduled Future Process** report, select **Schedule Future Process > Edit Environment Restrictions**.

How do I delete a publish schedule?

1. From the related actions menu of the **View Dataset Details** report, select **Publishing > View Schedule**.
2. From the related actions menu of the **View Scheduled Future Process** report, select **Schedule Future Process > Delete**.

How do I expire a publish schedule?

You can only expire recurring publish schedules. From the related actions menu of the **View Dataset Details** report, select **Publishing > Expire Schedule**.

If you need to prevent a dependent publish schedule from running, you must suspend it and then delete it.

How do I suspend a publish schedule?

1. From the related actions menu of the **View Dataset Details** report, select **Publishing > View Schedule**.
2. From the related actions menu of the **View Scheduled Future Process** report, select **Schedule Future Process > Suspend**.

How do I activate a suspended publish schedule?

1. From the related actions menu of the **View Dataset Details** report, select **Publishing > View Schedule**.
2. From the related actions menu of the **View Scheduled Future Process** report, select **Schedule Future Process > Activate**.

Note: You can only activate suspended schedules.

How do I view the details of a publish schedule?

From the related actions menu of the **View Dataset Details** report, select **Publishing > View Schedule**.

How do I view all occurrences of a recurring publish schedule?

1. From the related actions menu of the **View Dataset Details** report, select **Publishing > View Schedule**.
2. From the related actions menu of the **View Scheduled Future Process** report, select **Schedule Future Process > View All Occurrences**.

How do I immediately run a publish schedule on an ad hoc basis?

1. From the related actions menu of the **View Dataset Details** report, select **Publishing > View Schedule**.

2. From the related actions menu of the **View Scheduled Future Process** report, select **Schedule Future Process > Run Now**.

How do I transfer ownership of a publish schedule?

1. From the related actions menu of the **View Dataset Details** report, select **Publishing > View Schedule**.
2. From the related actions menu of the **View Scheduled Future Process** report, select **Schedule Future Process > Transfer Ownership**.

Related Information

Concepts

[Concept: Making Prism Data Available for Analysis](#) on page 514

[Concept: Dataset Publish Schedules](#) on page 515

Tasks

[Create Dataset Publish Schedules](#) on page 512

Deleting Prism Analytics Data

Truncate Data in a Table

Prerequisites

Any of these security requirements:

- *Prism: Tables Manage* domain in the Prism Analytics functional area.
- *Prism: Tables Owner Manage* domain in the Prism Analytics functional area.
- *Table Editor* permission on the table.
- *Table Owner* permission on the table.
- *Can Truncate Table Data* permission on the table.

Context

You can remove all data in a table by truncating the table. Truncating a table removes the data, but retains the schema. You might want to truncate a table if the table contains some bad data.

If you've previously published a derived dataset based on this table, the associated Prism data source still contains data. If you also want to remove the data from the associated Prism data source, then you must publish the derived dataset again. Publishing a derived dataset from a truncated table makes the associated Prism data source empty, but active.

If you selected the **Enable for Analysis** option for this table, then truncating the table also removes all data from the associated Prism data source. The Prism data source is empty, but active.

Steps

1. Access the **View Table Details** report for the table you want to truncate.
2. Select **Truncate Data** from the **Quick Actions** menu.

Delete Rows of Data in a Table

Prerequisites

Security:

- *Prism: Manage File Containers* domain in the Prism Analytics functional area when uploading a file.
- Any of these security requirements:
 - *Prism: Tables Owner Manage* domain in the Prism Analytics functional area.
 - *Prism: Tables Manage* domain in the Prism Analytics functional area.
 - *Table Owner* permission on the table.
 - *Table Editor* permission on the table.
 - *Can Delete Table Data* permission on the table.
 - *Can Truncate Table Data* permission on the table.

Context

You can delete a subset of rows in a table using these methods:

Row Deletion Method	Notes
By load ID	You can quickly delete all rows that came from a particular data load activity. Select Table > Delete Rows from the related actions menu of the table. Then select Previous Loads .
By data change task	<p>You can delete specific rows that you specify using a data change task with the delete operation.</p> <p>You delete rows by specifying one or these target fields as the Delete Key:</p> <ul style="list-style-type: none"> • The field configured as the external ID • WPA_LoadID • WPA_RowID <p>To delete rows using a data change task, you need a delimited file that contains a single field that contains the values in the delete key field. Example: You can delete the rows for particular values of the field configured as the external ID. Create a CSV file that contains the values of the external ID field you want to delete. To delete some rows from the ClaimID field, your CSV file might look like:</p> <pre style="background-color: #f0f0f0; padding: 10px;">ClaimID 345999 345600 345601 345602</pre>

To delete specific rows using a data change task:

Steps

1. Access the **View Table Details** report for the table to delete from.
2. Select **Quick Actions > Data Change Task**.
3. (Optional) Change the data change task name that Workday created automatically at the top of the left side panel.
4. On the **Source** step, select the file that contains the values of the rows you want to delete.

5. On the **Source Options** step, define how to parse the data in the files.
6. On the **Target** step, select **Delete** as the **Target Operation**.
7. On the **Mapping** step, select a field in the target table to use as the **Delete Key**.
8. Select a source field for the target field that you specified as the delete key.

Related Information

Concepts

[Concept: Data Change Tasks](#) on page 480

Tasks

[Create a Data Change Task](#) on page 473

Truncate Data in a Dataset

Prerequisites

Any of these security requirements:

- *Prism Datasets: Manage* domain in the Prism Analytics functional area.
- *Dataset Editor* permission on the dataset.
- *Dataset Owner* permission on the dataset.

Context

You can remove the data in a base dataset by truncating the dataset. Truncating a dataset removes the data from the dataset, but retains its metadata, such as schema and transformations.

You might want to truncate a base dataset if:

- The dataset integration uses Append mode and after several integrations the dataset contains some bad data.
- The dataset contains data that your organization later deems to be sensitive.

If you've previously published this dataset or a derived dataset based on this dataset, the associated Prism data source still contains data. If you also want to remove the data from the associated Prism data source, then you must publish the dataset again. Publishing a truncated dataset makes the associated Prism data source empty, but active.

Note: If you're new to Workday, you don't have access to create or edit base datasets.

Steps

1. Access the **View Dataset Details** report for the dataset you want to truncate.
2. Select **Actions > Dataset > Truncate**.

Related Information

Concepts

[Concept: Deleting Prism Data](#) on page 524

Unpublish a Dataset

Prerequisites

- Prism data source exists in Workday, but no reports use it.
- Security: *Prism Datasets: Publish* domain in the Prism Analytics functional area.

Context

After you publish a dataset, you can unpublish it if necessary. When you unpublish a dataset, Workday removes the Prism data source that is based on the dataset, including all data in it. You might want to unpublish a dataset if you need to delete the dataset. You can only unpublish a dataset if no reports use the associated Prism data source.

Steps

1. Access the **View Dataset Details** report for the dataset you want to unpublish.
2. Select **Actions > Publishing > Unpublish Dataset**.

Result

Workday removes the Prism data source and its rows.

Related Information

Concepts

[Concept: Deleting Prism Data](#) on page 524

Delete Rows from a Prism Data Source

Prerequisites

Security: *Prism Datasets: Publish* domain in the Prism Analytics functional area.

Context

You can delete the rows in a Prism data source. When you delete the rows, the Prism data source is empty and becomes inactive.

You might want to delete the rows in a Prism data source if the rows contain incorrect data and you don't want analysts creating reports using the bad data. You can then edit the dataset to correct the transformation logic and activate the Prism data source again. When you activate the Prism data source, Workday populates the empty, inactive Prism data source with the new data.

Any reports that use an inactive Prism data source will be broken until you activate the Prism data source.

The steps for deleting rows from a Prism data source is different depending on the Prism artifact that created the data source:

- Table. When a table is enabled for analysis, you can delete the rows from the corresponding Prism data source by truncating the table. To activate the Prism data source again, run a data change task that inserts data into the table.
- Dataset. Follow the steps below. To activate the Prism data source again, republish the dataset.

For more information on the other ways of deleting Prism Analytics data, see [Concept: Deleting Prism Data](#).

Steps

1. Access the **View Prism Data Source** page, and select the Prism data source whose rows you want to delete.
2. Select **Actions > Prism Data Source > Delete Published Rows**.

Result

Workday removes all data from the Prism data source, and changes the Prism data source status to inactive.

Concept: Deleting Prism Data

You create tables, datasets, and Prism data sources filled with data. However, there might be times when you need to remove data from your tenant.

You can remove data and Prism objects:

Action	Notes
Make the Prism data source inactive.	<p>When a Prism data source is inactive, it exists in the tenant, but is empty and unavailable for querying in reports and discovery board visualizations.</p> <p>You might want to make a Prism data source inactive if the data source contains incorrect data and you don't want analysts creating reports using the bad data. You can make a Prism data source inactive whether or not any reports or visualizations use it.</p> <p>How you make a Prism data source inactive depends on the object type it's based on:</p> <ul style="list-style-type: none"> Table. Edit the table schema and clear the Enable for Analysis option on the Edit Table task. Dataset. Delete the rows in the Prism data source. Select Prism Data Source > Delete Published Rows from the related actions on the View Prism Data Source report.
Delete the Prism data source including all data in it.	<p>You can only remove a Prism data source when no reports or vizzes currently use the associated Prism data source.</p> <p>How you remove a Prism data source depends on the object type it's based on:</p> <ul style="list-style-type: none"> Table. Delete the table from the Data Catalog. Right-click the table from the Data Catalog and select Delete. Dataset. Unpublish the dataset. Select Publishing > Unpublish Dataset from the related actions of the dataset. You might want to unpublish a dataset to delete it from the Data Catalog.
Remove all data from a base dataset (truncate).	<p>You can remove the data in a base dataset by truncating the base dataset. Truncating a dataset removes all data from the dataset. However, the dataset retains its metadata, such as schema and transformations.</p> <p>You might want to truncate a base dataset if the dataset integration uses Append mode and after several integrations the dataset contains some bad data.</p> <p>If you've previously published this dataset or a derived dataset based on this dataset, then the associated Prism data source still contains data. If you also want to remove the data from the associated Prism data source, then you must publish the dataset again. Publishing a truncated dataset makes the associated Prism data source empty, but active.</p>
Delete a dataset.	When you delete a dataset, Workday removes the dataset definition from the Data Catalog. For base datasets, Workday also removes the source data stored on disk in your tenant.

Action	Notes
	You can only delete a dataset if it's not currently published and isn't imported into any derived dataset. Right-click a dataset from the Data Catalog and select Delete .
Delete rows from a table.	You can delete 1, multiple, or all rows from a table. When you delete rows from a table, the table remains in the Data Catalog.
Truncate a table.	When you truncate a table, Workday removes all rows from the table, and keeps the empty table in the Data Catalog. If you selected the Enable for Analysis option for this table, then truncating the table also removes all data from the associated Prism data source. The Prism data source is empty, but active.
Delete a table.	When you delete a table, Workday removes the table definition from the Data Catalog, including all data contained in it. You can only delete a table when: <ul style="list-style-type: none"> • No reports or vizzes currently use the associated Prism data source. • No data change task is configured for the table. Right-click the table from the Data Catalog and select Delete .

Note: If you're new to Workday, you don't have access to create or edit base datasets.

Related Information

Tasks

[Truncate Data in a Dataset](#) on page 522

[Unpublish a Dataset](#) on page 522

[Delete Rows from a Prism Data Source](#) on page 523

Managing Analytic Data Sources

Steps: Set Up Peakon Employee Voice Analytic Data Source

Prerequisites

- Security: *Security Configuration* domain in the System functional area.
- [Steps: Set Up Tenant for Prism Analytics](#) on page 382
- [Steps: Set Up Tenant for Analytic Data Source](#) on page 384
- The Peakon Data Export API feature is enabled.
- The Workday tenant name is mapped in Peakon.

Context

You can install the Peakon Employee Voice analytic data source. When you install this analytic data source, Workday also creates and adds a Prism Analytics dataset in the Data Catalog containing Peakon answers data. Workday controls access to the analytic data source and the raw data dataset using the *Peakon Responses Analytic Data Source* domain.

Steps

[1. Create User-Based Security Groups.](#)

Create or edit a user-based security group that contains the users who can use Peakon Employee voice data source and raw data dataset.

Example: You can define this security group (administered by the Security Configurator group):

- Prism Peakon DS Users

Note: Consider the sensitive nature of the highly confidential Peakon scores data as you add users to this group. Workday recommends that you only provide access to this data to highly privileged users before sharing anonymized data with a wider audience.

[2. Edit Domain Security Policies.](#)

Create or edit a security policy for the *Peakon Responses Analytic Data Source* domain. This domain controls access to the Peakon Employee Voice analytic data source.

Add the user-based security group to the domain security policy using the **Report/Task Permissions** grid. Enable both View and Modify task permissions.

[3. Set Up Dataset Sharing.](#)

Create all dataset roles (owner, editor, and viewer), and add the user-based security group in the **Role Assignees Restricted To** column for the Prism Dataset Viewer **Workday Role**.

[4. Activate Pending Security Policy Changes.](#)

[5. Install and Schedule an Analytic Data Source.](#)

Select Peakon Employee Voice. Select either a weekly or monthly **Run Frequency**.

Result

Workday:

- Creates the Peakon Employee Voice analytic data source and its schedule.
- Provides access to the data source and raw data dataset to the users in the user-based security group.
- Loads data from the Peakon system into the data source at the next scheduled time.

Related Information

Concepts

[Concept: Peakon Employee Voice Analytic Data Source](#) on page 528

Install and Schedule an Analytic Data Source

Prerequisites

Security: *Manage: Analytic Data Sources* domain in the Analytical Framework functional area.

Context

Install an analytic data source and define a schedule for updating the data in it.

Steps

[1. Access the Tenant Setup for Analytic Data Source task.](#)

[2. Select the Analytic Data Source to install.](#)

[3. In Run Frequency, specify how often to update the data in the analytic data source.](#)

[4. Enter a name for the analytic data source schedule.](#)

5. Select the **Schedule** tab, and select the criteria for the schedule.

When the analytic data source is based on data in Workday business objects that contain a very large number of instances, we recommend that you define the schedule to run:

- During a quiet time.
- Weekly or monthly.

Result

Workday creates the analytic data source and its schedule. Workday loads data from Workday business objects into the data source at the next scheduled time.

Next Steps

You can:

- Use the analytic data source in a discovery board or custom report.
- View the data source details using the **View Analytic Data Source (Workday Owned)** report.
- Edit, cancel, or view the analytic data source schedule.

Related Information

Concepts

[Concept: Workday-Delivered Analytic Data Sources](#) on page 527

[Concept: Managing Analytic Data Source Schedules](#) on page 528

Uninstall an Analytic Data Source

Prerequisites

Security: *Manage: Analytic Data Sources* domain in the Analytical Framework functional area.

Context

You can uninstall an analytic data source to remove all data from that data source. You might want to do uninstall the data source if you encounter a critical error while using it.

When you uninstall an analytic data source:

- Any reports that use the data source will display no results and display an error the next time you run the report.
- You can re-install the data source before running any existing reports that use the data source.

Steps

1. Access the **Uninstall/Cleanup Analytic Data Source** task.
2. Select the data source to uninstall, and click **Confirm**.

Concept: Workday-Delivered Analytic Data Sources

An analytic data source is a Workday-blended and delivered data source updated on a regular schedule that can contain Workday data or external data.

Analytic data sources use Prism Analytics and are designed for high performance and analytical reporting. Although analytic data sources can contain Workday data, the data isn't updated in real time like Workday-delivered data sources directly based on business objects. When you install the analytic data source, you define how often the data updates, such as daily, weekly, or monthly.

When Workday updates the data in an analytic data source, Workday:

- Runs a background job that extracts data from the Workday or external sources.

- Blends and transforms the data using Prism Analytics.
- Loads the data into the data source.

This processing takes time, depending on how much data is in your tenant and how often you schedule the data updates. As a result, the freshness of the data in your analytic data source depends on both the schedule frequency and the processing time required to update the data.

Related Information

Tasks

[Install and Schedule an Analytic Data Source](#) on page 526

Concept: Managing Analytic Data Source Schedules

After you install an analytic data source, you can manage the schedule you created for the data source. You need access to the *Manage Analytic Data Sources* domain in the Analytical Framework functional area to manage the schedule.

You can use these tasks and reports to manage the analytic data source schedule:

Task or Report Name	Notes
Cancel Analytic Data Source Publish Schedule	You can only cancel a schedule that currently exists.
Create Analytic Data Source Publish Schedule	You can only create a schedule if you previously canceled the schedule.
Edit Analytic Data Source Publish Schedule	Change the schedule settings on the Schedule tab.
View Analytic Data Source Publish Schedule	

Concept: Peakon Employee Voice Analytic Data Source

The Peakon Employee Voice analytic data source enables you to create custom employee engagement reporting. It extracts non-aggregated answers from the Peakon system, enabling you to analyze your Peakon data in more detail.

This analytic data source includes scores and comments from all question sets that you measure on your Peakon Employee Voice survey, including these:

- Engagement
- Diversity and Inclusion
- Health and Wellbeing
- COVID-19
- All company-specific questions

Consider the sensitive nature of the Peakon scores data as you interact with this analytic data source and its underlying dataset. All scores and comments are attached to an employee ID, making it possible to identify the individual scores and comments left by an employee on their engagement survey. This analytic data source is designed for companies with the appropriate safeguards.

Implementing a fully transparent survey requires a lot of trust from your employees. Ensure this trust by securing their data through your analysis in Workday. You secure this data by:

- Configuring the security policy for the *Peakon Responses Analytic Data Source* domain.
- Providing users access to the Peakon Employee Voice Raw Data dataset in the Data Catalog. All users with unconstrained access to the Data Catalog can access the data in the Peakon dataset and can share it with Prism users who have constrained access.

Workday recommends that you only provide access to this data to highly privileged users before sharing anonymized data with a wider audience.

Note: To install this analytic data source:

- Enable the Peakon Data Export API feature.
- Map the Workday tenant name in Peakon.

Peakon Employee Voice Raw Data Dataset

When you install this analytic data source, Workday also creates and adds a Prism Analytics dataset in the Data Catalog containing Peakon answers data. The data in the Peakon Employee Voice Raw Data dataset is the same as the data in the analytic data source. You can use Prism Analytics to join this dataset with other data, such as worker or external data, further enhancing your reporting and analytics capabilities in Discovery Boards and Report Writer.

Note: You can migrate between tenants any derived datasets, discovery boards, custom reports, or Prism data sources that you create based on the Peakon Employee Voice Raw Data dataset. However, before you migrate these assets to a different tenant, you must install the Peakon Employee Voice analytic data source in the target tenant.

Related Information

Concepts

[Concept: Workday-Delivered Analytic Data Sources](#) on page 527

Tasks

[Steps: Set Up Peakon Employee Voice Analytic Data Source](#) on page 525

Reference: Prism Expression Language

Concept: Prism Expression Language

Prism Analytics includes its own expression language that's composed of functions and operators. You use the Prism expression language to create an *expression*, which you can use to create new values or filter existing values.

An expression computes or produces a value by combining fields, constant values, operators, and functions. An expression outputs a value of a particular field type, such as Numeric or Text values. Simple expressions can be a single constant value, the values of a given field, or just a function. You can use operators to join two or more simple expressions into a complex expression.

You can use expressions in datasets:

- **Calculated fields.** Use expressions to define calculated fields that operate on the source data. A calculated field expression generates its values based on a calculation or condition, and returns a value for each input row. Calculated field expressions can contain values from other fields, constants, mathematical operators, comparison operators, or built-in row functions.
- **Filter stages.** Use an expression in a Filter stage to limit the scope of the source data of a dataset.

The expression builder helps you create calculated field expressions in a dataset. It displays the available fields in the dataset, plus the list of the Prism functions. It validates your expressions for correct syntax, input field types, and so on.

Function Inputs and Outputs

Functions take one or more input values and return an output value. Input values can be a literal value or the name of a field that contains a value. In both cases, the function expects the input value to be a particular field type such as Text or Integer. Example: The CONCAT() function combines Text inputs and outputs a new Text.

This example demonstrates how to use the CONCAT() function to concatenate the values in the *month*, *day*, and *year* fields separated by the literal forward slash character:

```
CONCAT([month], "/", [day], "/", [year])
```

A function return value might be the same as its input type or it might be an entirely new field type.

Example: The TO_DATE() function takes a Text as input, but outputs a Date value. If a function expects a Text, but is passed another field type as input, the function returns an error.

Typically, functions are classified by what field type they take or what purpose they serve. Example: CONCAT() is a text function and TO_DATE() is a field type conversion function.

Nesting Functions

Functions can take other functions as arguments. Example: You can use the CONCAT function as an argument to the TO_DATE() function. The final result is a Date value in the format 10/31/2014.

```
TO_DATE(CONCAT([month], "/", [day], "/", [year]), "MM/dd/yyyy")
```

The nested function must return the correct field type. So, because TO_DATE() expects text input and CONCAT() returns a text, the nesting succeeds.

Referring to Fields in the Current Dataset

Workday recommends enclosing all field names with square brackets ([]). Example:

```
TO_INT([sales])
```

```
TO_INT([Sale Amount])
```

```
TO_INT([2013_data])
```

```
TO_INT([count])
```

If a field name contains a] (closing square bracket), you must escape the closing square bracket by doubling it]]. Suppose you have this field name:

```
[Total Sales]
```

You enclose the entire field name in square brackets and escape the closing bracket that is part of the actual field name:

```
[[Total Sales]]
```

Literal Text Values

To specify a literal or actual Text value, enclose the value in double quotes (""). Example: This expression converts the values of a *gender* field to the literal values of *male*, *female*, or *unknown*:

```
CASE WHEN [gender] = "M" THEN "male"
      WHEN [gender] = "F" THEN "female"
      ELSE "unknown" END
```

To escape a literal quote within a literal value itself, double the literal quote character. Example:

```
CASE WHEN [height] = "60"" THEN "5 feet" WHEN [height] = "72""
```

```
THEN "6 feet" ELSE "other" END
```

The REGEX() function is a special case. In the REGEX() function, Text expressions are also enclosed in quotes. When a Text expression contains literal quotes, double the literal quote character. Example:

```
REGEX([height], "\d\''(\d)+""")
```

Literal Date Values

To refer to a Date value in a Filter stage expression, you must use this format (or any shortened version of it) without any enclosing quotation marks or other punctuation:

```
YYYY-MM-ddTHH:mm:ss:SSSZ
```

Example:

```
[Order Date] BETWEEN 2016-06-01T00:00:00.000Z AND 2016-07-31T00:00:00.000Z
```

If the Filter expression is a shortened version of the full format, then Prism assigns any values that aren't included a value of zero (0). Example: This expression:

```
[Order Date] >= 2017-01-01
```

Is equivalent to:

```
[Order Date] >= 2017-01-01T00:00:00.000Z
```

To refer to a literal date value in a calculated field expression, you must specify the format of the date and time components using TO_DATE, which takes a Text literal argument and a format string. Example:

```
CASE WHEN [Order Date]=TO_DATE("2013-01-01 00:00:59 PST", "YYYY-MM-dd  
HH:mm:ss z")  
THEN "free shipping" ELSE "standard shipping" DONE
```

Literal Numeric Values

For literal numeric values, you can just specify the number itself without any special escaping or formatting. Example:

```
CASE WHEN [is married]=1 THEN "married" WHEN [is married]=0  
THEN "not_married" ELSE NULL END
```

Related Information

Tasks

[Add a Prism Calculated Field to a Dataset](#) on page 450

Prism Expression Quick Reference

- [Conversion Functions](#)
- [Date Functions](#)
- [Informational Functions](#)
- [Instance Functions](#)
- [Logical Functions](#)
- [Math Functions](#)
- [Text Functions](#)
- [URL Functions](#)

- Window Functions
- Arithmetic Operators
- Comparison Operators
- Logical Operators

Conversion Functions

Function	Description	Example
<code>BUILD_CURRENCY</code>	Constructs a Currency field from a NUMERIC value and a TEXT or INSTANCE value that contains a valid currency code. When the currency code isn't valid, this function returns NULL.	<code>BUILD_CURRENCY([Sale Price], [Currency Code])</code>
<code>CAST</code>	Converts data values from one field type (data type) to another.	<code>CAST([Region] AS Instanceeecb565181284b6a8ae8b45dc3ed1451))</code> <code>CAST(99.99 AS decimal(10,3)) returns 99.990.</code> <code>CAST(99.99 AS decimal(20,2)) returns 99.99.</code> <code>CAST(99.999 AS decimal(10,2)) returns 100.00.</code>
<code>EPOCH_MS_TO_DATE</code>	Converts LONG values to DATE values, where the input number represents the number of milliseconds since the epoch.	<code>EPOCH_MS_TO_DATE(1360260240000) returns 2013-02-07T18:04:00:000Z</code>
<code>EXTRACT_AMOUNT</code>	Takes a Currency value and extracts the numeric amount as a NUMERIC value.	<code>EXTRACT_AMOUNT([Salary])</code>
<code>EXTRACT_CODE</code>	Takes a CURRENCY value and extracts the currency code as an INSTANCE value.	<code>EXTRACT_CODE([Salary])</code>
<code>EXTRACT_CODE_TEXT</code>	Takes a CURRENCY value and extracts the currency code as a TEXT value.	<code>EXTRACT_CODE_TEXT([Salary])</code>
<code>TO_BOOLEAN</code>	Converts TEXT, BOOLEAN, INTEGER, LONG, or NUMERIC values to BOOLEAN.	<code>TO_BOOLEAN([is_contingent])</code>
<code>TO_CURRENCY</code>	Converts TEXT values that contain valid currency-formatted data to CURRENCY values.	<code>TO_CURRENCY("1234.56 USD")</code> <code>TO_CURRENCY(CONCAT(TO_STRING([Grant Price]), [Grant Code]))</code>
<code>TO_DATE</code>	Converts TEXT values to DATE values, and specifies the format of the date and time elements in the string.	<code>TO_DATE([order_date], "YYYY.MM.dd 'at' HH:mm:ss z")</code>

Function	Description	Example
TO_DECIMAL	Converts TEXT, BOOLEAN, INTEGER, LONG, DOUBLE, or NUMERIC values to NUMERIC values with the default number of digits before and after the decimal point.	TO_DECIMAL([average_rating])
TO_DOUBLE	Converts TEXT, BOOLEAN, INTEGER, LONG, or DOUBLE values to DOUBLE (a type of numeric) values.	TO_DOUBLE([average_rating])
TO_INT	Converts TEXT, BOOLEAN, INTEGER, LONG, or DOUBLE values to INTEGER (whole number) values. When converting DOUBLE values, everything after the decimal will be truncated (not rounded up or down).	TO_INT([average_rating])
TO_LONG	Converts TEXT, BOOLEAN, INTEGER, LONG, DECIMAL, DATE, or DOUBLE values to Long (whole number) values. When converting Decimal or DOUBLE values, everything after the decimal will be truncated (not rounded up or down).	TO_LONG([average_rating])
TO_STRING	Converts values of other data types to TEXT (character) values.	TO_STRING([sku_number])

Date Functions

Function	Description	Example
DATE_ADD	Adds the specified time interval to a DATE value.	DATE_ADD([invoice_date], 45, "day")
DAYS_BETWEEN	Calculates time between 2 DATE values (value1 - value2) and truncates it to days (accounting for daylight savings).	DAYS_BETWEEN([ship_date], [order_date])
EXTRACT	Returns the specified portion of a DATE value.	EXTRACT("hour", [order_date])
HOURS_BETWEEN	Calculates the whole number of hours (ignoring minutes, seconds, and milliseconds) between two DATE values (value1 - value2).	HOURS_BETWEEN([ship_date], [order_date])
MILLISECONDS_BETWEEN	Calculates the whole number of milliseconds between two DATE values (value1 - value2).	MILLISECONDS_BETWEEN([request_timestamp], [response_timestamp])

Function	Description	Example
MINUTES_BETWEEN	Calculates the whole number of minutes (ignoring seconds and milliseconds) between two DATE values (value1 - value2).	MINUTES_BETWEEN([impression_timestamp], [conversion_timestamp])
SECONDS_BETWEEN	Calculates the whole number of seconds (ignoring milliseconds) between two DATE values (value1 - value2).	SECONDS_BETWEEN([impression_timestamp], [conversion_timestamp])
TODAY	Returns the current system date and time as a DATE value (no time information). It can be used in other expressions involving DATE type fields, such as YEAR_DIFF. Note that the value of TODAY is only evaluated at the time a dataset is published (it is not re-evaluated with each query).	YEAR_DIFF(TODAY(), [birthdate])
TRUNC	Truncates a DATE value to the specified format.	TRUNC(TO_DATE([order_date], "MM/dd/yyyy HH:mm:ss"), "day")
YEAR_DIFF	Calculates the fractional number of years between two DATE values (value1 - value2).	YEAR_DIFF(TODAY(), [birthdate])

Informational Functions

Function	Description	Example
IS_VALID	Returns 0 if the returned value is NULL, and 1 if the returned value is NOT NULL. This is useful for computing other calculations where you want to exclude NULL values (such as when computing averages).	IS_VALID([sale_amount])

Instance Functions

Function	Description	Example
CREATE_MULTI_INSTANCE	Constructs a Multi-Instance field from one or more provided Multi-Instance or Instance fields.	CREATE_MULTI_INSTANCE([Journal1], [Journal2], [Journal3])
INSTANCE_CONTAINS_ANY	Compares a Multi-Instance or Instance field to either a Multi-Instance field, an Instance field, or to a list of instance values, and returns True if at least one instance value exists in the first argument, and False if none of them exist.	INSTANCE_CONTAINS_ANY([Worktags], [Cost Center 1], [Cost Center 2])

Function	Description	Example
INSTANCE_COUNT	Returns the total number of instance values in a Multi-Instance or Instance field. This function returns 0 when the field is empty.	INSTANCE_COUNT([Journal Lines])
INSTANCE_EQUALS	Compares a Multi-Instance or Instance field to either a Multi-Instance field, an Instance field, or to a list of instance values, and checks if the first argument exactly matches the instance values provided in the other arguments.	INSTANCE_EQUALS([Worktags], [Cost Center 1], [Cost Center 2])
INSTANCE_IS_SUPERSET_OF	Compares a Multi-Instance field to either a Multi-Instance field, an Instance field, or to a list of instance values, and returns True if every instance value exists in the first argument, and False if at least one doesn't exist.	INSTANCE_IS_SUPERSET_OF([Worktags] [Cost Center 1], [Cost Center 2])

Logical Functions

Function	Description	Example
CASE	Evaluates each row in the dataset according to one or more input conditions, and outputs the specified result when the input conditions are met.	CASE WHEN [gender] = "M" THEN "Male" WHEN [gender] = "F" THEN "Female" ELSE "Unknown" END
COALESCE	Returns the first valid value (NOT NULL value) from a comma-separated list of expressions.	COALESCE([hourly_wage] * 40 * 52, [salary])

Math Functions

Function	Description	Example
DIV	Divides two LONG values and returns a quotient value of type LONG (the result is truncated to 0 decimal places).	DIV(TO_LONG([file_size]), 1024)
EXP	Raises the mathematical constant e to the power (exponent) of a numeric value and returns a value of type DOUBLE.	EXP([Value])
FLOOR	Returns the largest integer that is less than or equal to the input argument.	FLOOR(32.6789) returns 32.0

Function	Description	Example
HASH	Evenly partitions data values into the specified number of buckets. It creates a hash of the input value and assigns that value a bucket number. Equal values will always hash to the same bucket number.	HASH([username] , 20)
LN	Returns the natural logarithm of a number. The natural logarithm is the logarithm to the base e, where e (Euler's number) is a mathematical constant approximately equal to 2.718281828. The natural logarithm of a number x is the power to which the constant e must be raised in order to equal x.	LN(2.718281828) returns 1
MOD	Divides 2 LONG or INTEGER values and returns the remainder value of type LONG or INTEGER (the result is truncated to 0 decimal places).	MOD(TO_LONG([file_size]), 1024)
POW	Raises the a numeric value to the power (exponent) of another numeric value and returns a value of type DOUBLE.	100 * POW([end_value] / [start_value], 0.2) - 1
ROUND	Rounds a numeric value to the specified number of decimal places and returns a value of type DOUBLE.	ROUND(32.4678954, 2) returns 32.47

Text Functions

Function	Description	Example
CIDR_MATCH	Compares two TEXT arguments representing a CIDR mask and an IP address, and returns 1 if the IP address falls within the specified subnet mask or 0 if it does not.	CIDR_MATCH("60.145.56.0/24" , "60.145.56.246") returns 1
CONCAT	Returns a TEXT by concatenating (combining together) the results of multiple TEXT expressions.	CONCAT([month], "/", [day], "/" , [year])
EXTRACT_COOKIE	Extracts the value of the given cookie identifier from a semi-colon delimited list of cookie key/value pairs. This function can be used to extract a particular cookie value from a combined web access log Cookie column.	EXTRACT_COOKIE("SSID=ABC; vID=44", "vID") returns 44

Function	Description	Example
EXTRACT_VALUE	Extracts the value for the given key from a string containing delimited key/value pairs.	EXTRACT_VALUE("firstname;daria lastname;hutch", "lastname", ";", " ") returns <i>hutch</i>
FILE_NAME	Returns the original file name from the source file system when the data comes from a base dataset. If you're new to Workday, you don't have access to create or edit base datasets.	TO_DATE(SUBSTRING(FILE_NAME(), 0, 8), "yyyyMMdd")
HEX_TO_IP	Converts a hexadecimal-encoded TEXT value to a text representation of an IP address.	HEX_TO_IP(AB20FE01) returns 171.32.254.1
INSTR	Returns an integer indicating the position of a character within a string that is the first character of the occurrence of a substring. The INSTR function is similar to the FIND function in Excel, except that the first letter is position 0 and the order of the arguments is reversed.	INSTR([url], "http://", -1, 1)
JAVA_STRING	Returns the unescaped version of a Java unicode character escape sequence as a TEXT value.	CASE WHEN [currency] == JAVA_STRING("\u00a5") THEN "yes" ELSE "no" END
JOIN_STRINGS	Returns a TEXT by concatenating (combining together) the results of multiple TEXT values with the separator in between each non-null value.	JOIN_STRINGS("/", [month], [day], [year])
JSON_DECIMAL	Extracts a NUMERIC value from a field in a JSON object.	JSON_DECIMAL([top_scores], "test_scores.2")
JSON_DOUBLE	Extracts a DOUBLE value from a field in a JSON object.	JSON_DOUBLE([top_scores], "test_scores.2")
JSON_INTEGER	Extracts an INTEGER value from a field in a JSON object.	JSON_INTEGER([top_scores], "test_scores.2")
JSON_LONG	Extracts a LONG value from a field in a JSON object.	JSON_LONG([top_scores], "test_scores.2")
JSON_STRING	Extracts a TEXT value from a field in a JSON object.	JSON_STRING([misc], "hobbies.0")
LENGTH	Returns the count of characters in a TEXT value.	LENGTH([name])

Function	Description	Example
PACK_VALUES	Returns multiple output values packed into a single string of key/value pairs separated by the default key and pair separators. The string returned is in a format that can be read by the EXTRACT_VALUE function. PACK_VALUES uses the same key and pair separator values that EXTRACT_VALUE uses (the Unicode escape sequences u0003 and u0002, respectively).	PACK_VALUES("ID", [custid], "Age", [age])
REGEX	Performs a whole string match against a TEXT value with a regular expression and returns the portion of the string matching the first capturing group of the regular expression.	REGEX([email], "^[a-zA-Z0-9._%+-]+@[a-zA-Z0-9._-]+\.[a-zA-Z]{2,4}\$")
REGEX_REPLACE	Evaluates a TEXT value against a regular expression to determine if there is a match, and replaces matched strings with the specified replacement value.	REGEX_REPLACE([phone_number], "([0-9]{3})\\.([0-9]{3})\\.([0-9]{4})", "\(\$1\) \$2-\$3")
REVERSE	Returns the characters of a string value in the opposite order.	REVERSE("123 Main Street")
SUBSTRING	Returns the specified characters of a TEXT value based on the given start and optional end position.	SUBSTRING([name], 0, 1)
TO_LOWER	Converts all alphabetic characters in a TEXT value to lower case.	TO_LOWER("123 Main Street") returns 123 main street
TO_PROPER	Returns a TEXT value with the first letter of each word capitalized.	TO_PROPER("123 Alameda de las Pulgas, San Mateo CA")
TO_UPPER	Converts all alphabetic characters in a TEXT value to upper case.	TO_UPPER("123 Main Street")
TRIM	Removes leading and trailing spaces from a TEXT value.	TRIM([area_code])
XPATH_STRING	Takes XML and returns the first string matching the given XPath expression.	XPATH_STRING([address], "//address[@type='home']/zipcode")

URL Functions

Function	Description	Example
URL_AUTHORITY	Returns the authority portion of a URL string. The authority portion of a URL is the part that has the information on how to locate and connect to the server.	URL_AUTHORITY("http://user:password@mycompany.com:8012/mypage.html")
URL_FRAGMENT	Returns the fragment portion of a URL string.	URL_FRAGMENT("http://workday.com/news.php?topic=press#Workday%20News")
URL_HOST	Returns the host, domain, or IP address portion of a URL string.	URL_HOST("http://user:password@mycompany.com:8012/mypage.html")
URL_PATH	Returns the path portion of a URL string.	URL_PATH("http://workday.com/company/contact.html")
URL_PORT	Returns the port portion of a URL string.	URL_PORT("http://user:password@mycompany.com:8012/mypage.html")
URL_PROTOCOL	Returns the protocol (or URI scheme name) portion of a URL string.	URL_PROTOCOL("http://www.workday.com")
URL_QUERY	Returns the query portion of a URL string.	URL_QUERY("http://workday.com/news.php?topic=press&timeframe=today")
URLDECODE	Decodes a TEXT value that has been encoded with the application/x-www-form-urlencoded media type.	URLDECODE("N%2FA%20or%20%22not%20applicable%22")

Window Functions

Function	Description	Example
AVG	Is a window aggregate function that partitions rows into groups, orders rows by a field, and returns the average of all valid numeric values in the group. It sums all values in the group and divides by the number of valid (NOT NULL) rows. You can use AVG to calculate moving averages.	AVG([Sales]) OVER(PARTITION BY [Employee] ORDER BY [SalesDate] DESC ROWS UNBOUNDED PRECEDING)
COUNT	Is a window aggregate function that partitions rows into groups, orders rows by a field, and returns the total number of valid rows (NOT NULL) in the group. You can use COUNT together with other functions to calculate cumulative aggregates.	COUNT([Sales]) OVER(PARTITION BY [Employee] ORDER BY [SalesDate] DESC ROWS UNBOUNDED PRECEDING)

Function	Description	Example
FIRST	Is a window aggregate function that partitions rows into groups, orders rows by a field, and returns the value from the first row in the group.	
LAG	Is a window aggregate function that partitions rows into groups, orders rows by a field, and returns the value of a field in the row at the specified offset before (above) the current row in the group.	[Salary] - (LAG([Salary], 1, [Salary]) OVER(PARTITION BY [Employee_Name] ORDER BY [Eff_Date] ASC))

Function	Description	Example
LAST	Is a window aggregate function that partitions rows into groups, orders rows by a field, and returns the value from the last row in the group.	
LEAD	Is a window aggregate function that partitions rows into groups, orders rows by a field, and returns the value of a field in the row at the specified offset after (below) the current row in the group.	[Salary] - (LEAD([Salary], 1, [Salary]) OVER(PARTITION BY [Employee_Name] ORDER BY [Eff_Date] DESC))
MAX	Is a window aggregate function that partitions rows into groups, orders rows by a field, and returns the maximum (highest) value in the group.	MAX([Comp_Change]) OVER(PARTITION BY [Supervisory_Org], [Quarter] ORDER BY [Comp_Change] DESC ROWS BETWEEN UNBOUNDED PRECEDING AND UNBOUNDED FOLLOWING)
MIN	Is a window aggregate function that partitions rows into groups, orders rows by a field, and returns the minimum (lowest) value in the group.	MIN([Comp_Change]) OVER(PARTITION BY [Supervisory_Org], [Quarter] ORDER BY [Comp_Change] ASC ROWS BETWEEN UNBOUNDED PRECEDING AND UNBOUNDED FOLLOWING)
RANK	Is a window aggregate function used to assign a ranking number to each row in a group. If multiple rows have the same ranking value (there's a tie), then Workday assigns the same rank value to the tied rows and skips the subsequent rank position.	RANK() OVER(PARTITION BY [Employee] ORDER BY [Sales] DESC)
ROW_NUMBER	Is a window aggregate function that partitions rows into groups, orders rows by a field, and assigns a unique, sequential number to each row in a group, starting at 1 for the first row in each group. ROW_NUMBER always assigns a unique value to each row in a group. You might want to use ROW_NUMBER to create a unique ID for each row in your dataset.	ROW_NUMBER() OVER(PARTITION BY [Employee] ORDER BY [Sales] DESC)
SUM	Is a window aggregate function that partitions rows into groups, orders rows by a field, and returns the total of all values in the group. You can use SUM to calculate running totals.	SUM([fieldA]) OVER(PARTITION BY [fieldB] ORDER BY [Month] RANGE 11 PRECEDING)

Arithmetic Operators

Operator	Meaning	Example
+	Addition	[amount] + 10 Add 10 to the value of the [amount] field.
-	Subtraction	[amount] - 10 Subtract 10 from the value of the [amount] field.
*	Multiplication	[amount] * 100 Multiply the value of the [amount] field by 100.
/	Division	[bytes] / 1024 Divide the value of the [bytes] field by 1024 and return the quotient.

Comparison Operators

Operator	Meaning	Example
= or ==	Equal to	[order_date] = "12/22/2016"
>	Greater than	[age] > 18
!>	Not greater than (equivalent to <)	[age] !> 8
<	Less than	[age] < 30
!<	Not less than (equivalent to >=)	[age] !< 12
>=	Greater than or equal to	[age] >= 20
<=	Less than or equal to	[age] <= 29
<> or != or ^=	Not equal to	[age] <> 30
BETWEEN <i>min_value</i> AND <i>max_value</i>	Test whether a date or numeric value is within the <i>min</i> and <i>max</i> values (inclusive).	[year] BETWEEN 2014 AND 2016
IN(<i>list</i>)	Test whether a value is within a set.	[product_type] IN("tablet", "phone", "laptop")
LIKE("pattern")	Simple inclusive case-insensitive character pattern matching. The * character matches any number of characters. The ? character matches exactly 1 (a single) character.	[last_name] LIKE("Kutcher") Matches Kutcher, hutch but not Krutcher or crutch [company_name] LIKE("workday") Matches Workday or workday
<i>value</i> IS NULL	Check whether a field value or expression is null (empty).	[ship_date] IS NULL

Operator	Meaning	Example
		Evaluates to <i>true</i> when the <i>ship_date</i> field is empty

Logical Operators

Operator	Meaning	Example
AND	Test whether 2 conditions are true.	
OR	Test if either of 2 conditions are true.	
NOT	Reverses the value of other operators.	<ul style="list-style-type: none"> <code>year NOT BETWEEN 2013 AND 2016</code> <code>first_name NOT LIKE("Jo?n*")</code> Excludes <i>John, jonny</i> but not <i>Jon or Joann</i> <code>Weekday NOT IN("Saturday", "Sunday")</code> <code>purchase_date IS NOT NULL</code> Evaluates to <i>true</i> when the <i>purchase_date</i> field is not empty

Operators

Comparison Operators

Comparison operators are used to compare the equivalency or inequivalency of 2 expressions of the same field type. The result of a comparison expression is a Boolean value (returns *true*, *false*, or *NULL* for invalid, such as comparing a text value to a numeric value). Boolean expressions are most often used to specify data processing conditions or filter criteria.

Example: You can use comparison operators in a CASE expression:

```
CASE WHEN [age] <= 25 THEN "0-25"
WHEN [age] <= 50 THEN "26-50"
ELSE "over 50" END
```

This expression compares the value in the *age* field to a literal number value. If *true*, it returns the appropriate boolean value.

For more details and some examples of boolean expressions, see [Reference: Boolean Expressions](#). For details on how Workday handles *NULL* values in boolean expressions, see [Concept: NULL Values in Tables and Datasets](#).

Operator	Meaning	Example
= or ==	Equal to	<code>[order_date] = "12/22/2016"</code>
>	Greater than	<code>[age] > 18</code>

Operator	Meaning	Example
<code>! ></code>	Not greater than (equivalent to <code><</code>)	<code>[age] !> 8</code>
<code><</code>	Less than	<code>[age] < 30</code>
<code>! <</code>	Not less than (equivalent to <code>>=</code>)	<code>[age] !< 12</code>
<code>>=</code>	Greater than or equal to	<code>[age] >= 20</code>
<code><=</code>	Less than or equal to	<code>[age] <= 29</code>
<code><> or != or ^=</code>	Not equal to	<code>[age] <> 30</code>
<code>BETWEEN min_value AND max_value</code>	Test whether a date or numeric value is within the <code>min</code> and <code>max</code> values (inclusive).	<code>[year] BETWEEN 2014 AND 2016</code>
<code>IN(list)</code>	Test whether a value is within a set.	<code>[product_type] IN("tablet", "phone", "laptop")</code>
<code>LIKE("pattern")</code>	Simple inclusive case-insensitive character pattern matching. The <code>*</code> character matches any number of characters. The <code>?</code> character matches exactly 1 (a single) character.	<code>[last_name] LIKE(?utch*)</code> Matches <i>Kutcher</i> , <i>hutch</i> but not <i>Krutzer</i> or <i>crutch</i> <code>[company_name] LIKE("workday")</code> Matches <i>Workday</i> or <i>workday</i>
<code>value IS NULL</code>	Check whether a field value or expression is null (empty).	<code>[ship_date] IS NULL</code> Evaluates to <i>true</i> when the <code>ship_date</code> field is empty

Logical Operators

Use logical operators in expressions to test for a condition. Logical operators define Boolean expressions.

You might want to use logical operators in Filter transformations or CASE expressions. Filters test if a field or value meets some condition, such as testing if the value in a Date field falls between 2 other dates:

```
BETWEEN 2016-06-01 AND 2016-07-31
```

Operator	Meaning	Example
<code>AND</code>	Test whether 2 conditions are true.	
<code>OR</code>	Test if either of 2 conditions are true.	
<code>NOT</code>	Reverses the value of other operators.	<ul style="list-style-type: none"> <code>year NOT BETWEEN 2013 AND 2016</code> <code>first_name NOT LIKE("Jo?n*")</code> Excludes <i>John</i>, <i>jonny</i> but not <i>Jon</i> or <i>Joann</i> <code>Weekday NOT IN("Saturday", "Sunday")</code>

Operator	Meaning	Example
		<ul style="list-style-type: none"> purchase_date IS NOT NULL <p>Evaluates to <i>true</i> when the <i>purchase_date</i> field is not empty</p>

Arithmetic Operators

Arithmetic operators perform basic math operations on 2 expressions of the same field type resulting in a numeric value.

Example: You can calculate the gross profit margin percentage using the values of a [total_revenue] and [total_cost] field:

```
(([total_revenue] - [total_cost]) / [total_cost]) * 100
```

Operator	Meaning	Example
+	Addition	[amount] + 10 Add 10 to the value of the [amount] field.
-	Subtraction	[amount] - 10 Subtract 10 from the value of the [amount] field.
*	Multiplication	[amount] * 100 Multiply the value of the [amount] field by 100.
/	Division	[bytes] / 1024 Divide the value of the [bytes] field by 1024 and return the quotient.

Conversion Functions

BUILD_CURRENCY

Description

BUILD_CURRENCY is a row function that constructs a Currency field from a numeric value and a Text or Instance value that contains a valid currency code. When the currency code isn't valid, this function returns NULL.

Syntax

```
BUILD_CURRENCY(number_expression,currency_code_expression)
```

Return Value

Returns a value of type CURRENCY.

Input Parameters

number_expression

Required. A field or expression of type DOUBLE, NUMERIC, INTEGER, or LONG.

currency_code_expression

Required. A field or expression of type TEXT or INSTANCE that contains valid currency code data.

Examples

Convert the values of the Sale Price field (Numeric type) to a Currency field type using the currency codes from the Currency Code field:

```
BUILD_CURRENCY([Sale Price], [Currency Code])
```

CAST

Description

CAST is a row function that converts data values from one field type (data type) to another.

You can use CAST to convert these field types:

From Field Type	To Field Types
Boolean	Boolean, Numeric, Double, Integer, Long, Text
Date	Date, Text
Numeric	Boolean, Numeric, Double, Integer, Long, Text
Double	Boolean, Numeric, Double, Integer, Long, Text
Integer	Boolean, Numeric, Double, Integer, Long, Text
Long	Boolean, Numeric, Double, Integer, Long, Text
Instance	Instance, Text
Multi-Instance	Multi-Instance (using a different business object)
Text	Boolean, Numeric, Double, Instance, Integer, Long, Text

Syntax

```
CAST(field_name AS field_type)
```

Return Value

Returns one value per row of the specified field type.

Input Parameters

field_name

Required. A field or expression of a supported field type.

field_type

Required. The field type to convert the data values into.

To convert a field to the Text field type, specify STRING for this parameter.

When specifying Boolean as the field type, CAST converts the value of zero (0) to False, and all other values to True.

When specifying Instance or Multi-Instance as the field type, you must specify the business object using its unique identifier (WID). Use this syntax:

```
Instance(business_object_WID)
```

```
Multi_Instance(business_object_WID)
```

When specifying Numeric as the field type, specify the number of digits to the left of the decimal point (integers) and the number of digits to the right of decimal point (decimals). Use this syntax:

```
Decimal(integers,decimals)
```

Ensure that the number of integer digits specified is large enough to capture all possible data values. If the value for a row has more integer digits than the number of integer digits specified in the function, then `CAST` returns NULL. Example: `CAST(99.9 AS decimal(1,1))` returns NULL. If the value of a row has more decimal digits than the number of decimal digits in the function, then `CAST` rounds the decimal digit to the number selected. Example: `CAST(1234.5599 AS decimal(4,2))` returns 1234.56

Examples

Convert the WID values of the *Region* field from Text to Instance:

```
CAST([Region] AS Instance(eecb565181284b6a8ae8b45dc3ed1451))
```

```
CAST("3b122818d7934d1c8c663ddbe1937819" AS  
Instance(eecb565181284b6a8ae8b45dc3ed1451))
```

Convert the *amount* field to Text:

```
CAST([amount] AS string)
```

Convert the values of the *average_rating* field to a Numeric field type:

```
CAST([average_rating] AS decimal(1,2))
```

```
CAST(99.99 AS decimal(10,3)) returns 99.990.
```

```
CAST(99.99 AS decimal(20,2)) returns 99.99.
```

```
CAST(99.999 AS decimal(10,2)) returns 100.00.
```

```
CAST(99.99 AS decimal(1,2)) returns NULL.
```

EPOCH_MS_TO_DATE

Description

`EPOCH_MS_TO_DATE` is a row function that converts `LONG` values to `DATE` values, where the input number represents the number of milliseconds since the epoch.

Syntax

```
EPOCH_MS_TO_DATE(long_expression)
```

Return Value

Returns one value per row of type `DATE` in UTC format `yyyy-MM-dd HH:mm:ss:SSS Z`.

Input Parameters

long_expression

Required. A field or expression of type LONG representing the number of milliseconds since the epoch date (January 1, 1970 00:00:00:000 GMT).

Examples

Convert a number representing the number of milliseconds from the epoch to a human-readable date and time:

```
EPOCH_MS_TO_DATE(1360260240000) returns 2013-02-07T18:04:00:000Z or February 7, 2013 18:04:00:000 GMT
```

Or if your data is in seconds instead of milliseconds:

```
EPOCH_MS_TO_DATE(1360260240 * 1000) returns 2013-02-07T18:04:00:000Z or February 7, 2013 18:04:00:000 GMT
```

EXTRACT_AMOUNT

Description

EXTRACT_AMOUNT is a row function that takes a Currency value and extracts the numeric amount as a Numeric value.

Syntax

```
EXTRACT_AMOUNT(currency_expression)
```

Return Value

Returns a value of type NUMERIC.

Input Parameters

currency_expression

Required. A field or expression of type CURRENCY.

Examples

Get the numeric values from the Salary field (Currency field type):

```
EXTRACT_AMOUNT([Salary])
```

EXTRACT_CODE

Description

EXTRACT_CODE is a row function that takes a Currency value and extracts the currency code as an Instance value.

Syntax

```
EXTRACT_CODE(currency_expression)
```

Return Value

Returns a value of type INSTANCE.

Input Parameters

currency_expression

Required. A field or expression of type CURRENCY.

Examples

Get the currency code information from the Salary field (Currency field type) as an Instance field:

```
EXTRACT_CODE([Salary])
```

EXTRACT_CODE_TEXT

Description

`EXTRACT_CODE_TEXT` is a row function that takes a Currency value and extracts the currency code as a Text value.

Syntax

```
EXTRACT_CODE_TEXT(currency_expression)
```

Return Value

Returns a value of type TEXT.

Input Parameters

`currency_expression`

Required. A field or expression of type CURRENCY.

Examples

Get the currency code information from the Salary field (Currency field type) as a Text field:

```
EXTRACT_CODE_TEXT([Salary])
```

TO_BOOLEAN

Description

`TO_BOOLEAN` is a row function that converts TEXT, BOOLEAN, INTEGER, LONG, or NUMERIC values to BOOLEAN.

Syntax

```
TO_BOOLEAN(expression)
```

Return Value

Returns one value per row of type BOOLEAN.

Input Parameters

`expression`

Required. A field or expression of type TEXT, BOOLEAN, INTEGER, LONG, or NUMERIC.

The function converts these values to true:

```
1, 1.0, "true", "t", "yes", "y", "1"
```

The function converts these values to false:

```
0, 0.0, "false", "f", "no", "n", "0"
```

The function converts all other values to NULL.

Examples

Convert the values of the *is_contingent* field to a Boolean:

```
TO_BOOLEAN([is_contingent])
```

These expressions return true:

```
TO_BOOLEAN("TRUE")
```

```
TO_BOOLEAN("1")
```

```
TO_BOOLEAN(1.0)
```

These expressions return false:

```
TO_BOOLEAN("False")
```

```
TO_BOOLEAN("0")
```

```
TO_BOOLEAN(0.0)
```

These expressions return NULL:

```
TO_BOOLEAN("correct")
```

```
TO_BOOLEAN("1.0")
```

```
TO_BOOLEAN(1.1)
```

TO_CURRENCY

Description

`TO_CURRENCY` is a row function that converts `TEXT` values that contain valid currency-formatted data to `CURRENCY` values.

Syntax

```
TO_CURRENCY(expression)
```

Return Value

Returns a value of type `CURRENCY`.

Input Parameters

`expression`

Required. A field or expression of type `TEXT` that represents a valid currency-formatted value.

A valid currency-formatted value meets these requirements:

- Includes both the numeric value and currency code.
- Uses a period to separate digits before and after the decimal.
- Doesn't include any character to separate the thousands place.

Example: 10000 EUR and 12345.678 USD.

Examples

Convert this text value to a Currency field type:

```
TO_CURRENCY("1234.56 USD")
```

Convert the values of the Grant Price field to a Currency field type using the currency codes in the Grant Code field:

```
TO_CURRENCY(CONCAT(TO_STRING([Grant Price]), [Grant Code]))
```

Convert the Sale Price field Text field to a Currency field, but first transform the occurrence of any N/A values to NULL values using a CASE expression:

```
TO_CURRENCY(CASE WHEN [Sale Price] = "N/A" then NULL ELSE [Sale Price] END)
```

TO_DATE

Description

TO_DATE is a row function that converts TEXT values to DATE values, and specifies the format of the date and time elements in the string.

Syntax

```
TO_DATE(string_expression, "date_format")
```

Return Value

Returns one value per row of type DATE (which by definition is in UTC).

Input Parameters

string_expression

Required. A field or expression of type TEXT.

date_format

Required. A pattern that describes how the date is formatted.

Examples

Define a new DATE Prism calculated field based on the *order_date* base field, which contains timestamps in the format of: *2014.07.10 at 15:08:56 PDT*:

```
TO_DATE([order_date], "yyyy.MM.dd 'at' HH:mm:ss z")
```

Define a new DATE Prism calculated field by first combining individual *month*, *day*, *year*, and *depart_time* fields (using CONCAT), and performing a transformation on *depart_time* to make sure three-digit times are converted to four-digit times (using REGEX_REPLACE):

```
TO_DATE(CONCAT([month], "/", [day], "/", [year], ":" ,  
REGEX_REPLACE([depart_time], "\b(\d{3})\b", "0$1")), "MM/dd/yyyy:HHmm")
```

Define a new DATE Prism calculated field based on the *created_at* base field, which contains timestamps in the format of: *Sat Jan 25 16:35:23 +0800 2014* (this is the timestamp format returned by Twitter's API):

```
TO_DATE([created_at], "EEE MMM dd HH:mm:ss z yyyy")
```

Related Information

Reference

[Reference: Date Format Symbols](#) on page 440

TO_DECIMAL

Description

TO_DECIMAL is a row function that converts TEXT, BOOLEAN, INTEGER, LONG, DOUBLE, or NUMERIC values to NUMERIC values with the default number of digits before and after the decimal point.

Syntax

`TO_DECIMAL(expression)`

Return Value

Returns one value per row of type `NUMERIC` with the default number of digits before and after the decimal point.

Input Parameters

`expression`

Required. A field or expression of type `TEXT` (must be numeric characters), `BOOLEAN`, `INTEGER`, `LONG`, `DOUBLE`, or `NUMERIC`.

Examples

Convert the values of the `average_rating` field to a Numeric field type:

```
TO_DECIMAL([average_rating])
```

Convert the `average_rating` field to a Numeric field type, but first transform the occurrence of any `NA` values to `NULL` values using a `CASE` expression:

```
TO_DECIMAL(CASE WHEN [average_rating] = "N/A" then NULL ELSE [average_rating]
END)
```

TO_DOUBLE

Description

`TO_DOUBLE` is a row function that converts `TEXT`, `BOOLEAN`, `INTEGER`, `LONG`, or `DOUBLE` values to `DOUBLE` (a type of numeric) values.

Syntax

`TO_DOUBLE(expression)`

Return Value

Returns one value per row of type `DOUBLE`.

Input Parameters

`expression`

Required. A field or expression of type `TEXT` (must be numeric characters), `BOOLEAN`, `INTEGER`, `LONG`, or `DOUBLE`.

Examples

Convert the values of the `average_rating` field to a Double field type:

```
TO_DOUBLE([average_rating])
```

Convert the `average_rating` field to a Double field type, but first transform the occurrence of any `NA` values to `NULL` values using a `CASE` expression:

```
TO_DOUBLE(CASE WHEN [average_rating] = "N/A" then NULL ELSE [average_rating]
END)
```

TO_INT

Description

TO_INT is a row function that converts TEXT, BOOLEAN, INTEGER, LONG, or DOUBLE values to INTEGER (whole number) values. When converting DOUBLE values, everything after the decimal will be truncated (not rounded up or down).

Syntax

`TO_INT(expression)`

Return Value

Returns one value per row of type INTEGER.

Input Parameters

expression

Required. A field or expression of type TEXT, BOOLEAN, INTEGER, LONG, or DOUBLE. If a TEXT field contains non-numeric characters, the function returns NULL.

Examples

Convert the values of the `average_rating` field to an Integer field type:

`TO_INT([average_rating])`

Convert the `flight_duration` field to an Integer field type, but first transform the occurrence of any `NA` values to NULL values using a CASE expression:

`TO_INT(CASE WHEN [flight_duration] = "N/A" then NULL ELSE [flight_duration] END)`

TO_LONG

Description

TO_LONG is a row function that converts TEXT, BOOLEAN, INTEGER, LONG, DECIMAL, DATE, or DOUBLE values to LONG (whole number) values. When converting DECIMAL or DOUBLE values, everything after the decimal will be truncated (not rounded up or down).

Syntax

`TO_LONG(expression)`

Return Value

Returns one value per row of type LONG.

Input Parameters

expression

Required. A field or expression of type TEXT (must be numeric characters only, no period or comma), BOOLEAN, INTEGER, LONG, DECIMAL, DATE, or DOUBLE. When a TEXT field value includes a decimal, the function returns a NULL value.

Examples

Convert the values of the `average_rating` field to a Long field type:

`TO_LONG([average_rating])`

Convert the *average_rating* field to a Long field type, but first transform the occurrence of any *NA* values to *NULL* values using a CASE expression:

```
TO_LONG(CASE WHEN [average_rating] = "N/A" then NULL ELSE [average_rating] END)
```

TO_STRING

Description

TO_STRING is a row function that converts values of other data types to TEXT (character) values.

Syntax

```
TO_STRING(expression)
```

```
TO_STRING(date_expression,date_format)
```

Return Value

Returns one value per row of type TEXT.

Input Parameters

expression

A field or expression of type TEXT, BOOLEAN, INTEGER, LONG, NUMERIC, DOUBLE, INSTANCE, or MULTI-INSTANCE. When you convert an Instance or Multi-Instance field to a string, this function returns the unique identifier (WID), not the display name, of the field value. When a Multi-Instance field contains more than 1 value, this function concatenates each value into a single string with no spaces.

date_expression

A field or expression of type DATE.

date_format

If converting a DATE to DATE, a pattern that describes how the date is formatted. See [TO_DATE](#) on page 551 for the date format patterns.

Examples

Convert the values of the *sku_number* field to a Text field type:

```
TO_STRING([sku_number])
```

Convert values in the *age* column into range-based groupings (binning), and cast output values to a TEXT:

```
TO_STRING(CASE WHEN [age] <= 25 THEN "0-25" WHEN [age] <= 50 THEN "26-50" ELSE "over 50" END)
```

Convert the values of a *timestamp* Date field to TEXT, where the timestamp values are in the format of: *2002.07.10 at 15:08:56 PDT*:

```
TO_STRING([timestamp], "yyyy.MM.dd 'at' HH:mm:ss z")
```

Date Functions

DAYS_BETWEEN

Description

DAYS_BETWEEN is a row function that calculates time between 2 DATE values (*value1 - value2*) and truncates it to days (accounting for daylight savings).

Syntax

`DAYs_BETWEEN(date_1,date_2)`

Return Value

Returns 1 value per row of type INTEGER.

Input Parameters

`date_1`

Required. A field or expression of type DATE.

`date_2`

Required. A field or expression of type DATE.

Examples

Calculate the number of days to ship a product by subtracting the value of the `order_date` field from the `ship_date` field:

```
DAYs_BETWEEN([ship_date], [order_date])
```

Calculate the number of days since a release by subtracting the value of the `release_date` field from the current date (the result of the TODAY expression):

```
DAYs_BETWEEN(TODAY(), [release_date])
```

DATE_ADD

Description

`DATE_ADD` is a row function that adds the specified time interval to a DATE value.

Syntax

`DATE_ADD(date,quantity,"interval")`

Return Value

Returns a value of type DATE.

Input Parameters

`date`

Required. A field name or expression that returns a DATE value.

`quantity`

Required. An integer value. To add time intervals, use a positive integer. To subtract time intervals, use a negative integer.

`interval`

Required. One of the following time intervals:

- `millisecond` - Adds the specified number of milliseconds to a date value.
- `second` - Adds the specified number of seconds to a date value.
- `minute` - Adds the specified number of minutes to a date value.
- `hour` - Adds the specified number of hours to a date value.
- `day` - Adds the specified number of days to a date value.
- `week` - Adds the specified number of weeks to a date value.
- `month` - Adds the specified number of months to a date value.
- `quarter` - Adds the specified number of quarters to a date value.

- **year** - Adds the specified number of years to a date value.
- **weekyear** - Adds the specified number of weekyears to a date value.

Examples

Add 45 days to the value of the *invoice_date* field to calculate the date a payment is due:

```
DATE_ADD([invoice_date], 45, "day")
```

EXTRACT

Description

EXTRACT is a row function that returns the specified portion of a **DATE** value.

Syntax

```
EXTRACT( "extract_value" ,DATE )
```

Return Value

Returns the specified extracted value as type **INTEGER**. EXTRACT removes leading zeros. For example, the month of April returns a value of 4, not 04.

Input Parameters

extract_value

Required. One of the following extract values:

- **millisecond** - Returns the millisecond portion of a date value. For example, an input date value of 2012-08-15 20:38:40.213 would return an integer value of 213.
- **second** - Returns the second portion of a date value. For example, an input date value of 2012-08-15 20:38:40.213 would return an integer value of 40.
- **minute** - Returns the minute portion of a date value. For example, an input date value of 2012-08-15 20:38:40.213 would return an integer value of 38.
- **hour** - Returns the hour portion of a date value. For example, an input date value of 2012-08-15 20:38:40.213 would return an integer value of 20.
- **day** - Returns the day portion of a date value. For example, an input date value of 2012-08-15 would return an integer value of 15.
- **week** - Returns the ISO week number for the input date value. For example, an input date value of 2012-01-02 would return an integer value of 1 (the first ISO week of 2012 starts on Monday January 2). An input date value of 2012-01-01 would return an integer value of 52 (January 1, 2012 is part of the last ISO week of 2011).
- **month** - Returns the month portion of a date value. For example, an input date value of 2012-08-15 would return an integer value of 8.
- **quarter** - Returns the quarter number for the input date value, where quarters start on January 1, April 1, July 1, or October 1. For example, an input date value of 2012-08-15 would return a integer value of 3.
- **year** - Returns the year portion of a date value. For example, an input date value of 2012-01-01 would return an integer value of 2012.
- **weekyear** - Returns the year value that corresponds to the ISO week number of the input date value. For example, an input date value of 2012-01-02 would return an integer value of 2012 (the first ISO week of 2012 starts on Monday January 2). An input date value of 2012-01-01 would return an integer value of 2011 (January 1, 2012 is part of the last ISO week of 2011).

date

Required. A field name or expression that returns a DATE value.

Examples

Extract the hour portion from the *order_date* Date field:

```
EXTRACT( "hour" , [order_date] )
```

Cast the value of the *order_date* Text field to a date value using TO_DATE, and extract the ISO week year:

```
EXTRACT( "weekyear" , TO_DATE( [order_date] , "MM/dd/yyyy HH:mm:ss" ) )
```

HOURS_BETWEEN

Description

HOURS_BETWEEN is a row function that calculates the whole number of hours (ignoring minutes, seconds, and milliseconds) between two DATE values (value1 - value2).

Syntax

```
HOURS_BETWEEN( date_1 , date_2 )
```

Return Value

Returns one value per row of type INTEGER.

Input Parameters

date_1

Required. A field or expression of type DATE.

date_2

Required. A field or expression of type DATE.

Examples

Calculate the number of hours to ship a product by subtracting the value of the *ship_date* field from the *order_date* field:

```
HOURS_BETWEEN( [ship_date] , [order_date] )
```

MILLISECONDS_BETWEEN

Description

MILLISECONDS_BETWEEN is a row function that calculates the whole number of milliseconds between two DATE values (value1 - value2).

Syntax

```
MILLISECONDS_BETWEEN( date_1 , date_2 )
```

Return Value

Returns one value per row of the same type as the input.

Input Parameters

date_1

Required. A field or expression of type DATE.

date_2

Required. A field or expression of type DATE.

Examples

Calculate the number of milliseconds it took to serve a web page by subtracting the value of the *request_timestamp* field from the *response_timestamp* field:

```
MILLISECONDS_BETWEEN([request_timestamp], [response_timestamp])
```

MINUTES_BETWEEN

Description

MINUTES_BETWEEN is a row function that calculates the whole number of minutes (ignoring seconds and milliseconds) between two DATE values (value1 - value2).

Syntax

```
MINUTES_BETWEEN(date_1, date_2)
```

Return Value

Returns one value per row of type INTEGER.

Input Parameters

date_1

Required. A field or expression of type DATE.

date_2

Required. A field or expression of type DATE.

Examples

Calculate the number of minutes it took for a user to click on an advertisement by subtracting the value of the *impression_timestamp* field from the *conversion_timestamp* field:

```
MINUTES_BETWEEN([impression_timestamp], [conversion_timestamp])
```

SECONDS_BETWEEN

Description

SECONDS_BETWEEN is a row function that calculates the whole number of seconds (ignoring milliseconds) between two DATE values (value1 - value2).

Syntax

```
SECONDS_BETWEEN(date_1, date_2)
```

Return Value

Returns one value per row of type INTEGER.

Input Parameters

date_1

Required. A field or expression of type DATE.

date_2

Required. A field or expression of type DATE.

Examples

Calculate the number of seconds it took for a user to click on an advertisement by subtracting the value of the *impression_timestamp* field from the *conversion_timestamp* field:

```
SECONDS_BETWEEN([impression_timestamp], [conversion_timestamp])
```

TODAY

Description

TODAY is a scalar function that returns the current system date and time as a DATE value (no time information). It can be used in other expressions involving DATE type fields, such as YEAR_DIFF. Note that the value of TODAY is only evaluated at the time a dataset is published (it is not re-evaluated with each query).

Syntax

```
TODAY()
```

Return Value

Returns the current system date (no time) as a DATE value.

Examples

Calculate a user's age using YEAR_DIFF to subtract the value of the *birthdate* field from the current date:

```
YEAR_DIFF(TODAY(), [birthdate])
```

Calculate the number of days since a product's release using DAYS_BETWEEN to subtract the value of the *release_date* field from the current date:

```
DAYS_BETWEEN(TODAY(), [release_date])
```

TRUNC

Description

TRUNC is a row function that truncates a DATE value to the specified format.

Syntax

```
TRUNC(date, "format")
```

Return Value

Returns a value of type DATE truncated to the specified format.

Input Parameters

date

Required. A field or expression that returns a DATE value.

format

Required. One of the following format values:

- **millisecond** - Returns a date value truncated to millisecond granularity. Has no effect since millisecond is already the most granular format for date values. For example, an input date value of 2012-08-15 20:38:40.213 would return a date value of 2012-08-15 20:38:40.213.

- **second** - Returns a date value truncated to second granularity. For example, an input date value of 2012-08-15 20:38:40.213 would return a date value of 2012-08-15 20:38:40.000.
- **minute** - Returns a date value truncated to minute granularity. For example, an input date value of 2012-08-15 20:38:40.213 would return a date value of 2012-08-15 20:38:00.000.
- **hour** - Returns a date value truncated to hour granularity. For example, an input date value of 2012-08-15 20:38:40.213 would return a date value of 2012-08-15 20:00:00.000.
- **day** - Returns a date value truncated to day granularity. For example, an input date value of 2012-08-15 20:38:40.213 would return a date value of 2012-08-15 00:00:00.000.
- **week** - Returns a date value truncated to the first day of the week (starting on a Monday). For example, an input date value of 2012-08-15 (a Wednesday) would return a date value of 2012-08-13 (the Monday prior).
- **month** - Returns a date value truncated to the first day of the month. For example, an input date value of 2012-08-15 would return a date value of 2012-08-01.
- **quarter** - Returns a date value truncated to the first day of the quarter (January 1, April 1, July 1, or October 1). For example, an input date value of 2012-08-15 20:38:40.213 would return a date value of 2012-07-01.
- **year** - Returns a date value truncated to the first day of the year (January 1). For example, an input date value of 2012-08-15 would return a date value of 2012-01-01.
- **weekyear** - Returns a date value truncated to the first day of the ISO weekyear (the ISO week starting with the Monday which is nearest in time to January 1). For example, an input date value of 2008-08-15 would return a date value of 2007-12-31. The first day of the ISO weekyear for 2008 is December 31, 2007 (the prior Monday closest to January 1).

Examples

Truncate the *order_date* date field to day granularity:

```
TRUNC([order_date], "day")
```

Cast the value of the *order_date* TEXT field to a date value using `TO_DATE`, and truncate it to day granularity:

```
TRUNC(TO_DATE([order_date], "MM/dd/yyyy HH:mm:ss"), "day")
```

YEAR_DIFF

Description

`YEAR_DIFF` is a row function that calculates the fractional number of years between two DATE values (`value1 - value2`).

Syntax

```
YEAR_DIFF(date_1,date_2)
```

Return Value

Returns one value per row of type DOUBLE.

Input Parameters

date_1

Required. A field or expression of type DATE.

date_2

Required. A field or expression of type DATE.

Examples

Calculate the number of years a user has been a customer by subtracting the value of the *registration_date* field from the current date (the result of the TODAY expression):

```
YEAR_DIFF(TODAY(), [registration_date])
```

Calculate a user's age by subtracting the value of the *birthdate* field from the current date (the result of the TODAY expression):

```
YEAR_DIFF(TODAY(), [birthdate])
```

Informational Functions

IS_VALID

Description

`IS_VALID` is a row function that returns 0 if the returned value is NULL, and 1 if the returned value is NOT NULL. This is useful for computing other calculations where you want to exclude NULL values (such as when computing averages).

Syntax

```
IS_VALID(expression)
```

Return Value

Returns 0 if the returned value is NULL, and 1 if the returned value is NOT NULL.

Input Parameters

expression

Required. A field name or expression.

Examples

Define a Prism calculated field using `IS_VALID`. This returns a row count only for the rows where this field value is NOT NULL. If a value is NULL, it returns 0 for that row. In this example, we create a Prism calculated field (*sale_amount_not_null*) using the *sale_amount* field as the basis.

```
IS_VALID([sale_amount])
```

Then you can use the *sale_amount_not_null* Prism calculated field to calculate an accurate average for *sale_amount* that excludes NULL values:

```
SUM([sale_amount])/SUM([sale_amount_not_null])
```

Instance Functions

CREATE_MULTI_INSTANCE

Description

`CREATE_MULTI_INSTANCE` is a row function that constructs a Multi-Instance field from one or more provided Multi-Instance or Instance fields.

Syntax

```
CREATE_MULTI_INSTANCE(field_name [ , field_name ] )
```

Return Value

Returns one value per row of type Multi-Instance.

Input Parameters

field_name

Required. A field of type Multi-Instance or Instance. All instance values must use the same business object.

Examples

Create a Multi-Instance field out of multiple Instance fields:

```
CREATE_MULTI_INSTANCE([Journal1], [Journal2], [Journal3])
```

Create a Multi-Instance field out of instance values:

```
CREATE_MULTI_INSTANCE(
    CAST("070b0d082eee44e1928c808cc739b35f" AS
        Instance(eecb565181284b6a8ae8b45dc3ed1451)) ,
    CAST("f4c49debb3dc483baa8707dfe683503c" AS
        Instance(eecb565181284b6a8ae8b45dc3ed1451))
)
```

INSTANCE_CONTAINS_ANY

Description

INSTANCE_CONTAINS_ANY is a row function that compares a Multi-Instance or Instance field to either a Multi-Instance field, an Instance field, or to a list of instance values, and returns True if at least one instance value exists in the first argument, and False if none of them exist.

Syntax

```
INSTANCE_CONTAINS_ANY(input_field, comparison_value , [comparison_value])
```

Return Value

Returns one value per row of type Boolean. This function returns NULL when it receives a Text value that isn't formatted as a valid instance value (WID format).

Input Parameters

input_field

Required. A field of type Multi-Instance or Instance.

comparison_value

Required. A field of type Multi-Instance or Instance, or a Text value of a valid instance value.

Examples

Compare the Worktags Multi-Instance field to the Instance fields Cost Center 1 and Cost Center 2:

```
INSTANCE_CONTAINS_ANY([Worktags], [Cost Center 1], [Cost Center 2])
```

INSTANCE_COUNT

Description

INSTANCE_COUNT is a row function that returns the total number of instance values in a Multi-Instance or Instance field. This function returns 0 when the field is empty.

Syntax

```
INSTANCE_COUNT(field_name)
```

Return Value

Returns one value per row of type Integer.

Input Parameters

field_name

Required. A field of type Multi-Instance or Instance.

Examples

Count the number of instance values in the *Journal Lines* Multi-Instance field:

```
INSTANCE_COUNT([Journal Lines])
```

INSTANCE_EQUALS

Description

INSTANCE_EQUALS is a row function that compares a Multi-Instance or Instance field to either a Multi-Instance field, an Instance field, or to a list of instance values, and checks if the first argument exactly matches the instance values provided in the other arguments.

Syntax

```
INSTANCE_EQUALS(input_field, comparison_value [, comparison_value])
```

Return Value

Returns one value per row of type Boolean. This function returns NULL when it receives a Text value that isn't formatted as a valid instance value (WID format).

Input Parameters

input_field

Required. A field of type Multi-Instance or Instance.

comparison_value

Required. A field of type Multi-Instance or Instance, or a Text value of a valid instance value. When *input_field* is an Instance field, the function accepts only one *comparison_value* parameter. When *input_field* is a Multi-Instance field, the function accepts multiple *comparison_value* parameters.

Examples

Compare the *Worktags* Multi-Instance field to the Instance fields *Cost Center 1* and *Cost Center 2*:

```
INSTANCE_EQUALS([Worktags], [Cost Center 1], [Cost Center 2])
```

INSTANCE_IS_SUPERSET_OF

Description

`INSTANCE_IS_SUPERSET_OF` is a row function that compares a Multi-Instance field to either a Multi-Instance field, an Instance field, or to a list of instance values, and returns True if every instance value exists in the first argument, and False if at least one doesn't exist.

Syntax

```
INSTANCE_IS_SUPERSET_OF(input_field, comparison_value [, comparison_value])
```

Return Value

Returns one value per row of type Boolean. This function returns NULL when it receives a Text value that isn't formatted as a valid instance value (WID format).

Input Parameters

input_field

Required. A field of type Multi-Instance.

comparison_value

Required. A field of type Multi-Instance or Instance, or a Text value of a valid instance value.

Examples

Compare the *Worktags* Multi-Instance field to the Instance fields *Cost Center 1* and *Cost Center 2*:

```
INSTANCE_IS_SUPERSET_OF([Worktags], [Cost Center 1], [Cost Center 2])
```

Logical Functions

CASE

Description

`CASE` is a row function that evaluates each row in the dataset according to one or more input conditions, and outputs the specified result when the input conditions are met.

Syntax

```
CASE WHEN input_condition [AND|OR input_condition] THEN output_expression [...]  
[ELSE other_output_expression] END
```

Return Value

Returns one value per row of the same type as the output expression. All output expressions must return the same field type.

If there are multiple output expressions that return different field types, then you will need to enclose your entire `CASE` expression in one of the field type conversion functions, such as `TO_INT`, to explicitly cast all output values to a particular field type.

Input Parameters

WHEN *input_condition*

Required. The `WHEN` keyword is used to specify one or more Boolean expressions (see the supported conditional operators). If an input value meets the condition, then the output expression is applied. Input conditions can include other row functions in their expression,

but cannot contain summarization functions or measure expressions. You can use the AND or OR keywords to combine multiple input conditions.

THEN *output_expression*

Required. The THEN keyword is used to specify an output expression when the specified conditions are met. Output expressions can include other row functions in their expression, but cannot contain summarization functions or measure expressions.

ELSE *other_output_expression*

Optional. The ELSE keyword can be used to specify an alternate output expression to use when the specified conditions are not met. If an ELSE expression is not supplied, ELSE NULL is the default.

END

Required. Denotes the end of CASE function processing.

Examples

Convert values in the age column into range-based groupings (binning):

```
CASE WHEN [age] <= 25 THEN "0-25" WHEN [age] <= 50 THEN "26-50" ELSE "over 50"
END
```

Transform values in the gender column from one string to another:

```
CASE WHEN [gender] = "M" THEN "Male" WHEN [gender] = "F" THEN "Female" ELSE
"Unknown" END
```

The vehicle column contains the following values: truck, bus, car, scooter, wagon, bike, tricycle, and motorcycle. The following example converts multiple values in the vehicle column into a single value:

```
CASE WHEN [vehicle] in ("bike", "scooter", "motorcycle") THEN "two-wheelers"
ELSE "other" END
```

Related Information

Reference

[Comparison Operators](#) on page 543

[Logical Operators](#) on page 544

[Arithmetic Operators](#) on page 545

COALESCE

Description

COALESCE is a row function that returns the first valid value (NOT NULL value) from a comma-separated list of expressions.

Syntax

COALESCE(*expression*[,*expression*] [, . . .])

Return Value

Returns one value per row of the same type as the first valid input expression.

Input Parameters

expression

At least one required. A field name or expression.

Examples

The following example shows an expression to calculate employee yearly income for exempt employees that have a *salary* and non-exempt employees that have an *hourly_wage*. This expression checks the values of both fields for each row, and returns the value of the first expression that is valid (NOT NULL).

```
COALESCE([hourly_wage] * 40 * 52, [salary])
```

Math Functions

DIV

Description

DIV is a row function that divides two LONG values and returns a quotient value of type LONG (the result is truncated to 0 decimal places).

Syntax

```
DIV(dividend, divisor)
```

Return Value

Returns one value per row of type LONG.

Input Parameters

dividend

Required. A field or expression of type LONG.

divisor

Required. A field or expression of type LONG.

Examples

Cast the value of the *file_size* field to Long and divide by 1024:

```
DIV(TO_LONG([file_size]), 1024)
```

EXP

Description

EXP is a row function that raises the mathematical constant e to the power (exponent) of a numeric value and returns a value of type DOUBLE.

Syntax

```
EXP(power)
```

Return Value

Returns one value per row of type DOUBLE.

Input Parameters

power

Required. A field or expression of a numeric type.

Examples

Raise e to the power in the *Value* field.

```
EXP([Value])
```

When the *Value* field value is 2.0, the result is equal to 7.3890 when truncated to four decimal places.

FLOOR

Description

FLOOR is a row function that returns the largest integer that is less than or equal to the input argument.

Syntax

```
FLOOR(LONG)
```

Return Value

Returns one value per row of type *LONG*.

Input Parameters

double

Required. A field or expression of type *LONG*.

Examples

Return the floor value of 32.6789:

```
FLOOR(32.6789) returns 32.0
```

HASH

Description

HASH is a row function that evenly partitions data values into the specified number of buckets. It creates a hash of the input value and assigns that value a bucket number. Equal values will always hash to the same bucket number.

Syntax

```
HASH(field_name, INTEGER)
```

Return Value

Returns one value per row of type *INTEGER* corresponding to the bucket number that the input value hashes to.

Input Parameters

field_name

Required. The name of the field whose values you want to partition. When this value is NULL and the *INTEGER* parameter is a value other than zero or NULL, the function returns zero, otherwise it returns NULL.

integer

Required. The desired number of buckets. This parameter can be a numeric value of any field type, but when it is a non-integer value, the value is truncated to an integer. When the value is zero or NULL, the function returns NULL. When the value is negative, the function uses absolute value.

Examples

Partition the values of the *username* field into 20 buckets:

```
HASH( [username] , 20 )
```

LN

Description

`LN` is a row function that returns the natural logarithm of a number. The natural logarithm is the logarithm to the base e , where e (Euler's number) is a mathematical constant approximately equal to 2.718281828. The natural logarithm of a number x is the power to which the constant e must be raised in order to equal x .

Syntax

```
LN(positive_number)
```

Return Value

Returns the exponent to which base e must be raised to obtain the input value, where e denotes the constant number 2.718281828. Returns one value per row of type `DOUBLE`.

For example, `LN(7 . 389)` is 2, because e to the power of 2 is approximately 7.389.

Input Parameters

`positive_number`

Required. A field or expression that returns a number greater than 0. Inputs can be of type `INTEGER`, `LONG`, `DOUBLE`.

Examples

Return the natural logarithm of base number e , which is approximately 2.718281828:

```
LN( 2.718281828 ) returns 1
```

```
LN( 3.0000 ) returns 1.098612
```

```
LN( 300.0000 ) returns 5.703782
```

MOD

Description

`MOD` is a row function that divides 2 `LONG` or `INTEGER` values and returns the remainder value of type `LONG` or `INTEGER` (the result is truncated to 0 decimal places).

Syntax

```
MOD(dividend,divisor)
```

Return Value

Returns 1 value per row of type `INTEGER` if both input values are of type `INTEGER`. Otherwise, returns 1 value per row of type `LONG`.

Input Parameters

`dividend`

Required. A field or expression of type `LONG` or `INTEGER`.

`divisor`

Required. A field or expression of type LONG or INTEGER.

Examples

Cast the value of the *file_size* field to LONG and divide by 1024:

```
MOD(TO_LONG([file_size]), 1024)
```

POW

Description

POW is a row function that raises the a numeric value to the power (exponent) of another numeric value and returns a value of type DOUBLE.

Syntax

```
POW(index,power)
```

Return Value

Returns one value per row of type DOUBLE.

Input Parameters

index

Required. A field or expression of a numeric type.

power

Required. A field or expression of a numeric type.

Examples

Calculate the compound annual growth rate (CAGR) percentage for a given investment over a five year span.

```
100 * POW([end_value]/[start_value], 0.2) - 1
```

Calculate the square of the *Value* field.

```
POW([Value],2)
```

Calculate the square root of the *Value* field.

```
POW([Value],0.5)
```

The following expression returns 1.

```
POW(0,0)
```

ROUND

Description

ROUND is a row function that rounds a numeric value to the specified number of decimal places and returns a value of type DOUBLE.

Syntax

```
ROUND(numeric_expression,number_decimal_places)
```

Return Value

Returns one value per row of type DOUBLE.

Input Parameters**numeric_expression**

Required. A field or expression of any numeric type.

number_decimal_places

Required. An integer that specifies the number of decimal places to round to.

Examples

Round the number 32.4678954 to two decimal places:

```
ROUND(32.4678954, 2) returns 32.47
```

Text Functions**CIDR_MATCH****Description**

CIDR_MATCH is a row function that compares two **TEXT** arguments representing a CIDR mask and an IP address, and returns 1 if the IP address falls within the specified subnet mask or 0 if it does not.

Syntax

```
CIDR_MATCH(CIDR_string, IP_string)
```

Return Value

Returns an **INTEGER** value of 1 if the IP address falls within the subnet indicated by the CIDR mask and 0 if it does not.

Input Parameters**CIDR_string**

Required. A field or expression that returns a **TEXT** value containing either an IPv4 or IPv6 CIDR mask (Classless InterDomain Routing subnet notation). An IPv4 CIDR mask can only successfully match IPv4 addresses, and an IPv6 CIDR mask can only successfully match IPv6 addresses.

IP_string

Required. A field or expression that returns a **TEXT** value containing either an IPv4 or IPv6 internet protocol (IP) address.

Examples

Compare an IPv4 CIDR subnet mask to an IPv4 IP address:

```
CIDR_MATCH("60.145.56.0/24", "60.145.56.246") returns 1
```

```
CIDR_MATCH("60.145.56.0/30", "60.145.56.246") returns 0
```

Compare an IPv6 CIDR subnet mask to an IPv6 IP address:

```
CIDR_MATCH("fe80::/70", "FE80::0202:B3FF:FE1E:8329") returns 1
```

```
CIDR_MATCH("fe80::/72", "FE80::0202:B3FF:FE1E:8329") returns 0
```

CONCAT

Description

CONCAT is a row function that returns a TEXT by concatenating (combining together) the results of multiple TEXT expressions.

Syntax

```
CONCAT(value_expression[ ,value_expression] [ , . . . ] )
```

Return Value

Returns one value per row of type TEXT.

Input Parameters

value_expression

At least one required. A field name of any type, a literal string or number, or an expression that returns any value.

Examples

Combine the values of the *month*, *day*, and *year* fields into a single date field formatted as *MM/DD/YYYY*.

```
CONCAT([month], " / ", [day], " / ", [year])
```

EXTRACT_COOKIE

Description

EXTRACT_COOKIE is a row function that extracts the value of the given cookie identifier from a semi-colon delimited list of cookie key/value pairs. This function can be used to extract a particular cookie value from a combined web access log Cookie column.

Syntax

```
EXTRACT_COOKIE("cookie_list_string", cookie_key_string)
```

Return Value

Returns the value of the specified cookie key as type TEXT.

Input Parameters

cookie_list_string

Required. A field of type TEXT or literal string that has a semi-colon delimited list of cookie *key=value* pairs.

cookie_key_string

Required. The cookie key name for which to extract the cookie value.

Examples

Extract the value of the *vID* cookie from a literal cookie string:

```
EXTRACT_COOKIE("SSID=ABC; vID=44", "vID") returns 44
```

Extract the value of the *vID* cookie from a field named *Cookie*:

```
EXTRACT_COOKIE([Cookie], "vID")
```

EXTRACT_VALUE

Description

EXTRACT_VALUE is a row function that extracts the value for the given key from a string containing delimited key/value pairs.

Syntax

```
EXTRACT_VALUE(string, key_name [, delimiter], [pair_delimiter])
```

Return Value

Returns the value of the specified key as type TEXT.

Input Parameters

string

Required. A field of type TEXT or literal string that contains a delimited list of key/value pairs.

key_name

Required. The key name for which to extract the value.

delimiter

Optional. The delimiter used between the key and the value. If not specified, the value u0003 is used. This is the Unicode escape sequence for the start of text character.

pair_delimiter

Optional. The delimiter used between key/value pairs when the input string contains more than one key/value pair. If not specified, the value u0002 is used. This is the Unicode escape sequence for the end of text character.

Examples

Extract the value of the *lastname* key from a literal string of key/value pairs:

```
EXTRACT_VALUE("firstname;daria|lastname;hutch", "lastname", ";", "|") returns hutch
```

Extract the value of the *email* key from a Text field named *contact_info* that contains strings in the format of *key:value,key:value*:

```
EXTRACT_VALUE([contact_info], "email", ":", ",")
```

Related Information

Reference

[PACK_VALUES](#) on page 580

FILE_NAME

Description

FILE_NAME is a row function that returns the original file name from the source file system when the data comes from a base dataset. This is useful when the source data that comprises a base dataset comes from multiple files, and there is useful information in the file names themselves (such as dates or server names). You can use FILE_NAME in combination with other text processing functions to extract useful information from the file name.

Note: If you're new to Workday, you don't have access to create or edit base datasets.

Syntax

`FILE_NAME()`

Return Value

Returns one value per row of type `TEXT`.

Examples

Your base dataset is based on daily log files that use an 8 character date as part of the file name. For example, `20120704.log` is the file name used for the log file created on July 4, 2012. The following expression uses `FILE_NAME` in combination with `SUBSTRING` and `TO_DATE` to create a date field from the first 8 characters of the file name.

```
TO_DATE(SUBSTRING(FILE_NAME(), 0, 8), "YYYYMMdd")
```

Your base dataset is based on log files that use the server IP address as part of the file name. For example, `172.12.131.118.log` is the log file name for server 172.12.131.118. The following expression uses `FILE_NAME` in combination with `REGEX` to extract the IP address from the file name.

```
REGEX(FILE_NAME(), "(\d{1,3}.\d{1,3}.\d{1,3}.\d{1,3})\\.log")
```

HEX_TO_IP

Description

`HEX_TO_IP` is a row function that converts a hexadecimal-encoded `TEXT` value to a text representation of an IP address.

Syntax

`HEX_TO_IP(STRING)`

Return Value

Returns a value of type `TEXT` representing either an IPv4 or IPv6 address. The type of IP address returned depends on the input string. An 8 character hexadecimal string returns an IPv4 address. A 32 character long hexadecimal string returns an IPv6 address.

IPv6 addresses are represented in full length, without removing any leading zeros and without using the compressed `::` notation. For example, `2001:0db8:0000:0000:0000:ff00:0042:8329` rather than `2001:db8::ff00:42:8329`.

Input strings that don't contain either 8 or 32 valid hexadecimal characters return `NULL`.

Input Parameters

string

Required. A field or expression that returns a hexadecimal-encoded `TEXT` value. The hexadecimal string must be either 8 characters long (in which case it's converted to an IPv4 address) or 32 characters long (in which case it's converted to an IPv6 address).

Examples

Return a plain text IP address for each hexadecimal-encoded string value in the `byte_encoded_ips` column:

```
HEX_TO_IP([byte_encoded_ips])
```

Convert an 8 character hexadecimal-encoded string to a plain text IPv4 address:

```
HEX_TO_IP(AB20FE01) returns 171.32.254.1
```

Convert a 32 character hexadecimal-encoded string to a plain text IPv6 address:

```
HEX_TO_IP(FE80000000000000202B3FFF1E8329) returns
Fe80:0000:0000:0000:0202:b3ff:fe1e:8329
```

INSTR

Description

`INSTR` is a row function that returns an integer indicating the position of a character within a string that is the first character of the occurrence of a substring. The `INSTR` function is similar to the `FIND` function in Excel, except that the first letter is position 0 and the order of the arguments is reversed.

Syntax

```
INSTR(search_string,substring,position,occurrence)
```

Return Value

Returns one value per row of type `INTEGER`. The first position is indicated with the value of zero (0).

Input Parameters

`search_string`

Required. The name of a field or expression of type `TEXT` (or a literal string).

`substring`

Required. A literal string or name of a field that specifies the substring to search for in `search_string`. Note that to search for the double quotation mark (") as a literal string, you must escape it with another double quotation mark: " "

`position`

Optional. An integer that specifies at which character in `search_string` to start searching for `substring`. A value of 0 (zero) starts the search at the beginning of `search_string`. Use a positive integer to start searching from the beginning of `search_string`, and use a negative integer to start searching from the end of `search_string`. When no position is specified, `INSTR` searches at the beginning of the string (0).

`occurrence`

Optional. A positive integer that specifies which occurrence of `substring` to search for. When no occurrence is specified, `INSTR` searches for the first occurrence of the substring (1).

Examples

Return the position of the first occurrence of the substring "http://" starting at the end of the `url` field:

```
INSTR([url], "http://", -1, 1)
```

The following expression searches for the second occurrence of the substring "st" starting at the beginning of the string "bestteststring". `INSTR` finds that the substring starts at the seventh character in the string, so it returns 6:

```
INSTR("bestteststring", "st", 0, 2)
```

The following expression searches backward for the second occurrence of the substring "st" starting at 7 characters before the end of the string "bestteststring". `INSTR` finds that the substring starts at the third character in the string, so it returns 2:

```
INSTR("bestteststring", "st", -7, 2)
```

JAVA_STRING

Description

JAVA_STRING is a row function that returns the unescaped version of a Java unicode character escape sequence as a TEXT value. This is useful when you want to specify unicode characters in an expression. For example, you can use JAVA_STRING to specify the unicode value representing a control character.

Syntax

```
JAVA_STRING(unicode_escape_sequence)
```

Return Value

Returns the unescaped version of the specified unicode character, one value per row of type TEXT.

Input Parameters

unicode_escape_sequence

Required. A TEXT value containing a unicode character expressed as a Java unicode escape sequence. Unicode escape sequences consist of a backslash '\' (ASCII character 92, hex 0x5c), a 'u' (ASCII 117, hex 0x75), optionally one or more additional 'u' characters, and four hexadecimal digits (the characters '0' through '9' or 'a' through 'f' or 'A' through 'F'). Such sequences represent the UTF-16 encoding of a Unicode character. For example, the letter 'a' is equivalent to '\u0061'.

Examples

Evaluates whether the *currency* field is equal to the yen symbol.

```
CASE WHEN [currency] == JAVA_STRING("\u00a5") THEN "yes" ELSE "no" END
```

JOIN_STRINGS

Description

JOIN_STRINGS is a row function that returns a TEXT by concatenating (combining together) the results of multiple TEXT values with the separator in between each non-null value.

Syntax

```
JOIN_STRINGS(separator,value_expression, [value_expression] [, . . . ])
```

Return Value

Returns one value per row of type TEXT.

Input Parameters

separator

Required. A field name of type TEXT, a literal string, or an expression that returns a TEXT.

value_expression

At least one required. A field name of any type, a literal string or number, or an expression that returns any value.

Examples

Combine the values of the *month*, *day*, and *year* fields into a single date field formatted as MM/DD/YYYY.

```
JOIN_STRINGS("/", [month], [day], [year])
```

The following expression returns NULL:

```
JOIN_STRINGS( "+", NULL, NULL, NULL)
```

The following expression returns a+b:

```
JOIN_STRINGS( "+", "a", "b", NULL)
```

JSON_DECIMAL

Description

`JSON_DECIMAL` is a row function that extracts a NUMERIC value from a field in a JSON object.

Syntax

```
JSON_DECIMAL(json_string, "json_field")
```

Return Value

Returns one value per row of type NUMERIC.

Input Parameters

`json_string`

Required. The name of a field or expression of type TEXT (or a literal string) that contains a valid JSON object.

`json_field`

Required. The key or name of the field value you want to extract.

For top-level fields, specify the name identifier (key) of the field.

To access fields within a nested object, specify a dot-separated path of field names (for example `top_level_field_name.nested_field_name`).

To extract a value from an array, specify the dot-separated path of field names and the array position starting at 0 for the first value in an array, 1 for the second value, and so on (for example, `field_name.0`).

If the name identifier contains dot or period characters within the name itself, escape the name by enclosing it in brackets (for example, `[field.name.with.dot].
[another.dot.field.name]`)

If the field name is null (empty), use brackets with nothing in between as the identifier, for example `[]`.

Examples

If you had a `top_scores` field that contained a JSON object formatted like this (with the values contained in an array):

```
{ "practice_scores": [ "538.67", "674.99", "1021.52" ], "test_scores":  
[ "753.21", "957.88", "1032.87" ] }
```

You could extract the third value of the `test_scores` array using the expression, which returns "1032.87":

```
JSON_DECIMAL([top_scores], "test_scores.2")
```

JSON_DOUBLE

Description

`JSON_DOUBLE` is a row function that extracts a DOUBLE value from a field in a JSON object.

Syntax

```
JSON_DOUBLE( json_string , " json_field" )
```

Return Value

Returns one value per row of type DOUBLE.

Input Parameters

json_string

Required. The name of a field or expression of type TEXT (or a literal string) that contains a valid JSON object.

json_field

Required. The key or name of the field value you want to extract.

For top-level fields, specify the name identifier (key) of the field.

To access fields within a nested object, specify a dot-separated path of field names (for example *top_level_field_name.nested_field_name*).

To extract a value from an array, specify the dot-separated path of field names and the array position starting at 0 for the first value in an array, 1 for the second value, and so on (for example, *field_name.0*).

If the name identifier contains dot or period characters within the name itself, escape the name by enclosing it in brackets (for example, [*field.name.with.dot*].
[*another.dot.field.name*])

If the field name is null (empty), use brackets with nothing in between as the identifier, for example [].

Examples

If you had a *top_scores* field that contained a JSON object formatted like this (with the values contained in an array):

```
{ "practice_scores": [ "538.67" , "674.99" , "1021.52" ] , "test_scores":  
[ "753.21" , "957.88" , "1032.87" ] }
```

You could extract the third value of the *test_scores* array using the expression, which returns "1032.87":

```
JSON_DOUBLE( [ top_scores ] , " test_scores.2" )
```

JSON_INTEGER

Description

JSON_INTEGER is a row function that extracts an INTEGER value from a field in a JSON object.

Syntax

```
JSON_INTEGER( json_string , " json_field" )
```

Return Value

Returns one value per row of type INTEGER.

Input Parameters

json_string

Required. The name of a field or expression of type TEXT (or a literal string) that contains a valid JSON object.

json_field

Required. The key or name of the field value you want to extract.

For top-level fields, specify the name identifier (key) of the field.

To access fields within a nested object, specify a dot-separated path of field names (for example `top_level_field_name.nested_field_name`).

To extract a value from an array, specify the dot-separated path of field names and the array position starting at 0 for the first value in an array, 1 for the second value, and so on (for example, `field_name.0`).

If the name identifier contains dot or period characters within the name itself, escape the name by enclosing it in brackets (for example, `[field.name.with.dot]`.
[another.dot.field.name]

If the field name is null (empty), use brackets with nothing in between as the identifier, for example `[]`.

Examples

If you had an `address` field that contained a JSON object formatted like this:

```
{"street_address": "123 B Street", "city": "San Mateo", "state": "CA",  
"zip_code": "94403"}
```

You could extract the `zip_code` value using the expression, which returns "94403":

```
JSON_INTEGER([address], "zip_code")
```

If you had a `top_scores` field that contained a JSON object formatted like this (with the values contained in an array):

```
{"practice_scores": ["538", "674", "1021"], "test_scores": ["753", "957", "1032"]}
```

You could extract the third value of the `test_scores` array using the expression, which returns "1032":

```
JSON_INTEGER([top_scores], "test_scores.2")
```

JSON_LONG

Description

`JSON_LONG` is a row function that extracts a `LONG` value from a field in a JSON object.

Syntax

```
JSON_LONG(json_string, "json_field")
```

Return Value

Returns one value per row of type `LONG`.

Input Parameters

json_string

Required. The name of a field or expression of type `TEXT` (or a literal string) that contains a valid JSON object.

json_field

Required. The key or name of the field value you want to extract.

For top-level fields, specify the name identifier (key) of the field.

To access fields within a nested object, specify a dot-separated path of field names (for example `top_level_field_name.nested_field_name`).

To extract a value from an array, specify the dot-separated path of field names and the array position starting at 0 for the first value in an array, 1 for the second value, and so on (for example, `field_name.0`).

If the name identifier contains dot or period characters within the name itself, escape the name by enclosing it in brackets (for example, `[field.name.with.dot].
[another.dot.field.name]`

If the field name is null (empty), use brackets with nothing in between as the identifier, for example `[]`.

Examples

If you had a `top_scores` field that contained a JSON object formatted like this (with the values contained in an array):

```
{"practice_scores": [ "538" , "674" , "1021" ] , "test_scores": [ "753" , "957" , "1032" ] }
```

You could extract the third value of the `test_scores` array using the expression, which returns "1032":

```
JSON_LONG([top_scores] , "test_scores.2" )
```

JSON_STRING

Description

`JSON_STRING` is a row function that extracts a `TEXT` value from a field in a JSON object.

Syntax

```
JSON_STRING(json_string , "json_field" )
```

Return Value

Returns one value per row of type `TEXT`.

Input Parameters

`json_string`

Required. The name of a field or expression of type `TEXT` (or a literal string) that contains a valid JSON object.

`json_field`

Required. The key or name of the field value you want to extract.

For top-level fields, specify the name identifier (key) of the field.

To access fields within a nested object, specify a dot-separated path of field names (for example `top_level_field_name.nested_field_name`).

To extract a value from an array, specify the dot-separated path of field names and the array position starting at 0 for the first value in an array, 1 for the second value, and so on (for example, `field_name.0`).

If the name identifier contains dot or period characters within the name itself, escape the name by enclosing it in brackets (for example, `[field.name.with.dot].
[another.dot.field.name]`

If the field name is null (empty), use brackets with nothing in between as the identifier, for example `[]`.

Examples

If you had an `address` field that contained a JSON object formatted like this:

```
{"street_address": "123 B Street", "city": "San Mateo", "state": "CA",  
"zip": "94403"}
```

You could extract the `state` value using the expression:

```
JSON_STRING([address], "state")
```

If you had a `misc` field that contained a JSON object formatted like this (with the values contained in an array):

```
{"hobbies": ["sailing", "hiking", "cooking"], "interests":  
["art", "music", "travel"]}
```

You could extract the first value of the `hobbies` array using the expression, which returns "sailing":

```
JSON_STRING([misc], "hobbies.0")
```

LENGTH

Description

`LENGTH` is a row function that returns the count of characters in a `TEXT` value.

Syntax

```
LENGTH(string_expression)
```

Return Value

Returns one value per row of type `INTEGER`.

Input Parameters

string_expression

Required. The name of a field or expression of type `TEXT` (or a literal string).

Examples

Return count of characters from values in the `name` field. For example, the value `Bob` would return a length of 3, `Julie` would return a length of 5, and so on:

```
LENGTH([name])
```

PACK_VALUES

Description

`PACK_VALUES` is a row function that returns multiple output values packed into a single string of key/value pairs separated by the default key and pair separators. The string returned is in a format that can be read by the `EXTRACT_VALUE` function. `PACK_VALUES` uses the same key and pair separator values that `EXTRACT_VALUE` uses (the Unicode escape sequences `u0003` and `u0002`, respectively).

Syntax

```
PACK_VALUES(key,value[,key,value][,...])
```

Return Value

Returns one value per row of type `TEXT`. If the value for either `key` or `value` of a pair is null or contains either of the separator values, the full key/value pair is omitted from the return value.

The key separator is `\u0003`, which is the Unicode escape sequence for the start of text character. The pair separator is `\u0002`, which is the Unicode escape sequence for the end of text character.

Input Parameters

key

At least one required. A field name of any type, a literal string or number, or an expression that returns any value.

value

At least one required. A field name of any type, a literal string or number, or an expression that returns any value. The expression must include one `value` instance for each `key` instance.

Examples

Combine the values of the `[custid]` and `[age]` fields into a single text field.

```
PACK_VALUES("ID", [custid], "Age", [age])
```

This expression returns `ID\u00035555\u0002Age\u000329` when the value of the `[custid]` field is 5555 and the value of the `[age]` field is 29:

```
PACK_VALUES("ID", [custid], "Age", [age])
```

This expression returns `Age\u000329` when the value of the `[age]` field is 29:

```
PACK_VALUES("ID", NULL, "Age", [age])
```

This expression returns 29 as a `Text` value when the `[age]` field is an `INTEGER` and its value is 29:

```
EXTRACT_VALUE(PACK_VALUES("ID", [custid], "Age", [age]), "Age")
```

Related Information

Reference

[EXTRACT_VALUE](#) on page 572

REGEX

Description

`REGEX` is a row function that performs a whole string match against a `TEXT` value with a regular expression and returns the portion of the string matching the first capturing group of the regular expression.

Syntax

```
REGEX(string_expression, "regex_matching_pattern")
```

Return Value

Returns the matched `TEXT` value of the first capturing group of the regular expression. If there is no match, returns `NULL`.

Input Parameters

string_expression

Required. The name of a field or expression of type `TEXT` (or a literal string).

regex_matching_pattern

Required. A regular expression pattern based on the regular expression pattern matching syntax of the Java programming language. To return a non-`NULL` value, the regular expression pattern must match the entire `TEXT` value.

Regular Expression Constructs

See the Regular Expression Reference for information on the constructs used for defining a regular expression matching pattern.

Capturing and Non-Capturing Groups

Groups are specified by a pair of parenthesis around a subpattern in the regular expression. A pattern can have more than one group and the groups can be nested. The groups are numbered 1-n from left to right, starting with the first opening parenthesis. There is always an implicit group 0, which contains the entire match. For example, the pattern:

```
(a(b*))+(c)
```

contains three groups:

```
group 1: (a(b*))  
group 2: (b*)  
group 3: (c)
```

Capturing Groups

By default, a group *captures* the text that produces a match, and only the most recent match is captured. The REGEX function returns the string that matches the first capturing group in the regular expression. For example, if the input string to the expression above was abc, the entire REGEX function would match to abc, but only return the result of group 1, which is ab.

Non-Capturing Groups

In some cases, you may want to use parenthesis to group subpatterns, but not capture text. A non-capturing group starts with (? : (a question mark and colon following the opening parenthesis). For example, h(? :a|i|o)t matches hat or hit or hot, but does not capture the a, i, or o from the subexpression.

Examples

Match all possible email addresses with a pattern of *username@provider.domain*, but only return the *provider* portion of the email address from the *email* field:

```
REGEX([email], "^[a-zA-Z0-9._%+-]+@[a-zA-Z0-9._-]+\.[a-zA-Z]{2,4}$")
```

Match the request line of a web log, where the value is in the format of:

```
GET /some_page.html HTTP/1.1
```

and return just the requested HTML page names:

```
REGEX([weblog_request_line], "GET\s/([a-zA-Z0-9._%-]+\.[html])\sHTTP/[0-9.]+")
```

Extract the inches portion from a *height* field where example values are 6'2", 5'11" (notice the escaping of the literal quote with a double double-quote):

```
REGEX([height], "\d'(\d)\"")
```

Extract all of the contents of the *device* field when the value is either iPod, iPad, or iPhone:

```
REGEX([device], "(iPod|iPad|iPhone)")
```

Related Information

Concepts

[Concept: Regular Expressions in Prism](#) on page 620

Reference

[Regex Literal and Special Characters](#) on page 620

[Regex Character Classes](#) on page 622
[Regex Line and Word Boundaries](#) on page 623
[Regex Quantifiers](#) on page 624
[Regex Capturing Groups](#) on page 625

REGEX_REPLACE

Description

REGEX_REPLACE is a row function that evaluates a TEXT value against a regular expression to determine if there is a match, and replaces matched strings with the specified replacement value.

Syntax

```
REGEX_REPLACE(string_expression, "regex_match_pattern", "regex_replace_pattern")
```

Return Value

Returns the `regex_replace_pattern` as a TEXT value when `regex_match_pattern` produces a match. If there is no match, returns the value of `string_expression` as a TEXT.

Input Parameters

string_expression

Required. The name of a field or expression of type TEXT (or a literal string).

regex_match_pattern

Required. A string literal or regular expression pattern based on the regular expression pattern matching syntax of the Java programming language. You can use capturing groups to create backreferences that can be used in the `regex_replace_pattern`. You might want to use a string literal to make a case-sensitive match. For example, when you enter `jane` as the match value, the function matches `jane` but not `Jane`. The function matches all occurrences of a string literal in the string expression.

regex_replace_pattern

Required. A string literal or regular expression pattern based on the regular expression pattern matching syntax of the Java programming language. You can refer to backreferences from the `regex_match_pattern` using the syntax `$n` (where `n` is the group number).

Regular Expression Constructs

See the Regular Expression Reference for information on the constructs used for defining a regular expression matching pattern.

Examples

Match the values in a `phone_number` field where phone number values are formatted as `xxx.xxx.xxxx` and replace them with phone number values formatted as `(xxx) xxx-xxxx`:

```
REGEX_REPLACE([phone_number], "([0-9]{3})\\.(\\([0-9]\\){3})\\.(\\([0-9]\\){4})", "\\\($1\\) $2-$3")
```

Match the values in a `name` field where name values are formatted as `firstname lastname` and replace them with name values formatted as `lastname, firstname`:

```
REGEX_REPLACE([name], "(.*)(.*)", "$2, $1")
```

Match the string literal `mrs` in a `title` field and replace it with the string literal `Mrs.`

```
REGEX_REPLACE([title], "mrs", "Mrs")
```

Related Information**Concepts**

[Concept: Regular Expressions in Prism](#) on page 620

Reference

[Regex Literal and Special Characters](#) on page 620

[Regex Character Classes](#) on page 622

[Regex Line and Word Boundaries](#) on page 623

[Regex Quantifiers](#) on page 624

[Regex Capturing Groups](#) on page 625

REVERSE**Description**

REVERSE is a row function that returns the characters of a string value in the opposite order.

Syntax

`REVERSE(string_expression)`

Return Value

Returns one value per row of type TEXT.

Input Parameters***string_expression***

Required. The name of a field or expression of type TEXT (or a literal string).

Examples

Return the string 123 Main Street in reverse order:

```
REVERSE("123 Main Street")
```

Returns teerts niaM 321.

SUBSTRING**Description**

SUBSTRING is a row function that returns the specified characters of a TEXT value based on the given start and optional end position.

Syntax

`SUBSTRING(search_string,start,end)`

Return Value

Returns one value per row of type TEXT.

Input Parameters***search_string***

Required. The name of a field or expression of type TEXT (or a literal string).

start

Required. An integer that specifies where the returned characters start (inclusive), with 0 being the first character of the string. If *start* is greater than the number of characters, then an empty string is returned. If *start* is greater than *end*, then an empty string is returned.

end

Optional. A positive integer that specifies where the returned characters end (exclusive), with the *end* character not being part of the return value. If *end* is greater than the number of characters, or is not specified, then the whole string value (from *start*) is returned.

Examples

Return the first letter of the *name* field:

```
SUBSTRING([name], 0, 1)
```

Return only the middle 3 digits with no hyphens of a US phone number in the format, 123-456-7891:

```
SUBSTRING([us phone number], 4, 7)
```

TO_LOWER

Description

TO_LOWER is a row function that converts all alphabetic characters in a **TEXT** value to lower case.

Syntax

```
TO_LOWER(string_expression)
```

Return Value

Returns one value per row of type **TEXT**.

Input Parameters

string_expression

Required. The name of a field or expression of type **TEXT** (or a literal string).

Examples

Return the literal input string *123 Main Street* in all lower case letters:

```
TO_LOWER("123 Main Street") returns 123 main street
```

TO_PROPER

Description

TO_PROPER is a row function that returns a **TEXT** value with the first letter of each word capitalized.

Syntax

```
TO_PROPER(string_expression)
```

Return Value

Returns one value per row of type **TEXT**.

Input Parameters

string_expression

Required. The name of a field or expression of type **TEXT** (or a literal string).

Examples

`TO_PROPER("123 Alameda de las Pulgas, San Mateo CA")`

Returns 123 Alameda De Las Pulgas, San Mateo Ca

TO_UPPER

Description

`TO_UPPER` is a row function that converts all alphabetic characters in a `TEXT` value to upper case.

Syntax

`TO_UPPER(string_expression)`

Return Value

Returns one value per row of type `TEXT`.

Input Parameters

`string_expression`

Required. The name of a field or expression of type `TEXT` (or a literal string).

Examples

`TO_UPPER("123 Main Street")`

Returns 123 MAIN STREET

TRIM

Description

`TRIM` is a row function that removes leading and trailing spaces from a `TEXT` value.

Syntax

`TRIM(string_expression)`

Return Value

Returns one value per row of type `TEXT`.

Input Parameters

`string_expression`

Required. The name of a field or expression of type `TEXT` (or a literal string).

Examples

Return the value of the `area_code` field without any leading or trailing spaces. Example:

`TRIM([area_code])`

`TRIM(" 650 ")` returns 650.

`TRIM(" 650 123-4567 ")` returns 650 123-4567. Note that the extra spaces in the middle of the string aren't removed, only the spaces at the beginning and end of the string.

XPATH_STRING

Description

XPATH_STRING is a row function that takes XML and returns the first string matching the given XPath expression.

Syntax

```
XPATH_STRING(xml_expression, "xpath_expression")
```

Return Value

Returns one value per row of type TEXT.

If the XPath expression matches more than one string in the given XML node, this function will return the *first* match only. To return all matches, use XPATH_STRINGS instead.

Input Parameters

xml_expression

Required. The name of a field of type TEXT or a literal string that contains a valid XML node (a snippet of XML consisting of a parent element and one or more child nodes).

xpath_expression

Required. An XPath expression that refers to a node, element, or attribute within the XML string passed to this expression. Any XPath expression that complies to the [XML Path Language \(XPath\) Version 1.0](#) specification is valid.

Examples

These example XPATH_STRING expressions assume you have a field in your dataset named *address* that contains XML-formatted strings such as this:

```
<list>
  <address type="work">
    <street1>1300 So. El Camino Real</street1>
    <street2>Suite 600</street2>
    <city>San Mateo</city>
    <state>CA</state>
    <zipcode>94403</zipcode>
  </address>
  <address type="home">
    <street1>123 Oakdale Street</street1>
    <street2/>
    <city>San Francisco</city>
    <state>CA</state>
    <zipcode>94123</zipcode>
  </address>
</list>
```

Get the *zipcode* value from any *address* element where the *type* attribute equals *home*:

```
XPATH_STRING([address], "//address[@type='home']/zipcode")
```

returns: 94123

Get the *city* value from the second *address* element:

```
XPATH_STRING([address], "/list/address[2]/city")
```

returns: San Francisco

Get the values from all child elements of the first address element (as one string):

```
XPATH_STRING([address], "/list/address")
returns: 1300 So. El Camino RealSuite 600 San MateoCA94403
```

URL Functions

URL_AUTHORITY

Description

URL_AUTHORITY is a row function that returns the authority portion of a URL string. The authority portion of a URL is the part that has the information on how to locate and connect to the server.

Syntax

`URL_AUTHORITY(URL_string)`

Return Value

Returns the authority portion of a URL as a TEXT value, or NULL if the input string is not a valid URL.

For example, in the string `http://www.workday.com/company/contact.html`, the authority portion is `www.workday.com`.

In the string `http://user:password@mycompany.com:8012/mypage.html`, the authority portion is `user:password@mycompany.com:8012`.

In the string `mailto:username@mycompany.com?subject=Topic`, the authority portion is NULL.

Input Parameters

URL_string

Required. A field or expression that returns a TEXT value in URI (uniform resource identifier) format of: `protocol:authority[/path][?query][#fragment]`.

The authority portion of the URL contains the host information, which can be specified as a domain name (`www.workday.com`), a host name (`localhost`), or an IP address (`127.0.0.1`). The host information can be preceded by optional user information terminated with @ (for example, `username:password@workday.com`), and followed by an optional port number preceded by a colon (for example, `localhost:8001`).

Examples

Return the authority portion of URL string values in the `referrer` field:

`URL_AUTHORITY([referrer])`

Return the authority portion of a literal URL string:

`URL_AUTHORITY("http://user:password@mycompany.com:8012/mypage.html")` returns `user:password@mycompany.com:8012`.

URL_FRAGMENT

Description

URL_FRAGMENT is a row function that returns the fragment portion of a URL string.

Syntax

`URL_FRAGMENT(URL_string)`

Return Value

Returns the fragment portion of a URL as a `TEXT` value, `NULL` if the URL or does not contain a fragment, or `NULL` if the input string is not a valid URL.

For example, in the string `http://www.workday.com/contact.html#phone`, the fragment portion is `phone`.

In the string `http://www.workday.com/contact.html`, the fragment portion is `NULL`.

In the string `http://workday.com/news.php?topic=press#Workday%20News`, the fragment portion is `Workday%20News`.

Input Parameters

`URL_string`

Required. A field or expression that returns a `TEXT` value in URI (uniform resource identifier) format of: `protocol:authority[/path][?query][#fragment]`.

The optional fragment portion of the URL is separated by a hash mark (#) and provides direction to a secondary resource, such as a heading or anchor identifier.

Examples

Return the fragment portion of URL string values in the `request` field:

```
URL_FRAGMENT( [request] )
```

Return the fragment portion of a literal URL string:

```
URL_FRAGMENT( "http://workday.com/news.php?topic=press#Workday%20News" ) returns Workday%20News.
```

Return and decode the fragment portion of a literal URL string:

```
URLDECODE( URL_FRAGMENT( "http://workday.com/news.php?topic=press#Workday%20News" ) ) returns Workday News.
```

`URL_HOST`

Description

`URL_HOST` is a row function that returns the host, domain, or IP address portion of a URL string.

Syntax

```
URL_HOST( URL_string )
```

Return Value

Returns the host portion of a URL as a `TEXT` value, or `NULL` if the input string is not a valid URL.

For example, in the string `http://www.workday.com/company/contact.html`, the host portion is `www.workday.com`.

In the string `http://admin:admin@127.0.0.1:8001/index.html`, the host portion is `127.0.0.1`.

In the string `mailto:username@mycompany.com?subject=Topic`, the host portion is `NULL`.

Input Parameters

`URL_string`

Required. A field or expression that returns a `TEXT` value in URI (uniform resource identifier) format of: `protocol:authority[/path][?query][#fragment]`.

The authority portion of the URL contains the host information, which can be specified as a domain name (`www.workday.com`), a host name (`localhost`), or an IP address (`127.0.0.1`).

Examples

Return the host portion of URL string values in the `referrer` field:

```
URL_HOST([referrer])
```

Return the host portion of a literal URL string:

```
URL_HOST("http://user:password@mycompany.com:8012/mypage.html") returns mycompany.com.
```

URL_PATH

Description

`URL_PATH` is a row function that returns the path portion of a URL string.

Syntax

```
URL_PATH(URL_string)
```

Return Value

Returns the path portion of a URL as a `TEXT` value, `NULL` if the URL or does not contain a path, or `NULL` if the input string is not a valid URL.

For example, in the string `http://www.workday.com/company/contact.html`, the path portion is `/company/contact.html`.

In the string `http://admin:admin@127.0.0.1:8001/index.html`, the path portion is `/index.html`.

In the string `mailto:username@mycompany.com?subject=Topic`, the path portion is `username@mycompany.com`.

Input Parameters

URL_string

Required. A field or expression that returns a `TEXT` value in URI (uniform resource identifier) format of: `protocol:authority[/path][?query][#fragment]`.

The optional path portion of the URL is a sequence of resource location segments separated by a forward slash (/), conceptually similar to a directory path.

Examples

Return the path portion of URL string values in the `request` field:

```
URL_PATH([request])
```

Return the path portion of a literal URL string:

```
URL_PATH("http://workday.com/company/contact.html") returns /company/contact.html.
```

URL_PORT

Description

`URL_PORT` is a row function that returns the port portion of a URL string.

Syntax

`URL_PORT(URL_string)`

Return Value

Returns the port portion of a URL as an `INTEGER` value. If the URL does not specify a port, then returns `-1`. If the input string is not a valid URL, returns `NULL`.

For example, in the string `http://localhost:8001`, the port portion is `8001`.

Input Parameters

`URL_string`

Required. A field or expression that returns a `TEXT` value in URI (uniform resource identifier) format of: `protocol:authority[/path][?query][#fragment]`.

The authority portion of the URL contains the host information, which can be specified as a domain name (`www.workday.com`), a host name (`localhost`), or an IP address (`127.0.0.1`). The host information can be followed by an optional port number preceded by a colon (for example, `localhost:8001`).

Examples

Return the port portion of URL string values in the `referrer` field:

```
URL_PORT([referrer])
```

Return the port portion of a literal URL string:

```
URL_PORT("http://user:password@mycompany.com:8012/mypage.html") returns 8012.
```

`URL_PROTOCOL`

Description

`URL_PROTOCOL` is a row function that returns the protocol (or URI scheme name) portion of a URL string.

Syntax

`URL_PROTOCOL(URL_string)`

Return Value

Returns the protocol portion of a URL as a `TEXT` value, or `NULL` if the input string is not a valid URL.

For example, in the string `http://www.workday.com`, the protocol portion is `http`.

In the string `ftp://ftp.workday.com/articles/workday.pdf`, the protocol portion is `ftp`.

Input Parameters

`URL_string`

Required. A field or expression that returns a `TEXT` value in URI (uniform resource identifier) format of: `protocol:authority[/path][?query][#fragment]`

The protocol portion of a URL consists of a sequence of characters beginning with a letter and followed by any combination of letter, number, plus (+), period (.), or hyphen (-) characters, followed by a colon (:). For example: `http`, `ftp`, `mailto`:

Examples

Return the protocol portion of URL string values in the `referrer` field:

```
URL_PROTOCOL([referrer])  
Return the protocol portion of the literal URL string:  
URL_PROTOCOL("http://www.workday.com") returns http.
```

URL_QUERY

Description

URL_QUERY is a row function that returns the query portion of a URL string.

Syntax

```
URL_QUERY(URL_string)
```

Return Value

Returns the query portion of a URL as a TEXT value, NULL if the URL or does not contain a query, or NULL if the input string is not a valid URL.

For example, in the string `http://www.workday.com/contact.html`, the query portion is NULL.

In the string `http://workday.com/news.php?topic=press&timeframe=today#Workday%20News`, the query portion is `topic=press&timeframe=today`.

In the string `mailto:username@mycompany.com?subject=Topic`, the query portion is `subject=Topic`.

Input Parameters

URL_string

Required. A field or expression that returns a TEXT value in URI (uniform resource identifier) format of: `protocol:authority[/path][?query][#fragment]`.

The optional query portion of the URL is separated by a question mark (?) and typically contains an unordered list of key=value pairs separated by an ampersand (&) or semicolon (;).

Examples

Return the query portion of URL string values in the `request` field:

```
URL_QUERY([request])
```

Return the query portion of a literal URL string:

```
URL_QUERY("http://workday.com/news.php?topic=press&timeframe=today") returns  
topic=press&timeframe=today.
```

URLDECODE

Description

URLDECODE is a row function that decodes a TEXT value that has been encoded with the application/x-www-form-urlencoded media type. URL encoding, also known as percent-encoding, is a mechanism for encoding information in a Uniform Resource Identifier (URI). When sent in an HTTP GET request, application/x-www-form-urlencoded data is included in the query component of the request URI. When sent in an HTTP POST request, the data is placed in the body of the message, and the name of the media type is included in the message Content-Type header.

Syntax

```
URLDECODE(URL_string)
```

Return Value

Returns a value of type TEXT with characters decoded as follows:

- Alphanumeric characters (a-z, A-Z, 0-9) remain unchanged.
- The special characters hyphen (-), comma (,), underscore (_), period (.), and asterisk (*) remain unchanged.
- The plus sign (+) character is converted to a space character.
- The percent character (%) is interpreted as the start of a special escaped sequence, where in the sequence %*HH* , *HH* represents the hexadecimal value of the byte. Some common escape sequences:

Percent Encoding Sequence	Value
%20	space
%0A or %0D or %0D%0A	newline
%22	double quote ("")
%25	percent (%)
%2D	hyphen (-)
%2E	period (.)
%3C	less than (<)
%3D	greater than (>)
%5C	backslash (\)
%7C	pipe ()

Input Parameters

URL_string

Required. A field or expression that returns a TEXT value. It is assumed that all characters in the input string are one of the following: lower-case letters (a-z), upper-case letters (A-Z), numeric digits (0-9), or the hyphen (-), comma (,), underscore (_), period (.) or asterisk (*) character. The percent character (%) is allowed, but is interpreted as the start of a special escaped sequence. The plus character (+) is allowed, but is interpreted as a space character.

Examples

Decode the values of the *url_query* field:

```
URLDECODE([url_query])
```

Convert a literal URL encoded string (N%2FA%20or%20%22not%20applicable%22) to a human-readable value:

```
URLDECODE("N%2FA%20or%20%22not%20applicable%22") returns N/A or "not applicable".
```

Window Functions

AVG

Description

AVG is a window aggregate function that partitions rows into groups, orders rows by a field, and returns the average of all valid numeric values in the group. It sums all values in the group and divides by the number of valid (NOT NULL) rows. You can use AVG to calculate moving averages.

The PARTITION BY clause determines which fields to use to partition a set of input rows into groups. The ORDER BY clause determines how to order the rows in the partition.

Workday separates the input rows into groups according to the partitioning fields, orders the rows according to the ordering fields, and then computes the aggregate expression (average for this function) in each group.

Syntax

```
AVG(input_field)OVER(
    PARTITION
    BY
    partitioning_field[,partitioning_field]
    ORDER
    BY
    ordering_field[ASC | DESC] [,ordering_field[ASC | DESC]]
    RANGE
    BETWEEN
    value
    PRECEDING
    AND
    CURRENT ROW |
    ROWS
    win_boundary|BETWEEN
    win_boundary
    AND
    win_boundary
)
```

where *win_boundary* can be:

```
UNBOUNDED
PRECEDING
value
PRECEDING
UNBOUNDED
FOLLOWING
value
FOLLOWING
CURRENT ROW
```

Return Value

Returns a value of type NUMERIC or DOUBLE depending on the type of *input_field*.

Input Parameters

input_field

Required. The field on which to perform the aggregate function. You can use any numeric field or a Currency field.

OVER()

Required. OVER must be used within an AVG expression.

PARTITION BY *partitioning_field*

Required. Use the PARTITION BY clause to specify 1 or more fields to use to partition a group of input rows. You can specify any field type except Currency. Example: You specify the Month field as the partitioning field, so Workday groups into a single partition all records that have the same value for Month.

ORDER BY *ordering_field*

Required. Use the ORDER BY clause to specify how to order the input rows in the partition using the values in the specified field within each partition. You can specify any field type except Currency. However, you must use a numeric field type, such as Integer or Numeric when you use the RANGE clause.

You can use the DESC or ASC keywords to sort in descending order (high to low values, NULLs are last) or ascending order (low to high values, NULLs are first) for each ordering field. If you don't specify a sort order for an ordering field, Workday automatically sorts rows in ascending order.

ROWS | RANGE

Required. The ROWS and RANGE clauses define the specific number of rows (relative to the current row) within the partition by specifying a window frame. You define the window frame by specifying start and end points within the partition, known as window boundaries. The window frame is the set of input rows in each partition over which to calculate the aggregate expression (average for this function). The window frame can include one, several, or all rows of the partition.

Both ROWS and RANGE specify the range of rows relative to the current row, but RANGE operates logically on values (logical association) and ROWS operates physically on rows in the dataset (physical association).

RANGE limits the window frame to contain rows that have their values within the specified range, relative to the current value. ROWS limits the window frame to contain rows that are physically next to the current row.

Use RANGE to define absolute window boundaries, such as the past 3 months or year to date. When you use RANGE, the ORDER BY clause must use a numeric field type, such as Integer or Numeric.

Example: Suppose you have an Integer field called MonthNum that represents the number of the month in the year (values 1 to 12). To specify all values from the past 3 months, you would order by MonthNum and use RANGE BETWEEN 2 PRECEDING AND CURRENT ROW. This RANGE clause includes the current month and the previous 2 months, resulting in 3 months total.

Note: When you publish a dataset that contains a window function using RANGE, the number of rows in the window must be 1000 or less. If a particular window exceeds 1000 rows, the publish job fails.

win_boundary

Required. The window boundaries define the start and end points of the window frame. Window boundaries are relative to the current row.

A PRECEDING clause defines a window boundary that is lower than the current row (the number of rows to include before the current row). The FOLLOWING clause defines a window boundary that is greater than the current row (the number of rows to include after the current row).

If you specify only 1 window boundary, then Workday uses the current row as the other boundary in the window frame (either the upper or lower boundary depending on the expression syntax). The UNBOUNDED keyword includes all rows in the direction specified. When you need to specify both a start and end of a window frame, use the BETWEEN and AND keywords.

When specifying a specific number of rows, the *value* must be 100 or less.

Example: ROWS 2 PRECEDING means that the window is 3 rows in size, starting with 2 rows preceding until and including the current row.

Example: ROWS UNBOUNDED FOLLOWING means that the window starts with the current row and includes the current row and all rows that come after the current row.

Examples

You can calculate the moving average (rolling average or running average) sales for each employee:

```
AVG([Sales]) OVER(
    PARTITION BY [Employee]
    ORDER BY [SalesDate] DESC
    ROWS UNBOUNDED PRECEDING)
```

You can calculate the overall average sales for every row in the partition, regardless of the fields in the ORDER BY clause:

```
AVG([Sales]) OVER(
    PARTITION BY [Employee]
    ORDER BY [SalesDate] DESC
    ROWS BETWEEN UNBOUNDED PRECEDING
    AND UNBOUNDED FOLLOWING)
```

You can calculate the rolling 12 month average:

```
AVG([fieldA]) OVER(
    PARTITION BY [fieldB]
    ORDER BY [Month]
    RANGE 11 PRECEDING)
```

The Month field must be a numeric field type, such as Integer or Numeric.

You can calculate the previous year to date average:

```
AVG([fieldA]) OVER(
    PARTITION BY [fieldB]
    ORDER BY [Year]
    RANGE 1 PRECEDING)
```

The Year field must be a numeric field type, such as Integer or Numeric.

COUNT

Description

COUNT is a window aggregate function that partitions rows into groups, orders rows by a field, and returns the total number of valid rows (NOT NULL) in the group. You can use COUNT together with other functions to calculate cumulative aggregates.

The PARTITION BY clause determines which fields to use to partition a set of input rows into groups. The ORDER BY clause determines how to order the rows in the partition.

Workday separates the input rows into groups according to the partitioning fields, orders the rows according to the ordering fields, and then computes the aggregate expression (count for this function) in each group.

Syntax

```
COUNT(input_field)OVER(
    PARTITION
    BY
    partitioning_field[,partitioning_field]
        ORDER
        BY
        ordering_field[ASC | DESC] [,ordering_field[ASC | DESC]]
        RANGE
        BETWEEN
        value
        PRECEDING
        AND
        CURRENT ROW |
        ROWS
        win_boundary|BETWEEN
        win_boundary
        AND
        win_boundary
    )
)
```

where *win_boundary* can be:

```
UNBOUNDED
PRECEDING
value
PRECEDING
UNBOUNDED
FOLLOWING
value
FOLLOWING
CURRENT ROW
```

Return Value

Returns a value of type LONG.

Input Parameters

input_field

Required. The field on which to perform the aggregate function. You can use any numeric field or a Currency field.

OVER()

Required. OVER must be used within an COUNT expression.

PARTITION BY *partitioning_field*

Required. Use the PARTITION BY clause to specify 1 or more fields to use to partition a group of input rows. You can specify any field type except Currency. Example: You specify the Month field as the partitioning field, so Workday groups into a single partition all records that have the same value for Month.

ORDER BY *ordering_field*

Required. Use the ORDER BY clause to specify how to order the input rows in the partition using the values in the specified field within each partition. You can specify any field type

except Currency. However, you must use a numeric field type, such as Integer or Numeric when you use the RANGE clause.

You can use the DESC or ASC keywords to sort in descending order (high to low values, NULLs are last) or ascending order (low to high values, NULLs are first) for each ordering field. If you don't specify a sort order for an ordering field, Workday automatically sorts rows in ascending order.

ROWS | RANGE

Required. The ROWS and RANGE clauses define the specific number of rows (relative to the current row) within the partition by specifying a window frame. You define the window frame by specifying start and end points within the partition, known as window boundaries. The window frame is the set of input rows in each partition over which to calculate the aggregate expression (count for this function). The window frame can include one, several, or all rows of the partition.

Both ROWS and RANGE specify the range of rows relative to the current row, but RANGE operates logically on values (logical association) and ROWS operates physically on rows in the dataset (physical association).

RANGE limits the window frame to contain rows that have their values within the specified range, relative to the current value. ROWS limits the window frame to contain rows that are physically next to the current row.

Use RANGE to define absolute window boundaries, such as the past 3 months or year to date. When you use RANGE, the ORDER BY clause must use a numeric field type, such as Integer or Numeric.

Example: Suppose you have an Integer field called MonthNum that represents the number of the month in the year (values 1 to 12). To specify all values from the past 3 months, you would order by MonthNum and use RANGE BETWEEN 2 PRECEDING AND CURRENT ROW. This RANGE clause includes the current month and the previous 2 months, resulting in 3 months total.

Note: When you publish a dataset that contains a window function using RANGE, the number of rows in the window must be 1000 or less. If a particular window exceeds 1000 rows, the publish job fails.

win_boundary

Required. The window boundaries define the start and end points of the window frame. Window boundaries are relative to the current row.

A PRECEDING clause defines a window boundary that is lower than the current row (the number of rows to include before the current row). The FOLLOWING clause defines a window boundary that is greater than the current row (the number of rows to include after the current row).

If you specify only 1 window boundary, then Workday uses the current row as the other boundary in the window frame (either the upper or lower boundary depending on the expression syntax). The UNBOUNDED keyword includes all rows in the direction specified. When you need to specify both a start and end of a window frame, use the BETWEEN and AND keywords.

When specifying a specific number of rows, the *value* must be 100 or less.

Example: ROWS 2 PRECEDING means that the window is 3 rows in size, starting with 2 rows preceding until and including the current row.

Example: ROWS UNBOUNDED FOLLOWING means that the window starts with the current row and includes the current row and all rows that come after the current row.

Examples

You can calculate the moving count (running count or rolling count) of sales for each employee:

```
COUNT([Sales]) OVER(
    PARTITION BY [Employee]
    ORDER BY [SalesDate] DESC
    ROWS UNBOUNDED PRECEDING)
```

You can calculate the overall count of sales for every row in the partition, regardless of the fields in the ORDER BY clause:

```
COUNT([Sales]) OVER(
    PARTITION BY [Employee]
    ORDER BY [SalesDate] DESC
    ROWS BETWEEN UNBOUNDED PRECEDING
    AND UNBOUNDED FOLLOWING)
```

You can calculate the rolling 12 month count:

```
COUNT([fieldA]) OVER(
    PARTITION BY [fieldB]
    ORDER BY [Month]
    RANGE 11 PRECEDING)
```

The Month field must be a numeric field type, such as Integer or Numeric.

You can calculate the previous year to date count:

```
COUNT([fieldA]) OVER(
    PARTITION BY [fieldB]
    ORDER BY [Year]
    RANGE 1 PRECEDING)
```

The Year field must be a numeric field type, such as Integer or Numeric.

FIRST

Description

FIRST is a window aggregate function that partitions rows into groups, orders rows by a field, and returns the value from the first row in the group.

The PARTITION BY clause determines which fields to use to partition a set of input rows into groups. The ORDER BY clause determines how to order the rows in the partition.

Workday separates the input rows into groups according to the partitioning fields, orders the rows according to the ordering fields, and then computes the aggregate expression (first for this function) in each group.

Syntax

```
FIRST(input_field)OVER(
    PARTITION
    BY
    partitioning_field[,partitioning_field]
    ORDER
    BY
    ordering_field[ASC | DESC] [,ordering_field[ASC | DESC]]
    ROWS
    start_window_boundary
```

```

)
where start_window_boundary can be:
UNBOUNDED PRECEDING
```

Return Value

Returns a value of the same type as *input_field*.

Input Parameters

input_field

Required. The field on which to perform the aggregate function. You can use any NUMERIC field or a CURRENCY field.

OVER()

Required. OVER must be used within a FIRST expression.

PARTITION BY *partitioning_field*

Required. Use the PARTITION BY clause to specify 1 or more fields to use to partition a group of input rows. You can specify any field type except Currency. Example: You specify the Month field as the partitioning field, so Workday groups into a single partition all records that have the same value for Month.

ORDER BY *ordering_field*

Required. Use the ORDER BY clause to specify how to order the input rows in the partition using the values in the specified field within each partition. You can specify any field type except Currency.

You can use the DESC or ASC keywords to sort in descending order (high to low values, NULLs are last) or ascending order (low to high values, NULLs are first) for each ordering field. If you don't specify a sort order for an ordering field, Workday automatically sorts rows in ascending order.

ROWS

Required. The ROWS clause defines the specific number of rows (relative to the current row) within the partition by specifying a window frame. You define the window frame by specifying start and end points within the partition, known as window boundaries. The window frame is the set of input rows in each partition, relative to the current row, over which to calculate the aggregate expression (first for this function). The window frame can include one, several, or all rows of the partition.

window_boundary

Required. The window boundaries define the start and end points of the window frame. Window boundaries are relative to the current row.

A PRECEDING clause defines a window boundary that is lower than the current row (the number of rows to include before the current row). If you specify only 1 window boundary, then Workday uses the current row as the last row in the window frame (the upper boundary). The UNBOUNDED keyword includes all rows in the direction specified.

LAG

Description

LAG is a window aggregate function that partitions rows into groups, orders rows by a field, and returns the value of a field in the row at the specified offset before (above) the current row in the group.

The PARTITION BY clause determines which fields to use to partition a set of input rows into groups. The ORDER BY clause determines how to order the rows in the partition.

Workday separates the input rows into groups according to the partitioning fields, orders the rows according to the ordering fields, and then computes the aggregate expression (lag for this function) in each group.

Syntax

```
LAG(input_field, offset, default_value) OVER(
    PARTITION
        BY
            partitioning_field [, partitioning_field]
        ORDER
            BY
                ordering_field [ASC | DESC] [, ordering_field [ASC | DESC]]
)
```

Return Value

Returns one value per row of the same type as the *input_field*.

Input Parameters

input_field

Required. The field on which to perform the aggregate function. You can specify any field type.

offset

Optional. The number of rows before the current row whose value to return. Must be a literal number greater than or equal to zero (0) and less than or equal to 100. If you don't specify the offset, Workday uses the value of 1.

default_value

Optional. The value this function returns when the offset row is outside the currently defined window or when the value in the offset row is NULL. *default_value* must be the same type as *input_field*. If you don't specify a default value, Workday uses the value of NULL.

OVER()

Required. OVER must be used within a LAG expression.

PARTITION BY *partitioning_field*

Required. Use the PARTITION BY clause to specify 1 or more fields to use to partition a group of input rows. You can specify any field type except Currency. Example: You specify the Month field as the partitioning field, so Workday groups into a single partition all records that have the same value for Month.

ORDER BY *ordering_field*

Required. Use the ORDER BY clause to specify how to order the input rows in the partition using the values in the specified field within each partition. You can specify any field type except Currency.

You can use the DESC or ASC keywords to sort in descending order (high to low values, NULLs are last) or ascending order (low to high values, NULLs are first) for each ordering field. If you don't specify a sort order for an ordering field, Workday automatically sorts rows in ascending order.

Examples

Example: You have a dataset with these rows and fields.

row_ID	Employee_Name	Eff_Date	Salary
1	Goh	1/1/18	49000
2	Goh	1/1/19	56000
3	Goh	1/1/17	44000
4	Freeman	1/1/18	65000
5	Freeman	1/1/17	57000
6	Freeman	1/1/19	69000
7	Smith	1/1/18	51000
8	Smith	1/1/19	56000
9	Smith	1/1/16	44000

You can order the rows for each employee in ascending (ASC) order by the effective date (*Eff_Date*) field, so the most recent salary comes first in each partition.

Use this expression in the *Salary_Increase* field to calculate the change in salary between each change in effective date:

```
[Salary] - (LAG([Salary], 1, [Salary]) OVER(
    PARTITION BY [Employee_Name]
    ORDER BY [Eff_Date] ASC)
)
```

You get these results:

row_ID	Employee_Name	Eff_Date	Salary	Salary_Increase
2	Goh	1/1/19	56000	7000
1	Goh	1/1/18	49000	5000
3	Goh	1/1/17	44000	0
6	Freeman	1/1/19	69000	4000
4	Freeman	1/1/18	65000	8000
5	Freeman	1/1/17	57000	0
8	Smith	1/1/19	56000	5000
7	Smith	1/1/18	51000	7000
9	Smith	1/1/16	44000	0

Related Information

Reference

[Workday 32 What's New Post: Prism Analytics Data Preparation](#)

LAST

Description

`LAST` is a window aggregate function that partitions rows into groups, orders rows by a field, and returns the value from the last row in the group.

The `PARTITION BY` clause determines which fields to use to partition a set of input rows into groups. The `ORDER BY` clause determines how to order the rows in the partition.

Workday separates the input rows into groups according to the partitioning fields, orders the rows according to the ordering fields, and then computes the aggregate expression (`last` for this function) in each group.

Syntax

```
LAST(input_field) OVER(
    PARTITION
        BY
            partitioning_field [, partitioning_field]
            ORDER
                BY
                    ordering_field [ASC | DESC] [, ordering_field [ASC | DESC]]
                    ROWS
                    BETWEEN
                        start_window_boundary
                        AND
                        end_window_boundary
                    )
)
```

where `start_window_boundary` can be:

CURRENT ROW

and where `end_window_boundary` can be:

UNBOUNDED FOLLOWING

Return Value

Returns a value of the same type as `input_field`.

Input Parameters

`input_field`

Required. The field on which to perform the aggregate function. You can use any numeric field or a Currency field.

`OVER()`

Required. `OVER` must be used within a `LAST` expression.

`PARTITION BY partitioning_field`

Required. Use the `PARTITION BY` clause to specify 1 or more fields to use to partition a group of input rows. You can specify any field type except Currency. Example: You specify the Month field as the partitioning field, so Workday groups into a single partition all records that have the same value for Month.

`ORDER BY ordering_field`

Required. Use the ORDER BY clause to specify how to order the input rows in the partition using the values in the specified field within each partition. You can specify any field type except Currency.

You can use the DESC or ASC keywords to sort in descending order (high to low values, NULLs are last) or ascending order (low to high values, NULLs are first) for each ordering field. If you don't specify a sort order for an ordering field, Workday automatically sorts rows in ascending order.

ROWS

Required. The ROWS clause defines the specific number of rows (relative to the current row) within the partition by specifying a window frame. You define the window frame by specifying start and end points within the partition, known as window boundaries. The window frame is the set of input rows in each partition, relative to the current row, over which to calculate the aggregate expression (last for this function). The window frame can include one, several, or all rows of the partition.

window_boundary

Required. The window boundaries define the start and end points of the window frame. Window boundaries are relative to the current row.

A FOLLOWING clause defines a window boundary that is after the current row (the number of rows to include after the current row). Workday uses the current row as the first row in the window frame (the lower boundary). The UNBOUNDED keyword includes all rows in the direction specified.

LEAD

Description

LEAD is a window aggregate function that partitions rows into groups, orders rows by a field, and returns the value of a field in the row at the specified offset after (below) the current row in the group.

The PARTITION BY clause determines which fields to use to partition a set of input rows into groups. The ORDER BY clause determines how to order the rows in the partition.

Workday separates the input rows into groups according to the partitioning fields, orders the rows according to the ordering fields, and then computes the aggregate expression (lead for this function) in each group.

Syntax

```
LEAD(input_field, offset, default_value) OVER(
    PARTITION
        BY
            partitioning_field [, partitioning_field]
        ORDER
            BY
                ordering_field [ASC | DESC] [, ordering_field [ASC | DESC]]
)
```

Return Value

Returns one value per row of the same type as the *input_field*.

Input Parameters

input_field

Required. The field on which to perform the aggregate function. You can specify any field type.

offset

Optional. The number of rows after the current row whose value to return. Must be a literal number greater than or equal to zero (0) and less than or equal to 100. If you don't specify the offset, Workday uses the value of 1.

default_value

Optional. The value this function returns when the offset row is outside the currently defined window or when the value in the offset row is NULL. *default_value* must be the same type as *input_field*. If you don't specify a default value, Workday uses the value of NULL.

OVER()

Required. OVER must be used within a LEAD expression.

PARTITION BY *partitioning_field*

Required. Use the PARTITION BY clause to specify 1 or more fields to use to partition a group of input rows. You can specify any field type except Currency. Example: You specify the Month field as the partitioning field, so Workday groups into a single partition all records that have the same value for Month.

ORDER BY *ordering_field*

Required. Use the ORDER BY clause to specify how to order the input rows in the partition using the values in the specified field within each partition. You can specify any field type except Currency.

You can use the DESC or ASC keywords to sort in descending order (high to low values, NULLs are last) or ascending order (low to high values, NULLs are first) for each ordering field. If you don't specify a sort order for an ordering field, Workday automatically sorts rows in ascending order.

Examples

Example: You have a dataset with these rows and fields.

row_ID	Employee_Name	Eff_Date	Salary
1	Goh	1/1/18	49000
2	Goh	1/1/19	56000
3	Goh	1/1/17	44000
4	Freeman	1/1/18	65000
5	Freeman	1/1/17	57000
6	Freeman	1/1/19	69000
7	Smith	1/1/18	51000
8	Smith	1/1/19	56000
9	Smith	1/1/16	44000

You can order the rows for each employee in descending (DESC) order by the effective date (*Eff_Date*) field, so the most recent salary comes first in each partition.

Use this expression in the *Salary_Increase* field to calculate the change in salary between each change in effective date:

```
[Salary] - (LEAD([Salary], 1, [Salary]) OVER(
    PARTITION BY [Employee_Name]
    ORDER BY [Eff_Date] DESC)
)
```

You get these results:

row_ID	Employee_Name	Eff_Date	Salary	Salary_Increase
2	Goh	1/1/19	56000	7000
1	Goh	1/1/18	49000	5000
3	Goh	1/1/17	44000	0
6	Freeman	1/1/19	69000	4000
4	Freeman	1/1/18	65000	8000
5	Freeman	1/1/17	57000	0
8	Smith	1/1/19	56000	5000
7	Smith	1/1/18	51000	7000
9	Smith	1/1/16	44000	0

Related Information

Reference

[Workday 32 What's New Post: Prism Analytics Data Preparation](#)

MAX

Description

MAX is a window aggregate function that partitions rows into groups, orders rows by a field, and returns the maximum (highest) value in the group.

The PARTITION BY clause determines which fields to use to partition a set of input rows into groups. The ORDER BY clause determines how to order the rows in the partition.

Workday separates the input rows into groups according to the partitioning fields, orders the rows according to the ordering fields, and then computes the aggregate expression (maximum for this function) in each group.

Syntax

```
MAX(input_field) OVER(
    PARTITION
    BY
    partitioning_field [, partitioning_field]
    ORDER
    BY
    ordering_field [ASC | DESC] [, ordering_field [ASC | DESC]]
    RANGE
    BETWEEN
    value
    PRECEDING
    AND
    CURRENT ROW |
```

```

ROWS
win_boundary
| BETWEEN
win_boundary
AND
win_boundary
)

```

where *win_boundary* can be:

```

UNBOUNDED PRECEDING
value
PRECEDING
UNBOUNDED FOLLOWING
value
FOLLOWING
CURRENT ROW

```

Return Value

The return value is the same field type as the input value.

Input Parameters

input_field

Required. The field on which to perform the aggregate function. You can use any numeric field or a Currency field.

OVER()

Required. OVER must be used within a MAX expression.

PARTITION BY *partitioning_field*

Required. Use the PARTITION BY clause to specify 1 or more fields to use to partition a group of input rows. You can specify any field type except Currency. Example: You specify the Month field as the partitioning field, so Workday groups into a single partition all records that have the same value for Month.

ORDER BY *ordering_field*

Required. Use the ORDER BY clause to specify how to order the input rows in the partition using the values in the specified field within each partition. You can specify any field type except Currency. However, you must use a numeric field type, such as Integer or Numeric when you use the RANGE clause.

You can use the DESC or ASC keywords to sort in descending order (high to low values, NULLs are last) or ascending order (low to high values, NULLs are first) for each ordering field. If you don't specify a sort order for an ordering field, Workday automatically sorts rows in ascending order.

ROWS | RANGE

Required. The ROWS and RANGE clauses define the specific number of rows (relative to the current row) within the partition by specifying a window frame. You define the window frame by specifying start and end points within the partition, known as window boundaries. The window frame is the set of input rows in each partition over which to calculate the aggregate expression (maximum for this function). The window frame can include one, several, or all rows of the partition.

Both ROWS and RANGE specify the range of rows relative to the current row, but RANGE operates logically on values (logical association) and ROWS operates physically on rows in the dataset (physical association).

RANGE limits the window frame to contain rows that have their values within the specified range, relative to the current value. ROWS limits the window frame to contain rows that are physically next to the current row.

Use RANGE to define absolute window boundaries, such as the past 3 months or year to date. When you use RANGE, the ORDER BY clause must use a numeric field type, such as Integer or Numeric.

Example: Suppose you have an Integer field called MonthNum that represents the number of the month in the year (values 1 to 12). To specify all values from the past 3 months, you would order by MonthNum and use RANGE BETWEEN 2 PRECEDING AND CURRENT ROW. This RANGE clause includes the current month and the previous 2 months, resulting in 3 months total.

Note: When you publish a dataset that contains a window function using RANGE, the number of rows in the window must be 1000 or less. If a particular window exceeds 1000 rows, the publish job fails.

win_boundary

Required. The window boundaries define the start and end points of the window frame. Window boundaries are relative to the current row.

A PRECEDING clause defines a window boundary that is lower than the current row (the number of rows to include before the current row). The FOLLOWING clause defines a window boundary that is greater than the current row (the number of rows to include after the current row).

If you specify only 1 window boundary, then Workday uses the current row as the other boundary in the window frame (either the upper or lower boundary depending on the expression syntax). The UNBOUNDED keyword includes all rows in the direction specified. When you need to specify both a start and end of a window frame, use the BETWEEN and AND keywords.

When specifying a specific number of rows, the value must be 100 or less.

Example: ROWS 2 PRECEDING means that the window is 3 rows in size, starting with 2 rows preceding until and including the current row.

Example: ROWS UNBOUNDED FOLLOWING means that the window starts with the current row and includes the current row and all rows that come after the current row.

Examples

Example: You have a dataset with these rows and fields.

Supervisory Org	Quarter	Name	Comp Change
Marketing	2019-Q1	Goh	2000.00
Marketing	2019-Q1	Freeman	1000.00
Marketing	2019-Q1	Smith	2500.00
Consulting	2019-Q1	Gomez	5000.00
Consulting	2019-Q1	Kimura	3000.00
Consulting	2019-Q1	Fitz	3500.00
Consulting	2019-Q2	Gomez	0
Consulting	2019-Q2	Kimura	2000.00
Consulting	2019-Q2	Fitz	1500.00

You can calculate the highest change in compensation (*Comp Change* field) for each supervisory org in each quarter.

To ensure that Workday returns the same value for every row in a partition, order the rows in descending (*DESC*) order by the same field as the input field so the highest compensation change comes first in each partition.

Use this expression in the *Max Comp Change* field:

```
MAX( [Comp Change] ) OVER(
    PARTITION BY [Supervisory Org], [Quarter]
    ORDER BY [Comp Change] DESC
    ROWS BETWEEN UNBOUNDED PRECEDING
    AND UNBOUNDED FOLLOWING
)
```

You get these results:

Supervisory Org	Quarter	Name	Comp Change	Max Comp Change
Consulting	2019-Q1	Gomez	5000.00	5000.00
Consulting	2019-Q1	Fitz	3500.00	5000.00
Consulting	2019-Q1	Kimura	3000.00	5000.00
Consulting	2019-Q2	Kimura	2000.00	2000.00
Consulting	2019-Q2	Fitz	1500.00	2000.00
Consulting	2019-Q2	Gomez	0	2000.00
Marketing	2019-Q1	Smith	2500.00	2500.00
Marketing	2019-Q1	Goh	2000.00	2500.00
Marketing	2019-Q1	Freeman	1000.00	2500.00

Related Information

Reference

[Workday 32 What's New Post: Prism Analytics Dataset Window Functions](#)

MIN

Description

MIN is a window aggregate function that partitions rows into groups, orders rows by a field, and returns the minimum (lowest) value in the group.

The *PARTITION BY* clause determines which fields to use to partition a set of input rows into groups. The *ORDER BY* clause determines how to order the rows in the partition.

Workday separates the input rows into groups according to the partitioning fields, orders the rows according to the ordering fields, and then computes the aggregate expression (minimum for this function) in each group.

Syntax

```
MIN(input_field) OVER(
    PARTITION
    BY
    partitioning_field [, partitioning_field]
```

```

    ORDER
    BY
ordering_field [ASC | DESC] [, ordering_field [ASC | DESC]]
    RANGE
    BETWEEN
value
    PRECEDING
    AND
    CURRENT ROW |
    ROWS
win_boundary
    | BETWEEN
win_boundary
    AND
win_boundary
)

```

where *win_boundary* can be:

```

    UNBOUNDED PRECEDING
    value
    PRECEDING
    UNBOUNDED FOLLOWING
    value
    FOLLOWING
    CURRENT ROW

```

Return Value

The return value is the same field type as the input value.

Input Parameters

input_field

Required. The field on which to perform the aggregate function. You can use any numeric field or a Currency field.

OVER()

Required. OVER must be used within a MIN expression.

PARTITION BY *partitioning_field*

Required. Use the PARTITION BY clause to specify 1 or more fields to use to partition a group of input rows. You can specify any field type except Currency. Example: You specify the Month field as the partitioning field, so Workday groups into a single partition all records that have the same value for Month.

ORDER BY *ordering_field*

Required. Use the ORDER BY clause to specify how to order the input rows in the partition using the values in the specified field within each partition. You can specify any field type except Currency. However, you must use a numeric field type, such as Integer or Numeric when you use the RANGE clause.

You can use the DESC or ASC keywords to sort in descending order (high to low values, NULLs are last) or ascending order (low to high values, NULLs are first) for each ordering field. If you don't specify a sort order for an ordering field, Workday automatically sorts rows in ascending order.

ROWS | RANGE

Required. The ROWS and RANGE clauses define the specific number of rows (relative to the current row) within the partition by specifying a window frame. You define the window frame by specifying start and end points within the partition, known as window boundaries.

The window frame is the set of input rows in each partition over which to calculate the aggregate expression (minimum for this function). The window frame can include one, several, or all rows of the partition.

Both `ROWS` and `RANGE` specify the range of rows relative to the current row, but `RANGE` operates logically on values (logical association) and `ROWS` operates physically on rows in the dataset (physical association).

`RANGE` limits the window frame to contain rows that have their values within the specified range, relative to the current value. `ROWS` limits the window frame to contain rows that are physically next to the current row.

Use `RANGE` to define absolute window boundaries, such as the past 3 months or year to date. When you use `RANGE`, the `ORDER BY` clause must use a numeric field type, such as Integer or Numeric.

Example: Suppose you have an Integer field called `MonthNum` that represents the number of the month in the year (values 1 to 12). To specify all values from the past 3 months, you would order by `MonthNum` and use `RANGE BETWEEN 2 PRECEDING AND CURRENT ROW`. This `RANGE` clause includes the current month and the previous 2 months, resulting in 3 months total.

Note: When you publish a dataset that contains a window function using `RANGE`, the number of rows in the window must be 1000 or less. If a particular window exceeds 1000 rows, the publish job fails.

win_boundary

Required. The window boundaries define the start and end points of the window frame. Window boundaries are relative to the current row.

A `PRECEDING` clause defines a window boundary that is lower than the current row (the number of rows to include before the current row). The `FOLLOWING` clause defines a window boundary that is greater than the current row (the number of rows to include after the current row).

If you specify only 1 window boundary, then Workday uses the current row as the other boundary in the window frame (either the upper or lower boundary depending on the expression syntax). The `UNBOUNDED` keyword includes all rows in the direction specified. When you need to specify both a start and end of a window frame, use the `BETWEEN` and `AND` keywords.

When specifying a specific number of rows, the `value` must be 100 or less.

Example: `ROWS 2 PRECEDING` means that the window is 3 rows in size, starting with 2 rows preceding until and including the current row.

Example: `ROWS UNBOUNDED FOLLOWING` means that the window starts with the current row and includes the current row and all rows that come after the current row.

Examples

Example: You have a dataset with these rows and fields.

Supervisory Org	Quarter	Name	Comp Change
Marketing	2019-Q1	Goh	2000.00
Marketing	2019-Q1	Freeman	1000.00
Marketing	2019-Q1	Smith	2500.00
Consulting	2019-Q1	Gomez	5000.00

Supervisory Org	Quarter	Name	Comp Change
Consulting	2019-Q1	Kimura	3000.00
Consulting	2019-Q1	Fitz	3500.00
Consulting	2019-Q2	Gomez	0
Consulting	2019-Q2	Kimura	2000.00
Consulting	2019-Q2	Fitz	1500.00

You can calculate the lowest change in compensation (*Comp Change* field) for each supervisory org in each quarter.

To ensure that Workday returns the same value for every row in a partition, order the rows in ascending (ASC) order by the same field as the input field so the lowest compensation change comes first in each partition.

Use this expression in the *Min Comp Change* field:

```
MIN([Comp Change]) OVER(
    PARTITION BY [Supervisory Org], [Quarter]
    ORDER BY [Comp Change] ASC
    ROWS BETWEEN UNBOUNDED PRECEDING
    AND UNBOUNDED FOLLOWING
)
```

You get these results:

Supervisory Org	Quarter	Name	Comp Change	Min Comp Change
Consulting	2019-Q1	Kimura	3000.00	3000.00
Consulting	2019-Q1	Fitz	3500.00	3000.00
Consulting	2019-Q1	Gomez	5000.00	3000.00
Consulting	2019-Q2	Gomez	0	0
Consulting	2019-Q2	Fitz	1500.00	0
Consulting	2019-Q2	Kimura	2000.00	0
Marketing	2019-Q1	Freeman	1000.00	1000.00
Marketing	2019-Q1	Goh	2000.00	1000.00
Marketing	2019-Q1	Smith	2500.00	1000.00

Related Information

Reference

[Workday 32 What's New Post: Prism Analytics Dataset Window Functions](#)

RANK

Description

RANK is a window aggregate function used to assign a ranking number to each row in a group. If multiple rows have the same ranking value (there's a tie), then Workday assigns the same rank value to the tied rows and skips the subsequent rank position.

The PARTITION BY clause determines which fields to use to partition a set of input rows into groups.

The `ORDER BY` clause determines how to order the rows in the partition before they're ranked.

Workday separates the input rows into groups according to the partitioning fields, orders the rows according to the ordering fields, and then computes the aggregate expression (rank for this function) in each group. The ranked rows in each group start at 1.

Syntax

```
RANK() OVER(
    PARTITION
        BY
            partitioning_field [, partitioning_field]
        ORDER
            BY
                ordering_field [ASC | DESC] [, ordering_field [ASC | DESC]]
)
```

Return Value

Returns a value of type `Integer`.

Input Parameters

`OVER()`

Required. `OVER` must be used within a `RANK` expression.

`PARTITION BY partitioning_field`

Required. Use the `PARTITION BY` clause to specify 1 or more fields to use to partition a group of input rows. You can specify any field type except Currency. Example: You specify the Month field as the partitioning field, so Workday groups together into a single partition all records that have the same value for Month.

`ORDER BY ordering_field`

Required. Use the `ORDER BY` clause to specify how to order the input rows in the partition using the values in the specified field within each partition. You can specify any field type except Currency.

You can use the `DESC` or `ASC` keywords to sort in descending order (high to low values, NULLs are last) or ascending order (low to high values, NULLs are first) for each ordering field. If you don't specify a sort order for an ordering field, Workday automatically sorts rows in ascending order.

Examples

Example: You have a dataset with these rows and fields.

Employee	Sales Date	Sales
Goh	12/31/2018	140
Goh	11/30/2018	60
Goh	10/31/2018	140
Freeman	12/31/2018	160
Freeman	11/30/2018	60
Freeman	10/31/2018	110
Smith	12/31/2018	140

Employee	Sales Date	Sales
Smith	11/30/2018	60
Smith	10/31/2018	120

You can rank the sales for each employee in descending order, so the highest sales is given the ranking of 1. Use this expression in the *Rank Sales by Employee* field:

```
RANK() OVER(
    PARTITION BY [Employee]
    ORDER BY [Sales] DESC)
```

You get these results:

Employee	Sales Date	Sales	Rank Sales by Employee
Goh	12/31/2018	140	1
Goh	10/31/2018	140	1
Goh	11/30/2018	60	3
Freeman	12/31/2018	160	1
Freeman	10/31/2018	110	2
Freeman	11/30/2018	60	3
Smith	12/31/2018	140	1
Smith	10/31/2018	120	2
Smith	11/30/2018	60	3

You can also rank the sales for each date in descending order, so the highest sales is given the ranking of 1. Use this expression in the *Rank Sales by Date* field:

```
RANK() OVER(
    PARTITION BY [Sales Date]
    ORDER BY [Sales] DESC)
```

You get these results:

Employee	Sales Date	Sales	Rank Sales by Date
Freeman	12/31/2018	160	1
Goh	12/31/2018	140	2
Smith	12/31/2018	140	2
Goh	11/30/2018	60	1
Freeman	11/30/2018	60	1
Smith	11/30/2018	60	1
Goh	10/31/2018	140	1
Smith	10/31/2018	120	2
Freeman	10/31/2018	110	3

Notice that tied values are given the same rank number and the following rank position is skipped.

ROW_NUMBER

Description

ROW_NUMBER is a window aggregate function that partitions rows into groups, orders rows by a field, and assigns a unique, sequential number to each row in a group, starting at 1 for the first row in each group. ROW_NUMBER always assigns a unique value to each row in a group. You might want to use ROW_NUMBER to create a unique ID for each row in your dataset.

The PARTITION BY clause determines which fields to use to partition a set of input rows into groups.

The ORDER BY clause determines how to order the rows in the partition before they're assigned a sequential number.

Workday separates the input rows into groups according to the partitioning fields, orders the rows according to the ordering fields, and then computes the aggregate expression (row numbering for this function) in each group. The numbered rows in each group start at 1.

Syntax

```
ROW_NUMBER( )OVER(
    PARTITION
    BY
    partitioning_field[,partitioning_field]
    ORDER
    BY
    ordering_field[ASC | DESC] [,ordering_field[ASC | DESC]]
)
```

Return Value

Returns a value of type INTEGER.

Input Parameters

OVER()

Required. OVER must be used within a ROW_NUMBER expression.

PARTITION BY *partitioning_field*

Required. Use the PARTITION BY clause to specify 1 or more fields to use to partition a group of input rows. You can specify any field type except Currency. Example: You specify the Month field as the partitioning field, so Workday groups together into a single partition all records that have the same value for Month.

ORDER BY *ordering_field*

Required. Use the ORDER BY clause to specify how to order the input rows in the partition using the values in the specified field within each partition. You can specify any field type except Currency.

You can use the DESC or ASC keywords to sort in descending order (high to low values, NULLs are last) or ascending order (low to high values, NULLs are first) for each ordering field. If you don't specify a sort order for an ordering field, Workday automatically sorts rows in ascending order.

Examples

Example: You have a dataset with these rows and fields.

Employee	Sales Date	Sales
Goh	12/31/2018	140
Goh	11/30/2018	60
Goh	10/31/2018	140
Freeman	12/31/2018	160
Freeman	11/30/2018	60
Freeman	10/31/2018	110
Smith	12/31/2018	140
Smith	11/30/2018	60
Smith	10/31/2018	120

You can assign a unique ID to the sales of each employee in descending order, so the highest sales is given the ranking of 1. Use this expression in the *Sales Num by Employee* field:

```
ROW_NUMBER() OVER(
    PARTITION BY [Employee]
    ORDER BY [Sales] DESC)
```

You get these results:

Employee	Sales Date	Sales	Sales Num by Employee
Goh	12/31/2018	140	1
Goh	10/31/2018	140	2
Goh	11/30/2018	60	3
Freeman	12/31/2018	160	1
Freeman	10/31/2018	110	2
Freeman	11/30/2018	60	3
Smith	12/31/2018	140	1
Smith	10/31/2018	120	2
Smith	11/30/2018	60	3

You can also assign a unique ID to the sales for each date in descending order, so the highest sales is given the ranking of 1. Use this expression in the *Sales Num by Date* field:

```
ROW_NUMBER() OVER(
    PARTITION BY [Sales Date]
    ORDER BY [Sales] DESC)
```

You get these results:

Employee	Sales Date	Sales	Sales Num by Date
Freeman	12/31/2018	160	1
Goh	12/31/2018	140	2

Employee	Sales Date	Sales	Sales Num by Date
Smith	12/31/2018	140	3
Goh	11/30/2018	60	1
Freeman	11/30/2018	60	2
Smith	11/30/2018	60	3
Goh	10/31/2018	140	1
Smith	10/31/2018	120	2
Freeman	10/31/2018	110	3

You can also use ROW_NUMBER to determine the latest version of every row in a dataset that contains multiple rows per ID. In this scenario, the dataset requires a date field that represents when the information in that row became current. If you're familiar with data warehousing concepts, this is a type 2 slowly changing dimension table. You have a dataset with these rows and fields.

ID	Name	Region	Effective Date
G1	Gorman	West	01/01/2015
H1	Harris	West	01/01/2015
G1	Gorman	East	09/01/2016
H1	Harris	East	01/03/2017
H1	Harris	National	01/20/2021

To assign the value of 1 to the latest version of each ID, use this expression in the *Latest Version* field:

```
ROW_NUMBER() OVER(
    PARTITION BY [ID]
    ORDER BY [Effective Date] DESC)
```

You get these results:

ID	Name	Region	Effective Date	Latest Version
G1	Gorman	West	01/01/2015	2
H1	Harris	West	01/01/2015	3
G1	Gorman	East	09/01/2016	1
H1	Harris	East	01/03/2017	2
H1	Harris	National	01/20/2021	1

You can filter on *Latest Version* using a Filter Stage in order to return only the latest row for each ID.

SUM

Description

SUM is a window aggregate function that partitions rows into groups, orders rows by a field, and returns the total of all values in the group. You can use SUM to calculate running totals.

The PARTITION BY clause determines which fields to use to partition a set of input rows into groups. The ORDER BY clause determines how to order the rows in the partition.

Workday separates the input rows into groups according to the partitioning fields, orders the rows according to the ordering fields, and then computes the aggregate expression (sum for this function) in each group.

Syntax

```
SUM(input_field)OVER(
    PARTITION
    BY
    partitioning_field[,partitioning_field]
        ORDER
        BY
        ordering_field[ASC | DESC] [,ordering_field[ASC | DESC]]
        RANGE
        BETWEEN
        value
        PRECEDING
        AND
        CURRENT ROW |
        ROWS
        win_boundary|BETWEEN
        win_boundary
        AND
        win_boundary
    )
)
```

where *win_boundary* can be:

```
UNBOUNDED
PRECEDING
value
PRECEDING
UNBOUNDED
FOLLOWING
value
FOLLOWING
CURRENT ROW
```

Return Value

Returns a value of type NUMERIC, LONG, or DOUBLE depending on the type of *input_field*.

Input Parameters

input_field

Required. The field on which to perform the aggregate function. You can use any numeric field or a Currency field.

OVER()

Required. OVER must be used within an SUM expression.

PARTITION BY *partitioning_field*

Required. Use the PARTITION BY clause to specify 1 or more fields to use to partition a group of input rows. You can specify any field type except Currency. Example: You specify the Month field as the partitioning field, so Workday groups into a single partition all records that have the same value for Month.

ORDER BY *ordering_field*

Required. Use the ORDER BY clause to specify how to order the input rows in the partition using the values in the specified field within each partition. You can specify any field type

except Currency. However, you must use a numeric field type, such as Integer or Numeric when you use the RANGE clause.

You can use the DESC or ASC keywords to sort in descending order (high to low values, NULLs are last) or ascending order (low to high values, NULLs are first) for each ordering field. If you don't specify a sort order for an ordering field, Workday automatically sorts rows in ascending order.

ROWS | RANGE

Required. The ROWS and RANGE clauses define the specific number of rows (relative to the current row) within the partition by specifying a window frame. You define the window frame by specifying start and end points within the partition, known as window boundaries. The window frame is the set of input rows in each partition over which to calculate the aggregate expression (sum for this function). The window frame can include one, several, or all rows of the partition.

Both ROWS and RANGE specify the range of rows relative to the current row, but RANGE operates logically on values (logical association) and ROWS operates physically on rows in the dataset (physical association).

RANGE limits the window frame to contain rows that have their values within the specified range, relative to the current value. ROWS limits the window frame to contain rows that are physically next to the current row.

Use RANGE to define absolute window boundaries, such as the past 3 months or year to date. When you use RANGE, the ORDER BY clause must use a numeric field type, such as Integer or Numeric.

Example: Suppose you have an Integer field called MonthNum that represents the number of the month in the year (values 1 to 12). To specify all values from the past 3 months, you would order by MonthNum and use RANGE BETWEEN 2 PRECEDING AND CURRENT ROW. This RANGE clause includes the current month and the previous 2 months, resulting in 3 months total.

Note: When you publish a dataset that contains a window function using RANGE, the number of rows in the window must be 1000 or less. If a particular window exceeds 1000 rows, the publish job fails.

win_boundary

Required. The window boundaries define the start and end points of the window frame. Window boundaries are relative to the current row.

A PRECEDING clause defines a window boundary that is lower than the current row (the number of rows to include before the current row). The FOLLOWING clause defines a window boundary that is greater than the current row (the number of rows to include after the current row).

If you specify only 1 window boundary, then Workday uses the current row as the other boundary in the window frame (either the upper or lower boundary depending on the expression syntax). The UNBOUNDED keyword includes all rows in the direction specified. When you need to specify both a start and end of a window frame, use the BETWEEN and AND keywords.

When specifying a specific number of rows, the *value* must be 100 or less.

Example: ROWS 2 PRECEDING means that the window is 3 rows in size, starting with 2 rows preceding until and including the current row.

Example: ROWS UNBOUNDED FOLLOWING means that the window starts with the current row and includes the current row and all rows that come after the current row.

Examples

You can calculate the running total (rolling sum or moving sum) of sales for each employee:

```
SUM([Sales]) OVER(
    PARTITION BY [Employee]
    ORDER BY [Sales] DESC
    ROWS UNBOUNDED PRECEDING)
```

You can calculate the overall sum (total sales) for every row in the partition, regardless of the fields in the ORDER BY clause:

```
SUM([Sales]) OVER(
    PARTITION BY [Employee]
    ORDER BY [Sales] DESC
    ROWS BETWEEN UNBOUNDED PRECEDING
    AND UNBOUNDED FOLLOWING)
```

You can calculate the rolling 12 month sum:

```
SUM([fieldA]) OVER(
    PARTITION BY [fieldB]
    ORDER BY [Month]
    RANGE 11 PRECEDING)
```

The *Month* field must be a numeric field type, such as Integer or Numeric.

You can calculate the previous year to date sum:

```
SUM([fieldA]) OVER(
    PARTITION BY [fieldB]
    ORDER BY [Year]
    RANGE 1 PRECEDING)
```

The *Year* field must be a numeric field type, such as Integer or Numeric.

Regular Expression Reference

Concept: Regular Expressions in Prism

Regular expressions vary in complexity using a combination of basic constructs to describe a string matching pattern. This reference describes the most common regular expression matching patterns, but is not a comprehensive list.

Regular expressions, also referred to as regex or regexp, are a standardized collection of special characters and constructs used for matching strings of text. They provide a flexible and precise language for matching particular characters, words, or patterns of characters.

Prism Analytics regular expressions are based on the pattern matching syntax of the Java programming language. For more in depth information on writing valid regular expressions, refer to the [Java regular expression pattern documentation](#).

You can use regular expressions in Prism calculated field expressions that use either the REGEX or REGEX_REPLACE functions.

Regex Literal and Special Characters

This section describes the regular expression syntax for referring to literal characters, special characters, nonprintable characters (such as a tab or a newline), and special character escaping.

Literal Characters

The most basic form of pattern matching is the match of literal characters. If the regular expression is `foo` and the input string is `foo`, the match will succeed because the strings are identical.

Special Characters

Certain characters are reserved for special use in regular expressions. These special characters are called metacharacters. If you want to use special characters as literal characters, you must escape them.

Character Name	Character	Reserved For
opening bracket	[Start of a character class
closing bracket]	End of a character class
hyphen	-	Character ranges within a character class
backslash	\	General escape character
caret	^	Beginning of string, negating of a character class
dollar sign	\$	End of string
period	.	Matching any single character
pipe		Alternation (OR) operator
question mark	?	Optional quantifier, quantifier minimizer
asterisk	*	Zero or more quantifier
plus sign	+	Once or more quantifier
opening parenthesis	(Start of a subexpression group
closing parenthesis)	End of a subexpression group
opening brace	{	Start of min/max quantifier
closing brace	}	End of min/max quantifier

Escaping Special Characters

You can use these methods to treat a special character as a literal (ordinary) character:

- Precede the special character with a \ (backslash character). Example: to specify an asterisk as a literal character instead of a quantifier, use *.
- Enclose the special characters within \Q (starting quote) and \E (ending quote). Everything between \Q and \E is then treated as literal characters.
- To escape literal double-quotes in a REGEX() expression, double the double-quotes (""). Example: to extract the inches portion from a `height` field where example values are `6' 2"`, `5' 11"`:

```
REGEX([height], "\'(\d)+"")$")
```

NonPrinting Characters

You can use special character sequence constructs to specify nonprintable characters in a regular expression. Some of the most commonly used constructs are:

Construct	Matches
\n	newline character
\r	carriage return character
\t	tab character
\f	form feed character

Regex Character Classes

Character Class Constructs

A character class allows you to specify a set of characters, enclosed in square brackets, that can produce a single character match. A character class matches to a single character only. For example, `gr[ae]y` will match to `gray` or `grey`, but not to `graay` or `graey`. The order of the characters inside the brackets doesn't matter.

You can use a hyphen inside a character class to specify a range of characters. Example: `[a-z]` matches a single lower-case letter between `a` and `z`. You can also use more than 1 range, or a combination of ranges and single characters. Example: `[0-9X]` matches a numeric digit or the letter `x`. The order of the characters and the ranges doesn't matter.

A caret following an opening bracket specifies characters to exclude from a match. For example, `[^abc]` matches any character except `a`, `b`, or `c`.

Construct	Type	Description
<code>[abc]</code>	Simple	Matches <code>a</code> or <code>b</code> or <code>c</code>
<code>[^abc]</code>	Negation	Matches any character except <code>a</code> or <code>b</code> or <code>c</code>
<code>[a-zA-Z]</code>	Range	Matches <code>a</code> through <code>z</code> , or <code>A</code> through <code>Z</code> (inclusive)
<code>[a-d[m-p]]</code>	Union	Matches <code>a</code> through <code>d</code> , or <code>m</code> through <code>p</code>
<code>[a-z&&[def]]</code>	Intersection	Matches <code>d</code> , <code>e</code> , or <code>f</code>
<code>[a-z&&[^xq]]</code>	Subtraction	Matches <code>a</code> through <code>z</code> , except for <code>x</code> and <code>q</code>

Predefined Character Classes

Predefined character classes are convenient shorthands for commonly used regular expressions.

Construct	Description	Example
<code>.</code>	Matches any single character (except newline)	<code>.at</code> matches "cat", "hat", and also "bat" in the phrase "batch files"
<code>\d</code>	Matches any digit character (equivalent to <code>[0-9]</code>)	<code>\d</code> matches "3" in "C3PO" and "2" in "file_2.txt"
<code>\D</code>	Matches any non-digit character (equivalent to <code>[^0-9]</code>)	<code>\D</code> matches "S" in "900S" and "Q" in "Q45"
<code>\s</code>	Matches any single white-space character (equivalent to <code>\t\n\x0B\f\r</code>)	<code>\sbook</code> matches "book" in "blue book" but nothing in "notebook"
<code>\S</code>	Matches any single non-white-space character	<code>\Sbook</code> matches "book" in "notebook" but nothing in "blue book"

Construct	Description	Example
\w	Matches any alphanumeric character, including underscore (equivalent to [A-Za-z0-9_])	r\w* matches "rm" and "root"
\W	Matches any non-alphanumeric character (equivalent to [^A-Za-z0-9_])	\W matches "&" in "stmd &", "%" in "100%", and "\$" in "\$HOME"

POSIX Character Classes (US-ASCII)

POSIX has a set of character classes that denote certain common ranges. They're similar to bracket and predefined character classes, except they take into account the locale (the local language/coding system).

Construct	Description
\p{Lower}	A lower-case alphabetic character, [a-z]
\p{Upper}	An upper-case alphabetic character, [A-Z]
\p{ASCII}	An ASCII character, [\x00-\x7F]
\p{Alpha}	An alphabetic character, [a-zA-z]
\p{Digit}	A numeric digit, [0-9]
\p{Alnum}	An alphanumeric character, [a-zA-z0-9]
\p{Punct}	A punctuation character, one of ! "#\$%&' ()*+, - . / : ; <= ? @[\]^_`{ }~
\p{Graph}	A visible character, [\p{Alnum}\p{Punct}]
\p{Print}	A printable character, [\p{Graph}\x20]
\p{Blank}	A space or tab, [\t]
\p{Cntrl}	A control character, [\x00-\x1F\x7F]
\p{XDigit}	A hexadecimal digit, [0-9a-fA-F]
\p{Space}	A whitespace character, [\t\n\x0B\f\r]

Regex Line and Word Boundaries

You can use boundary matching constructs to specify where in a string to apply a matching pattern. For example, you can search for a particular pattern within a word boundary, or search for a pattern at the beginning or end of a line.

Construct	Description	Example
^	Matches from the beginning of a line (multi-line matches are currently not supported)	^172 matches the "172" in IP address "172.18.1.11" but not in "192.172.2.33"
\$	Matches from the end of a line (multi-line matches are currently not supported)	d\$ matches the "d" in "maid" but not in "made"
\b	Matches within a word boundary	\bis\b matches the word "is" in "this is my island", but not the "is" part of "this" or "island". \bis matches both "is" and the "is" in "island", but not in "this".

Construct	Description	Example
\B	Matches within a non-word boundary	\Bb matches "b" in "sbin" but not in "bash"

Regex Quantifiers

Quantifier Constructs

Quantifiers specify how often the preceding regular expression construct should match. The classes of quantifiers are:

- Greedy
- Reluctant
- Possessive

The difference between greedy, reluctant, and possessive quantifiers involves what part of the string to try for the initial match, and how to retry if the initial attempt doesn't produce a match.

By default, quantifiers are *greedy*. A greedy quantifier first tries for a match with the entire input string. If that produces a match, then it considers the match a success and the engine can move on to the next construct in the regular expression. If the first try doesn't produce a match, the engine backs-off 1 character at a time until it finds a match. So a greedy quantifier checks for possible matches in order from the longest possible input string to the shortest possible input string, recursively trying from right to left.

Adding a ? (question mark) to a greedy quantifier makes it *reluctant*. A reluctant quantifier first tries for a match from the beginning of the input string, starting with the shortest possible piece of the string that matches the regex construct. If that produces a match, then it considers the match a success and the engine can move on to the next construct in the regular expression. If the first try doesn't produce a match, the engine adds 1 character at a time until it finds a match. So a reluctant quantifier checks for possible matches in order from the shortest possible input string to the longest possible input string, recursively trying from left to right.

Adding a + (plus sign) to a greedy quantifier makes it *possessive*. A possessive quantifier is like a greedy quantifier on the first attempt (it tries for a match with the entire input string). The difference is that unlike a greedy quantifier, a possessive quantifier doesn't retry a shorter string if it doesn't find a match. If the initial match fails, the possessive quantifier reports a failed match. It doesn't make any more attempts.

Greedy Construct	Reluctant Construct	Possessive Construct	Description	Example
?	??	?+	Matches the previous character or construct once or not at all.	st?on matches "son" in "johnson" and "ston" in "johnston" but nothing in "clinton" or "version"
*	*?	*+	Matches the previous character or construct zero or more times.	if* matches "if", "iff" in "diff", or "i" in "print"
+	+?	++	Matches the previous character or construct 1 or more times.	if+ matches "if", "iff" in "diff", but nothing in "print"
{n}	{n}?	{n}+	Matches the previous character or construct exactly <i>n</i> times.	o{2} matches "oo" in "lookup" and the first 2 o's in "fooooo" but nothing in "mount"

Greedy Construct	Reluctant Construct	Possessive Construct	Description	Example
{n,}	{n,}?	{n,}+	Matches the previous character or construct at least <i>n</i> times.	o {2,} matches "oo" in "lookup" all 5 o's in "fooooo" but nothing in "mount"
{n,m}	{n,m}?	{n,m}+	Matches the previous character or construct at least <i>n</i> times, but no more than <i>m</i> times.	F{2,4} matches "FF" in "#FF0000" and the last 4 F's in "#FFFFFF"

Regex Capturing Groups

You can use a pair of parentheses around a subpattern in a regular expression to define a *group*. You can use regex groups to:

- **Apply regex operators and quantifiers to an entire group at once.**
- **Create a capturing group.** You can use capturing groups to specify matching values to save or return from your regular expression. By default, a group *captures* the text that produces a match. The portion of the string that matches the grouped subexpression is captured in memory for later retrieval or use.
- **Create a non-capturing group.**

Group Numbering

A regular expression can have more than 1 group, and the groups can be nested. The groups are numbered 1-*n* from left to right, starting with the first opening parenthesis. There is always an implicit group zero (0), which contains the entire match. Example:

```
(a(b*))+(c)
```

This pattern contains 3 groups:

```
group 1: (a(b*)) 
group 2: (b*) 
group 3: (c)
```

Capturing Groups and the REGEX Function

You can use the REGEX function to extract a portion of a string. The REGEX function returns the value of the *first* capturing group only.

Suppose you have a field name called *email* that contains email addresses with this pattern: *username@provider.domain*. You can use the REGEX function to return just the *provider* portion of the email address from the *email* field:

```
REGEX([email], "^[a-zA-Z0-9._%+-]+@[a-zA-Z0-9._-]+\.[a-zA-Z]{2,4}$")
```

Capturing Groups and the REGEX_REPLACE Function

You can use the REGEX_REPLACE function to match a string, and replace matched strings with another value. The REGEX_REPLACE function takes 3 arguments:

- Input string
- Matching regex
- Replacement regex

You can use capturing groups to capture backreferences, but the entire match is always returned.

Capturing Groups and Backreferences

You can use a backreference to refer back to the matched content of a particular capturing group number. Typically, you use a backreference in the same regular expression that contains the capturing group. You specify a backreference by referring to the group number preceded by a backslash. Use \1 to refer to capturing group 1, \2 to refer to capturing group 2, and so on.

Suppose you want to match a pair of HTML tags and their enclosed text. You could capture the opening tag into a capturing group, and then use a backreference to match the corresponding closing tag:

```
(<([A-Z][A-Z0-9]*)\b[^>]*>.*?</\2>)
```

This regular expression contains 2 capturing groups:

- Group 1 contains the outermost parentheses and captures the entire string.
- Group 2 captures the string matched by [A-Z][A-Z0-9]*.

You can then refer to group 2 using the \2 backreference to match the corresponding closing HTML tag.

When you use the `REGEX_REPLACE` function, you can use a backreference to refer to a capturing group in the *previous* regular expression. The syntax is slightly different when you use a backreference to refer to a group in the previous regex. Use a dollar sign (\$) before the group number, such as \$1 to specify a backreference to group 1 of the previous expression.

Suppose you have a `phone_number` field where the values are formatted as xxx.xxx.xxxx. The following example matches the values in `phone_number` and replaces them with values formatted as (xxx) xxx-xxxx:

```
REGEX_REPLACE([phone_number], "([0-9]{3})\\.( [0-9]{3})\\.( [0-9]{4})", "\($1\) $2-$3")
```

Notice the backreferences in the replacement expression. They refer to the capturing groups of the previous matching expression.

Non-Capturing Groups

In some cases, you might want to use parenthesis to group subpatterns, but *not* capture text. A non-capturing group starts with (? : (a question mark and colon following the opening parenthesis). For example, `h(?:a|i|o)t` matches hat or hit or hot, but does not capture the a, i, or o from the subexpression.

People Analytics

Setup Considerations: People Analytics

You can use this topic to help make decisions when planning your configuration and use of People Analytics. It explains:

- Why to set it up.
- How it fits into the rest of Workday.
- Downstream impacts and cross-product interactions.
- Security requirements and business process configurations.
- Questions and limitations to consider before implementation.

Refer to detailed task instructions for full configuration details.

What It Is

Workday People Analytics uses augmented analytics technology to surface prioritized insights in the form of key metrics and business questions, along with their underlying drivers. People Analytics uses explanatory summaries to help you understand these insights and act on the most critical trends and gaps in your workforce.

Business Benefits

The out-of-the-box, AI-powered insights provided by People Analytics enable you to:

- Identify important opportunities and risks around key workforce metrics.
- Detect patterns that you might not see or have time to discover.
- Eliminate time-consuming, manual analysis, enabling you to focus on strategic work.
- Track workforce developments with clearly written narratives in natural language.

Use Cases

You can track key metrics and trends in these topics:

- VIBE Index™
- Diversity and Inclusion
- Organization Composition
- Retention and Attrition
- Hiring
- Talent and Performance
- Skills

Questions to Consider

Question	Consideration
What topics are you interested in exploring?	<p>You can opt in to each of these topics for your People Analytics application:</p> <ul style="list-style-type: none"> • VIBE Index • Diversity and Inclusion • Organization Composition • Retention and Attrition • Hiring • Talent and Performance • Skills • Employee Sentiment <p>Each topic comprises 1 tab in the application UI, with the exception of Employee Sentiment, which is part of the VIBE Index tab. Topics also have different field selections requiring your attention as you configure People Analytics with a Workday consultant.</p> <p>Raise a Customer Care ticket to request information if you're interested in:</p> <ul style="list-style-type: none"> • Worker topics. These topics are only available if you've purchased the HCM SKU. • The Hiring topic. This topic is only available for Workday Recruiting customers.

Question	Consideration
	<ul style="list-style-type: none"> The Skills topic. This topic is only available if you have purchased the HCM SKU. The Employee Sentiment topic. This topic is only available for Workday Peakon Employee Voice customers who have opted into the VIBE Index.
What metrics would you like to track?	<p>Work with your Workday consultant to select KPI metrics you would like to surface in your People Analytics report. You can select up to 9 metrics for each topic.</p>
What fields do you want to include in your analysis?	<p>A Workday consultant will guide you through the selection of fields to map to the structure of the People Analytics data model. These field choices have a direct impact on how insights are created and on the quality of these insights.</p> <p>For each topic and metric you select, some fields are required and some fields are optional. You can also customize each field display name.</p>
Which workers do you want to include in your analysis?	<p>When configuring People Analytics, you can determine which worker populations will be included in the analysis and featured in the People Analytics content. You can also refine your population in the People Analytics report to generate content only for specific predefined populations.</p> <p>To learn more, see Reference: Requirements and Considerations for Changing People Analytics Configuration or Configure Application Settings in People Analytics.</p>
Can you filter data in the People Analytics application after filtering out populations during installation?	<p>You can use the Refine Data panel in the application to select a worker population for which to generate insights. You can do this for the entirety of the population brought into People Analytics as well as distinct worker subgroups as defined in your configuration.</p> <p>To narrow down existing insights, you can refine your content view by dimensions. This enables you to view insights for different areas of the organization based on worker population classification or organizational structure. Learn more about this in Concept: Refining in People Analytics.</p> <p>Example: An HR business partner who represents multiple supervisory organizations can configure their content view to only see insights for non-union workers in North America.</p>
Which time frame do you want to use for your analysis?	<p>To better align our analysis with your organization's business processes, you can select a fiscal</p>

Question	Consideration
	schedule predefined in the Set Up Fiscal Schedules and Years report. Your fiscal schedule determines the time frames by which People Analytics should run.

Recommendations

When configuring People Analytics, consider the target audience of the application: HR Business Partners and executives within an organization. Configuration choices (mapped fields, included or excluded populations, and so on) impact the content made available for these users.

We recommend that you run People Analytics Data Quality and correct any defects in your configuration before installing the application. Data Quality also runs automatically when you install the application. You can run Data Quality from the **Configure People Analytics** report and view the results by accessing the **People Analytics Data Quality** report.

Note: Data Quality module doesn't check the data obtained from Peakon.

You can support the People Analytics development team by sharing your Workday Peakon Employee Voice data with our Machine-Learning Development Environment (MLDE) for research & development purposes. By opting in, you authorize Workday to use data related to Peakon questions and responses, as well as employee identifiers for design and development of future planned features for People Analytics. MLDE will receive data on a weekly basis. This will help the development team innovate capabilities that blend Peakon sentiment data into focus insights across existing topics in People Analytics, which will then be made available to you.

If you opt out of this initiative at a later time, MLDE will stop receiving your data immediately, and any data collected up to the point of the opt-out will be deleted after 7 days.

Requirements

Note: You might need to take additional steps to enable this feature depending on your organization's subscription service agreement. For more information, see this [Community](#) article.

Note: To access the Employee Sentiment topic, raise a Customer Care ticket to enable the API data export toggle in your Peakon account and activate the VIBE Index topic in the **Configure People Analytics** report.

In order for People Analytics to perform analysis successfully, you must have at least 4 months of transactional worker data in Workday. You can select 4 to 36 months of historical data to load into People Analytics from Workday for analysis. Any transactional history converted during deployment is considered part of the initial data load.

The amount of data history you have in People Analytics determines the analysis type. Year-over-year analysis requires at least 14 months of data. Rolling 3 month analysis for business questions is available with 4 to 12 months of data.

When you install People Analytics, you automatically enable the automated update activity, which includes a recurrent data refresh running according to the fiscal schedule you set up. This enables the application to continue to load and analyze the latest data into Workday on the first Sunday following the end of the fiscal period. If the initial data load is less than 13 months, the analysis type for business questions automatically changes from rolling 3 month analysis to year-over-year analysis when 13 months of data are available and loaded into People Analytics. The maximum amount of data history you can have in People Analytics is 36 months.

Note: For the Belonging metric in the VIBE Index, only the data collected after the Peakon API data export toggle is turned on can be incorporated into the VIBE Index. Even if you don't intend to use the metric at the time, you can still enable the API data export to accumulate a more extensive dataset for potential future analysis.

Limitations

You can create custom reports and discovery boards using People Analytics data sources for ad hoc reporting purposes or to validate your data. They become invalid only if you run an installation that fails and then try installing **People Analytics** again. Resources created with the **Data Quality** dataset must be deleted before running **Data Quality** to ensure its successful completion.

In the **Configure People Analytics** report > **Field Mapping** step for a given pipeline, the related actions icons next to business objects and source fields return an error when clicked if the selected source field is a Workday-delivered calculated field. For all other Workday-delivered fields, People Analytics enables you to use these related action icons to view data for business objects and source fields when:

- the selected source field is a custom field added to a Workday-delivered standard report.
- the selected source field is a custom field added to a custom report.

Tenant Setup

No impact.

Security

These domains in the People Analytics and Prism Analytics functional areas:

Domains	Considerations
<i>Manage: People Analytics</i>	Can maintain People Analytics.
<i>View: People Analytics</i>	<p>Can access the People Analytics application.</p> <p>Use this domain when you want to provide access to view People Analytics without removing access to particular fields.</p> <p>Supports unconstrained security groups and role-based constrained security groups.</p> <p>Doesn't support Aggregation or Intersection groups even when they are role-based.</p>
<i>View: People Analytics Business Leader</i> <i>View: People Analytics HR Business Partner</i> <i>View: People Analytics Custom 1</i> <i>View: People Analytics Custom 2</i> <i>View: People Analytics Custom 3</i>	<p>Can access the People Analytics application.</p> <p>Use these domains when configuring field level security in People Analytics to remove access to sensitive data in particular fields.</p> <p>Supports unconstrained security groups and role-based constrained security groups.</p> <p>Doesn't support Aggregation or Intersection groups even when they are role-based.</p>

For the initial deployment of People Analytics, you can work with a Workday consultant to:

- Configure the security settings during the configuration and installation of People Analytics.
- Add security groups to a People Analytics domain. You can:
 - Add an existing Workday security group, or
 - Create a new security group specifically for People Analytics users.
 - Add more than 1 security group.

If necessary, you can make post-deployment changes using the **Configure People Analytics** report.

People Analytics supports:

- Constrained role-based security groups.
- Unconstrained role-based security groups.
- Unconstrained user-based security groups.

Business Processes

No impact.

Reporting

No impact.

Integrations

No impact.

Connections and Touchpoints

Workday offers a Touchpoints Kit with resources to help you understand configuration relationships in your tenant. Learn more about the [Workday Touchpoints Kit](#) on Workday Community.

The Employee Sentiment topic interacts with Workday Peakon Employee Voice through API.

Related Information

Concepts

[Concept: Security in People Analytics](#) on page 638

[Concept: Storyteller Engine](#) on page 716

[Concept: Belonging in the VIBE Index](#) on page 700

Tasks

[Steps: Configure a Pipeline in People Analytics](#) on page 650

Reference

[Workday Community: Generally Available Innovation Services - Descriptions and Exhibits](#)

[2022R2 What's New Post: VIBE Index for Workday Peakon Employee Voice](#)

[2022R1 What's New Post: Data Quality for People Analytics](#)

[2022R1 What's New Post: Skills in People Analytics](#)

[2021R2 What's New Post: VIBE Index in People Analytics](#)

[2021R2 What's New Post: People Analytics Administration](#)

[What's New Post: Metric Catalog for People Analytics](#)

[The Next Level: People Analytics Product Demonstration](#)

Steps: Prepare for People Analytics Installation

Prerequisites

Note: You might need to take additional steps to enable this feature based on your organization's subscription service agreement. To determine your subscription service agreement:

- Access your profile avatar on Community.
- Select **Profile**.
- On your profile page, select your organization's name, which is beneath your name and next to your job profile.
- View your **Subscription Service Agreement** value.

If the value is:

- *MSA*, you must enable this feature through Innovation Services using the **Enable Innovation Services Features and Machine Learning Data Contribution** step.
- *UMSA*, you can skip the optional **Enable Innovation Services Features and Machine Learning Data Contribution** step.
- Review setup considerations for People Analytics.
- Create a Setup Feature request to enable the setup of People Analytics and Prism Analytics on your tenant.
- For Workday Peakon Employee Voice customers: enable the API data export toggle in your Peakon account. See [Concept: Raw Data Export API](#).

Context

Workday People Analytics uses augmented analytics technology to surface key metrics and business questions and their underlying drivers so that you can understand and act on workforce trends.

Steps

1. [Enable Innovation Services Feature and Machine Learning Data Contributions](#).

Note: You might need to take additional steps to enable this feature depending on your organization's subscription service agreement. For more information, see this [Community](#) article.

On the **Innovation Services Opt-In** task, select the **People Analytics** service on the **Available Services** tab in the **Analytics** category.

2. Work with a Workday consultant to set up the security groups needed for People Analytics.
3. (Optional) On the Workday **Home** page, click the gear icon to add the **Configure Analytical Apps** and **People Analytics** worklets.
4. Work with a Workday consultant to select the configuration inputs (topics, fields, population filters, prompts, security settings, and data history) to apply to your configuration of People Analytics.
5. Work with a Workday consultant to create tenant-wide calculated fields that you need for your configuration based on your field selection.
6. Work with a Workday consultant to set up features in Workday that are needed to complete certain topic configurations in People Analytics.
Example: Skills Cloud in Workday.
7. (Optional) Raise a Customer Care ticket to turn on the export API toggle in your Workday Peakon Employee Voice account.

Result

Your tenant is ready for People Analytics installation.

Next Steps

Using the **Configure People Analytics** report, work with a Workday consultant to:

- Complete your configuration.
- Run Data Quality and correct any defects in your configuration.
- Install the application.

You can access the **People Analytics Activities** report after the installation has started to monitor installation progress.

Related Information

Concepts

[Setup Considerations: People Analytics](#) on page 626

[Concept: Data Quality Module](#) on page 643

[Concept: People Analytics Activities](#) on page 636

Reference

[Workday Community: Generally Available Innovation Services – Descriptions and Exhibits](#)

[Workday Community: Setup Feature Tenant Request](#)

Set Up Languages in People Analytics

Context

You can use the People Analytics application in these languages:

- French (Canada)
- Korean
- Japanese

This language support also applies to all the related tools including custom discovery boards and Slides.

Note: To use any newly supported languages with the Hiring pipeline, you must migrate to the newest version of Hiring. Contact your Workday administrator to update to the latest version.

Any tenanted fields (custom field names) are kept in your pre-defined chosen language.

Steps

1. Click on your User Profile picture.
2. Select **My Account**.
3. Select **Change Preferences**.
4. Select your **Preferred Display Language**.

Related Information

Reference

[2024R2 Feature Release Note: Support for Additional Languages in People Analytics](#)

Maintaining People Analytics

Concept: Hierarchies and Organizations in People Analytics

When you configure People Analytics for the worker and hiring pipelines, you select which fields to include in the application. Workday groups the hierarchy and organization-related fields into these categories:

- Primary Hierarchy
- Secondary Hierarchy
- Organization Details

Workday makes the hierarchy categories and target field names generic to give you flexibility when deciding which hierarchies that you assign to each category. When deciding which hierarchies to use, consider how they affect the rest of the application.

The hierarchies and organizations you include in People Analytics determine:

- How Storyteller groups data into different combinations of dimensions for analysis. Workday uses each field value as a dimension for grouping and analyzing data before aggregating metrics.
- How Workday enforces contextual security in the application. When you select either the Primary Hierarchy or Secondary Hierarchy for security, Workday uses all source fields mapped in that category

for constraining viewer access to data. The hierarchy that you specify for security must be a valid Prism securing entity. See [Concept: Security in People Analytics](#) on page 638.

- Which dimensions to display to application viewers. The Level 1, Level 2, and Level 3 target fields that you include from both hierarchy categories will display as application filters to viewers. See [Concept: Refining in People Analytics](#) on page 713.

Note: The target fields that you configure in the Primary Hierarchy and Secondary Hierarchy categories must be identical in the worker and hiring pipelines. Make sure that you:

- Select the same or compatible source fields.
- Include the same target fields in each pipeline.
- Enter the same display name.

Hierarchy Requirements

The hierarchies you use for the Primary Hierarchy and Secondary Hierarchy must meet these requirements:

- Level consistency. Every child node of a particular parent must be at the same level.
- Single hierarchy. Child nodes can only have 1 parent.
- Population consistency. The worker population can be assigned to 1 hierarchy only. No duplicates are allowed.

When you configure constrained access to People Analytics using either the Primary Hierarchy or Secondary Hierarchy, the hierarchy must also meet these requirements:

- Security consistency. Users must be constrained at the specified levels in the hierarchy you use for security. Example: You specify Primary Hierarchy for security and map source fields to the Level 1, Level 2, and Level 3 target fields. Users must be constrained at the levels specified for Level 1, Level 2, and Level 3. Any user constrained at lower levels won't see any focus insights in the application.
- Supported hierarchy type. The hierarchy must be one of these types:
 - Business Unit Hierarchy
 - Company Hierarchy
 - Cost Center
 - Cost Center Hierarchy
 - Custom
 - Custom/Financial
 - Custom/Staffing
 - Location Hierarchy
 - Region
 - Region Hierarchy
 - Supervisory

The Assigned Organization Target Field

Workday uses the data in the Assigned Organization target field to determine which organization the worker is currently assigned to. Typically, this is Supervisory Organization. People Analytics automatically detects changes due to a reorganization. It ignores focus insights that result from workers being reassigned to different organizations, presenting significant focus insights in the application.

Target Field Descriptions

The Primary Hierarchy category includes these target fields:

Target Field	Notes
Assigned Organization	<p>The organization that is assigned to the primary position of the worker or the primary position of the job requisition.</p> <p>Select a field that accurately reflects the current organization assigned to or associated with a worker or job requisition. Typically, this is Supervisory Organization, but in rare cases might be a different organization type, such as a custom organization or Cost Center.</p>
Level 1	<p>The 1st level of the hierarchy that you want to analyze. Typically, this is the 2nd level from the top of the organization, 1 level below the CEO.</p> <p>The field you select must be in the same organization hierarchy as the Assigned Organization.</p>
Level 2	<p>The 2nd level of the hierarchy that you want to analyze. Typically, this is the 3rd level from the top of the organization, 2 levels below the CEO.</p> <p>The field you select must be in the same organization hierarchy as the Assigned Organization.</p> <p>When you opt into the level below this level, you must opt into this level, too.</p>
Level 3	<p>The 3rd level of the hierarchy that you want to analyze. Typically, this is the 4th level from the top of the organization, 3 levels below the CEO.</p> <p>The field you select must be in the same organization hierarchy as the Assigned Organization.</p>

The Secondary Hierarchy category includes these target fields:

Target Field	Notes
Level 1	<p>The 1st level of the hierarchy that you want to analyze. Typically, this is part of a geographical hierarchy, such as market region.</p>
Level 2	<p>The 2nd level of the hierarchy that you want to analyze. Typically, this is part of a geographical hierarchy, such as country.</p> <p>When you opt into the level below this level, you must opt into this level, too.</p>
Level 3	<p>The 3rd level of the hierarchy that you want to analyze. Typically, this is part of a geographical hierarchy, such as city.</p> <p>When you constrain access to the application data using the secondary hierarchy, then this level must be associated with the worker, and you must opt into this field.</p>

The Organization Details category includes these target fields:

Target Field	Notes
Organization Level	<p>The number of levels down from the top level of the organization in the primary hierarchy to the worker's level.</p> <p>Applies to the worker pipeline only.</p>
Management Level	<p>The management level of the worker or the job profile on the job requisition.</p>
Cost Center	<p>Cost center (or equivalent) used for reporting. If you use Cost Center as the primary or secondary hierarchy, then you can select a field from a different</p>

Target Field	Notes
	organization that Workday can use for providing more details on the worker or job requisition.
Company	Company name or ID of the company. Applies to the worker pipeline only.

Related Information

Reference

[2022R2 What's New Post: People Analytics Configuration](#)

Concept: People Analytics Activities

An activity in People Analytics is a series of job processes that perform a complete task. There are 4 types of activities in People Analytics:

- Data Quality Activity
- Installation Activity
- Update Activity
- Automatic Installation Activity

Data Quality Activity

Workday automatically runs the **Data Quality** module when you install or reinstall People Analytics, but you can also run it manually. The **Data Quality** module checks the latest field mapping configuration data to verify that the data satisfies the usefulness, completeness, and correctness requirements of People Analytics and Storyteller.

Only 1 Data Quality activity can run at a given time.

Note: Data Quality does not run on the Employee Sentiment pipeline.

Installation Activity

People Analytics uptakes the latest configuration settings saved in the **Configure People Analytics** report and runs them against the series of processes that comprise the installation workflow.

At a high level, the installation workflow consists of:

1. Acquiring data (In People Analytics Activities, Acquire and Publish Data).
2. Securing source data (if configured).
3. Publishing the input source data to run through Storyteller (Invoke Storyteller).
4. Publishing the output source data in the form of focus insights and summaries. (Publish Dataset)
5. Creating a discovery board where you can view KPIs, business questions, and related metrics.
6. Exporting input source data to the machine learning development environment to improve the detection algorithms used in the People Analytics product.

Note: If your installation fails before step 4, consider checking the validity of your data using the Data Quality module. See [Troubleshooting: Data Quality Module](#). If your installation fails after step 3, consider raising a customer care ticket.

This activity runs when you click **Run Installation** in the **Configure People Analytics** report. Workday runs the automatic installation activity when necessary, which does not change your current configuration settings. For more details on the automatic installation activity, see the Automatic Installation section in this topic.

Only 1 installation activity can run at a given time. If you make changes to your current configuration and reinstall the application, these changes to your application run as an installation activity and not an update activity.

The data quality activity runs automatically when you run the installation activity.

Update Activity

People Analytics runs automated updates every Sunday at 3:00 AM in the tenant time zone to ensure that all users are on the latest version of the product. Application updates delivered to tenants as part of the automated update activity might result in changes in People Analytics functionality. However, these updates do not affect your People Analytics configuration and require no additional action from you.

Data Refresh

On the nearest Sunday following the end of the fiscal period (first Sunday of the month, if your fiscal schedule coincides with the calendar year), the automated update activity also checks for and loads any new content that is available since the last data refresh. People Analytics appends the new data to your current data history. This new data is the current snapshot period.

The data refresh process doesn't load data retrospectively. If you want to apply retrospective changes, you must reinstall People Analytics.

The People Analytics report is available for access while the automated update activity is running. When the activity finishes as successful, the system refreshes the app and displays any new data.

In the top-right corner of the app, People Analytics displays the Data as of date, which indicates the month of the current snapshot period. Example: Data as of November 30, 2023.

Note: The update activity runs only in the Production tenant. If you want to ensure that your Implementation or Preview tenant is on the latest version, reinstall People Analytics using the **Configure People Analytics** report.

Automatic Installation Activity

People Analytics runs the automatic installation activity (shown in the **People Analytics Activities** report as Auto Install) to deliver new content to all tenants. Like the update activity, the automatic installation activity:

- Ensures that all users are on the latest version of the product.
- Does not alter the configuration settings that ran during the last manual installation of People Analytics.

However, the automatic installation activity might require that you change your People Analytics configuration in order to uptake newly delivered content. When a pipeline contains new content for you to uptake, the pipeline configuration card shows the pipeline status **Action Required**.

To change your configuration to uptake new content, you must reinstall People Analytics. A reinstallation of People Analytics displays in the **People Analytics Activities** report as an installation activity.

Viewing Activities

The **People Analytics Activities** report (secured to the *Manage: People Analytics* domain in the People Analytics and Prism Analytics functional areas) displays all new and historical activities for your tenant.

By default, the activities table displays the status and details for the activity at the top level. You can also click the activity at the top level to open the information panel. The information panel also shows the status and details for the activity, as well as any important messages.

You can expand an activity to see the status and details of each intermediate step in the activity workflow.

You can customize your view of activities by filtering and sorting them. We recommend applying these customizations when activities are collapsed and showing only details at the top level.

Workday recommends that you regularly view activities to ensure that scheduled updates are successful, and that People Analytics is displaying data for the current snapshot period.

Note: You can create custom reports and discovery boards using People Analytics data sources for ad hoc reporting purposes or to validate your data. Most are automatically updated and don't require any

additional action from you. However, reports and discovery boards built on top of data quality data are only valid until the next automated update or until you run Data Quality or installation again. However, you must delete these resources before the next Data Quality, automated update, or installation run to ensure that these activities complete successfully.

Managing Activities

You can right-click an activity at the top level to access the related actions menu. The related actions menu enables you to:

- Cancel the remaining steps for an activity that is in progress. When you cancel an activity, it might take time for remaining steps to terminate and display the status **Canceled**.
- Retry any failed steps that exist for an activity with the status **Failed**.

Cancel and **Retry** actions are only available for the latest activity of a given activity type.

Concept: Security in People Analytics

Workday enforces security when you:

- Administer and configure People Analytics.
- View the People Analytics application.

For the initial deployment of People Analytics, you work with a Workday consultant to determine which security settings best fit your organization and support your desired use of the application. However, you can use the **Configure People Analytics** report to make changes after the initial deployment. Any change you make to the domain security policy groups, organization hierarchies, or securing hierarchy will impact the data viewers see in the application.

When you view the People Analytics application using the **People Analytics** report, Workday uses its configurable security model to control which users have access to specific data. Workday controls access to the data in:

- Focus Insights
- KPIs
- Visualizations
- Specific data records on the Detailed Data tab

Although the People Analytics data comes from the business objects in your tenant, Workday resets all security domains configured for the business objects and applies new security that you define. The new security that Workday applies is determined by:

- The specified groups in these People Analytics-related view domain security policies:
 - View: People Analytics*
 - View: People Analytics Business Leader*
 - View: People Analytics HR Business Partner*
 - View: People Analytics Custom 1*
 - View: People Analytics Custom 2*
 - View: People Analytics Custom 3*
- The selected settings in the Security step when you configure a pipeline in People Analytics.

Workday applies the security to the data in the People Analytics application as well as the data sources used in the application.

You can control access to People Analytics data at these levels:

Security Level	Description
Data source level	The People Analytics view domains provide access to:

Security Level	Description
	<ul style="list-style-type: none"> • The People Analytics application • The data sources used in the application <p>When you give users access to 1 one of these view domains, you give access to view the application as well as its data sources.</p> <p>Data source level security is sometimes known as table level security.</p>
Row level	<p>You can enforce row level security to control access to each data record in the data sources.</p> <p>You configure row level security on the Security step when configuring the Hiring and Worker pipelines.</p> <p>You can configure either:</p> <ul style="list-style-type: none"> • Unconstrained access. Select Unconstrained Access, and use either a user-based or unconstrained role-based security group in the <i>View: People Analytics</i> domain security policy. With unconstrained access, users who have access to any of the People Analytics view domains have access to every data record. • Constrained access. Select either the Primary Hierarchy or Secondary Hierarchy, and use a role-based constrained security group in the security policy of any of the People Analytics view domains. The securing hierarchy that you select and the fields included in that hierarchy determine which users have access to specific records (rows) in the application. For more information, see Steps: Set Up Constrained Security to People Analytics on page 651. <p>Note: Do not use user-based security groups in the People Analytics view domains when you select constrained access.</p>
Field level	<p>You can enforce field level security to restrict access to sensitive data in particular fields, enabling you to limit what viewers can see based on their role.</p> <p>You configure field level security on the Security step when configuring the Hiring and Worker pipelines.</p> <p>The Security step enables you to restrict access to sensitive data in fields and the People Analytics view domains that are available for restricting access to sensitive data. You can restrict access to 1 or more fields when users are in one of the view domains listed on the Security step.</p> <p>When you specify a field in a domain, Workday removes access to the data in that field.</p> <p>Note: Ensure that a given user does not have access to more than 1 People Analytics-related view domain.</p>

Field Level Security Fields

When you configure field level security, you can restrict different fields in the **Worker** and **Hiring** pipelines. Fields denoted with an asterisk (*) are used in People Analytics metrics.

You can restrict these fields in the worker pipeline:

- Gender*
- Tenure Category
- Management Level

- Job Family Group
- Length of Service in Partial Years
- Compa-Ratio*
- High Potential*
- High Performer*
- High Performer*
- Term Category*
- Ethnicity
- Generation
- Intersection 1
- Job Level
- Compa-Ratio Range
- Current Rating
- Termination Reason

You can restrict these fields in the hiring pipeline:

- Candidate Gender*
- Candidate Ethnicity
- Candidate Veteran Status
- Candidate Disability

How Constrained Access Security Works

When you provide constrained access to People Analytics at either the row level or field level, different users will see different data. How Workday displays the data in People Analytics depends on:

- What type of security group the user is in, either unconstrained or constrained.
- Which security domain the user has access to.
- The configured settings on the Security step.
- The user's role and organization level permissions.
- The content type:

Content Type	Row Level Security Notes	Field Level Security Notes
KPIs and Focus Insights	<p>When the user is in an unconstrained security group, Workday displays KPIs and focus insights based on all data records.</p> <p>When the user is in a constrained security group, Workday displays KPIs and focus insights based on your org level security access at Level 1, Level 2, and Level 3.</p> <p>Users who are constrained at a specific level within the selected hierarchy can view KPIs and focus insights only for that level and subordinate levels.</p>	<p>When Workday restricts field access, it restricts access for users in all security groups, either unconstrained or constrained.</p> <p>Workday restricts field access only when the metric calculation for the given KPI or focus insight uses a restricted field.</p> <p>When the population of workers is from 1 to 5 inclusive in any of the included data snapshots, then in order to protect worker identities, Workday:</p> <ul style="list-style-type: none"> • Displays an empty state on the KPI card. • Doesn't generate or display any focus insight card. <p>When the population of workers is 0 or 6 or greater for all included data snapshots, Workday behaves differently depending on the location in the UI:</p>

Content Type	Row Level Security Notes	Field Level Security Notes
		<ul style="list-style-type: none"> KPI or focus insight card. Displays the KPI or focus insight card. Top Drivers tab. Hides Top Drivers that have a population of 5 or less workers. Top Drivers are only available for focus insights. Detailed Data tab. Hides the restricted fields on the Detailed Data tab. However, when the restricted field is used in the metric for the focus insight, then Workday displays an empty state on the Detailed Data tab for that focus insight. Example: The focus insight is about females and the Gender field is restricted.
Visualizations	<p>When the user is in an unconstrained security group, Workday displays every visualization based on all data records.</p> <p>When the user is in a constrained security group, Workday displays every visualization, but only calculated on the data records you have access to at any level.</p>	<p>How Workday enforces field level security depends on how the People Analytics pipelines are configured:</p> <ul style="list-style-type: none"> Standard. Workday enforces security strictly by displaying an empty state in a visualization instead of the data regardless of the population count. Threshold. Similarly to KPIs and Focus Insights, Workday displays aggregated data in a visualization when the minimum population threshold of 6 is met, and hides restricted fields on the Detailed Data tab. However, when the restricted field is used as a filter on the Detailed Data tab, Workday displays an empty state on the Detailed Data tab for that visualization.

Workday uses some of the restricted fields in metrics. When you restrict a field used in a metric, you might lose some KPIs and focus insights depending on the worker count during any given data snapshot. Workday recommends that you evaluate the impact of restricting these fields in order to balance the need for restricted access with the need for greater visibility into your organization. Your security configuration also defines the minimum headcount required for KPIs to be calculated and displayed. Example: You restrict the Gender field and one area of your organization only had 4 workers for 1 of the months included in the metric analysis. Workday will not generate or display any focus insights or KPIs on Female Representation.

Workday uses these restricted fields in People Analytics metrics:

- Compa-Ratio
- Gender
- High Performer
- High Potential
- Last Promotion Date
- Term Category

Security Domains and Groups

People Analytics uses these domains in the People Analytics and Prism Analytics functional areas:

Domain	Details	Associated Reports and Tasks
<i>Manage: People Analytics</i>	<p>Can configure, install, and maintain People Analytics.</p> <p>Supports unconstrained security groups.</p>	<ul style="list-style-type: none"> Configure People Analytics People Analytics Activities People Analytics Data Quality People Analytics
<i>View: People Analytics</i>	<p>Can access the People Analytics application.</p> <p>Use this domain when you want to provide access to view People Analytics without removing access to particular fields.</p> <p>Supports unconstrained security groups and role-based constrained security groups.</p> <p>Doesn't support Aggregation or Intersection groups even when they are role-based.</p>	<ul style="list-style-type: none"> People Analytics
<ul style="list-style-type: none"> <i>View: People Analytics Business Leader</i> <i>View: People Analytics HR Business Partner</i> <i>View: People Analytics Custom 1</i> <i>View: People Analytics Custom 2</i> <i>View: People Analytics Custom 3</i> 	<p>Can access the People Analytics application.</p> <p>Use these domains when configuring field level security to remove access to sensitive data in particular fields.</p> <p>Supports unconstrained security groups and role-based constrained security groups.</p> <p>Doesn't support Aggregation or Intersection groups even when they are role-based.</p>	<ul style="list-style-type: none"> People Analytics

Related Information

Tasks

[Steps: Set Up Constrained Security to People Analytics](#) on page 651

[Steps: Change People Analytics Configuration](#) on page 649

[Edit Prism Data Source Security](#) on page 495

[Create Role-Based Security Groups](#)

[Create User-Based Security Groups](#)

[Edit Domain Security Policies](#)

Reference

[2023R1 What's New Post: People Analytics Security](#)

Concept: Data Quality Module

The **Data Quality** module checks your field mapping configuration data to verify that the data satisfies the usefulness, completeness, and correctness requirements of People Analytics and Storyteller. The **Data Quality** module checks these data for issues that will negatively impact your People Analytics installation and application and returns data quality defects that may need to be addressed before proceeding.

Note: Once you migrate to Hiring V2, **Data Quality** will no longer check your hiring pipeline. Workday displays an informational message on the **Data Quality** card saying that the hiring pipeline isn't checked.

Workday automatically runs the Data Quality module when you install or reinstall People Analytics, but you can also run it manually. Workday recommends that you manually run the **Data Quality** module before reinstalling People Analytics to check that any newly made configuration changes meet all requirements. You can run Data Quality from the **Configure People Analytics** report and view the results by accessing the **People Analytics Data Quality** report.

Some defects have a greater negative impact than other defects. Workday assigns a severity level to each defect:

- Critical. Critical defects can prevent People Analytics from installing successfully. These defects can also severely impact the quality of data and the integrity of analysis results, and can potentially impact constrained security. If encountered, address the critical defects in the **Configure People Analytics** report or in your underlying data.
- Major. Major defects won't prevent a successful installation, but they can severely impact the quality of data and the integrity of analysis results. Workday recommends that you address these issues in the **Configure People Analytics** report.
- Moderate. Moderate defects can impact the quality of the KPIs, visualizations, and focus insights in People Analytics. You may ignore them as their impact on the quality of data is minimal.

The Data Quality module includes these check types:

- [Cardinality](#) on page 643
- [Cross Pipeline](#) on page 643
- [Duplicates](#) on page 644
- [Illogical Values](#) on page 644
- [Invalid Values](#) on page 644
- [Missing Values](#) on page 644
- [Multiple Hierarchies](#) on page 644
- [Population](#) on page 644

Cardinality

Checks the number of unique values in a particular field. Compares the number to a threshold defined for that field, and checks whether the cardinality for the field is consistent in terms of expected levels within the hierarchy. Workday returns the field that fails the check and shows the cardinality of the field in the Value column.

High cardinality (a lot of unique values) can negatively affect Storyteller engine performance, and it might also result in low quality focus insights due to a large number of smaller populations.

Cross Pipeline

Consistent Values

Checks the consistency of values across pipelines and compares the two pipeline-to-pipeline values to a defined threshold. Currently, the threshold is when no values overlap in the same field in each pipeline.

Workday returns the fields from each pipeline that fail the check and shows the percentage of inconsistent values from each pipeline in the Value column.

Data Types

Checks whether a particular field in multiple pipelines is the same by inspecting the field type. Workday returns the field that fails the check and shows the data types for the field in the Value column.

Cross pipeline defects can severely impact filtering on the KPIs tab by preventing a population filter you configure from filtering data in multiple pipelines.

Duplicates

Checks whether there are multiple records of the same worker. Workday returns the Employee ID or Candidate ID and shows the number of multiple records in the Value column.

Duplicate records cause inaccurate headcounts, potentially with exponential impact.

Illogical Values

Checks if a particular field contains values that fail logic rules defined for that field. Example: if the hire date is in the future. Workday returns the field that fails the check and shows the percent of illogical values for that field in the Value column.

Illogical values can lead to inaccurate metrics in topics, leading to inaccurate data in visualizations, KPIs, and focus insights.

Invalid Values

Checks if a particular field contains values that aren't in the list of valid values defined for that field. Workday returns the field that fails the check and shows the percent of invalid values for that field in the Value column.

Invalid values can lead to inaccurate metrics in topics, leading to inaccurate data in visualizations, KPIs, and focus insights.

Missing Values

Checks how many values a particular field is missing. Missing values can be blank or NULL. Workday returns the field with missing values and shows the percent of missing values for that field in the Value column.

Missing values might skew the data presented in People Analytics, preventing an accurate reflection of your workforce.

Multiple Hierarchies

Checks whether a child in a hierarchy has parents across multiple hierarchies. Workday returns the field of the child hierarchy with parents across multiple hierarchies and shows the number of multiple hierarchies in the Value column.

A multiple hierarchies defect can result in inaccurate data due to duplication, and it can negatively impact constrained security by potentially displaying to a viewer workers who aren't in their organization.

Population

Checks the number of unique values in a particular VIBE Index intersection, and compares the number to the minimum headcount requirement defined for VIBE Index intersections. Workday returns the intersection field and the number of intersections that fail the check, and shows the number of records for intersections that don't have sufficient populations in the Value column.

Population check defects cause Workday to exclude a particular intersection from the VIBE calculation.

Skill Category Cardinality

Checks whether you use fewer than 10 distinct skill category values (from Skills Cloud only). Workday returns the current number of skill category values. A low number of skill categories can lead to limited data granularity and unusable results.

Access the **Maintain Skill Item Categories** task and update your skill category catalog.

Uncategorized Skills Rate

Checks whether the percentage of skills not assigned to any skill category exceeds a threshold of 5%. If it does, Workday returns the percentage of skill values that fail the check. Use the **Maintain Skill Item Categories** task to categorize the highlighted skills.

A high number of uncategorized skills can lead to limited data granularity and unusable results.

Match Score Availability Distribution

Match score is a calculation that compares workers' current portfolio of explicit or inferred skills to the skills listed on their job profile. This Data Quality check verifies whether workers in your population are assigned a match score. Workday returns a donut chart viz of your worker population divided into groups based on the match score availability. Workers with no match score are split depending on the reason:

- No skills filled or to be inferred from the worker's profile.
- No skills filled or to be inferred from the worker's job position.
- Skills for the job position don't match the skills in Skills Cloud.

High numbers of workers without a match score might skew the data presented in People Analytics, preventing an accurate reflection of skills present among your workforce.

Click any segment of the chart to view: the worker and corresponding job profile, employee ID, and reason for no match score. You can export the table to a Workday Discovery Board.

Related Information

Reference

[Troubleshooting: Data Quality Module](#) on page 693

[2022R1 What's New Post: Data Quality for People Analytics](#)

Examples

[People Analytics Hiring V2](#)

Steps: Configure Application Settings

Prerequisites

Security: Manage: People Analytics domain in these functional areas:

- People Analytics
- Prism Analytics

Note: Complete the following steps in the Worker Pipeline:

1. In the Field Mapping, opt in to the placeholder fields selected as population views (Worker Type or Worker Classification).
2. Map your source fields into the population view fields

For more information about this, see [Configure Pipeline Field Mappings](#).

Context

The Application Setting card in the Configure People Analytics report provides you the ability to:

- Enable in People Analytics the fiscal schedule used by your organization

- Define population views to refine your People Analytics content by.

Fiscal Schedule: Before choosing a fiscal schedule, ensure that you understand the configurations of the fiscal year, quarter, and month that Workday uses. In People Analytics, fiscal years can only have 12 posting intervals, and you need to manually add every year up to the current point in time in the **Set Up Fiscal Schedules and Years** report. To learn about configuring fiscal schedules to match the data history snapshots for People Analytics, see [Steps: Set Up Fiscal Schedules and Years](#).

Population Views: Population views enable you to define meaningful worker populations and refine your People Analytics content based on the structure of your organization. Configuring population views is optional and not doing so doesn't prevent you from running the installation. If you don't configure population views, you won't be able to refine your People Analytics content by them. See [Concept: Refining in People Analytics](#).

Steps

1. Access the **Configure People Analytics** report.
2. On the report, open the **Application Settings** card.
3. On the **Time Configuration** step, select a predefined Fiscal schedule and define how the report should treat terminations at the end of a fiscal period.
4. If you want workers terminated on the last day of a period to remain part of the active headcount for the period, check the **Include Termination on Period End Date** box. The **Active Status** and **Terminated This Period** fields will be affected by this selection.
Example: One of your workers was terminated on May 31. If you select this check box, this worker will be considered active for the period of May, and their termination will take effect from June 1, for the purposes of the People Analytics analysis.
5. In the **Population Views** step, select the placeholder fields you'd like to use as population views:

Field name	Description	Default Source Field	Value Example
Worker Type	Specifies the worker type (employee or contingent worker) for a worker. This can be any field.	Worker Type	Regular
Worker Classification	Additional classification for a worker that is used to differentiate from the worker populations specified in the field Worker Type. This can be any field.	Pay Rate Type	Salaried Worker

Note: If you require your population view to combine different values from one field to form a single population, use calculated fields. For more information about how to create calculated fields, see [Create Calculated Fields](#).

6. For each population view, use the **Select Values** field to list up to 6 accepted values. This enables you to use high cardinality fields (fields that can have more than 6 values) as population views. You'll be able to refine your People Analytics content by these values.

Result

Workday saves the pipeline configuration, but doesn't update the data in the application. Workday changes the pipeline state to **Not Committed**.

Configure all the pipelines necessary and run the installation in the **Configure People Analytics** report. The **Application Settings** card shows the status of your **Population Views** configuration.

Status	Description
-	Default status. Shows that you've never opened the Population Views step.
0	You've clicked into the Population Views step and saved your changes without configuring any population views.
1	1 population view is configured.
2	2 population views are configured.

To review specific population view configuration examples, see:

- [Example: Configure Population Views with Default Fields](#) on page 693
- [Example: Configure Population Views with Custom Source Fields](#) on page 692
- [Example: Configure Population Views with Calculated Source Fields](#) on page 692

Related Information

Examples

[2024R2 Feature Note: Configurable Population Views in People Analytics](#)

Steps: Configure Pipeline Field Mappings

Prerequisites

Security: *Manage: People Analytics* domain in these functional areas:

- People Analytics
- Prism Analytics

Context

When you configure a pipeline in People Analytics, you specify which fields to include for analysis. Workday provides a list of target fields grouped into categories, and you provide a source field to map to each target field. Each target field accepts specific field types. Example: The Ethnicity target field accepts either a Text or Instance field.

The fields you include and configure affect:

- The data Storyteller uses for generating focus insights.
- The metrics that People Analytics calculates for KPIs, visualizations, and focus insights.
- Refining by population in People Analytics.
- How Workday enforces security for application viewers.
- Refinement dimensions available to application viewers (See [Concept: Refining in People Analytics](#) on page 713).

Note: The target fields that you configure in the Primary Hierarchy and Secondary Hierarchy categories must be identical in the Worker and Hiring pipelines. Make sure that you:

- Select the same or compatible source fields.
- Include the same target fields in each pipeline.
- Enter the same display name.

Steps

1. Access the **Configure People Analytics** report.
2. Select **Edit** for either the **Worker** or **Hiring** pipeline.
3. For each **Target Field**, decide whether or not to **Include** the field.

Workday automatically includes fields that it requires for the functioning of People Analytics, based on the topics you select. The installation can't proceed if you exclude any of these fields. Workday marks the required fields with an asterisk (*). Workday also marks fields that are critical for the completeness of the data as "Recommended". If you exclude such a field, the People Analytics installation will still work, but the missing data might negatively impact metrics in the KPIs and visualizations, and focus insight generation.

4. When you include a field, consider:

Option	Description
Business Object	<p>The business object that includes the source field that you want to map to this target field.</p> <p>People Analytics only supports mapping source fields from the primary business object of a given pipeline and the related business objects of that primary business object. See Reference: Business Objects and Data Sources in People Analytics on page 656.</p>
Source Field	<p>The source field to map to this target field.</p> <p>Workday displays the fields from the selected business object that use any of the accepted field types for this target field.</p> <p>Select a compatible source field in both the worker and hiring pipelines for the same target field. Source fields are compatible when:</p> <ul style="list-style-type: none"> • They use the same business object. • Any field values that they contain with the same display name use the same Workday ID.
Display Name	<p>The name you want to display in the People Analytics application. You can change the default display name, but keep in mind that People Analytics doesn't currently support custom display names in:</p> <ul style="list-style-type: none"> • KPIs • Focus insight card titles • Business question headings

For more information, see [Reference: Fields in People Analytics](#) on page 663.

Next Steps

Finish configuring the People Analytics pipeline. If you need more time to configure the pipeline, you can **Save For Later** to save the changes you've made so far.

Related Information

Reference

[2022R2 What's New Post: People Analytics Configuration](#)

[Reference: Fields in People Analytics](#) on page 663

Steps: Change People Analytics Configuration

Prerequisites

- Complete the initial configuration and installation of People Analytics with a Workday consultant.
- Review requirements and considerations for changing People Analytics configuration.
- Plan to run the reinstallation of People Analytics only from Monday to Thursday. Weekly Service Updates in Workday run on Fridays and can cause the installation to fail.
- Access the **People Analytics Activities** report to ensure that there are no activities in progress.
- Security: *Manage: People Analytics* domain in these functional areas:
 - People Analytics
 - Prism Analytics

Context

You can change your People Analytics configuration and reinstall the application to:

- Ensure that the application is up to date with the business needs of your organization. Example: Change the mapping for a field in a particular pipeline, or adding a new population filter condition.
- Uptake new content that we deliver as an automatic installation activity to production tenants. Example: Enable and configure the Employee Sentiment topic.

We recommend that you review Data Quality to evaluate the new configuration and correct any defects before you reinstall.

Certain changes to your configuration might result in a significant change to application insights and the data quality of these insights. Example: Applying a new security configuration that doesn't align with your current organization structure.

We recommend making changes to your configuration in an implementation tenant or preview sandbox tenant before you complete them in your production environment.

Note: You can create custom reports and discovery boards using People Analytics data sources for ad hoc reporting purposes or to validate your data. Custom reports or discovery boards that you created using these data sources are no longer valid after the next monthly data update or when you run data quality or reinstall the application. You must delete these reports and discovery boards before the next data quality check, monthly data update, or installation run to ensure that these activities complete successfully.

Steps

1. Access the **Configure People Analytics** report.
2. Select **Manage Topics** to select which topics to include in the configuration.
3. Select **Edit** or **Configure** for a pipeline to make changes to that pipeline.
See [Steps: Configure a Pipeline in People Analytics](#) on page 650.
4. Select **Run Data Quality** to check the correctness requirements of the configuration changes.
5. Select **View Activities** to access the **People Analytics Activities** report to monitor data quality check progress.
You can right-click the data quality activity at the top level to access the related actions menu. You can:
 - **Cancel** the activity.
 - **Retry** the activity.

6. Ensure that the data quality activity finishes with the status **Successful.**

If necessary, we recommend that you update your configuration to address any found defects. Certain defects might require action before proceeding to installation. For more information, see:

- [Concept: Data Quality Module](#) on page 643
- [Troubleshooting: Data Quality Module](#) on page 693

7. On the **Configure People Analytics report, select **Run Installation**.**

Workday automatically runs the data quality check before committing the configuration changes.

8. Select **View Activities to access the **People Analytics Activities** report to monitor installation progress.**

You can right-click the Installation activity at the top level to access the related actions menu.

9. Ensure that the Installation activity finishes with the status **Successful.**

Steps: Configure a Pipeline in People Analytics

Prerequisites

Security: *Manage: People Analytics* domain in these functional areas:

- People Analytics
- Prism Analytics

Context

You can configure a worker pipeline in People Analytics to:

- Specify which fields Storyteller should analyze to create focus insights.
- Filter which populations to analyze.
- Specify how many months of data to analyze.
- Enforce security on the data.

Workday displays the current status of each pipeline on the **Configure People Analytics** report.

Pipeline Status	Description
Committed	The current pipeline configuration is committed and installed in the People Analytics application.
Not Committed	The current pipeline configuration has been manually changed since the last manual installation. To commit these changes to the People Analytics application, select Run Installation .
Action Required	The pipeline configuration might need to be updated in order to install or reinstall People Analytics. This pipeline status might be because: <ul style="list-style-type: none"> • Workday has changed 1 or more pipeline settings since the last installation. • The pipeline is partially configured. • The pipeline was never configured.

Steps

1. Access the **Configure People Analytics** report.
2. Select **Edit** or **Configure** for a pipeline to make changes to that pipeline.
3. (Application Settings pipeline only) On the **Time Frame Configuration** step, select a predefined **Fiscal schedule** and define how the report should treat terminations at the end of a fiscal period.

4. (Worker and Hiring pipelines) On the **Metrics** step, select metrics you would like to display on your KPI tab. You can also set the order in which the metrics appear on the tab.
5. (Skills pipeline only) On the **Opt In** step, select **Match Score**.
6. (Employee Sentiment pipeline only) On the **Question Selection** step, for each question type, select one or more questions to map.
7. [Steps: Configure Pipeline Field Mappings](#) on page 647.
For the Skills pipeline, proceed to the Review step.
8. (Optional) On the **Population Filters** step, add population filters to constrain the data that Workday analyzes using the Storyteller engine.
The population filters you define affect all business questions, visualizations, focus insights, and KPIs in the People Analytics application.
9. (Worker pipeline) On the **Prompts** step, configure prompts for the source data for this pipeline.
10. On the **Security** step, select how to enforce security in the application.
You can control access to People Analytics data at these levels:
 - Row Level Security. You can control access to each data record in the data sources by providing either unconstrained or constrained access.
 - Field Level Security. You can restrict access to sensitive data in particular fields, enabling you to limit what viewers can see based on their role.
 For more details, see [Steps: Set Up Constrained Security to People Analytics](#) on page 651.
- Note:** Select the same Row Level Security option for both the worker and hiring pipelines.
11. On the **Data History** step, select how much data to include in the application.
12. **Review** all configuration details, and select **Finish** to save the changes.

Result

Workday saves the pipeline configuration, but doesn't update the data in the application yet. Workday changes the pipeline state to **Not Committed**.

Next Steps

Configure all pipelines necessary and then select **Run Installation** on the **Configure People Analytics** report.

Related Information

Tasks

[Set Up Fiscal Schedules and Years](#)

Reference

[2022R2 What's New Post: People Analytics Configuration](#)

Steps: Set Up Constrained Security to People Analytics

Prerequisites

Security: *Manage: People Analytics* domain in these functional areas:

- People Analytics
- Prism Analytics

Context

When you configure the Security step of the **Worker** and **Hiring** pipelines, you can provide constrained access to the **People Analytics** report at both the row level and field level.

Row Level Security	Field Level Security
<p>To provide constrained access at the row level:</p> <ul style="list-style-type: none"> Specify a hierarchy in the Row Level Security section on the Security step. Use a role-based constrained security group in the security policy of one of the People Analytics view domains: <ul style="list-style-type: none"> <i>View: People Analytics</i>. Use this domain only if you don't need to enforce field level security. <i>View: People Analytics Business Leader</i> <i>View: People Analytics HR Business Partner</i> <i>View: People Analytics Custom 1</i> <i>View: People Analytics Custom 2</i> <i>View: People Analytics Custom 3</i> 	<p>To provide constrained access at the field level:</p> <ul style="list-style-type: none"> Choose how to enforce field level security in visualizations using a field restricted to the current viewer. For more information, see the Steps section. Select 1 or more fields to restrict access to in one of the domains listed in the Field Level Security section on the Security step. Use a role-based constrained security group in the security policy of the same view domain that you configured for field level security. <p>Note: Ensure that a given user does not have access to more than 1 People Analytics-related view domain.</p>

When constraining access at the row level, the hierarchy that you select and the fields included in that hierarchy determine which users have access to specific content in the application. Example: You map these fields:

Target Field	Mapped Business Object and Source Field	Example Value
Level 1	Supervisory Organization - 2nd level of the hierarchy	Corporate Customers
Level 2	Supervisory Organization - 3rd level of the hierarchy	Sales and Marketing
Level 3	Supervisory Organization - 4th level of the hierarchy	North America Marketing
Assigned Organization	Worker - Supervisory Organization	Leads Generation

A People Analytics user who has constrained access at Level 1 can view focus insights related to Level 1 and its subordinates. Therefore, a user who is assigned a role in Sales and Marketing sees focus insights for Sales and Marketing and North America Marketing.

A People Analytics user who is assigned a role in North American Marketing (mapped to Level 2) can see focus insights related to North American Marketing, but not to Sales and Marketing.

If you need to change the security settings after the initial deployment of People Analytics, you might consider requesting support through People Analytics Office Hours (available as a paid service) to ensure that the change won't cause security issues.

Steps

- Access the **Configure People Analytics** report.
- Select **Edit** for the **Worker** pipeline, and proceed to the **Security** step.
- For **Row Level Security**, select either **Primary Hierarchy** or **Secondary Hierarchy**.

The hierarchy you select must be a valid Prism securing entity field. See [Hierarchy Requirements](#).

4. For Field Level Security, select the security mode:

- Standard. Workday enforces security strictly by displaying an empty state in a visualization instead of the data.
- Threshold. Workday displays aggregated data in a visualization when a minimum population threshold is met, and hides restricted fields on the Detailed Data tab.

Note: You might lose some KPIs and focus insights when you restrict some of these fields if the population count goes below the minimum threshold during a data snapshot.

5. On the Review step, select **Finish** to save the changes to the Worker pipeline.

6. Configure the Hiring pipeline, and proceed to the **Security** step.

- For **Row Level Security**, select the same hierarchy as the Worker pipeline.
- For **Field Level Security**, select which sensitive data fields in which domains you want to restrict access to.

7. Select Run Installation on the **Configure People Analytics** report.

Note: Wait for the installation activity to complete before proceeding so that Workday can finish securing the data records. Make sure that Workday secures the data records before you provide access to constrained users. You can view the progress on the **People Analytics Activities** report.

8. Create Role-Based Security Groups.

Create security groups for your application viewers, and assign users.

Note: When configuring role-based constrained security groups, ensure that:

- If you configured row level security, the security group type matches the securing hierarchy that you specified for **Row Level Security**. Example: You use Primary Hierarchy as the securing hierarchy, and map the Supervisory Organization field to the Assigned Organization target field. You create a security group of type Roles - Supervisory. Example: You use Secondary Hierarchy as the securing hierarchy, and map the Location field to the Level 3 target field. You create a security group of type Roles - Location Hierarchy.
- In the **Access Rights to Organizations** section, you select **Applies To Current Organization And All Subordinates**.
- In the **Access Rights to Multiple Job Workers** section, you select **Roles have access to the positions they support**.

9. Edit Domain Security Policies.

Add the security groups to the security policies for the configured domains on the Security step, such as *View: People Analytics Business Leader*. If you didn't configure Field Level Security, then add the groups to the *View: People Analytics* domain security policy.

Note: Ensure that each user has access to only 1 of the People Analytics view domains.

10. Activate Pending Security Policy Changes.

Related Information

Concepts

[Concept: Security in People Analytics](#) on page 638

Tasks

[Steps: Change People Analytics Configuration](#) on page 649

Reference

[2022R2 What's New Post: People Analytics Configuration](#)

Steps: Set Up Skills in People Analytics

Prerequisites

Note: You might need to take additional steps to enable this feature based on your organization's subscription service agreement. To determine your subscription service agreement:

- Access your profile avatar on Community.
- Select **Profile**.
- On your profile page, select your organization's name, which is beneath your name and next to your job profile.
- View your **Subscription Service Agreement** value.

If the value is:

- *MSA*, you must enable this feature through Innovation Services using the **Enable Innovation Services Features and Machine Learning Data Contribution** step.
- *UMSA*, you can skip the optional **Enable Innovation Services Features and Machine Learning Data Contribution** step.

Note: Skills in People Analytics is a Machine Learning (ML) feature that requires data contributions. Such features will not function properly in your Sandbox tenants. To test Skills before deploying it to your Production tenant, use your Preview or Implementation tenants.

Context

The Skills topic in People Analytics helps you better understand key insights about skills in different areas of the organization, gaps, and areas for improvement.

Steps

1. Enable Innovation Services Feature and Machine Learning Data Contributions.

Note: You might need to take additional steps to enable this feature depending on your organization's subscription service agreement. For more information, see this [Community](#) article.

Select check boxes in the **HCM: HCM Machine Learning GA Features** category to contribute data for Machine Learning. To enable People Analytics to use Skills data from the HCM Machine Learning GA Features service, you must opt in to these categories on the ML for People Analytics tab:

- **Job Requisition Data**
- **Talent Profile Data**
- **Worker Profile Data**
- **Organizational Data**

To ensure that you're opted into the newest version of the **HCM Machine Learning GA Features** service, you must select the **Opt in to Additional Data** check box for the chosen **ML for People Analytics** categories. This contributes the required additional data from your tenant to Workday. If you don't see this check box on the tab, it means that you're already using the newest version.

Note: For all tenant types, after you select the required check boxes in the **HCM: HCM Machine Learning GA Features** category, you must wait 24 hours (or until after 1AM Pacific Standard Time on the next business day) before you install Skills in People Analytics. For implementation tenants, you need to also run the **Run On-Demand Machine Learning Activation for Implementation Tenant** task after selecting the required check boxes, and before you install People Analytics.

2. Access the **Edit Tenant Setup - Machine Learning** task.

Select the region in which Workday hosts data used for improvement and personalization of machine learning and analytics functionality.

Security: *Set Up: Tenant Setup - Machine Learning* in the System functional area.

3. Enable Skills Cloud.

You must include these options:

- **Populate Suggested Skills for Workers**
- **Populate Suggested Skills for External Candidates**

You can also include the option **Populate Suggested Skills for Job Profiles** to provide suggested skills for job profiles in the **Suggested Skills for Job Profile** report. The skill suggestions update hourly and provide up to 10 suggested skills for each reporting item. You add skills to job profiles in Step 5.

4. Maintain Skills.

You must select an existing or create a new **Category** for each skill in the **Maintain Skills** report.

See [Steps: Maintain Skills](#).

5. Access the **Create Job Profile** task or the **Edit Job Profile** task to add skills to new or existing job profiles.

For each skill that you add, ensure that you select **Required**.

When completing this step, be mindful of the **Effective Date** for a job profile. Ensure that the date covers the previous month to align with the current snapshot period for People Analytics.

See [Create Job Profiles](#).

Security: *Set Up: Job Domain* in the Jobs and Positions functional area.

6. Steps: Change People Analytics Configuration on page 649.

Use these details to complete this step:

- From the **Manage Topics** page, enable the topic **Skills**. You must have at least one other Worker topic selected to enable Skills and you must complete the configuration for the **Worker** pipeline.
- Complete the configuration for the **Skills** pipeline. We recommend that you use the default field for each field that you include in the field mapping to ensure the highest quality results.
- Select **Run Data Quality** to check the correctness of your **Skills** data. If necessary, we recommend that you update your configuration to address any found defects.

See [Concept: Data Quality Module](#) on page 643, [Troubleshooting: Data Quality Module](#)

Related Information

Concepts

[Concept: Skills in People Analytics](#) on page 712

[Concept: Skills and Competencies Comparison](#)

[Setup Considerations: Skills Cloud](#)

Reference

[2022R1 What's New Post: Skills in People Analytics](#)

Steps: Set Up VIBE Index in People Analytics

Context

The VIBE Index™ topic surfaces key outcome metrics showing where you can improve equity and parity across all people groups (intersections). These insights help you to set, achieve, and renew goals that cultivate belonging and diversity in your workplace.

Note: To measure belonging as part of the VIBE Index, you need to be a Workday Peakon Employee Voice customer and opt in to the Employee Sentiment topic.

All requirements and considerations for changing your People Analytics configuration apply when changing your configuration to include the VIBE Index topic.

Steps

1. Review the details for choosing and creating intersections.

See [Reference: Choosing and Creating Intersections](#) on page 658.

2. Define the intersection for the VIBE Index.

You can:

- Use the default intersection.
- Use an existing field in your tenant.
- Create an intersection.

3. [Steps: Change People Analytics Configuration](#) on page 649.

Use these details to complete this step:

- On the **Manage Topics** page, enable the topic VIBE Index. You must have at least one other Worker topic selected to enable VIBE.
- If applicable, on the **Manage Topics** page, enable the topic Employee Sentiment.
- On the **Field Mapping** page, map your VIBE Index intersection field to the target field Intersection 1.

Related Information

Concepts

[Concept: VIBE Index in People Analytics](#) on page 698

[Concept: Belonging in the VIBE Index](#) on page 700

Tasks

[Steps: Change People Analytics Configuration](#) on page 649

Reference

[2021R2 What's New Post: VIBE Index in People Analytics](#)

[Reference: Requirements and Considerations for Changing People Analytics Configuration](#) on page 684

Reference: Business Objects and Data Sources in People Analytics

Business Objects

People Analytics only supports mapping source fields from the primary business object of a given pipeline and the related business objects of that primary business object.

Pipeline in People Analytics	Primary Business Object
Worker	Worker
Hiring	Job Requisition
Skills	Local Skill Item
Employee Sentiment	Peakon Data (remote)

People Analytics Topics Data Sources

You can create custom reports and discovery boards for ad hoc reporting purposes or to validate your data using People Analytics topics data sources. Workday updates these data sources when you reconfigure and reinstall People Analytics. If you remove certain data from your current configuration and reinstall People Analytics, that data also gets removed from the resource.

Worker Data Sources

Workday supports creating custom reports and discovery boards from these data sources only. **In your reports and discovery boards, do not use any of the temporary, intermediary data sources such as data sources with 'snapshot' in the name.**

Data Source	Description
PPLA Worker	Worker data source before Storyteller processing.
ppla_worker_stories_publish_cds	Worker data source after Storyteller processing of focus insights (previously called stories).
ppla_worker_explanations_publish_cds	Worker data source after Storyteller processing of summaries.
ppla_vibe_belonging	VIBE index data source for Workday Peakon Employee Voice customers that are using Peakon belonging data in VIBE. Workday protects individual confidentiality for belonging responses by providing: <ul style="list-style-type: none"> Aggregated data only for some fields. Constrained access to some fields.

Hiring Data Sources

Data Source	Description
PPLA Recruiting	Hiring data source before Storyteller processing.
ppla_recruiting_focus_insights_hiring	Hiring data source after Storyteller processing of focus insights (previously called stories).
ppla_recruiting_explanations_hiring	Hiring data source after Storyteller processing of summaries.

Skills Data Sources

Data Source	Description
ppla_skill_attributes	Skills data source with skill attributes (skill categories).
ppla_skill_explanations_publish_cds	Skills data source after Storyteller processing of summaries.
ppla_skill_stories_publish_cds	Skills data source after Storyteller processing of focus insights (previously called stories).
ppla_static_vis_match_score	Skills data source with details for visualizations related to match score.
ppla_static_vis_skill_cats	Skills data source with details for visualizations related to skill categories.
ppla_worker_gaps	Skills data source before Storyteller processing. This data source also provides the detailed data for workers.

Data Quality Data Sources

Note: Reports and discovery boards built on top of data quality data are only valid until the next automated update or until you run Data Quality or installation again.

Data Source	Description
ppla_dq_publish_blank	Data source with data quality results for the missing values check.

Data Source	Description
ppla_dq_publish_cardinality	Data source with data quality results for the cardinality check.
ppla_dq_publish_check_aggregation	Data source with aggregated data quality results per data quality check.
ppla_dq_publish_dimension_aggregation	Data source with aggregated data quality results per dimension.
ppla_dq_publish_dupe	Data source with data quality results for the duplicates check.
ppla_dq_publish_incorrect	Data source with data quality results for the illogical values and invalid values checks.
ppla_dq_publish_multi_hier	Data source with data quality results for the multiple hierarchies check.
ppla_dq_publish_population	Data source with data quality results for the population check.
ppla_dq_publish_record_aggregation	Data source with aggregated data quality results per record.
ppla_dq_recruiting_statuses	Hiring data source before data quality processing.
ppla_dq_worker	Worker data source before data quality processing.

Related Information

Concepts

[Concept: Business Objects, Data Sources, and Fields](#) on page 17

Reference: Choosing and Creating Intersections

An intersection is a group that ideally consists of workers with various demographics and characteristics. An intersection is a field or a group of fields that represent the dimensions you want to analyze in the VIBE Index™.

We strongly recommend that you use a minimum and maximum of 2 fields to define the intersection.

Examples of fields used to define an intersection: Ethnicity, Gender, Disability Status, Veteran Status, Sexuality.

Example of an intersection: Gender and Ethnicity.

The values of the fields you use to define the intersection determine the intersection values. Each intersection value is an individual intersection (people group).

Example: The intersection Gender and Ethnicity has the intersection values Female - Asian, Female - URM, Female - White, Male - Asian, Male - URM, Male - White. The intersection value Female - Asian is an individual intersection (people group).

Choosing an intersection and creating an intersection (if necessary) are prerequisites to configuring the VIBE Index topic in People Analytics.

Getting Started

Review all details for choosing intersections to determine which fields and conditions meet the business and development needs of your organization. Afterward, review the details for the default intersection field and the field specifications for intersections. You can then determine if:

- Using the default intersection field or an existing field in your tenant is a suitable choice for an intersection.
- Creating an intersection is the best choice for your organization.

Note: The intersection you choose or create must meet the requirements listed in the field specifications for intersections.

Choosing Intersections

We strongly recommend that you use a minimum and maximum of 2 fields to define the intersection.

Example: Gender and Ethnicity.

The best intersections are intersections that align with the general (more broad) business and development strategy of your organization. This enables you to connect insights that are surfaced in the VIBE Index topic in People Analytics with other internal findings that you can act on.

The VIBE Index is a great tool for diagnosing areas for targeted intervention. Therefore, the fields you choose for the intersection should consist of dimensions in which you can dig deeper into using other data sources (VIBE Central dashboard or other reporting sources).

Expected Parity

The VIBE Index evaluates parity in several outcomes across intersections. The intersection you choose should have a reasonable expectation of parity across all outcomes (Attrition, Hires, Leadership, Promotions).

Examples of choices that meet this criteria:

- Gender / Ethnicity - Organizations often look at gender and ethnicity to determine bias in outcomes such as hires and promotions. We expect that the gender or ethnicity of an employee shouldn't have an influence on the rate at which the employee is promoted or on the probability of the employee being represented in leadership, and so on.
- Sexual Orientation / Disability Status / Veteran Status - Organizations often look at these dimensions to determine bias across different outcomes. Therefore, we expect that these employee attributes shouldn't have an influence on certain outcomes, such as employee promotions. Before choosing an intersection with 1 or more of these fields, determine if you have:
 - Accurate and relatively complete data among the chosen dimensions.
 - Sufficient headcount in each intersection (minimum 10 workers). Example: The intersection Disability Status and Veteran Status includes the intersection NotDisabled - IsVeteran, which consists of 10 workers.

Example of choices that don't meet this criteria: Age Group / Generation

Although organizations often look at age and generation as important variables in business and development work, they aren't dimensions that you would expect parity in for some of the outcomes included in the VIBE Index. Examples of outcomes where we don't expect parity for age group and generation:

- Hires - This outcome usually skews in volume towards early-in-career roles, which results in uneven representation by age group or generation. Therefore, we expect disparity across intersections for this outcome.
- Leadership - This outcome is often overrepresented by older age groups. We expect that the percentage of leaders should vary by age group or generation. Therefore, we expect disparity across intersections for this outcome.
- Promotions - For the same reason job levels and management levels skew by age group, promotion rates are often lower as you move higher in an organization (longer time to promotion). We expect that the percentage of promotions should vary by age group or generation, and therefore expect disparity across intersections for this outcome.

Example of dimensions that might or might not be a good choice for an intersection, depending on your organization: Region / Location

If your organization is mostly US-based with only certain types and levels of specific roles that are subordinate to other locations or regions, you might not expect there to be equal representation in leadership across regions, equal promotion rates, and so on.

If operations in your organization are currently more homogeneous across regions or are intended to be more homogeneous across regions, you might expect parity across leadership opportunities, hiring, and promotions.

Attributes

Unlike some personal attributes (mentioned in the section Expected Parity), job-related attributes almost always have an impact on other job-related outcomes and don't make good choices for intersections.

Examples of job-related attributes:

- Job Level or Management Level - We don't recommend using these attributes for an intersection because we expect they are:
 - Directly related to the outcome Leadership.
 - Highly correlated with promotion rates.
 - Skewed along Hiring.
- Performance Rating - We expect this attribute to have a negative impact on the outcome metric Hiring because it's often:
 - Highly correlated with promotions.
 - Highly correlated with differences in belonging and attrition.
 - Skewed by job level.
- Tenure or Time in Role - We expect that tenure has strong correlations with promotions, attrition, and leadership representation. Therefore, we don't recommend using these attributes for an intersection because they might negatively affect the outcome metric Hiring.

Populations

The intersection that you use for VIBE should include the right populations. If a field that is included in the intersection returns a blank or null value for a worker, Workday doesn't include the associated worker in the VIBE calculation.

Additionally, if the headcount for a given intersection falls below the minimum requirement of 10 workers for the respective month, we don't include the intersection in the VIBE calculation.

If the fields that you choose for the intersection consist of both correct and incorrect populations, you can use condition functions to exclude the incorrect populations.

Intersection Headcount

The minimum headcount requirement for each intersection within a defined intersection is 10 workers. People Analytics evaluates active headcount at each recurrent data refresh.

Example: The intersection Gender and Ethnicity consists of the intersection Female - Asian, which has a minimum headcount of 10 workers for the latest month that People Analytics analyzes data.

The minimum headcount enables us to derive aggregate-level insights. The VIBE Index relies on the expectation of parity across groups, not individuals. By having a sufficient population in each intersection, there's a reasonable expectation that individual-level variances cancel out, and we can make comparisons on group-level outcomes where we would expect parity.

The minimum headcount enables the VIBE Index to be stable and actionable. Otherwise, there would be extreme fluctuations in results from time period to time period.

Example: If an organization has a headcount of 5 in an intersection and has a 10% annual attrition rate, the expected number of attrition events for that intersection in a 12-month period is 0.5. Because you can't have 0.5 attrition events, an organization can be perfectly at parity by having 0 attrition events in one period and 1 attrition event in the next period. However, in the first case (0 attrition events), the intersection with a headcount of 5 would be 100% below parity for the corresponding time period. In the second case

(1 attrition event), the same intersection would be 100% above parity for the corresponding time period. In either time period, interpreting the attrition outcome for this group would be misleading and not actionable.

Note: If the headcount for a given intersection falls below the minimum requirement of 10 workers for the respective month, we don't include the intersection in the VIBE calculation.

Field Specifications for Intersections

The table lists the requirements for intersections and provides guidance on key configuration elements of intersections.

Specification	Details
Number of Fields	We strongly recommend that you use a minimum and maximum of 2 fields to define the intersection.
Field type when the intersection field includes concatenated functions	<p>The only allowed field type is Text.</p> <p>The field can also be a calculated field.</p> <p>The field type requirement doesn't apply to fields used as conditions or other components of the intersection field.</p>
Field type when the intersection field doesn't include concatenated functions	The allowed types are Single Instance and Text.
Business Objects of Fields	<p>People Analytics only supports using the primary business object for a given pipeline or a related business object to the primary business object of that pipeline.</p> <p>The target field that you map for the VIBE Index is in the field mapping for the Worker pipeline, which uses the primary business object Worker.</p> <p>Ensure that the intersection field is in the business object Worker (or a related business object).</p> <p>If the intersection field contains more than 1 field, ensure that all fields use the same business object. This includes fields that are used as conditions or other components of the intersection field.</p>
Minimum Headcount for Intersections	<p>The minimum headcount requirement for each intersection within a defined intersection is 10 workers. People Analytics evaluates active headcount at each recurrent data refresh.</p> <p>Example: The intersection Gender and Ethnicity consists of the intersection Female - Asian, which has a minimum headcount of 10 workers for the respective month.</p> <p>If the headcount for a given intersection falls below the minimum requirement of 10 workers for the respective month, we don't include the intersection in the VIBE calculation.</p>
Conditions for Fields	If you use conditions in the intersection field, be mindful of blank or null values. Ensure to exclude populations where appropriate to avoid blank or null values returned from fields.

Specification	Details
	If a field returns a blank or null value, Workday doesn't include the worker associated with the blank or null value in the VIBE calculation. Additionally, if the headcount for a given intersection falls below the minimum requirement of 10 workers for the respective month, we don't include the intersection in the VIBE calculation.
Specifications for People Analytics	All requirements and considerations for configuring People Analytics apply to the intersection you use for the VIBE Index. Example: People Analytics only supports tenant-wide calculated fields. When creating calculated fields to create an intersection or using an existing calculated field in your tenant, you can't use report-specific calculated fields.
Security for Fields	Be mindful of your security configuration in People Analytics when choosing the fields and conditions you want to include in the intersection. Consider the target audience of the application: the HR Business Partner and executives within an organization.

Default Intersection

The default intersection for the VIBE Index is the Workday-owned, text field Intersection 1. To view the setup and details for the default field, access the **Business Object Details** report (secured to the *Custom Report Administration* and *Custom Report Management* domains in the System functional area) and search for the business object Worker.

The table lists the components of the default field Intersection 1.

Component	Details
Included in VIBE	Calculated field that is used as the condition for the default intersection.
Gender (text)	Calculated field that is used in these fields, which are also components of the default intersection: <ul style="list-style-type: none"> • Included in VIBE • Concatenate Ethnicity and Gender
Ethnicity (text)	Calculated field that is used in these fields, which are also components of the default intersection: <ul style="list-style-type: none"> • Included in VIBE • Concatenate Ethnicity and Gender
Concatenate Ethnicity and Gender	Calculated field that is used as the value if the condition Included in VIBE is true. This field consists of the concatenated fields Gender (text) and Ethnicity (text).

You can't edit the Workday-owned, default intersection field or the components within the default intersection field. If you want to use a similar setup for your intersection, review the field specifications for intersections and the details for creating intersections. You can then determine if you can use an existing field in your tenant for an intersection or if you need to create an intersection.

Creating Intersections

When creating an intersection field, you can:

- Use an existing field or fields in your tenant that meet the specifications for intersections.
- Create a new field that meets the specifications for intersections.

Note: An intersection field can consist of other fields.

For examples on creating intersections, you can view the setup of the default intersection field and the example topic on creating an intersection.

Related Information Concepts

[Concept: VIBE Index in People Analytics](#) on page 698

Reference

[Reference: Requirements and Considerations for Changing People Analytics Configuration](#) on page 684

Examples

[Example: Create an Intersection](#) on page 689

Reference: Fields in People Analytics

People Analytics renders data from mapped fields to calculate metrics and generate content for KPIs, focus insights, and visualizations. For each topic you select, some fields are required, recommended, or optional. Fields are assigned to the corresponding pipeline: Worker, Hiring, or Skills.

Asterisk (*) indicates fields required only for certain metrics.

Worker Fields

People Analytics organizes Worker fields into these categories:

- [Worker Basic Information](#)
- [Job Hierarchy](#)
- [Job Details](#)
- [Compensation](#)
- [Primary Hierarchy](#)
- [Secondary Hierarchy](#)
- [Organization Details](#)
- [Talent and Performance](#)
- [Tenure Information](#)
- [Termination Information](#)
- [Other](#)

Worker Basic Information

Field	Field Type	Description	Example Value	Required? / Recommended?	How To Populate This Field In Workday
Report Effective Date	Date	Effective date of the monthly data snapshot.	2018-01-01	Required	Concept: Effective Dates
Employee ID	Text	Unique identification of the worker.	H7O90lme0012U	Required	

Field	Field Type	Description	Example Value	Required? / Recommended?	How To Populate This Field In Workday
Employee Name	Single Instance	Full legal name of the worker.	Jane Smith		
Active Status	Boolean	<p>Boolean field that indicates if the worker is active as of the snapshot date, if provided; uses the field Hire Effective Date as the reference hire date and excludes terminations on the last day of the fiscal period.</p> <p>Note: Hire Effective Date is a Workday-delivered field that is only available when People Analytics is enabled in your tenant.</p>	True/False	Required	Reference: Leave Impacts
Worker Type	Single Instance	Worker type (employee or contingent worker) for a worker.	Regular	Required	Hire Employees
Hire Date	Date	Most recent hire date for the worker as of the snapshot date.	2018-01-01	Required	Hire Employees
Termination Date	Date	<p>Effective date of the last termination of the worker.</p> <p>Note: To include terminations with a next-day</p>	2018-01-01	Required	Steps: Set Up Termination

Field	Field Type	Description	Example Value	Required? / Recommended?	How To Populate This Field In Workday
		rehire, use the - All field.			
Gender	Single Instance	Gender of the worker.	Female	Required *	Steps: Set Up Personal Information Fields
Ethnicity	Single Instance/Text	Ethnicity of the worker.	Asian, Black or African American, White, Hispanic, Two or More Races, Other, Native Hawaiian or Other Pacific Islander, American Indian or Alaska Native	Recommended	
Generation	Single Instance	Generation cohort of the worker.	Baby Boomers (year range)	Recommended	Steps: Set Up Personal Information Fields
Date of Birth	Date	Date of birth of the worker.	01/01/1975	Required *	Setup Considerations: Candidate Personal Information
Is Disabled	Boolean	Boolean field that indicates if the worker has at least one disability.	True/False	Required *	Setup Considerations: Candidate Personal Information
Hispanic or Latino	Boolean	Boolean field that indicates if the worker is Hispanic or Latino.	True/False	Required *	Setup Considerations: Candidate Personal Information
Is Veteran	Boolean	Boolean field that indicates if the worker self-identifies as a veteran.	True/False	Required *	Setup Considerations: Candidate Personal Information
Part-time Worker	Boolean	Boolean field that indicates if the worker	True/False	Required *	Create Job Profiles

Field	Field Type	Description	Example Value	Required? / Recommended?	How To Populate This Field In Workday
		is a part-time employee.			
Rehired Worker	Boolean	Boolean field that indicates if the worker has been rehired.	True/False	Required *	Hire Employees
Underrepresented Minority Worker	Boolean	Boolean field that indicates if the worker belongs to an underrepresented minority group. Admin to configure this calculated field and define underrepresented minorities for their workforce.	True/False	Required *	Setup Considerations: Candidate Personal Information
Intersection 1	Single Instance/Text	Field that defines the intersection values found in the VIBE Index. Refer to setup details for VIBE Index for instructions on how to choose and create intersections.	Male-Asian	Required to configure the VIBE Index topic.	Reference: Choosing and Creating Intersections on page 658

Job Hierarchy

Field	Field Type	Description	Example Value	Required? / Recommended?	How To Populate This Field In Workday
Job Family Group	Single Instance/Text	Category of the job family group.	Sales	Recommended	Create Job Family Groups
Single Job Family	Single Instance/Text	Job family for the primary position of the worker.	Pre-Sales	Recommended	Create Job Family Groups
Job Profile	Single Instance	Job profile of the employee.	P3 Product Manager	Recommended	Create Job Profiles

Job Details

Field	Field Type	Description	Example Value	Required? / Recommended?	How To Populate This Field In Workday
Job Level	Single Instance	Job level position of the employee.	P3	Recommended	
Manager ID	Text	Unique identification of the manager of the worker.	H7090192Sfdfj102		
Is Leader	Boolean	Boolean value that indicates whether an employee is in a leadership (usually director and above) position.	True/False		
Manager	Boolean	Boolean value for whether a worker is in a manager role.	True/False	Required *	
Last Promotion Date	Date	Effective date of the last promotion of the employee.	2018-01-01	Required *	Transfer, Promote, or Change Job
Position Tenure Prior to Promotion (Months)	Number	Length of tenure in the previous position before the worker's promotion, in months.	12	Required *	Transfer, Promote, or Change Job

Compensation

Field	Field Type	Description	Example Value	Required? / Recommended?	How To Populate This Field In Workday
Total Compensation Calc Field	Currency	Total compensation for a worker in USD. Note: We don't recommend using a different currency, as it	402800.00 USD		Concept: Compensation Basis

Field	Field Type	Description	Example Value	Required? / Recommended?	How To Populate This Field In Workday
		skews People Analytics results.			
Compa Ratio	Numeric	Employee compensation rate. Formula field must follow for calculating compa-ratio: Base Pay or Primary Compensation / Compensation Range 50th percentile or Range Midpoint Value. (Compensation Range 50th percentile or Range Midpoint Value is determined by system setup.)	1.038		Steps: Create a Compensation Matrix
Compa Ratio Range	Single Instance	Category for compensation rate.	Above Compa-Ratio	Recommended	Steps: Create a Compensation Matrix

Primary Hierarchy

For more details, see [Concept: Hierarchies and Organizations in People Analytics](#) on page 633.

Field	Field Type	Description	Example Value	Required? / Recommended?	How To Populate This Field In Workday
Assigned Organization	Single Instance	The organization that is assigned to the primary position of the worker. Typically, this is Supervisory Organization, but in rare cases might be a different organization	Planning Workforce QA	Required	

Field	Field Type	Description	Example Value	Required? / Recommended?	How To Populate This Field In Workday
		type, such as a custom organization or Cost Center.			
Level 1	Single Instance	The 1st level of the hierarchy that you want to analyze. Typically, this is the 2nd level from the top of the organization, 1 level below the CEO. The field you select must be in the same organization hierarchy as the Assigned Organization.	2000 Executive Management	Recommended	
Level 2	Single Instance	The 2nd level of the hierarchy that you want to analyze. Typically, this is the 3rd level from the top of the organization, 2 levels below the CEO. The field you select must be in the same organization hierarchy as the Assigned Organization.	3000 Finance Administration	Recommended	
Level 3	Single Instance	The 3rd level of the hierarchy that you want to analyze. Typically, this is the 4th level from the top of the	4000 Executive Management	Recommended	

Field	Field Type	Description	Example Value	Required? / Recommended?	How To Populate This Field In Workday
		<p>organization, 3 levels below the CEO.</p> <p>The field you select must be in the same organization hierarchy as the Assigned Organization.</p>			

Secondary Hierarchy

For more details, see [Concept: Hierarchies and Organizations in People Analytics](#) on page 633.

Field	Field Type	Description	Example Value	Required? / Recommended?	How To Populate This Field In Workday
Level 1	Single Instance/Text	The 1st level of the hierarchy that you want to analyze. Typically, this is part of a geographical hierarchy, such as market region.	North America	Recommended	
Level 2	Single Instance/Text	The 2nd level of the hierarchy that you want to analyze. Typically, this is part of a geographical hierarchy, such as country.	United Kingdom	Recommended	
Level 3	Single Instance/Text	<p>The 3rd level of the hierarchy that you want to analyze. Typically, this is part of a geographical hierarchy, such as city.</p> <p>When you constrain</p>	Pleasanton	Recommended	

Field	Field Type	Description	Example Value	Required? / Recommended?	How To Populate This Field In Workday
		access to the application data using the secondary hierarchy, then this level must be associated with the worker, and you must opt into this field.			

Organization Details

For more details, see [Concept: Hierarchies and Organizations in People Analytics](#) on page 633.

Field	Field Type	Description	Example Value	Required? / Recommended?	How To Populate This Field In Workday
Organization Level	Numeric	Number of levels down from the top level of the organization to the assigned organization.	4	Recommended	
Management Level	Single Instance/ Text	Management level of the worker.	6 Director	Recommended	Set Up Job Level Hierarchies
Cost Center	Single Instance	Cost center (or equivalent) used for reporting.	2069 - Augmented Analytics	Recommended	
Company	Single Instance/ Self-Referencing Instance	Company name or ID of the company.	Workday, Inc.		

Talent and Performance

Field	Field Type	Description	Example Value	Required? / Recommended?	How To Populate This Field In Workday
High Potential	Boolean	Boolean value for whether an employee is of high potential,	True/False		

Field	Field Type	Description	Example Value	Required? / Recommended?	How To Populate This Field In Workday
		based on the company definition of high potential (values only for employees, not contingent workers).			
High Performer	Boolean	Boolean value for whether an employee is a high performer, based on the company definition of high performer.	True		
Current Rating	Numeric/ Single Instance/ Text	Numeric value representing the employee rating, which is based on the company definition of current rating.	4	Recommended	

Tenure Information

Field	Field Type	Description	Example Value	Required? / Recommended?	How To Populate This Field In Workday
Length of Service in Partial Years	Numeric	Employee tenure in years, including partial years.	4.23	Required *	Hire Employees
Tenure Category	Single Instance/ Text	Tenure category for the worker in their current position.	10-15 Years	Recommended	

Termination Information

Field	Field Type	Description	Example Value	Required? / Recommended?	How To Populate This Field In Workday
Term Category	Text	Field representing	Voluntary/ Involuntary		Terminate Employees

Field	Field Type	Description	Example Value	Required? / Recommended?	How To Populate This Field In Workday
		termination category. Values "Voluntary" / "Involuntary" must be present as text. If they're not, import the appropriate field as a Text field.			
Termination Reason	Single Instance/Text	Primary termination reason for the worker.	Personal	Recommended	Terminate Employees
Regrettable Termination	Boolean	Boolean field that indicates that a termination could be used as data in the future if the terminated worker wants to return as a rehire.	True/False	Required *	Steps: Set Up Termination

Other

Field	Field Type	Description	Example Value	Required? / Recommended?	How To Populate This Field In Workday
Hiring Source	Single Instance	Hiring source of the employee.	LinkedIn		Hire Employees

Hiring Fields

Hiring fields are only available for Workday Recruiting customers. People Analytics organizes Hiring fields into these categories:

- [Recruiting Process](#)
- [Candidate Information](#)
- [Candidate Processing](#)
- [Job Requisition Information](#)
- [Source of Candidates](#)
- [Primary Hierarchy](#)
- [Secondary Hierarchy](#)
- [Organization Details](#)

Recruiting Process

Field	Field Type	Description	Example Value	Required? / Recommended?	How To Populate This Field In Workday
Decline Reason	Text	Reason for a candidate's recruiting process being stopped or a candidate withdrawing their application.	Does not meet qualifications, Failed Background check	Recommended	Create Recruiting Dispositions
Recruiting Status Job Requisition	Single Instance	Job requisition the candidate applied to.	R-00015 Web Content Manager (Open)	Required	Steps: Set Up Prospects and Candidates
Created Moment	Date	Moment the recruiting status instance was created in Workday.	10/15/2015 10:23:10 AM	Required	Steps: Set Up Job Requisitions for Recruiting
Candidate ID	Text	ID of the candidate on the job application.	CANDIDATE-16-1	Required	
Recruiting Stage	Single Instance, Text	Stage of the recruiting process.	Review	Required	Steps: Set Up the Recruiting Workflow
Status Start Date	Date	Date and time the candidate entered the recruiting status.	10/15/2015 10:23:10 AM	Required	
Time In Stage	Numeric	Time in days the candidate spent in the recruiting stage.	10		
Job Profile	Single Instance, Text	Job profile for the job requisition.	Regional Sales Manager		Steps: Set Up Job Requisitions for Recruiting

Candidate Information

Field	Field Type	Description	Example Value	Required? / Recommended?	How To Populate This Field In Workday
Candidate Name	Text	Full legal name of the candidate.	Quinn Richardson		
Candidate Date of Birth	Date	Date of birth of the candidate.	10/15/1990		
Gender	Single Instance	Gender of the candidate.	Female		../../../../human-capital-management/recruiting/candidates/candidate-personal-information/san1447366994302.dita
Ethnicity	Single Instance, Text	Ethnicity of the candidate.	Asian, Black or African American, White, Hispanic, Two or More Races, Other, Native Hawaiian or Other Pacific Islander, Native American or Alaska Native		../../../../human-capital-management/recruiting/candidates/candidate-personal-information/san1447366994302.dita
Candidate Veteran Status	Single Instance, Text	Veteran status of the candidate.	I am not a veteran		Steps: Set Up Veteran Status Identification for Candidates
Candidate Disability	Single Instance, Text	Disability status of the candidate.	No, I don't have a disability		../../../../human-capital-management/recruiting/candidates/candidate-personal-information/san1407356248164.dita
Candidate Worker	Single Instance	Name of the candidate in Workday if available.	Quinn Richardson		Create New Worker Profile
Worker Job Requisition	Single Instance	Job requisition from the worker record of the hired candidate	R-00015 Web Content Manager (Open)		

Field	Field Type	Description	Example Value	Required? / Recommended?	How To Populate This Field In Workday
		in Workday if available.			
Candidate Worker Hire Date	Date	Date the candidate was hired in Workday if available.	10/24/2010	Required	

Candidate Processing

Field	Field Type	Description	Example Value	Required? / Recommended?	How To Populate This Field In Workday
Offer Accepted Date	Date	Date the candidate accepted the job offer.	10/15/2015		
Candidate Stage	Single Instance, Text	Recruiting stage the candidate is in for the job requisition at the time of data extraction.	Ready For Hire		
Candidate Last Recruiting Stage	Single Instance, Text	Last recruiting stage the candidate was in before being hired, rejected, or declined.	Review		
Job Application Offer Status	Single Instance	Status of the most recent job application offer, in the offer or employment agreement stage.	Written Offer Extended		

Job Requisition Information

Field	Field Type	Description	Example Value	Required? / Recommended?	How To Populate This Field In Workday
Report Effective Date	Date	Date of the monthly data snapshot.	10/15/2015	Required	
Staffing Model	Text	Staffing model of the supervisory organization related to the job requisition.	Job Management		
Job Requisition Close Date	Date	Date when recruiting ended for the position on the job requisition.	10/15/2015 10:23:10 AM	Required	
Job Requisition Target Hire Date	Date	First date a worker can be hired into the position associated with the job requisition.	10/15/2015		
Total Number of Openings	Numeric	Total number of openings or available positions for the job requisition.	1		
Number of Openings Available	Numeric	Number of openings or positions available to fill for the job requisition.	1		
Number of Openings Filled	Numeric	Number of openings or positions that have been filled for the job requisition.	1		
Requisition Average Time to Fill	Numeric	Average number of days to fill the positions for a specific job requisition.	15	Recommended	

Field	Field Type	Description	Example Value	Required? / Recommended?	How To Populate This Field In Workday
Linked Evergreen Requisition	Single Instance	Returns the Evergreen Requisition linked to a job requisition.	R00534 - Evergreen Analyst		
Is Evergreen	Boolean	Boolean value that indicates if a job requisition is an Evergreen requisition.	True/False		
EEO Job Classification	Multi-instance	The US Job Classification - US-EEO1 associated with the Job Profile for this job requisition.	822 - Supervisors, Mining, Oil and Gas		
Reference ID	Text	ID of the job requisition.	R00367		
Job Requisition	Single Instance	Job requisitions candidates can apply to.	R-00015 Web Content Manager (Open)	Required	Create and Edit Job Requisitions
Recruiting Start Date	Date	First date the recruiting process can start for the position on the job requisition.	10/15/2015	Required	Create and Edit Job Requisitions
Job Requisition Filled Date	Date	Date and time when the job requisition was filled.	10/15/2015	Required	
Job Requisition Status	Single Instance	Status of the job requisition the candidate applied to.	Review	Required	
Employee Type	Single Instance	Employee type on the job requisition.	Regular		Create and Edit Job Requisitions
Time Type	Single Instance, Text	Employment time type (full or part time) on the job requisition.	Full time		

Field	Field Type	Description	Example Value	Required? / Recommended?	How To Populate This Field In Workday
Job Posting Title	Text	Name of the position on the job requisition.	Senior Risk Specialist	Recommended	Create and Edit Job Requisitions
Job Requisition Management Level	Single Instance	Management level for the job profile on the job requisition.	11 Individual Contributor	Recommended	Create and Edit Job Requisitions

Staffing Additions Information

Field	Field Type	Description	Example Value	Required?/ Recommended?	How to Populate This Field In Workday
Staff Candidate ID	Text	ID of the candidate on the job application.	C00548	Required	
Staffing Job Requisition	Single Instance	Job requisition the candidate applied to.	JR-65221	Required	
Staffing Event	Single Instance	Staffing event triggered by the completed job application event.	Hire	Required	
Staffing Hire Date	Date	Date hiring takes effect.	10/24/2010	Required	
Staffing Date Initiated	Date	Date the staffing process was initiated.	10/24/2010		

Source of Candidates

Field	Field Type	Description	Example Value	Required? / Recommended?	How To Populate This Field In Workday
Is Referral	Boolean	Boolean value to indicate if the recruiting source for the job application is a referral or not.	True/False	Required	

Field	Field Type	Description	Example Value	Required? / Recommended?	How To Populate This Field In Workday
Candidate Source Category	Single Instance	Recruiting source category for the candidate's job application.	External		Maintain Recruiting Sources
Candidate Source	Single Instance, Text	Recruiting source for the candidate's job application.	LinkedIn		Maintain Recruiting Sources
Job Application Source	Single Instance	Detailed recruiting source (LinkedIn, Glassdoor, etc.) for the candidate's job application.	Referral	Recommended	../../../../human-capital-management/recruiting/candidates/prospect-and-candidate-management/san1391568310211.dita
Is Internal	Boolean	Boolean value to indicate if the recruiting source for the job application is internal or not.	True/False		Maintain Recruiting Sources

Primary Hierarchy

For more details, see [Concept: Hierarchies and Organizations in People Analytics](#) on page 633.

Field	Field Type	Description	Example Value	Required? / Recommended?	How To Populate This Field In Workday
Assigned Organization	Single Instance	Organization that is assigned to the job position in the job requisition. Usually, this is the Supervisory Organization. You can select an organization that is compatible with the relevant security group types that are	Planning Workforce QA		Create Hiring Restrictions Create Positions

Field	Field Type	Description	Example Value	Required? / Recommended?	How To Populate This Field In Workday
		supported. The field and the hierarchy must be consistent across pipelines such as Worker and Hiring.			
Level 1	Single Instance	First level of the hierarchy assigned to the job position. The selected field must be in the same organization hierarchy as the Assigned Organization.	2000 Executive Management	Recommended	
Level 2	Single Instance	Second level of the hierarchy assigned to the job position. The selected field must be in the same organization hierarchy as the Assigned Organization.	3000 Finance Administration	Recommended	
Level 3	Single Instance	Third level of the hierarchy assigned to the job position. The selected field must be in the same organization hierarchy as the Assigned Organization.	4000 Executive Management	Recommended	

Secondary Hierarchy

For more details, see [Concept: Hierarchies and Organizations in People Analytics](#) on page 633.

Field	Field Type	Description	Example Value	Required? / Recommended	How To Populate This Field In Workday
Level 1	Single Instance/Text	First level of the hierarchy assigned to the job position, such as the market region. The selected field must be consistent across pipelines.	Europe	Recommended	Create and Edit Job Requisitions
Level 2	Single Instance/Text	Second level of the hierarchy assigned to the job position, such as the market region. The selected field must be consistent across pipelines.	Germany	Recommended	Create and Edit Job Requisitions
Level 3	Single Instance/Text	Third level of the hierarchy assigned to the job position, such as the market region. The selected field must be consistent across pipelines.	London	Recommended	

Organization Details

For more details, see [Concept: Hierarchies and Organizations in People Analytics](#) on page 633.

Field	Field Type	Description	Example Value	Required? / Recommended	How To Populate This Field In Workday
Cost Center	Single Instance/Text	Cost center (or equivalent) used for reporting. If you use Cost Center as the primary or secondary	2069 - Augmented Analytics	Recommended	

Field	Field Type	Description	Example Value	Required? / Recommended?	How To Populate This Field In Workday
		hierarchy, then you can select a field from a different organization that Workday can use for providing more details on the job requisition.			

Skills Fields

People Analytics organizes Skills fields into these categories:

- [Required Opt-ins](#)
- [Worker Skills and Gaps](#)

Required Opt-ins

Field	Field Type	Description	Example Value	Required? / Recommended?	How To Populate This Field In Workday
Match Score	Numeric	<p>Match score is a calculation that compares a worker's current portfolio of explicit and inferred skills to the skills (explicit and inferred) listed on their job profile. Workday calculates the skill gaps and subtracts the total from 1 to assign each worker a score on a scale of 0 - 1.</p> <p>This is an opt-in field and isn't a part of the field mapping for the Skills pipeline.</p>	0.45	Required	HCM ML automatically generates values for this field.

Worker Skills and Gaps

Field	Field Type	Description	Example Value	Required? / Recommended?	How To Populate This Field In Workday
Skill Categories	Multi-Instance	Skill categories assigned to a maintained or Skills Cloud skill.	Pre-Sales, Retail Sales	Required	
Skill Reference ID	Text	Skill Reference ID to use for lookups within our Workday Web Services.	S0929	Required	
Skills Report Effective Date	Date	Field that determines which skills records are included in the monthly data snapshot.	2022-01-01	Required	

Related Information

Reference

[The Next Level: People Analytics: Resources to Help Validate Your Organization's Data](#)

Reference: Requirements and Considerations for Changing People Analytics Configuration

After you initially configure and install People Analytics with a Workday consultant, you can use the **Configure People Analytics** report to maintain the application. Use this topic as a reference when planning for and making changes to your current configuration.

General Considerations

We recommend only making certain types of changes in your tenant after installing the application with a Workday consultant:

- Maintenance changes. Example: Changing the mapping for a field in a given pipeline or adding a new population filter condition.
- Uptaking new content that we deliver as an automated update to production tenants. Example: Enabling and configuring the VIBE Index™ topic, configuring a fiscal schedule, uptaking KPI metrics.

Certain changes to your configuration might result in a significant change to application insights and the data quality of these insights. Examples:

- Applying a new security configuration that doesn't align with your current organization structure.
- Making changes to the field mapping for target fields Level 1, Level 2, and Level 3.

You might consider requesting assistance with People Analytics Office Hours (available as a paid service) for support with changes that might significantly alter your current configuration.

Consider how a given change will affect which insights the target audience of the application consumes. The target audience is the HR Business Partner and executives at your organization. Surfaced focus

insights that bring valuable and actionable data for these users are focus insights that you can use in leadership reporting. Ensure that mapped fields and other configuration inputs support this level of content.

People Analytics uses configuration details based on expected values. We recommend that you adhere to all specified requirements when making changes to avoid surfacing irrelevant or incorrect insights.

We recommend that you run People Analytics Data Quality and correct any defects in your configuration before reinstalling the application. Data Quality also runs automatically when you install the application. You can run Data Quality from the **Configure People Analytics** report and view the results by accessing the **People Analytics Data Quality** report.

Plan to run the reinstallation of People Analytics only from Monday to Thursday. Weekly Service Updates in Workday run on Fridays and can cause the reinstallation to fail.

We recommend testing all changes in an implementation or preview sandbox tenant before executing these changes in your production environment.

The **Configure People Analytics** report doesn't support concurrent editing. This means that when more than 1 user is making changes to the configuration, the user with the latest, unsaved changes is unable to save those changes. This user must refresh the page to get the updated version that reflects the changes made by the other user. Refreshing the page removes any unsaved changes.

Note: You can create custom reports and discovery boards using People Analytics data sources for ad hoc reporting purposes or to validate your data. These resources are only valid until the next automated update or until you run Data Quality or installation again. However, you must delete these resources before the next Data Quality, automated update, or installation run to ensure that these activities complete successfully.

Application Settings

Requirements

Item	Details
Time Frame Configuration	<p>Consider the type of fiscal schedule used by your organization. The default People Analytics fiscal schedule follows the calendar year. If your organization uses a different fiscal schedule, make sure it is available in Workday and select it in this step. To learn more about fiscal year configuration, see Set Up Fiscal Schedules and Years.</p> <p>Additionally, in this step you can define the criteria on how terminations are recognized on the last day of a period.</p>
Population Views	<p>Population views enable you to define meaningful worker populations. Once configured, you can use population to view insights in the People Analytics report either for your full worker population combined or for a selected population. For configuration guidance, see:</p> <ul style="list-style-type: none"> • Example: Configure Population Views with Default Fields on page 693 • Example: Configure Population Views with Custom Source Fields on page 692 • Example: Configure Population Views with Calculated Source Fields on page 692

Field Mapping

Requirements

Item	Details
Source Fields	You can't map a single source field to multiple target fields.
Field Description and Type	<p>Each field that you map must meet the field description and field type specifications.</p> <p>If a field doesn't meet the original description, the metric calculation uses unexpected values. This results in surfacing focus insights that aren't computed correctly. For the VIBE Index topic, this might result in no content displaying on the topic tab.</p> <p>If you map a field that is available in both the Worker and Hiring pipelines, ensure that both fields use the same field type and consist of the same level of information. Example: The target field Assigned Organization in the Worker pipeline and the target field Assigned Organization in the Hiring pipeline both have mapped source fields of the field type Single Instance and contain the same level of information across pipelines.</p>
Calculated Fields	<p>People Analytics only supports the use of tenant-wide calculated fields.</p> <p>Report-specific calculated fields aren't supported.</p>
Hierarchy Fields	The target fields that you configure in the Primary Hierarchy and Secondary Hierarchy sections must be identical in the worker and hiring pipelines. For more information, see Concept: Hierarchies and Organizations in People Analytics on page 633.
Report Effective Date and Created Moment	Don't change the default mapping of the field Report Effective Date in the Worker pipeline and the field Created Moment in the Hiring pipeline. These fields contain unique, system-created, time-related information to a specific record.
Display Name for Fields	The display name for a mapped field can only contain alphanumeric characters and spaces between those characters. Display names can't start or end with a space.

Considerations

Item	Details
Blank Elements	If you're considering mapping a field that contains a high number of blank elements, determine whether the blank elements are expected within the given context.

Item	Details
	<p>Example: The source field mapped into the target field Job Family Group contains 80% blanks of all elements. As a result, a focus insight produced on this dimension focuses only on the elements that aren't blanks and might provide false positive or negative information.</p>
Dimensions and Cardinality	<p>Be thoughtful when selecting dimensions (subsets of source fields) for field mapping. Consider the business added value and the cardinality of the field (number of distinct values). The expected content for a field isn't necessarily based on the name of the field. Check the Field Description and Example Value for a given field to ensure that the field is the best choice.</p> <p>Example: For the target field Location, the expected dimension (subset of mapped source field) is at least city level or higher, not street level. If the expected level is too low (field has too high number of distinct values), move 1 to 2 hierarchies up. Usually the rule Would I use this field for reporting? or Would the field tell me something? applies when considering cardinality.</p>
Fields that require prompts	<p>Avoid mapping source fields that require prompts, except for the field Total Compensation Calc Field. Prompts are only available for this field if mapped using the default source field.</p> <p>Prompts allow you to configure specific aspects of a given field. Example: Whether to include one-time payments in the Total Compensation Calc Field.</p>
Populations	<p>People Analytics requires the correct populations. If the wrong population is included in the field mapping configuration or not filtered out in the population filters configuration, surfaced focus insights, KPIs, and visualizations might provide insights that aren't relative to the target audience of the application.</p> <p>Frequently filtered-out populations:</p> <ul style="list-style-type: none"> • Contingent Workers • Seasonal Workers • Interns
Fields for Skills Pipeline	<p>We recommend not changing the default mapping for the fields in the Skills pipeline to ensure the highest quality of results.</p>

Population Filters

Limits

Item	Details
Non-supported elements for population filters	<p>When configuring population filters, you can't use:</p> <ul style="list-style-type: none"> • Multi-instance fields • Self-referencing fields • Subfilters • The aggregation function of a field (average or sum).
Population filter condition limit per pipeline	<p>For each population filter group, you can use a maximum of 20 population filter conditions. The limit for nesting is 3 levels, which applies to both groups of population filter conditions and all population filter groups.</p> <p>A population filter group is a population filter condition that is composed of other population filter conditions and/or other population filter groups.</p> <p>Example: A given population filter group contains these population filter conditions:</p> <ul style="list-style-type: none"> • Custom Active Status is equal to True. • (OR) Termination Date is equal to First Day of Month of Report Effective Date. • (AND) Termination Date is less than or equal to report Effective Date. • (OR) Achievable Level in the selection list is 1-2 Levels. <p>These population filter conditions comprise a population filter group within the population filter group mentioned above:</p> <ul style="list-style-type: none"> • Custom Active Status is equal to True. • (OR) Termination Date is equal to First Day of Month of Report Effective Date. • (AND) Termination Date is less than or equal to report Effective Date.
Report Effective Date and Created Moment Fields	<p>Population filter conditions consist of 3 parts from left to right on the Population Filters step of a given pipeline:</p> <ul style="list-style-type: none"> • Population filter field • Population filter operator • Population filter condition <p>You can't use these fields as population filter fields. You can only use these fields as population filter conditions:</p> <ul style="list-style-type: none"> • Report Effective Date field in the Worker pipeline. • Created Moment field in the Hiring pipeline.

Prompts

Prompts are only available if you:

- Include the target field Total Compensation Calc Field in the Worker pipeline field mapping configuration, and
- Use the default source field Total Compensation Calculated Field.

Prompts aren't available for fields available in the Hiring pipeline.

Security

You must select the same security option for both the Worker and Hiring pipelines. For more information, see [Concept: Security in People Analytics](#) on page 638.

Data History

In order for People Analytics to perform analysis successfully, you must have at least 4 months of transactional worker data in Workday. You can select 4 to 36 months of historical data to load into People Analytics from Workday for analysis. Any transactional history converted during deployment is considered part of the initial data load.

The amount of data history determines the analysis type. Year-over-year analysis requires at least 14 months of data. Rolling 3 month analysis for business questions is available with 4 to 12 months of data.

When you install People Analytics, you automatically enable the automated update activity, which includes a monthly data update. This enables the application to continue to load and analyze the latest data into Workday on the first Sunday of every month. If the initial data load is less than 14 months, the analysis type for business questions automatically changes when 14 months of data are available and loaded into People Analytics.

Question Mapping

To measure belongingness in the VIBE Index, you must map the Peakon questions you want to use as part of the **Employee Sentiment** topic configuration.

The standard Peakon Belonging question 'I feel a sense of belonging at [Your Company]' appears by default. If you don't see the standard question by default, check if it is enabled on your Peakon account. You can remove the default question from the question mapping field, however, we recommend that you use it as this is the Peakon standard question that directly asks employees about their sense of belonging.

Only standard questions from the Peakon Engagement and Diversity & Inclusion question sets will be available to select in the question mapping field. For your convenience the questions are organized into folders grouped into Question Sets, Drivers, and Sub-drivers. You may choose up to 10 questions.

Note: You are required to select at least one question to complete the installation.

Questions disabled on your Peakon dashboard become inactive in People Analytics, and new question scores for them don't flow into the report. Inactive questions are marked as such in your question mapping field in the Configure People Analytics report.

You can revisit the question selection pipeline at any point in time and modify an existing question set to suit your needs. Any changes to the question list will require reinstallation of the People Analytics report.

Related Information

Reference

[The engagement question library and theory references](#)

Example: Create an Intersection

This example shows 1 way to create an intersection. When configuring the VIBE Index™ topic in People Analytics, you map the intersection field to the target field Intersection 1.

Context

You want to create an intersection similar to the Workday-owned, default intersection.

The intersection field you create includes the dimensions Gender and Ethnicity.

You create conditions for the intersection that exclude populations outside of the USA. The USA is the location of the workers you want to include in the VIBE Index.

You check your tenant for existing fields and determine that you need to create all new fields.

Prerequisites

Security: *Custom Field Management* domain in the System functional area.

Steps

1. Access the **Create Calculated Field** task.
2. Enter these values to create a calculated field for the dimension Gender:

Field	Enter
Field Name	<i>Gender (Text Field)</i>
Business Object	<i>Worker</i>
Function	<i>Format Text</i>
Source Field	<i>Gender</i>
Options	<i>Proper Case</i>

3. Enter these values to create a calculated field for the dimension Ethnicity:

Field	Enter
Field Name	<i>Ethnicity (Text Field)</i>
Business Object	<i>Worker</i>
Function	<i>Format Text</i>
Source Field	<i>Race/Ethnicity</i>
Options	<i>Proper Case</i>

4. Enter these values to create a calculated field to use as the condition for the intersection:

Field	Enter
Field Name	<i>Conditions in VIBE</i>
Business Object	<i>Worker</i>
Function	<i>True/False Condition</i>
Item 1	<ul style="list-style-type: none"> • And/Or: <i>And</i> • Field: <i>Gender (Text Field)</i> • Operator: <i>is not blank</i>
Item 2	<ul style="list-style-type: none"> • And/Or: <i>And</i> • Field: <i>Gender (Text Field)</i> • Operator: <i>does not contain</i> • Comparison Type: <i>Value specified in this filter</i>

Field	Enter
	<ul style="list-style-type: none"> Comparison Value: <i>Not Declared</i>
Item 3	<ul style="list-style-type: none"> And/Or: <i>And</i> Field: <i>Ethnicity (Text Field)</i> Operator: <i>is not blank</i>
Item 4	<ul style="list-style-type: none"> And/Or: <i>And</i> Field: <i>Location</i> Operator: <i>in the selection list</i> Comparison Type: <i>Value specified in this filter</i> Comparison Value: <i>USA</i>

5. Enter these values to create a calculated field to concatenate the fields you created in steps 2 and 3:

Field	Enter
Field Name	<i>Concatenate Ethnicity and Gender for VIBE</i>
Business Object	<i>Worker</i>
Function	<i>Concatenate Text</i>
Item 1	<i>Gender (Text Field)</i>
Item 2	<i>Global Fields > Text > -</i>
Item 3	<i>Ethnicity (Text Field)</i>

6. Enter these values to create a calculated field to use as the intersection field:

Field	Enter
Field Name	<i>Intersection VIBE</i>
Business Object	<i>Worker</i>
Function	<i>Evaluate Expression</i>
Field Type	<i>Text</i>
Default Value	<i>Null</i>
Item 1	<ul style="list-style-type: none"> Condition: <i>Conditions in VIBE</i> Return Value If Condition is True: <i>Concatenate Ethnicity and Gender for VIBE</i>

Next Steps

When configuring People Analytics, map the intersection source field Intersection VIBE to the target field Intersection 1.

Related Information

Concepts

[Concept: VIBE Index in People Analytics](#) on page 698

Reference

[Reference: Choosing and Creating Intersections](#) on page 658

[Reference: Requirements and Considerations for Changing People Analytics Configuration](#) on page 684

Example: Configure Population Views with Calculated Source Fields

Context

For your healthcare organization, you want to refine your population in **People Analytics** by **Pay Rate Type** to see your salaried and hourly workers separately. You also want to view your clinical workers and non-clinical workers separately.

Steps

1. If you don't already have one, create a calculated field to classify your workers in your desired clinical vs non-clinical populations. See [Create Calculated Fields](#).
- Note:** Your calculated fields must be Single Instance type.
2. In the **Configure People Analytics** report, On the Worker pipeline card, click **Edit**.
3. In the **Field Mapping** step, opt in to the **Worker Type** and **Worker Classification** fields.
4. In **Worker Type**, map in your **Pay Rate Type** source field.
5. In **Worker Classification**, map in your **Clinical vs Non-clinical** calculated field.
6. Go back to the **Configure People Analytics** report home page.
7. On the **Application Settings** configuration card, click **Edit**.
8. In the **Population Views** step, select both **Worker Type** and **Worker Classification** as your **Population View 1** and **2** field.
9. Select up to 6 values for each population view.
10. If necessary, complete the rest of the steps in the **Worker** pipeline.
11. Run the installation.

Result

Pay Rate Type and **Clinical vs Non-clinical** are available as dimensions for refining data **By Population** in the **People Analytics** report.

Related Information

Examples

[2024R2 Feature Note: Configurable Population Views in People Analytics](#)

Example: Configure Population Views with Custom Source Fields

This example illustrates how to set up population views with source fields that are different from the default one (**Worker Type** and **Pay Rate Type**).

Context

You want to refine your population in People Analytics to see union and non-union workers separately. You also want to be able to see your Worker Types (full-time, part-time) separately.

Steps

1. In the **Configure People Analytics** report, on the **Worker pipeline** card, click **Edit**.
2. In the **Field Mapping** step, opt in to the **Worker Type** and **Worker Classification** fields.
3. Map in your **Worker Type** source field.
4. For the **Worker Classification** field, map in your **Union vs Non-union** source field.
5. Go back to the **Configure People Analytics** report home page.
6. On the **Application Settings** configuration card, click **Edit**.
7. In the **Population Views** step, select both **Worker Type** and **Worker Classification** as your **Population Views 1** and **2** fields.

8. Select up to 6 values for each population view.
9. If necessary, complete the rest of the steps in the **Worker** pipeline.
10. Run the installation.

Result

Both **Worker** type and **Union vs Non-union** are available as options for refining data **By Population** in the **People Analytics** report.

Next Steps

Related Information

Examples

[2024R2 Feature Note: Configurable Population Views in People Analytics](#)

Example: Configure Population Views with Default Fields

This example illustrates how to configure a population view using one of the People Analytics default fields.

Context

You want to refine your People Analytics content by Pay Rate Type to view your insights separately for your salaried and hourly workers.

Steps

1. In the **Configure People Analytics** report, on the **Worker pipeline** card, click **Edit**.
2. On the **Field Mapping** step, opt in to the **Worker Classification** field.
3. Go back to the **Configure People Analytics** report home page.
4. In the **Application Settings** card, click **Edit**.
5. On the **Population Views** step, select **Worker Classification** as your **Population View 1** field.

Note: If you don't need more than one population view for your analysis, opt in to one population view field only.

6. Map in your **Pay Rate Type** source field.
7. Select up to 6 values for your population view.
8. If necessary, complete the rest of the steps in the **Worker** pipeline
9. Run the installation.

Result

You can now refine your People Analytics insights by **Pay Rate Type** and explore focus insights for your salaried workers and hourly workers separately.

Related Information

Examples

[2024R2 Feature Note: Configurable Population Views in People Analytics](#)

Troubleshooting: Data Quality Module

This topic provides strategies for diagnosing and resolving issues highlighted by the **Data Quality** check for the **Configure People Analytics** report. If you experience issues with an installation that aren't highlighted by **Data Quality**, consider raising a customer care ticket. For more context, see [Concept: People Analytics Activities](#).

- [Cardinality](#) on page 694

- [Cross-Pipeline Defects](#) on page 694
- [Duplicates](#) on page 695
- [Illogical values](#) on page 695
- [Invalid Values](#) on page 696
- [Missing Values](#) on page 696
- [Multiple Hierarchies](#) on page 696
- [Population](#) on page 698

Cardinality

Example defect messages:

- The cardinality for Region in the Location hierarchy is 892, which is inconsistent in terms of expected levels of cardinality.
- In Region, the cardinality is 983, which is above the threshold of 200.
- The cardinality for Region in the Location hierarchy is 892, which is inconsistent in terms of expected levels of cardinality. Region also exceeds the threshold of 200.

Cause: The number of unique values in a particular field doesn't correspond to the expected cardinality levels within a given hierarchy. High cardinality (a lot of unique values) can negatively affect performance of the **People Analytics** report. It might also result in low-quality focus insights due to your workers being divided into populations that are too small.

Solution: How you respond to cardinality defects depends on their severity.

Severity	Solution Description
Moderate	If the cardinality falls within the expected margin of error, you can ignore these defects. Otherwise, consider selecting a different source field for the target field in the Configure People Analytics report.
Major	These defects shouldn't prevent you from running the People Analytics report. If the report installation is too slow or the quality of focus insights is low due to a high number of analysis dimensions, select a different source field for the target field in the Configure People Analytics report.
Critical	This level of cardinality for a field might prevent the People Analytics report from installing successfully. To resolve these issues, select a different source field for the target field in the Configure People Analytics report.

Cross-Pipeline Defects

Cross-Pipeline Subtype	Example Defect Message
Consistent Values	100% of values in the Worker pipeline don't exist in the Hiring pipeline. 100% of values in the Hiring pipeline don't exist in the Worker pipeline. The inconsistency of values across pipelines exceeds the threshold of 100%.

Cross-Pipeline Subtype	Example Defect Message
Data Type	Data types aren't the same across pipelines. Level 1 uses Text in the Worker pipeline and Single Instance in the Hiring pipeline.

Cause:

Cross-Pipeline Subtype	Cause Description
Consistent Values	All of the fields in one pipeline contain values that aren't present in the other. This difference suggests the fields might not be related.
Data Type	Data type between 2 fields is different.

Solution:

Cross-Pipeline Subtype	Solution Description
Consistent Values	Check if the fields are the same between the pipelines in the Configure People Analytics report. If they are, you might ignore this issue. If they aren't, select a different source field for the target field in the Configure People Analytics report to ensure field uniformity across the pipelines.
Data Type	Select the corresponding field for the problem pipeline in the Configure People Analytics report.

Duplicates

Example defect messages:

- In the Worker pipeline, there are 8 records with the same Employee ID, Hire Date.
- In the Worker pipeline, Employee ID appears 4 times with the same Hire Date 01/01/2022, Report Effective Date 02/02/2022.

Cause: There are multiple records of the same worker.

Solution: Duplicate records in the primary key field are a critical issue. If encountered, address it before proceeding to avoid inaccuracy in the results across all tabs in the **People Analytics** report. In the **Configure People Analytics** report, confirm that you've selected the correct source field for the **Employee/Candidate ID target** field. If the source and target fields match, use the **People Analytics Data Quality** report to find the workers or candidates whose IDs are identical. Search the problem ID and select the correct records for the worker. You can filter out the incorrect records in the **Configure People Analytics** report.

Illogical values

Example defect messages:

- In Recruiting Start Date, 30 of 100 records have illogical values. Recruiting Start Date occurs after Status Start Date, however the Recruiting Start Date should always be before the Status Start Date.
- In the Supervisory Organization, 30 of 100 records have illogical values. These records don't correlate with other dimensions in the organization hierarchy. The Supervisory Organization is the org in the hierarchy where the worker sits.

Cause: A particular field in the pipeline contains values that fail logic rules defined for that field. Example: a Hire date for a worker is in the future.

Solution:

Severity	Solution Description
Moderate	You can ignore these issues as this defect might not have a significant impact on the performance of the People Analytics report.
Major or Critical	Select a different source field for the target field in the Configure People Analytics report.

Invalid Values

Example defect message:

- In Can_Job_Requisition_Status, 50 of 100 records have invalid values.

Cause: A particular field contains values not considered valid for that field.

Solution:

Severity	Solution Description
Moderate	You can ignore these issues as this defect might not have a significant impact on the performance of the People Analytics report.
Major or Critical	Select a different source field for the target field in the Configure People Analytics report.

Missing Values

Example defect message:

- In Region, 50 of 100 records have missing values.

Cause: A particular field is missing a percentage of its values.

Solution:

Severity	Solution Description
Moderate	You can ignore these issues as this defect might not have a significant impact on the performance of the People Analytics report.
Major or Critical	Select a different source field for the target field in the Configure People Analytics report.

Multiple Hierarchies

Example defect messages:

- 20 records for Supervisory Organization have multiple parents. Supervisory Organization is mapped to the Assigned Organization target field in the Worker pipeline.
- The record Supervisory Org A for Supervisory Organization has 5 hierarchies.

Sources of multiple hierarchy defects vary, and each requires its own solution.

Root Cause	Solution Description
<p>If the number of records affected by the defect is less than 10, the most likely cause is terminations that don't reflect reorganizations within the company.</p>	<p>You can choose to ignore this issue as this may not have a significant impact on the performance of the People Analytics report.</p>
<p>If the number of records affected is more than 10, multiple hierarchy types must have been mapped into your target hierarchy fields. Example: Mapping the field Cost Center Level 2 into Org Level 2, Supervisory Level 3 into Org Level 3.</p> <p>To diagnose the problem:</p> <ul style="list-style-type: none"> • In the View More window, find how many Org level or Geo level instances have multiple hierarchies. • Create a new discovery board using the associated data source. • In your discovery board, select the fields that represent the problem hierarchy to create an Advanced Report (type: table). Org Level structure fields: <ul style="list-style-type: none"> • Org_Level_2 • Org_Level_3 • Org_Level_4 • Supervisory_Organization Geo level structure fields: <ul style="list-style-type: none"> • Region • Country • Location • Create a Sheet filter for your report and filter your report by the Workday ID (WID) of the instances taken from your Data Quality report. To find a WID for your instances, use Workday's search feature. 	<p>Remap your hierarchy fields in the Field Mapping based on what you've found in your discovery board.</p> <p>For more information see Concept: Hierarchies and Organizations in People Analytics</p>
<p>Your chosen hierarchy has more than 1 top level hierarchy.</p>	<p>Create a calculated field and select your preferred top level hierarchy for it. Select the calculated field for the target hierarchy fields.</p>
<p>You are using a custom hierarchy, but haven't created a Primary/Supervisory org type field for it and are using the People Analytics default field. Note: This problem also returns an Illogical Value check defect for the Supervisory Organization field.</p>	<p>Create a calculated field using the following parameters: CF_Primary_ORG = "IF org level 5 IS NOT NULL THEN org level 5 ELSE IF level 5 IS NULL AND org level 4 IS NOT NULL THEN org level 4 ELSE IF level 4 IS NULL AND org level 3 IS NOT NULL THEN org level 3 ELSE IF level 3 IS NULL AND org level 2 IS NOT NULL THEN org level 2 ELSE IF level 2 IS NULL AND org level 1 IS NOT NULL THEN org level 1"</p>
<p>There are inactive employees that have filtered into the current snapshot with an out-of-date organizational hierarchy.</p>	<p>Create a Worker report and search for the workers that are in incorrect hierarchies. Look at whether they have been terminated months in the past and contain an old hierarchy.</p>

Population

Example defect messages:

- 30 records for Intersection 1 in the Worker pipeline don't have sufficient population.
- The intersection Female-White in the field Intersection 1 has a population of 8, which is less than the minimum requirement of 10 workers.

Cause: The number of unique values in a particular VIBE Index intersection is less than the minimum headcount requirement for VIBE Index intersections.

Solution:

Severity	Solution Description
You can ignore these issues as this defect might not have a significant impact on the performance of the People Analytics report.	Select a different source field for the target field in the Configure People Analytics report.

Related Information

Concepts

[Concept: Data Quality Module](#) on page 643

Tasks

[Create Calculated Fields](#)

VIBE Index in People Analytics

Concept: VIBE Index in People Analytics

VIBE™ stands for Value Inclusion, Belonging, and Equity. The VIBE Index topic in Workday People Analytics surfaces key outcome metrics showing where you can improve equity and parity across all people groups (intersections). These insights help you to set, achieve, and renew goals that cultivate belonging and diversity in your workplace.

VIBE Maturity Model

To help organizations assess their progress and move forward in cultivating belonging and diversity, Workday developed the VIBE Maturity Model. The model consists of 3 stages. Each stage represents a VIBE Score range.

Stage	Description	VIBE Score Range
Commit	Set strategy and define commitments.	0 - 1
Drive	Identify drivers and develop best practices.	2 - 3
Thrive	Achieve and renew goals.	4 - 5

Outcome Scores

To determine the VIBE Score for your organization, we calculate outcome scores and group scores. Outcome scores identify areas where you can improve parity across all intersections in each metric.

Metric	Description	Calculation Time Frame
Attrition	Number of terminations within rolling period.	Depending on your data history: <ul style="list-style-type: none">• 12 months, or• 3 months.
Belonging	Number of workers with a positive belonging sentiment within period.	Last Peakon scores for the belonging questions up to 12 months back.
Hires	Number of new hires within rolling period.	Depending on your data history: <ul style="list-style-type: none">• 12 months, or• 3 months.
Leadership	Number of workers in leadership roles at end of period.	Current snapshot period
Promotions	Number of promotions within rolling period.	Depending on your data history: <ul style="list-style-type: none">• 12 months, or• 3 months.

An outcome score is the total number of successes for an outcome metric, scaled to align with the VIBE Score range.

Group Scores

Group scores identify opportunities to improve parity across all outcome metrics in each intersection. A group score is the total number of outcome metric successes for a given intersection, scaled to align with the VIBE Score range.

The intersection you include in your field-mapping configuration of People Analytics determines the intersections we include in the VIBE Index.

Successes

When you meet or exceed the parity benchmark for an outcome metric (excluding Attrition), we consider it a success. Successes determine the group and outcome scores.

High attrition can negatively affect an organization, so we flag attrition as below parity when the representation is above the comparison point.

Intersections

An intersection is a group that consists of workers with various demographics and characteristics. An intersection is a field or a group of fields that represent the dimensions you want to analyze in the VIBE Index.

We recommend that you use a minimum and maximum of 2 fields to define your intersections.

Examples of fields used to define an intersection: Ethnicity, Gender, Disability Status, Veteran Status, Sexuality.

Example of an intersection: Gender and Ethnicity.

The values of the fields you use to define the intersection determine the intersection values. Each intersection value is an individual intersection (people group).

Example: You define a Gender and Ethnicity intersection. The intersection includes these values [people groups]:

- Female - Asian
- Female - URM
- Female - White
- Male - Asian
- Male - URM
- Male - White

Parity

Parity means that different groups get equal, favorable outcomes while incorporating contributing factors. Demographic parity is a measure of fairness indicating that the difference in favorable outcomes between groups is zero.

Example: We reach pay parity between men and women when both groups achieve equal pay after accounting for contributing factors such as job title, industry, education, and experience.

Parity Matrix

The Parity Matrix displays each intersection as the comparison point against the proportional values of all outcome metrics. When an outcome metric is at or above parity, we consider the outcome metric a success. An outcome metric is considered below parity when it falls below the representation for an intersection, except for Attrition.

High attrition can negatively affect an organization, so we flag attrition as below parity when the attrition value for an intersection is above the comparison point.

Filters

This topic only includes the Organization Level Hierarchical filter type.

Related Information

Concepts

[Concept: Refining in People Analytics](#) on page 713

Concept: Belonging in the VIBE Index

Note: The Belonging metric is only available for Workday Peakon Employee Voice customers who have opted into the VIBE Index.

Belonging refers to an employee's sense that they're an accepted member of a group or team. Employees express their sense of belonging by completing Workday Peakon Employee Voice surveys. Their answers determine their individual Belonging score that is measured against a threshold. If an employee's score **exceeds 8** on a scale of 0 - 10, we consider their sense of belonging to be **above** the threshold for positive sentiment. The Belonging outcome score contributes to the VIBE Score for your organization.

You can manage your Peakon data in People Analytics by using the Employee Sentiment topic in the **Configure People Analytics** report, where you can select questions for your belonging surveys. You can only use standard Peakon questions to measure Belonging. If you select only 1 question, the resulting Belonging score is the latest score per employee from the past 12 months. If you select more than 1 question, the resulting score is the average of the latest scores per employee from the past 12 months, for each question.

For each recurrent People Analytics update, Workday uses the latest employee scores available.

To prevent reporting on a nonrepresentative worker population, Workday measures Belonging outscore score for organizations where:

- **At least 20%** of workers have participated in Workday Peakon Employee Voice surveys over the past 12 months
- There are **at least 10** such workers.

Example: this means that an organization of 100 employees would require at least **20** participants to measure the Belonging outcome score. In an organization of 40 active employees, 8 responders meet the 20% requirement, however, at least **10** responders would be necessary to measure the score.

If the conditions aren't met, the Belonging outcome score doesn't get calculated and the Belonging column doesn't appear on the VIBE parity matrix.

Related Information

Reference

[2022R2 What's New Post: VIBE Index for Workday Peakon Employee Voice](#)

[Diversity and inclusion question library](#)

Concept: Calculating the VIBE Score

The VIBE Score™ is the arithmetic average of the overall outcome score and the overall group score. The VIBE Score indicates which stage of the VIBE Maturity Model the organization is currently in.

To calculate individual and overall outcome scores and calculate individual and overall group scores, we first calculate the:

- Representation for each intersection.
- Parity View for each intersection and outcome metric.
- Parity Benchmark for each intersection.
- Parity Definition for each intersection and outcome metric.

Representation

Representation is the percentage of active headcount in each intersection at the end of the period.

Representation is the parity benchmark that drives the scoring in the VIBE Index.

Formula: Representation of [Intersection] = (Active headcount for intersection at end of period / Total active headcount at end of period) * 100

Example: Representation of Female - White = $(2000 / 8600) * 100 = 23.3\%$

Parity View

The Parity View is the proportional value of a given outcome metric for a given intersection.

Formula: Parity View for [Outcome Metric] in [Intersection] = (Metric Total for Intersection / Metric Total) * 100

Example: Parity View for Promotions in Female - White = $(400 / 1593) * 100 = 25.1\%$

Parity Benchmark

The Parity Benchmark for a given intersection is the level of success in percent for all outcome metrics after incorporating the default threshold of 3%.

The threshold sets the acceptable range by which we can score an intersection as a success for a given outcome metric. The default threshold of 3% relaxes all success criteria by 3%.

Formula for most outcome metrics (Hires, Leadership, Promotions, Belonging): Parity Benchmark for [Intersection] = Representation * (100 - Threshold) / 100

Example: Parity Benchmark for Female - White = $23.3 * (100 - 3) / 100 = 22.6\%$

Formula for the outcome metric Attrition: Parity Benchmark for [Intersection] = Representation * (100 + Threshold) / 100

Example: Parity Benchmark for Female - White = $23.3 * (100 + 3) / 100 = 24.0\%$

Parity Definition

The Parity Definition states whether or not a given outcome metric is a success for a given intersection.

To determine the parity definition for most outcome metrics (Hires, Leadership, Promotions, and Belonging), we compare the parity view to the parity benchmark for the intersection. 1 is a success, zero is below parity.

Formula for most outcome metrics (Hires, Leadership, Promotions, Belonging): Parity Definition of [Outcome Metric] for [Intersection] = IF ((Parity View) >= (Parity Benchmark) , 1, 0)

Example: Parity Definition of Promotions for Female - White = IF (25.1 >= 22.6, 1, 0) = 1

For Attrition, we compare the attrition parity view to the parity benchmark for attrition. 1 is a success, zero is below parity.

Formula for the outcome metric Attrition: Parity Definition of Attrition for [Intersection] = IF ((Attrition Parity View) <= (Parity Benchmark for Attrition), 1, 0)

Example: Parity Definition of Attrition for Female - White = IF (18.8 <= 24.0, 1, 0) = 1

Outcome Scores

An outcome score is the total number of successes for a given outcome metric, scaled to align with the VIBE Score range.

The raw outcome score is the sum of the successes of all intersections minus 1.

We subtract 1 from the sum because the outcome metric parity view for at least 1 intersection must always be at or above the intersection representation (for attrition, at least 1 intersection must always be at or below the intersection representation). Subtracting 1 also resets the scale of the score to have a minimum of 0 to be consistent with the VIBE Score range.

If the parity view for a given outcome metric is unattainable, we don't calculate the outcome metric score and we exclude the metric from the VIBE Score calculation. As a result, the Outcome Scores card doesn't display the excluded outcome metric and the Parity Matrix displays a dash for all intersections in the corresponding outcome metric column. Example: If there were no terminations in the last 12 months, the outcome metric Attrition is unattainable. Therefore, we don't include the outcome metric Attrition in the VIBE calculation.

Formula: Raw Outcome Score for [Outcome Metric] = SUM ((Success Count Intersection 1), (Success Count Intersection 2), (Success Count Intersection 3), ...) - 1

Example (for 5 intersections): Raw Outcome Score for Hires = SUM (1 + 1 + 0 + 1 + 1) - 1 = 3

Scaling the raw outcome score ensures that each outcome score is on a scale of 0 - 5 to align with the VIBE Score range.

Formula: Scaled Outcome Score for [Outcome Metric] = (Raw Outcome Score) * (5 / ((Number of Groups - 1))

Example (continued): Scaled Outcome Score for Hires = 3 * (5 / (5 - 1)) = 3.75

Group Scores

A group score is the total number of outcome metric successes for a given intersection, scaled to align with the VIBE Score range.

Formula: Raw Group Score for [Intersection] = SUM ((Attrition Parity Definition), (Hires Parity Definition), (Leadership Parity Definition), (Promotions Parity Definition), (Belonging Parity Definition))

Example: Raw Group Score for Female - White = SUM (0 + 1 + 1 + 0 + 1) = 3

Scaling the raw group score ensures that each group score is on a scale of 0 - 5 to align with the VIBE Score range.

Formula: Scaled Group Score for [Intersection] = Raw Group Score * (5 / (Number of Outcome Metrics))

Example: Scaled Group Score for Female - White = 2 * (5 / 5) = 2

VIBE Score

The VIBE Score ranges from 0 to 5 and is the arithmetic average of the overall outcome score and the overall group score.

The VIBE Score is sensitive to the magnitude of the group and outcome scores and the variance among these scores. This means that the VIBE Score is higher when intersections have higher group scores, outcome scores are higher, and there's less overall variance among group scores and among outcome scores (greater equity).

To get the overall outcome score or the overall group score, we add 1 to each individual score. This prevents multiplication by a value that is less than 1. We then multiply the individual scores and subtract 1 from the resulting value. This sets the score on a scale of 0 - 5 to align with the VIBE Score range.

Formula: Overall Outcome Score = (PRODUCT ((Each Scaled Outcome Score) + 1)) ^ (1 / (Number of Outcomes)) - 1

Example: Overall Outcome Score [Hires, Promotions, Leadership, Attrition, Belonging] = ((3 + 1) * (3 + 1) * (1 + 1) * (2 + 1) * (3 + 1)) ^ (1 / 4) - 1 = 2.29

Formula: Overall Group Score = (PRODUCT ((Each Scaled Group Score) + 1)) ^ (1 / (Number of Intersections)) - 1

Example: Overall Group Score [Female - Asian, Female - URM, Female - White, Male - Asian, Male - URM, Male - White] = ((3.75 + 1) * (2.5 + 1) * (2.5 + 1) * (2.5 + 1) * (1.25 + 1) * (5 + 1)) ^ (1 / 6) - 1 = 2.74

The arithmetic average of the overall outcome score and the overall group score is the VIBE Score for your organization.

Formula: VIBE Score = AVG ((Overall Outcome Score), (Overall Group Score))

Example: VIBE Score = AVG (2.29, 2.74) = (2.29 + 2.74) / 2 = 2.52

Concept: Metrics in People Analytics

Metrics help you measure, organize, and make sense of your data. People Analytics offers out-of-the-box metrics for most topics and uses these metrics to provide:

- Key performance indicators (KPIs).
- Answers to key business questions in the form of focus insights.

Certain metrics serve as both KPIs and answers to business questions (focus insights).

Note: People Analytics uses a set of metrics to calculate VIBE Index insights. These metrics are unique to the VIBE Index topic and are not used as KPIs or answers to business questions (focus insights). For more information on metrics for VIBE Index insights, see Concept: VIBE Index in People Analytics.

Metric Process

The People Analytics Administrator determines which configuration inputs to apply to the application configuration. These inputs include:

- Topics. For example, the topic Diversity and Inclusion offers metrics on female representation.
- KPI metrics. People Analytics enables the administrator to select which metrics to display on the KPIs tab and to choose how to arrange their order of appearance. Which metrics are available for selection depends on the included topics.
- Fields. People Analytics requires specific fields in order to generate KPI metrics.

- Population Filters. The administrator chooses which worker populations to include or exclude from all content in the application.

The automated analytical engine, that we refer to as Storyteller, uses these configuration inputs against the metric formula that is assigned to a given metric in order to calculate the metric for a KPI or focus insight.

These configuration inputs, the methods Storyteller uses to generate content, as well as automatic filtering, determine which metrics are available for analysis in the **People Analytics** report.

Metric Calculation

Each metric in People Analytics uses a designated formula. Most formulas use a ratio structure, where the numerator represents a slice of the population and the denominator represents a whole population. This ratio structure enables you to view how specific areas of the organization are performing in relation to a given metric.

Example: The KPI metric Female Representation for the focus group Marketing shows the percentage of female workers out of the entire worker population for the organization Marketing.

Example: The metric Offer Decline Rate, which answers the business question [What areas do we need to focus on to stay competitive with offers?], for the focus group Marketing shows the percentage of candidates who declined an offer out of all candidates who were offered a position and replied to the offer.

Some metrics simply count the number of workers or events within a given population.

There are 5 different metric types for People Analytics metrics. These metric types determine the metric time frame that the metric formula uses when calculating the metric and the unit of measurement used for the metric value.

The values of the required fields Report Effective Date (Worker) and Status Month (Hiring) determine which worker records are included in the metric time frame. Note: The People Analytics Administrator configures these fields when configuring and installing the application.

When reviewing the metric type table below, note that the:

- Current snapshot period value is the fiscal period for which People Analytics displays data.
- Focus group is the area or areas of the organization for which the metric is calculated.

Metric Type	Metric Time Frame	Value	Details	Example
Average	Current snapshot period value	<p>People Analytics expresses the value in one of these units, depending on the metric:</p> <ul style="list-style-type: none"> Days Years Ratio of Workers 	<p>Sums the numerical attributes of workers and divides the sum by the count of unique workers in the given focus group.</p> <p>Shows the result in the appropriate unit of measurement.</p>	<p>Average Tenure = Sum of length of service in years for active workers in the Marketing organization during the current snapshot period / All active workers in the Marketing organization during the current snapshot period</p>
Ratio	Current snapshot period value	<p>Expressed as a ratio, written as Number:1</p> <p>Example: 9:1</p>	Compares 2 different metric values.	<p>Span of Control = Number of active direct reports in the Marketing organization during the current snapshot period /</p>

Metric Type	Metric Time Frame	Value	Details	Example
		Note: Ratio metrics are always displayed as an average. For example, Average Span of Control. See the row above in this table for details on the metric type Average.		Number of active managers with direct reports in the Marketing organization during the current snapshot period
Events Over Time	<p>Specific time frame period. The time frame of the period depends on the specific metric and the:</p> <ul style="list-style-type: none"> • Amount of data history you have in People Analytics. • Fiscal schedule applied to your People Analytics configuration. <p>The specific time frame period includes the current snapshot period and can be:</p> <ul style="list-style-type: none"> • Month over month • 3 months (for metrics that support business questions only) • Quarterly • 12 months • Fiscal year to date (annualized) 	<p>Expressed as a percentage</p>	<p>Divides the number of events in a given focus group by the count of unique workers in a given focus group. Multiplies this value by 100.</p> <p>Shows the result as a percentage.</p> <p>Note: Annualized metrics convert a fiscal year to date value into an annualized rate by multiplying it by the ratio of 12 to the number of months passed in the current fiscal year.</p>	<p>Attrition Rate = Number of terminated workers in the Marketing organization for the 12 month period / Average active headcount in the Marketing organization for the 12 month period</p> <p>Annualized Attrition Rate = Number of workers terminated from the Marketing organization in the fiscal year to date / Average active headcount during the fiscal year to date (Count of active employees for each month in the fiscal year to date / Number of months in fiscal year to date) * (12 / Number of months in fiscal year to date) * 100</p>
Rate	Current snapshot period value	Expressed as a percentage	Divides the subset of a population in a given focus group for the current snapshot period by a whole population	Female Representation = Number of female active workers in the Marketing organization

Metric Type	Metric Time Frame	Value	Details	Example
			in a given focus group for the current snapshot period. Multiplies this value by 100. Shows the result as a percentage.	during the current snapshot period / All active workers in the Marketing organization during the current snapshot period
Count	The time frame can be: <ul style="list-style-type: none">• Current snapshot period• Current fiscal quarter• Current fiscal year to date	Expressed as a numerical value	Shows the subset of a population for the specific time period.	Manager Active Headcount = Number of managers in the Marketing organization as of the current snapshot period

Note: The metric Headcount Growth Rate uses a unique calculation formula and therefore does not use one of the metric types in the table above. We find the difference between the active headcount for the current snapshot period and the active headcount for the period 6 months ago (or 3 months ago, depending on your data history). We divide this value by the active headcount for the period 6 months ago (or 3 months ago) and multiply the value by 100. The value is expressed as a percentage.

Comparison Points for Metrics

People Analytics offers comparison points for metrics. Comparison points enable you to determine how the areas of the organization you support are performing, in comparison to a historical period, to another organization within the company, or to the entire company.

Comparison Point	Used For	Calculation
Historical snapshot period Depending on the metric and the data history currently in People Analytics, the historical snapshot can be either: <ul style="list-style-type: none">• 12 months ago• 6 months ago• 3 months ago• 1 month ago• Fiscal year prior to the current one• Fiscal quarter prior to the current one	KPIs and Focus Insights	Metric formula applied to the historical snapshot period.
Current snapshot period for the comparison group	Focus Insights	Metric formula applied to the current snapshot period for the comparison group on a given focus insight.

Comparison Point	Used For	Calculation
Company KPI Comparison (Current snapshot period for the company)	<p>KPIs</p> <p>Note: Unconstrained users see KPIs at the company level and therefore KPIs for these users do not include the company KPI comparison by default. Unconstrained users can apply filters to view KPIs for specific areas of the organization and see the difference to the company value.</p>	<p>Metric formula applied to data at the company level.</p> <p>Note: Workday rounds this value to the nearest tenth decimal point.</p>

Related Information Reference

Reference: Metrics in People Analytics on page 726

Concept: Key Performance Indicators (KPIs)

Key performance indicators (KPIs) act as individual progress reports that together help you understand, at high-level, the overall health and performance of your organization.

Example: The key performance indicator (KPI) High Potentials Voluntary Attrition Rate shows the percentage of high potential workers that have left the company voluntarily within the set rolling period. Understanding the population that is categorized as high potentials sheds light on potential promotion and growth within the company.

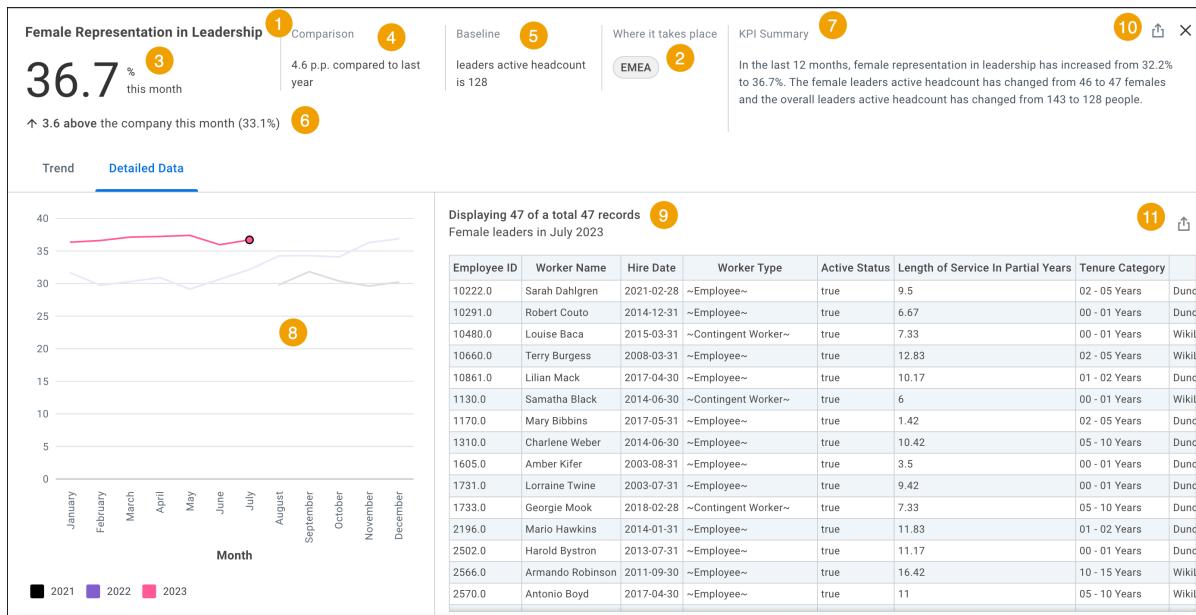
People Analytics provides an out-of-the-box set of KPIs for most topics. The People Analytics Administrator selects which KPI metrics to display in the application.

Each KPI uses a People Analytics metric which is calculated by the Storyteller engine. People Analytics displays the calculation results according to your view access:

- Unconstrained access. Users see KPIs at the company level. Users can apply filters to view KPIs for specific areas of the organization and see the difference to the company value.
- Constrained access. Users see KPIs for the areas of the organization they support and KPIs at the company level for comparison.

Note: Security settings for an individual user have an impact on which KPIs they see in the app, they also determine the minimum headcount requirements for KPIs. To learn more, see [Concept: Security in People Analytics](#).

People Analytics displays the KPI metric and all included elements on a KPI card.



1. KPI Metric.

2. Focus Group. The areas of the organization for which the KPI is calculated. These are the areas of the organization that you support. The focus group can consist of 1 or more dimensions.

Note: Unconstrained users do not see this element, as the KPI reflects data at the company level.

3. Current Snapshot Period Value. The value of the KPI metric for the current snapshot period (the fiscal period that People Analytics displays data for). Shows how the metric is currently performing.

4. Change Value. The difference in the current snapshot period value and the historical snapshot period value. Provides a point in time comparison.

Note: If the metric uses the metric type Rate or Events Over Time, the change value is expressed in percentage points (p.p.). To learn about the difference between percentage points and percentages, see [Is there a difference between percentages and percentage points?](#) on page 795

5. Baseline. Population that helps provide additional context around the given KPI metric value.

6. Company KPI Comparison Value. The value of the KPI metric for the company, rounded to the nearest tenth decimal point. Helps you understand the difference in the metric performance for the focus group (see 1) and the metric performance for the overall company. The company KPI comparison value uses a sentiment arrow to indicate whether the current snapshot period value for the focus group is above, below, or the same as the current snapshot period value for the company. A sideways arrow indicates the two values are the same.

Note: Because we round the company KPI comparison value to the nearest tenth decimal point, the difference between the current snapshot period value and the company KPI comparison value might not add up exactly. This is expected.

Note: The company KPI comparison value does not display for unconstrained users who are viewing the app without filters applied. By default, unconstrained users already view data at the company level.

7. KPI Summary. A written summary of metric values and related population values for the focus group (or for the company, for unconstrained users). The KPI summary includes the:

- Historical Snapshot Period Value.** The value for the KPI metric calculation at a designated historical point in time. The given metric and the amount of data history you have in People Analytics determine the historical point in time.

Note: When you view the KPI card at the top level (before clicking **View more**), you can hover over the **Comparison** column to see a tooltip with the historical snapshot period value.

- 8. Trend Chart.** A graphic that demonstrates how the KPI metric changed over time. The amount of data history you have in People Analytics determines the number of months that display on the chart. The maximum number of months the chart can display is 36 months.

Note: The trend chart displays on the **Trend** tab and the **Detailed Data** tab on a KPI card.

- 9. Detailed Data tab.** The detailed data records for workers included in the focus group (or in the company, for unconstrained users). The records are available for the current snapshot period as well as historical periods that display in the trend chart. People Analytics configuration inputs set by the People Analytics Administrator determine which records are included in the detailed data.
- 10. Export to Workday Slides.** This function enables you to export the content of the KPI card, with the exception of detailed data, to a new or existing Workday Slides presentation.
- 11. Export to Discovery Board.** This function enables you to export the detailed data table on a KPI card to a new or existing discovery board.

Related Information

Concepts

[Concept: Metrics in People Analytics](#) on page 703

Reference

[Reference: Metrics in People Analytics](#) on page 726

Concept: Focus Insights

Most topic tabs in People Analytics have a set of out-of-the-box, key workforce business questions. Focus insights, generated by the Storyteller engine, answer these business questions using People Analytics metrics. Focus insights help you determine risks and action opportunities that display as trends and gaps in your people data. For more information on Storyteller, see [Concept: Storyteller Engine](#).

Focus insights display how a metric is performing now in comparison to a historical point in time, or how a metric is performing in one area of the organization in comparison to another area of the organization, or the company. To learn more about People Analytics metrics, see [Concept: Metrics in People Analytics](#). To learn more about metrics available in People Analytics, [Reference: Metrics in People Analytics](#).

Each focus insight uses a People Analytics metric which is calculated by the Storyteller engine. People Analytics displays the calculation results according to your view access:

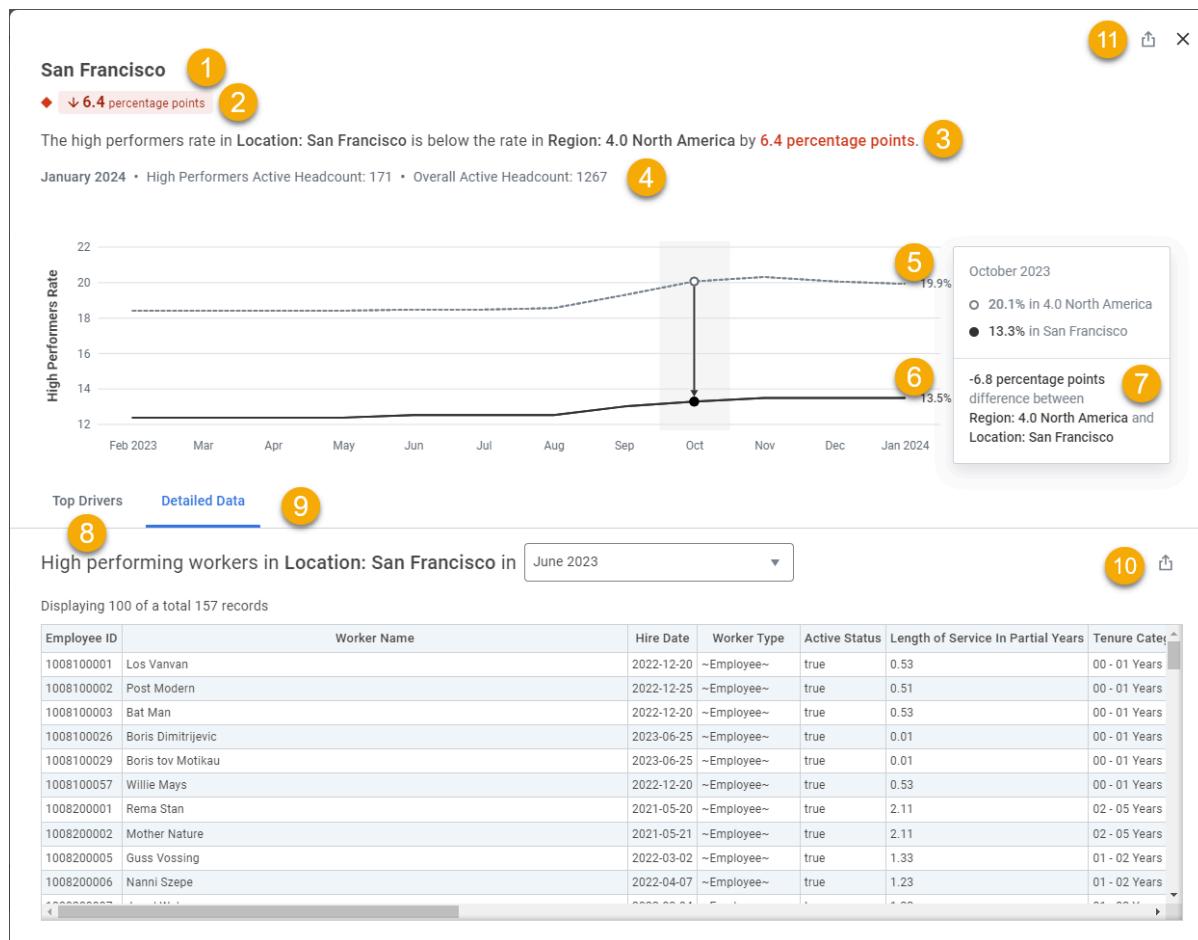
- Unconstrained access. Users see focus insights at the company level. Users can apply filters to view focus insights for specific areas of the organization.
- Constrained access. Users see focus insights for the areas of the organization they support.

Security settings can impact which focus insights display in the application for unconstrained and constrained users. To learn more about how Workday applies security to People Analytics data, see [Concept: Security in People Analytics](#).

Focus Insight Card

People Analytics displays the focus insight and all included elements on a focus insight card.

This focus insight compares the metric performance in 2 areas of the organization with another, different area of the organization. You can access this expanded view of a focus insight card by clicking **View More** on a focus insight card.



1. Focus Group. The area or areas of the organization where the focus insight takes place and for which the focus insight metric is calculated. The focus group can consist of 1 or more dimensions.

2. (6.4 percentage points) Shows the:

- **Metric Difference Value.** The value of the difference between either the:

- Current snapshot period value and the historical snapshot period value, or the
- Current snapshot period value for the location group and the current snapshot period value for the comparison group.

Note: If the metric uses the calculation type Rate or Events Over Time, the metric difference value is expressed in percentage points (p.p.) (For difference between percentage points and percentages, see [FAQ: People Analytics](#) on page 791).

- **Sentiment.** The shape and color of the Metric Difference Value. Indicates whether the metric has trended in a positive (green circle) or negative (red diamond) direction or if the trend has been neutral (black square) since the previous snapshot period.

The expected result for select metrics can vary across organizations, as some metrics don't follow a universally accepted trend. To address differences in metric trends across organizations, we set a target range for these metrics:

- Average Span of Control for values between 5-15.
- Female Representation for values between 40-60%.

We display movement within these ranges in a neutral color. Movement towards these ranges displays in green, while movement away from these ranges displays in red. All changes for the metric Average Target Compensation display in a neutral color, as individual cases can determine whether an increase or decrease is expected.

3. **Focus Insight Summary.** A written summary of the metric trend.
4. **Focus Group Details.** Display the current snapshot period and parameters used in the calculation of the metric.
5. Displays the:
 - **Comparison Group.** The group that is used as a comparison to the focus group for the focus insight. Comparison groups have only 1 dimension within a hierarchy. The associated business question determines whether the focus insight uses a comparison group.
 - **Current Snapshot Period for the Comparison Group.** The value of the metric for the current snapshot period (the fiscal period that People Analytics displays data for) for the comparison group.

Note: Some focus insights don't have a comparison group.

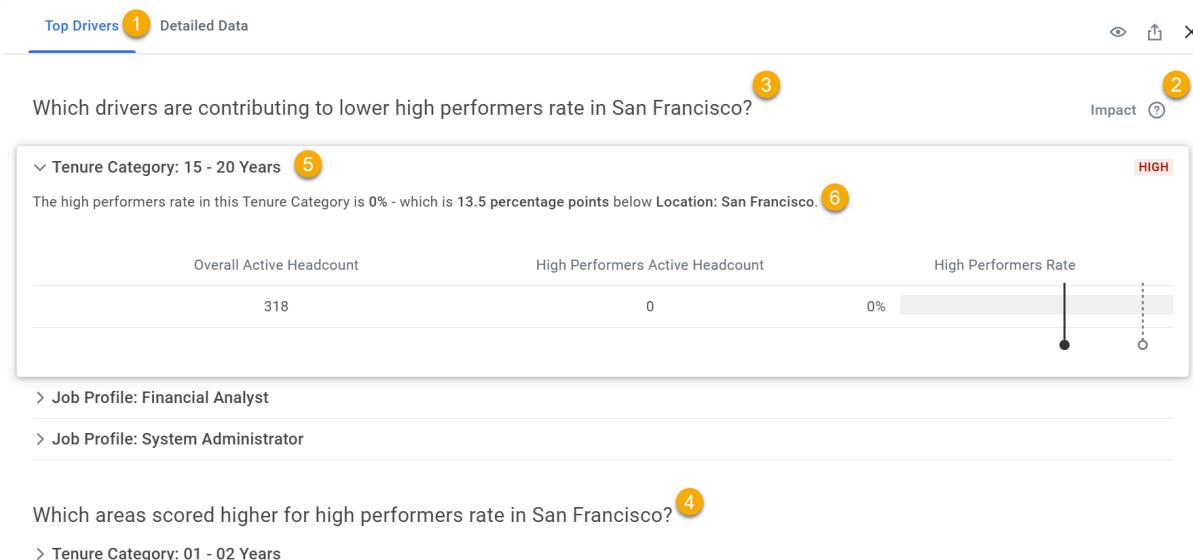
6. **Trend Chart.** A graphic that demonstrates how the metric changed over time. The amount of data history you have in People Analytics determines the number of fiscal months that display on the chart. The maximum number of fiscal months the chart can display are 36.
7. **Historical Snapshot Comparison tooltip.** Displays the difference between the metric value and the comparison group value at a historical point in time. By hovering over the graphic, you can review these for every available fiscal month.

Note: Because we round all values to the nearest tenth decimal point, the difference between the focus and comparison group values might not add up exactly. This is expected.

8. **Top Drivers tab.** Displays the top drivers for the focus insight. For details, see the **Top Driver tab** section below.
9. **Detailed Data tab.** Displays the detailed data records for workers that are included in the metric calculation. The records are available for the current snapshot period as well as historical snapshot periods that display in the Trend Chart. People Analytics configuration inputs set by the People Analytics Administrator determine which records are included in the detailed data.
10. **Export to Discovery Board.** Enables you to export the detailed data table on a focus insight card to a new or existing discovery board.
11. **Export to Workday Slides.** Enables you to export the content of the focus insight card to a new or existing Workday Slides presentation. The exported content doesn't include detailed data and details for top drivers.

Top Drivers Tab

This image shows the **Top Drivers** tab for the focus insight in the image above.



- 1. Top Drivers tab.** Displays the top drivers for the focus insight. Top drivers are the dimensions that have an impact on the metric trend for the given focus insight. Top drivers can reflect dimensions that contribute to the metric performance or dimensions that drive the metric trend in the opposite direction.
- 2. Impact.** People Analytics uses the **High Impact** label to indicate top drivers that Storyteller analyzed as having a high impact.
- 3. Contributing Top Drivers.** Top drivers that reflect dimensions which contribute to the metric performance.
- 4. Divergent Top Drivers.** Top drivers that reflect dimensions that drive the metric trend in the opposite direction.
- 5. Top Driver.**
- 6. Top Driver Summary.** The written summary of the metric impact that the given top driver (dimension) has on the focus insight.

Related Information**Concepts**[Concept: Metrics in People Analytics on page 703](#)[Concept: Storyteller Engine on page 716](#)**Reference**[Reference: Metrics in People Analytics on page 726](#)

Concept: Skills in People Analytics

Note: You cannot use Skills in People Analytics in a Sandbox tenant. See [Steps: Set Up Skills in People Analytics](#).

Skills Cloud is a machine-learning-powered remote collection of skills for workers and candidates to select from. You can use Skills Cloud to build qualification requirements and easily track worker capabilities.

Workday brings the power of Skills Cloud to People Analytics through a new Skills topic. With People Analytics and Skills Cloud, you can better understand what skills your workforce has with visualizations of top skill categories for management levels and job families. The Skills topic in People Analytics also helps you identify your workforce's largest skill gaps and helps you prioritize the best opportunities to upskill workers, with the introduction of a worker Gap Score and Match Score.

The Gap Score is 1 minus the Match Score for a worker. Match Score is a calculation that compares a worker's current portfolio of explicit and inferred skills to the skills (explicit and inferred) listed on their job profile. Workday calculates the skill gaps and subtracts the total from 1 to assign each worker a score on a scale of 0 - 1. Lower match scores indicate opportunities for workers to invest in achieving the expected skills of their role. High match scores indicate that the workers have the expected skills of their role. Match Score utilizes Skills Cloud skills and not tenanted skills.

Workday also assigns each worker a Match Score Signal to indicate where on the Match Score Scale a worker falls.

Match Score Signals

Match Score Signal	Definition
0 Score	Equal to 0.
Low	Greater than equal to 0 and less than or equal to 0.06.
Fair	Greater than 0.06 and less than or equal to 0.22.
Good	Greater than 0.22 and less than or equal to 0.45.
Strong	Greater than 0.45 and less than or equal to 1.

The **Detailed Data** tab shows the Match Score Signal for each worker.

Related Information

Tasks

[Steps: Set Up Skills in People Analytics](#) on page 653

Concept: Refining in People Analytics

When you view the **People Analytics** report, Workday automatically filters the periodical analysis by Storyteller and displays prioritized insights on each topic by default. However, you can use the **Refine Data** panel on the right side of the report to view additional focus insights and key metrics from the analysis, or to focus on insights related to specific dimensions. Example: You can view attrition for different geographical areas of your business by refining by region.

The **Refine Data** panel contains the populations and dimensions by which you can explore your data in depth. These represent two different ways by which you can refine your People Analytics content. When you refine it by population, People Analytics generates content only for the selected population and excludes the rest of your workforce from the analysis. When refining by dimension attributes such as levels in a hierarchy, Workday narrows down the KPIs, focus insights, and visualizations to the content related to what you've selected in the Refine Data panel.

Note: You can refine by only one population at a time.

Your People Analytics configuration determines what displays in the panel. Your People Analytics administrator determines:

- Which dimensions and attributes are available in the Refine Data panel.
- The field mapped to each dimension.
- The display name of each dimension.

Workday enables you to refine by population views (to learn more about this, see [Configure Application Settings in People Analytics](#)) and up to 6 dimensions total, from 2 different groups. The dimensions in a group come as part of separate hierarchies. Typically, during installation the dimensions in the top hierarchy are mapped to levels in your Supervisory Organization, while the dimensions in the bottom hierarchy are mapped to levels in a geographical hierarchy. Alternatively, you can map fields that represent levels in Cost Center to either hierarchy. For more information about hierarchies, see [Concept: Hierarchies and Organizations in People Analytics](#) on page 633

You might select multiple dimensions from the same hierarchy and multiple attributes from the same dimension at the same time. Workday applies all dimensions attributes equally to all insight types.

Example: Your Refine Data panel might contain these dimensions:

Dimension Display Name	Notes
Org Level 2	By default, this is the second level in the configured organization, typically a level in Supervisory Organization.
Org Level 3	By default, this is the third level in the configured organization, typically a level in Supervisory Organization.
Org Level 4	By default, this is the fourth level in the configured organization, typically a level in Supervisory Organization.
Region	Region represents the top-most level of a geographical hierarchy.
Country	Country represents the middle level of a geographical hierarchy.
Location	Region represents the lowest level of a geographical hierarchy, usually associated with the worker.

The field mapped to each dimension might be associated with a worker or a job requisition, depending on which topic you're viewing in the application.

The values available in a dimension are based on:

- The field mapped to the dimension.
- Your security permissions on the values in the field.

Note: If your People Analytics administrator enforces constrained security on the application, then you might not have permission to view all prioritized insights that display on a topic by default. Workday prepopulates dimensions on the **Refine data** panel for constrained users to display prioritized insights based on their security permissions.

Using Multiple Dimensions

You can select more than 1 dimension to refine your People Analytics content. You can select multiple dimensions from the same hierarchy or from different hierarchies. Keep in mind, however, that refining by multiple hierarchies at the same time might lead to limited or no focus insights.

However, Workday applies your refining configuration differently to the content depending on:

- From which hierarchy the dimensions come.
- The type of content, such as viz or focus insight.

Multiple Dimensions	Vizzes	KPIs	Focus Insights
From different hierarchies	Workday applies all dimension attributes to the viz data.	Workday applies all dimension attributes values to the KPI data.	Workday applies only 1 dimension to the focus insights. To ensure top focus insight results when refining content, use dimensions from only one hierarchy at the same time.
From 1 hierarchy only	Workday applies all dimension attributes to the viz data.	Workday applies only 1 dimension to the data in the KPIs. Example: You select both San Francisco and Pleasanton for the Location dimension. Workday displays data in the KPIs for either San Francisco or Pleasanton, but not both locations.	Workday applies all dimension attributes to the focus insights.

Related Information

Concepts

[Concept: Storyteller Engine](#) on page 716

Concept: Export and Download Options

From the **People Analytics Data Quality** report and the **People Analytics** report, you can export and download insights to use for presentations, discovery boards, and other resources for further analysis.

People Analytics Data Quality Report

Option	Content	Prerequisites	Action
Download as PNG	Visualizations	Security: <i>Manage: People Analytics</i> domain in the People Analytics and Prism Analytics functional areas.	On a visualization, select the related actions menu > Download as PNG . Workday generates the PNG file and saves it to the directory configured in your browser. The filename is the visualization name.
Export to Discovery Board	Data Quality Details table	Steps: Set Up Tenant for Discovery Boards on page 330. Security: <i>Manage: People Analytics</i> domain in the People Analytics and Prism Analytics functional areas.	On the Data Quality Details visualization, select the related actions menu > Export to Discovery Board .
Export to Discovery Board	View more content for a defect in the Data Quality Details table	Steps: Set Up Tenant for Discovery Boards on page 330. Security: <i>Manage: People Analytics</i> domain in the People Analytics and Prism Analytics functional areas.	On the Data Quality Details visualization, select View more for a defect. Select the related actions menu > Export to Discovery Board .

People Analytics Report

Option	Content	Prerequisites	Action
Download as PNG	Visualizations	Security: <i>View: People Analytics</i> domain in the People Analytics and Prism Analytics functional areas.	On a visualization, select the related actions menu > Download as PNG . Workday generates the PNG file and saves it to the directory configured in your browser. The filename is the visualization name.
Export to Discovery Board	Detailed Data for a KPI or a focus insight	Steps: Set Up Tenant for Discovery Boards on page 330. Security: <i>View: People Analytics</i> domain in the People Analytics and Prism Analytics functional areas.	On a KPI card or focus insight card, select View more to access the Detailed Data tab. Select the Detailed Data tab > related actions menu > Export to Discovery Board .

Option	Content	Prerequisites	Action
Export to Workday Slides	KPI content or focus insight content and associated trend chart Visualizations	Steps: Set Up Security for Slides on page 942. Security: View: People Analytics domain in the People Analytics and Prism Analytics functional areas.	On a KPI card, focus insight card, or visualization, select the related actions menu > Export to Workday Slides . On a KPI card or focus insight card, select View more . Select the related actions menu > Export to Workday Slides . The Export to Workday Slides option doesn't export content from the Detailed Data tab. Use the Export to Discovery Board option to export detailed data.

Concept: Storyteller Engine

People Analytics uses an automated analytical engine called Storyteller that:

- Searches millions of combinations of data.
- Makes connections between the combinations of data.
- Delivers the most significant results in the form of focus insights.

A focus insight is a finding in the data that addresses a business question.

Each focus insight describes an instance of significant under- or overperformance in a metric, along with a combination of dimensions, trends, and drivers that contribute to the finding.

Storyteller uses statistical and heuristic methods to determine the ranking of focus insights and which focus insights should surface after performing one of these comparisons:

- Comparison to historical performance - Storyteller surfaces these focus insights when the engine detects a significant variance between the current performance of a metric against historical performance. The look-back period is usually 12 months if you have at least 13 months of data history in People Analytics, or 3 months if you have less than 13 months of data history. However, the look-back period might vary depending on the metric.
 - Internal comparison - Storyteller compares current performance in a given focus group against the performance of the comparison group and surfaces significant gaps as focus insights. Depending which level the focus insight is on, the comparison group changes. Storyteller might make the comparison at the company or region level, or at a different level in the hierarchy. By comparing performance to the closest groups in the same organization or region, Storyteller can identify focus insights that provide actionable and meaningful data in relation to the dimension where the focus insight takes place.
- Examples:

- For a focus insight on FP&A suborganization in Finance at Level 3, the Storyteller engine compares performance of this dimension against the performance of the parent organization Level 2 (instead of comparing to the performance of Level 1).
- For a focus insight in Canada, Storyteller compares performance in Canada against performance at the region level, such as North America or the Americas.

For more information about focus insight in People Analytics, see [Concept: Focus Insights](#) on page 709.

Automatic Filtering

To help ensure the highest quality of insights, Storyteller automatically filters out focus insights where:

- The population size is 5 or less people.
- There is no active headcount for 1 or more months that are included in the People Analytics analysis. This filtering only applies to focus insights in these topics:
 - Diversity and Inclusion
 - Organization Composition
 - Retention and Attrition
 - Talent and Performance

Example: A focus insight on a Female Diversity Trend where there is no active headcount for 1 or more of the 12 months analyzed.

Example: A focus insight on a Female Diversity Gap where there is no active headcount for the month analyzed.

Suggested Focus Insights

To spotlight data that you could have missed otherwise and allow you more time to explore focus insights on other tabs, on a monthly basis People Analytics selects insights to display on the Overview page. Your selection of insights depends on focus insight ranking in the Storyteller engine, People Analytics user interactions such as clicking on suggested business questions, and how often these business questions appear on the Overview tab.

Note: Top drivers don't have an impact on focus insight suggestions.

You can dismiss any focus insights you find irrelevant to help our algorithm uncover more actionable data over time. We only generate 7 focus insights for a fiscal month, so if you dismiss all of your suggested focus insights for the month, we won't display any new insights before the next recurrent data refresh. You can't undo an insight dismissal, but a previously dismissed insight can resurface after 4 months, if People Analytics deems it relevant again.

Related Information

Reference

[FAQ: People Analytics](#) on page 791

[The Next Level: People Analytics: Storyteller Deep Dive](#)

Concept: Trends, Gaps, Top Drivers, and Detailed Data

You can click View More on a KPI, visualization or focus insight card to view the data as it changed over time, its underlying drivers, or additional details about it.

Trends and Gaps

Focus insights show metric trends and gaps. A trend demonstrates how a metric changed over time.

Example: In the last 12 months, female representation in Org Level 4: Marketing has increased by 18.8 percentage points.

A gap shows how a given metric is performing in a certain area or areas of the organization, in comparison to another area of the organization or to the entire company. Example: Female representation in Country: United States, Org Level 4: Marketing is below the rate in Org Level 2: Sales by 5.6 percentage points.

All focus insights show metric performance over time on the Trend Chart. The amount of data history you have in People Analytics determines how many months for which we can show a metric trend. The maximum number of months we display is 36.

Top Drivers

The storyteller engine surfaces top drivers of a metric by slicing the metric by different dimensions. Examples: Ethnicity, generation, location, or management level.

The Top Drivers tab on a focus insight card displays dimensions:

- Contributing to the performance gap for the focus insight.
- Driving the focus insight in the opposite direction.

Tables underneath the dimensions display personalized insights for each top driver, using conversational language to convey key information. Example: Female Representation in this **Tenure Category** is **64.3%** — which is **18.7** percentage points above **Cost Center 1**. Top drivers display by the severity of their impact on the focus insight: from High to Low.

The change in metric, population size, and historic trend (for trend business questions) determine the impact level. **High** impact labels indicate areas of the organization where there might be an immediate need for focus.

Decision makers can focus on a few of the biggest drivers to improve performance of the metric as that can even influence other, not so impactful drivers.

Example: In the last 12 months, female representation in your organization's Level 4 has increased by **18.8** percentage points.

Which drivers are contributing to higher Female Diversity Trend in Org Level 4?

Top drivers (Dimension: Value)	Impact level (High, Medium, Low)
Ethnicity: Hispanic	High impact
Location: Atlanta	Medium
Management level: 9 manager	Low
Location: New York City Campus	Low

Each top driver tab includes detailed information on the metric composition.

Which areas scored lower for Female Diversity Trend in Org Level 4?

Top drivers (Dimension: Value)	Impact level (High, Medium, Low)
Location: New York	Medium
Job Level: Team Players 2	Low

Each top driver tab includes detailed information on the metric composition.

Detailed Data

The **Detailed Data** tab is designed to be a preview and displays the first 100 rows of data with the possibility of restricting the list to an individual month. You can export the data to a discovery board to view all rows of data and perform further analysis.

On the **Detailed Data** tab for visualizations, you can refine the data by the dimensions used in the visualization. You can also export the data to your device as a PNG or to Workday Slides.

Related Information

Concepts

[Concept: Storyteller Engine](#) on page 716

Reference

[2022R2 What's New Post: Story Cards and Top Drivers Redesign](#)

Reference: Terminology

People Analytics uses these terms:

- [People Analytics Analysis](#)
- [Fiscal Schedule](#)
- [Current Snapshot Period](#)
- [Hierarchies](#)
- [Dimensions](#)
- [Attributes](#)
- [People Analytics Metrics](#)
- [Storyteller](#)
- [Topics](#)
- [Content Cards](#)
- [Key Performance Indicators \(KPIs\)](#)
- [Insights](#)
- [VIBE Index Insights](#)
- [Business Questions](#)
- [Suggested Business Questions](#)
- [Focus Insights](#)
- [Suggested Focus Insights](#)
- [Visualizations](#)
- [Default Data View](#)
- [Refined Data View](#)

People Analytics Analysis

Content available in the People Analytics application. Configuration inputs, the methods Storyteller uses to generate content, as well as automatic filtering, determine which metrics and insights are available for analysis in the **People Analytics** report. The content refreshes on a monthly basis.

Configuration inputs include:

- Topics
- KPI metrics
- Fields and prompts
- Population Filters
- Data History
- Security Settings
- Fiscal Schedule

Fiscal Schedule

Calendar of financial periods that control accounting and reporting for your organization. It consists of fiscal periods, which are chronological intervals into which you divide the calendar. Fiscal schedules are distinct from calendar years, though the two might coincide. People Analytics enables users to analyze their data based on the fiscal schedule used by their organization. The administrator configures the fiscal schedule when setting up People Analytics.

Example: The 4-4-5 calendar that divides a year into 4 quarters of 13 weeks, each grouped into two 4-week periods and one 5-week period.

Current Snapshot Period

The fiscal period that People Analytics currently displays data for. Depending on the fiscal schedule configuration, the fiscal period may coincide with a calendar month or use custom start and end dates. When the recurrent data refresh runs following the end of a fiscal period, People Analytics loads any new data from the previous fiscal period and appends this data to the current data history, creating the data snapshot for the current period.

Example: The current snapshot period for a calendar fiscal schedule runs from April 1 to April 30. Data from April 2023 is available to view in the application in May 2023.

Example: The current snapshot period for a 4-4-5 fiscal schedule runs from March 26 to April 29. Data from this period is available to view in the application in May 2023.

Hierarchies

Hierarchies establish relationships between organizations in Workday. People Analytics enables you to configure which hierarchies and organizations to include in the application. The hierarchies and organizations you include determine:

- How Storyteller groups data into different combinations of dimensions for analysis.
- How Workday enforces contextual security in the application.
- Which dimensions are available to refine your Default App View.

Workday groups the hierarchy fields into these categories:

- Primary Hierarchy (typically includes dimensions related to Supervisory Organization)
- Secondary Hierarchy (typically includes dimensions related to a geographical organization)
- Job Hierarchy
- Organization Details

Dimensions

Source fields that you opt in to and map during People Analytics configuration. Source fields consist of attributes and therefore dimensions consist of attributes. People Analytics uses dimensions to generate content that displays in the application and enables you to refine your data view in the app using the attributes of select dimensions.

Example: The source field Location is a dimension. This dimension consists of the attributes New York and Toronto.

Note: Security settings applied to dimensions (source fields) impact which content displays in the default data view of the user viewing the app.

Attributes

Values of a dimension (source field).

Example: New York is an attribute of the dimension Location.

People Analytics Metrics

Metrics help you measure, organize, and make sense of your data. People Analytics offers out-of-the-box metrics for most topics and uses these metrics to:

- Provide key performance indicators (KPIs).
- Answer key business questions in the form of focus insights.

Certain metrics serve as both KPIs and answers to business questions (focus insights).

The configuration inputs you apply when configuring People Analytics determine which metrics are available in the **People Analytics** report. Storyteller uses these inputs on the metric formula assigned to a given metric to calculate the metric.

Storyteller

Name of the automated analytical engine that uses statistical and heuristic methods to detect patterns in your people data and surface prioritized focus insights. Storyteller also calculates KPIs using the configuration inputs you include when configuring People Analytics. Storyteller does not use statistical and heuristic methods to calculate KPIs.

Topics

Content areas that provide key insights on your organization about the specific topic. Most topics also include Key Performance Indicators (KPIs). People Analytics organizes content in the user interface by topics to help you quickly uncover what's happening in your organization related to specific subject matter.

Example: Retention and Attrition

Note: People Analytics includes the content for the Employee Sentiment topic as part of the VIBE Index topic.

Content Cards

Cards in the user interface that display the details for KPIs, VIBE Index insights, focus insights, and visualizations.

KPI cards and focus insight cards consist of a top level and view more level.

Key Performance Indicators (KPIs)

Key performance indicators (KPIs) act as individual progress reports that together help you understand, at high-level, the overall health and performance of your organization. People Analytics provides an out-of-the-box set of KPIs for most topics. Each KPI uses a People Analytics metric. When configuring People Analytics, you can select which KPI metrics to display in the **People Analytics** report.

Example: The key performance indicator (KPI) High Potentials Voluntary Attrition Rate shows the percentage of high potential workers that have left the company voluntarily within the set rolling period. Understanding the population that is categorized as high potentials sheds light on potential promotion and growth within the company.

People Analytics displays the KPI metric and all included elements on a KPI card.

Insights

Trends, opportunities, and risks in your organization that you can act on. People Analytics offers insights across all topics. Insights take the form of:

- VIBE Index Insights
- Focus Insights
- Visualizations

VIBE Index Insights

VIBE™ stands for Value Inclusion, Belonging, and Equity. The VIBE Index topic surfaces key outcome metrics to show where you can improve equity and parity across all people groups (intersections). These insights help you to set, achieve, and renew goals that cultivate belonging and diversity in your workplace. People Analytics uses a unique calculation schema to generate VIBE Index Insights and provides a maturity model to help organizations assess their progress in cultivating belonging and diversity.

Business Questions

Most topic tabs in People Analytics have a set of out-of-the-box, key workforce business questions. Focus insights answer these business questions using People Analytics metrics. The VIBE Index topic tab does not include business questions. For a complete list of business questions, see Reference: Business Questions by Topic.

Example: Business question for the topic Diversity and Inclusion: What are gaps in female representation in management?

Suggested Business Questions

Workday dynamically selects business questions based on usage frequency in your tenant (or the average usage of all People Analytics users if there isn't enough data in your tenant). Suggested business questions display on the **Overview** tab in the **People Analytics** report.

Focus Insights

Most topic tabs in People Analytics have a set of out-of-the-box, key workforce business questions. Focus insights answer these business questions using People Analytics metrics. These insights help you determine where to focus your attention to action opportunities and risks that show as trends in your people data. Focus insights show how a metric is performing now in comparison to a historical point in time, or how a metric is performing in one area of the organization in comparison to another area, or to the company. People Analytics displays the focus insight and all included elements on a focus insight card.

Example: A focus insight for the business question [What are key trends in female representation?] shows you that in the last 12 months, female representation in Marketing has increased by 3.3 percentage points.

Suggested Focus Insights

Collection of focus insights that People Analytics selects based on focus insight ranking in the Storyteller engine and People Analytics user interactions such as clicking on suggested business questions. Suggested focus insights display on the **Overview** tab in the **People Analytics** report.

Visualizations

Insights that provide additional context for a given business question within a topic. These graphics display data that you include in your People Analytics configuration. Visualizations do not display values calculated by Storyteller. People Analytics uses these visualization types:

- Bar Chart
- Heatmap
- Line Chart
- Waterfall

Default Data View

Default view of the **People Analytics** report for an individual user. People Analytics configuration determines which content comprises the default content view. For example, included topics, fields, and security settings. Additionally, People Analytics automatically filters the analysis Storyteller performs each month and displays prioritized Focus Insights in the app as part of the Default Data View. This automatic filtering excludes Focus insights with populations of 5 or less workers. You can refine the Default Data View to explore content for a particular area of your organization.

Refined Data View

Content that the app displays after an individual user refines their Default Data View. You can refine data by selecting dimension attributes in either dimension hierarchy. Example: You select Refine Data, then

select the attribute New York for the dimension Location in the bottom hierarchy. This Refined Data View enables you to focus on insights trending in the New York office.

Note: Your People Analytics configuration determines which dimensions comprise dimension hierarchies. Your configuration might only include 1 group.

Reference: Business Questions by Topic

Workday People Analytics surfaces analytics in the form of business questions and focus insights, organized by topic. The business questions for each topic help you gain insight into your organization and discover specific trends and patterns.

Diversity and Inclusion

This topic helps you understand the current demographic of an organization. It can also help you make improvements in the different segments of diversity within an organization.

Business Question	Guidance	Related Metric
What are key trends in female representation?	Surfaces different trends related to gender diversity within an organization. Trends can consist of positive or negative impacts to overall gender diversity for the organization.	Female Representation
Where can we improve female representation?	Surfaces areas in the organization that need improvement in gender equality. This question compares the female representation of the segment to the female representation in the overall company, organization, or region. Improvements in this dimension also drive improvement to the female representation of the overall company or organization.	Female Representation
Where are gaps in female representation in management?	Surfaces areas in the organization that are lacking female representation in management level roles.	Female Representation Filtered on Is Manager = Yes
Where can we improve female retention in the workforce?	Identifies areas where there are low retention rates for female workers in the organization.	Retention Rate Filtered on Females
Where are gaps in promoting females?	Surfaces areas in the organization or key indicators that need improvement in gender diversity for the rate of promotions. This helps ensure equal opportunities in upward mobility within an organization.	Promotion Rate Filtered on Females

Organization Composition

This topic explores business questions related to the structure of an organization.

Business Question	Guidance	Related Metric
Where is the organization growing?	Surfaces areas in the organization that are trending in a positive direction for active headcount growth.	Headcount Growth Rate
What are the outliers in span of control?	Surfaces areas where there might be high or low span of control in the organization by comparing the metric in a particular dimension to the metric for the overall company, region, or organization.	Average Span of Control Excludes unfilled positions
Where are gaps in internal mobility to management?	Surfaces areas of your organization where, compared to other areas, fewer individual contributors, on average, move into management-level roles.	Individual Contributor to Manager Rate
What are outliers in tenure?	Identifies areas in the organization that are categorized as an outlier in average tenure. This could surface areas of high or low tenure in the organization.	Average Tenure
Where are gaps in compa-ratio?	Identifies areas of the organization that are categorized as an outlier in average compa-ratio.	Average Compa-Ratio
Where are gaps in promotions?	Identifies the attributes of workers or the areas that aren't being promoted as much as the overall population of the organization.	Promotion Rate

Retention and Attrition

This topic explores business questions related to why workers are leaving and how to improve retention of workers in an organization.

Business Question	Guidance	Related Metric
What are the key turnover trends?	Reveals turnover trends in the workforce that are impacting the overall attrition rate in a negative way. Very low turnover could lead to stagnant innovation, while high turnover could lead to high financial impact. This question points to problem areas you can focus on and address proactively.	Attrition Rate
Who is leaving?	Surfaces areas in the company where workers are leaving and the possible reasons workers	Attrition Rate

Business Question	Guidance	Related Metric
	state for why they are leaving an organization. This business question focuses on the gap between the overall company, region, or organization attrition rate and the area that needs attention.	
Where can we improve retention?	Surfaces areas of the organization that have a high churn rate, with employees leaving in the early years of their tenure.	Retention Rate
Where do we have the lowest tenure for voluntary terminations?	Sheds insight on when people voluntarily leave the organization. This reflects low tenure in the organization.	Average Voluntary Terminations Tenure
Where do we lose the most new hires?	Surfaces areas where new hires with an average tenure of less than 1 year exit the organization.	New Hires Attrition Rate

Hiring

This topic explores business questions related to candidates and requisitions for hiring.

Business Question	Guidance	Related Metric
What are the key trends in hiring?	Surfaces areas within the organization that show anomalies in average time to fill from a historical point of view.	Average Time to Fill
Where does it take longer to hire?	Surfaces areas that deviate from the overall company average for time to hire, as well as drivers of stages that create bottlenecks in the hiring process.	Average Time to Hire
What areas do we need to focus on to stay competitive with offers?	Surfaces areas of the organization that could improve offer acceptance by candidates.	Offer Decline Rate

Talent and Performance

This topic explores business questions related to the talent and performance of workers.

Business Question	Guidance	Related Metric
What are key trends in talent?	Surfaces areas in the organization where workers are flagged as high potentials, providing insight into opportunities for performance growth.	High Potentials Representation

Business Question	Guidance	Related Metric
Where are we losing high performers?	Surfaces areas of the organization the business needs to focus on and provides insight on why high performers are leaving the company.	High Performers Voluntary Attrition Rate
Where can we focus to improve performance?	Surfaces areas within the organization that show variances of high performers deviating from the norm by comparing to the high performers rate for the company, region, or organization.	High Performers Rate

Skills

This topic explores the skills data of your workforce.

Business Question	Guidance	Related Metric
Where are opportunities to upskill workers?	Highlights areas of the organization to upskill workers and improve worker skill sets.	Average Gap Score

Related Information

Reference

[The Next Level: People Analytics: Resources to Help Validate Your Organization's Data](#)

[What's New Post: Metric Catalog for People Analytics](#)

Reference: Metrics in People Analytics

People Analytics uses these metrics:

- [12-Month Rolling Attrition Rate](#)
- [50+ Age Rate](#)
- [Active Headcount](#)
- [Annualized Attrition Rate](#)
- [Average Workforce Age](#)
- [Average Compa-Ratio](#)
- [Average Compa-Ratio of Terminations](#)
- [Average Gap Score](#)
- [Average Span of Control](#)
- [Average Tenure](#)
- [Average Time To Fill](#)
- [Average Time To Hire](#)
- [Average Voluntary Terminations Tenure](#)
- [Disability Rate](#)
- [Female Active Headcount](#)
- [Female Attrition Rate](#)
- [Female Monthly Termination Count](#)
- [Female Quarterly Termination Count](#)
- [Female Representation](#)
- [Female Representation in Leadership](#)

- Female YTD Termination Count
- Headcount Growth Rate
- High Performers Active Headcount
- High Performers Rate
- High Performers Voluntary Attrition Rate
- High Potentials Active Headcount
- High Potentials Representation
- High Potentials Voluntary Attrition Rate
- Hispanic/Non-Hispanic Rate
- Individual Contributor Active Headcount
- Individual Contributor to Manager Rate
- Involuntary 12-Month Rolling Attrition Rate
- Involuntary Annualized Attrition Rate
- Involuntary Monthly Attrition Rate
- Involuntary Monthly Termination Count
- Involuntary Quarterly Attrition Rate
- Involuntary Termination YTD Count
- Leadership Active Headcount
- Leadership URM Rate
- Manager Active Headcount
- Monthly Attrition Rate
- Monthly New Hires
- Monthly Termination Count
- New Hires Attrition Rate
- New Hires Retention Rate 2
- New Hires YTD
- New Hires Retention Rate
- Offer Accepted Rate
- Offer Decline Rate
- Part-time rate
- Promotion Rate
- Promotion Speed Ratio
- Quarterly Attrition Rate
- Quarterly Involuntary Termination Count
- Quarterly New Hires
- Quarterly Termination Count
- Quarterly Voluntary Termination Count
- Referral Hire Rate
- Regrettable 12-Month Rolling Attrition Rate
- Regrettable Annualized Attrition Rate
- Regrettable Monthly Attrition Rate
- Regrettable Quarterly Attrition Rate
- Retention Rate
- Termination YTD Count
- URM 12-Month Rolling Attrition Rate
- URM Active Headcount
- URM Annualized Attrition Rate
- URM Monthly Attrition Rate
- URM Monthly Termination Count
- URM Quarterly Attrition Rate

- URM Quarterly Termination Count
- URM Rate
- URM YTD Termination Count
- Veteran Status Rate
- Voluntary 12-Month Rolling Attrition Rate
- Voluntary Annualized Attrition Rate
- Voluntary Monthly Attrition Rate
- Voluntary Monthly Termination Count
- Voluntary Quarterly Attrition Rate
- Voluntary Termination YTD Count

12-Month Rolling Attrition Rate

What uses this metric?	KPI: 12-Month Rolling Attrition Rate Retention and Attrition Business Question: What are key turnover trends? Retention and Attrition Business Question: Who is leaving?
Metric Type	Rate
Metric Time Frame	Depending on your data history: <ul style="list-style-type: none"> • 12-month rolling period, or • 3-month rolling period (business questions only).
Metric Formula	<pre>rollingSum(unique([Employee_ID]), 12) for ("Terminated_This_Period", "True") / {avg_active_headcount_rolling_12_months}, where avg_active_headcount_rolling_12_months = (rollingSum(unique([Employee_ID]), 12) for ("Active_Status", "True") / 12)</pre> <p>OR</p> <pre>rollingSum(unique([Employee_ID]), 3) for ("Terminated_This_Period", "True") / {avg_active_headcount_rolling_3_months}, where avg_active_headcount_rolling_3_months = (rollingSum(unique([Employee_ID]), 3) for ("Active_Status", "True") / 3)</pre>
Translation	Number of terminated workers within period / Average active headcount for period (Sum of active headcounts for each month / Number of months in rolling period) * 100
Comparison Points for KPI	<ul style="list-style-type: none"> • Historical snapshot period 1 month ago • Company KPI Comparison

Comparison Point for Focus Insights	Either: <ul style="list-style-type: none">• Historical snapshot period 1 month ago, or• Current snapshot period for the comparison group
Required Fields for KPI	<ul style="list-style-type: none">• Active Status• Employee ID• Termination Date

50+ Age Rate

What uses this metric?	KPI: 50+ Age Rate
Metric Type	Rate
Metric Time Frame	Current snapshot period
Metric Formula	<code>unique([Employee_ID]) for ("Age_Over_50", "True") for ("Active_Status", "True") / unique([Employee_ID]) for ("Active_Status", "True")</code>
Translation	Sum of ages of active workers over 50 at end of previous month / Active headcount at end of previous month
Comparison Point	12 months ago
Required Fields	<ul style="list-style-type: none">• Active Status• Date of Birth• Report Effective Date• Employee ID

Active Headcount

What uses this metric?	KPI: Active Headcount
Metric Type	Count
Metric Time Frame	Current snapshot period
Metric Formula	<code>unique([Employee_ID]) for ("Active_Status", "True")</code>
Translation	Number of active workers in your organization as of previous period
Comparison Point	Month prior to the current snapshot period
Required Fields	<ul style="list-style-type: none">• Active Status• Employee ID

Annualized Attrition Rate

What uses this metric?	KPI: Annualized Attrition Rate
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Metric Type	Rate
Metric Time Frame	Current fiscal year to date
Metric Formula	<pre>rollingSum(unique([Employee_ID]), fiscal year to date) for (\"Terminated_This_Period \", \"True\") / rollingSum(unique([Employee_ID]), fiscal year to date) * (12 / fiscal year to date months)</pre>
Translation	Number of workers terminated in FY to-date / FY Average active headcount (Sum of active headcounts for each month in FY to-date / Number of months in FY to-date) * (12 / Number of months in FY to-date) * 100
Comparison Point	Fiscal year prior to the current one
Required Fields	<ul style="list-style-type: none"> • Active Status • Employee ID • Termination Date

Average Workforce Age

What uses this metric?	KPI: Average Workforce Age
Metric Type	Average
Metric Time Frame	Current snapshot period
Metric Formula	<pre>sum([Age]) for ("Active_Status", "True") / unique([Employee_ID]) for ("Active_Status", "True")</pre>
Translation	Sum of ages for active headcount at end of previous month / Active headcount at end of previous month
Comparison Point	12 months ago
Required Fields	<ul style="list-style-type: none"> • Active Status • Date of Birth • Report Effective Date • Employee ID

Average Compa-Ratio

What uses this metric?	Organization Composition Business Question: Where are gaps in compa-ratio?
Metric Type	Average
Metric Time Frame	Current snapshot period
Metric Formula	<pre>sum([Compa_Ratio]) for ("Active_Status", "True") /</pre>

	<code>unique([Employee_ID]) for ("Active_Status", "True")</code>
Translation	Sum of compa-ratio of active headcount at end of previous month / Active headcount at end of previous month
Comparison Point	Current snapshot period for the comparison group

Average Compa-Ratio of Terminations

What uses this metric?	KPI: Average Compa-Ratio of Terminations
Metric Type	Average
Metric Time Frame	Current snapshot period
Metric Formula	<code>sum([Compa_Ratio]) for ("Terminated_This_Period", "True") / unique([Employee_ID]) for ("Terminated_This_Period", "True")</code>
Translation	Sum of compa-ratio of terminated workers in previous month / Terminated workers in previous month
Comparison Points	<ul style="list-style-type: none"> Historical snapshot period 12 months ago. Company KPI Comparison.
Required Fields for KPI	<ul style="list-style-type: none"> Compa-Ratio Employee ID Termination Date

Average Gap Score

What uses this metric?	Skills Business Question: Where are opportunities to upskill workers?
Metric Type	Average
Metric Time Frame	Current snapshot period
Metric Formula	<code>sum([gap_score_pct]) / unique([Employee_ID])</code>
Translation	Sum of gap scores for workers at end of previous month / Active headcount at end of previous month Gap Score = 1 - Match Score
Comparison Point	Current snapshot period for the comparison group

Average Span of Control

What uses this metric?	KPI: Average Span of Control Organization Composition Business Question: What are outliers in span of control?
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Metric Type	Average
Metric Time Frame	Current snapshot period
Metric Formula	<pre>sum([Direct_Reports]) for ("Manager_With_Direct_Reports", "True") for ("Active_Status", "True") / unique([Employee_ID]) for ("Manager_With_Direct_Reports", "True") for ("Active_Status", "True")</pre>
Translation	Number of active direct reports at end of previous month / Number of active managers with direct reports at end of previous month Excludes unfilled positions
Comparison Points for KPI	<ul style="list-style-type: none"> Historical snapshot period 12 months ago. Company KPI Comparison.
Comparison Point for Focus Insights	Current snapshot period for the comparison group

Example:

Supervisory Org	Managers	Direct Reports
Vice President	1	2
Director A	1	3
Manager A1	1	4
Manager A2	1	7
Manager A3	1	3
Director B	1	4
Manager B1	1	2
Manager B2	1	5
Manager B3	1	8
Manager B4	1	3
Total	10	41

Average Tenure

What uses this metric?	KPI: Average Tenure Organization Composition Business Question: What are outliers in tenure?
Metric Type	Average
Metric Time Frame	Current snapshot period
Metric Formula	<pre>sum([Length_Of_Service_In_Partial_Years]) for ("Active_Status", "True") / unique([Employee_ID]) for ("Active_Status", "True")</pre>

Translation	Sum of length of service of active headcount at end of previous month / Active headcount at end of previous month
Comparison Points for KPI	<ul style="list-style-type: none"> Historical snapshot period 12 months ago. Company KPI Comparison.
Comparison Point for Focus Insights	Current snapshot period for the comparison group
Required Fields for KPI	<ul style="list-style-type: none"> Active Status Employee ID Length of Service In Partial Years

Average Time To Fill

What uses this metric?	Hiring Business Question: What are key trends in hiring?
Metric Type	Average
Metric Time Frame	Current snapshot period
Metric Formula	$(\text{total_reqs_filled_time}) / (\text{reqs_filled_hired})$
Variables for Calculation	<ul style="list-style-type: none"> <code>total_reqs_filled_time = sum([Requisition_Time_To_Fill]) for ("Can_Job_Requisition_Status_Instance_Evaluate_filled") for ("Stage_Consolidated", "hire")</code> <code>Requisition_Time_To_Fill = DAYS_BETWEEN([Req_Job_Requisition_Filled_Date], [Req_Recruiting_Start_Date])</code> <code>reqs_filled_hired = {candidates_hired} for ("Can_Job_Requisition_Status_Instance_Evaluate_filled")</code> <code>Candidates_hired = unique([Candidate_JobRequisition]) for ("Stage_Consolidated", "hire")</code> <code>Candidate_JobRequisition = CONCAT([Candidate_ID], "-", [Job_Requisition])</code>
Translation	Sum of time to fill for hires in filled requisitions in previous month (Number of days from requisition start date to requisition filled date) / Number of hires in filled requisitions in previous month
Comparison Point	Depending on your data history, historical snapshot period 12 months ago, or 3 months ago.

Average Time To Hire

What uses this metric?	KPI: Average Time to Hire
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	Hiring Business Question: Where does it take longer to hire?
Metric Type	Average
Metric Time Frame	Current snapshot period
Metric Formula	$(\text{total_time_to_hire}) / (\text{candidates_hired})$
Variables for Calculation	<ul style="list-style-type: none"> <code>total_time_to_hire = sum([Time_To_Hire]) for ("Stage_Consolidated", "hire")</code> <code>Time_To_Hire = DAYS_BETWEEN([Recruiting_Start_Date], [Worker_Hire_Date])</code> <code>candidates_hired = unique([Candidate_JobRequisition]) for ("Stage_Consolidated", "hire")</code> <code>Candidate_JobRequisition = CONCAT([Candidate_ID], "-", [Job_Requisition])</code>
Translation for KPI	Sum of time to hire for hires in previous month (Number of days from requisition start date to hire date) / Number of hires in previous month * 100
Translation for Hiring Business Question	Sum of time to hire for hires in previous month (Number of days from requisition start date to hire date) / Number of hires in previous month
Comparison Points for KPI	<ul style="list-style-type: none"> Historical snapshot period 12 months ago. Company KPI Comparison.
Comparison Point for Focus Insights	Current snapshot period for the comparison group
Required Fields for KPI	<ul style="list-style-type: none"> Candidate ID Job Requisition Stage Candidate Worker Hire Date Worker Job Requisition Created Moment Hire Stage Recruiting Start Date Status Start Date

Average Voluntary Terminations Tenure

What uses this metric?	Retention and Attrition Business Question: Where do we have the lowest tenure for voluntary terminations?
Metric Type	Average
Metric Time Frame	Current snapshot period

Metric Formula	<pre>sum([Length_of_Service_In_Partial_Years]) for ("Terminated_This_Period", "True") for ("Termination_Category", "Voluntary") / unique([Employee_ID]) for ("Terminated_This_Period", "True") for ("Termination_Category", "Voluntary")</pre>
Translation	Sum of length of service of voluntary terminations in previous month / Voluntary terminations in previous month
Comparison Point	Current snapshot period for the comparison group

Disability Rate

What uses this metric?	KPI: Disability Rate
Metric Type	Average
Metric Time Frame	Current snapshot period
Metric Formula	<pre>unique([Employee_ID]) for ("Active_Status", "True") for ("Is_Disabled", "True") / unique([Employee_ID]) for ("Active_Status", "True")</pre>
Translation	Workers with disability active headcount at end of previous month / Active headcount at end of previous month * 100
Comparison Point	12 months ago
Required Fields	<ul style="list-style-type: none"> • Active Status • Employee ID • Is Disabled

Female Active Headcount

What uses this metric?	KPI: Female Active Headcount
Metric Type	Count
Metric Time Frame	Current snapshot period
Metric Formula	<pre>unique([Employee_ID]) for ("Active_Status", "True") for ("Gender", "Female")</pre>
Translation	Number of female workers in your organization as of current period
Comparison Point	Month prior to the current snapshot period.
Required Fields	<ul style="list-style-type: none"> • Active Status • Employee ID • Gender

Female Attrition Rate

What uses this metric?	KPI: Female Attrition Rate
Metric Type	Events Over Time
Metric Time Frame	12-month rolling period
Metric Formula	<pre>rollingSum(unique([Employee_ID]), 12) for ("Terminated_This_Period", "True") for ("Gender", "Female") / {avg_female_headcount_rolling_12_months}, where avg_female_headcount_rolling_12_months = (rollingSum(unique([Employee_ID]), 12) for ("Gender", "Female") for ("Active_Status", "True")) / 12)</pre>
Translation	Number of female terminations within period / Average female headcount for period (Sum of female headcounts for each month / Number of months in rolling period) * 100
Comparison Points	<ul style="list-style-type: none"> Historical snapshot period 1 month ago. Company KPI Comparison.
Required Fields for KPI	<ul style="list-style-type: none"> Active Status Employee ID Gender Termination Date

Female Monthly Termination Count

What uses this metric?	KPI: Female Monthly Termination Count
Metric Type	Count
Metric Time Frame	Current snapshot period
Metric Formula	<pre>unique([Employee_ID]) for ("Terminated_This_Period", "True") for ("Gender", "Female")</pre>
Translation	Number of female workers terminated in current month
Comparison Point	Month prior to the current one
Required Fields	<ul style="list-style-type: none"> Active Status Gender Termination Date

Female Quarterly Termination Count

What uses this metric?	KPI: Female Quarterly Termination Count
Metric Type	Count

Metric Time Frame	Current fiscal quarter
Metric Formula	<code>unique([Employee_ID], fiscal quarter to date) for ("Terminated_This_Period", "True") for ("Gender", "Female")</code>
Translation	Number of female workers terminated in last completed FQ
Comparison Point	Fiscal quarter prior to the current one
Required Fields	<ul style="list-style-type: none"> • Employee ID • Gender • Termination Date

Female Representation

What uses this metric?	KPI: Female Representation Diversity and Inclusion Business Question: What are key trends in female representation? Diversity and Inclusion Business Question: Where can we improve female representation?
Metric Type	Rate
Metric Time Frame	Current snapshot period
Metric Formula	<code>unique([Employee_ID]) for ("Active_Status", "True") for ("Gender", "Female") / unique([Employee_ID]) for ("Active_Status", "True")</code>
Translation	Number of female active workers at end of previous month / Active headcount at end of previous month * 100
Comparison Points for KPI	<ul style="list-style-type: none"> • Historical snapshot period 12 months ago. • Company KPI Comparison.
Comparison Point for Focus Insights	Current snapshot period for the comparison group
Required Fields for KPI	<ul style="list-style-type: none"> • Active Status • Employee ID • Gender
What uses this metric?	Diversity and Inclusion Business Question: Where are gaps in female representation in management?
Metric Type	Rate
Metric Time Frame	Current snapshot period
Metric Formula	<code>unique([Employee_ID]) for ("Active_Status", "True") for ("Is_Manager", "True") for ("Gender", "Female") / unique([Employee_ID])</code>

	<pre>for ("Active_Status", "True") for ("Is_Manager", "True")</pre>
Translation	Number of female active workers at end of previous month / Active headcount at end of previous month * 100 Filtered on Is Manager = Yes
Comparison Point	Current snapshot period for the comparison group

Female Representation in Leadership

What uses this metric?	KPI: Female Representation in Leadership
Metric Type	Rate
Metric Time Frame	Current snapshot period
Metric Formula	<pre>unique([Employee_ID]) for ("Is_Leader", "True") for ("Gender", "Female") for ("Active_Status", "True") / unique([Employee_ID]) for ("Is_Leader", "True") for ("Active_Status", "True")</pre>
Translation	Number of female active leaders at end of previous month / Active leaders at end of previous month * 100
Comparison Point	<ul style="list-style-type: none"> Historical snapshot period 12 months ago. Company KPI Comparison.
Required Fields for KPI	<ul style="list-style-type: none"> Active Status Employee ID Gender Is Leader

Female YTD Termination Count

What uses this metric?	KPI: Female YTD Termination Count
Metric Type	Count
Metric Time Frame	Current fiscal year to date
Metric Formula	<pre>rollingSum(unique([Employee_ID]), fiscal year to date) for ("Terminated_This_Period", "True") for ("Gender", "Female")</pre>
Translation	Number of female workers terminated in FY to-date
Comparison Point	Fiscal year prior to the current one
Required Fields	<ul style="list-style-type: none"> Active Status Gender Termination Date

Headcount Growth Rate

What uses this metric?	Organization Composition Business Question: Where is the organization growing?
Metric Type	Rate
Metric Time Frame	Current snapshot period
Metric Formula	<pre>(unique([Employee_ID]) - previous(unique([Employee_ID]), 6) for ("Active_Status", "True")) / previous(unique([Employee_ID]), 6) for ("Active_Status", "True")</pre> <p>OR</p> <pre>(unique([Employee_ID]) - previous(unique([Employee_ID]), 3) for ("Active_Status", "True")) / previous(unique([Employee_ID]), 3) for ("Active_Status", "True")</pre>
Translation	(Active headcount at end of previous month - Active headcount at beginning of period) / Active headcount at beginning of period
Comparison Point	Depending on your data history, historical snapshot period 6 months ago, or 3 months ago.

High Performers Active Headcount

What uses this metric?	KPI: High Performer Active Headcount
Metric Type	Count
Metric Time Frame	Current snapshot period
Metric Formula	<code>unique([Employee_ID]) for ("Active_Status", "True") for ("High_Performer", "True")</code>
Translation	Number of high performing workers as of previous period
Comparison Point	Month prior to the current snapshot period
Required Fields	<ul style="list-style-type: none"> • Active Status • Employee ID • High Performer

High Performers Rate

What uses this metric?	Talent and Performance Business Question: Where can we focus to improve performance?
Metric Type	Rate
Metric Time Frame	Current snapshot period

Metric Formula	<pre>unique([Employee_ID]) for ("High_Performer", "True") for ("Active_Status", "True") / unique([Employee_ID]) for ("Active_Status", "True")</pre>
Translation	Number of high performer active workers at end of previous month / Active headcount at end of previous month * 100
Comparison Point	Current snapshot period for the comparison group

High Performers Voluntary Attrition Rate

What uses this metric?	KPI: High Performers Voluntary Attrition Rate Gap Business Question: Where are we losing high performers?
Metric Type	Events Over Time
Metric Time Frame	Depending on your data history: <ul style="list-style-type: none">• 12-month rolling period, or• 3-month rolling period (business question only).
Metric Formula	<pre>rollingSum(unique([Employee_ID]), 12) for ("Terminated_This_Period", "True") for ("Termination_Category", "Voluntary") for ("High_Performer", "True") / {avg_high_performer_headcount_rolling_12_months} where avg_high_performer_headcount_rolling_12_months = (rollingSum(unique([Employee_ID]), 12) for ("High_Performer", "True") for ("Active_Status", "True")) / 12</pre> <p>OR</p> <pre>rollingSum(unique([Employee_ID]), 3) for ("Terminated_This_Period", "True") for ("Termination_Category", "Voluntary") for ("High_Performer", "True") / {avg_high_performer_headcount_rolling_3_months}, where avg_high_performer_rolling_3_months = (rollingSum(unique([Employee_ID]), 3) for ("High_Performer", "True") for ("Active_Status", "True")) / 3</pre>
Translation	Number of voluntary high performers terminations within period / High performers average active headcount for period (Sum of active headcounts for each month / Number of months in rolling period) * 100

Comparison Points for KPI	<ul style="list-style-type: none"> Historical snapshot period 1 month ago. Company KPI Comparison
Comparison Point for Focus Insights	Current snapshot period for the comparison group
Required Fields for KPI	<ul style="list-style-type: none"> Active Status Employee ID High Performer Termination Date Term Category

High Potentials Active Headcount

What uses this metric?	KPI: High Potential Active Headcount
Metric Type	Count
Metric Time Frame	Current snapshot period
Metric Formula	<code>unique([Employee_ID]) for ("Active_Status", "True") for ("Is_High_Potential", "True")</code>
Translation	Number of high potential workers as of previous period
Comparison Point	Month prior to the current snapshot period
Required Fields	<ul style="list-style-type: none"> Active Status Employee ID High Potential

High Potentials Representation

What uses this metric?	<p>KPI: High Potentials Representation</p> <p>Talent and Performance Business Question: What are key trends in talent?</p>
Metric Type	Rate
Metric Time Frame	Current snapshot period
Metric Formula	<code>unique([Employee_ID]) for ("Is_High_Potential", "True") for ("Active_Status", "True") / unique([Employee_ID]) for ("Active_Status", "True")</code>
Translation	Number of high potential active workers at end of previous month / Active headcount at end of previous month * 100
Comparison Points for KPI	<ul style="list-style-type: none"> Historical snapshot period 12 months ago. Company KPI Comparison.
Comparison Points for Focus Insights	Depending on your data history, historical snapshot period 12 months ago, or 3 months ago.

Required Fields for KPI	<ul style="list-style-type: none"> • Active Status • Employee ID • High Potential
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High Potentials Voluntary Attrition Rate

What uses this metric?	KPI: High Potentials Voluntary Attrition Rate
Metric Type	Events Over Time
Metric Time Frame	12-month rolling period
Metric Formula	<pre>rollingSum(unique([Employee_ID]), 12) for ("Terminated_This_Period", "True") for ("Termination_Category", "Voluntary") for ("Is_High_Potential", "True") / {avg_high_potentials_headcount_rolling_12_months where avg_high_potentials_headcount_rolling_12_months = (rollingSum(unique([Employee_ID]), 12) for ("Is_High_Potential", "True") for ("Active_Status", "True")) / 12)</pre>
Translation	Number of voluntary high potentials terminations within period / High potentials average active headcount for period (Sum of high potentials headcounts for each month / Number of months in rolling period) * 100
Comparison Points	<ul style="list-style-type: none"> • Historical snapshot period 12 months ago. • Company KPI Comparison.
Required Fields for KPI	<ul style="list-style-type: none"> • Active Status • Employee ID • High Potential • Termination Date • Term Category

Hispanic/Non-Hispanic Rate

What uses this metric?	KPI: Hispanic/Non-Hispanic Rate
Metric Type	Rate
Metric Time Frame	Current snapshot period
Metric Formula	<pre>unique([Employee_ID]) for ("Active_Status", "True") for ("Is_Hispanic_or_Latino", "True") / unique([Employee_ID]) for ("Active_Status", "True")</pre>
Translation	Hispanic workers headcount at end of previous month / Active headcount at end of previous month * 100

Comparison Point	12 months ago
Required Fields	<ul style="list-style-type: none"> • Active Status • Employee ID • Hispanic or Latino

Individual Contributor Active Headcount

What uses this metric?	KPI: Individual Contributor Active Headcount
Metric Type	Count
Metric Time Frame	Current snapshot period
Metric Formula	<pre>unique([Employee_ID]) for ("Active_Status", "True") for ("Is_Individual_Contributor", "True")</pre>
Translation	Number of individual contributors in your organization as of previous period
Comparison Point	Month prior to the current snapshot period
Required Fields	<ul style="list-style-type: none"> • Active Status • Employee ID • Is Manager

Individual Contributor to Manager Rate

What uses this metric?	Organization Composition Business Question: Where are gaps in internal mobility to management?
Metric Type	Events Over Time
Metric Time Frame	Depending on your data history: <ul style="list-style-type: none"> • 12-month rolling period, or • 3-month rolling period.
Metric Formula	<pre>rollingSum(unique([Employee_ID]), 12) for ("Active_Status", "True") for ("IC_To_MGR_This_Period", "True") / {avg_active_headcount_rolling_12_months}, where avg_active_headcount_rolling_12_months = (rollingSum(unique([Employee_ID]), 12) for ("Active_Status", "True") / 12)</pre> <p>OR</p>

Translation	<pre>rollingSum(unique([Employee_ID]), 3) for ("Active_Status", "True") for ("IC_To_MGR_This_Period", "True") / {avg_active_headcount_rolling_3_months}, where avg_active_headcount_rolling_3_months = (rollingSum(unique([Employee_ID]), 3) for ("Active_Status", "True") / 3)</pre>
Comparison Point	Historical snapshot period 1 month ago

Involuntary 12-Month Rolling Attrition Rate

What uses this metric?	KPI: Involuntary Rolling 12-Month Attrition Rate
Metric Type	Events Over Time
Metric Time Frame	12-month rolling period
Metric Formula	<pre>rollingSum(unique([Employee_ID]), 12) for ("Terminated_This_Period", "True") for ("Termination_Category", "Involuntary") / rollingSum(unique([Employee_ID]), 12) for ("Active_Status", "True") / 12</pre>
Translation	Number of involuntarily terminated workers within period / Average active headcount for period (Sum of active headcounts for each month / Number of months in rolling period) * 100
Comparison Point	12 months ago
Required Fields	<ul style="list-style-type: none"> • Active Status • Employee ID • Termination Date • Term Category

Involuntary Annualized Attrition Rate

What uses this metric?	KPI: Involuntary Annualized Attrition Rate
Metric Type	Events Over Time
Metric Time Frame	Current fiscal year to date
Metric Formula	<pre>rollingSum(unique([Employee_ID]), fiscal year to date) for (\\"Terminated_This_Period\\", \\"True\\") for ("Termination_Category", "Involuntary") / rollingSum(unique([Employee_ID]),</pre>

	fiscal year to date) for ("Active_Status", "True") * (12 / fiscal year to date months)
Translation	Number of workers terminated involuntarily in FY to-date / FY Average active headcount (Sum of active headcounts for each month in FY to-date / Number of months in FY to-date) * (12 / Number of months in FY to-date) * 100
Comparison Point	Fiscal year prior to the current one
Required Fields	<ul style="list-style-type: none"> • Active Status • Employee ID • Termination Date • Term Category

Involuntary Monthly Attrition Rate

What uses this metric?	KPI: Involuntary Monthly Attrition Rate
Metric Type	Events Over Time
Metric Time Frame	Current snapshot period
Metric Formula	<pre>unique([Employee_ID]) for ("Terminated_This_Period", "True") for ("Termination_Category", "Involuntary") / rollingSum(unique([Employee_ID]), 2) for ("Active_Status", "True") / 2</pre>
Translation	Number of involuntarily terminated workers within period / Average active headcount for period (Active headcount at beginning of month + Active headcount at end of month) / 2) * 100
Comparison Point	Month prior to the current snapshot period
Required Fields	<ul style="list-style-type: none"> • Active Status • Employee ID • Termination Date • Term Category

Involuntary Monthly Termination Count

What uses this metric?	KPI: Involuntary Monthly Termination Count
Metric Type	Events Over Time
Metric Time Frame	Current snapshot period
Metric Formula	<pre>unique([Employee_ID]) for ("Terminated_This_Period", "True") for ("Termination_Category", "Involuntary")</pre>

Translation	Number of workers terminated involuntarily in previous month
Comparison Point	Month prior to the current one
Required Fields	<ul style="list-style-type: none"> Employee ID Termination Date Term Category

Involuntary Quarterly Attrition Rate

What uses this metric?	KPI: Involuntary Quarterly Attrition Rate
Metric Type	Events Over Time
Metric Time Frame	Current fiscal quarter
Metric Formula	<pre>unique([Employee_ID], fiscal quarter to date) for (\\"Terminated_This_Period\\", \\\"True\\") for ("Termination_Category", "Involuntary") / rollingSum(unique([Employee_ID]), fiscal quarter to date) for ("Active_Status", "True") / number of months fiscal quarter to date)</pre>
Translation	Number of workers terminated involuntarily in FQ to-date / FQ Average active headcount (Sum of active headcounts for each month in FQ to-date / Number of months in FQ to-date) * 100
Comparison Point	Fiscal quarter prior to the current one
Required Fields	<ul style="list-style-type: none"> Active Status Employee ID Termination Date Term Category

Involuntary Termination YTD Count

What uses this metric?	KPI: Involuntary Termination YTD Count
Metric Type	Count
Metric Time Frame	Current fiscal year to date
Metric Formula	<pre>rollingSum(unique([Employee_ID]), fiscal year to date) for ("Terminated_This_Period", "True") for ("Termination_Category", "Involuntary")</pre>
Translation	Number of workers terminated involuntarily in FY to-date
Comparison Point	Fiscal year prior to the current one
Required Fields	<ul style="list-style-type: none"> Employee ID Termination Date

- Term Category

Leadership Active Headcount

What uses this metric?	KPI: Leadership Active Headcount
Metric Type	Count
Metric Time Frame	Current snapshot period
Metric Formula	<pre>unique([Employee_ID]) for ("Active_Status", "True") for ("Is_Leader", "True")</pre>
Translation	Number of leaders in your organization as of previous period
Comparison Point	Month prior to the current snapshot period
Required Fields	<ul style="list-style-type: none"> • Active Status • Employee ID • Is Leader

Leadership URM Rate

What uses this metric?	KPI: Leadership URM Rate
Metric Type	Rate
Metric Time Frame	Current snapshot period
Metric Formula	<pre>unique([Employee_ID]) for ("Is_Leader", "True") for ("Is_URM", "True") for ("Active_Status", "True") / unique([Employee_ID]) for ("Active_Status", "True") for ("Is_Leader", "True")</pre>
Translation	URM active headcount at end of previous month / Leadership active headcount at end of previous month * 100
Comparison Point	12 months ago
Required Fields	<ul style="list-style-type: none"> • Active Status • Employee ID • Is Leader • Underrepresented Minority Worker

Manager Active Headcount

What uses this metric?	KPI: Manager Active Headcount
Metric Type	Count
Metric Time Frame	Current snapshot period

Metric Formula	<code>unique([Employee_ID]) for ("Active_Status", "True") for ("Is_Manager", "True")</code>
Translation	Number of managers in your organization as of previous period
Comparison Point	Month prior to the current snapshot period
Required Fields	<ul style="list-style-type: none"> • Active Status • Employee ID • Is Manager

Monthly Attrition Rate

What uses this metric?	KPI: Monthly Attrition Rate
Metric Type	Rate
Metric Time Frame	Current snapshot period
Metric Formula	<code>unique([Employee_ID]) for ("Terminated_This_Period", "True") / rollingSum(unique([Employee_ID]), 2) for ("Active_Status", "True") / 2</code>
Translation	Number of terminated workers within period / Average active headcount for period (Active headcount at beginning of period + Active headcount at end of period) / 2 * 100
Comparison Point	Month prior to the current snapshot period
Required Fields	<ul style="list-style-type: none"> • Active Status • Employee ID • Termination Date

Monthly New Hires

What uses this metric?	KPI: Monthly New Hires
Metric Type	Count
Metric Time Frame	Current snapshot period
Metric Formula	<code>unique([Employee_ID]) for ("Hired_This_Period", "True")</code>
Translation	Number of new hires acquired by your organization in previous month
Comparison Point	Month prior to the current snapshot period
Required Fields	<ul style="list-style-type: none"> • Active Status • Employee ID • Hire Date

Monthly Termination Count

What uses this metric?	KPI: Monthly Termination Count
Metric Type	Count
Metric Time Frame	Current snapshot period
Metric Formula	<code>unique([Employee_ID]) for ("Terminated_This_Period", "True")</code>
Translation	Number of workers terminated in previous month
Comparison Point	Month prior to the current one
Required Fields	<ul style="list-style-type: none"> Employee ID Termination Date

New Hires Attrition Rate

What uses this metric?	Retention and Attrition Business Question: Where do we lose the most new hires?
Metric Type	Events Over Time
Metric Time Frame	<p>Depending on your data history:</p> <ul style="list-style-type: none"> 12-month rolling period, or 3-month rolling period.
Metric Formula	<pre>rollingSum(unique([Employee_ID]), 12) for ("Terminated_This_Period", "True") for ("Is_New_Hire", "True") / {avg_new_hires_headcount_rolling_12_months}, where avg_new_hires_headcount_rolling_12_months = (rollingSum(unique([Employee_ID]), 12) for ("Is_New_Hire", "True") for ("Active_Status", "True"))/ 12)</pre> <p>OR</p> <pre>rollingSum(unique([Employee_ID]), 3) for ("Terminated_This_Period", "True") for ("Is_New_Hire", "True") / {avg_new_hires_headcount_rolling_3_months}, where avg_new_hires_headcount_rolling_3_months = (rollingSum(unique([Employee_ID]), 3) for ("Is_New_Hire", "True") for ("Active_Status", "True"))/ 3)</pre>
Translation	Number of terminated new hires within period / New hires average active headcount for period (Sum of new hires active headcounts for each month / Number of months in rolling period) * 100
Comparison Point	Current snapshot period for the comparison group

New Hires Retention Rate 2

What uses this metric?	KPI: New Hires Retention Rate 2
Metric Type	Events Over Time
Metric Time Frame	12-month rolling period
Metric Formula	<pre>previous(unique([Employee_ID]), 12) for ("Is_New_Hire", "True") for ("Active_Status", "True") for ("Is_Rehire", "False") - rollingSum(unique([Employee_ID]), 12) for ("Terminated_This_Period", "True") for ("Is_New_Hire", "True") for ("Is_Rehire", "False") + rollingSum(unique([Employee_ID]), 12) for ("Hired_This_Period", "True") for ("Is_Rehire", "False")) / previous(unique([Employee_ID]), 12) for ("Is_New_Hire", "True") for ("Active_Status", "True") for ("Is_Not_Rehire", "True") + rollingSum(unique([Employee_ID]), 12) for ("Hired_This_Period", "True") for ("Is_Not_Rehire", "True")</pre>
Translation	(Active new hires at beginning of period - Terminated new hires within period + Hired workers within period) / (Active new hires at beginning of period + Hired workers within period) * 100 Note: This metric excludes rehires.
Comparison Point	12 months ago
Required Fields	<ul style="list-style-type: none"> • Active Status • Employee ID • Hire Date • Length of Service In Partial Years • Rehired Worker • Termination Date

New Hires YTD

What uses this metric?	KPI: New Hires YTD
Metric Type	Count
Metric Time Frame	Current fiscal year to date
Metric Formula	rollingSum(unique([Employee_ID]), fiscal year to date) for ("Hired_This_Period", "True")
Translation	Number of new hires in FY to-date
Comparison Point	Fiscal year prior to the current one

Required Fields	<ul style="list-style-type: none"> • Active Status • Employee ID • Is Manager
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New Hires Retention Rate

What uses this metric?	KPI: New Hires Retention Rate
Metric Type	Events Over Time
Metric Time Frame	12-month rolling period
Metric Formula	<pre>(previous(unique([Employee_ID]), 12) for ("Is_New_Hire", "True") for ("Active_Status", "True") - rollingSum(unique([Employee_ID]), 12) for ("Terminated_This_Period", "True") for ("Is_New_Hire", "True") + rollingSum(unique([Employee_ID]), 12) for ("Hired_This_Period", "True")) / (previous(unique([Employee_ID]), 12) for ("Is_New_Hire", "True") for ("Active_Status", "True") + rollingSum(unique([Employee_ID]), 12) for ("Hired_This_Period", "True")))</pre>
Translation	(Active new hires at beginning of period + Hired workers within period - Terminated new hires within period) / (Active new hires at beginning of period + Hired workers within period) * 100
Comparison Points	<ul style="list-style-type: none"> • Historical snapshot period 12 month ago • Company KPI Comparison
Required Fields for KPI	<ul style="list-style-type: none"> • Active Status • Employee ID • Hire Date • Length of Service in Partial Years • Termination Date

Offer Accepted Rate

What uses this metric?	KPI: Offer Accepted Rate
Metric Type	Rate
Metric Time Frame	Current snapshot period
Metric Formula	<pre>((candidates_offered) - (candidates_offer_pending) - (candidates_offer_declined)) / ((candidates_offered) - (candidates_offer_pending))</pre>

Variables for Calculation	<ul style="list-style-type: none"> • candidates_offered = unique([Candidate_JobRequisition]) for ("Stage_Consolidated", "offer") • candidates_offer_pending = unique([Candidate_JobRequisition]) for ("Stage_Consolidated", "offer") for ("Candidate_Stage_Instance_Evaluated", "offer") • candidates_offer_declined = unique([Candidate_JobRequisition]) for ("Stage_Consolidated", "offer") for ("Candidate_Stage_Instance_Evaluated", "offer") by candidate" • Candidate_JobRequisition = CONCAT([Candidate_ID], "-", [Job_Requisition])
Translation	(Offers extended - Offers with decision pending from candidate - Offers declined) / (Offers extended - Offers with decision pending from candidate) * 100
Comparison Points	<ul style="list-style-type: none"> • Historical snapshot period 12 months ago. • Company KPI Comparison.
Required Fields for KPI	<ul style="list-style-type: none"> • Candidate ID • Job Requisition • Candidate Stage • Stage

Offer Declined Rate

What uses this metric?	Hiring Business Question: What areas do we need to focus on to stay competitive with offers? KPI: Offer Declined Rate
Metric Type	Rate
Metric Time Frame	Current snapshot period
Metric Formula	$\frac{(\text{candidates_offer_declined})}{((\text{candidates_offered}) - (\text{candidates_offer_pending}))}$
Variables for Calculation	<ul style="list-style-type: none"> • candidates_offer_declined = unique([Candidate_JobRequisition]) for ("Stage_Consolidated", "offer") for ("Candidate_Stage_Instance_Evaluated", "offer") by candidate" • candidates_offered = unique([Candidate_JobRequisition]) for ("Stage_Consolidated", "offer")

	<ul style="list-style-type: none"> • candidates_offer_pending = unique([Candidate_JobRequisition]) for ("Stage_Consolidated", "offer") for ("Candidate_Stage_Instance_Evaluated", "offer") • Candidate_JobRequisition = CONCAT([Candidate_ID], "-", [Job_Requisition])
Translation	Offers declined / Offers extended (excluding pending) * 100
Comparison Point	Current snapshot period for the comparison group

Part-time Rate

What uses this metric?	KPI: Part-time Rate
Metric Type	Rate
Metric Time Frame	Current snapshot period
Metric Formula	unique([Employee_ID]) for ("Active_Status", "True") for ("Is_Part_Time_Worker", "True") / unique([Employee_ID]) for ("Active_Status", "True")
Translation	Part-time workers active headcount at end of previous month / Active headcount at end of previous month * 100
Comparison Point	12 months ago
Required Fields	<ul style="list-style-type: none"> • Active Status • Employee ID • Part-time Worker

Promotion Rate

What uses this metric?	KPI: Promotion Rate Organization Composition Business Question: Where are gaps in promoting females?
Metric Type	Events Over Time
Metric Time Frame	Depending on your data history: <ul style="list-style-type: none"> • 12-month rolling period, or • 3-month rolling period (business question only).

Metric Formula	<pre>rollingSum(unique([Employee_ID]), 12) for ("Promoted_This_Period", "True") for ("Active_Status", "True") / {avg_active_headcount_rolling_12_months}, where avg_active_headcount_rolling_12_months = (rollingSum(unique([Employee_ID]), 12) for ("Active_Status", "True") / 12)</pre> <p>OR</p> <pre>rollingSum(unique([Employee_ID]), 3) for ("Promoted_This_Period", "True") for ("Active_Status", "True") / {avg_active_headcount_rolling_3_months}, where avg_active_headcount_rolling_3_months = (rollingSum(unique([Employee_ID]), 3) for ("Active_Status", "True") / 3)</pre>
Translation	Number of promoted active workers within period / Average active headcount for period (Sum of active headcounts for each month / Number of months in rolling period) * 100
Comparison Points	<p>For KPI:</p> <ul style="list-style-type: none"> • Historical snapshot period 1 month ago • Company KPI Comparison <p>For the business question and focus insights:</p> <ul style="list-style-type: none"> • Current snapshot period for the comparison group
Required Fields for KPI	<ul style="list-style-type: none"> • Active Status • Employee ID • Last Promotion Date • Report Effective Date

Promotion Speed Ratio

What uses this metric?	KPI: Promotion Speed Ratio
Metric Type	Rate
Metric Time Frame	Current snapshot period
Metric Formula	<pre>sum([Position_Tenure_Prior_to_Promotion_in_Years for ("Active_Status", "True") for ("Promoted_This_Period", "True") / unique([Employee_ID]) for ("Active_Status", "True") for ("Promoted_This_Period", "True"))</pre>

Translation	Sum of length of tenure prior to promotion of active headcount at end of previous month / Active headcount at end of previous month
Comparison Point	12 months ago
Required Fields	<ul style="list-style-type: none"> • Active Status • Employee ID • Position Tenure Prior to Promotion in Days • Last Promotion Date • Report Effective Date

Quarterly Attrition Rate

What uses this metric?	KPI: Quarterly Attrition Rate
Metric Type	Rate
Metric Time Frame	Current fiscal quarter
Metric Formula	<pre>unique([Employee_ID], fiscal quarter to date) for (\\"Terminated_This_Period\\", \\\"True\\") / (rollingSum(unique([Employee_ID]), fiscal quarter to date) for ("Active_Status", "True") / Number of months fiscal quarter to date)</pre>
Translation	Number of workers terminated in FQ to-date / FQ average active headcount (Sum of active headcounts for each month in FQ to-date / Number of months in FY to-date passed in FQ to-date) * 100
Comparison Point	Fiscal quarter prior to the current one
Required Fields	<ul style="list-style-type: none"> • Active Status • Employee ID • Termination Date

Quarterly Involuntary Termination Count

What uses this metric?	KPI: Quarterly Involuntary Termination Count
Metric Type	Count
Metric Time Frame	Current fiscal quarter
Metric Formula	<pre>unique([Employee_ID], fiscal quarter to date) for ("Terminated_This_Period", "True") for ("Termination_Category", "Involuntary")</pre>
Translation	Number of workers terminated involuntarily in last completed FQ
Comparison Point	Fiscal quarter prior to the current one
Required Fields	<ul style="list-style-type: none"> • Employee ID

- | | |
|--|---|
| | <ul style="list-style-type: none"> • Termination Date • Term Category |
|--|---|

Quarterly New Hires

What uses this metric?	KPI: Quarterly New Hires
Metric Type	Count
Metric Time Frame	Current fiscal quarter
Metric Formula	<code>unique([Employee_ID], fiscal quarter to date) for ("Hired_This_Period", "True")</code>
Translation	Number of workers hired in last completed FQ
Comparison Point	Fiscal quarter prior to the current one
Required Fields	<ul style="list-style-type: none"> • Active Status • Employee ID • Hire Date

Quarterly Termination Count

What uses this metric?	KPI: Quarterly Termination Count
Metric Type	Count
Metric Time Frame	Current fiscal quarter
Metric Formula	<code>unique([Employee_ID], fiscal quarter to date) for ("Terminated_This_Period", "True")</code>
Translation	Number of workers terminated in last completed FQ
Comparison Point	Fiscal quarter prior to the current snapshot period
Required Fields	<ul style="list-style-type: none"> • Employee ID • Termination Date

Quarterly Voluntary Termination Count

What uses this metric?	KPI: Quarterly Voluntary Termination Count
Metric Type	Count
Metric Time Frame	Current fiscal quarter
Metric Formula	<code>unique([Employee_ID], fiscal quarter to date) for ("Terminated_This_Period", "True") for ("Termination_Category", "Voluntary")</code>
Translation	Number of workers terminated voluntarily in last completed FQ
Comparison Point	Fiscal quarter prior to the current one

Required Fields	<ul style="list-style-type: none"> Employee ID Termination Date Term Category
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Referral Hire Rate

What uses this metric?	KPI: Referral Hire Rate
Metric Type	Rate
Metric Time Frame	Current snapshot period
Metric Formula	$(\text{candidates_hired_referred}) / (\text{candidates_hired})$
Variables for Calculation	<ul style="list-style-type: none"> candidates_hired_referred = {candidates_hired} for ("Source_Instance_Evaluated", "referral") candidates_hired = unique([Candidate_JobRequisition]) for ("Stage_Consolidated", "hire") <ul style="list-style-type: none"> Candidate_JobRequisition = CONCAT([Candidate_ID], "-", [Job_Requisition])
Translation	Number of referral hires in previous month / Number of hires in previous month * 100
Comparison Points	<ul style="list-style-type: none"> Historical snapshot period 12 months ago. Company KPI Comparison.
Required Fields for KPI	<ul style="list-style-type: none"> Candidate ID Job Requisition Job Application Source Candidate Source Stage

Regrettable 12-Month Rolling Attrition Rate

What uses this metric?	KPI: Regrettable 12-Month Rolling Attrition Rate
Metric Type	Events Over Time
Metric Time Frame	12-month rolling period
Metric Formula	$\text{rollingSum}(\text{unique}([\text{Employee_ID}]), 12) \text{ for } (\text{"Terminated_This_Period"}, \text{"True"}) \text{ for } (\text{"Is_Regrettable_Termination"}, \text{"True"}) / \text{rollingSum}(\text{unique}([\text{Employee_ID}]), 12) \text{ for } (\text{"Active_Status"}, \text{"True"}) / 12$
Translation	Number of regrettably terminated workers within period / Average active headcount for period (Sum)

	of active headcounts for each month / Number of months in rolling period) * 100
Comparison Point	12 months ago
Required Fields	<ul style="list-style-type: none"> • Active Status • Employee ID • Regrettable Termination • Termination Date

Regrettable Annualized Attrition Rate

What uses this metric?	KPI: Regrettable Annualized Attrition Rate
Metric Type	Events Over Time
Metric Time Frame	Current fiscal year to date
Metric Formula	<pre>rollingSum(unique([Employee_ID]), fiscal year to date) for (\\"Terminated_This_Period\\", \"True\\") for (\\"Regrettable_Termination \", \"True\\") / rollingSum(unique([Employee_ID]), fiscal year to date) for ("Active_Status", "True") * (12 / fiscal year to date months)</pre>
Translation	Number of workers terminated regrettably in FY to-date / FY Average active headcount (Sum of active headcounts for each month in FY to-date / Number of months in FY to-date) * (12 / Number of months in FY to-date) * 100
Comparison Point	Fiscal year prior to the current one
Required Fields	<ul style="list-style-type: none"> • Active Status • Employee ID • Regrettable Termination • Term Category

Regrettable Monthly Attrition Rate

What uses this metric?	KPI: Regrettable Monthly Attrition Rate
Metric Type	Events Over Time
Metric Time Frame	Current snapshot period
Metric Formula	<pre>unique([Employee_ID]) for ("Terminated_This_Period", "True") for ("Is_Regrettable_Termination", "True") / rollingSum(unique([Employee_ID]), 2) for ("Active_Status", "True") / 2</pre>
Translation	Number of regrettably terminated workers within period / Average active headcount for period

	(Active headcount at beginning of month + Active headcount at end of month) / 2 * 100
Comparison Point	Month prior to the current snapshot period
Required Fields	<ul style="list-style-type: none"> • Active Status • Employee ID • Regrettable Termination • Termination Date

Regrettable Quarterly Attrition Rate

What uses this metric?	Current fiscal quarter
Metric Type	Events Over Time
Metric Time Frame	unique([Employee_ID], fiscal quarter to date) for ("Terminated_This_Period", "True") for ("Is_Regrettable_Termination", "True") / (rollingSum(unique([Employee_ID]), fiscal quarter to date) for ("Active_Status", "True") / number of months fiscal quarter to date)
Metric Formula	Number of workers terminated regrettably in FQ to-date / FQ Average active headcount (Sum of active headcounts for each month in FQ to- date / Number of months in FQ to-date) * 100
Translation	Number of workers terminated regrettably in FQ to- date / FQ Average active headcount (Sum of active headcounts for each month in FQ to-date / Number of months in FQ to-date) * 100
Comparison Point	Fiscal quarter prior to the latest one
Required Fields	<ul style="list-style-type: none"> • Active Status • Employee ID • Regrettable Termination • Term Category

Retention Rate

What uses this metric?	Retention and Attrition Business Question: Where can we improve female retention in the workforce? Retention and Attrition Business Question: Where can we improve retention?
Metric Type	Events Over Time
Metric Time Frame	<p>Depending on your data history:</p> <ul style="list-style-type: none"> • 12-month rolling period, or • 3-month rolling period.

Metric Formula for 'Where can we improve female retention in the workforce?'

```
(previous(unique([Employee_ID]),
12) for ("Gender", "Female")
for ("Active_Status", "True") -
rollingSum(unique([Employee_ID]),
12) for ("Terminated_This_Period",
"True") for ("Gender", "Female") +
rollingSum(unique([Employee_ID]),
12) for ("Hired_This_Period",
"True") for ("Gender", "Female")) /
(previous(unique([Employee_ID]),
12) for ("Gender", "Female")
for ("Active_Status", "True") +
rollingSum(unique([Employee_ID]), 12)
for ("Hired_This_Period", "True") for
("Gender", "Female"))
```

OR

```
(previous(unique([Employee_ID]),
3) for ("Gender", "Female")
for ("Active_Status", "True") -
rollingSum(unique([Employee_ID]),
3) for ("Terminated_This_Period",
"True") for ("Gender", "Female") +
rollingSum(unique([Employee_ID]),
3) for ("Hired_This_Period",
"True") for ("Gender", "Female")) /
(previous(unique([Employee_ID]),
3) for ("Gender", "Female")
for ("Active_Status", "True") +
rollingSum(unique([Employee_ID]), 3)
for ("Hired_This_Period", "True") for
("Gender", "Female"))
```

Translation

(Active female headcount at beginning of period
+ Female hires within period - Terminations within period) / (Active female headcount at beginning of period + Female hires within period) * 100

Metric Formula for 'Where can we improve retention?'

```
(previous(unique([Employee_ID]),
12) for ("Active_Status", "True") -
rollingSum(unique([Employee_ID]), 12)
for ("Terminated_This_Period", "True") +
rollingSum(unique([Employee_ID]),
12) for ("Hired_This_Period",
"True")) /
(previous(unique([Employee_ID]),
12) for ("Active_Status", "True") +
rollingSum(unique([Employee_ID]), 12)
for ("Hired_This_Period", "True"))
```

OR

Translation	(previous(unique([Employee_ID]), 3) for ("Active_Status", "True") - rollingSum(unique([Employee_ID]), 3) for ("Terminated_This_Period", "True") + rollingSum(unique([Employee_ID]), 3) for ("Hired_This_Period", "True")) / (previous(unique([Employee_ID]), 3) for ("Active_Status", "True") + rollingSum(unique([Employee_ID]), 3) for ("Hired_This_Period", "True")))
Comparison Point for Both BQs	(Active headcount at beginning of period + Hires within period - Terminations within period) / (Active headcount at beginning of period + Hires within period) * 100
	Current snapshot period for the comparison group

Termination YTD Count

What uses this metric?	KPI: Termination YTD Count
Metric Type	Count
Metric Time Frame	Current fiscal year to date
Metric Formula	rollingSum(unique([Employee_ID]), fiscal year to date) for ("Terminated_This_Period", "True")
Translation	Number of workers terminated in FY to-date
Comparison Point	Fiscal year prior to the current one
Required Fields	<ul style="list-style-type: none"> • Employee ID • Termination Date

URM 12-Month Rolling Attrition Rate

What uses this metric?	KPI: URM 12-Month Rolling Attrition Rate
Metric Type	Events Over Time
Metric Time Frame	12-month rolling period
Metric Formula	rollingSum(unique([Employee_ID]), 12) for ("Terminated_This_Period", "True") for ("Is_URM", "True") / rollingSum(unique([Employee_ID]), 12) for ("Active_Status", "True") / 12
Translation	Number of URM workers terminated within period / Average active headcount for period (Sum of active headcounts for each month / Number of months in rolling period) * 100
Comparison Point	12 months ago
Required Fields	<ul style="list-style-type: none"> • Active Status

	<ul style="list-style-type: none"> • Employee ID • Underrepresented Minority Worker • Termination Date
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URM Active Headcount

What uses this metric?	KPI: URM Active Headcount
Metric Type	Count
Metric Time Frame	Current snapshot period
Metric Formula	<pre>unique([Employee_ID]) for ("Active_Status", "True") for ("Is_URM", "True")</pre>
Translation	Number of URM workers in your organization as of previous period
Comparison Point	Snapshot period prior to the current one
Required Fields	<ul style="list-style-type: none"> • Active Status • Employee ID • Underrepresented Minority Worker

URM Annualized Attrition Rate

What uses this metric?	KPI: URM Annualized Attrition Rate
Metric Type	Events Over Time
Metric Time Frame	Current fiscal year to date
Metric Formula	<pre>rollingSum(unique([Employee_ID]), fiscal year to date) for (\"Terminated_This_Period\", \"True\") for (\"Is_URM\", \"True\") / rollingSum(unique([Employee_ID]), fiscal year to date) for ("Active_Status", "True") for ("Is_URM", "True") * (12 / fiscal year to date months)</pre>
Translation	URM terminations in FY to-date / FY URM average active headcount (Sum of active headcounts for each month in FY to-date / Number of months in FY to-date) * (12 / Number of months in FY to-date) * 100
Comparison Point	Fiscal year prior to the current one
Required Fields	<ul style="list-style-type: none"> • Active Status • Employee ID • Underrepresented Minority Worker • Termination Date

URM Monthly Attrition Rate

What uses this metric?	KPI: URM Monthly Attrition Rate
Metric Type	Events Over Time
Metric Time Frame	Current snapshot period
Metric Formula	<pre>unique([Employee_ID]) for ("Terminated_This_Period", "True") for ("Is_URM", "True") / rollingSum(unique([Employee_ID]), 2) for ("Active_Status", "True") / 2</pre>
Translation	URM terminations at end of previous month / URM average active headcount for previous month (Active headcount at beginning of previous month + Active headcount at end of previous month) / 2) * 100
Comparison Point	Month prior to the current snapshot period
Required Fields	<ul style="list-style-type: none"> • Active Status • Employee ID • Underrepresented Minority Worker • Termination Date

URM Monthly Termination Count

What uses this metric?	KPI: URM Monthly Termination Count
Metric Type	Events Over Time
Metric Time Frame	Current snapshot period
Metric Formula	<pre>unique([Employee_ID]) for ("Terminated_This_Period", "True") for ("Is_URM", "True")</pre>
Translation	Number of URM workers terminated in previous month
Comparison Point	Month prior to the current snapshot period
Required Fields	<ul style="list-style-type: none"> • Employee ID • Underrepresented Minority Worker • Termination Date

URM Quarterly Attrition Rate

What uses this metric?	KPI: URM Quarterly Attrition Rate
Metric Type	Events Over Time
Metric Time Frame	Current fiscal quarter
Metric Formula	<pre>unique([Employee_ID], fiscal quarter to date)) for (\"Terminated_This_Period\", \"True\") for ("Is_URM", "True") /</pre>

	<pre>(rollingSum(unique([Employee_ID]), fiscal quarter to date) for ("Active_Status", "True") for ("Is_URM", "True") / number of months fiscal quarter to date)</pre>
Translation	Number of URM workers terminated in last completed FQ / FQ URM average active headcount (Sum of active headcounts for each month in FQ to-date / Number of months in FQ to-date) * 100
Comparison Point	Fiscal quarter prior to the current one
Required Fields	<ul style="list-style-type: none"> • Active Status • Employee ID • Underrepresented Minority Worker • Termination Date

URM Quarterly Termination Count

What uses this metric?	KPI: URM Quarterly Termination Count
Metric Type	Events Over Time
Metric Time Frame	Current fiscal quarter
Metric Formula	<pre>unique([Employee_ID], fiscal quarter to date) for ("Terminated_This_Period", "True") for ("Is_URM", "True")</pre>
Translation	Number of URM workers terminated in last completed FQ
Comparison Point	Fiscal quarter prior to the current one
Required Fields	<ul style="list-style-type: none"> • Employee ID • Underrepresented Minority Worker • Termination Date

URM Rate

What uses this metric?	KPI: URM Rate
Metric Type	Rate
Metric Time Frame	Current snapshot period
Metric Formula	<pre>unique([Employee_ID]) for ("Active_Status", "True") for ("Is_URM", "True") / unique([Employee_ID]) for ("Active_Status", "True")</pre>
Translation	URM active headcount at end of previous month / Active headcount at end of previous month * 100
Comparison Point	12 months ago

Required Fields	<ul style="list-style-type: none"> • Active Status • Employee ID • Underrepresented Minority Worker
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URM YTD Termination Count

What uses this metric?	KPI: URM YTD Termination Count
Metric Type	Count
Metric Time Frame	Current fiscal year to date
Metric Formula	<pre>rollingSum(unique([Employee_ID]), fiscal year to date) for ("Terminated_This_Period", "True") for ("Is_URM", "True")</pre>
Translation	Number of URM workers terminated in FY to-date
Comparison Point	Fiscal year prior to the current one
Required Fields	<ul style="list-style-type: none"> • Employee ID • Underrepresented Minority Worker • Termination Date

Veteran Status Rate

What uses this metric?	KPI: Veteran Status Rate
Metric Type	Rate
Metric Time Frame	Current snapshot period
Metric Formula	<pre>unique([Employee_ID]) for ("Active_Status", "True") for ("Is_Veteran", "True") / unique([Employee_ID]) for ("Active_Status", "True")</pre>
Translation	Veteran headcount at end of previous month / Active headcount at end of previous month * 100
Comparison Point	12 months ago
Required Fields	<ul style="list-style-type: none"> • Active Status • Employee ID • Is Veteran

Voluntary 12-Month Rolling Attrition Rate

What uses this metric?	KPI: Voluntary 12-Month Rolling Attrition Rate
Metric Type	Events Over Time
Metric Time Frame	12-month rolling period
Metric Formula	<pre>rollingSum(unique([Employee_ID]), 12) for ("Terminated_This_Period",</pre>

	<pre>"True") for ("Termination_Category", "Voluntary") / rollingSum(unique([Employee_ID]), 12) for ("Active_Status", "True") / 12</pre>
Translation	Number of voluntarily terminated workers within period / Average active headcount for period (Sum of active headcounts for each month / Number of months in rolling period) * 100
Comparison Point	12 months ago
Required Fields	<ul style="list-style-type: none"> • Active Status • Employee ID • Termination Date • Term Category

Voluntary Annualized Attrition Rate

What uses this metric?	KPI: Voluntary Annualized Attrition Rate
Metric Type	Events Over Time
Metric Time Frame	Current fiscal year to date
Metric Formula	<pre>rollingSum(unique([Employee_ID]), fiscal year to date) for (\"Terminated_This_Period\", \"True\"\") for ("Termination_Category", "Voluntary") / rollingSum(unique([Employee_ID]), fiscal year to date) for ("Active_Status", "True") * (12 / fiscal year to date months)</pre>
Translation	Number of workers terminated voluntarily in FY to-date / FY average active headcount (Sum of active headcounts for each month in FY to-date / Number of months in FY to-date) * (12 / Number of months in FY to-date) * 100
Comparison Point	Fiscal year prior to the current one
Required Fields	<ul style="list-style-type: none"> • Active Status • Employee ID • Termination Date • Term Category

Voluntary Monthly Attrition Rate

What uses this metric?	KPI: Voluntary Monthly Attrition Rate
Metric Type	Events Over Time
Metric Time Frame	Current snapshot period
Metric Formula	<pre>unique([Employee_ID]) for ("Terminated_This_Period", "True")</pre>

	<pre>for ("Termination_Category", "Voluntary") / rollingSum(unique([Employee_ID]), 2) for ("Active_Status", "True") / 2</pre>
Translation	Number of voluntarily terminated workers within period / Average active headcount for period (Active headcount at beginning of month + Active headcount at end of month) / 2 * 100
Comparison Point	Month prior to the current snapshot period
Required Fields	<ul style="list-style-type: none"> • Active Status • Employee ID • Termination Date • Term Category

Voluntary Monthly Termination Count

What uses this metric?	KPI: Voluntary Monthly Termination Count
Metric Type	Events Over Time
Metric Time Frame	Current snapshot period
Metric Formula	<code>unique([Employee_ID]) for ("Terminated_This_Period", "True") for ("Termination_Category", "Voluntary")</code>
Translation	Number of workers terminated voluntarily in previous month
Comparison Point	Month prior to the current snapshot period
Required Fields	<ul style="list-style-type: none"> • Employee ID • Termination Date • Term Category

Voluntary Quarterly Attrition Rate

What uses this metric?	KPI: Voluntary Quarterly Attrition Rate
Metric Type	Events Over Time
Metric Time Frame	Current fiscal quarter
Metric Formula	<code>unique([Employee_ID], fiscal quarter to date) for (\\"Terminated_This_Period\\", \\"True\\") for ("Termination_Category", "Voluntary") / (rollingSum(unique([Employee_ID]), fiscal quarter to date) for ("Active_Status", "True") / number of months fiscal quarter to date)</code>
Translation	Number of workers terminated voluntarily in FQ to-date / FQ Average active headcount (Sum of active headcounts for each month in FQ to-date / Number of months in FQ to-date) * 100

Comparison Point	Fiscal quarter prior to the current one
Required Fields	<ul style="list-style-type: none"> • Active Status • Employee ID • Termination Date • Term Category <p>regrettable quarter</p>

Voluntary Termination YTD Count

What uses this metric?	KPI: Voluntary Termination YTD Count
Metric Type	Events Over Time
Metric Time Frame	Current fiscal year to date
Metric Formula	<pre>rollingSum(unique([Employee_ID]), fiscal year to date) for ("Terminated_This_Period", "True") for ("Termination_Category", "Voluntary")</pre>
Translation	Number of workers terminated voluntarily in FY to-date
Comparison Point	Fiscal year prior to the current one
Required Fields	<ul style="list-style-type: none"> • Employee ID • Termination Date • Term Category

Related Information

Reference

[The Next Level: People Analytics: Resources to Help Validate Your Organization's Data](#)

Reference: Visualizations by Topic

Use the configuration details in the tables to recreate People Analytics visualizations across topics. You can then add additional fields and specifications to customize your analysis according to the needs of your business.

Note: Because we round all values to the nearest tenth decimal point, percent values in visualizations might not add up to 100% exactly. This is expected.

- [Diversity and Inclusion](#) on page 769
- [Organization Composition](#) on page 770
- [Retention and Attrition](#) on page 775
- [Hiring](#) on page 778
- [Talent and Performance](#) on page 780
- [Skills](#) on page 782

Diversity and Inclusion

Visualization	Time Frame	Graph Type	Fields	Filters
Ethnicity Trend	Rolling 12 months	Type: Line Chart	X-Axis: Month Override Y-Axis Display Name: Active Headcount Color: Ethnicity	'Active Status', 'is true' AND 'Snapshot_Index', 'is between', value: [1, 13]
Gender by Tenure Category	Current snapshot period	Type: Bar Chart Orientation: Vertical Grouping: Stack to 100	X-Axis: Tenure Category Override Y-Axis Display Name: Active Headcount Color: Gender	'Active Status', 'is true' AND 'Snapshot_Index', 'is between', value: [1, 1]
Gender Trend	Rolling 12 months	Type: Line Chart	X-Axis: Month Override Y-Axis Display Name: Active Headcount Color: Gender	'Active Status', 'is true' AND 'Snapshot_Index', 'is between', value: [1, 13]
Generation Trend	Rolling 12 months	Type: Line Chart	X-Axis: Month Override Y-Axis Display Name: Active Headcount Color: Generation	'Active Status', 'is true' AND 'Snapshot_Index', 'is between', value: [1, 13]
Management Level by Gender	Current snapshot period	Type: Bar Chart Orientation: Vertical Grouping: Stack to 100	X-Axis: Management Level X-Axis Sort Order: Management Level Seniority - Ascending Override Y-Axis Display Name: Active Headcount Color: Gender	'Active Status', 'is true' AND 'Snapshot_Index', 'is between', value: [1, 1]
Termination Count by Ethnicity	Rolling 12 months	Type: Heatmap	X-Axis: Month Y-Axis: Ethnicity	'Terminated This Period', 'is true'

Visualization	Time Frame	Graph Type	Fields	Filters
				AND 'Snapshot_Index', 'is between', value: [1, 13]
Termination Count by Generation	Rolling 12 months	Type: Heatmap	X-Axis: Month Y-Axis: Generation	'Terminated This Period', 'is true' AND 'Snapshot_Index', 'is between', value: [1, 13]
Top 5 - Termination Reasons by Gender - Previous Quarter	Previous fiscal quarter. This graph might adjust each snapshot period due to the volume of terminations per category.	Type: Bar Chart Orientation: Vertical Grouping: Stack	X-Axis: Termination Reason X-Axis Sort Order: Value Total - Descending X-Axis Limit: 5 groupings Sum Remaining Values for X-Axis: False Override Y-Axis Display Name: Terminated Headcount Color: Gender Color Sort Order: Value Total - Descending	'Terminated This Period', 'is true' AND 'Complete_snapshot_index' 'is between', value: [1, 3]

Organization Composition

Visualization	Time Frame	Graph Type	Fields	Filters	Notes
Average Compa-Ratio by Job Family Group	Current snapshot period	Type: Bar Chart Orientation: Vertical Grouping: Cluster	X-Axis: Job Family Group X-Axis Sort Order: Value Total - Descending Y-Axis: AVG(Compa-Ratio) Override Y-Axis Display	'Active Status', 'is true' AND 'Snapshot_Index', 'is between', value: [1, 1]	

Visualization	Time Frame	Graph Type	Fields	Filters	Notes
			Name: Average Compa-Ratio		
Average Compa-Ratio by Top 10 - Location	Current snapshot period	Type: Bar Chart Orientation: Vertical Grouping: Cluster	X-Axis: Location X-Axis Sort Order: Value Total - Descending X-Axis Limit: 10 groupings Sum Remaining Values for X-Axis: False Y-Axis: AVG(Compa-Ratio) Override Y-Axis Display Name: Average Compa-Ratio	'Active Status', 'is true' AND 'Snapshot_Index' = 'is between', value: [1, 1]	
Average Tenure at Promotion by Management Level - Rolling 12 Months	Rolling 12 months	Type: Bar Chart Orientation: Vertical Grouping: Cluster	X-Axis: Management Level X-Axis Sort Order: Management Level Seniority - Ascending Y-Axis: AVG(Length of Service In Partial Years) Override Y-Axis Display Name: Average Tenure in Partial Years	'Active Status', 'is true' AND 'Promoted this Period', 'is true' AND 'Snapshot_Index', 'is between', value: [1, 12]	
Average Tenure by Job Family Group	Current snapshot period	Type: Bar Chart Orientation: Vertical Grouping: Cluster	X-Axis: Job Family Group X-Axis Sort Order: Value Total - Descending Y-Axis: AVG(Length of Service In Partial Years)	'Active Status', 'is true' AND 'Snapshot_Index', 'is between', value: [1, 1]	

Visualization	Time Frame	Graph Type	Fields	Filters	Notes
			Override Y-Axis Display Name: Average Tenure in Partial Years		
Average Tenure by Top 10 - Location	Current snapshot period	Type: Bar Chart Orientation: Vertical Grouping: Cluster	X-Axis: Location X-Axis Sort Order: Value Total - Descending X-Axis Limit: 10 groupings Sum Remaining Values for X- Axis: False Y-Axis: AVG(Length of Service In Partial Years) Override Y-Axis Display Name: Average Tenure in Partial Years	'Active Status' , 'is true' AND 'Snapshot_Index' , 'is between' , value: [1, 1]	
Quarterly Headcount Movement	Previous fiscal quarter	Type: Waterfall Orientation: Vertical	Measures: <ul style="list-style-type: none">• SUM(Active Beginning of Quarter)• SUM(Hired This Quarter)• SUM(Terminated This Quarter)• SUM(Transfers in This Quarter)• SUM(Transfers Out This Quarter) Viz Options: Show data labels: True Hide total: False Override X-Axis Display Name: " "	'Headcount Movement' , "is in list" , value: [Headcount Movement] AND 'Complete_snapshot_index' , 'is between' , value: [1, 3]	The headcount movement graph starts with a beginning active headcount and after aggregates hires, terminations, and transfers for the next 3 months. The last bar displays the active headcount with those changes at the end of the 3 month period. Transfers include both true transfers and reorganizations.

Visualization	Time Frame	Graph Type	Fields	Filters	Notes
			Override Y-Axis Display Name: Worker Count Override Measure Display Names: <ul style="list-style-type: none"> • Active Beginning of Period • Hired • Terminated • Transfers In • Transfers Out • Active End of Period 		
Managers vs Individual Contributors by Job Family Group	Current snapshot period	Type: Bar Chart Orientation: Vertical Grouping: Stack to 100	X-Axis: Job Family Group X-Axis Sort Order: Value Total - Descending Override Y-Axis Display Name: Active Headcount Color: Manager vs Individual Contributor	'Active Status', 'is true' AND 'Snapshot_Index', 'is between', value: [1, 1]	
Managers vs Individual Contributors by Tenure Category	Current snapshot period	Type: Bar Chart Orientation: Vertical Grouping: Stack to 100	X-Axis: Tenure Category Color: Manager vs Individual Contributor X-Axis Sort Order: Tenure Length - Ascending Override Y-Axis Display Name: Active Headcount	'Active Status', 'is true' AND 'Snapshot_Index', 'is between', value: [1, 1]	
Monthly Active Headcount	Rolling 12 months	Type: Line Chart	X-Axis: Month Override Y-Axis Display	'Active Status', 'is true' AND	

Visualization	Time Frame	Graph Type	Fields	Filters	Notes
			Name: Active Headcount	'Snapshot_Index', 'is between', value: [1, 13]	
Monthly Average Number of Directs by Organization Level	Rolling 12 months	Type: Heatmap	X-Axis: Report Month X-Axis Sort Order: Alphabetical - Ascending Y-Axis: Organization Level, Color: "Org_Level" Y-Axis Sort Order: Organization level - Ascending Color: AVG(Direct Reports) Override Color Display Name: Average Number of Directs	'Active Status', 'is true' AND 'Manager With Direct Reports', 'is true' AND 'Snapshot_Index', 'is between', value: [1, 13]	
Organizational Depth in Layers	Current snapshot period	Type: Bar Chart Orientation: Vertical Grouping: Cluster	X-Axis: Organization Level X-Axis Sort Order: Organization Level - Ascending Override Y-Axis Display Name: Active Headcount	'Active Status', 'is true' AND 'Snapshot_Index', 'is between', value: [1, 1]	Each layer represents an aggregated group of employees based on their level in the organization. This visualization helps you understand the shape of the workforce and gives a visual representation of where your organization might be top or bottom heavy.

Visualization	Time Frame	Graph Type	Fields	Filters	Notes
Organization Levels by Management Level	Current snapshot period	Type: Heatmap	X-Axis: Organization Level Y-Axis: Management Level	'Active Status', 'is true' AND 'Snapshot_Index', 'is between', value: [1, 1]	This visualization might reveal whether employees at higher management levels are far from the top levels of the organization.

Retention and Attrition

Visualization	Time Frame	Graph Type	Fields	Filters	Notes
New Hire Terminations by Job Family Group - Previous Quarter	Previous fiscal quarter	Type: Bar Chart Orientation: Vertical Grouping: Cluster	X-Axis: Job Family Group X-Axis Sort Order: Value Total - Descending Override Y-Axis Display Name: Terminated Headcount	'New Hire', 'is true' AND 'Snapshot_Index', 'is between', value: [1, 3] AND 'Terminated This Period', 'is true' AND 'Complete_Snapshot_Index', 'is between', value: [1, 3]	New Hires are defined as workers with less than 1 year of tenure.
Quarterly Terminations by Compa-Ratio Range	Previous fiscal quarter	Type: Bar Chart Orientation: Vertical Grouping: Stack to 100	X-Axis: Compa-Ratio Range X-Axis Sort Order: Alphabetical - Descending Override Y-Axis Display Name: Terminated Headcount Color: Termination Category	'Complete_Snapshot_Index', 'is between', value: [1, 3] AND 'Terminated This Period', 'is true'	The Compa-ratio ranges are defined at the tenant level.

Visualization	Time Frame	Graph Type	Fields	Filters	Notes
			Color Sort Order: Alphabetical - Descending		
Quarterly Termination Count by Job Family Group	Previous fiscal quarter	Type: Bar Chart Orientation: Vertical Grouping: Stack	X-Axis: Job Family Group X-Axis Sort Order: Value Total - Descending Override Y-Axis Display Name: Terminated Headcount Color: Termination Category Color Sort Order: Value Total - Descending	'Complete_Snapshot_Index', 'is between', value: [1, 3] AND 'Terminated This Period', 'is true'	
Quarterly Termination Count by Management Level	Previous fiscal quarter	Type: Bar Chart Orientation: Vertical Grouping: Cluster	X-Axis: Management Level X-Axis Sort Order: Management seniority level - Ascending Override Y-Axis Display Name: Terminated Headcount	'Complete_Snapshot_Index', 'is between', value: [1, 3] AND 'Terminated This Period', 'is true'	
Quarterly Termination Count by Tenure Category	Previous fiscal quarter	Type: Bar Chart Orientation: Vertical Grouping: Cluster	X-Axis: Tenure Category X-Axis Sort Order: Management Seniority Level - Ascending Override Y-Axis Display Name: Terminated Headcount	'Complete_Snapshot_Index', 'is between', value: [1, 3] AND 'Terminated This Period', 'is true'	The tenure categories are defined at the tenant level.
Top 10 Locations for New Hire	Previous fiscal quarter	Type: Bar Chart Orientation: Vertical	X-Axis: Location	'New Hire', 'is true' AND	New Hires are defined as workers with

Visualization	Time Frame	Graph Type	Fields	Filters	Notes
Terminations - Previous Quarter		Grouping: Cluster	X-Axis Sort Order: Value Total - Descending X-Axis Limit: 10 groupings Override Y-Axis Display Name: Terminated Headcount	'Complete_Snapshot_Index', 'is between', value: [1, 3] AND 'Terminated This Period', 'is true'	less than 1 year, of tenure.
Top 10 Voluntary - Termination Reason by Gender - Previous Quarter	Previous fiscal quarter	Type: Bar Chart Orientation: Horizontal Grouping: Stack	Y-Axis: Termination Reason Y-Axis Sort Order: Value Total - Descending Y-Axis Limit: 10 groupings Sum Remaining Values for Y-Axis: False Color: Gender Override X-Axis Display Name: Terminated Headcount	'Complete_Snapshot_Index', 'is between', value: [1, 3] AND 'Termination Category', 'is in list', value: [Voluntary] AND 'Terminated This Period', 'is true'	Top 10 Index, termination reasons are subject to change each month.
Voluntary Termination Count by Month	Rolling 12 months	Type: Bar Chart Orientation: Vertical Grouping: Cluster	X-Axis: Month Override Y-Axis Display Name: Terminated Headcount	'Snapshot_Index', 'is between', value: [1, 13] AND 'Termination Category', 'is in list', value: ['Voluntary'] AND 'Terminated This Period', 'is true' AND	

Visualization	Time Frame	Graph Type	Fields	Filters	Notes
				'fiscal_quarter_index', value: [1]	

Hiring

Visualization	Time Frame	Graph Type	Fields	Filters	Notes
Average Time to Fill by Management Level - Rolling 12 Months	Rolling 12 months	Type: Bar Chart Orientation: Vertical Grouping: Cluster	X-Axis: Job Requisition Management Level X-Axis Sort Order: Logical sort - Descending Override X-Axis Display Name: Management Level Requisition X-Axis Sort Order: Management Level Seniority - Ascending Y-Axis: Requisition_Average_Time_To_Fill Override Y-Axis Display Name: Average Time to Fill in Days	'Req_Management_Level_Job_Requisition' is not empty AND 'Last Requisition Entry', 'is in list', value: [1] AND 'Snapshot_Index', 'between', value: [1, 12] AND 'Requisition_Average_Time_To_Fill', 'not equals', ["0"]	Requisiti
Hires per Month	Rolling 12 months	Type: Bar Chart Orientation: Vertical Grouping: Cluster	X-Axis: Month Override Y-Axis Display Name: Number of Hires	'Snapshot_Index', 'between', value: [1, 12] AND 'Stage_Consolidated', 'in list', ["Hire"]	A hire is recognized by the start date of the new hire.
Job Application Sources - Rolling 12 Months	Rolling 12 months	Type: Bar Chart Orientation: Vertical Grouping: Cluster	X-Axis: Job Application Source X-Axis Sort Order: Value Total - Descending X-Axis Limit: 20 groupings	: 'Snapshot_Index', 'between', value: [1, 12] AND 'Stage_Consolidated', 'in list', ["Hire"]	

Visualization	Time Frame	Graph Type	Fields	Filters	Notes
			Override X-Axis Display Name: Source Override Y- Axis Display Name: Number of Hires		
Number of Open Requisitions by Aging	Current snapshot period	Type: Heatmap	X-Axis: Job Requisition Age Category Y-Axis: Req_Management_Level_Job_Requisition Override Y-Axis Display Name: Management Level	'Req_Job_Requisition 'is in list', ["Open"] AND 'Req_Management_Level_Job_Requisition 'is not empty' AND 'Last_Requisition 'is true' AND 'Req_Age_Category is not empty'	The data source only includes requisitions that have at least 1 candidate attached to the requisition. This visualization helps you: <ul style="list-style-type: none">Manage requisitions that have not been filled for a long time.Understand how many requisitions are in the queue and for how long.
Requisitions Opened each Month	Rolling 12 months	Type: Bar Chart Orientation: Vertical Grouping: Cluster	X-Axis: Month Override Y- Axis Display Name: Number of Requisitions	'Snapshot_Index', 'between', value: [1, 12] AND	The data source only includes requisitions that

Visualization	Time Frame	Graph Type	Fields	Filters	Notes
				'Req_Opened_This_Month' : true, 'is true'	Have at least 1 candidate attached to the requisition.
Top 10 - Decline Reason - Rolling 12 Months	Rolling 12 months	Type: Bar Chart Orientation: Vertical Grouping: Cluster	X-Axis: Decline Reason X-Axis Sort Order: Value Total - Descending Number of X-Axis groupings: 10 Override X-Axis Display Name: Decline Reason Override Y-Axis Display Name: Number of Candidates	'Latest_Candidate_Stage' : 'is in list', ["Declined by candidate", "Rejected"] AND 'Stage_Consolidated' : 'is in list', ["Offer"] AND 'Snapshot_Index' : 'between', value: [1, 12]	Top 10 stage , decline reasons are subject to change each snapshot period.

Talent and Performance

Visualization	Time Frame	Graph Type	Fields	Filters	Notes
Current Rating by Job Family Group	Current snapshot period	Type: Heatmap	X-Axis: Job Family Group Y-Axis: Current Rating Y-Axis Sort Order: Worker Rating - Ascending	'Active Status' : 'is true' AND 'Snapshot_Index' : 'is between', value: [1, 1]	Performance rating is defined at the tenant level.
Current Rating by Management Level	Current snapshot period	Type: Heatmap	X-Axis: Management Level X-Axis Sort Order: Management Level Seniority - Ascending Y-Axis: Current Rating	'Active Status' : 'is true' AND 'Snapshot_Index' : 'is between', value: [1, 1]	

Visualization	Time Frame	Graph Type	Fields	Filters	Notes
			Y-Axis Sort Order: Worker rating - Ascending		
Current Rating Overview	Current snapshot period	Type: Bar Chart Orientation: Vertical Grouping: Cluster	X-Axis: Current Rating X-Axis Sort Order: Worker rating - Ascending Override Y-Axis Display Name: Active Headcount	'Active Status', 'is true' AND 'Snapshot_Index', 'is between', value: [1, 1]	Performance rating is defined at the tenant level.
Termination Count by Current Rating	Current snapshot period	Type: Bar Chart Orientation: Vertical Grouping: Stack	X-Axis: Current Rating X-Axis Sort Order: Worker Rating - Ascending Override Y-Axis Display Name: Terminated Headcount Color: Termination Category	'Terminated This Period', 'is true' AND 'Snapshot_Index', 'is between', value: [1, 1]	
Termination Type of High Potentials by Month	Rolling 12 months	Type: Bar Chart Orientation: Vertical Grouping: Stack	X-Axis: Month Color: Termination Category Override Y-Axis Display Name: Terminated Headcount	'High Potential', 'is true' AND 'Snapshot_Index', 'is between', value: [1, 13] AND 'Terminated This Period', 'is true'	High potentials are defined at the tenant level.
Top 5 Voluntary - Termination Reason for High Performers	Rolling 12 months	Type: Bar Chart Orientation: Vertical	X-Axis: Termination Reason	'High Performer', 'is true' AND	The top 5 reasons might change every snapshot period.

Visualization	Time Frame	Graph Type	Fields	Filters	Notes
- Rolling 12 Months		Grouping: Cluster	X-Axis Sort Order: Value Total - Descending X-Axis Limit: 5 groupings Sum Remaining Values for X-Axis: False Override Y-Axis Display Name: Terminated Headcount	'Snapshot_Index', 'is between', value: [1, 12] AND 'Terminated This Period', 'is true' AND 'Termination Category', 'is in list', value: [Voluntary]	

Skills

Visualization	Time Frame	Graph Type	Fields	Filters
Match Score Signal by Top 10 Job Family Groups	Current snapshot period	Type: Bar Chart Orientation: Vertical Grouping: Stack to 100	X-Axis: Job Family Group X-Axis Sort Order: Alphabetical - Ascending Override Y-Axis Display Name: Match Score Signal Percentage Color: Worker Match Score Signal	'Active Status', 'is true' AND 'Snapshot_Index', 'is between', value: [1, 1]
Match Score Signal Distribution	Current snapshot period	Type: Bar Chart Orientation: Vertical Grouping: Cluster	X-Axis: Worker Match Score Signal X-Axis Sort Order: Worker Rating - Ascending Override Y-Axis Display Name: Active Headcount	'Active Status', 'is true' AND 'Snapshot_Index', 'is between', value: [1, 1]
Top 10 Skill Categories by Job Family Group	Current snapshot period	Type: Heatmap	X-Axis: Skill Categories X-Axis Sort Order: Value Total - Descending	'Active Status', 'is true' AND

Visualization	Time Frame	Graph Type	Fields	Filters
			X-Axis Limit: 10 groupings Color: Job Family Group	'Snapshot_Index' , 'is between' , value: [1, 1]
Top 10 Skill Categories by Management Level	Current snapshot period	Type: Heatmap	X-Axis: Skill Categories X-Axis Sort Order: Value Total - Descending X-Axis Limit: 10 groupings Y-Axis: Management Level Y-Axis Sort Order: Management Level Seniority - Ascending	'Active Status' , 'is true' AND 'Snapshot_Index' , 'is between' , value: [1, 1]

Related Information

Tasks

[Steps: Create Visualizations](#) on page 354

[Sort Data in a Viz](#) on page 378

Reference

[The Next Level: People Analytics: Resources to Help Validate Your Organization's Data](#)

Reference: Empty States

By default, Workday hides content that you opt out of when configuring and installing People Analytics. This means that the **People Analytics** report does not display empty states for excluded content.

Example: You are not opted in to the topic Diversity and Inclusion. The **Diversity and Inclusion** tab doesn't display in the **People Analytics** report.

Example: You are not opted in to the KPI metric **Female Representation** and the field **Gender**. The KPI metric Female Representation does not display in the Diversity and Inclusion section on the KPIs tab.

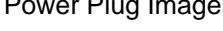
Note: People Analytics previously showed empty states for content that you opted out of during configuration and installation of the application. If you are still encountering empty states related to content that you opted out of, you must reinstall People Analytics.

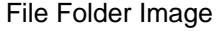
The **People Analytics** report shows empty states for other scenarios. Empty states can appear if:

- There is a misconfiguration of the application.
- There are no KPIs or focus insights to display after you refine your content.
- Storyteller did not find any statistically significant data to report on for specific content.
- A technical error occurs, such as an error while trying to load your data.
- Security settings restrict a user's view access to specific content.

Note: If you want a user to have view access to specific content, review your security configuration and make changes as necessary.

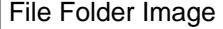
The table provides troubleshooting details on how to resolve unwanted empty states.

Category	Scenarios	Image and Message	Troubleshooting
People Analytics report - Misconfiguration and Technical Errors	<ul style="list-style-type: none"> • People Analytics report displays an empty state. • After the People Analytics report loads, empty states display for select content. 	 We had trouble loading your data. Try again later or contact Workday Support to resolve the issue.	<p>Steps:</p> <ol style="list-style-type: none"> 1. Ensure that your People Analytics configuration meets all requirements. You can run Data Quality to check the correctness of your pipeline field mappings. 2. For configuration requirements specific to the VIBE Index topic, see Reference: Choosing and Creating Intersections. 3. Reinstall People Analytics. 4. Access the People Analytics Activities report to ensure installation was successful. 4. If you still experience issues, contact Workday support.
KPIs - Misconfiguration, Security, Calculation, and Refining Data	<ul style="list-style-type: none"> • KPI card displays an empty state. • KPI card displays an empty state after you refine your content. 	 We can't calculate this KPI, because this area of your organization doesn't have the eligible headcount.	<p>If you want to enable KPIs for a given dimension (source field), ensure that you include and map the respective field in the field mapping configuration. For details on which fields are used in KPI metric calculations, see Reference: Metrics in People Analytics.</p> <p>Note: Empty states might display as a result of security settings applied to your configuration.</p> <p>Note: Empty states might display if there is no data to show in the refined data view. For example, if there are no managers included in</p>

Category	Scenarios	Image and Message	Troubleshooting
			the refined data view, an empty state will display for the KPI Span of Control.
KPIs - Detailed Data - No Data	<ul style="list-style-type: none"> Detailed Data tab on a KPI card displays an empty state. 	 We didn't detect any statistically significant data to report.	An empty state might display on the Detailed Data tab if there is no relevant data to display. Example: People Analytics displays a KPI on Female Representation for the card's Location Group (dimensions Vancouver and Montreal). However, there is no detailed data to show for this KPI because 100 percent of the workers in Vancouver and Montreal are Gender = Male and the metric calculation uses Gender = Female. Example: When you are on the Detailed Data tab on a KPI card, you can click on a specific month in the Trend Chart. This refreshes the detailed data records to match the selected month. If there is no data for the selected month, People Analytics displays an empty state on the Detailed Data tab.
KPIs - Detailed Data - Security	<ul style="list-style-type: none"> Detailed Data tab on a KPI card displays an empty state. 	 Data is hidden to protect employee identities.	Empty states might display as a result of field level security configuration. See Concept: Security in People Analytics .
Focus Insights - Misconfiguration, Security, Calculation, and Refining	<ul style="list-style-type: none"> An empty state displays under a given business question. Focus insights do not display. After applying dimension on a 	 We didn't detect any statistically significant data to report.	If you want to enable focus insights for a given dimension (source field), ensure that you include and map the respective fields in the field mapping configuration. For details

Category	Scenarios	Image and Message	Troubleshooting
	<p>topic tab, an empty state displays under a given business question. Focus insights do not display.</p>		<p>on which fields are used in metric calculations, see Reference: Metrics in People Analytics.</p> <p>Note: Empty states might display as a result of security settings applied to your configuration.</p> <p>Note: Empty states might display if Storyteller did not find anything statistically significant to report on. For example, there were no significant gaps in female representation at the time Storyteller processed the data and therefore an empty state displays for the business question [What are key trends in female representation?].</p> <p>Note: Empty states might display if there is no data to show in the refined data view. For example, if there are no managers included in the refined data view, an empty state displays for the business question [What are outliers in span of control?].</p>
Focus Insights - Detailed Data - No Data	<ul style="list-style-type: none"> Detailed Data tab on a focus insight card displays an empty state. 	 <p>We didn't detect any statistically significant data to report.</p>	<p>Empty states might display on the Detailed Data tab if there is no relevant data to display.</p> <p>Example: People Analytics displays a focus insight for the business question [What are key trends in female representation?] for the card's Focus Group (dimensions Vancouver and Montreal). However, there is no detailed data to show for this focus insight because 100</p>

Category	Scenarios	Image and Message	Troubleshooting
			<p>percent of the workers in Vancouver and Montreal are Gender = Male and the metric calculation uses Gender = Female.</p> <p>Example: When you are on the Detailed Data tab on a focus insight card, you can select a specific month using the drop-down select. This refreshes the detailed data records to match the selected month. If there is no data for the selected month, People Analytics displays an empty state on the Detailed Data tab.</p>
Focus Insights - Detailed Data - Security	<ul style="list-style-type: none"> Detailed Data tab on a focus insight card displays an empty state. 	 Lock Image Data is hidden to protect employee identities.	Empty states might display as a result of field level security configuration. See Concept: Security in People Analytics .
Focus Insights - Top Drivers - No Data	<ul style="list-style-type: none"> Top Drivers tab on a focus insight displays an empty state. After the Top Drivers tab on a focus insight loads, empty states display for select content. 	 File Folder Image We didn't detect any statistically significant data to report.	<p>An empty state might display on part of the Top Drivers tab if there is no relevant data to display.</p> <p>Example: For a focus insight on Female Representation, there are no dimensions that contribute to higher female representation in the card's Focus Group.</p> <p>An empty state might display on the entire Top Drivers tab if there is no relevant data to display.</p> <p>Example: For a focus insight on Female Representation, there are no dimensions that contribute to higher female representation in the card's Focus Group. There are also no dimensions that scored lower for female</p>

Category	Scenarios	Image and Message	Troubleshooting
			representation in the card's Focus Group.
Visualizations - Misconfiguration, Calculation, and Refining	<ul style="list-style-type: none"> Visualizations show an empty state. Visualizations show an empty state after you refine your content. 	 File Folder Image We didn't detect any statistically significant data to report.	<p>If you want to view visualizations that use a given dimension (source field), ensure that you include and map the respective field in the field mapping configuration. For details on which fields are used in Visualizations, see Reference: Visualizations by Topic.</p> <p>Note: Empty states might display as a result of security settings applied to your configuration.</p> <p>Note: Empty states might display if there is no data to show in the refined data view. For example, if there are no managers included in the refined data view, an empty state will display for the visualization Managers vs Individual Contributors by Job Family Group.</p>
Visualizations - Security	<ul style="list-style-type: none"> Visualizations show an empty state. Visualizations show an empty state after you refine your content. 	 Power Plug Image This viz has a field that the data source cannot support.	<p>Note: Empty states might display as a result of field level security configuration. See Concept: Security in People Analytics.</p>
VIBE Index tab - Refining, Security	<ul style="list-style-type: none"> VIBE Index cards display empty states. After refining content on the VIBE Index tab, the VIBE Index cards show empty states. 	 File Folder Image We had trouble retrieving your data. If the issue occurs without any dimensions applied, contact your Workday administrator to verify your security settings.	<p>Note: Empty states might display if there is no data to show in the refined data view. For example, after refining your content, a given intersection does not contain the minimum number of workers required to calculate VIBE metrics.</p> <p>Note: Empty states might display as a</p>

Category	Scenarios	Image and Message	Troubleshooting
			result of security settings applied to your configuration.
VIBE Index tab - Misconfiguration of Required Fields	<ul style="list-style-type: none"> • VIBE Index cards display empty states. 	 File Folder Image <p>Some of the required fields for the VIBE index aren't mapped. Contact your Workday administrator to resolve this issue.</p>	<p>Steps:</p> <ol style="list-style-type: none"> 1. Ensure that the required fields for the VIBE Index are mapped. See Reference: Choosing and Creating Intersections. 2. Reinstall People Analytics. 3. Access the People Analytics Activities report to ensure that installation was successful. 4. If you still experience issues, contact Workday support.
VIBE Index tab - Misconfiguration of Intersections	<ul style="list-style-type: none"> • VIBE Index cards display empty states. 	 File Folder Image <p>We found an inconsistency in the minimum number of intersections/groups. If the issue occurs without filters applied, contact your Workday administrator.</p>	<p>Steps:</p> <ol style="list-style-type: none"> 1. Ensure that your People Analytics configuration meets all the requirements specific to the VIBE Index topic. You must have at least two intersections that meet the required minimum headcount of 10 workers for each intersection. See Reference: Choosing and Creating Intersections. 2. Reinstall People Analytics. 3. Access the People Analytics Activities report to ensure that installation was successful. 4. If you still experience issues, contact Workday support.

Category	Scenarios	Image and Message	Troubleshooting
VIBE Index tab - Misconfiguration	<ul style="list-style-type: none"> VIBE Index cards display empty states. 	 <p>We had trouble calculating the VIBE Index. If the issue occurs without any dimensions applied, contact your Workday administrator to verify configuration settings.</p>	<p>Steps:</p> <ol style="list-style-type: none"> Ensure that your People Analytics configuration meets all the requirements specific to the VIBE Index topic. See Reference: Choosing and Creating Intersections. Reinstall People Analytics. Access the People Analytics Activities report to ensure that installation was successful. If you still experience issues, contact Workday support. <p>Note: Refining content can result in empty states on the VIBE Index cards.</p>
VIBE Index tab - Misconfiguration	<ul style="list-style-type: none"> VIBE Index cards display empty states. 	 <p>Your data doesn't meet the data history requirement for People Analytics. If the issue occurs without filters applied, contact your Workday administrator to verify configuration settings.</p>	<p>Steps:</p> <ol style="list-style-type: none"> Ensure that you meet the data history requirements for People Analytics. See Reference: Requirements and Considerations for Changing People Analytics Configuration. Reinstall People Analytics. Access the People Analytics Activities report to ensure that installation was successful. If you still experience issues, contact Workday support. <p>Note: Applying filters can result in empty states on the VIBE Index cards.</p>

Category	Scenarios	Image and Message	Troubleshooting
VIBE Index tab - Misconfiguration and Technical Errors	<ul style="list-style-type: none"> VIBE Index cards display empty states. 	 <p>We had trouble retrieving your configuration details. If the issue doesn't resolve immediately, contact your Workday administrator.</p>	<p>Steps:</p> <ol style="list-style-type: none"> Ensure that your People Analytics configuration meets all configuration requirements, including requirements specific to the VIBE Index topic. See Reference: Choosing and Creating Intersections. Reinstall People Analytics. Access the People Analytics Activities report to ensure that installation was successful. If you still experience issues, contact Workday support.

Related Information

Concepts

[Concept: Data Quality Module](#) on page 643

[Concept: Security in People Analytics](#) on page 638

Reference

[Reference: Choosing and Creating Intersections](#) on page 658

[Reference: Metrics in People Analytics](#) on page 726

[Reference: Requirements and Considerations for Changing People Analytics Configuration](#) on page 684

[Reference: Visualizations by Topic](#) on page 768

FAQ: People Analytics

- [What is Storyteller?](#)
- [What is augmented analytics?](#)
- [What is a focus insight?](#)
- [How are focus insights generated?](#)
- [How does Storyteller determine the most relevant information?](#)
- [What happens if I change a source field in a hierarchy, e.g. due to a reorganization \("reorg"\)?](#)
- [What kinds of analysis do the focus insights use?](#)
- [How can we compare metric performance across dimensions in focus insights?](#)
- [How do the focus insights change as time progresses?](#)
- [How does the scoring method for focus insights work?](#)
- [Why do some focus insights have only 2 top drivers and others 5?](#)
- [How does cardinality impact People Analytics?](#)
- [How can I view more information about a particular business question or metric?](#)

- Why do some metric trends display in a neutral color?
- Is there a difference between percentages and percentage points?

What is Storyteller?

Storyteller is an automated analytical engine that:

- Searches millions of combinations of data.
- Makes connections between the combinations of data.
- Surfaces the most significant results in the form of focus insights.

What is augmented analytics?

Augmented analytics is an approach that uses statistical techniques and advanced analytics to automate findings in the data that aren't easily attainable by doing manual analytical work. Storyteller brings the principles of augmented analytics into practice.

What is a focus insight?

Focus insights show how a metric is performing now in comparison to a historical point in time, or how a metric is performing in one area of the organization in comparison to another area of the organization, or the company. Each focus insight uses a People Analytics metric which is calculated by the Storyteller engine.

How are focus insights generated?

Storyteller:

1. Groups the input data into different views by aggregating metrics for each dimension and different combinations of dimensions.
2. Filters out any views that have no data or are statistically insignificant.
3. Makes connections between the views to create a network that defines the relationships between views. This network of relationships provides context when evaluating 1 view compared to another. Example: The view of Location = Chicago has these relationships:
 - The parent of Location = Chicago; Cost Center = Sales.
 - The child of the whole organization.
 - The sibling of Location = New York.
 - A proxy to Cost Center = Sales because the entire Sales department is in Chicago and 90% of the workforce in Chicago are salespeople.
4. Analyzes the views in the network of relationships to determine their significance.
5. Returns the most significant views in the form of focus insights.

How does Storyteller determine the most relevant information?

Storyteller analyzes and evaluates the statistical significance of each view of the data. It clusters views together based on several factors, including:

- Commonality of the underlying data.

What happens if I change a source field in a hierarchy, e.g. due to a reorganization ("reorg")?

- Hierarchical relationship.
- Similarity of problem.

It then ranks each view based on the greatest impact to the related business question and displays the most significant views as focus insights.

People Analytics uses the data in the Assigned Organization target field to determine to which organization the worker is currently assigned to automatically capture the most recent ("as-is") hierarchy. It ignores focus insights that result from workers being reassigned to different organizations, presenting only significant focus insights in the application.

What kinds of analysis do the focus insights use?

Each focus insight is the result of either:

- Trend analysis: Storyteller compares the current month metric performance in a dimension or combination of dimensions to the historical performance.
- Gap analysis: Storyteller compares the current month metric performance for a dimension or combination of dimensions to the another area of the organization, or the company. Example: If the dimension is supervisory organization, performance is compared to Company or Level 1.

Depending on the focus insight, the population might be:

- All active workers.
- All terminated workers.
- All active and terminated workers.
- A subset of those populations filtered by Level 1 in either the Primary Hierarchy or Secondary Hierarchy.

In order to normalize the metric performance of any organization or region and make them comparable, Storyteller weights performance by the underlying employee population. This helps reduce the outsize impact of large percentage changes in a small population.

To do this normalization, Storyteller:

- Calculates the average of the metric for the combination of dimensions in the focus insight.
- Calculates the average of the metric for the relevant population. Example: Company or subset containing peers.
- Calculates the difference or delta between these 2 averages.
- Weighs the delta by multiplying it by the size of the population of the combination of dimensions.

How do the focus insights change as time progresses?

Storyteller tells you how much the metric for that combination of dimensions needs to change to be consistent with the metric for the total population.

All focus insights are recalculated each time Storyteller runs. After each snapshot update, there's a new set of focus insights displayed on the dashboard based on the current data. In all these cases, what drives the display of focus insights is a statistical ranking of the over or underperformance detected. In some cases, changes to the configuration or the underlying algorithms might also affect what focus insights are displayed.

It's possible that a focus insight in a given dimension, such as Org, Mgt Level, or Region, appear again after the recurrent data refresh. The repetition implies that the performance gap or trend identified in the previous month remains statistically significant and ranks among the top focus insights for the business question in the current month. Users can still view performance numbers that include the most recent data refresh.

How does the scoring method for focus insights work?

The scoring algorithm takes these factors into account:

- Statistical significance of each focus insight. Is the detected change of the trend or deviation from population average important enough?
- Value of a focus insight. What is the calculated impact on the business question?
- Relationship to the other focus insight. Is this focus insight a driver of another focus insight, the effect of another focus insight, or part of other similar focus insights?

Why do some focus insights have only 2 top drivers and others 5?

Workday curates the list of dimensions for analysis depending on the business question to ensure that Storyteller provides the most relevant analytical slices. Within those dimensions, Storyteller displays up to 5 top drivers that significantly increase or decrease the metric performance in a focus insight.

How does cardinality impact People Analytics?

Cardinality defines the size of the population in the dimension, directly impacting what focus insights are surfaced as well as focus insight quality and actionability. Smaller populations don't provide interesting and meaningful insights, which can result in unnecessary iterations of the mapping process. A high cardinality can result in long computation time of the focus insights.

How can I view more information about a particular business question or metric?

You can click the information icon next to each business question or metric to view more information, such as:

- Why a business question is important.

- The metric that drives the business question.
- The calculation behind a metric.

Why do some metric trends display in a neutral color?

The expected result for select metrics can vary across organizations, as some metrics don't follow a universally accepted trend.

Example: To establish parity in gender equality, an increase in female representation might be the expected direction for organizations that have a low percentage of females, while a decrease might be the focus for organizations where female representation is already at 70%.

To address differences in metric trends across organizations, we set a target range for these metrics:

- Average Span of Control for values between 5-15.
- Female Representation for values between 40-60%.

We display movement within these ranges in a neutral color. Movement towards these ranges displays in green, while movement away from these ranges displays in red.

All changes for the metric Average Target Compensation display in a neutral color, as individual cases can determine whether an increase or decrease is expected.

Is there a difference between percentages and percentage points?

Yes. A percentage is a number or a ratio expressed as a fraction of 100, while a percentage point is a numerical difference between **percentages**. For example, an increase from 40 per cent to 50 percent is a 10 **percentage point increase** and a 25 **percent increase**, because the actual value expressed by the percentage increases by a quarter (10 is 25% of 40).

Related Information Concepts

Concept: [Storyteller Engine](#) on page 716

Worksheets

Worksheets Setup

Set Up Worksheets

Prerequisites

- Steps: [Set Up Security for Drive](#) and give all Worksheets users access.

- [Steps: Set Up Drive.](#)
- Security: *Security Configuration* domain in the System functional area.

Note: You might need to take additional steps to enable this feature based on your organization's subscription service agreement. To determine your subscription service agreement:

1. Select your profile avatar on [Workday Community](#).
2. Select **Profile**.
3. On your profile page, select your organization's name, which is beneath your name and next to your job title.
4. View your **Subscription Service Agreement** value.

If the value is:

- UMSA, you can skip the **Enable Innovation Services Features and Machine Learning Data Contributions** step. For more information on Machine Learning data contributions, see [Concept: Workday AI for Universal Main Subscription Agreement Customers](#).
- MSA, you must enable this feature through Innovation Services using the **Enable Innovation Services Features and Machine Learning Data Contributions** step.

Context

When setting up Worksheets, give access to all users and groups that might use Worksheets in different areas of Workday. Example: Workday Slides users use Worksheets to set up defined names and pivot tables for use in Slides presentations.

Steps

1. [Enable Innovation Services Feature and Machine Learning Data Contributions](#)

Note: You might need to take additional steps to enable this feature depending on your organization's subscription service agreement. For more information, see this [Community](#) article.

On the **Innovation Services Opt-In** task, select the **Productivity Suite ML Features** service on the **Available Services** tab in the **Cross Application Services** category.

2. Create security groups for Worksheets administrators and users.

Use these security group types:

- *Public groups*
- *Role-based (constrained) groups*
- *Unconstrained groups*

See [Reference: Security Domains and Worksheets Actions](#) on page 800.

3. Create or edit a security policy for these domains and add permissions:

- *Worksheets*
- *Manage Bot and User Conversations*

a) Access the **View Domain** report.

b) Select the domain from the **Domain** prompt.

c) From the related actions menu, select **Domain > Create Security Policy**, or select **Edit Security Policy Permissions** if there's an existing policy.

d) As applicable, in **Report/Task Permissions**, add, or edit security groups.

e) Select the **View** and **Modify** check boxes.

Note: In the domain setup, you must select both **View** and **Modify**. You can't use these settings to manage workbook access. You select view and edit permissions for individual workbooks when you share them.

f) From the related action menu on the domain security policy, select **Domain Security Policy > Enable**.

4. [Activate Pending Security Policy Changes.](#)
5. Sign out and sign back in to see your changes.
6. To enable Formula Writer and Explainer functionality in your tenant, access the **Edit Tenant Setup - System** task. In the **Workday Conversation Settings** section, select the **Enable Worksheets GenAI Features** option.
7. In **Edit Tenant Setup - System > System Setup > File Type Setup Instructions**, make sure that you include the WXF file type and all other file types that you want to support in Worksheets, or select to support all file types.

We recommend supporting these file types **in addition to** any other file types that you want to support in your tenant:

- CSV
- HTML
- XLS
- XLSM
- XLSX

See [Steps: Set Up Drive](#).

See [Reference: Edit Tenant Setup - System](#).

8. (Optional) Access the **Edit Tenant Setup - System** task.

Configure settings for workbook downloading and commenting, and the user feedback survey.

In the **Drive Settings** section, use the **Disable Workbook Download** check box to select whether to prevent users from downloading workbooks out of Workday. Example: If selected, users can't download workbooks to Excel, PDF, or CSV files. After you change this setting, you might experience a delay of up to 65 minutes before the change takes effect in Drive.

In the **Workday Conversation Settings** section, use the **Disable Comments for Worksheets** check box to select whether to prevent users from adding or viewing comments. If selected, the Comments panel doesn't display in the web browser or in the mobile app for any workbook, regardless of the user's permission settings for the workbook. Worksheets preserves existing comments and restores them when you enable commenting again. The Can Comment permission level continues to display when sharing files; if you disable commenting, the Can Comment permission level is the same as Can View.

After you change this setting, you might experience a delay of up to 5 minutes before the change takes effect in Worksheets.

In the **User Feedback** section, use the **Opt-out of Intercept Survey** check box to select whether to disable all ad hoc user feedback surveys across the entire tenant. Opting out prevents Worksheets, *and all other Workday applications*, from displaying a survey to a subset of users after complete an action in a workbook.

See [Reference: Edit Tenant Setup - System](#).

9. (Optional) Configure system settings for Worksheets notification delivery.

Access the **Edit Tenant Setup - Notifications** task. In the **Notification Delivery Settings > System** section, customize notification settings for Worksheets:

- Workbook Access Additions (not currently used).
- Workbook Access Removals (not currently used).
- Workbook Comments (not currently used).
- Workbook Conversations: Workday sends a notification, and also sends an email if enabled on the tenant, to tagged (@mentioned) users in a workbook comment.
- Workbook Import Failures: Workday sends a notification, and also sends an email if enabled on the tenant, when a file upload to Drive fails.
- Workbook Import Successes: Workday sends a notification, and also sends an email if enabled on the tenant, when a file upload to Drive succeeds.
- Workbook Live Data Scheduled Updates: Workday sends a notification, and also sends an email if enabled on the tenant, when you schedule a live data refresh.
- Workbook Notify If Function Notifications: Workday sends a notification, and also sends an email if enabled on the tenant, when the results of a NOTIFYIF or NOTIFYIFS formula meet the criteria that you defined.
- Workbook Tasks (not currently used).

See [Reference: Edit Tenant Setup - Notifications](#).

10. If Worksheets hasn't been translated into the language that a user selected as their display language, your security administrator must access the **Edit Workday Account** task for the user and select the **Allow Mixed-Language Transactions** option. This makes the Worksheets user interface visible to the user in English.

See [Steps: Manage Translations](#).

Related Information Concepts

[Concept: Translations](#)

Tasks

[Steps: Set Up Drive](#)

Reference

[Workday 33 What's New Post: Worksheets](#)

[The Next Level: Worksheets Overview](#)

[The Next Level: Workday Features Leveraging Embedded Worksheets](#)

Migrate Live Data Workbooks Between Tenants

Prerequisites

- Security: *Worksheets* security domain in the System functional area.
- Make sure that you selected to support the WXF file type in the **Edit Tenant Setup – System** settings.

Context

You can migrate (copy) an existing workbook between tenants by downloading the workbook in the tenant migration format (WXF) and uploading the workbook to the destination tenant. Although you can use the WXF download and upload actions in a single tenant, we recommend using the built-in sharing and copying features of Drive instead.

As a best practice, we recommend that you migrate the report being used for the live data in the destination tenant before migrating the associated workbook. If you migrate a workbook without the report, the workbook will successfully migrate but the live data refresh won't work. You can migrate the report later, using OX, or replace the report in the destination tenant.

When you open the workbook for the first time in the destination tenant, a live data refresh occurs.

We don't recommend using the WXF file for long-term archival purposes. It is intended as a short-term file format for exchanging workbooks between tenants only.

Worksheets preserves the workbook settings that you set in the **File > Settings** dialog for the workbook. Example: If you selected the **Only owner can refresh live data option**, that setting is preserved in the migrated workbook.

Worksheets doesn't preserve these settings or data for migrated workbooks:

- Workbook version history.
- Live data refresh schedules.
- Entry areas (live data regions associated with integrating products such as Mass Actions, Payroll, and so on).
- Comments.
- Sharing settings, including link sharing and group sharing. Only the workbook owner has access to the migrated workbook. Optional settings, such as allowing users to copy or share workbooks, are set to their default values in the migrated workbook.
- External references, even if you migrate both the producer and consumer workbooks between tenants. Use Find and Replace to reproduce the references in the workbooks.

Keep these additional considerations in mind when migrating workbooks:

- Worksheets doesn't support migrating a workbook from a Preview tenant (Preview confidence level) to a Production tenant (Production confidence level, such as Sandbox or the primary production tenant). A **Processing Failed** error occurs if this mismatch occurs. Example: An implementation tenant can exist at either a Preview confidence level or a Production confidence level. If you generate a tenant migration file from Preview, the file can be imported only to a Sandbox Preview or Impl Preview tenant.
- If you migrate a template workbook, the destination workbook is created as a standard workbook, not a template. You need to do the **Convert to Template** action to recreate the template from the workbook.
- If your source workbook is very close to the 30 MB file size limit, the WXF file that you create when downloading might exceed that limit and then a Processing Failed error occurs when uploading the WXF file to the destination tenant. If this happens, you'll need to decrease the size of the original workbook before migrating it.
- After you upload a tenant migration (WXF) workbook containing live data into a tenant, the **Inserted By** field in the live data panel displays the user who originally inserted the report into the workbook.
- If you upload a tenant migration workbook containing live data into a tenant and the initial live data refresh fails (Example: you don't have access to the Workday report), the **Last Refresh** field in the live data panel displays **Not Applicable**.

Steps

1. In the source tenant, download the workbook as a Tenant Migration file (WXF file type).
2. In the destination tenant, access Drive.
3. Select **+New > Upload** and navigate to the WXF file. Drive automatically converts the WXF file into a workbook, and does a live data refresh when you open the workbook.
4. (Optional) Click **Share** to set sharing permissions to match those of the original workbook.
5. (Optional) Select **Data > Schedule Live Data Refresh** to periodically refresh the live data.

Concept: User Feedback Surveys

If user feedback surveys are enabled in the tenant, Worksheets displays a survey link to a random subset of users after they complete an action in a workbook. The survey displays only if the user profile has the en_us language and locale setting. User surveys provide immediate feedback on whether Worksheets functionality meets your needs, and how we can improve. This information will directly influence the priorities of future enhancements.

After a user completes an action, Worksheets displays a link that provides access to an optional survey. After the user dismisses or submits a survey, they won't see the link again for at least 90 days. To protect customer confidentiality, Workday doesn't release unprocessed results.

The survey is available on all tenant confidence levels (Impl, Preview, and Prod). The survey is active by default, but you can prevent the survey from displaying by selecting the **Opt-out of Intercept Survey** option in the **Edit Tenant Settings – System** Task, **User Feedback** section. Selecting the opt out option disables all ad hoc user feedback surveys across the entire tenant, for Worksheets as well as all other Workday applications.

Survey Data Privacy: Submitting feedback is optional. Workday doesn't capture or solicit any personally identifiable information. Within the survey, a statement cautions participants not to provide proprietary or private information. Workday uses the information solely to assess current functionality and prioritize future enhancements. The survey website is provided by a contracted third party (Alchemer).

Reference: Security Domains and Worksheets Actions

This table describes the Worksheets security domains and the actions they manage.

Domain	Notes
Worksheets	<p>Enables self-service users to:</p> <ul style="list-style-type: none"> • Use the Export to Worksheets icon on Workday reports. • Create, upload, edit, share, and collaborate on workbooks. All users secured to the <i>Worksheets</i> domain can create workbooks. When you share a workbook, you can select only users with access to the <i>Worksheets</i> domain. Workday determines the user's access to specific data based on report data source and report field security settings. • Add data from workbooks into Slides presentations.
Manage Bot and User Conversations	<p>Enables administrators to:</p> <ul style="list-style-type: none"> • Use the Get Conversation Data report to export a CSV file of comment data for all workbooks in the tenant. Users with access to this domain can view all comments on all workbooks regardless of the permission setting on the workbook. • Edit or delete individual workbook comments from the comment actions prompt if you have owner, comment, or edit access to the workbook. • Purge (permanently delete) individual workbook comments from the comment actions prompt if you have owner, comment, or edit access to the workbook. • Purge (permanently delete) individual workbook comments using the Purge Conversation Message Data report. <p>We recommend that you restrict access to a small subset of your administrators.</p>

Download All Comment Data

Prerequisites

Security: *Manage Bot and User Conversations* domain in the System functional area.

Context

You can download a comma-separated values (CSV) file of comment data for all workbooks in the tenant. This file also includes Workday Assistant conversation message data.

Example: After a user leaves the company, use this report to confirm whether or not the user created comments in workbooks that you need to delete.

Steps

1. Access the **Get Conversation Data** report.
2. Click the URL next to **Download Link**.

Workday generates the file and sends a notification. The link in the notification expires after 24 hours.

Workday includes this information in the file:

Column	Description
conversationID	An automatically generated sequential number for the conversation thread; a comment and its replies have the same conversation ID.
chatMessageID	An automatically generated unique sequential number for each comment or reply.
createdByID	The ID of the user who created the comment. Example: USER:df1d7b0de01c4c81923b8d703a9ca69.
createdTime	The date and time when the user created the comment. Example: Fri Jul 12 2019 20:11:46 GMT+0000 (Coordinated Universal Time).
modifiedByID	The ID of the user who edited the comment. If no one edited the comment, the createdByID displays here.
modifiedTime	The date and time when the user edited the comment. Example: Fri Jul 12 2019 20:11:46 GMT+0000 (Coordinated Universal Time).
deleted	Displays a 1 if a user deleted or purged the comment; otherwise, displays zero.
text	The text of the comment. Example: "Hello <@USER:dfed7b0dd703a9ca69>. This cell is ready for review." Cell references in a comment don't display in the comment text.

Edit, Delete, or Purge Workbook Comments by Other Users

Prerequisites

Security: *Manage Bot and User Conversations* domain in the System functional area.

You must be the workbook owner, or have edit or comment permission for the workbook.

Context

Administrators with sufficient domain access and permission levels can edit, delete, or purge (permanently delete) individual workbook comments that any user created.

Example: You might want to edit, delete, or purge a comment if someone included sensitive data, or if someone asked you to delete their personal information.

Deleting or purging a comment doesn't delete or purge any replies to that comment.

Purging a comment removes it from the Workday database.

Steps

1. In the workbook, open the Comments panel.

2. In the comment options menu for the associated comment (3 dots), click the desired action.
You can't undo your changes to a comment, or restore deleted or purged comments.

Next Steps

If you access the **Get Conversation Data** report to download workbook comment data, you see a value of **1** in the Deleted column for any deleted or purged comment, indicating that Workday deleted its text from the user interface.

For deleted comments, Workday includes the comment text in the CSV file.

For purged comments, Workday doesn't include the comment text in the CSV file; purged content was deleted from the database and no longer exists on the tenant.

When you permanently delete a workbook, Worksheets doesn't purge its associated comments. If you want to purge the comments later, you can find them using the **Get Conversation Data** report, and then purge them using the **Purge Conversation Message Data** report.

Concept: Managing Workbooks

Use these primary actions to manage workbooks. For more details, select **Help > User Guide** from any workbook.

Action	Description
Create an empty workbook	From Drive, select +New > Workbook .
Import (upload and convert) a file to create a workbook	<p>From Drive, select +New > Upload.</p> <p>When uploading XLSX files, keep in mind that this upload action is intended only for workbooks that contain exclusively Excel-supported content; don't use it to upload workbooks that you worked with in Worksheets and then downloaded to Excel using the Worksheets download action.</p> <p>When you upload a file in the XLS, XLSX, CSV, or HTML file type, Worksheets automatically converts the file into a workbook and also keeps the original file. Worksheets doesn't convert Excel files to workbooks if they require a password to open.</p> <p>Notes on uploading and converting:</p> <ul style="list-style-type: none"> • For Excel files, check the file size in addition to the number of cells before uploading it. In some cases, an Excel file is apparently small but the file size is disproportionately large. We call this Excel file a bloated file. A bloated file might upload very slowly or it might fail. You need to eliminate the cause of the oversized file. See the User Guide for tips. • For HTML files, Worksheets uses only the table data when creating the workbook. • Worksheets doesn't support Visual Basic macros. If a spreadsheet contains macros, the conversion to a workbook might fail. Save the Excel file without macros before uploading it into Worksheets.
Copy a workbook	<p>From Drive, select the workbook and click Make a Copy.</p> <p>If the copied workbook is based on live data, you initially see the same data as the workbook owner based on their permission level, but as soon as you refresh live data in the workbook you see only the</p>

Action	Description
	data that you have access to. If you don't have access to one or more data source fields, an error occurs when you refresh live data.
Download workbooks	From the workbook, select File > Download as and select the file type to create. Tenant settings determine whether mobile app users can download workbooks.
Transfer ownership of a single workbook	Make sure that you already shared the workbook with the person you want to transfer ownership to. Then select to Share the item, and select Transfer Ownership in the permissions drop-down list for that user. When you transfer workbook ownership: <ul style="list-style-type: none"> • Your permission level for the item changes to Can Edit. • The new owner has the ability to remove your access. • You won't be able to edit any protected ranges. • Worksheets cancels any existing live data update schedules; the new owner must create a new schedule.
Transfer ownership of several workbooks	Only administrators can do this action. See ../../manage-workday/tenant-configuration/content-management/drive/ybv1544212265040.dita for details.
Remove (move to Trash) a workbook	From Drive, select the workbook and then click Remove . The workbook moves to the Trash view, but it isn't permanently deleted. Worksheets removes access for all users, and the workbook no longer displays in Drive except for the owner's Trash view. If an integrating application such as Projects or Payroll automatically created a workbook, you can remove the workbook only if you disable the entry area first. Some integrating applications refer to disabling the entry area as locking. If you remove a workbook that someone shared with you, you remove yourself from the list of shared users. The workbook disappears from Drive and it doesn't display in the Trash view. After removing a workbook, you can restore it only if you are the person who created it.
Restore workbooks from Trash	From Drive, select Trash . Select the workbooks and then click Restore . You can restore a workbook only if you are the person who created it.
Permanently delete workbooks	Drive administrators can permanently delete up to 1000 workbooks at one time by accessing the Drive Permanent File Delete task.

Concept: Live Data in Workbooks

When you add report data to a workbook and you choose to keep the workbook in sync with the original report data, that data is called live data. You can also add report data to a workbook without keeping the data in sync; we refer to this data as static data.

Option	Description
Live Data	The inserted data in the workbook maintains a connection to the Workday report, providing 1-way updates from the report to the workbook. (This setting doesn't enable writing data from the workbook to the report.) You can't manually edit the inserted live data in the workbook.
Static Values	Inserted data in the workbook doesn't maintain a connection to the original report. The data is a snapshot of the report data, as of the time you insert it. You can edit the inserted data in the workbook. The maximum number of cells that Worksheets can insert as static values is 5 million (5,000,000).

Live Data Tables and Structured References

Live data areas in Worksheets workbooks are similar to Excel tables. When Worksheets creates a live data area, it assigns a table name to the area. Optionally you can rename the table. Using a special syntax, you can create references to the data in a live data area using the table and column name; these references are called *structured references*, and the range of cells is automatically updated whenever the live data is refreshed. For more details about structured references, see [Concept: Structured References in Workbooks](#) on page 805.

Formula Columns and Note Columns in Live Data

To work with formula columns:

- To add a new formula column without using the data wizard, right-click the header of any live data column to add a new formula column to the right or left. Adding a formula column using this method causes a live data refresh.
- To add a new formula column without using the data wizard, type the formula into the 2nd row of a column adjacent to the live data area and press Enter. Worksheets automatically adds the formula into the live data area and applies the formula to all rows in the live data area, without doing a live data refresh. (Skip a column if you don't want to add the formula into the live data as a formula column.)
- Type a formula into the cell below the header and press Enter; Worksheets applies the formula to all rows in the live data area.
- Double-click the column header cell to edit its name.

To work with note columns in the live data area:

- You must have already set up a key column (field) using the data wizard to see this option in the menu. A **key** uniquely identifies the data in each row. The key column that you select must contain unique values, such as Employee IDs. The value must not change over time, and the value must exist in *only one* row of the data. Worksheets uses the key to match note rows to live data rows. Make sure your key is unique; if it isn't, notes will be lost.
- Type notes as desired into the individual cells. To paste text into a cell, double-click in the cell first.
- Double-click the column header cell to edit its name.
- You can right-click the header of any live data column to add a new note column to the right or left. Adding a note column using this method causes a live data refresh.
- Keep in mind that during a live data refresh, Worksheets doesn't preserve formatting for note columns.
- If rows are added during a live data refresh, Worksheets preserves the alignment of notes with their corresponding rows. If rows are removed during a live data refresh – for example, you delete a prompt – any notes related to the deleted prompt are removed but the data is saved in Workday. If you add the prompt again later, Worksheets shows the notes again in their corresponding rows.
- If you type a note into the 2nd row of a column adjacent to the live data area and press Enter, Worksheets automatically adds a note column into the live data area without doing a live data refresh. (Skip a column if you don't want to add the column as a note column.)

Filtering

If you have an active filter in live data and you refresh the data, Worksheets automatically reapplies the filter criteria to the live data area.

Sorting

You can sort live data areas and entry areas in a workbook. Optionally, your sort can include contiguous columns in the workbook that are outside the live data area or entry area. By default, if your workbook sheet contains live data and you select **Advanced Sort** on the **Data** menu, Worksheets selects only the live data area for the sort. If you want to include additional columns in the sort, highlight the entire range that you want to sort before selecting **Advanced Sort**.

When you refresh live data in a workbook, Worksheets preserves the sort order that you set in the **Order By** option in the data wizard, but doesn't preserve standard sorting within the workbook (using **Data > Sort**).

Formatting

In the Data Wizard **Select Columns** page, you can use the **Column Options** menu to set the data format for your live data columns (if your live data is from an Advanced report). If you set the formatting here, Worksheets preserves the data format when the live data is refreshed. Data formatting isn't available for Note columns.

We recommend that you not change any font/style settings (such as bold text) in the workbook live data. When you refresh the live data, Worksheets resets font/style formatting. If you want to change your live data's appearance, you can use the **ARRAYAREA** function on a different sheet to insert the data from the live data area, and format those rows and columns as desired.

Group Column Headings

If your original report definition contains Group Column Headings, those values become column headings in your workbook. If you want to change the column headings later, you can do so using the **SELECT** formula to copy the data into a different sheet and assign new column names.

Here's an example formula that copies data from Sheet1 into the current sheet and assigns the new column names ID and Name:

```
=SELECT("SELECT `~Employee~ ID` `ID`, `Employee Name` `Name` from ? ",ARRAYAREA(Sheet1!A1))
```

Although this example is related to Group Column Headings, you can use it to change any live data column headings.

Concept: Structured References in Workbooks

Live data areas in Worksheets workbooks are similar to Excel tables. When you add a live data area to a workbook based on a Workday advanced report, Worksheets creates a **table** that contains the live data. By default, Worksheets assigns a live data table name using the word **Report** and an incrementing digit. Example: Report1.

Optionally, you can create your own name for the live data table, either at the time you run the data wizard or later. Worksheets supports table names only for advanced reports. If you do rename the live data table, remember that the table name must be unique in the workbook and also can't be the same as any defined names or pivot table names.

After running the data wizard, you can use a special syntax incorporating the table name and column name to specify dynamic references in formulas instead of using literal cell ranges. This combination of a table and column name is a *structured reference*. Worksheets updates the range of a structured reference automatically as needed when the live data is refreshed.

Example: Instead of the formula `=SUM(B1:B24)` you can use `=SUM(SalesCategory[Sales Amount])` where **SalesCategory** is the table name and **Sales Amount** is the column name. The SalesCategory table name isn't displayed in the live data area; however, if you were to display the live data panel, it would display there.

	A	B	C	D
1	Date of Sale	Sales Amount	Item Number	Sales Representative
7	08/25/22	\$1,137.82	201639	Adam Carlton
8	04/27/22	\$1,344.69	309183	Dinah Johnson
9	07/11/22	\$1,623.02	201639	Dawn Myers (HRPartner, 4000)
10	05/12/22	\$1,639.97	298371	Benefits Partner_1000
11	07/26/22	\$1,749.30	309183	HR Partner1_1000
12	04/12/22	\$1,802.53	201639	Talent Administrator
14	08/10/22	\$1,939.47	309183	HR Partner2_1000
15	10/09/22	\$1,962.67	309183	James Moore (Recruiter, 1000)
16	09/24/22	\$2,081.93	109723	Norman Chan (PayAdminUSA)
17	09/09/22	\$2,084.44	298371	Alexiis Acceptance
18	05/27/22	\$2,121.94	109723	Payroll Administrator
19	01/27/22	\$2,188.93	201639	Manager Manager_4100
20	02/26/22	\$2,838.38	109723	Betty Liu (manager 4300, CostCtrMgr 30.3, 41200, PayIntPartner; PayPartner, PayAdmin)
21	12/23/22	\$2,878.34	201639	Manager Manager_5120
22	03/13/22	\$2,979.32	309183	Jacqueline Desjardins (Mgr 4400, CstCtrMgr 30.4 and 41300)
23	02/11/22	\$3,145.78	298371	Robert Hsing
24	03/28/22	\$3,345.25	309183	Manager Manager_4500
25				
26	Total Sales	\$38,788.52		
27				

Keep these considerations in mind:

- For live data areas that were created before Workday 23R1, you need to edit the live data area to add a table name. You can do this from the live data panel by clicking **Edit Live Data** or by clicking any of the **Edit** links in the panel.
- If you change a table name or column name later, Worksheets updates existing structured references *in the workbook*; however, if you have an external reference that contains a table or column name, Worksheets doesn't automatically update the consumer workbook. You need to update the reference manually.
- Worksheets doesn't support:
 - Using structured references (table and column names) to define conditional formatting rules. We do support applying conditional formatting rules to data that was populated using a structured reference.
 - Uploading files to Worksheets that were originally created in Excel and that contain structured references.
 - Using structured references in a NOTIFYIF formula.

Structured Reference Syntax Auto-Fill

When you are typing a formula in the formula bar or in a cell, you don't need to remember the syntax for the structured reference. Depending on what you type into the formula, or what you select in the live data table, Worksheets generates and displays the appropriate syntax.

Worksheets generates live data structured reference syntax when you select:

- An individual cell in the live data table.
- Column headings. Select one or more heading rows.
- Columns of live data. You can select either the heading along with the data, or select only the data.
- The entire table. Select the entire live data area including headings.

Additionally, if you type a table name and then type a left bracket in the formula, the column names and special identifiers display for selection.

Structured Reference Syntax Guidelines

- Table names don't need to be inside quotes or square brackets.
- Column names don't need to be inside quotes, but you do need to surround them with square brackets.
- Use the pound symbol (#) and indicators described below to refer to a special subset of a cell range.
- When including a formula column in a live data area, the formula doesn't need to include the table name, but it does need to include the at symbol (@) preceding any column names.
- Remember to press the unconstrained array keyboard shortcut when submitting a formula: Ctrl+Alt +Enter or Ctrl+Alt+Shift+Enter (Windows) or Command+Option+Enter (Mac).

Special Identifiers for Structured References

Specifier	Example	Refers To
#All	[#All]	The entire table, including column headers and data.
#Data	[#Data]	Only the data rows, no header.
#Headers	[#Headers]	Only the header row, no data.
#This Row or @		Only the cells in the same row as the formula. You can't combine these specifiers with any other item specifier. This must be used in a live data formula column before every header. Example: =SUM([@Current Salary],[@Proposed Bonus])

Syntax Examples

Basic example:

=SUM(CompDetails[New Salary],CompDetails[Stock Amount])

Notes:

- The formula adds the values of the two columns together and displays the results in a new column. The table name is **CompDetails**.
- The column names are **New Salary** and **Stock Amount** (enclosed in brackets).

For the table of examples below, we added live data to a workbook and named the table **CompDetails**. Here's an image showing the column names.

	A	B	C	D	E	F	G
1	Employee ID	Compensation Grade	Stock Amount	New Salary	Salary Increase %	Proposed Bonus %	Total Compensation
2	21006	Management	\$3,413	100,785.50	0.03	0.02172	\$104,198
3	21006	Management	\$3,413	100,785.50	0.03	0.02172	\$104,198
4	21145	Management	\$4,219	120,556.80	0.035	0.02609	\$124,776
5	21145	Management	\$4,219	120,556.80	0.035	0.02609	\$124,776
6	21008	Management	\$3,063	130,687.50	0.02	0.02172	\$133,750
7	21008	Management	\$3,063	130,687.50	0.02	0.02172	\$133,750
8	21007	Management	\$3,063	137,177.25	0.015	0.02172	\$140,240
9	21007	Management	\$3,063	137,177.25	0.015	0.02172	\$140,240
10	21009	Management	\$5,375	139,932.00	0.035	0.02391	\$145,307
11	21009	Management	\$5,375	139,932.00	0.035	0.02391	\$145,307
19	4611-2	Management		0.00	-1	0	\$0
36	4600-31	Management		30,000.00	-0.5	0	\$30,000
37	4611-27	Management		30,000.00	-0.5	0	\$30,000
38	21034	Management	\$3,655	115,133.40	0.03	0.025	\$118,788
39	21034	Management	\$3,655	115,133.40	0.03	0.025	\$118,788

Structured Reference	Content Included	Implied Cell Range
CompDetails or CompDetails[#Data]	All data in the table, without column headers.	A2:G39
=CompDetails[[#All],[Proposed Bonus %]]	All cells in the Proposed Bonus % column	F1:F39
=CompDetails[[#Headers],[Salary Increase %]]	The header of the Salary Increase % column	E1
=CompDetails[[#All],[Compensation Grade]:[Salary Increase %]]	All cells between the Compensation Grade and Salary Increase % columns, inclusive, with headers	B1:E39
=CompDetails[[Compensation Grade]:[New Salary]]	The data between the Compensation Grade and New Salary columns, inclusive, no headers	B2:D39
=CompDetails[[#Headers],[Employee ID]:[New Salary]]	The headers of the columns between Employee ID and New Salary	A1:D1
=CompDetails[[#Headers],[#Data],[Compensation Grade]]	The header and data of the Compensation Grade column	B1:B39
=CompDetails[[#This Row], [New Salary]] or =CompDetails[@New Salary]	The cell at the intersection of the current row and the New Salary column	D5 (if the current row is 5)

Comparing Structured References and Defined Names

Defined names are similar to structured references in some ways, but there are notable differences. This table summarizes the key differences:

Defined Names	Structured References
You can create defined names for any workbook range.	Structured references refer only to data in a live data area, for advanced report data only.
A defined name specifies a fixed range of cells across columns and rows, or you can use the Formula field to define a name for a formula, constant, or non-contiguous set of cell ranges.	A structured reference combines a table name and column names to specify a dynamic range of cells in one or more live data columns.
If the defined name is in a live data area, the range of cells remains the same even if the data changes during a refresh.	The data referred to by the reference is dynamic and is updated automatically after a live data refresh.
A defined names panel ("right pane") shows all defined names so you can view and manage them.	Structured references aren't standalone entities - they're managed as part of the live data area - so they don't need a separate panel.
You can use defined names in Slides presentations.	Structured references aren't visible or usable in Slides presentations.
If you use a defined name in a Slides presentation linked table and later you change its name or range, you need to refresh the linked data in the presentation to see the updated data. If you use a defined name value in a Slides presentation linked value, and then you edit a defined name's range so that the linked value is no longer included, you need to remove and re-add the linked value.	You can change a table name or column name. If you do so, Worksheets updates existing structured references in the workbook; however, if you have an external reference (consumer workbook) that contains the previous table or column name, Worksheets doesn't automatically update it. For more information about external references, see Concept: Using External References to Refer to Data in Other Workbooks on page 809.

Concept: Using External References to Refer to Data in Other Workbooks

In a workbook, you can refer to cells or ranges of data that exist in other workbooks. We call these references *external references* or *cross-workbook references*. References to other sheets in the same workbook have a similar syntax so we'll describe them in this topic also. You can make a standalone reference (by using only an equals sign and the reference) or a reference can be an argument in a formula.

A workbook that refers to (brings in) data from another workbook is a *consumer* workbook. A workbook containing data that's being referred to in another workbook is a *producer* workbook. A workbook can be both a consumer and a producer.



Creating External References

To add references to a producer workbook from a consumer workbook, you must have Can Edit permission for the consumer workbook and Can View permission or higher for the producer workbook.

When someone creates or changes a formula with an external reference, Worksheets remembers which user did it. When the formula runs, Worksheets verifies that the user has permission to access the externally referenced workbook.

From a producer workbook, you can copy a complete reference and then paste it into a consumer workbook.

1. Select the data that you want to reference and then right-click and select **Copy as External Reference**.
2. Open the consumer workbook. In the cell where you want the reference, type an equals (=) sign and paste the reference by pressing Ctrl + V (Windows) or Command + V (Mac).

Alternatively, you can obtain the producer workbook's Workday ID by navigating to **File > Info** and adding the rest of the external reference manually in the consumer workbook.

From a consumer workbook, you can copy the Workday ID of a producer workbook and then add the defined name or sheet name and cell/range reference manually.

1. In the cell where you want to place the reference, select **Data > Get External Reference** to see all the workbooks that you have access to.
2. Navigate to the producer workbook and then click **Copy Workday ID**.
3. In the consumer workbook, type an equals (=) sign and paste the Workday ID by pressing Ctrl + V (Windows) or Command + V (Mac). Then type the rest of the reference, which might be a defined name or a sheet name and cell/range reference.

Updating External References

Consumer workbooks display a gray **External References** icon on the workbook toolbar. If data in the producer workbook changes, the icon turns green and you can click it to update the data in the consumer workbook. The update that occurs is the same as **Recalculate All**. There might be a delay of up to 2 minutes, once the data in the producer workbook changes, before the consumer workbook **External References** icon turns green.

When producer workbook data changes, you can either open the consumer workbook and click the **External References** icon to update the external references manually, or you can schedule a live data refresh to prompt the consumer workbook to be recalculated. You can set up a scheduled refresh to automate a recalculation even if the consumer workbook doesn't contain live data.

For example, if you have 3 workbooks joined together (Producer > Consumer/Producer > Consumer) you can automate updates to each workbook by scheduling data refreshes. Additionally, staggering the scheduled refreshes ensures that the data in one workbook is up to date before the data in the next workbook is recalculated.

This approach automates the data flow between the workbooks, eliminating the need for manual updates.

1. Schedule a refresh for the producer/consumer workbook.

In the producer/consumer workbook, click **Data > Schedule Live Data Refresh** and set a refresh time such as 12:00 PM. This will update the data pulled in from the producer workbook.

2. Schedule a refresh for the consumer workbook.

In the consumer workbook, schedule a refresh time after the producer/consumer refresh, such as 12:15 PM. This ensures the consumer workbook always displays the latest recalculated data.

The **Schedule Live Data Refresh** option is only configurable by the owner of the workbook and scheduled refreshes can only run once per day.

Syntax Guidelines

For external references:

- Enter the workbook's Workday ID inside square brackets, then the sheet name and cell or cell range, or the defined name. Don't include folder/path information for the producer workbook.

For cross-sheet references or external references:

- Start with an equals sign (=) in the cell.

- If the sheet name has either of these properties, surround the name with single quotes ('):
 - The sheet name doesn't start with a letter or an underscore.
 - Any subsequent character in the sheet name isn't a letter, a digit, a period, or an underscore.
- Example cross-sheet references:
 - =Sheet1!A1:A4
 - ='All Employees'!A1:A4
 - ='All Employees'!DataArea1, where DataArea1 is a defined name

This table shows some external reference examples. Workday IDs are shortened for readability.

=[9f9a1]January!A1	Gets data from the workbook with Workday ID 9f9a1, in the sheet January, cell A1.
=SUM([9f9a1]January!A1:B6)	Shows the sum of cells in the workbook with Workday ID 9f9a1, in the sheet January, range A1:B6.
=[9f9a1]DataArea1	Gets data from the workbook with Workday ID 9f9a1, with the defined name DataArea1.
=SUM([9f9a1]Regions!A1:B6)	Shows the sum of cells in the range A1:B6, in the workbook with Workday ID 9f9a1, sheet Regions.
=SELECT("SELECT * FROM ?" ,ARRAYAREA([9f9a1]'Data Sheet'!A1))	Uses the SELECT function to get an array's data from the workbook 9f9a1, sheet Data Sheet.

Considerations for External References

Keep these tips in mind when working with external references:

- If the data changes in a producer workbook:
 - When you click the green **External References** icon to update the consumer workbook, the action is the same as **Recalculate All**.
 - If you change the data placement in a producer, such as by deleting a sheet or inserting a column into a range, Worksheets doesn't update the reference in the consumer workbook.
- If you lose access to a producer workbook or a producer workbook is deleted, you see a #REF! error in workbook cells that depend on data from external references.
- Worksheets reassigns broken external references in workbooks when the references become invalid due to the authoring user's account being deactivated, or when the authoring user no longer has permissions to the producer and consumer workbooks. Worksheets attempts to fix the external references whenever a user who has edit or owner to the consumer workbook, and view access or higher to the producer workbook, clicks the **External Reference** icon. If Worksheets can't update a reference, a #REF error displays and you need to update the reference manually.
- If you have an external reference that contains a structured reference (live data table/column name), and you change the table name or column name, Worksheets doesn't automatically update the consumer workbook; you need to update the reference manually.
- Formatting in producer workbook references is applied in the consumer workbook, unless the consumer workbook cells are already formatted. If you change the formatting in the referenced producer workbook cells later, the new formatting isn't applied in the consumer workbook. (This same behavior occurs for references in the same workbook.)
- If you hover over the Workday ID in an external reference in the formula bar, Worksheets shows the name of the producer workbook.

- You can't add a reference to a producer workbook chart into a consumer workbook; an error occurs when you place the reference in the consumer.
- If you're the workbook owner, you can prevent users with the Can Edit permission from changing content in the producer workbook by using range protection. However, using range protection in a consumer workbook doesn't prevent updates from propagating from the producer to the consumer.
- On a particular tenant, up to 10,000 consumer workbooks can refer to a single producer workbook. Up to 25 producer workbooks can provide data to a single consumer workbook.
- The functions NOTIFYIF and NOTIFYIFS don't update automatically when producer workbook data changes; you need to update references manually or set up a scheduled live data refresh. (The workbook doesn't need to contain live data; the scheduled refresh performs a recalculate action, which updates the consumer workbook data.)

Concept: Creating Reports to Insert into Workbooks

You can add data from one or more Workday reports into a workbook. Adhere to these requirements and best practices for any reports that you want to add data from.

The Workday report must:

- Be an advanced, matrix, or composite report. Worksheets doesn't support inserting other report types, such as Simple, Standard, or Xpresso.
- Be enabled for Worksheets. Select **Enable for Worksheets** in the Advanced tab of the custom report. Enabling a report causes it to display in the list of available reports, when you start the Data Wizard in a workbook.
- Be enabled as a web service (required only for advanced reports). Select **Enable as Web Service** in the Advanced tab of the custom report.
- Include fields from the primary business object and any necessary related business objects. If you use related business objects, your report must contain group column headings.
- Use these field types: Boolean, Numeric (integers only), Text, Date, Date Time, Multi-Instance, or Single Instance. Worksheets doesn't support other types (Currency, DateTimeZone, Time).
- Not contain duplicate column labels (Column Heading Override) or XML aliases.
- Not contain fields that use the **Do Not Prompt at Runtime** prompt option.

For optimal performance as the report runs and Worksheets inserts the data into the workbook:

- Use indexed calculated fields whenever possible.
- Select report data sources (RDSs) that are efficient with data:
 - Use indexed RDSs whenever they're available.
 - Use RDSs that provide the smallest set of data that meets your needs. Example: To report on compensation-related transactions, use employee compensation events instead of all business process transactions.
 - Use RDSs with the prompts you need built in. Example: To report on workers by organization, use the **Workers by Organization** RDS instead of using the All Workers RDS and then using filters to select organizations.
 - Limit your use of calculated fields.
 - Limit your use of filter conditions.
 - When using more than 1 filter, first use the 1 that reduces the most instances.

Keep in mind that your report's efficiency affects how Worksheets performs when adding your report to a workbook. To ensure that a report is efficient, you can test the report by creating multiple versions of it using different RDSs and options and then comparing performance data using the **View Report Performance Logs** report.

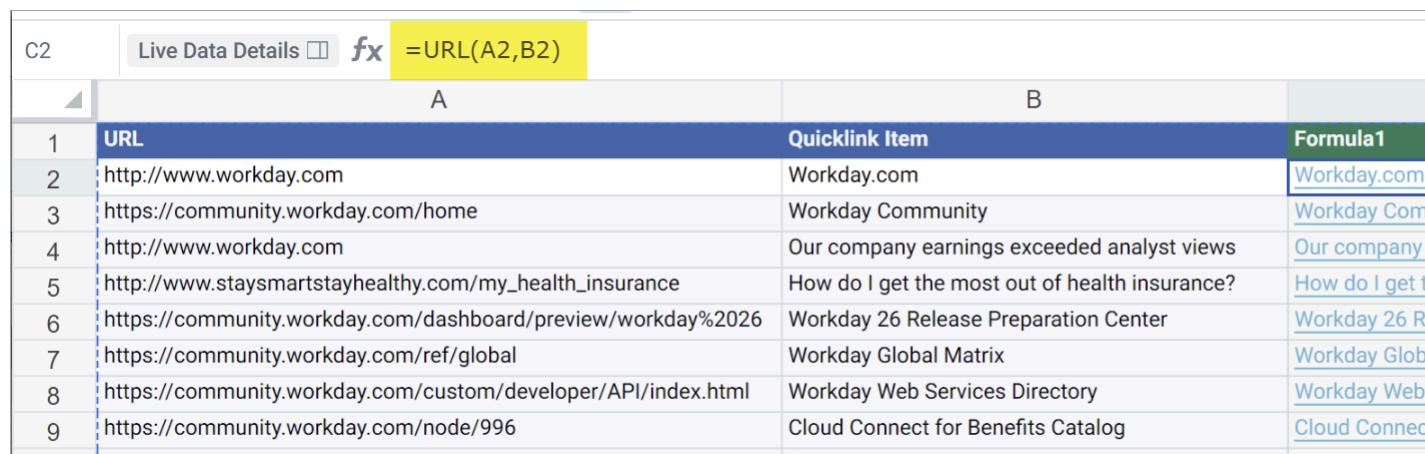
Considerations for Workday Reports and the Worksheets Data Wizard

Report Type	Notes
Advanced	Advanced reports that Workday runs for Worksheets have a timeout value of 30 minutes. If the report times out before it can finish calculating, then the Data Wizard can't insert the data into the workbook, and you see an #ERROR indicator along with a message that it wasn't possible to do a SELECT. If you see an error and you think you might have an overly large report, we recommend that you use the Limit number of rows inserted option in the Data Wizard to test whether a report timeout issue exists. This limitation doesn't apply to matrix or composite reports.
Matrix and Composite	After you complete the Data Wizard, Worksheets runs the report in the background before inserting the data into the workbook; this allows you to continue working on other activities while the report runs. For advanced reports, you need to wait while the report runs; a spinner icon lets you know that it's being processed.
Composite	By default the associated workbooks display only 1 level of the outline hierarchy. To include all levels, in the report definition Advanced tab, select the Enable Export Expansion Hierarchy to Excel option.

The Data Wizard doesn't support:

- Analytic indicators.
- Including Quicklinks in live data. Quicklinks from the report definition will display in the workbook but the link isn't functional. To enable clicking in a workbook cell to open Quicklink URLs:
 1. In the Workday report definition, for the **Quicklink Assignment** business object, include the fields **URL** and **Quicklink Item**.
 2. In the workbook live data, add a formula column and use the URL or HYPERLINK function to display a clickable link. (To add a formula column, right-click in the header cell of a live data column and select **Insert Formula Column**.)

Example: With the **URL** field in column A and **Quicklink Item** field in column B of your workbook live data, adding the formula =URL(A2,B2) in cell C2 provides clickable links in that column.



C2	Live Data Details	fx	=URL(A2,B2)
	A	B	Formula1
1	URL	Quicklink Item	
2	http://www.workday.com	Workday.com	Workday.com
3	https://community.workday.com/home	Workday Community	Workday Com
4	http://www.workday.com	Our company earnings exceeded analyst views	Our company
5	http://www.staysmartstayhealthy.com/my_health_insurance	How do I get the most out of health insurance?	How do I get
6	https://community.workday.com/dashboard/preview/workday%2026	Workday 26 Release Preparation Center	Workday 26 R
7	https://community.workday.com/ref/global	Workday Global Matrix	Workday Glob
8	https://community.workday.com/custom/developer/API/index.html	Workday Web Services Directory	Workday Web
9	https://community.workday.com/node/996	Cloud Connect for Benefits Catalog	Cloud Conn

Related Information

Reference

Reference: Report Types on page 14

Concept: Single- and Multi-Instance Field Values in Workbooks

This topic describes workbooks with multi-instance field values that were inserted after December 2019. Refreshing live data in older workbooks doesn't add multiple instance values; only the first value would be returned. To include values for multi-instance fields in your workbook, run the Data Wizard to insert the report data into a new area of the workbook and select the **Enable Multi-Instance Values** option.

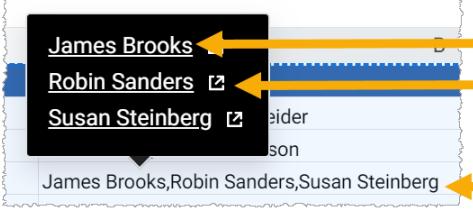
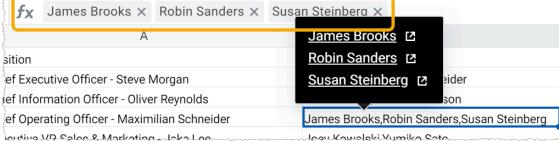
Multi-instance values display only for live data areas in workbooks - not for workbooks that are created after you click the Export to Worksheets button from a Workday report.

Enabling Multi-Instance Field Values in the Data Wizard

In the **Options** dialog of the Data Wizard, the **Enable Multi-Instance Values** check box causes all values of all multi-instance fields to be displayed in the resulting workbook. By default, the check box isn't selected; this preserves backward compatibility with existing workbooks.

Visual Cues for Instance Field Values in Workbooks

To interact with the values, hover over a cell containing single-instance or multi-instance field values.

Instance Value Visual Cues	Notes
	<p>When you insert instances as live data, you see these characteristics:</p> <ol style="list-style-type: none"> 1. Click the instance link to view its details, in the same browser tab. 2. Click the icon to open the instance details in a new browser tab. 3. The cell shows the values in a comma-separated list. <p>If you don't have access to an instance's details, you see an error when you click the details link.</p>
	<p>When you insert instances as values, you see the same characteristics as above.</p> <p>When you select a cell containing instance values, they display in the formula bar as tags with an x icon, enabling you to delete individual values from the cell if needed. You can also delete all values from within the cell using the Delete key.</p> <p>If you want to type into one of these cells, first you must remove all instance values; text and instance values can't coexist in a cell.</p> <p>Entry area instance values have the same appearance and behavior as instances that Worksheets inserted as values.</p>

Workbook Actions and Instance Value Behaviors

Keep these behaviors in mind when your workbook contains instance values:

Action/Object	Notes
References in formulas	When comparing a single instance value to a string that visually appears to be the same, the formula evaluates them as equal.
Using the formula editor	The formula editor isn't available when working with multi-instance field values in workbooks.
Filtering	Each multi-instance value set displays as a selectable filter.
Sorting	Worksheets sequences the sort based on the concatenated set of values in the cell, as if it were a string.
Pivot tables	Worksheets treats each unique set of instance values as a separate value.
Charts	Worksheets treats each unique set of instance values as a separate value.
Links to documents such as PDFs from an instance	If you click the link of an instance that has a document preview page, but you don't have permission to view the preview, you see the error message <i>The task submitted is not authorized</i> . If you click the link of an instance that doesn't have a preview page, you see the message <i>No task runner for message</i> .
Download to Excel as XLS, XLSX	Worksheets converts multi-instance values into a string in the form of JSON, maintaining the multi-instance values and types if you reupload the workbook.
Download to CSV	Instance values are in a comma-separated list.
Download to Excel as values	Worksheets converts instance values to strings with a line break between each value.
Print or download as PDF	Worksheets converts instance values to strings with a line break between each value.

Example Comparisons of Single Instance, Multi-Instance, and String Values

This table shows when comparisons evaluate as the same or different, based on the type of data you're comparing.

Comparison	Result	Example
Multi-instance values in a different sequence	Not equal	<pre>MULTIINST(INSTANCE("ID1","Denver"), INSTANCE("ID2", "Chicago")) Compared to: MULTIINST(INSTANCE("ID2","Chicago"), INSTANCE("ID1", "Denver"))</pre>
Multi-instance with 2 IDs and values, compared to string	Not equal	<pre>=MULTIINST(INSTANCE("ID1","Denver"), INSTANCE("ID2", "Chicago")) Compared to:</pre>

Comparison	Result	Example
with values in a different sequence.		The string "Chicago,Denver"
Multi-instance with 2 IDs and values, compared to a single instance with the value in a different sequence.	Not equal	=MULTIINST(INSTANCE("ID1","Denver"), INSTANCE("ID2", "Chicago")) Compared to: The single instance ("ID1", "Chicago,Denver")
Multi-instance values with different IDs but the same descriptors.	Equal	=MULTIINST(INSTANCE("ID1","Chicago")) Compared to =MULTIINST(INSTANCE("ID2","Chicago"))
Multi-instance with a single value, compared to an equivalent string.	Equal	=MULTIINST(INSTANCE("ID1","Chicago")) Compared to: The string "Chicago"
Multi-instance with a single value, compared to a single instance value; IDs can differ.	Equal	=MULTIINST(INSTANCE("ID1","Chicago")) Compared to: The single instance ("ID4", "Chicago")
Multi-instance with 2 IDs and values, compared to an equivalent string.	Equal	=MULTIINST(INSTANCE("ID1","Denver"), INSTANCE("ID2", "Chicago")) Compared to: The string "Denver,Chicago"
Multi-instance with 2 IDs and values, compared to a single instance that has the same descriptor.	Equal	=MULTIINST(INSTANCE("ID1","Denver"), INSTANCE("ID2", "Chicago")) Compared to: The single instance ("ID1", "Denver,Chicago")

Worksheets-Unique Formulas That Manipulate Instance Field Values

This table summarizes functions that enable you to work with single-instance and multi-instance values. For details, see the Function Reference in the User Guide ([Help > Function Reference](#)).

Function	Description
INSTANCE	Returns a single-instance value.
INSTANCE.DESCRIPTOR	Returns the descriptor (string value) of the instance.
INSTANCE.ID	Returns the ID of the instance.
MULTIINST	Creates a multi-instance value from a comma-separated list of single-instance values.
MI.COUNT	Returns the number of instances inside a multi-instance value.
MI.INDEX	Returns the instance at a specific index in a multi-instance value.

Concept: Array Formulas in Workbooks

An **array** is a set of data contained in more than 1 spreadsheet cell. An array visually looks like a simple range of cells, but it's actually a special structure that you work with as a unit. From a Worksheets perspective, live data areas and entry areas are examples of arrays. A formula that deals with a single cell, not an array, is a **scalar** formula; the formula returns a result in a single cell.

An array can be one-dimensional, containing values in a single row or column; or two-dimensional, containing a rectangular set of values in both columns and rows. You can see horizontal arrays represented in text with braces around them and commas between the values, such as in the formula `={1,2,3,4}`. Vertical arrays have semicolons between the values, such as `={5;6;7;8}`. Two-dimensional arrays have both, such as `={1,2,3;4,5,6}`.

An **array formula** is a single formula that does calculations for the values in an array, and then returns an array of results. The array result area is called the **spill** area. Array formulas use the same syntax as regular formulas. You can:

- Submit a formula to output the results into an array. All the cells in the array are a single unit that you work with as a single entity. This is a multicell array formula.
- Submit a formula in a single cell to operate on an array, while containing the result in a single cell. This is a single cell array formula. Single cell array formulas are much less commonly used compared to multicell array formulas.

You can use many common functions, such as SUM and COUNT, in an array formula. Several functions, such as TRANSPOSE, are meaningful only when they operate on an array.

Keep these considerations in mind when using array formulas:

- Array formulas perform better. It's faster to use a 10x100 multicell array formula instead of 1,000 separate formulas.
- Using a multicell array formula helps prevent you or other users from accidentally overwriting a cell formula.
- You can't edit an individual cell of an array, except for the top-left cell (also called the root cell) in the spill area. If you select another cell in the spill area, the formula is visible in the formula bar, but you can't change it. To update the formula, select the root cell, then change it as needed. Worksheets automatically updates the rest of the spill area when you press Enter.

Constrained and Unconstrained Array Formulas

In a formula, if you specify the exact range of cells to put results in, you're using a constrained array formula. Use a constrained array formula only if you know the specific range that should contain the result set. If you add or remove data in the range, you must modify the array formula to account for it.

Worksheets offers a more flexible method of working with array data. If you're working with live data, such as Workday report data or entry area data, the data array can change size whenever you refresh the live data. The array formula needs to adapt to those changes. Worksheets handles variations in array size using unconstrained array formulas. When you submit a formula without specifying the specific array size for the output, allowing Worksheets to determine the array result set dynamically, you're using an unconstrained array formula.

We use the term unconstrained in a few different contexts:

- We call a formula such as GROUPBY an **unconstrained array formula** because it's intended to have variable output.
- A live data array such as a Workday report data set is an **unconstrained array** because the array size can grow or shrink when the live data refreshes.
- A range reference such as B:B is an **unconstrained column reference** because you're not specifying the number of cells containing data in the column.

Submitting Array Formulas

Submit array formulas from either of these locations:

- The formula bar.
- The cell containing the formula. Before submitting, double-click in the cell to make sure it is active.

Submit array formulas using these keyboard shortcuts:

- To submit an *unconstrained* array formula, press Ctrl+Alt+Enter (Windows) or Command+Option+Enter (Mac). Results display in all required cells in the range. If there aren't enough empty cells to display the complete results, an error occurs. Make sure that enough empty cells are available to contain the result.
- To submit a *constrained* array formula, press Ctrl+Shift+Enter (Windows) or Command+Shift+Enter (Mac). Results display only within the selected range. You see the same behavior in other common spreadsheet products.

Concept: Editing Workbooks

These notes describe how to use workbook features in Worksheets that differ from other spreadsheet applications. For more details, see the Worksheets User Guide, which you can access from the Worksheets user interface (**Help > User Guide**).

Workbook Editing

Action	Notes
Use full-screen mode	<p>In full-screen mode, Workday hides the header to display the maximum possible number of workbook rows.</p> <p>Select View > Full Screen.</p> <p>Workday doesn't support full-screen mode in the Safari browser.</p>
Add Workday report data into a workbook	<p>We use the term live data for Workday data that you add to a workbook.</p> <p>Select the cell where you want to insert the data and click Add Live Data.</p> <p>The Data Wizard opens and helps you find the report and add the data. You can select whether to add the data as:</p> <ul style="list-style-type: none"> • Live Data: Worksheets maintains a connection to the Workday report, providing one-way updates from the report to the workbook. • Static Values: Worksheets doesn't maintain a connection to the data in the original report. The data is a snapshot of the report data, as of the time you insert it. Worksheets can insert a maximum 5,000,000 cells as static values. <p>You can add data from more than 1 Workday report into a single workbook. We recommend using a new sheet for each set of live data.</p> <p>Worksheets doesn't support using the Do Not Prompt at Runtime prompt option in a report definition.</p>
Refresh all live data in a workbook from 1 or more reports	<p>You must have permission to edit the workbook and to refresh live data. When you do a refresh, Worksheets also recalculates formulas affected by changed workbook data.</p> <p>You can refresh all live data areas in the workbook and recalculate:</p> <ul style="list-style-type: none"> • Manually using Data > Refresh All Live Data.

Action	Notes
	<ul style="list-style-type: none"> According to a schedule using Data > Schedule Live Data Refresh. Only the workbook owner can do this action. <p>Note: When you recalculate and refresh the live data in a workbook, Worksheets updates all data, including data in a protected range. You can't prevent Worksheets from refreshing and recalculating workbook content. Example: When you update an entry area in Workday Projects, or Workday runs a scheduled live data refresh, Worksheets updates any necessary data even if you protected the entry area or live data range.</p>
Refresh live data in a single range from the associated Workday report	<p>In the workbook, select a cell that includes live data. In the live data panel, click either:</p> <ul style="list-style-type: none"> Refresh Now to immediately refresh the range. Edit to edit report prompt values if any exist in the live data, then click Refresh Now to refresh the active live data range.
Edit workbook live data areas (add, remove, or reorder report columns)	<p>Click the Edit link in the Columns section of the live data panel. Alternatively, you can click any of the Edit links in the panel, or the Edit Live Data button at the bottom of the panel.)</p> <p>Live data column editing applies only to live data from advanced reports. Worksheets doesn't update data references in formulas when you edit live data columns; you need to manually update formulas that refer to any live data area that you edit.</p>
Schedule live data refreshes	<p>(Workbook owner only) In the workbook, select Data > Schedule Live Data Refresh.</p> <p>For workbooks already on a schedule, select Data > Edit Scheduled Refresh. You can also select this option to edit or delete an existing schedule.</p> <p>At the scheduled time, Workday automatically:</p> <ul style="list-style-type: none"> Runs any associated Workday reports, acting as the workbook owner, and refreshes the workbook based on changes in the original data. Recalculates formulas affected by changed workbook data. <p>For any prompts in the Data Wizard where you selected the Use Report Default option, Worksheets uses the default values from the report definition when refreshing the data; otherwise, Worksheets uses the current prompt values displayed in the live data panel.</p> <p>You can create 1 schedule per workbook.</p> <p>When Worksheets runs a scheduled refresh, the updated data is available to users with shared access to the workbook.</p> <p>If workbook ownership changes, the schedule stops running; the new owner must create a new schedule.</p> <p>If the Workday report associated with the live data refresh times out 3 times consecutively, Worksheets automatically cancels the refresh and pauses the schedule. If Worksheets pauses a schedule, the workbook owner receives a Workday notification that includes a link to the affected workbook. After you fix the problem that caused the report failure, you need to manually resume the schedule by clicking Resume in the live data panel in the workbook.</p>

Action	Notes
	<p>Worksheets doesn't preserve schedules when you refresh a tenant from a tenant with a different name. You need to create new schedules for the workbooks in the new tenant. Example: You refresh the <i>company_name_preview</i> tenant from the <i>company_name</i> tenant.</p> <p>If a worker sets up a scheduled live data refresh and then leaves the company (and is in a terminated state), the scheduled refresh returns an error in the workbook because Workday can't run the associated report.</p>
Undo or redo your changes	<p>To undo a workbook change, select Edit > Undo.</p> <p>To redo a workbook change, select Edit > Redo.</p> <p>Worksheets tracks your most recent 15 changes that you can undo.</p> <p>When you select an action that you can't undo, Worksheets displays a confirmation message. If you continue with the action, Worksheets resets the record of your changes. You can't undo earlier changes, unless you previously created a named version.</p> <p>Keep in mind that when another person edits the workbook, they might perform an action that resets change tracking and prevents you from undoing a change.</p> <p>We recommend creating a workbook version (File > Versions) before doing any of these actions, which Worksheets can't undo:</p> <ul style="list-style-type: none"> • Delete or insert a sheet. • Change the format. • Recalculate or Recalculate All. • Refresh live data. • Change global prompts. (Undo is supported only when you make the change using the Data Wizard. You can't undo any changes made using the global prompts panel.) <p>You can't undo changes to workbook comments, and reverting to a previous version doesn't restore comment changes.</p>
Define or edit conditional formatting rules	<p>Select the cell or range, then navigate to Format > Conditional Formatting.</p> <p>To view the existing conditional formatting rules for a range of cells, select the range and then select View > Panels > Conditional Formatting. To display all conditional formatting rules for a sheet, select the top left cell in the workbook data area.</p>
Insert subtotals and a grand total	<p>Worksheets can automatically insert subtotals for sets of related data in your workbook, and calculate a grand total.</p> <p>Select a single cell to indicate the column of data you want to add a subtotal for. Then select Data > Subtotal and fill in the fields.</p> <p>You can't add subtotals in entry areas.</p>
Group (outline) data	<p>Select the rows or columns that you want to group, right-click, and then select Group. After grouping, you can select a group, right-click, and Ungroup a single group, or select Ungroup All to remove associated groupings.</p>

Action	Notes
Define data validation rules	<p>You can define rules that determine what data can go into a set of cells in your workbook. Example: You want to make sure that users select a geographic region from a list of valid regions, which your workbook stores in another column.</p> <ol style="list-style-type: none"> 1. In the workbook, select the cell or range of cells where you want to add the data validation, and select Data > Validation. The Data Validation dialog displays and the selected cell or range displays in the Cell Range to Validate field. 2. In the List of Values from Formula field, enter the formula that Worksheets can use to determine the values to list in the data validation cell or range. Alternatively, you can type a list of values surrounded by curly braces and separated by commas. Example: {1,2,3}.
Rename or copy a workbook sheet	To rename the sheet or to do other sheet actions, click the arrow on the sheet tab. Sheet names can be up to 31 characters long. We recommend using names of 27 characters or less. When you copy a sheet, Worksheets uses 4 characters to add a space and a numerical increment in parentheses to the sheet name. Example: When you copy the sheet named <i>My Sheet</i> , Worksheets names the copy <i>My Sheet (2)</i> . When you copy a sheet, Worksheets doesn't preserve protected ranges in the new sheet.
Open instance details in a new browser tab	When a workbook includes instance details, you can open the link to view them. To open the instance page in a new browser tab, select the icon in the instance link or use Ctrl+Click (Windows) or Command+Click (Mac).
Collaborate	<ul style="list-style-type: none"> • Share a Workbook Click Share to: <ul style="list-style-type: none"> • Enable link sharing and get a URL so that you can share the workbook with several users at once. • Select specific users, or groups, to share the workbook with. <p>When a workbook owner shares with users or groups, optionally, they can select whether or not to:</p> <ul style="list-style-type: none"> • Let editors share the workbook. • Let commenters and viewers print, copy, or download the workbook. <p>The users that you share the workbook with can see any unhidden data in the workbook.</p> • Manage Comments Click the Comments icon to add comments.
Define a name	<p>Select the cell or range, right-click, and then select Define Name.</p> <p>Defined names must be unique per workbook, and can be between 4 and 255 characters long.</p> <p>When selecting a defined name in the formula drop-down menu using the keyboard, use Tab (not Enter) to select it.</p>
Protect ranges	<p>(Workbook owners only)</p> <p>To prevent other users from editing a cell or range, select the cell or range and then select Data > Protect Range.</p>

Action	Notes
	<p>To protect a sheet, click the sheet menu (the down arrow on the sheet tab) and then select Protect Sheet.</p> <p>Note: When you recalculate or refresh the live data in a workbook, Worksheets updates data even if that data is in a protected range.</p>
Find content in a workbook sheet	<p>To find values in a workbook sheet, select Edit > Find or press Ctrl+F (on Windows) or Cmd+F (on Mac) to open the Find in Sheet panel. You can search for values, but not formulas.</p> <p>When you search in a workbook, Worksheets displays results that contain the characters you type, in the order you specify. The default search is a wild card search, with an implied asterisk character (*) at the beginning and end of the string you specify.</p> <p>For advanced searches, start your query statement with the ^ character.</p>
Break a line in a workbook cell	Double-click the cell in which you want to insert a line break. Click the location inside the selected cell where you want to break the line. Press Alt+Enter (Windows) or Option+Enter (Mac). If you use the workbook formula editor, it removes line breaks, so you need to add the breaks again.
Delete workbook sheets	<p>Click the sheet menu (the triangle icon on the sheet tab) and then select Delete.</p> <p>Worksheets can't undo deleting a sheet.</p>
Create pivot tables	<p>Select the range to include in the pivot table and select Insert > Pivot Table.</p> <p>Pivot tables containing live data rely on the report column names from the Workday report. If you change a report column name in the report, and that data is used as a field in a pivot table, you need to replace the pivot table field associated with the original name with the field that's based on the new report column name.</p>
Refer to data in other workbooks	<p>To add external (cross-workbook) references, you must have edit permission for the consumer and view permission or higher for the producer workbook.</p> <p>A workbook that refers to (brings in) data from another workbook is a <i>consumer</i> workbook. A workbook containing data that's being referred to in another workbook is a <i>producer</i> workbook. A workbook can be both a consumer and a producer.</p> <p>From a producer workbook, you can copy a reference, then paste it into a consumer workbook:</p> <ol style="list-style-type: none"> 1. Select the data that you want to reference, then right-click and select Copy As External Reference. 2. Open the consumer workbook, and in the cell where you want the reference, type an equals (=) sign and paste the reference. <p>From a consumer workbook, you can copy the Workday ID of a producer workbook, then add the defined name, or sheet name and cell/range reference manually:</p> <ol style="list-style-type: none"> 1. In the cell where you want to place the reference, select Data > Get External Reference. 2. Navigate to the producer workbook and then click Copy Workday ID.

Action	Notes
	<p>3. In the consumer workbook, type an equals (=) sign and paste the Workday ID. Then type the rest of the reference, which might be a defined name, or it might be a sheet name and cell/range reference.</p> <p>Consumer workbooks display an External References icon on the workbook toolbar. The icon turns green if data in the producer workbook was changed. You can click the icon to update the data in the consumer workbook. The update that occurs as a result of the action is the same as Recalculate All. Once the producer workbook's data changes occur, there might be a delay of up to 2 minutes before the consumer workbook External References icon turns green.</p>
Merge 2 workbooks	<p>You can add the sheets from another workbook into the open workbook if you're the owner or you have edit permission.</p> <p>Open the workbook that you want to contain all the content from both workbooks, then select File > Merge Workbook.</p> <p>When merging workbooks, Worksheets doesn't:</p> <ul style="list-style-type: none"> Save the original, nonmerged workbook before adding sheets from the second workbook. To keep your original workbook, make a copy of it before merging. Preserve protected ranges or data validations from the workbook that you merge into the original workbook. <p>If updatable data, such as from an entry area, exists in the workbook you're selecting to merge content from, Worksheets copies the values from that area but no longer considers the data updatable.</p>
View quick statistics on a selected range	<p>When you select a range of cells in a workbook, such as defined names, columns, or sheets, these formulas display to the right of the formula bar to provide quick reference statistics about your selection:</p> <ul style="list-style-type: none"> SUM AVERAGE MIN MAX COUNT COUNTA <p>Based on the types of data in the selected cells, Worksheets shows the relevant functions in the drop-down list. For SUM, AVERAGE, MIN, and MAX, Worksheets converts units in the same dimension (such as length) to determine the result.</p> <p>If all selected cells contain non-numeric data, then Worksheets displays only the COUNTA statistic.</p>
Create a workbook version	<p>Workbook versions provide a checkpoint for a group of changes.</p> <p>Select File > Versions, then type a version name in the Add Version to Workbook dialog.</p> <p>Workbook comments are independent of any versioning status: the user sees in the Comments panel all comments entered for the workbook, regardless of the version where the comment was added. Restoring to a previous version of the workbook doesn't undo or change the Comments panel data.</p>

Action	Notes
Sort data, including advanced sorting of live data and contiguous columns	<p>Select the columns or rows to sort, then select Data > Sort and then select a sort order or select Advanced Sort.</p> <p>You can sort live data areas and entry areas in a workbook. Optionally, your sort can include contiguous columns in the workbook that are outside the live data area or entry area.</p> <p>By default, if your workbook sheet contains live data and you select Advanced Sort on the Data > Sort menu, Worksheets selects only the live data area for the sort. If you want to include additional columns in the sort, highlight the entire range that you want to sort before selecting Advanced Sort.</p> <p>When you refresh live data in a workbook, Worksheets preserves the sort order that you set in the Order By option in the data wizard, but doesn't preserve standard sorting within the workbook (using Data > Sort).</p>
Paste content into a workbook	<p>You can use Ctrl+C and Ctrl+V to copy and paste content as values from 1 Worksheets workbook to another, or from a desktop spreadsheet application such as Excel.</p> <p>You can't use the workbook menu option Edit > Paste Special to paste desktop application content into a workbook; Paste Special works only between workbooks that currently reside in Worksheets. Import (upload and convert) the desktop spreadsheet into Worksheets by selecting +New > Upload before pasting data from it that includes formulas into a Worksheets workbook.</p> <p>You can copy and paste up to 9 MB of content from 1 workbook to another.</p>
Freeze spreadsheet cells	<p>Locate the freeze handles in the top left corner of the sheet.</p>  <p>Drag a handle to freeze columns or rows.</p> <p>Alternatively, you can scroll until the desired column or row is in the first viewable position in the workbook, then freeze at that position by selecting View > Freeze Panes > Top Row. Worksheets freezes at the location of the first visible row in the spreadsheet, which might not be row 1. Similarly, selecting View > Freeze Panes > First Column freezes at the position of the first visible column in the workbook.</p> <p>To unfreeze all columns and rows, select View > Freeze Panes > Unfreeze All.</p>
Navigate within a range of cells	If you select a range of cells and then press Tab to move from cell to cell, the cursor stays inside the selected range.
Insert a chart	Select the data to include in the chart, select Insert > Chart , then select a destination cell for the chart. The chart starts at the selected cell and displays in an area of merged cells that's approximately 10 rows in height and 4 columns in width.

Action	Notes
	If you include date information in the chart, make sure that you use standard date/time formats; otherwise, Worksheets doesn't recognize the information as dates. Keep in mind that if you use a pivot table as the source data for a chart, and later you change the rows, columns, or values to include in the pivot, you need to make sure your chart still displays correctly.
Auto-fill a formula or value into all cells in a column	These steps provide a keyboard alternative to using drag-fill: <ol style="list-style-type: none"> In the cell you want to copy from, type the formula or value and then press Ctrl+C (Windows) or Command+C (Mac). To select all cells in the column, down to the bottom-most cell, press Ctrl +Shift+Down Arrow (Windows) or Command+Shift+Down Arrow (Mac). Press Ctrl+V (Windows) or Command+V (Mac).
Change the font	Worksheets supports a variety of widely available fonts. The default workbook font is Roboto. Worksheets doesn't support the Calibri font.
Rebuild a corrupted workbook	If a problem, such as a system error or an interrupted process, causes a workbook to be corrupted, you can return the workbook to a working state using a keyboard shortcut: <ul style="list-style-type: none"> Ctrl+Alt+Shift+F9 (Windows) Command+Option+Shift+F9 (Mac)

Formulas

Task	Notes
View reference information for all available formulas	Click the Function icon (fx) to open the Functions Library panel.
Enter a formula	Use one of these methods: <ul style="list-style-type: none"> Type the formula into the cell, starting with = (the equals character). Place the cursor in the formula bar and start typing the formula. When you type a function name that Worksheets recognizes, a function description displays. When you start typing parameters, syntax information displays. From the Functions Library panel, find the function you want, and then click the + to the left. Click the Formula Editor icon to open the interactive formula editor, and type your formula. The icon doesn't display when there's an active connection to the Workday report, or when the active cell is in a pivot table. To treat the data in a cell as text instead of a formula, type a ' (single quote character) before the = character. Worksheets treats everything after the ' as plain text. The ' character doesn't display in the cell, but it displays in the formula bar.
Submit a formula from the formula bar or the cell containing the formula	If you expect the formula to return a single value (it's a scalar formula), press Enter to run the formula.

Task	Notes
	If you expect the formula to return multiple values (it's an unconstrained array formula), use the Ctrl+Alt+Enter (Windows) or Command+Option+Enter (Mac) keyboard shortcut.
Submit a formula from the formula editor	<p>Click Save & Close.</p> <p>When you open the formula editor for a formula, the editor detects if the formula is a standard scalar (single value, nonarray) formula or unconstrained array formula, and submits it appropriately. Worksheets doesn't support using the formula editor for constrained array formulas.</p>
Enter numbers into a formula	<p>You can enter numbers in several formats, such as:</p> <ul style="list-style-type: none"> • A standard format such as 123, -4.5, 27.0001. • Scientific format, such as 1E10, 12.4e-4, 8.2E+34. • Accounting format for negative numbers, such as (12.45), (12E2). • Formatted with thousands separators, such as 12,234.6789. • Formatted as a percentage, such as 12.3%, -.23E3%. • Formatted as a currency, such as \$12.45, \$50, \$34.33, (\$1,456.99), (\$12). • Dates and times. <p>The cell might not display the number exactly as you typed it, depending on the current cell formatting rules and other factors, but Worksheets preserves the value.</p> <p>To make Worksheets handle the format of the cell as text, type a ' (single quote character) before the = character; Worksheets treats everything after the ' as plain text. The ' character doesn't display in the cell but it displays in the formula bar. Example: You can enter dates and preserve the formatting you typed, instead of displaying it in a format such as DD/MM/YYYY.</p>

Circular References

In almost all cases, a circular reference indicates an error that you must correct.

We strongly recommend not enabling iterative calculations, particularly in workbooks that contain live data; doing so obscures data errors that can lead to poor performance and unexpected behavior.

A red icon indicates that Worksheets didn't finish calculating; the workbook is in a state where some formulas didn't fully run and are showing stale values. You can hover the cursor over the icon to see a tooltip with information about the problem. There are two common causes for a workbook to prematurely stop calculating: either the calculation limit was reached, or one or more circular references exist in the workbook. If the problem is caused by a circular reference, you can click the red icon to navigate to the cell location of the reference. If you have more than one circular reference, Worksheets navigates to the location of the first one.

In rare situations, you might want to enable circular references. Example: You have a basic cost of \$1,000,000 for a project. A consultant earns a 5 percent fee based on the total project cost, which is \$1,000,000 plus the consultant fee. Because the fee is part of the calculation, it's a circular reference in the spreadsheet, so you need to enable iterative calculation to occur.

A	B	C
Basic Cost	\$1,000,000.00	
Consultant Fee	=B3*C2	5%
Total Cost	=SUM(B1:B2)	

To enable the calculation of circular references in a workbook, select **File > Settings**, select **Enable Iterative Calculation**, and add values for:

- Maximum iterations: 100 or fewer.
- Maximum change: Enter a maximum change value. The default is 0.001. Worksheets does the circular calculation for the number of iterations that you specified, or until the result changes by less than this value.

If you open a workbook containing circular references, and your recalculation setting is **Manual**, a message displays; select **Data > Recalculate All** to update the data.

Related Information

Reference

[2020R2 What's New Post: Worksheets External References](#)

Concept: Automatic and Manual Calculation in Workbook Formulas

It's useful to understand the actions that cause Worksheets to calculate or recalculate the formulas in your workbook.

Calculations depend on the formula type and the action you're doing. Recalculation time includes the time spent running reports, executing formulas, and applying conditional formatting.

This table summarizes whether Worksheets recalculates workbook data or not:

Recalculation Setting	Formula/Workbook Type	Event/Action	Recalculate Formula?
Automatic	Volatile <ul style="list-style-type: none"> • INDIRECT • NOW • NOWTZ • OFFSET • RAND • RANDBETWEEN • TODAY 	Change any cell in workbook.	Yes.
Automatic	Non-Volatile	Change any cell that this cell depends on.	Yes.
Automatic	ARRAYAREA	A formula uses ARRAYAREA and the array referenced by ARRAYAREA changes. The anchor cell (top left cell) of the array referenced by ARRAYAREA changes.	Yes.
Automatic	RANDCONST		No. This non-volatile function is recalculated only when: <ul style="list-style-type: none"> • A scheduled live data refresh runs. • You select Data > Recalculate. • You select Data > Recalculate All.

Recalculation Setting	Formula/Workbook Type	Event/Action	Recalculate Formula?
Automatic	SELECT (with live data)	Manually refresh live data range. Live data refresh schedule runs.	Yes.
Automatic	SELECT as a generic formula	Change any cell that the formula references.	It depends. If you use the parameter section to reference data, the formula runs when the data changes. If you change data in the SELECT statement portion, the formula doesn't run again.
Automatic	ONCE	Place (wrap) any formula in the ONCE function.	No.
Automatic	Copied workbook	First time you open copied workbook.	No. Select Data > Recalculate All to update the workbook.
Automatic	Converted Microsoft Excel file	First time you open the uploaded/converted workbook.	No. Select Data > Recalculate All to update the workbook.
Manual	Any	Any.	No. Worksheets never recalculates formulas unless you manually initiate a recalculation. This is applicable for all formulas, including volatile formulas. (New formulas are calculated when you first submit them but they're not recalculated.)

The default recalculation setting in workbooks is **Automatic**.

You might want to prevent automatic recalculation in some situations. Example: If you're making many changes to a workbook with complex formulas, you might want to wait until you finish all your changes before recalculating the formulas.

To specify a calculation option, select **File > Settings**.

To manually recalculate formulas, use one of these actions:

- **Data > Recalculate** calculates any formulas in the workbook where the data has changed.
- **Data > Recalculate All** calculates all formulas in the workbook, whether or not the data has changed since the last calculation. **Recalculate All** also updates external references in consumer workbooks

Notes:

- When you do an action that doesn't cause a recalculation, such as uploading a Microsoft Excel file to Worksheets and opening the converted workbook the first time, select **Data > Recalculate All** to update the workbook.
- Live data in a workbook isn't affected when you use the recalculation settings or actions. You can refresh live data manually by selecting **Data > Refresh All Live Data**, by selecting **Refresh Now** in the Live Data panel, or by setting up a scheduled refresh using **Data > Schedule Live Data Refresh**.

Concept: Data Analysis with Worksheets Functions

Data analysis is an iterative process of collecting, cleaning, and shaping your data, followed by aggregation and analysis. Worksheets helps to make your workflow more efficient by enabling you to work with live Workday data, and to use Worksheets-unique functions that improve the analysis workflow.

As you do each of these steps, remember to keep your original data as a backup by creating new workbooks for the manipulated data.

Collect

Compile your data, gathering it from resources both outside and within Workday. Make sure that your raw data is complete. Here's a summary of actions that you might do during data collection:

- Select **+New > Upload** from Drive to create workbooks from data that exists outside Workday.
- Select **Data > Add Live Data** to add live data from Workday reports into a workbook. The Data Wizard helps you identify the subset of data that you want to insert to the workbook.
- Keep your data current by creating a schedule to refresh the live data.
- Use the **ARRAYAREA** function to copy data from one unconstrained array to another, creating an organized set of raw data to manipulate in the Clean step. **ARRAYAREA** returns the containing range of the array formula, based on the cell address you specify. The array can originate either in a Workday report or an array formula.

Clean

Reduce your data to only the information you need by removing duplication, trimming empty workbook values, and more.

Keep these Worksheets-unique functions in mind:

Function	Notes
DISTINCTROWS	Combines a set of ranges into a single range while removing any rows that are duplicates. DISTINCTROWS evaluates text and instance values as not distinct from each other. When the supplied range contains both an instance value and a text string that are the same, the function returns 1 row, the instance value.
REMOVECOLUMNS	Removes one or more columns from the referenced area. The function removes the <code>number_of_columns</code> , starting at and including <code>start_column</code> .
REMOVEROWS	Removes one or more rows from the referenced area. The function removes the <code>number_of_rows</code> following <code>start_row</code> , starting at and including <code>start_row</code> . Use REMOVEROWS without specifying any rows in order to remove the first (heading) row.
TRIMCOLUMNS TRIMROWS	Removes trailing blank columns and rows from a range, when the data is a result of an unconstrained array formula.
TRUNCATEMATRIX	Removes rows, columns, or both, from a matrix.
UNIQUE	Returns a matrix whose rows are unique according to the specified keys. The function returns only unique rows, based on the values in the specified columns. This function is similar to DISTINCTROWS(), but UNIQUE() takes a single range and a set of columns.

Shape

Arrange, convert, and organize your data to create consistency:

- Standardize your columns and create new ones if needed.
- Give each column a unique and descriptive header.
- Format each column consistently.
- Double-check for duplicate or missing rows.
- Make sure the wording and formatting for text data is consistent.
- Make sure that no cells are blank.
- Convert data values to the same unit where needed.

When shaping data, there are 2 main types of data manipulation:

- Value-specific: The action you want to take depends on the value in the cell.
- Data arrangement: The manipulation is value-agnostic and you're moving cells, columns, and rows to different locations.

For value-specific manipulation, these Worksheets-unique functions can be helpful:

Function	Notes
CONVERT	Converts a number from 1 unit of measurement to another.
DATESBETWEEN	Returns an array of dates that starts and ends on a particular date, with a step interval between each date.
DATESFROM	Returns an array of dates that starts on a particular date and continues for the number of dates you specify, with a step interval between each date.
IN	Determines whether a value or list of values that you specify is in another list of values. If so, returns True; otherwise, returns False.
MATCHCOMPOSITE	Common use case for MATCHCOMPOSITE is to consolidate column data from 2 sheets into 1, where you have data on a sheet, along with notes about that same data in a column on a different sheet. MATCHCOMPOSITE copies values in one or more columns from the location to the right of a source array, and returns values to the right of a destination array. You use a composite key of columns to match copied data to the correct rows in the destination.
MATCHEXACT	Looks up an exact match for the value in the sorted list (one-dimensional array) you specify, and returns the position of the value. You can use this function to match logical values, numeric values, or text strings. This function is similar to MATCH, but MATCHEXACT: <ul style="list-style-type: none"> • Always searches for an exact match; it returns an #N/A error if it doesn't find the value. • Doesn't allow wildcard characters such as * or ?. • Uses a binary search for better performance.
MHLOOKUP	We recommend this function as a replacement for HLOOKUP. MHLOOKUP performs a horizontal (row) lookup on a table and returns all matches. MHLOOKUP is similar to HLOOKUP, but: <ul style="list-style-type: none"> • HLOOKUP scans only the top row for matches; in MHLOOKUP you specify the row to search. • HLOOKUP stops after finding 1 match, and returns a single cell value; MHLOOKUP scans the entire lookup row for matches. Each match in that row returns a new

Function	Notes
	column in the output. If you specify 4 return_row_index values, then each resulting column will have 4 rows.
MVLOOKUP	We recommend this function as a replacement for VLOOKUP, especially when you're working with live data. MVLOOKUP performs a vertical (column) lookup on a table and returns all matches. MVLOOKUP is similar to VLOOKUP, but: <ul style="list-style-type: none"> VLOOKUP scans only the left column for matches; in MVLOOKUP you specify the column to search. VLOOKUP stops after finding 1 match, and returns a single cell value; MVLOOKUP scans the entire lookup column for matches. Each match in that column returns a new row in the output. If you specify 4 return_column_index values, then each resulting row will have 4 columns.
REGEXFIND	Returns the position of the first character of a substring that matches the regular expression pattern. The position value is zero-based.
REGEXPARSE	Extracts parts of a string by matching to a pattern.
SETUNITS	Converts a number from its current unit of measurement to another. This function is similar to CONVERT(), but in CONVERT() you must specify both the original and the new unit values.
SELECT	Valuable for value-based manipulation as well as data arrangement. The SELECT function is similar to an SQL SELECT statement. The basic format is: SELECT column1, [column2], ... FROM table where column is the data to return and table is the data source to select from. In the FROM clause you can specify, for example: <ul style="list-style-type: none"> Defined name. Column, row, or area range. Parameter that you specify as an argument.

For data arrangement, these Worksheets-unique functions can be helpful:

Function	Notes
WD.ARRANGECELLS	Creates a new range from an existing range, with the columns or rows ordered according to the specified indexes. With WD.ARRANGECOLUMNS you can add an empty column by including a null index value. Example: =WD.ARRANGECOLUMNS([range],1,2,3,,4) inserts a blank column between the 3rd index value and the 4th index value.
CORRELATE	Creates a new matrix by combining rows from the ranges you specify. This function is similar to a database join.
FLATTEN	Returns an expanded range of data based on the hierarchical data that you specify. Typically you use this function to expand an organization's manager and employee information so that it displays all levels of the hierarchy.
JOIN	Performs an inner left join on 2 ranges.
MERGECOLUMNS	Merges columns by placing them side by side into a new range.
MERGEROWS	Merges rows by placing them 1 below the other into a new range.

Function	Notes
MINUS	Returns all rows from a first range that don't appear in any of the other supplied ranges.
SORT SORT2 SORT3	Sorts an existing matrix and returns a new matrix. SORT accepts 1 sort direction and sorts all columns you specified based on that direction. SORT2 accepts pairs of parameters, which you use to specify the referenced column and the sort direction for that column. SORT3 assumes that the first row of the array to be sorted is a header and returns that row at the top of the results.
VALUEAT	Returns the value at the intersection of a column header and row label.
SELECT	Valuable for value-based manipulation as well as data arrangement. The SELECT function is similar to an SQL SELECT statement. The basic format is: SELECT column1, [column2], ... FROM table where column is the data to return and table is the data source to select from. In the FROM clause you can specify, for example: <ul style="list-style-type: none"> • Defined name. • Column, row, or area range. • Parameter that you specify as an argument.

Analyze

Now you're ready to aggregate and analyze the data you've prepared.

The most commonly used analysis tool is the pivot table, which enables you to summarize and analyze large amounts of data. The Pivot Table Wizard and details panel enable you to create and edit pivot tables interactively. You can also create charts to visually demonstrate data relationships.

Keep these Worksheets-unique data analysis functions in mind:

Function	Notes
CAPPEDVALUES	Typically used for 401(k) deductions, ESPP deductions, or tax payments that have a regular value per period, but drop to zero (0) when the payment reaches the cap. Returns an array of values over a set of periods from an array of values that you provide, over the same periods, limited by a provided cap over the whole duration.
FORECAST.WD.SEASONAL	FORECAST.WD.SEASONAL is a predicted sequence of values using patterns in the historical linear and nonlinear data that you specify.
GROUPBY	GROUPBY is a powerful function that can often replace COUNTIF(S), AVERAGEIF(S), and SUMIF(S). GROUPBY aggregates data, and orders the results based on the order that you specify. The grouping is based on a key that you can predefine in the table, or you can define it using columns in the workbook. The result looks similar to a sorted pivot table. This function is often useful as part of headcount planning.
SELECT	The SELECT function is similar to an SQL SELECT statement. The basic format is: SELECT column1, [column2], ... FROM table where column is the data to return and table is the data source to select from. In the FROM clause you can specify, for example: <ul style="list-style-type: none"> • Defined name. • Column, row, or area range. • Parameter that you specify as an argument.

Other Notable Worksheets-Unique Functions

These functions aren't specific to data analysis but are very useful in all steps:

Function	Notes
NOTIFYIF NOTIFYIFS	Sends notifications if a condition is met. You can send a notification to a user whether or not they have access to the workbook.
ONCE	Calculates a formula exactly 1 time. Worksheets never re-evaluates the formula even if you request re-calculation using Data > Recalculate ; however, you can manually resubmit the formula. Example: Use this function when the volatile function NOW() places a timestamp in a workbook, and this timestamp must never change.

Reference: Workbook Limits

This table summarizes the primary limits on workbook sizes and data points:

Limit Type	Notes
Workbook overall size	<p>20 million cells or 512 MB, whichever is less.</p> <p>Workbook information about the current percentage of the size limit, and the current number of cells in the workbook, is available by selecting File > Info.</p> <p>It's very important that you take action to reduce the workbook size. Overly large workbooks don't perform well and eventually will fail to open or save.</p> <p>A warning displays when the workbook reaches the size limit. If the workbook reaches 110% of the size limit, a warning message displays and additional changes to the workbook are not saved until you decrease the workbook size.</p> <p>Here are some actions that you can do if your workbook is approaching the limit:</p> <ul style="list-style-type: none"> Reduce the number of cells in the workbook that have any data associated with them, such as formulas, values, or formatting. For most cells, the best way to fully clear them is to select the range of cells and select Edit > Clear > All. For cells in live data, try reducing the number of columns or rows. Consider creating more concise reports to limit the number of rows returned. For cells in pivot areas, try adjusting the pivot configuration to reduce the overall number of rows and columns produced. Split large workbooks into two or more smaller workbooks.
Report data exported to a workbook	<p>A specific limit hasn't been established, but the export limit is lower than the overall workbook limit. If your export doesn't work, consider making the report smaller before exporting to a workbook.</p> <p>Instead of exporting to a workbook, consider creating a new workbook and then adding the report data into it using the Add Live Data feature. First you need to enable the report for Worksheets by</p>

Limit Type	Notes
	selecting Enable for Worksheets in the Advanced tab of the custom report. Advanced reports also need to be enabled for Web Services.
Uploads of spreadsheet files (XLSX, XLS, CSV, TSV, JWF, HTML)	20 million cells or 512 MB, whichever is less. Worksheets also follows the Workday overall file upload limit of 30 MB.
Downloads of workbooks	20 million cells or 512 MB, whichever is less.
Report data in a workbook as live data	20 million cells or 512 MB, whichever is less. This limit is based on the amount of data being placed into workbook cells. The <i>report</i> can have more than 20 million cells of data; your live data prompt selections and other filters should result in a workbook size that is below the limit.
Report data in a workbook as static values	5 million cells.
Pivot table results	1,000,000
Data points in a chart	100,000
Sheets in a workbook	256
Columns in a workbook	16,384
Rows in a workbook	1,048,576
Characters in a single cell	The limit is generally considered to be 32,767 characters per cell, but it is usually lower in practice. Internally, characters are measured in bytes; each character can require from 1 to 3 bytes. For example, most English characters are 1 byte each, but double-width characters can require up to 3 bytes.
Content copied from workbook to workbook	5 million cells or 9 MB, whichever is less.
Report run time	Advanced reports time out after 30 minutes. Matrix and composite reports don't have this limit.

Reference: Workbook Actions Available Based on Permissions

This table summarizes the actions available for workbooks based on the user's workbook permission level. You specify permission levels when you share a workbook.

Action	Can View	Can Comment	Can Edit	Owner	Notes
View workbook	X	X	X	X	
View workbook information	X	X	X	X	

Action	Can View	Can Comment	Can Edit	Owner	Notes
Copy workbook	X	X	X	X	Applies for the Can View and Can Comment permissions only if the workbook owner selected the Commenters and viewers can copy, download, and print option when sharing the workbook.
Download workbook (if enabled in tenant settings)	X	X	X	X	Applies for the Can View and Can Comment permissions only if the workbook owner selected the Commenters and viewers can copy, download, and print option when sharing the workbook.
Print workbook (if enabled in tenant settings)	X	X	X	X	Applies for the Can View and Can Comment permissions only if the workbook owner selected the Commenters and viewers can copy, download, and print option when sharing the workbook.
View pivot table details	X	X	X	X	You can access the details for a single pivot table value from the context (right-click) menu. Select Show Details . The Create Sheet button displays in the details dialog only if you have edit permission.
View workbook user presence	X	X	X	X	
Use a private filter	X	X	X	X	
View and add comments		X	X	X	
View list of users that the workbook is shared with		X	X	X	
Remove (self) from shared workbook access	X	X	X		
Add/edit external references			X	X	Applies for the Can Edit permission only if the workbook owner selected the Editors can share option for the workbook when sharing it.
Define names for workbook cells or ranges			X	X	
Share workbook or change share permissions			X	X	Applies for the Can Edit permission only if the

Action	Can View	Can Comment	Can Edit	Owner	Notes
					workbook owner selected the Editors can share option for the workbook when sharing it.
Edit content including reverting changes			X	X	
Sort workbook content			X	X	
Use a public filter			X	X	
Merge workbooks			X	X	
Recalculate data			X	X	
Rename workbook			X	X	
Refresh live data			X	X	Applies for the Can Edit permission only if the workbook owner didn't select the Only owner can refresh live data option in File > Settings . Note that during a live data refresh, the workbook isn't available to you or anyone you shared with workbook with.
Define data validation rules			X	X	
Copy pivot data formula			X	X	From the context (right-click) menu, you can copy the formula that produces a single pivot table value. Select Copy Pivot Data Formula .
Schedule live data refresh				X	
Protect workbook ranges				X	
Change workbook owner settings				X	
Remove to trash and restore from trash				X	

Reference: Automatic Data Updates in Workbooks

A workbook can contain these kinds of data:

- Stand-alone data that might or might not originate in Workday.
- Data from one or more Workday report data sources.
- Data from an integrating application such as Workday Planning or Workday Projects, if applicable.

This table describes the data updates that occur, based on the kind of data you're working with:

Source of Workbook Data	Automatic Data Update	Notes
Standalone data, such as: <ul style="list-style-type: none"> A new workbook that you create in Worksheets. A new workbook that you create from an uploaded spreadsheet such as Microsoft® Excel®. A new workbook that you create when you export Workday application data to a workbook. Create the workbook by selecting the Export to Worksheets icon from a grid. 	None.	When you export from a grid into a workbook using Export to Worksheets , Workday doesn't preserve formatting such as bold text.
Data from a Workday report data source (Add Live Data) in a workbook.	Depends on the Insert selection (as Static Values or as Live Data Area).	<p>If you select As Static Values during the insert, Workday:</p> <ul style="list-style-type: none"> Doesn't update the workbook based on changes in the report. Saves changes you make to data that you inserted into the workbook. <p>If you select As Live Data Area during the insert, Workday:</p> <ul style="list-style-type: none"> Updates the workbook based on data in the Workday report, either when you manually refresh live data or when a scheduled refresh occurs. Doesn't save changes that you make later in the inserted data, but does save changes outside the live data range. <p>When Worksheets refreshes live data, it also recalculates any volatile functions, and formulas affected by changed workbook data.</p>
Data from entry areas in integrating applications such as Workday Projects or Workday Payroll.	Updates in both directions, initiated from the integrating application.	

Reference: Array Formula Keyboard Shortcuts

Use these keyboard shortcuts for array formulas in Worksheets:

Keyboard Shortcut	Description
Ctrl+Alt+Enter or Ctrl+Alt+Shift +Enter (Windows)	Use for unconstrained array formulas.

Keyboard Shortcut	Description						
Command+Option+Enter (Mac)	<p>To place results for a formula in all applicable cells, select a single cell and submit the formula using the shortcut.</p> <p>If the workbook doesn't include enough empty cells to display the complete results, an error occurs.</p> <p>Note: Use the keyboard shortcut to submit changes that you make in a pivot table formula. A pivot table is an example of an unconstrained array formula because it can shrink or grow depending on the underlying data.</p> <p>Example:</p> <ol style="list-style-type: none"> 1. Select cell A1. 2. In the formula bar, type <code>={1, 2; 3, 4}</code>. 3. Press Ctrl+Alt+Enter (Windows) or Command+Option+Enter (Mac). <p>Workday shows these 4 values in 2 rows and 2 columns:</p> <table border="1"> <tr> <td>1</td> <td>2</td> </tr> <tr> <td>3</td> <td>4</td> </tr> </table> <p>You can't edit individual cells in the results range.</p>	1	2	3	4		
1	2						
3	4						
Ctrl+Shift+Enter (Windows) Command+Shift+Enter (Mac)	<p>Use for constrained array formulas. This shortcut is the same in Worksheets and Excel.</p> <p>Select a range of cells, then submit the formula using the shortcut.</p> <p>Workday displays results only in the selected range.</p> <p>Don't use this shortcut when you're working with Workday live data, entry area data, or an array with an undefined or unknown size. Use the shortcut for unconstrained arrays instead.</p> <p>When you select more cells than necessary, Workday displays an #N/A error in the extra cells. When you don't select enough cells to display the complete results, the remaining results don't display.</p> <p>Example:</p> <ol style="list-style-type: none"> 1. Select cells A1-B3. 2. In the formula bar, type <code>={1, 2; 3, 4}</code> 3. Press Ctrl+Shift+Enter (Windows) or Command+Shift+Enter (Mac). <p>Workday shows these values in 3 rows and 2 columns:</p> <table border="1"> <tr> <td>1</td> <td>2</td> </tr> <tr> <td>3</td> <td>4</td> </tr> <tr> <td>#N/A</td> <td>#N/A</td> </tr> </table> <p>Workday displays the #N/A error because you selected more cells than the number of results.</p> <p>You can't edit individual cells in the range.</p>	1	2	3	4	#N/A	#N/A
1	2						
3	4						
#N/A	#N/A						
Ctrl+Enter (Windows) Command+Enter (Mac)	<p>You can't use the Ctrl+Enter keyboard shortcut in entry areas.</p> <p>This shortcut is the same in Worksheets and Excel.</p>						

Keyboard Shortcut	Description						
	<p>Technically the shortcut isn't an array formula shortcut; it's similar to a paste: it places the same formula or data into a range of cells. Unlike array formulas, using Ctrl+Enter doesn't prevent you from editing individual cells in the range.</p> <p>Example:</p> <ol style="list-style-type: none"> 1. Select cells A1-B3. 2. In the formula bar, type ={1, 2; 3, 4}. 3. Press Ctrl+Enter (Windows) or Command+Enter (Mac). <p>Workday shows these 6 values in 3 rows and 2 columns:</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td style="padding: 5px;">1</td> <td style="padding: 5px;">1</td> </tr> <tr> <td style="padding: 5px;">1</td> <td style="padding: 5px;">1</td> </tr> <tr> <td style="padding: 5px;">1</td> <td style="padding: 5px;">1</td> </tr> </table>	1	1	1	1	1	1
1	1						
1	1						
1	1						

Reference: Mobile Features for Worksheets

Workday provides an iOS app and an Android app. Workbooks are available for viewing in the mobile apps, from the **Drive** worklet.

FAQ: Collaboration and Security in Worksheets

How do I test my security configuration for Worksheets?

To see which data displays in workbooks, we recommend signing in as multiple users with different security settings. Then use the Data Wizard to insert report data into workbooks and share the workbooks among the users.

Proxy is supported in Worksheets. But keep in mind that in an application workflow such as HCM, where the application creates the workbook (not Drive), proxy usage might not be supported.

Is there a global configuration setting that enables some users to view workbooks and others to modify them?

No. Workbook sharing settings are for individual workbooks. The security group's View and Modify settings that you assign when initially configuring Worksheets aren't related to viewing and editing permissions.

Can I share a Worksheets workbook with anyone inside Workday even if they can't access the original data?

Yes, if they have access to the Worksheets application (they are in the *Worksheets* security domain).

Users that you share the workbook with can initially see any unhidden data included in the workbook, including Workday data. All users that you share with can see the same data that you see in the workbook. This functionality exists because Worksheets is intended as a collaboration tool where group of users solve business problems based on the same set of data. However, if the

shared workbook is based on live data, refreshing the workbook affects what other users can see:

- As soon as a user refreshes live data in the workbook, they see only the data they have access to. Additionally, all other users see the live data based on the security associated with the user who refreshed the data.
- Whenever a user does the Refresh All Live Data action, or whenever a scheduled live data refresh occurs, all live data in the workbook refreshes. The live data is visible again to other users, based on the security associated with the user who refreshed the data or who set up the schedule.
- If a user has permission to refresh live data but they don't have access to one or more of the data source fields, an error occurs when they try to do the refresh.

If you share a workbook containing live data with a user and they make a copy of the workbook, as soon as they refresh live data in the workbook they see only the data they have access to.

To ensure that a workbook always displays only the data that a user has access to, you can create a workbook template and then distribute the template to users.

No. Hiding content is useful to reduce distractions in your workbook, such as hiding a sheet when you're using its data for calculations in other sheets. However, hiding content isn't a security mechanism. Users with Can View permission for a workbook can use external references to display and use the hidden content. Additionally, they can copy the workbook and unhide any content, if you enabled the **Commenters and viewers can copy, download, and print** option.

Colored cell borders are called presence indicators. When users view or edit a workbook simultaneously, Worksheets assigns different colors to the users. Worksheets highlights cells with that color as the users interact with the cells. User avatars also display for any users currently in the workbook.

No, only you have access to the workbook, and it contains the data you have access to from the report.

Can I hide content in a workbook to prevent anyone from seeing it in any situation?

What are the colored cell borders in the workbook?

When I insert Workday report data into a workbook, is the workbook auto-shared with the people I shared with report with?

FAQ: Workbook Performance

What's the upper limit on workbook size, and what affects this limit?

The overall limit is 20 million cells per workbook. Keep in mind that performance impacts are much more dependent on workbook formulas and dependencies than on workbook size. For a complete list of workbook limits, see [Reference: Workbook Limits](#) on page 833.

This table lists workbook characteristics that can have a significant impact on performance, along with some tips for mitigating that effect:

Performance Impacts	Tips
Using many instances of the same formula instead of an array formula.	Instead of using drag-fill to place many occurrences of the same formula in cells, use an unconstrained formula when possible. Remember to submit the formula using the unconstrained formula keyboard shortcut. For details, see Concept: Array Formulas in Workbooks on page 817.
Dependencies within and between workbooks. A change in 1 cell might cause calculations in many other cells. If more than 1,000 cells are directly or indirectly affected, performance might degrade	When using external references, minimize the use of producer workbooks that are referenced by consumer workbooks, particularly if the producer workbooks are large.
Calculation-intensive functions, such as VLOOKUP, SUMIFS, and so on, when changing a range value.	<p>Worksheets provides indexed functions that are optimized for performance. We recommend using these functions instead of their non-indexed counterparts whenever possible:</p> <ul style="list-style-type: none"> • WD.AVERAGEIF/WD.AVERAGEIFS • WD.COUNTIF/WD.COUNTIFS • WD.MAXIF/WD.MAXIFS • WD.MINIF/WD.MINIFS • WD.MVLOOKUP • WD.SUMIF/WD.SUMIFS • WD.VLOOKUP
<p>Volatile functions that run any time Worksheets recalculates, such as RAND, NOW, TODAY, OFFSET, INDIRECT, and INFO. Actions that cause the workbook to recalculate include:</p> <ul style="list-style-type: none"> • Changing cell values or formulas. • Inserting or deleting rows or columns. • Adding or changing defined names. • Filtering. • Hiding or unhiding content. 	<p>You can wrap a volatile function in the ONCE function to prevent recalculation.</p> <p>Don't create a defined name that uses a volatile function and then use that defined name in many places. Instead, place the volatile function in a cell, and create a defined name as a reference to that cell.</p> <p>Example: To set up and use a defined name for the current date:</p> <ol style="list-style-type: none"> 1. Place the formula =EDATE(TODAY(), 0) in cell A3 of Sheet1. 2. Create the defined name todays_date. In the formula field type =Sheet1!\$A\$3. 3. In formulas where you want to insert the current date, use the defined name todays_date.

These workbook characteristics typically have a minimal effect on performance

- Workbook total size
- Number of cells
- Number of sheets (tabs)

- Cross-sheet formulas
- Formula sequence
- Summary tabs

Sometimes I see an alert telling me to come back to my workbook later. Why?

When Worksheets takes more than several seconds to complete an operation, an alert like this displays. For example, it might display while inserting or refreshing live data, or when recalculating a lot of formulas. The alert enables you to dismiss the workbook so you can do other work while the action completes. If you open a workbook that's already running a refresh or a Data Wizard process, you also see the alert.

Sometimes I see a Processing... indicator for a while, in the Drive file list. What determines whether I see the indicator or not?

When you create a workbook from existing data - such as from a report or an integrating application - Worksheets displays a **Processing...** indicator while adding the data into the workbook. The time required can vary from seconds to hours, depending on several factors, including:

- The number of calculations and formulas.
- The size of the file or Workday report.
- The complexity of the integrating application generation process.
- Whether the workbook contains live data from any Workday reports, or other resource-intensive processes that the tenant might be running. (Aside from live data, Worksheets processes are independent of any other tenant processes.)

After Worksheets starts generating the workbook, you can't cancel it or start generating a new integrating application workbook. However, if a workbook is in a Processing state for more than 24 hours, Worksheets automatically cancels it, enabling you to move the workbook to the trash or regenerate it.

My workbook calculations are too slow. What improvements can I make?

- If you're making many changes to a workbook with complex formulas, you might want to prevent recalculations until you finish all your changes. You can temporarily change the recalculation mode to Manual from the **File > Settings** dialog.
- Remove any data that you don't need for analysis.
- Minimize external references among workbooks.
- Minimize the number of formulas.
- Use whole-column references (such as A:A) sparingly.
- If you're using lookup formulas, try to organize your data so the calculations are on sorted data. Lookup functions are much faster with sorted data, and even faster when you can avoid using the exact match option.

How long should it take to upload an Excel spreadsheet?

Although most uploads finish within a few seconds, extremely large Excel spreadsheets might require several minutes. The progress bar in Drive lets you know that the process is occurring. You can work in other workbooks while the upload continues in the background.

Worksheets seems to run faster or slower depending on which computer I run it on. Why?

Rich web applications such as Worksheets can reduce performance if a computer is running other resource-intensive applications concurrently, or if processing capacity is low for another reason. Although it's not possible to recommend specific configurations because of the number of variables involved, you might find that in your environment you need to establish your own hardware configuration requirements.

Example: Use Worksheets with the What's New in Workday Report

This example illustrates how to use Worksheets with the *What's New in Workday* report. To do so, you want to create a workbook that includes:

- Live data.
- Note columns for each analyst and their assessments.
- Data validations.
- Formula columns that extract a list of features that affect your training materials.
- Adoption items.

Context

You lead a team of 3 to manage the implementation of a Workday feature release. With each release, you and your team assess the **What's New in Workday** report to determine which features you:

- Must implement because they're automatically available.
- Can ignore.
- Want to consider for future adoption and the setup effort needed.
- Need to research to determine what changes to make to your employee training manual.
- Want to create adoption items for.

The steps use GMS tenant names Logan McNeil (you), Betty Liu, Steve Morgan, and Teresa Serrano. Substitute your team names for these names in your tenant.

Prerequisites

Configure Worksheets and Drive, and give access to the feature planning analysts.

Security for you (not needed for the other users):

- *Custom/Standard Report Copy* domain in the Tenant Non-Configurable functional area.
- *Set Up: Tenant Setup - General* domain in the System functional area.

Steps

1. Copy a standard report to create a custom report.
 - a) Access the **Copy Standard Report to Custom Report** task.
 - b) Select *What's New in Workday* from the **Standard Report Name** prompt.
 - c) Click **OK**.
 - d) Enter *Release Planning with WN Report and Worksheets* on the **Name** field.
 - e) Click **OK**. (An alert displays on the page; you can ignore it.)
 - f) On the **Columns** tab, click **+** to add a new column.
 - g) Select **Workday ID** from the **Field** prompt.
 - h) On the **Advanced** tab, select these check boxes:
 - **Enable As Web Service**
 - **Enable for Worksheets**
 - i) Click **OK**.
2. Create a new workbook in Drive:
 - a) Select **Drive** in the Workday main menu.
 - b) Select **New > Workbook**.
 - c) Use **Workday [Release #] Release Planning** as the name.
 - d) Click **Create**.

3. In the workbook, add live data using the report you created:

- Click **Add Live Data**.
- In the **Select Report** dialog, select the **Release Planning with WN Report and Worksheets** report.
- Click **Next**.
- In the **Select Prompt Values** dialog, select:

Option	Description
Enabled Functional Areas	Select the check box
Workday Releases	[Next release]

- Click **Next**.
 - In the **Select Columns** dialog:
 - Click **Select All** to add all of the report columns to the workbook.
 - Click **Add Note Column** 2 times to add 2 note columns.
 - In the **Notes Key** field, select *Workday ID*.
 - Click **Next**.
 - In the Select Options dialog, select **Enable Multi-Instance Values** so that all enabled functional areas display in the workbook.
 - Click **Add**. The Workday report runs and inserts the data into the workbook.
4. Rename the Sheet1 tab and note column headings:
- On the Sheet1 tab, click the arrow on the right side of the tab and then click **Rename**.
 - Rename the sheet as *Feature Data*.
 - Click **OK**.
 - Double-click in each of the note column headings to rename them:

From...	To...
Note1	Analyst
Note2	Assessment

5. Set up data validation values so you can create drop-down lists for assigning analysts to items, and for selecting an assessment result:
- Click **+** at the bottom left of the workbook to create a new sheet. Worksheets names the sheet *Sheet1*.
 - On the *Sheet1* tab, click the arrow on the right side of the tab and then click **Rename**.
 - Rename the sheet as *Data Validation Values*.
 - Click **OK**.
 - Enter these values:

	A	B
1	<i>Betty</i>	<i>Implement</i>
2	<i>Steve</i>	<i>Investigate</i>

	A	B
3	Teresa	No action

f) In the Feature Data sheet, select the first cell in the **Analyst** column.

g) Click in the cell below the heading and go to **Data > Validation**.

h) Enter these values:

Field	Value
Cell Range to Validate	Enter a range that includes the entire column. Example: N:N.
List of Values from Formula	Enter = 'Data Validation Values' !A:A.

i) Click **OK**.

j) In the **Assessment** column, click in the cell below the heading and go to **Data > Validation**.

k) In **Cell Range to Validate**, edit the range to include the entire column. Example: Change the value from O2:O2 to O:O.

l) In **List of Values from Formula**, enter = 'Data Validation Values' !B:B.

m) Click **OK**.

6. In the **Analyst** column, click in each cell and select an analyst from the drop-down list. (We recommend placing values in at least 20 of the cells, so that later steps in the example will display data.)

7. Share the workbook with your analysts, giving Can Edit access:

a) Click the **Share** icon at the top right of the workbook.

b) In the **Share with Individuals** section, enter:

- Betty Liu
- Steve Morgan
- Teresa Serrano

c) Type this comment in the message area: *Analysts, please select an assessment value in each of the workbook rows assigned to you.*

d) Click **Share**. The analysts receive a notification in their Inbox that contains a link to the workbook.

8. The analysts can open the shared workbook, study the What's New Items assigned to them, and select a value in the **Assessment** column for each item. We recommend placing values in at least 20 of the cells, so that later steps in the example will display data.

9. In a new sheet, extract information about What's New items that you're implementing, and that affect your training materials. Your education team can use this information to update their employee training materials:

a) Click + at the bottom left of the workbook to create a new sheet.

b) Name the sheet TrainingUpdates.

c) Paste this formula into cell A1 of the sheet, replacing the final argument A1:O200 with the range of data in the Feature Data sheet: =SELECT("SELECT `Feature`, `What's New Item`, `Functional Area(s)`, `Feature Description` from ? WHERE `Training & Testing Impact` = 'This feature may require additional testing and may impact your training materials.' AND `Assessment` = 'Implement'", FeatureData!A1:O200)

d) Press Ctrl+Alt+Enter (Windows) or Command+Option+Enter (Mac) to submit the formula.

10. Add adoption items to your adoption dashboard:

- a) Go to the *Feature Data* sheet.
- b) In the **What's New Item** column, hover the cursor over an item until you see a link.
- c) Move the cursor to the far right of the link and click the outward arrow icon; this opens the What's New Item in a new browser tab.
- d) From the related actions menu of the **View What's New Item**, select **What's New Item > Create Adoption Item**. The **Create Adoption Item** task page displays, with fields from the workbook filled in automatically.
- e) Fill in any additional fields for the adoption item that you want.
- f) Click **OK**.
- g) Click **Done**.
- h) Repeat this step for other What's New items.

11. Refresh the live data so that the newly added adoption items display in the workbook:

- a) In the live data panel, click **Refresh Now**. (If you previously closed the panel to see more of the workbook data, you can display it again from **View > Panels > Live Data**.)
- b) Click **Confirm**. The Workday report runs, and the workbook displays any new data; the adoption items you added display in the Adoption Item(s) column.

12. Create a pivot table to see a summary of the analyst data:

- a) In the *Feature Data* sheet, select **Insert > Pivot Table**.
- b) In the **Create Pivot Table** dialog, leave the fields as is and click **Create**. A basic pivot table displays in a new Sheet1 and the Pivot Table panel displays.
- c) In the Pivot Table panel:
 - From **Available Fields**, find **Analyst** and drag it to the **Columns** area.
 - From **Available Fields**, find **Assessment** and drag it to the **Rows** area.
 - Click **Update**. The table updates to display a summary that looks similar to this image:

	A	B	C	D	E
1	COUNTA of Workday ID	Analyst			
2	Assessment	Betty	Steve	Teresa	(blank)
3	Implement	2	42	15	0
4	Investigate	1	45	5	0
5	No Action	23	0	25	0
6	(blank)	0	4	142	593
7					
8					

Next Steps

Optionally, you can create a formula column in the workbook to create working Community Post links in the live data area so that the links open the associated What's New posts instead of an instance page. (Worksheets doesn't support opening external links or attachments from a workbook.) To do this:

1. In the workbook, create a formula column to the right of the Community Post column. Right-click the **Community Post** header and select **Insert Formula Column > Insert Right**.
2. Click **Confirm** to do the live data refresh and create the formula column.
3. Double-click the **Formula1** header and rename the header to **Community Post (Corrected)**.
4. In the first cell of the formula column, type the formula `=IFERROR(Hyperlink(F1), "None")`, replacing the **F** column identifier with the Community Post column letter in your live data.

5. Press **Enter** to submit the formula. The IFERROR function causes cells without a Community Post link to display the text **None** and the HYPERLINK function takes the content of the non-working cell and creates a working link.

Refresh the live data at any time to bring in any corrected or newly added What's New items.

Create charts to track progress of analysis.

Share with others outside the team, giving them comment or view access, so they can see the assessments but can't edit the data.

Related Information

Tasks

[Set Up Worksheets](#) on page 795

[Steps: Set Up Drive](#)

[Create Adoption Items](#)

Workbook Templates

Concept: Workbook Templates

Workbook templates enable you to deliver robust data modeling and analysis that maintains the Workday security model. You can define a standardized layout and data model in a workbook, convert the workbook to a template, and distribute that template at scale. Although the most popular reason to use templates is to preserve live data security, templates can also be extremely valuable for workbooks that contain complex formulas.

When you distribute a template to a recipient, and they run the template to create a workbook, the resulting workbook displays Workday data based on the recipient's security permissions.

Workbook templates:

- Retain workbook functionality.
- Display Workday report data based on the template recipient's report access and data access when they run the template.
- Display in Drive like any other item type. A template icon looks like a workbook icon, but it has a T at the bottom right.

The general template workflow steps are to:

1. (Author/Owner) Convert the workbook to a template.
2. (Author/Owner) Distribute the template to individuals or groups, or turn on link distribution and give others a link.
3. (Recipient) Run the template to create a workbook.

After converting a workbook to a template, you can edit the template layout, data model, and so on if needed. Before editing, you must prevent users from running it while it's being edited; to do this, you make it unavailable to run by switching a toggle. When you're done editing, you make it available again so that your template recipients can re-run the template to see your updates.

Considerations for Using Workbook Templates

- When you convert a workbook to a template, Worksheets doesn't preserve the original workbook.
- When you convert a workbook to a template, Worksheets clears any existing scheduled live data refreshes. (For any templates that you created before functionality changed in February 2024, existing scheduled refreshes will no longer run.)
- You can't schedule a live data refresh for a template.
- If a live data refresh is currently running in a template, you can't select the **Available to Run** option.

- When the template recipient runs a template containing live data to create a workbook, the Workday report runs with the default prompt values from the report definition wherever applicable.
- Worksheets doesn't preserve live data note column information in converted templates, even if the template recipient has access to the particular data item; this allows the recipient to enter notes that are most relevant to their specific data instead of the original workbook owner's data.
- If the template author protected areas in the workbook before converting it to a template, ownership of those areas transfers to template recipients.
- After you distribute a template, any previous workbook schedules are not preserved in resulting workbooks; you need to create a new schedule.
- Workday administrators can permanently delete workbooks that are used as the source for templates, and can also permanently delete templates, regardless of whether they have been distributed.
- Templates aren't supported for active entry areas; the Convert to Template action isn't selectable.
- We recommend not linking from workbook templates to slides presentations. A template isn't intended for use as the direct source of data. Link to workbooks generated from templates instead.

Create and Distribute Workbook Templates

Prerequisites

For group distribution, the administrator must enable the security group for sharing in Drive.

Context

Any Worksheets user can create and distribute templates.

Steps

- Convert the workbook to a template:
 - In the workbook, select **File > Convert to Template**.
 - Select the **Got it!** check box, then click **Convert**.
- (Optional) Distribute the template:

To individuals	Type user names in the Distribute to Individuals area of the Distribute dialog.
To groups	Type security group names in the Distribute to Groups area of the Distribute dialog. Worksheets supports template distribution only for unconstrained security groups.
To unspecified people with a link	Click the Link Distribution Off toggle to turn link-based distribution on. Copy the link and share it with your recipients.

Distribution is similar to sharing, except that recipients run the template to create their own workbook, and the permission levels edit, comment, and view aren't applicable.

- (Optional) Add a description for the template by clicking **Template Settings** at the top right of the template.

Next Steps

You can distribute a template immediately after converting it as described above, or:

- From Drive by selecting the template and then clicking **Distribute Template**.

- From the template by navigating to **File > Manage Distribution** or by clicking **Manage Distribution** to the right of the Available to Run toggle.

After you distribute a template, the recipient runs the template to create a workbook. From Drive, the recipient selects to open the template, and a dialog guides them to click **Run Template** to create a workbook. If the template uses live data, the associated Workday report runs, formulas calculate, and the workbook is created based on the recipient's level of access to Workday data. If the recipient has limited or no access to the report, an error occurs for those reports areas and subsequent formulas.

You can edit a template just as you would a workbook, but you need to prevent users from running the template while you're editing. To do this, click the toggle at the top of the template so it displays **Not Available to Run**. In this state, you can edit the template, and users that you distributed the template to can't run it. Any changes that you make to the template don't automatically propagate to any shared templates. When you're done editing, click the toggle to display **Available to Run**. Users that you previously distributed the template to must run the template again to see your updates.

Just as you can share workbooks, you can share templates, giving edit, comment, or view permission. But only the author of the template can control the **Available to Run** setting that allows editing to occur; editors rely on the author to make it unavailable to run, so that they can edit it.

Reference: Template Actions Available Based on Permissions

These tables summarize the primary actions available for templates based on the state of the template and the user's permission level.

Actions in bold text indicate that the available actions are different based on whether the template is available to run or not.

The **Can Run** permission level indicates that the template was distributed to the person, but not shared with them.

Distributed and Available to Run

Action	Can Run	Can View	Can Comment	Can Edit	Owner
Run template	X	X	X	X	X
View template		X	X	X	X
Comment on template			X	X	X
Edit template					
Rename template				X	X
Copy template	X	Note 1	Note 1	X	X
Export template		Note 1	Note 1	X	X
Share template				Note 2	X

Note 1: Allowed only if the workbook owner selected the **Commenters and viewers can copy, download, and print** option when sharing.

Note 2: Allowed only if the workbook owner selected the **Editors can share** option for the workbook when sharing it.

Not Available to Run (can be edited)

Action	Can Run	Can View	Can Comment	Can Edit	Owner
Run template					
View template	X	X	X	X	X
Comment on template			X	X	X
Edit template				X	X
Rename template				X	X
Copy template	X	Note 1	Note 1	X	X
Export template		Note 1	Note 1	X	X
Share template				Note 2	X

Note 1: Allowed only if the workbook owner selected the **Commenters and viewers can copy, download, and print** option when sharing.

Note 2: Allowed only if the workbook owner selected the **Editors can share** option for the workbook when sharing it.

Worksheets Function Reference

Reference: Worksheets-Unique Functions

Worksheets functions help you organize and manage your data to see trends and obtain insights.

The functions listed in this table distinguish Worksheets from most other spreadsheet products by providing additional value for data analysis.

Functions in bold text are designed for use as unconstrained array formulas. Submit unconstrained array formulas with the special keyboard shortcut Ctrl+Alt+Enter (Windows) or Command+Option+Enter (Mac) so Worksheets can use the entire range it needs when returning the results.

As a best practice, use absolute references in Worksheets-unique functions wherever possible to minimize the use of system resources.

The Workday Administrator Guide describes the Worksheets-unique functions. The Worksheets User Guide describes all the functions in Worksheets.

Function Type	Function
Date	<ul style="list-style-type: none"> • CONVERTTZ • DATESBETWEEN • DATESFROM • DATETIME • NOWTZ • WD.DATEDIF
Engineering	<ul style="list-style-type: none"> • DIMENSIONS • IMCOTH • IMTANH • SETUNITS

Function Type	Function
	<ul style="list-style-type: none"> • UNITS
Information	<ul style="list-style-type: none"> • ISBOOLEAN
Logical	<ul style="list-style-type: none"> • IFEMPTY
Lookup	<ul style="list-style-type: none"> • ARRAYAREA • IN • MATCHEXACT • MHLOOKUP • MVLOOKUP • WD.MVLOOKUP • WD.VLOOKUP
Math	<ul style="list-style-type: none"> • CBRT • E • EXPM1 • HYPOT • LOG1P • RANDCONST • RINT • WD.MAXIFS • WD.MINIFS • WD.SUMIF • WD.SUMIFS
Matrix	<ul style="list-style-type: none"> • MIDENTITY • TRUNCATEMATRIX
Miscellaneous	<ul style="list-style-type: none"> • CAPPEDVALUES • CLUSTER.KMEANS • CLUSTER.KMEANS.CENTROIDS • CORRELATE • DISTINCTROWS • DISTINCTROWS2 • EMAIL • GROUPBY • INSTANCE • INSTANCE.DESCRIPTOR • INSTANCE.ID • JOIN • MATCHCOMPOSITE • MERGEOLUMNS • MERGEROWS • MI.COUNT • MI.INDEX • MINUS • MULTIINST • NOTIFYIF

Function Type	Function
	<ul style="list-style-type: none"> • NOTIFYIFS • REMOVECOLUMNS • REMOVEROWS • SELECT • SORT • SORT2 • SORT3 • TRIMCOLUMNS • TRIMROWS • UNIQUE • UNIQUE2 • URL • URLTEXT • WD.ARRANGE COLUMNS • WD.ARRANGEROWS • WD.LIVEDATA • WD.SLICE
Operator	<ul style="list-style-type: none"> • COMPARE • SUBTRACT
Statistical	<ul style="list-style-type: none"> • WD.AVERAGEIF • WD.AVERAGEIFS • WD.COUNTIF • WD.COUNTIFS • FORECAST.WD.SEASONAL • TDISTRT
Table	<ul style="list-style-type: none"> • FLATTEN • VALUEAT
Text	<ul style="list-style-type: none"> • REGEXFIND • REGEXPARSE

Reference: Worksheets Functions by Category

This table lists the Worksheets functions, sorted according to category. When you view a function in the Functions Library panel, you can identify its category by the icon to the left of the name.

The Workday Administrator Guide describes the Worksheets-unique functions. The Worksheets User Guide describes all the functions in Worksheets.

Function Type	Function
Array	<ul style="list-style-type: none"> • CHOOSECOLS • CHOSEROWS • DROP • EXPAND • FILTER • HSTACK • MS.SORT

Function Type	Function
	<ul style="list-style-type: none"> • MS.UNIQUE • MS.UNIQUE2 • RANDARRAY • SEQUENCE • SORTBY • TAKE • TOROW • TOCOL • VSTACK • WRAPROWS • WRAPCOLS • XLOOKUP • XMATCH
Date	<ul style="list-style-type: none"> • CONVERTTZ • DATE • DATESBETWEEN • DATESFROM • DATETIME • DATEVALUE • DAY • DAYNAME • DAYS • DAYS360 • DUR2DAYS • DUR2HOURS • DUR2MILLISECONDS • DUR2MINUTES • DUR2SECONDS • DUR2WEEKS • DURATIONVALUE • EDATE • EOMONTH • HOUR • ISOWEEKNUM • MINUTE • MONTH • MONTHNAME • NETWORKDAYS • NETWORKDAYS.INTL • NOW • NOWTZ • SECOND • TIME • TIMEVALUE • TODAY • WD.DATEDIF • WEEKDAY • WEEKNUM

Function Type	Function
	<ul style="list-style-type: none"> • WORKDAY • WORKDAY.INTL • YEAR • YEARFRAC
Engineering	<ul style="list-style-type: none"> • BESSELI • BESSELJ • BESSELK • BESSELY • BIN2DEC • BIN2HEX • BIN2OCT • BITAND • BITLSHIFT • BITOR • BITRSHIFT • BITXOR • COMPLEX • CONVERT • DEC2BIN • DEC2HEX • DEC2OCT • DELTA • DIMENSIONS • ERF • ERF.PRECISE • ERFC • ERFC.PRECISE • GESTEP • HEX2BIN • HEX2DEC • HEX2OCT • IMABS • IMAGINARY • IMARGUMENT • IMCONJUGATE • IMCOS • IMCOSH • IMCOT • IMCOTH • IMCSC • IMCSCH • IMDIV • IMEXP • IMLN • IMLOG10 • IMLOG2 • IMPOWER • IMPRODUCT

Function Type	Function
	<ul style="list-style-type: none"> • IMREAL • IMSEC • IMSECH • IMSIN • IMSINH • IMSQRT • IMSUB • IMSUM • IMTAN • IMTANH • OCT2BIN • OCT2DEC • OCT2HEX • SETUNITS • UNITS
Financial	<ul style="list-style-type: none"> • ACCRINT • ACCRINTM • AMORDEGRC • AMORLINC • BONDDURATION • BONDMDURATION • COUPDAYBS • COUPDAYS • COUPDAYSNC • COUPNCD • COUPNUM • COUPPCD • CUMIPMT • CUMPRINC • DB • DDB • DISC • DOLLARDE • DOLLARFR • DURATION • EFFECT • FV • FVSCHEDULE • INTRATE • IPMT • IRR • ISPMT • MDURATION • MIRR • NOMINAL • NPER • NPV • ODDFYIELD

Function Type	Function
	<ul style="list-style-type: none"> • ODDLPRICE • ODDLYIELD • PMT • PPMT • PRICE • PRICEDISC • PRICEMAT • PV • RATE • RECEIVED • RRI • SLN • SYD • TBILLEQ • TBILLPRICE • TBILLYIELD • VDB • XIRR • XNPV • YIELD • YIELDDISC • YIELDMAT
Information	<ul style="list-style-type: none"> • ERROR.TYPE • INFO • ISBLANK • ISBOOLEAN • ISERR • ISERROR • ISEVEN • ISFORMULA • ISLOGICAL • ISNA • ISNONTEXT • ISNUMBER • ISODD • ISREF • ISTEXT • N • NA • TYPE
List	<ul style="list-style-type: none"> • WD.LIST.GET • WD.LIST.LIST • WD.LIST.SIZE
Logical	<ul style="list-style-type: none"> • AND • FALSE • IF

Function Type	Function
	<ul style="list-style-type: none"> • IFEMPTY • IFERROR • IFNA • NOT • OR • SWITCH • TRUE • XOR
Lookup	<ul style="list-style-type: none"> • ADDRESS • AREAS • ARRAYAREA • CHOOSE • COLUMN • COLUMNS • FORMULATEXT • HLOOKUP • IN • INDEX • INDIRECT • LOOKUP • MATCH • MATCHEXACT • MHLOOKUP • MVLOOKUP • OFFSET • ROW • ROWS • VLOOKUP • WD.MVLOOKUP • WD.VLOOKUP
Math	<ul style="list-style-type: none"> • ABS • ACOS • ACOSH • ACOT • ARABIC • ASIN • ATAN • ATAN2 • ATANH • BASE • BASETONUM • CBRT • CEILING • CEILING.MATH • CEILING.PRECISE • COMBIN • COMBINA

Function Type	Function
	<ul style="list-style-type: none"> • COS • COSH • COT • COTH • CSC • CSCH • DECIMAL • DEGREES • E • EVEN • EXP • EXPM1 • EXPONENT • FACT • FACTDOUBLE • FLOOR • FLOOR.MATH • FLOOR.PRECISE • GCD • HYPOT • INT • ISO.CEILING • ISOCEILING • LCM • LN • LOG • LOG10 • LOG1P • MAXIFS • MDETERM • MINIFS • MOD • MROUND • MULTINOMIAL • ODD • PI • POWER • PRODUCT • QUOTIENT • RADIANS • RAND • RANDBETWEEN • RANDCONST • RINT • ROMAN • ROUND • ROUNDDOWN • ROUNDUP

Function Type	Function
	<ul style="list-style-type: none"> • SEC • SECH • SERIESSUM • SIGN • SIN • SINH • SQRT • SQRTPI • SUBTOTAL • SUM • SUMIF • SUMIFS • SUMPRODUCT • SUMSQ • SUMX2MY2 • SUMX2PY2 • SUMXMY2 • TAN • TANH • TRUNC • WD.AVERAGEIFS • WD.MAXIF • WD.MAXIFS • WD.MINIF • WD.MINIFS • WD.SUMIF • WD.SUMIFS
Matrix	<ul style="list-style-type: none"> • MIDENTITY • MMULT • MUNIT • TRANSPOSE • TRUNCATEMATRIX
Miscellaneous	<ul style="list-style-type: none"> • CAPPEDVALUES • CELL • CLUSTER.KMEANS • CLUSTER.KMEANS.CENTROIDS • CORRELATE • DISTINCTROWS • DISTINCTROWS2 • EMAIL • GROUPBY • HYPERLINK • INSTANCE • INSTANCE.DESCRIPTOR • INSTANCE.ID • JOIN • LET

Function Type	Function
	<ul style="list-style-type: none"> • MATCHCOMPOSITE • MERGECOLUMNS • MERGEROWS • MI.COUNT • MI.INDEX • MINUS • MULTIINST • NOTIFYIF • NOTIFYIFS • REMOVECOLUMNS • REMOVEROWS • SELECT • SORT • SORT2 • SORT3 • TRIMCOLUMNS • TRIMROWS • UNIQUE • UNIQUE2 • URL • URLTEXT • WD.ARRANGECOLUMNS • WD.ARRANGEROWS • WD.EXCHANGE • WD.LIVEDATA • WD.SLICE
Operator	<ul style="list-style-type: none"> • ADD • COMPARE • DIVIDE • EQ • GT • GTE • LT • LTE • MULTIPLY • NE • POW • SUBTRACT • UMINUS • UNARY_PERCENT • UPLUS
Statistical	<ul style="list-style-type: none"> • AGGREGATE • AVEDEV • AVERAGE • AVERAGEA • AVERAGEIF • AVERAGEIFS

Function Type	Function
	<ul style="list-style-type: none"> • BINOM.DIST • BINOM.INV • BINOMDIST • BINOMINV • CHIDIST • CHISQ.DIST • CHISQ.DIST.RT • CHISQDIST • CHISQDISTRT • CONFIDENCE • CONFIDENCE.NORM • CONFIDENCE.T • CORREL • COUNT • COUNTA • COUNTBLANK • COUNTIF • COUNTIFS • COVARIANCE.P • COVARIANCE.S • COVARIANCEP • COVARIANCES • CRITBINOM • DEVSQ • EXPON.DIST • EXPONDIST • FISHER • FISHERINV • FORECAST • FORECAST.WD.SEASONAL • FREQUENCY • GAMMALN • GAMMALN.PRECISE • GAUSS • GEOMEAN • GROWTH • HARMEAN • HYPGEOM.DIST • HYPGEOMDIST • INTERCEPT • KURT • LARGE • LINEST • LOGEST • LOGINV • LOGNORM.DIST • LOGNORM.INV • LOGNORMDIST

Function Type	Function
	<ul style="list-style-type: none"> • LOGNORMINV • MAX • MAXA • MEDIAN • MIN • MINA • MODE • MODE.MULT • MODE.SNGL • NEGBINOM.DIST • NEGBINOMDIST • NORM.DIST • NORM.INV • NORM.S.DIST • NORM.S.INV • NORMDIST • NORMINV • NORMSDIST • NORMSINV • PEARSON • PERCENTILE • PERCENTILE.EXC • PERCENTILE.INC • PERCENTRANK • PERCENTRANK.INC • PERMUT • PERMUTATIONA • PHI • POISSON • POISSON.DIST • QUARTILE • QUARTILE.EXC • QUARTILE.INC • RANK • RANK.AVG • RANK.EQ • RANKAVG • RANKEQ • RSQ • SLOPE • SMALL • STANDARDIZE • STDEV • STDEV.P • STDEV.S • STDEVP • STDEVS • T.DIST

Function Type	Function
	<ul style="list-style-type: none"> • T.DIST.RT • T.INV • TDIST • TDISTRT • TINV • TRIMMEAN • VAR • VAR.P • VARA • VARP • VARPA • WD.AVERAGEIF • WD.COUNTIF • WD.COUNTIFS • WEIBULL • WEIBULL.DIST • WEIBULLDIST • Z.TEST • ZTEST
Text	<ul style="list-style-type: none"> • ASC • CHAR • CLEAN • CODE • CONCAT • CONCATENATE • ENCODEURL • EXACT • FIND • FIXED • LEFT • LEN • LOWER • MID • PROPER • REGEXEXTRACT • REGEXFIND • REGEXMATCH • REGEXPARSE • REGEXREPLACE • REPLACE • REPT • RIGHT • SEARCH • SPLIT • SUBSTITUTE • T • TEXT • TEXTAFTER

Function Type	Function
	<ul style="list-style-type: none"> • TEXTBEFORE • TEXTJOIN • TEXTSPLIT • TRIM • UNICHAR • UNICODE • UPPER • VALUE • WD.HALFTOFULL • WD.FULLTOHALF
Table	<ul style="list-style-type: none"> • FLATTEN • VALUEAT

Reference: Formula Errors

Error	Notes
#DIV/0!	The formula is trying to divide by zero. Example: You might have a formula where a cell value/result is unexpectedly zero or blank, and the formula is trying to divide by that number.
#ERROR!	A rare error. Most error messages are fairly specific, but #ERROR might merely specify that a syntax error exists, or that you can't submit the formula for an unknown reason.
#FIELD!	A data type error exists.
#GETTING_DATA!	Not a true error, but it can display temporarily in workbook cells when large or complex calculations are in progress, or when a live data refresh is running. The message disappears when the calculations are complete or the live data refresh is complete.
#N/A!	A value isn't available to a function or formula. Examples: <ul style="list-style-type: none"> • A lookup function can't find a key value. • An array formula has an argument that's a different size (cell range) from another argument. • A function has 1 or more missing arguments.
#NAME!	You referenced a defined name or a function that doesn't exist.
#NULL!	You might have: <ul style="list-style-type: none"> • Used an incorrect range or reference separator such as a space (separating individual cell references in a formula with a space instead of a comma). • Used a space (the intersect operator) to do a calculation on intersecting ranges but there was no intersection.
#NUM!	A formula has invalid numeric data for the type of operation. Example: Pivot tables don't support calculations when the data range contains multiple currency units. If you have a pivot table that includes salaries, and some

Error	Notes
	salaries are in USD while others are in CAD, you can't do a SUM, AVERAGE, or other calculation on the data; if you hover over the error cell you see <i>A unit conversion issue exists</i> . The only valid function in this situation is COUNTA. To help troubleshoot a #NUM error that might be a units problem, you can view the units settings by selecting View > Show Units .
#REF!	A reference isn't valid.
#SPILL!	The most frequent cause of this error is that array formula results can't be placed into the workbook because the results would overlap existing data. When in an entry area, #SPILL occurs when the formula attempts to place data across the boundary of the entry area. It's common to "clear" a cell by typing a space character followed by Enter, Tab, or an arrow key. This doesn't really clear the cell; it leaves a single space character in it, and can cause formulas not to work correctly. Example: Non-empty calls can cause spill errors when calculating array formulas, or can cause unexpected results with COUNTBLANK or other issues. There isn't a visual indicator for cells with spaces in them, so when in doubt, manually clear the cells..
#VALUE!	You used the wrong type of operand or function argument. Example: You see #VALUE if the formula finds spaces, characters, or text where it's expecting a number.
#####	Not actually an error; your column isn't wide enough to display a value.

Tips for Formula Errors

Remember that you must submit array formulas with the appropriate keyboard shortcut. See Concept: Array Formulas in Workbooks for information about constrained arrays, unconstrained arrays, and more.

If you see an error related to circular references, you might want to review Concept: Circular References in the Worksheets User Guide.

Take note of the workbook setting for automatic or manual recalculation in **File > Settings**.

Try to simplify complex formulas:

- If the formula contains lots of nested functions, separate out one or more of them, placing their results in a separate range that you refer to in the rest of the original formula.
- If the formula has external references that appear not to resolve, try merging the workbooks so that the reference is merely to another sheet instead of to a workbook; or, put all the data on 1 sheet.

Displaying User-Friendly Text Instead of Error Codes

Sometimes you use formulas that do calculations based on cell values, and if one of those values is unexpected you end up with an error such as a #DIV/0 error. If you want to plan for the possibility of an error and give the workbook user a more friendly message, you can use:

- The IFERROR function or the ISERROR function.
- The IFEMPTY formula for unconstrained array formulas where the result is an empty array.

Example: We have a workbook that shows salespeople's average bonuses for a quarter. To get a bonus, a salesperson must sell more than \$5,000 in goods in a particular month. Because Matt didn't get any bonuses, the Avg Bonus cell would contain a #DIV/0 error. To prevent this unfriendly error from displaying, we can nest our AVERAGEIF function in an IFERROR. This formula is in F2:

=IFERROR(AVERAGEIF(B2:D2,>5000",B2:D2),"No bonuses")

	A	B	C	D	E	F
1	Name	Jan Sales	Feb Sales	Mar Sales	# Bonuses	Avg Bonus
2	Matt Bond	\$1500	\$3275	\$2900	Zero	No bonuses

The ISERROR function is similar to IFERROR, but it returns a TRUE or FALSE result based on whether an error exists.

Reference: Worksheets Rounding Functions

Worksheets supports the same rounding functions as other popular spreadsheet applications. These tables can help you decide when to use each one.

Rounding a Number to an Integer

Function	Rounds...	For Positive Numbers	For Negative Numbers
EVEN	Away from zero to next even number	Result becomes more positive	Result becomes more negative
ODD	Away from zero to next odd number	Result becomes more positive	Result becomes more negative
INT	Down to next integer below	Result becomes more negative	Result becomes more negative

Rounding a Number Using Decimal Places

Function	Rounds...	For Positive Numbers	For Negative Numbers
ROUND	Up or down to the closest value, based on the number of decimal places you specify	Result becomes more positive or negative based on the closest value	Result becomes more positive or negative based on the closest value
ROUNDUP	Away from zero, based on the number of decimal places you specify	Result becomes more positive	Result becomes more negative
ROUNDDOWN and TRUNC	Toward zero, based on the number of decimal places you specify	Result becomes more negative	Result becomes more positive

Rounding a Number Using a Multiple of Significance (MoS)

Function	Rounds...	For Positive Numbers with a Positive MoS	For Positive Numbers with a Negative MoS	For Negative Numbers with a Positive MoS	For Negative Numbers with a Negative MoS
CEILING	Away from zero, based on the MoS you specify	Result becomes more positive	Not applicable (#NUM error)	Result becomes more negative	Result becomes less negative

Function	Rounds...	For Positive Numbers with a Positive MoS	For Positive Numbers with a Negative MoS	For Negative Numbers with a Positive MoS	For Negative Numbers with a Negative MoS
CEILING.PRECISE	Up, based on the MoS you specify	Result becomes more positive	Result becomes more positive	Result becomes less negative	Result becomes less negative
CEILING.MATH	Up, based on the MoS you specify	Result becomes more positive	Result becomes more positive	Result becomes less negative (or use mode to reverse it)	Result becomes less negative (or use mode to reverse it)
FLOOR	Towards zero, based on the MoS you specify	Result becomes less positive	Not applicable (#NUM error)	Result becomes less negative	Result becomes more negative
FLOOR.PRECISE	Down, based on the MoS you specify	Result becomes less positive	Result becomes less positive	Result becomes more negative	Result becomes more negative
FLOOR.MATH	Down, based on the MoS you specify	Result becomes less positive	Result becomes less positive	Result becomes more negative (or use mode to reverse it)	Result becomes more negative (or use mode to reverse it)
MROUND	Up or down, based on the MoS you specify	Result becomes more positive or negative, based on the closest multiple	Not applicable (#NUM error)	Result becomes more positive or negative, based on the closest multiple	Not applicable (#NUM error)

Worksheets Functions

Date Functions CONVERTTZ

Description

Converts a datetime value from one time zone to another.

Syntax

CONVERTTZ(range, from_time_zone_id, to_time_zone_id)

- range: The cell, or range of cells, to return the converted time zone for.
- from_time_zone_id: The time zone specifier to convert from. Examples: GMT, US/Central.
- to_time_zone_id: The time zone specifier to convert to.

Example

Formula	Result
=CONVERTTZ(A8,"America/Montreal","US/Pacific") where A8 contains 10/4/2016 5:37 PM	10/4/2016 2:37 PM

Notes

- Time zone IDs are based on the Java TimeZone utility. A complete list of time zones is available at <http://joda-time.sourceforge.net/timezones.html>. Examples:

- America/New_York
- Asia/Hong_Kong
- Australia/Melbourne
- Canada/Eastern
- Europe/London
- GMT
- MET
- US/Mountain
- UTC

DATESBETWEEN

Description

Returns an array of dates that starts and ends on a particular date, with a step interval between each date.

Syntax

`DATESBETWEEN(start_date, end_date, [step])`

- `start_date`: The starting date of the range.
- `end_date`: The ending date of the range.
- `step`: The number of days to step between each date. The default is 1.

Example

Formula	Result
<code>=DATESBETWEEN("01-Jan-2015", "10-Jan-2015", 7)</code>	{ "1/1/2015"; "1/8/2015" }
<code>=DATESBETWEEN("14-Jul-2016", "01-Jul-2016", 2)</code>	{ "7/14/2016"; "7/12/2016"; "7/10/2016"; "7/8/2016"; "7/6/2016"; "7/4/2016"; "7/2/2016" }

Notes

- This function returns a column of dates starting at the `start_date` and ending either before or at the `end_date`.
- The `step` parameter must be a positive integer when present.
- Since the `step` parameter may be such that the `end_date` is never reached exactly, the final date Workday returns in the range is the greatest date that is less than the `end_date`, but where adding `step` days to that date would make the new date greater than the `end_date`.
- This function is intended for use in array formulas.

DATESFROM

Description

Returns an array of dates that starts on a particular date and continues for the number of dates you specify, with a step interval between each date.

Syntax

`DATESFROM(start_date, num_dates, [step])`

- start_date: The starting date of the range.
- num_dates: The number of dates to be returned.
- step: The number of days to step between each date. The default is 1.

Example

Formula	Result
=DATESFROM("01-Jan-2015", 4, 2)	{ "1/1/2015"; "1/3/2015"; "1/5/2015"; "1/7/2015" }
=DATESFROM("14-Jul-2016", 3, -1)	{ "7/14/2016"; "7/13/2016"; "7/12/2016" }

Notes

- This function returns a column of num_dates dates.
- This function is intended for use in array formulas.

DATETIME

Description

Returns the date and time based on the year, month, day, hour, minute, and second that you specify.

Syntax

`DATETIME(year, month, day, hour, minute, second)`

- year: The integer representing the year.
- month: The integer representing the month.
- day: The integer representing the day.
- hour: The integer representing the hour.
- minute: The integer representing the minutes.
- second: The integer representing the seconds.

Example

Formula	Result
=DATETIME(2016,7,15,8,12,12)	"7/15/2016 8:12 AM"

Notes

- If you specify an argument that is outside the 24-hour clock, or you specify a negative number in an argument, Workday adjusts the resulting time to be valid. Example: =DATETIME(2016,7,15,-44,12,12) returns the value 7/13/2016 4:12 AM.
- If the result is a numeric value instead of a date, check the formatting for the cell to make sure it's set to Date .

NOWTZ

Description

Returns the current date and time based on the time zone you specify. NOWTZ() generates a new date and time whenever any cell on the sheet changes. This function is volatile; it generates a new value any time any cell in the workbook changes.

Syntax

`NOWTZ([time_zone_id])`

- `time_zone_id`: The time zone specifier, such as `GMT`, `US/Central`, and so on.

Example

Formula	Result
<code>=NOWTZ("US/Pacific")</code>	10/4/2016 5:37 PM

Notes

- The function doesn't run as a volatile function if the Worksheets calculation mode is set to **Manual** in **File > Settings**.
- Time zone IDs are based on the Java `TimeZone` utility. A complete list of time zones is available at <http://joda-time.sourceforge.net/timezones.html>. Examples:
 - `America/New_York`
 - `Asia/Hong_Kong`
 - `Australia/Melbourne`
 - `Canada/Eastern`
 - `Europe/London`
 - `GMT`
 - `MET`
 - `US/Mountain`
 - `UTC`

WD.DATEDIF

Description

Returns the amount of time between two dates, based on the specified period and its corresponding unit. We recommend using `WD.DATEDIF` instead of `DATEDIF`; we provide `DATEDIF` for compatibility but it calculates incorrect results in some situations. Note that Worksheets doesn't support submitting non-English values for the arguments.

Syntax

`WD.DATEDIF(start_date, end_date, period, unit)`

- `start_date`: The starting date for the count. Workday recommends using a cell reference to specify the date instead of entering the date as text, to ensure reliable results.
- `end_date`: The ending date for the count. Workday recommends using a cell reference to specify the date instead of entering the date as text, to ensure reliable results.
- `period`: The number of whole periods between `start_date` and `end_date`. If the period is a grouping of values, such as `YMD`, the function calculates all the whole periods as segments; you use the `unit` argument to specify which number (segment) to return. Example: If the `start_date` is January 1, 2010,

and the end_date is February 3, 2020, then the function calculates that Year=10, Month=1 and Day=2. If the unit=Month, the function returns 1.

- Year (Y)
- Month (M)
- Week (W)
- Day (D)
- Hour (H)
- Minute (M)
- Second (Sec or S)
- Milli (Mil or MS)
- YearMonthWeekDayTime (YMWDT): Years, months, weeks, days, hours, minutes, seconds, and milliseconds.
- YearMonthDayTime (YMDT): Years, months, days, hours, minutes, seconds, and milliseconds
- YearMonthDay (YMD): Years, months, and days
- YearWeekDayTime (YMDT): Years, weeks, days, hours, minutes, seconds, and milliseconds
- YearWeekDay (YWD): Years, weeks, and days
- YearDayTime (YDT): Years, days, hours, minutes, seconds, and milliseconds
- YearDay (YD): Years and days
- DayTime (DT): Days, hours, minutes, seconds, and milliseconds
- Time (T): Hours, minutes, seconds, and milliseconds
- unit: The number to return. If the period is a single value, such as Day, the unit must match the period. If the period is a grouped value, such as YMD, the unit must match one of the segments in the period.
- Year (Y)
- Month (M)
- Week (W)
- Day (D)
- Hour (H)
- Minute (Min)
- Second (S or Sec)
- Milli (or MS or Mil)

Example

The examples are based on this data:

	A	B	C	D
1	Start Date	End Date	Period	Unit
2	07/02/2018 05:17:33.636 PM	03/31/2020 12:00:00.000 AM	Year	Year
3			Month	Month
4			Week	Week
5			Day	Day
6			YMD	M

Here are some example formulas and results:

Formula	Result
=WD.DATEDIF(A2,B2,C2,D2)	1

Formula	Result
=WD.DATEDIF(A2,B2,C3,D3)	20
=WD.DATEDIF(A2,B2,C4,D4)	91
=WD.DATEDIF(A2,B2,C5,D5)	637
=WD.DATEDIF(A2,B2,C6,D6)	8

In a more complex example, you can specify several unit values using a range of cells to calculate the same number of results.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Date 1	Date 2	Period	Unit									
2	7/2/2018	3/31/2020	YMD	Y	M	D							
3				1	8	28							

Formula in D3:F3 is =WD.DATEDIF(A2,B2,C2,D2:F2)

Place the formula =WD.DATEDIF(A2,B2,C2,D2:F2) in cell D3 and submit it as an unconstrained array formula using Ctrl+Alt+Enter (Window) or Option+Alt+Enter (Mac).

Engineering Functions

DIMENSIONS

Description

Returns the dimension of a numeric value. If there are no dimensions, the function returns an empty string. If the argument is not numeric, the function returns a #VALUE error.

A dimension is a property that can be measured, such as time (T), length (L), or mass (M). A unit is a value of a dimension; for example, seconds (sec) or meters (m).

Syntax

DIMENSIONS(value)

- value: The value to return the dimension for.

Example

Formula	Result
=DIMENSIONS(50) where 50 currently has the "m" (meters) unit	L

Notes

- Valid dimension values are from the base library javax.measure.unit.Dimension.
- This function is similar to UNITS(), but UNITS() returns the unit value instead of the dimension value.

IMCOTH

Description

Returns the hyperbolic cotangent of a complex number.

Syntax

`IMCOTH(inumber)`

- `inumber`: The complex number. Specify the number as text in either `x+yi` or `x+yj` format, where the `x` component or `y` component is optional.

Example

Formula	Result
=IMCOTH("3 + 4i")	0.9992669278059017-0.0049011823943044056i
=IMCOTH(3)	1.004969823313689

IMTANH

Description

Returns the hyperbolic tangent of a complex number.

Syntax

`IMTANH(inumber)`

- `inumber`: The complex number. Specify the number as text in either `x+yi` or `x+yj` format, where the `x` component or `y` component is optional.

Example

Formula	Result
=IMTANH("3 + 4i")	1.000709536067233+0.004908258067495992i
=IMTANH(3)	0.9950547536867306

SETUNITS

Description

Converts a number from its current unit of measurement to another. This function is similar to `CONVERT()`, but in `CONVERT()` you must specify both the original and the new units value.

Syntax

`SETUNITS(value, set_unit)`

- `value`: The number to convert.
- `set_unit`: The units to return the value in. The `set_unit` argument is case-sensitive.

Example

Formula	Result
=SETUNITS(825,"cup") where 825 currently has the "tsp" unit	17.185
=SETUNITS(98.6,"cel")	37

Formula	Result
where 98.6 currently has the "F" unit	

Notes

- Valid units values are from the base library javax.measure.unit.Dimension.

UNITS**Description**

Returns the units part of a number as a string. If the number does not have a units value, the function returns an empty string.

Syntax

`UNITS(value)`

- `value`: The number to return the unit of measurement for.

Example

Formula	Result
=UNITS(A1) where the value in A1 currently has the "cup" unit)	cup

Information Functions**ISBOOLEAN****Description**

Returns True if the value you specify is a boolean (logical) value; otherwise, returns False.

Syntax

`ISBOOLEAN(value)`

- `value`: The value to evaluate.

Example

Formula	Result
=ISBOOLEAN(FALSE)	TRUE
=ISBOOLEAN("phrase")	FALSE

Notes

- This function does the same action as ISLOGICAL().

Logical Functions**IFEMPTY****Description**

If the specified value or expression results in an empty array, the function returns the value_if_empty value; otherwise, it returns the value. This function is intended for use with unconstrained array formulas.

Syntax

`IFEMPTY(value, value_if_empty)`

- **value:** The value or expression to evaluate.
- **value_if_empty:** The value to return if the initial value or expression results in an empty array; it must be both empty and an array. Otherwise, the function returns value.

Lookup Functions**ARRAYAREA****Description**

Returns the containing range of the array formula, based on the single cell address that you specify. The array can originate either in a Workday report or an array formula. This function helps you create formulas that operate on arrays where the cell range is unknown or changes over time.

Syntax

`ARRAYAREA(ref_cell)`

- **ref_cell:** The cell reference. Make sure you enter only a single cell address and not a range.

Example

The example is based on this table, where the data in A1:B3 is an array formula result set:

	A	B
1	4	6
2	8	10
3	14	22

Formula	Result
=ARRAYAREA(B2)	4 6 8 10 14 22

Related Functions

[COMPARE](#)

[GROUPBY](#)

[REMOVEROWS](#)

[SORT](#)

[SORT2](#)

IN

Description

Determines whether a value or list of values that you specify is in another list of values. If so, returns True; otherwise, returns False.

Syntax

`IN(source, target)`

- source: The number or list of numbers.
- target: The array of target values.

Example

Formula	Result
=IN(5,{1,2,3,4,5})	TRUE
=IN({"a","b"}, {"d","c","b","a"})	TRUE

MATCHEXACT

Description

Looks up an exact match for the value in the sorted list (one-dimensional array) you specify, and returns the position of the value. You can use this function to match logical values, numeric values, or text strings. This function is similar to MATCH, but MATCHEXACT:

- Always searches for an exact match; it returns an #N/A error if it doesn't find the value.
- Doesn't allow wildcard characters such as * or ?.
- Uses a binary search for better performance.

Syntax

`MATCHEXACT(lookup_value, lookup_array, [match_type])`

- lookup_value: The value to find.
- lookup_array: The array to search.
- match_type: The criteria to use when searching. Possible values are:
 - 0 or greater = do a binary search for the specified lookup_value. lookup_array data must be sorted in ascending order. If you omit the argument, the function uses this as the argument value.
 - Less than 0 = do a binary search for the specified lookup_value. lookup_array data must be sorted in descending order.

Example

The examples are based on this workbook:

	A	B	C	D	E	F	G	H
1	Supervisor Org	Post Center	Company	Location	Jan (HC) 2017	Feb (HC) 2017	Mar (HC) 2017	Organization KEY
2	Finance	CC-1 Finance	GMS	Pleasanton	2	2	FinanceCC-1 FinanceGMSPleasanton	

	A	B	C	D	E	F	G	H
3	Product Management	CC-2 Product	GMS	Boulder	0	1	2	Product ManagementCC-2 ProductGMSBoulder
4	Development	CC-3 Development	GMS-CA	Toronto	2	2	2	DevelopmentCC-3 DevelopmentGMS-CAToronto
5	Sales	CC-4 Sales	GMS-UK	London	1	2	2	SalesCC-4 SalesGMS-UKLondon
6	Sales	CC-4 Sales	GMS-UK	Toronto	0	0	1	SalesCC-4 SalesGMS-UKToronto
7					5	7	9	

For the formula =MATCHEXACT("CC-3 Development" ,B2:B6) , the result is 3 .

You can also return the matched value instead of its position by combining the MATCHEXACT and INDEX functions.

For the formula =INDEX(G2:G6 ,MATCHEXACT("CC-3 Development" ,B2:B6,1)) :

First, MATCHEXACT searches the array B2:B6 for the string "CC-3 Development" and returns the position of the value, which is 3 . Then, INDEX uses 3 as its second argument and returns the value in position 3 of G2:G6, which is 2 .

Notes

- If multiple matches exist, the function returns the position of the first match.

Related Functions

MATCH

MHLOOKUP

MVLOOKUP

MHLOOKUP

Description

We recommend this function as a replacement for HLOOKUP. MHLOOKUP performs a horizontal (row) lookup on a table and returns all matches. MHLOOKUP is similar to HLOOKUP, but:

- HLOOKUP scans only the top row for matches; in MHLOOKUP you specify the row to search.
- HLOOKUP stops after finding 1 match, and returns a single cell value; MHLOOKUP scans the entire lookup row for matches. Each match in that row results in a new column in the result. If you specify 4 return_row_index values, then each resulting column will have 4 rows.

Syntax

MHLOOKUP(lookup_value, table_array, lookup_row_index, return_row_index, ...)

- lookup_value: The value to match.
- table_array: The array or table to search.
- lookup_row_index: The row in the table to search (1-based).

- `return_row_index`: The row number to return results from. You can list any number of row numbers.

Example

The example is based on this workbook:

	A	B	C	D	E	F	G	H
1	Salesperson	Dixon	Dixon	Kelly	Kelly	Payne	Payne	Payne
2	Customer	O'Reilly, Auer, & Lind	Runolfsson and Steuber	Kuphal Group	Ernser Inc	Williamson Group	Ratke- Sanford	Leuschke and Sons
3	Product	Qosolex	Saoplus	Qosolex	Voltflarn	Singlflix	Qosolex	Qosolex
4	Revenue	\$8,232,000	\$0,853,000	\$0,358,000	\$0,064,000	\$0,974,000	\$0,433,000	\$0,181,000.00

The result of `MHLOOKUP("Qosolex" ,A1:H4 ,3 ,1 ,2 ,4)` is:

Dixon	Kelly	Payne	Payne
O'Reilly, Auer, & Lind	Kuphal Group	Ratke-Sanford	Leuschke and Sons
\$8,232,000.00	\$2,358,000.00	\$8,433,000.00	\$8,181,000.00

Notes

- `MHLOOKUP()` scans the columns in the `lookup_row_index` row for `lookup_value`, then gathers values from the rows listed in `return_row_index`. Then it places each value into a row in the resulting matrix.
- This function is intended for use in array formulas.

Related Functions

[MATCHEXACT](#)

[MVLOOKUP](#)

[MVLOOKUP](#)

Description

We recommend this function as a replacement for `VLOOKUP`, especially when you're working with live data. `MVLOOKUP` performs a vertical (column) lookup on a table and returns all matches. `MVLOOKUP` is similar to `VLOOKUP`, but:

- `VLOOKUP` scans only the left column for matches; in `MVLOOKUP` you specify the column to search.
- `VLOOKUP` stops after finding 1 match, and returns a single cell value; `MVLOOKUP` scans the entire lookup column for matches. Each match in that column results in a new row in the output. If you specify 4 `return_column_index` values, then each resulting row will have 4 columns.

Syntax

`MVLOOKUP(lookup_value, table_array, lookup_column_index, order, return_column_index, ...)`

- `lookup_value`: The value to match.
- `table_array`: The array or table to search.
- `lookup_column_index`: The column in the table to search (1-based).

- **order:** The order for the search, based on the sort order of table_array.
 - 0: The default linear search, for unsorted data.
 - 1: Binary search, for data sorted in ascending order.
 - -1: Binary search, for data sorted in descending order.
- **return_column_index:** The column number to return results from. You can list any number of column numbers.

Example

The example is based on this workbook:

	A	B	C	D
1	Salesperson	Customer	Product	Revenue
2	Dixon	O'Reilly, Auer, & Lind	Qosolex	\$8,232,000.00
3	Dixon	Runolfsson and Steuber	Saoplus	\$4,853,000.00
4	Kelly	Kuphal Group	Qosolex	\$2,358,000.00
5	Kelly	Ernser Inc	Voltflarn	\$2,064,000.00
6	Payne	Williamson Group	Singlflix	\$6,974,000.00
7	Payne	Ratke-Sanford	Qosolex	\$8,433,000.00
8	Payne	Leuschke and Sons	Qosolex	\$8,181,000.00
9	Wu	Dach-Halvorson	Singlflix	\$2,361,000.00
10	Wu	Wisoky LLC	Bextain	\$5,752,000.00
11	Wu	Stiedemann Grp	Saoplus	\$3,987,000.00

The result of:

=MVLOOKUP(A6,A2:D11,1,0,2,3,4)

or alternatively, =MVLOOKUP("Payne",A2:D11,1,0,2,3,4)

is:

Williamson Group	Singlflix	\$6,974,000.00
Ratke-Sanford	Qosolex	\$8,433,000.00
Leuschke and Sons	Qosolex	\$8,181,000.00

Notes

- MVLOOKUP() scans the rows in column lookup_column_index for lookup_value. The function then gathers values in the columns listed in return_column_index. Then it places each value into a column in the resulting matrix.
- This function is intended for use in array formulas.

Related Functions

MATCHEXACT

MHLOOKUP

WD.MVLOOKUP

Description

This function is the same as MVLOOKUP but WD.MVLOOKUP creates an index (b-tree) for the specified range or array, and it ignores the order argument. This function provides better performance for repeated use on the same range/array. Null and error values are ignored. We recommend this function as a replacement for VLOOKUP, especially when you're working with live data. WD.MVLOOKUP performs a vertical (column) lookup on a table and returns all matches. WD.MVLOOKUP is similar to VLOOKUP, but:

- VLOOKUP scans only the left column for matches; in WD.MVLOOKUP you specify the column to search.
- VLOOKUP stops after finding 1 match, and returns a single cell value; WD.MVLOOKUP scans the entire lookup column for matches. Each match in that column results in a new row in the output. If you specify 4 return_column_index values, then each resulting row will have 4 columns.

Syntax

```
WD.MVLOOKUP(lookup_value, table_array, lookup_column_index, order, return_column_index, ...)
```

- **lookup_value:** The value to match.
- **table_array:** The array or table to search.
- **lookup_column_index:** The column in the table to search (1-based).
- **order:** Not used.
- **return_column_index:** The column number to return results from. You can list any number of column numbers.

Example

The example is based on this workbook:

	A	B	C	D
1	Salesperson	Customer	Product	Revenue
2	Dixon	O'Reilly, Auer, & Lind	Qosolex	\$8,232,000.00
3	Dixon	Runolfsson and Steuber	Saoplus	\$4,853,000.00
4	Kelly	Kuphal Group	Qosolex	\$2,358,000.00
5	Kelly	Ernser Inc	Voltflarn	\$2,064,000.00
6	Payne	Williamson Group	Singlflix	\$6,974,000.00
7	Payne	Ratke-Sanford	Qosolex	\$8,433,000.00
8	Payne	Leuschke and Sons	Qosolex	\$8,181,000.00
9	Wu	Dach-Halvorson	Singlflix	\$2,361,000.00
10	Wu	Wisoky LLC	Bextain	\$5,752,000.00
11	Wu	Stiedemann Grp	Saoplus	\$3,987,000.00

The result of:

```
=WD.MVLOOKUP(A6,A2:D11,1,0,2,3,4)
```

or alternatively, =WD.MVLOOKUP("Payne",A2:D11,1,0,2,3,4)

is:

Williamson Group	Singlflix	\$6,974,000.00
Ratke-Sanford	Qosolex	\$8,433,000.00
Leuschke and Sons	Qosolex	\$8,181,000.00

Notes

- WD.MVLOOKUP() scans the rows in column `lookup_column_index` for `lookup_value`. The function then gathers values in the columns listed in `return_column_index`. Then it places each value into a column in the resulting matrix.
- This function is intended for use in array formulas.

Related Functions

[MATCHEXACT](#)

[MHLOOKUP](#)

[WD.VLOOKUP](#)

Description

Finds a value in the leftmost column of the specified array, and returns the value for the corresponding cell in the same row in a different column. This function is the same as VLOOKUP but WD.VLOOKUP creates an index (b-tree) for the specified ranges/arrays, and it ignores the `range_lookup` argument. This function provides better performance for repeated use on the same range/array. Null and error values are ignored.

Syntax

`WD.VLOOKUP(lookup_value, table_array, col_index_num, [range_lookup])`

- `lookup_value`: The value to find in the first column.
- `table_array`: The array or table to search.
- `col_index_num`: The column to return the corresponding value from.
- `range_lookup`: Not used.

Example

The example is based on this workbook:

	A	B	C	D
1	Salesperson	Customer	Product	Revenue
2	Dixon	O'Reilly, Auer, & Lind	Qosolex	\$8,232,000.00
3	Dixon	Runolfsson and Steuber	Saoplus	\$4,853,000.00
4	Kelly	Kuphal Group	Qosolex	\$2,358,000.00
5	Kelly	Ernser Inc	Voltflarn	\$2,064,000.00
6	Payne	Williamson Group	Singlflix	\$6,974,000.00
7	Payne	Ratke-Sanford	Qosolex	\$8,433,000.00
8	Payne	Leuschke and Sons	Qosolex	\$8,181,000.00

	A	B	C	D
9	Wu	Dach-Halvorson	Singlflix	\$2,361,000.00
10	Wu	Wisoky LLC	Bextain	\$5,752,000.00
11	Wu	Stiedemann Grp	Saoplus	\$3,987,000.00

The result of =WD.VLOOKUP(A6,A2:D11,4) is \$6,974,000.00.

Related Functions

ARRAYAREA

GROUPBY

MATCHEXACT

WD.MVLOOKUP

Math Functions

CBRT

Description

Returns the cube root of a number.

Syntax

CBRT(value)

- value: The value to compute the cube root for.

Example

Formula	Result
=CBRT(8)	2

E

Description

Returns the value of the base of natural logarithms (approximately 2.71828182845904523536).

Syntax

E()

Example

Formula	Result
=E()	2.718281828

EXP1

Description

Returns e raised to the power you specify, minus 1.

Syntax

`EXPM1(value)`

- value: The exponent to raise e to.

Example

Formula	Result
<code>=EXPM1(2)</code>	6.389056099

HYPOT

Description

Calculates the hypotenuse of a right triangle using the Pythagorean theorem.

Syntax

`HYPOT(x, y)`

- x: The length of a non-hypotenuse side of the triangle.
- y: The length of the second non-hypotenuse side of the triangle.

Example

Formula	Result
<code>=HYPOT(3,4)</code>	5

LOG1P

Description

Returns the natural logarithm of the sum of 1 plus the argument.

Syntax

`LOG1P(value)`

- value: The value to use for the calculation.

Example

Formula	Result
<code>=LOG1P(5)</code>	1.791759469

RANDCONST

Description

Returns a random floating point number. This function is similar to RAND() except that RANDCONST() generates a random floating point number only when you make the function run (for example, you select **Data > Recalculate**).

Syntax

`RANDCONST([low_bound], [high_bound])`

- low_bound: The low bound on the generated random number. This number is inclusive (the value might be returned as a result). If you omit the argument, the function uses 0 as the value.
- high_bound: The high bound on the generated random number. This number is inclusive (the value might be returned as a result). If you omit the argument, the function uses 1 as the value.

Example

Formula	Result
=RANDCONST()	varies (between 0 and 1)
=50*RANDCONST()	varies (between 0 and 50)
=RANDCONST()*(50-10)+10	varies (between 10 and 50)

Notes

- If you need one-time-only calculation, for any formula, enclose it in the ONCE function.
- This non-volatile function is recalculated only when:
 - A scheduled live data refresh runs.
 - You select **Data > Recalculate**.
 - You select **Data > Recalculate All**

Related Functions

ONCE

RINT

Description

Returns the integer closest to the number. If two integers are equally close, the result is the integer that is even.

Syntax

RINT(value)

- value: The number to round.

Example

Formula	Result
=RINT(12.34)	12
=RINT(-12.34)	-12
=RINT(PI())	3

WD.MAXIF

Description

Returns the maximum value from a range or array of values, according to a criterion. This function creates an index (b-tree) for the specified range or array, providing better performance for repeated use on the same range/array. Null and error values are ignored.

Syntax

`WD.MAXIF(range, criteria, max_range)`

- range: The values, or the range/array of cells, to be evaluated according to the condition.
- criteria: The condition to use to evaluate the values.
- max_range: The array of numeric values that you want to return the maximum value from, if the criteria are met.

Notes

- The condition can be one of these:
 - A numeric value (integer, decimal, date, time, or logical value), such as 5, 12/5/2019, or TRUE.
 - A text string, such as "Name" or "November".
 - An expression, such as ">9" or "<>0".
- The function isn't case-sensitive. Example: When evaluating the values in range against the criteria, the text strings "MONTH" and "month" are considered a match.
- Whenever you use a text string or an expression as a condition, surround it with quotes.
- In text-based criteria, you can use the ? wildcard to match any single character or the * wildcard to match any sequence of characters.

WD.MAXIFS

Description

Returns the maximum value from a range of values, according to one or more criteria. This function is the same as MAXIFS but WD.MAXIFS creates an index (b-tree) for the specified ranges/arrays. This function provides better performance for repeated use on the same ranges/arrays. Null and error values are ignored.

Syntax

`WD.MAXIFS(max_range, range, criteria, [range2], [criteria2], ...)`

- max_range: The array of numeric values that you want to return the maximum value from, if the criteria are met.
- range: The range or array of values to be evaluated according to the condition.
- criteria: The condition to use to evaluate the values.
- range2: The second set of values, or the range of cells, to be evaluated according to the condition.
- criteria2: A second condition to use to evaluate the values.

Notes

- The condition can be one of these:
 - A numeric value (integer, decimal, date, time, or logical value), such as 5, 12/5/2019, or TRUE.
 - A text string, such as "Name" or "November".
 - An expression, such as ">9" or "<>0".
- The function isn't case-sensitive. Example: When evaluating the values in range against the criteria, the text strings "MONTH" and "month" are considered a match.
- Whenever you use a text string or an expression as a condition, surround it with quotes.
- In text-based criteria, you can use the ? wildcard to match any single character or the * wildcard to match any sequence of characters.

WD.MINIF

Description

Returns the minimum value from a range or array of values, according to a criterion. This function creates an index (b-tree) for the specified range or array, providing better performance for repeated use on the same range/array. Null and error values are ignored.

Syntax

`WD.MINIF(min_range, range, criteria)`

- `min_range`: The array of numeric values that you want to return the minimum value from, if the criteria are met.
- `range`: The range or array of values to be evaluated according to the condition.
- `criteria`: The condition to use to evaluate the values.

Notes

- The condition can be one of these:
 - A numeric value (integer, decimal, date, time, or logical value), such as 5, 12/5/2019, or TRUE.
 - A text string, such as "Name" or "November".
 - An expression, such as ">9" or "<>0".
- The function isn't case-sensitive. Example: When evaluating the values in range against the criteria, the text strings "MONTH" and "month" are considered a match.
- Whenever you use a text string or an expression as a condition, surround it with quotes.
- In text-based criteria, you can use the ? wildcard to match any single character or the * wildcard to match any sequence of characters.

WD.MINIFS

Description

Returns the minimum value from a range or array of values, according to one or more criteria. This function is the same as MINIFS but WD.MINIFS creates an index (b-tree) for the specified ranges or arrays. This function provides better performance for repeated use on the same range/array. Null and error values are ignored.

Syntax

`WD.MINIFS(min_range, range, criteria, [range2], [criteria2], ...)`

- `min_range`: The array of numeric values that you want to return the minimum value from, if the criteria are met.
- `range`: The values, or the range/array of cells, to be evaluated according to the condition.
- `criteria`: The condition to use to evaluate the values.
- `range2`: The second set of values, or the range of cells, to be evaluated according to the condition.
- `criteria2`: A second condition to use to evaluate the values.

Notes

- The condition can be one of these:
 - A numeric value (integer, decimal, date, time, or logical value), such as 5, 12/5/2019, or TRUE.
 - A text string, such as "Name" or "November".
 - An expression, such as ">9" or "<>0".

- The function isn't case-sensitive. Example: When evaluating the values in range against the criteria, the text strings "MONTH" and "month" are considered a match.
- Whenever you use a text string or an expression as a condition, surround it with quotes.
- In text-based criteria, you can use the ? wildcard to match any single character or the * wildcard to match any sequence of characters.

WD.SUMIF

Description

Adds the numbers specified as arguments, if a condition is met. This function is the same as SUMIF but WD.SUMIF creates an index (b-tree) for the specified range or array. This function provides better performance for repeated use on the same range/array. Null and error values are ignored.

Syntax

`WD.SUMIF(range, criteria, [sum_range])`

- range: The range/array of values to test.
- criteria: The condition to test each value against.
- sum_range: The range of values, or cells, to add together. If not specified, the values in the range argument are summed.

WD.SUMIFS

Description

Adds the numbers specified in the sum_range, if a set of criteria are met. This function is the same as SUMIFS but WD.SUMIFS creates an index (b-tree) for the specified range or array. This function provides better performance for repeated use on the same range/array. Null and error values are ignored.

Syntax

`WD.SUMIFS(sum_range, range, criteria, [range2, criteria2], ...)`

- sum_range: The range of values, or values in cells, to sum if all criteria are met.
- range: The range or array of values to test.
- criteria: The condition to test each value against.
- range2: The range of values, or cells, to test.
- criteria2: The condition to test each value against.

Matrix Functions

MIDENTITY

Description

Returns a mathematical identity matrix.

Syntax

`MIDENTITY(value)`

- value: The dimension of the resulting matrix.

Example

Formula	Result
<code>=MIDENTITY(3)</code>	1 0 0 0 1 0 0 0 1

Notes

- This function returns a mathematical identity matrix. In an identity matrix, all the values in the matrix are zero except for values in the diagonal (from upper left to lower right), which are set to one.
- This function is intended for use in array formulas.

TRUNCATEMATRIX

Description

Removes rows, columns, or both, from a matrix.

Syntax

`TRUNCATEMATRIX(matrix, rows, [columns])`

- matrix: The source matrix to truncate.
- rows: The number of rows in the output matrix. If you specify zero, the output matrix will have the same number of rows as the input matrix.
- columns: The number of columns in the output matrix. If you specify zero or you don't specify a value, the output matrix will have the same number of columns as the input matrix.

Example

Formula	Result
<code>=TRUNCATEMATRIX({1,2,3;4,5,6;7,8,9}, 2, 2)</code>	1 2 4 5

Notes

- This function returns a matrix that is a result of removing rows and/or columns from the input matrix, essentially cropping the input matrix to a new set of dimensions.
- This function is intended for use in array formulas.

Miscellaneous Functions

CLUSTER.KMEANS

Description

Clustering is a data mining technique for grouping a set of objects into smaller groups, where each group's members are similar to the other members in some aspect. Clustering is used in machine learning, for example, where the goal is to find meaningful structures or to explain processes. You can cluster quantitatively using numbers, or qualitatively using categories. CLUSTER.KMEANS is a quantitative function that enables you to cluster a range of data in a workbook, by computing the distances between points, and grouping centers. The function groups each data point with the cluster having the nearest center.

Syntax

`CLUSTER.KMEANS(range1, k, [maxIterations], [distanceMeasure], [emptyStrategy])`

- range1: The range of cells to analyze.
- k: The number of clusters to make.
- maxIterations: The maximum number of times to re-run the algorithm. If you don't specify a value, the limit is 100.
- distanceMeasure: The algorithm used to find the distance between points. Possible values are `CanberraDistance`, `ChebyshevDistance`, `EarthMoversDistance`, `EuclideanDistance`, or `ManhattanDistance`. If you don't specify a value, the function uses `EuclideanDistance`.

- emptyStrategy: The strategy to use if the function finds empty clusters while running the algorithm iterations. Possible values are ERROR, FARTHEST_POINT, LARGEST_POINTS_NUMBER, or LARGEST_VARIANCE. If you don't specify a value, the function uses LARGEST_VARIANCE. If you specify ERROR, the function returns #ERROR in the cell with a description. Example: CLUSTER.KMEANS: Empty cluster in k-means.

CLUSTER.KMEANS.CENTROIDS

Description

Clustering is a data mining technique for grouping a set of objects into smaller groups, where each group's members are similar to the other members in some aspect. Clustering is used in machine learning, for example, where the goal is to find meaningful structures or to explain processes. You can cluster quantitatively using numbers, or qualitatively using categories. CLUSTER.KMEANS.CENTROIDS is a quantitative function that enables you to cluster a range of data in a workbook, by locating the center point of each group and computing the distances between points and group centers. The function groups each data point with the cluster having the nearest center.

Syntax

```
CLUSTER.KMEANS.CENTROIDS(range1, k, [ maxIterations], [ distanceMeasure], [ emptyStrategy])
```

- range1: The range of cells to analyze.
- k: The number of clusters to make.
- maxIterations: The maximum number of times to re-run the algorithm. If you don't specify a value, the limit is 100.
- distanceMeasure: The algorithm used to find the distance between points. Possible values are CanberraDistance, ChebyshevDistance, EarthMoversDistance, EuclideanDistance, or ManhattanDistance. If you don't specify a value, the function uses EuclideanDistance.
- emptyStrategy: The strategy to use if the function finds empty clusters while running the algorithm iterations. Possible values are ERROR, FARTHEST_POINT, LARGEST_POINTS_NUMBER, or LARGEST_VARIANCE. If you don't specify a value, the function uses LARGEST_VARIANCE. If you specify ERROR, the function returns #ERROR in the cell with a description. Example: CLUSTER.KMEANS: Empty cluster in k-means.

CORRELATE

Description

Creates a new matrix by combining rows from the ranges you specify. This function is similar to a database join.

Syntax

```
CORRELATE(primary_table, key_column, ignore_case, [ join_range], [ join_key_column], ...)
```

- primary_table: The matrix whose rows are used as the origin. The function combines rows from this range with rows from the other ranges if their key values match.
- key_column: The column number in the primary-range whose value is used as the primary key value for comparison with other ranges.
- ignore_case: If the type of the key column is text, then if ignore_case is TRUE, the function ignores case when comparing with other key values. If FALSE, the function considers case in the comparisons.
- join_range: The first range to combine with a row from the primary range if the key column values are equal.
- join_key_column: The column number in the first join range whose value is used as the key value for comparison with the primary key.

Example

This is the original spreadsheet, with uncombined data in two different sections:

	A	B	C	D
25	Salesperson	Customer	Product	Revenue
26	Jeffrey	Aberdeen Asset Management	HCM	\$1,000,000
27	Jeffrey	Admiral Group	FIN	\$500,000
28	Lei	Babcock International	HCM	\$506,000
29	Lei	Barclays	LER	\$1,500,000
30	Cian	Capita	LER	\$1,895,000
31	Cian	Centrica	PAY	\$2,004,560

	G	H	I
25	Salesperson	Manager	Region
26	Jeffrey	Peter	EMEA
27	Lei	Fredrik	US
28	Cian	John	UK

The formula =CORRELATE(A25:D31,1,TRUE,G25:I28,1), placed in cell G37, combines the employee information with the manager and region information.

	G	H	I	J	K	L
37	Salesperson	Customer	Product	Revenue	Manager	Region
38	Jeffrey	Aberdeen Asset Management	HCM	\$1,000,000	Peter	EMEA
39	Jeffrey	Admiral Group	FIN	\$500,000	Peter	EMEA
40	Lei	Babcock International	HCM	\$506,000	Fredrik	US
41	Lei	Barclays	LER	\$1,500,000	Fredrik	US
42	Cian	Capita	LER	\$1,895,000	John	UK
43	Cian	Centrica	PAY	\$2,004,560	John	UK

Notes

- The CORRELATE() function requires at least one pair of join_range and join_key_column values. To use other ranges, add each one with an argument specifying which column within that range has the role of the key for that range.

- The function works like this:
 1. The function examines each row in primary_table.
 2. For each range you specified, the function examines each row in the range. The function compares the value you specified as the primary key (based on the primary key column index) from the primary_table with the value you specified as the key within the row in the range currently being examined.
 3. If their values match, then the function merges all the values from the row in that range (except the key column) onto the end of the row from the primary table.
- A row from the primary table appears in the output only if there was at least one correlated row from at least one of the other match ranges you specified. If you want all rows from the primary to appear, regardless, use MERGEROWS. If you want a true database inner join, use JOIN.
- When comparing a single instance value to a string that visually appears to be the same, the function evaluates them as equal. When comparing a single value in a multi-instance field to a string that visually appears to be the same, the formula evaluates them as *not* equal.
- This function is intended for use in array formulas.

Related Functions

JOIN

DISTINCTROWS

Description

Combines a set of ranges into a single range while removing any rows that are duplicates.

DISTINCTROWS evaluates text and instance values as not distinct from each other. When the supplied range contains both an instance value and a text string that are the same, the function returns 1 row, the instance value. DISTINCTROWS is case-sensitive.

Syntax

`DISTINCTROWS(range1, [range2], ...)`

- range1: The first range of rows.
- range2: The second range of rows.

Example

This is the original spreadsheet:

	A	B	C	D	E
1	Heading1	Heading2		Heading3	Heading4
2	A	1		B	2
3	B	2		2	B
4	C	3		C	5
5	D	4		D	4

The result of `=DISTINCTROWS(A2:B5, D2:E5)` where the formula is in cell A7, is:

	A	B	C	D	E
7	A	1			
8	B	2			

	A	B	C	D	E
9	C	3			
10	D	4			
11	2	B			
13	C	5			

Notes

- This function takes any number of ranges. Typically each range has a similar row structure, but this is not required.
- The function adds a row to the final result if a row containing the exact same values in the exact same order is not already present in the result. This enables you to combine rows from different ranges and remove duplicate rows. The function considers all values in a row when determining if a row is a duplicate or not.
- This function is intended for use in array formulas.

Related Functions

UNIQUE

DISTINCTROWS2

Description

Combines a set of ranges into a single range while removing any rows that are duplicates.

DISTINCTROWS2 evaluates text and instance values as not distinct from each other. When the supplied range contains both an instance value and a text string that are the same, the function returns 1 row, the instance value. DISTINCTROWS2 is case-insensitive.

Syntax

DISTINCTROWS2(range1, [range2], ...)

- range1: The first range of rows.
- range2: The second range of rows.

Example

This is the original spreadsheet:

	A	B	C	D	E
1	Heading1	Heading2		Heading3	Heading4
2	A	1		B	2
3	B	2		2	B
4	C	3		C	5
5	D	4		D	4

The result of =DISTINCTROWS2(A2:B5, D2:E5) where the formula is in cell A6, is:

	A	B	C	D	E
7	A	1			

	A	B	C	D	E
8	B	2			
9	C	3			
10	D	4			
11	2	B			
13	C	5			

Notes

- This function takes any number of ranges. Typically each range has a similar row structure, but this is not required.
- The function adds a row to the final result if a row containing the exact same values in the exact same order is not already present in the result. This enables you to combine rows from different ranges and remove duplicate rows. The function considers all values in a row when determining if a row is a duplicate or not.
- This function is intended for use in array formulas.

Related Functions

UNIQUE2

EMAIL

Description

Converts an email address into a clickable `mailto` link. Optionally, you can insert email details such as email content and recipients.

Syntax

`EMAIL(email, [text], [cc], [bcc], [subject], [body])`

- **email:** The email address.
- **text:** The clickable text to be displayed in the cell. If you don't include this argument, the function uses the email address to generate the clickable text.
- **cc:** The copy list of recipients for the email. To separate multiple email addresses, use a character that your email client supports.
- **bcc:** The blind copy list of recipients for the email. To separate multiple email addresses, use a character that your email client supports.
- **subject:** The subject of the email.
- **body:** The body of the email.

Example

Formula	Result
<code>=EMAIL("william.davis@workday.com", "Will Davis")</code>	Will Davis (as a clickable link)

GROUPBY

Description

GROUPBY is a powerful function that can often replace COUNTIF(S), AVERAGEIF(S), and SUMIF(S). GROUPBY aggregates data, and orders the results based on the order that you specify. The grouping is based on a key that you can predefine in the table, or you can define it using columns in the workbook. The result looks similar to a sorted pivot table. This function is often useful as part of headcount planning.

When you group an array of cells that represent some instance values as strings and others as instances (variables from a Workday report), GROUPBY bases the grouping on the instance name, not the instance ID. GROUPBY groups identical names together, even when the instance IDs are different.

Syntax

```
GROUPBY(join_by_matrix, join_by_matrix_column_indexes, group_by_matrix,
group_by_matrix_column_indexes, group_by_matrix_aggregate_column_indexes,
[group_by_matrix_aggregate_types])
```

- join_by_matrix: The 1-dimensional array of unique identifiers (keys) that identifies the rows to include when grouping.
- join_by_matrix_column_indexes: The starting position of the keys in the join_by_matrix, or the set of columns that comprise the matching key (the column values to concatenate to create the primary key).
- group_by_matrix: The array of cells to group.
- group_by_matrix_column_indexes: The position of the column that contains the keys in the group_by_matrix.
- group_by_matrix_aggregate_column_indexes: The positions of the columns that contain values to group.
- group_by_matrix_aggregate_types: The operation to perform.

Argument Value	Operation
0	SUM (default)
1	COUNT of non-null values
2	COUNT of non-zero numbers
3	MIN number
4	MAX number
5	AVG number

Example

A workbook has 2 sheets named Working and Organization. This is the Working sheet:

	A	B	C	D	E	F	G	H	I
1	Supervisor Org	Cost Center	Company	Location	Name	Jan (HC) 2017	Feb (HC) 2017	Mar (HC) 2017	Organization KEY
2	Finance	CC-1 Finance	GMS	Pleasanton	Tim	1	1	1	FinanceCC-1 FinanceGMSPleasanton
3	Product Management	CC-2 Product	GMS	Boulder	Josh	0	0	1	Product ManagementCC-2 ProductGMSBoulder

	A	B	C	D	E	F	G	H	I
4	Development	CC-3 Development	GMS-CAT	Toronto	Brian	1	1	1	DevelopmentCC-3 DevelopmentGMS-CAToronto
5	Product Management	CC-2 Product	GMS	Boulder	Scott	0	1	1	Product ManagementCC-2 ProductGMSBoulder
6	Development	CC-3 Development	GMS-CAT	Toronto	Lenny	1	1	1	DevelopmentCC-3 DevelopmentGMS-CAToronto
7	Sales	CC-4 Sales	GMS-UK	London	Andy	0	1	1	SalesCC-4 SalesGMS-UKLondon
8	Finance	CC-1 Finance	GMS	Pleasanton	Ratna	1	1	1	FinanceCC-1 FinanceGMSPleasanton
9	Sales	CC-4 Sales	GMS-UK	Toronto	Aidan	0	0	1	SalesCC-4 SalesGMS-UKToronto
10	Sales	CC-4 Sales	GMS-UK	London	Katie	1	1	1	SalesCC-4 SalesGMS-UKLondon
11					Total	5	7	9	

The GROUPBY array formula is in cells E2:G6 of the sheet Organization:

```
=GROUPBY('Organization'!H2:H6,1,'Working'!A2:I10,9,{6, 7, 8})
```

Alternatively, instead of generating a key separately as shown in column I above and H below, you can specify the columns that you want GROUPBY to use as the key:

```
=GROUPBY('Organization'!A2:G6,{1,2,3,4}, 'Working'!A2:H10,{1,2,3,4},{6, 7, 8})
```

The formula returns these results in sheet Organization:

	A	B	C	D	E	F	G	H
1	Supervisor Org	Cost Center	Company	Location	Jan (HC) 2017	Feb (HC) 2017	Mar (HC) 2017	Organization KEY
2	Finance	CC-1 Finance	GMS	Pleasanton	2	2	2	FinanceCC-1 FinanceGMSPleasanton
3	Product Management	CC-2 Product	GMS	Boulder	0	1	2	Product ManagementCC-2 ProductGMSBoulder
4	Development	CC-3 Development	GMS-CA	Toronto	2	2	2	DevelopmentCC-3 DevelopmentGMS-CAToronto
5	Sales	CC-4 Sales	GMS-UK	London	1	2	2	SalesCC-4 SalesGMS-UKLondon

	A	B	C	D	E	F	G	H
6	Sales	CC-4 Sales	GMS-UK	Toronto	0	0	1	SalesCC-4 SalesGMS- UKToronto
7					5	7	9	

Note that row 7 in the sheet Organization is a simple calculation of the total headcount number; it's outside the plan entry area.

Notes

- When doing an operation on date values, GROUPBY converts the date to a serial number before calculating and does not restore the display format to a date. To show a date format, select **Format > Number > Date**.

Related Functions

ARRAYAREA

INSTANCE

Description

Returns a single-instance value.

Syntax

`INSTANCE(id, descriptor)`

- id: The Workday ID string value. Example: "371ae106294a76f2702".
- descriptor: The label string. Example: "Boulder".

INSTANCE.DESCRIPTOR

Description

For a single-instance value, the function returns the descriptor (string) of the instance.

Syntax

`INSTANCE.DESCRIPTOR(instance)`

- instance: A reference to the instance. Example: =INSTANCE.DESCRIPTOR(A1).

INSTANCE.ID

Description

For a single-instance value, the function returns the ID of the instance.

Syntax

`INSTANCE.ID(instance)`

- instance: A reference to the instance. Example: =INSTANCE.ID(A1).

JOIN

Description

Performs an inner left join on two ranges.

Syntax

```
JOIN(primary_table, key_column, join_range, join_key_column, [ has_headers], [ ignore_case])
```

- primary_table: The first table to join. This range can be a matrix, range, or result of a data set transform operation.
- key_column: The column number in the primary_table expression that acts as the primary key for the join operation. The function numbers columns starting from 1.
- join_range: The second table to join. This range can be a matrix, range, or result of a data set transform operation.
- join_key_column: The column number in the join_range expression that acts as the key for the join operation. The function numbers columns starting from 1.
- has_headers: Not used.
- ignore_case: If TRUE, the function ignores the case of the text when comparing with other key values. If FALSE, the function considers case. The default is FALSE.

Example

This is the original workbook. The data to join is in two different sections:

	A	B	C	D
25	Salesperson	Customer	Product	Revenue
26	Jeffrey	Aberdeen Asset Management	HCM	\$1,000,000
27	Jeffrey	Admiral Group	FIN	\$500,000
28	Lei	Babcock International	HCM	\$506,000
29	Lei	Barclays	LER	\$1,500,000
30	Cian	Capita	LER	\$1,895,000
31	Cian	Centrica	PAY	\$2,004,560

	G	H	I
25	Salesperson	Manager	Region
26	Jeffrey	Peter	EMEA
27	Lei	Fredrik	US
28	Cian	John	UK

The formula =JOIN(A25:D31,1,G25:I28,1,,TRUE), placed in cell L4, combines the employee information with the manager and region information. The Salesperson, Manager, and Region are on the left because that data range has fewer rows.

	L	M	N	O	P	Q
4	Jeffrey	Peter	EMEA	Aberdeen Management	HCM	\$1,000,000
5	Jeffrey	Peter	EMEA	Admiral Group	FIN	\$500,000
6	Lei	Fredrik	US	Babcock International	HCM	\$506,000
7	Lei	Fredrik	US	Barclays	LER	\$1,500,000
8	Cian	John	UK	Capita	LER	\$1,895,000
9	Cian	John	UK	Centrica	PAY	\$2,004,560

Notes

- This function does an inner left join. The function considers the range with fewer rows to be the left table.
- For each row in the left table, the function checks to see if there is a matching row in the right table by comparing the key values in the key columns you specified. If a match exists, the function creates a new row by joining the row from each of the tables with the key value only appearing one time. A row appears in the output only if the join condition is satisfied. It is also possible for a row from the left table to appear multiple times if multiple rows in the right table have a matching key value.
- If you want all rows from the primary_table to always be present in the output, use the MERGEROWS function instead.
- When comparing a single instance value to a string that visually appears to be the same, the function evaluates them as equal. When comparing a single value in a multi-instance field to a string that visually appears to be the same, the formula evaluates them as *not* equal.
- This function is intended for use in array formulas.

Related Functions

CORRELATE

MATCHCOMPOSITE

Description

A common use case for MATCHCOMPOSITE is to consolidate column data from different sheets.

Example: If there are 2 sheets, where you have data on a sheet, along with notes about that same data in a column on a different sheet, you can use MATCHCOMPOSITE to consolidate the column data from those 2 sheets into 1 sheet. MATCHCOMPOSITE copies values in one or more columns from the location to the right of a source array, and returns values to the right of a destination array. You use a composite key of columns to match copied data to the correct rows in the destination.

Syntax

MATCHCOMPOSITE(destination_matrix, destination_column_indexes, source_matrix, source_column_indexes, return_column_indexes, [ifNA])

- destination_matrix:** The area of data in the destination.
- destination_column_indexes:** The position of the columns that make up the composite key in the destination.
- source_matrix:** The array of the data in the source. You can specify only a cell range, not a column range.
- source_column_indexes:** The position of the columns that make up the composite key in the source.

- `return_column_indexes`: The position of the columns in the source that you want the formula to return.
- `ifNA`: The default value to return if the function doesn't find a match. The default is an empty string.

Related Functions

MATCH

GROUPBY

MERGE COLUMNS

Description

Merges columns by placing them side by side into a new range.

Syntax

`MERGE COLUMNS(range1, [range2], ...)`

- `range1`: The first range.
- `range2`: The second range.

Example

Formula	Result
=MERGE COLUMNS({1,2;3,4},{10,20,30;40,50,60})	1 2 10 20 30 3 4 40 50 60

Notes

- This function creates a new range by combining all the range arguments. It starts with the first range and then adds the second range on its right side, aligning the top of the new range with the resulting range. This continues for all subsequent ranges. In the resulting range, the number of rows equals the number of rows in the largest range. If a range does not have as many rows as the maximum range, those additional rows are filled with null values. The number of columns in the resulting range equals the sum of the columns in all of the ranges. Duplicate columns are not removed.
- This function is intended for use in array formulas.

Related Functions

REMOVE COLUMNS

MERGE ROWS

Description

Merges rows by placing them one below the other into a new range.

Syntax

`MERGE ROWS(range1, [range2], ...)`

- `range1`: The first range.
- `range2`: The second range.

Example

Formula	Result
=MERGE ROWS({1,2;3,4},{10,20,30;40,50,60})	1 2 3 4 10 20 30 40 50 60

Notes

- This function creates a new range by combining all the range arguments; it starts with the first range and then adds the second range underneath, left-aligning the new range with the resulting range. This continues for all subsequent ranges. In the resulting range, the number of columns equals the widest range in the input. If a range does not have as many columns as the widest range, those additional columns are filled with null values. The number of rows in the resulting range equals the sum of the rows in all of the ranges. Duplicate rows are not removed.
- This function is intended for use in array formulas.

Related Functions

REMOVEROWS

MI.COUNT

Description

Returns the number of single instances inside a multi-instance value.

Syntax

`MI.COUNT(instances)`

- `instances`: The instances value.

MI.INDEX

Description

Returns the instance at a specific index in a multi-instance value.

Syntax

`MI.INDEX(instances, [index])`

- `instances`: The instances value. This value can be an array.
- `index`: The index of the instance.

MINUS

Description

Returns all rows from a first range that do not appear in any of the other supplied ranges.

Syntax

`MINUS(range1, [range2], ...)`

- `range1`: The range to subtract matching rows from.
- `range2`: The range to subtract from the base range. You can subtract any number of ranges from the start range.

Example

This is the original spreadsheet:

	A	B	C
1	Cost Center	Q1	Q2
2	6010:Benefits Expenses	6200:Marketing	6010:Benefits Expenses

	A	B	C
3	6300:Office & Administrative	4000:Revenue	6100:Facilities Taxes
4	6100:Facilities Taxes	5000:Cost of Sales	6300:Office & Administrative
5	6400:Legal & Service Fees	6870:Talent Acquisition	6500:Information Technology
6	6800:Travel & Entertainment	6000:Salaries and Wages	6700:Depreciation
7	6870:Talent Acquisition	6400:Legal & Service Fees	6300:Office & Administrative

The formula =MINUS(A2:A7,B2:B7,C2:C7), placed in cell A8, returns any values in the first range that are not present in subsequent ranges (cost centers that were not budgeted for in Q1 or Q2).

	A
8	6800:Travel & Entertainment

Notes

- The result of this function is the subset of rows from range1 that do not appear in any of the other supplied range arguments. A row appears in range1 if all values in the row from a subsequent range are identical (and in the same order) to values in range1.
- This function is intended for use in array formulas.

Related Functions

COMPARE

MULTIINST

Description

Create a multi-instance value from a comma-separated list of single instance values.

Syntax

MULTIINST(instance, ...)

- instance: The list of single instance values.

Example

Where cells A4, A5, and A6 contain single instance values, the formula:

=MULTIINST(A4,A5,A6)

creates a multi-instance value in the cell, containing the instances in cells A4-A6.

NOTIFYIF

Description

Sends up to 1,000 notifications if a value in the specified criterion changes to meet a condition. You can send a notification to a user whether or not they have access to the workbook. If the function exceeds the

limit, notifications stop and the #ERROR indicator displays in the cell containing the function. When you hover the cursor over the cell, a message describes the error.

Syntax

```
NOTIFYIF(range, criteria, [ user_names], [ subject], [ message], [ send_on_each])
```

- range: The range to evaluate the criteria for.
- criteria: The string expression to evaluate against the range. The format is the same as functions such as SUMIF() and COUNTIF().
- user_names: The array or list of users to send the notification to. If you don't include this argument, the function uses the user_name of the current user (the user composing the function).
- subject: The text string to use as the subject of the Workday notification. If you include a subject, Workday adds a colon character at the end of the string.
- message: The text to use as the body of the notification. These HTML tags are supported:
, , <i>, and <u>.
- send_on_each: If TRUE, the function sends a notification on each value in the range that matches the criterion (TRUE). If FALSE, the function sends a notification only if all the values in the range meet the criterion. The default is TRUE.

Example

Formula	Result
=NOTIFYIF(A1:A3,"=won","dave.smith","Contest results","you won!")	Send this notification to dave.smith: "Contest results: You won!" if a cell in the range A1:A3 equals won .
=NOTIFYIF(E8,"<"&E7,"tserrano","Forecast Drop",CONCAT(A8, " of \$",E8," has fallen below target of \$", E7))	Send a notification to tserrano if the value in E8 is less than E7. This example uses data in the sample workbook on Community. Example notification: "Forecast Drop: EMEA Forecast of \$3214321 has fallen below target of \$3530400"
=NOTIFYIF(A1,>"&0.5,"tserrano","Sales Goal",TEXT(A1,"0%")&" of your employees met their sales goal.")	Send a notification to tserrano if the value in A1 is greater than 0.5. The TEXT function causes the A1 value to be formatted as an integer percentage. Example notification: "Sales Goal: 61% of your employees met their sales goal.")

Example Notifications Using an Array of Values

Here's an example of how to use NOTIFYIF with an array of values.

The formula in cell A8 puts the different users listed in A3, A4 and A5 into an array:

A8	={A3,A4,A5}				
1	Users	Value1	Value2	Formula	
2					
3	bliu		60	80	FALSE
4	lmcneil				
5	oreynolds				
6					
7	Array:				
8	={A3,A4,A5}	lmcneil	oreynolds		
9					
10					

When including the reference cell in the NOTIFYIF formula, use ARRAYAREA(A8):

D3	=NOTIFYIF(C3,"<"&B3,ARRAYAREA(A8),CONCAT("The Value2"," of ",C3," has fallen below the threshold of ",B3))				
1	Users	Value1	Value2	Formula	
2					
3	bliu		60	40	TRUE
4	lmcneil				
5	oreynolds				
6					
7	Array:				
8	bliu	lmcneil	oreynolds		
9					
10					
11					

Remember to submit the formula using the array keyboard shortcut: Ctrl+Alt+Enter (Windows) or Command+Option+Enter (Mac).

The My Tasks notification for the formula looks similar to this, if Oliver Reynolds submitted the formula:

Oliver Reynolds sent you a notification

3 minute(s) ago

Oliver Reynolds sent you a notification

"The Value2 of 40 has fallen below the Value1 of 60: The condition is met for value 40."

Details NOTIFYIF Example with Array

The email notification looks similar to this:

From: Do-Not-Reply@workday.com <workday@myworkday.com>
Sent: Wednesday, August 10, 2022 11:21 AM
To: Logan McNeil <lmcneil@workday.com>
Subject: Oliver Reynolds sent you a notification

Oliver Reynolds sent you a notification

"The Value2 of 40 has fallen below the Value1 of 60: The condition is met for value 40."

[Click Here to view the notification details.](#)

Notes

- The function sends a notification only if a value *changes* to meet a condition. If, for example, a live data refresh occurs and a condition that was previously TRUE (notification was sent) remains TRUE when the schedule runs, no notification is sent. However, a notification is sent if you recalculate the workbook because this is the equivalent of re-submitting the formula from the cell.
- The user_names format in your tenant might vary from the examples.
- This function evaluates a criterion expression against all the values in the range you specified. If send_on_each is true, then the function sends a notification for each criterion match in the range. If send_on_each is false, the function sends a notification only if all values in the match meet the criterion. The form of the criterion is the same as for SUMIF() and COUNTIF().
- The function generates a Workday notification. If emails are enabled in your environment, an email is also sent, but the email subject is auto-generated and doesn't match the subject argument of the notification.
- Workday identifies the sender of the notification as the user who placed the formula into the cell.
- This function returns the value TRUE if it sent a notification or FALSE if it didn't.
- Workday doesn't support using structured references with NOTIFYIF.

Related Functions

NOTIFYIFS

NOTIFYIFS

Description

Sends up to 1,000 notifications if values in the specified criteria change to meet multiple conditions. You can send a notification to a user whether or not they have access to the workbook. If the function exceeds the limit, notifications stop and the #ERROR indicator displays in the cell containing the function. When you hover the cursor over the cell, a message describes the error.

Syntax

```
NOTIFYIFS(range1, criteria1, [ user_names ], [ subject ], [ message ], [ send_on_each ], [ range2, criteria2 ], ...)
```

- range1: A range to evaluate the criteria for.
- criteria1: The string expression to evaluate against the range. The format is the same as functions such as SUMIF() and COUNTIF().
- user_names: The array or list of users to send the notification to. If you don't include this argument, the function uses the user_name of the current user (the user composing the function).
- subject: The text string to use as the subject of the Workday notification. If you include a subject, Workday adds a colon character at the end of the string.
- message: The text to use as the body of the notification. These HTML tags are supported:
, , <i>, and <u>.
- send_on_each: If TRUE, a notification is sent on each value in the range that matches the criterion (TRUE). If FALSE, the notification is sent only if all the values in the range meet the criterion. The default is TRUE.
- range2: A range to evaluate the criteria for.
- criteria2: The string expression to evaluate against the range.

Example

A1:B3 contains:

1 2 1 2 1 2

Formula	Result
=NOTIFYIFS(A1:A3,1,,,false,B1:B3,2)	TRUE

Notes

- The function sends a notification only if a value *changes* to meet a condition. If, for example, a live data refresh occurs and a condition that was previously TRUE (notification was sent) remains TRUE when the schedule runs, no notification is sent. However, a notification is sent if you recalculate the workbook because this is the equivalent of re-submitting the formula from the cell.
- This function evaluates a criterion expression against all the values in the range you specified. If send_on_each is true, then the function sends a notification for each criterion match in the range. If send_on_each is false, the function sends a notification only if all values in the match meet the criterion. The form of the criterion is the same as in SUMIFS() and COUNTIFS().
- The difference between NOTIFYIFS() and NOTIFYIF() is that in NOTIFYIFS(), the condition for sending a notification is met only if every criterion is met against its corresponding range. You can specify any number of range/criterion pairs; you must specify them as matching pairs. In addition, the shape of each range must match the shape of the first range (they must all have the same number of rows and columns). Example: If we have three range/criterion pairs, then a condition is met if the criterion for

each range is met for a specific cell in the range. If send_on_each is false, then the condition must be met for every cell in every range in order for the function to send a notification.

- The function generates a Workday notification. If emails are enabled in your environment, an email is also sent, but the email subject is auto-generated and doesn't match the subject argument of the notification.
- Workday identifies the sender of the notification as the user who placed the formula into the cell.
- The function returns the value TRUE if it sent a notification or FALSE if it didn't.
- Workday doesn't support using structured references with NOTIFYIFS.

Related Functions

[NOTIFYIF](#)

[REMOVECOLUMNS](#)

Description

Removes one or more columns from the sheet. The function removes the number_of_columns, starting at and including start_column.

Syntax

`REMOVECOLUMNS([range], [number_of_columns], [start_column])`

- range: The matrix to remove columns from.
- number_of_columns: The number of columns to remove. Use a value greater than 0 to remove start_column and subsequent columns. Use a value less than 0 to remove start_column and previous columns.
- start_column: The starting column to remove. You can set start_column to -1 to start removing columns from the right side of the matrix instead of the left.

Example

The examples are based on this workbook:

	A	B	C	D	E
1	Item	2014	2015	2016	2017
2	100	6452	6557	6772	6457
3	200	3458	3568	4668	3455
4	300	6791	6552	5382	6235
5	400	3524	6592	3562	3899
6	500	6458	3112	2855	3298

The result of =REMOVECOLUMNS(A1:E6, 3, 2) is shown in this table:

Item	2017
100	6457
200	3455
300	6235
400	3899
500	3298

The result of =REMOVECOLUMNS(A1:E6,-4,-1) is shown in this table:

Item
100
200
300
400
500

Notes

- In the results, formatting from the original cells is not preserved.
- This function is intended for use in array formulas.

Related Functions

MERGE COLUMNS

REMOVEROWS

Description

Removes one or more rows from the referenced area. The function removes the number_of_rows following start_row, starting at and including start_row. Use REMOVEROWS without specifying any rows in order to remove the first (heading) row.

Syntax

REMOVEROWS([range], [number_of_rows], [start_row])

- range: The matrix to remove the rows from.
- number_of_rows: The number of rows to remove. Use a value greater than 0 to remove start_row and subsequent rows. Use a value less than 0 to remove start_row and previous rows.
- start_row: The starting row to remove. You can set start_row to -1 to start removing rows from the bottom of the matrix instead of the top.

Example

The examples are based on this workbook:

	A	B	C	D	E
1	Item	2014	2015	2016	2017
2	100	6452	6557	6772	6457
3	200	3458	3568	4668	3455
4	300	6791	6552	5382	6235
5	400	3524	6592	3562	3899
6	500	6458	3112	2855	3298

The result of =REMOVEROWS(A1:E6,3,2) is shown in this table:

	A	B	C	D	E

1	Item	2014	2015	2016	2017
2	400	3524	6592	3562	3899
3	500	6458	3112	2855	3298

The result of =REMOVEROWS(A1:E6, -4, -1) is shown in this table:

	A	B	C	D	E
1	Item	2014	2015	2016	2017
2	100	6452	6557	6772	6457

The result of =REMOVEROWS(A1:E6) is shown in this table (headings are removed):

	A	B	C	D	E
1	100	6452	6557	6772	6457
2	200	3458	3568	4668	3455
3	300	6791	6552	5382	6235
4	400	3524	6592	3562	3899
5	500	6458	3112	2855	3298

Notes

- In the results, formatting from the original cells is not preserved.
- This function is intended for use in array formulas.

Related Functions

ARRAYAREA

MERGEROWS

SELECT

Description

Selects data from a workbook range, a defined name, or a Workday report. The SELECT function is similar to an SQL SELECT statement. The primary rules for writing a SELECT statement are: Data that you reference in a select statement must have a header name. Surround the select statement with double quotes. Surround strings with single or double quotes. If you reference a column heading or table name that contains spaces or special characters, enclose it in backticks. Use question marks for parameters. If the SELECT formula doesn't finish calculating within 30 minutes, it returns an #ERROR. SELECT can process up to 5 million rows, but the number of rows processed might not exactly match the number of returnable rows due to the aggregation that SELECT performs. To see working examples of the SELECT function, find the "Worksheets Function Example Workbooks" page on Community or paste this link into your browser: <https://community.workday.com/node/408872>.

Keep in mind that the SELECT function is not intended as a replacement for the Data Wizard.

Syntax

SELECT(select_statement, [parameter], ...)

- **select_statement:** The select statement. The statement is similar to an SQL select statement. Enclose the select statement in double quotes. The basic format is: "SELECT column1, [column2], ... FROM table" where **column** is the data to return and **table** is the data source to select from.

You can embed functions in the SELECT statement such as COUNT, AVG, SUM, LIMIT, and more. The complete list of functions that SELECT supports is below.

When doing an operation on date values in your SELECT formulas, keep in mind that Worksheets works differently from SQL syntax. Worksheets calculations treat dates as serial numbers. Example: The date March 20, 2023 is represented as the serial number 45005. Also, SQL automatically converts string dates for calculations, but Worksheets doesn't.

If the string *from* or *where* exists in a column name, you must surround it with quotes because from and where are reserved words in SQL.

In the FROM clause of the statement, you can use values such as a:

- Workday report.
- Defined name.
- Column, row, or area range.
- Parameter that you specify as an argument.
- parameter: A statement parameter.

Examples

We'll use this table to show some simple examples:

header1	header2	header3
1	a	red
2	b	orange
3	c	orange
4	d	red
5	e	red

The formula:

```
=SELECT("SELECT header1,header3 FROM ? WHERE header3 = ?",A1:C6,"red")
```

has this result:

header1	header3
1	red
4	red
5	red

Automatic recalculation and the parameter argument. We recommend using the parameter argument of the function to reference data; Worksheets considers these references to be data dependencies, so the SELECT formula runs automatically when you change the data in the referenced cells. If you use the SELECT statement to refer to data instead, the formula doesn't re-run automatically if the data changes, and even selecting Data > Recalculate doesn't cause the formula to run again.

In the following formula, we use the parameter argument to reference the data. If the data changes in the range A1:C6, Worksheets automatically recalculates and updates the result:

```
=SELECT("SELECT header1,header3 FROM ?",A1:C6)
```

In the following formula, we use the SELECT statement to reference the data. If the data changes in the range A1:C6, Worksheets does not recalculate:

```
=SELECT("SELECT header1,header3 FROM `A1:C6`")
```

Defined name. In these examples, an area was given the defined name all_employees:

- =SELECT("SELECT employeeName FROM all_employees")
- =SELECT("SELECT employeeName FROM ?", all_employees)

Column, row, or range. You can refer to a column, row, or area in the same sheet, a different sheet, or in another workbook. If you don't specify a sheet, the range must be on the current sheet.

- =SELECT("SELECT employeeName FROM `\\$A:\\$G`")
- =SELECT("SELECT employeeName FROM `AllEmployeesSheet!\\$A:\\$G`")
- =SELECT("SELECT employeeName FROM `All Employees Sheet!\\$A:\\$G`")
- =SELECT("SELECT employeeName FROM ?,"\\$A:\\$G")
- =SELECT("SELECT employeeName FROM ?,'All Employees Sheet!\\$A:\\$G")
- =SELECT("SELECT employeeName FROM ?,"All_Employees_Sheet!\\$A:\\$G")
- =SELECT("SELECT employeeName FROM ?,"!Other Workbook Name!All Employees Sheet!A:G")

More Examples and Results

Formula	Result
SELECT("SELECT employeeID, employeeName FROM `AllEmployeesSheet!\\$A:\\$G`")	Returns the employeeID and employeeName from columns A through G of the sheet named AllEmployeesSheet.
SELECT("SELECT COUNT(employeeLastName) FROM AllEmployeesSheet")	Returns the number of rows in the employeeLastName column in the sheet named AllEmployeesSheet.
SELECT("SELECT employeeFirstName, employeeLastName, employeeRating FROM `AllEmployeesSheet!\\$A:\\$G` ORDER BY employeeRating DESC LIMIT 3")	Return the first name, last name, and rating of the 3 highest rated employees.

Workday report. Query data from a Workday report.

- =SELECT("SELECT employeeName FROM WorkdayReports.AllEmployees") where the report name is AllEmployees.
- =SELECT("SELECT employeeName FROM WorkdayReports.`All Employees`") where the report name is All Employees.
- =SELECT("SELECT * from WorkdayReports.`All Employees`") selects all rows from the report.

SELECT Functions: Constants

TRUE	CURRENT_DATE
FALSE	CURRENT_TIME
NULL	CURRENT_TIMESTAMP

SELECT Functions: Operators and Logical

UNION	JOIN	INTERSECT	INNER JOIN
UNION ALL	LEFT JOIN	EXCEPT	BETWEEN

NOT BETWEEN	IN	*	<=
(string concatenation)	NOT IN	/	<>
% (modulo)	() (parentheses)	+	!=
<< (bitshift left)	IF	- (minus)	>=
>> (bitshift right)	+ (unary positive)	- (unary negative)	~ (bit inversion)
EXISTS	! (logical not)		LIKE
NOT EXISTS	NOT	<	NOT LIKE
IS NULL	AND	>	CASE ¹
IS NOT NULL	OR	=	&
IFNULL	ISNULL	POW	"

¹ Including WHEN THEN ELSE END keywords

SELECT Functions: Scalar, Substring

DAYOFMONTH	YEAR	LOWER	UPPER
HOUROFDAY	COALESCE	LTRIM	DATE Y M D
MINUTE	NULLIF	RTRIM	DATETIME Y M D H M S
MONTH	ROUND	SUBSTRING	INSTANCE (ID and description)
SECOND	LENGTH	TRIM	DATEDIF
REPLICATE	STUFF	LOCATE	INSTR

SELECT Functions: Math, Financial, Statistical

ABS	COUNT	LOG10	Q (Quarter)
AVG	FLOOR	MAX	SQRT
CEIL	LOG	MIN	SUM
LIMIT	ASC	DESC	

Notes

- We recommend using the parameter section of the function to reference data; Worksheets considers these references to be data dependencies, so the SELECT formula runs whenever you select **Data > Recalculate**. The data you refer to in the SELECT statement portion of the formula isn't considered dependent data, so selecting **Data > Recalculate** doesn't cause the formula to run again even if the underlying data changed.
- This function is intended for use in array formulas.

SEQUENCE

Description

Creates an array of sequential values, such as a numbers or a series of dates. This function can be helpful when creating dynamic models. Example: You are creating an ad hoc forecasting model and you want to create a dynamic sequence of dates based on time and not based on the live data in the workbook.

Syntax

`SEQUENCE(rows, [columns], [start], [step])`

- rows: An integer for the number of rows to return.
- columns: An integer for the number of columns to return.
- start: The starting number for the sequence.
- step: The number to increase each value by. Example: When start is for date values, a step value of 7 increments a date series in weekly (7 day) increments.

Example

To download working examples of the SEQUENCE function in a workbook, see <https://collaborate.workday.com/t5/-/m-p/910596>.

SORT

Description

Sorts an existing matrix and returns a new matrix. `SORT()` accepts one sort direction and sorts all columns you specified based on that direction.

Syntax

`SORT(matrix, [ascending], [sort_column], ...)`

- matrix: The matrix to sort.
- ascending: If TRUE, the values are sorted in ascending order; if FALSE, the values are sorted in descending order. The default is TRUE.
- sort_column: One or more column names or column positions to use as the columns to sort on. If you don't specify any columns, then the first (left-most) column is used.

Example

This is the original spreadsheet:

	A	B	C	D	E
1	Name	Grade			
2	Joe	85			
3	Alice	92			
4	Joe	90			

The result of `=SORT(A1:B4, true, "Name", "Grade")` is:

Name	Grade
Alice	92
Joe	85
Joe	90

Notes

- To specify a different sort direction for each column being sorted, use `SORT2()`.

- This function sorts the rows in the source matrix and returns a new matrix reflecting the sorted rows. The order of the rows is determined by the values in the sort_column and the direction you specified (ascending or descending).
- Specify sort columns either by name (as text strings without any surrounding square brackets) or by position (where the first column is in position 1). You can mix these values (specifying some by name and others by position).
- When you specify more than one sort column, the function breaks ties by sorting the values in each subsequently specified column. Example: If the first column has three values of the string "hello", and you specified a second column, the function sorts the values in that column for the three rows that have "hello" in the first column. This determines the final order of those three columns.
- This function is intended for use in array formulas.

Related Functions

[ARRAYAREA](#)

[SORT2](#)

[SORT2](#)

Description

Sorts an existing matrix and returns a new matrix. SORT2 accepts pairs of parameters, specifying the column to sort by and the sort direction for that column. When ties occur during the sort, arguments for columns after the first column you specified are used.

Syntax

`SORT2(matrix, [sort_column_1, ascending_1], ...)`

- matrix: The matrix to sort.
- sort_column_1: The column name or position of the value in the top priority sorting column. If you specify a sort_column, you must also specify a corresponding ascending boolean.
- ascending_1: If TRUE, the function sorts the values in the associated column in ascending order; if FALSE, the function sorts the values in the associated column in descending order.

Example

This is the original spreadsheet:

	A	B
1	Name	Grade
2	Joe	85
3	Alice	92
4	Joe	90
5	Luis	92
6	Xibin	85
7	Alice	79
8	Joe	82
9	Luis	95
10	Xibin	88

	A	B
11	Alice	97

The result of =SORT2(A1:B10, "Name", , "Grade", FALSE) is:

Name	Grade
Xibin	88
Xibin	85
Luis	95
Luis	92
Joe	90
Joe	85
Joe	82
Alice	97
Alice	92
Alice	79

Notes

- You can specify up to 8 column/direction pairs.
- To sort all the columns you specified in only one direction, you can use SORT.
- This function sorts the rows in the source matrix and returns a new matrix reflecting the sorted rows. The order of the rows is determined by the value in sort_column_n and the direction you specified (ascending or descending).
- Specify sort columns either by name (as text strings without any surrounding square brackets) or by position (where the first column is in position 1). You can mix these values (specifying some by name and others by position). If you use the column header name (string) the function preserves the column headers, but if you use the column indexes (numbers), the function sorts the headers as data.
- When you specify more than one sort column, the function breaks ties by sorting the values in each subsequently specified column. Example: If the first column has three values of the string "hello", and you specified a second column, the function sorts the values in that column for the three rows that have "hello" in the first column. This determines the final order of those three columns.
- This function is intended for use in array formulas.

Related Functions

[ARRAYAREA](#)

[SORT](#)

[SORT3](#)

[**SORT3**](#)

Description

Sorts an existing matrix and returns a new matrix. SORT3 assumes that the first row is a header, and returns the header as the first row in the results. SORT3 accepts pairs of parameters, specifying the column to sort by and the sort direction for that column. When ties occur during the sort, arguments for columns after the first column you specified are used.

Syntax

`SORT3(matrix, [sort_column_1, ascending_1], ...)`

- matrix: The matrix to sort. SORT3 assumes that the first row is a header, and returns the header as the first row in the results.
- sort_column_1: The column name or position of the value in the top priority sorting column.
- ascending_1: If TRUE, the function sorts the values in the associated column in ascending order; if FALSE, the function sorts the values in the associated column in descending order.
- sort_column_2: The column name or position of the value in the 2nd priority sorting column.
- ascending_2: If TRUE, the function sorts the values in the associated column in ascending order; if FALSE, the function sorts the values in the associated column in descending order.
- sort_column_3: The column name or position of the value in the 3rd priority sorting column.
- ascending_3: If TRUE, the function sorts the values in the associated column in ascending order; if FALSE, the function sorts the values in the associated column in descending order.

Example

This is the original spreadsheet:

	A	B
1	Name	Grade
2	Joe	85
3	Alice	92
4	Joe	90
5	Luis	92
6	Xibin	85
7	Alice	79
8	Joe	82
9	Luis	95
10	Xibin	88
11	Alice	97

The result of `=SORT3(A1:B10,1,,2,FALSE)` is:

Name	Grade
Xibin	88
Xibin	85
Luis	95
Luis	92
Joe	90
Joe	85
Joe	82
Alice	97
Alice	92

Notes

- You can specify up to 8 column/direction pairs. The function ignores empty sort columns.
- Empty parameter pairs are ignored. For strict parameter pairs you can use SORT2.
- To sort all the columns you specified in only one direction, you can use SORT().
- This function sorts the rows in the source matrix and returns a new matrix reflecting the sorted rows. The order of the rows is determined by the value in sort_column_n and the direction you specified (ascending or descending).
- Specify sort columns either by name (as text strings without any surrounding square brackets) or by position (where the first column is in position 1). You can mix these values (specifying some by name and others by position). With either method, the function preserves the header and returns it as the first row of results.
- When you specify more than one sort column, the function breaks ties by sorting the values in each subsequently specified column. Example: If the first column has three values of the string "hello", and you specified a second column, the function sorts the values in that column for the three rows that have "hello" in the first column. This determines the final order of those three columns.
- This function is intended for use in array formulas.

Related Functions

ARRAYAREA

SORT

SORT2

TRIMCOLUMNS

Description

Removes trailing blank columns from a range, when the data is a result of an unconstrained array formula.

Syntax

TRIMCOLUMNS(range)

- **range:** The range to trim.

Example

When you use an array formula such as =SampleWorkerData!3:5, which contains an unconstrained row reference, the formula returns a blank in each cell next to the cells containing data in rows 3, 4, and 5.

The formula =TRIMCOLUMNS(SampleWorkerData!3:5) removes the trailing columns containing blanks in the cells.

Notes

- This function is intended for use in array formulas.

TRIMROWS

Description

Removes trailing blank rows from a range, when the data is a result of an unconstrained array formula.

Syntax

`TRIMROWS(range)`

- range: The range to trim.

Example

When you use an array formula such as `=SampleWorkerData!A:C`, which contains an unconstrained column reference, the formula returns blanks in each cell below the cells containing data in columns A, B, and C.

The formula `=TRIMROWS(SampleWorkerData!A:C)` removes trailing rows containing blanks in the cells.

Notes

- This function is intended for use in array formulas.

UNIQUE

Description

Returns a matrix whose rows are unique according to the specified keys. The function returns only unique rows, based on the values in the specified columns. This function is similar to `DISTINCTROWS()`, but `UNIQUE()` takes a single range and a set of columns. `UNIQUE` is case-sensitive.

Syntax

`UNIQUE(range, col1, [col2], ...)`

- range: The matrix to extract unique rows from.
- col1: The name of a column to use as a key in determining whether a row is unique.
- col2: The name of a column to use as a key in determining whether a row is unique.

Example

This is the original spreadsheet:

	A	B	C	D	E
1	Name	Grade			
2	Joe	85			
3	Alice	92			
4	Joe	90			

The result of `=UNIQUE(A1:B4, "Name")` is:

Name	Grade
Joe	85
Alice	92

Notes

- `UNIQUE()` is similar to `DISTINCTROWS()`. `DISTINCTROWS()` uses all the values in a row to determine whether the row is different from other rows, but `UNIQUE()` uses only the values in the specified columns. `UNIQUE()` filters the range so that it returns only unique rows based on the values in the

specified columns. The first row it considers unique is the one it returns; it doesn't return subsequent duplicate rows.

- This function is intended for use in array formulas.

Related Functions

DISTINCTROWS

UNIQUE2

Description

Returns a matrix whose rows are unique according to the specified keys. The function returns only unique rows, based on the values in the specified columns. This function is similar to DISTINCTROWS2(), but UNIQUE2() takes a single range and a set of columns. UNIQUE2 is case-insensitive.

Syntax

UNIQUE2(range, col1, [col2], ...)

- range: The matrix to extract unique rows from.
- col1: The name of a column to use as a key in determining whether a row is unique.
- col2: The name of a column to use as a key in determining whether a row is unique.

Example

This is the original spreadsheet:

	A	B	C	D	E
1	Name	Grade			
2	Joe	85			
3	Alice	92			
4	Joe	90			

The result of =UNIQUE2(A1:B4,"Name") is:

Name	Grade
Joe	85
Alice	92

Notes

- UNIQUE2() is similar to DISTINCTROWS2(). DISTINCTROWS2() uses all the values in a row to determine whether the row is different from other rows, but UNIQUE2() uses only the values in the specified columns. UNIQUE2() filters the range so that it returns only unique rows based on the values in the specified columns. The first row it considers unique is the one it returns; it doesn't return subsequent duplicate rows.
- This function is intended for use in array formulas.

Related Functions

DISTINCTROWS2

URL

Description

Converts a URL into a clickable link on a sheet.

Syntax

`URL(url, [label], [tooltip])`

- url: The URL. For linking within a workbook, precede the path with a pound sign (#).
- label: The clickable text to display in the cell. If you don't include this argument, the function uses the url argument as the clickable text. You can use a cell reference to contain the label.
- tooltip: The text to display when the user hovers the cursor over the cell. If you don't include this argument, the function uses the label argument as the clickable text. You can use a cell reference to contain the tooltip.

Example

Formula	Result
<code>=URL("http://www.workday.com","Workday")</code>	Workday (as a clickable link)
<code>=URL("http://www.workday.com","Workday","Open link in new browser window")</code>	Workday (as a clickable link), with a tooltip of "Open link in new browser window"
<code>=URL("#"&REMOVEROWS(INFO("wd.sheet.names")))</code>	Creates a clickable list of links to the sheets of the workbook; this essentially provides a Table of Contents of the workbook tabs.

Notes

- This function is similar to the HYPERLINK function; however, to maintain compatibility with Excel, HYPERLINK doesn't have the optional tooltip argument.
- Keep in mind that if you use the right-click (context) menu in a Microsoft® Excel® workbook to create a hyperlink, and then you upload the workbook to Worksheets, it isn't converted into a URL function; it becomes a link-formatted cell containing a URL.

Related Functions

[HYPERLINK](#)

[URLTEXT](#)

Description

Returns, as a string, the anchor text component of a URL.

Syntax

`URLTEXT(url)`

- url: The URL, typically the output of the URL function.

Example

Formula	Result
=URLTEXT(URL("http://www.workday.com","Workday"))	Workday (as plain text)

WD.ARRANGECOLUMNS

Description

Creates a new range from an existing range, with the columns ordered according to the specified indexes. You can add an empty column by including a null index value. Example:
=WD.ARRANGECOLUMNS([range],1,2,3,,4) inserts a blank column between the 3rd index value and 4th index value.

Syntax

WD.ARRANGECOLUMNS(range, column_indexes, ...)

- range: The range to create the new range from.
- column_indexes: The column indexes. The indexes must be in the range of 1 to the number of columns in the range.

Example

The example is based on this range:

	A	B
1	4	3
2	8	9
3	14	11

The formula =WD.ARRANGECOLUMNS(A1:B3,1,1,2,2) in cell A5 has these results:

	A	B	C	D
5	4	4	3	3
6	8	8	9	9
7	14	14	11	11

Notes

- The index values can repeat, if desired, and can be in any order.
- This function is intended for use in array formulas.

WD.ARRANGEROWS

Description

Creates a new range from an existing range, with the rows ordered according to the specified indexes. You can add an empty row by including a null index value. Example:
=WD.ARRANGEROWS([range],1,2,3,,4) inserts a blank row between the 3rd index value and 4th index value.

Syntax

`WD.ARRANGEROWS(range, row_indexes, ...)`

- `range`: The range to create the new range from.
- `row_indexes`: The row indexes. The indexes must be in the range of 1 to the number of rows in the range.

Example

The example is based on this range:

	A	B
1	4	3
2	8	9
3	14	11

The formula `=WD.ARRANGEROWS(A1:B3,1,1,2,2,3,3)` submitted in cell A5 has these results:

	A	B
5	4	3
6	4	3
7	8	9
8	8	9
9	14	11
10	14	11

Notes

- The index values can repeat, if desired, and can be in any order.
- This function is intended for use in array formulas.

WD.LIVEDATA

Description

Returns live data (report) metadata based on the reference and option that you specify. Remember to submit the formula as an unconstrained formula using Ctrl+Alt+Enter (Windows) or Command+Option+Enter (Mac).

Syntax

`(reference, option)`

- `reference`: The anchor cell (top left cell) of the live data range.
- `option`: The metadata to return. Valid options are 0-4 , 100-104, and 10-29. If there are no results for the option, the function returns an error. Example: If you select option 3 (report prompts used) and there are no prompts in the report, the function returns the #N/A error. For detailed descriptions of the options, see the Function Reference in the User Guide ([Help > Function Reference](#)).

Function Options and Descriptions

Option	Description	Notes
100	Report metadata (all). With header.	All metadata, as described in the rest of this table.
101	Report column metadata: Name, Alias, Type. With header.	Type values: STRING, STRINGS, STRING_RICH, NUMERIC, NUMERIC_UNITS, CURRENCY, DATE, DATES, DATE_TIME, TIME, BOOLEAN,BOOLEANS, URL, URLs, INSTANCE, INSTANCES
102	Columns included: Name, Alias, Type, Editable, Key. With header.	Type values: COLUMN, EXPRESSION, FORMULA, NOTE Editable values: TRUE/FALSE Key values: TRUE/FALSE
103	Report prompts used: Name, Alias, Type. With header.	Type values: STRING, STRINGS, STRING_RICH, NUMERIC, NUMERIC_UNITS, CURRENCY, DATE, DATES, DATE_TIME, TIME, BOOLEAN,BOOLEANS, URL, URLs, INSTANCE, INSTANCES
104	Report prompts with settings: Name, Alias, Type, Value, PromptType. With header.	Type values: STRING, STRINGS, STRING_RICH, NUMERIC, NUMERIC_UNITS, CURRENCY, DATE, DATES, DATE_TIME, TIME, BOOLEAN,BOOLEANS, URL, URLs, INSTANCE, INSTANCES Prompt Type values: AS_SPECIFIED, DO_NOT_USE, USE_DEFAULT
0	Report metadata (all). No header.	All metadata, as described in the rest of this table.
1	Report column metadata: Name, Alias, Type. No header.	Type values: STRING, STRINGS, STRING_RICH, NUMERIC, NUMERIC_UNITS, CURRENCY, DATE, DATES, DATE_TIME, TIME, BOOLEAN,BOOLEANS, URL, URLs, INSTANCE, INSTANCES
2	Columns included: Name, Alias, Type, Editable, Key. No header.	Type values: COLUMN, EXPRESSION, FORMULA, NOTE

Option	Description	Notes
		Editable values: TRUE/FALSE Key values: TRUE/FALSE
3	Report prompts used: Name, Alias, Type. No header.	Type values: STRING, STRINGS, STRING_RICH, NUMERIC, NUMERIC_UNITS, CURRENCY, DATE, DATES, DATE_TIME, TIME, BOOLEAN,BOOLEANS, URL, URLs, INSTANCE, INSTANCES
4	Report prompts with settings: Name, Alias, Type, Value, PromptType. No header.	Type values: STRING, STRINGS, STRING_RICH, NUMERIC, NUMERIC_UNITS, CURRENCY, DATE, DATES, DATE_TIME, TIME, BOOLEAN,BOOLEANS, URL, URLs, INSTANCE, INSTANCES Prompt Type values: AS_SPECIFIED, DO_NOT_USE, USE_DEFAULT
10	Workbook name	
11	Sheet name	
12	Cell	Root cell of live data
13	Report name	
14	Report alias	Workday ID
15	Report description	
16	Report type	ADVANCED_REPORT, MATRIX_REPORT, COMPOSITE_REPORT
17	Report async status	TRUE, FALSE
18	Report limit	
19	Report key column count	
20	Report multi-instance enabled	TRUE, FALSE
21	Report highlighted status	TRUE, FALSE
22	Table range name	
23	Formula user	
24	Last run user	
25	Last run date	The date displays as a serial number; you can use Format >

Option	Description	Notes
		Number > Date to display the result using date formatting.
26	Last run time	In milliseconds
27	Last run row count	
28	Next run user	Applicable if a refresh schedule exists
29	Next run date	Applicable if a refresh schedule exists
30	Schedule start date	
31	Schedule end date	
32	Schedule type	
33	Schedule repetition interval	
34	Schedule data in cron expression format	

Examples

=TRANSPOSE((A1,100)) returns all metadata and includes a header. The TRANSPOSE function puts the headers in a column for improved readability.

WorkbookName	Workbook Example
SheetName	Sheet1
Cell	A1
ReportName	Workday Report Example
ReportAlias	[Workday ID]
ReportDescription	
ReportType	ADVANCED_REPORT
ReportAsync	FALSE
ReportLimit	0
ReportKeyColumnCount	1
ReportMultiInstanceEnabled	TRUE
ReportHighlightEnabled	TRUE
ReportTableName	
FormulaUser	Logan McNeil
LastRunUser	Logan McNeil
LastRunDate	05/05/2021 11:09:17.928 PM
LastRunTime	426
LastRunRowCount	34

NextRunUser	Logan McNeil
NextRunDate	06/01/2021 7:00:00.000 AM

=(A1,101) returns column data information and includes a header.

Name	Alias	Type
Worker Name	[XML Alias]	INSTANCE
Dependents	[XML Alias]	INSTANCES

=(A1,102) returns report column details and includes a header.

Name	Alias	Type	Editable	Key
Employee ID	[XML Alias]	COLUMN	FALSE	TRUE
Worker Name	[XML Alias]	COLUMN	FALSE	FALSE
Dependents	[XML Alias]	COLUMN	FALSE	FALSE
Note1	[XML Alias]	NOTE	TRUE	FALSE
Formula1	[XML Alias]	FORMULA	TRUE	FALSE

=(A1,103) returns report prompt information and includes a header.

Name	Alias	Type
Effective Date	[XML Alias]	DATE
Cost Centers	[XML Alias]	INSTANCES

=(A1,104) returns report prompt details and includes a header.

Name	Alias	Type	Value	PromptType
Effective Date	[XML Alias]	DATE	4/15/2021	USE_DEFAULT
Cost Centers	[XML Alias]	INSTANCES	Value	DO_NOT_USE

Notes

- This function is intended for use in array formulas. You submit array formulas with special keyboard shortcuts. We recommend that you use the unconstrained keyboard shortcut Ctrl+Alt+Enter (Windows) or Command+Option+Enter (Mac) so Worksheets can use all the cells it needs for the results.

WD.SLICE

Description

This function enables you to extract and return a segment of a specified array; it returns the extracted (sliced) array. Optionally you can specify indexes. Specify positive indexes to increment from the beginning of the array, or specify negative indexes to increment from the end of the array (reverse the array). The indexes are 1-based. The index value 0 isn't allowed.

Syntax

```
WD.SLICE(array, [ row_start ], [ row_end ], [ row_step ], [ column_start ], [ column_end ], [ column_step ])
```

- array: The array to slice.
- row_start: The starting row index. If omitted, the default value is 1.
- row_end: The ending row index. If omitted, the default is the current number of rows in the specified range.
- row_step: The row step index. If omitted, the default value is 1.
- column_start: The starting column index. If omitted, the default value is 1.
- column_end: The ending column index. If omitted, the default is the current number of columns in the specified range.
- column_step: The column step index. If omitted, the default value is 1.

Operator Functions

COMPARE

Description

Compares two matrices, returning an integer representing the comparative relationship of two values. If the values match, the function returns null. Optionally, you can set a difference percentage so that if two values are within a certain percentage of each other, the function considers them to be the same.

Syntax

`COMPARE(value1, value2, [mode], [percentage])`

- value1: The first value to compare.
- value2: The second value to compare.
- mode: Specifies the result to return. If difference, then return the difference. (If value2 is greater than value1, the return value is positive; otherwise it's negative.) If changed, then the function returns value2. The default is changed.
- percentage: Specifies a percentage allowance of difference where the function should consider the two values to be the same. The two values are equal if they are within $\text{value1} * \text{percentage}$ of each other.

Example

Formula	Result
=COMPARE(B2,B3,"changed",0.01) where B2 contains 15 and B3 contains 18.	18

Related Functions

ARRAYAREA

MINUS

SUBTRACT

Description

Subtracts number2 from number1. Although this function is available to you, we recommend that you simply write `number2 - number1` when you want to subtract two numbers.

Syntax

`SUBTRACT(number1, number2)`

- number1: The number to be subtracted from.
- number2: The number to subtract.

Example

Formula	Result
=SUBTRACT(10,3)	7

Notes

- Don't confuse this function with MINUS(). MINUS() performs set-based subtraction.

Statistical Functions

FORECAST.WD.SEASONAL

Description

Returns a predicted sequence of values using patterns in the historical linear and non-linear data you specify.

Syntax

FORECAST.WD.SEASONAL(values, num_forecast)

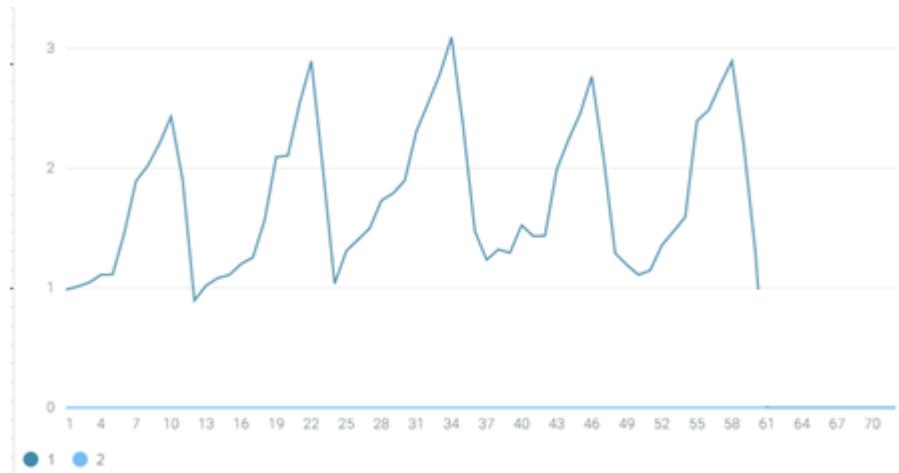
- values: An array of historical values to predict from.
- num_forecast: The number of values to predict.

Example

An analyst wants to predict revenue values for the 12 months of 2017 based on historical revenue values from 2012 through 2016. The values for 2012-2016 are in cells C2 through C61. This table excerpt shows the values from 2012:

	A	B	C
1	Year	Month	Actual Total Rev per Month (millions)
2	2012	Jan	0.984
3	2012	Feb	1.012
4	2012	Mar	1.045
5	2012	Apr	1.109
6	2012	May	1.112
7	2012	Jun	1.458
8	2012	Jul	1.892
9	2012	Aug	2.018
10	2012	Sep	2.203
11	2012	Oct	2.43
12	2012	Nov	1.897
13	2012	Dec	0.894

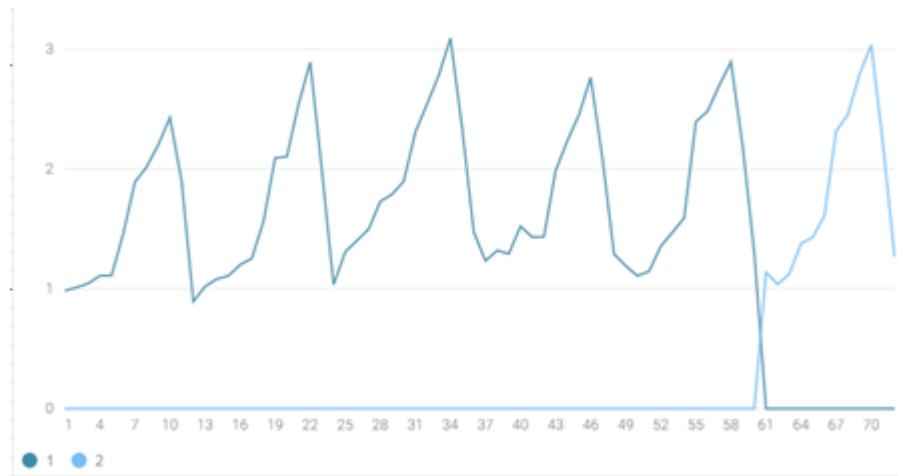
This graph shows the values as a dark blue line:



This formula adds 12 predicted values to the workbook:

`=FORECAST.WD.SEASONAL(C2:C61, 12)`

The light blue line in this graph shows the forecast values:



TDISTRT

Description

Returns the right-tailed t-distribution.

Syntax

`TDISTRT(x, deg_freedom)`

- `x`: The input value.
- `deg_freedom`: The number of degrees of freedom.

Example

Formula	Result
<code>=TDISTRT(18.307,10)</code>	0.000000003

Notes

- This function does the same action as T.DIST.RT().

WD.AVERAGEIF

Description

Returns the average of the values that meet the specified condition (criterion). This function is the same as AVERAGEIF but WD.AVERAGEIF creates an index (b-tree) for the specified range or array. This function provides better performance for repeated use on the same range/array. Null and error values are ignored.

Syntax

`WD.AVERAGEIF(range, criteria, [average_range])`

- range: The values, or the range/array of cells, to be evaluated according to the condition.
- criteria: The condition to use to evaluate the values.
- average_range: The values, or the range of cells, to be averaged if the range meets the specified condition. If not specified, the range is averaged.

WD.AVERAGEIFS

Description

Returns the average of the values that meet multiple conditions (criteria). This function is the same as AVERAGEIFS but WD.AVERAGEIFS creates an index (b-tree) for the specified ranges/arrays. This function provides better performance for repeated use on the same range/array. Null and error values are ignored.

Syntax

`WD.AVERAGEIFS(average_range, range, criteria, [range2, criteria2], ...)`

- average_range: The values, or the range of cells, to be averaged if the specified ranges meet the specified conditions.
- range: The values, or the range/array of cells, to be evaluated according to the condition.
- criteria: The condition to use to evaluate the values.
- range2: The values, or the range of cells, to be evaluated according to the condition.
- criteria2: The condition to use to evaluate the values.

WD.COUNTIF

Description

Returns the number of specified values that meet the condition (criterion). You can use the * wildcard to match string values. This function is the same as COUNTIF but WD.COUNTIF creates an index (b-tree) for the specified range or array, providing better performance for repeated use on the same range/array. Null and error values are ignored.

Syntax

`WD.COUNTIF(range, criteria)`

- range: The range or array of values to be counted if the condition is met.
- criteria: The condition to use to evaluate the values.

WD.COUNTIFS

Description

Returns the number of times that the cells in the specified ranges or arrays meet multiple conditions (criteria). You can use the * wildcard to match string values. This function is the same as COUNTIFS but WD.COUNTIFS creates an index (b-tree) for the specified ranges or arrays, providing better performance for repeated use on the same range/array. Null and error values are ignored.

Syntax

```
WD.COUNTIFS(range, criteria, [ range2, criteria2], ...)
```

- range: The range/array of values to be evaluated according to the condition.
- criteria: The condition to use to evaluate the values.
- range2: The value, or list of values, to be evaluated according to the condition.
- criteria2: The condition to use to evaluate the values.

Table Functions

FLATTEN

Description

Returns an expanded range of data based on the hierarchical data that you specify. Typically you use this function to expand an organization's manager and employee information so that it displays all levels of the hierarchy.

Syntax

```
FLATTEN(source, primary_column, detail_column, data_columns, [ root_values ])
```

- source: The range of data to flatten.
- primary_column: The index value in the source for the higher-level item that you want to flatten by.
- detail_column: The index value in the source for the lower-level item that you want to flatten by.
- data_columns: The column indexes to select into the output.
- root_values: Values that identify the topmost items in the hierarchy. The default is null (indicating the highest point in the hierarchy).

VALUEAT

Description

Returns the value at the intersection of a column header and row label.

Syntax

```
VALUEAT(table, column_name, row_name)
```

- table: The table.
- column_name: The column name.
- row_name: The row name.

Example

Results are based on this spreadsheet:

	A	B
1	Name	Grade

	A	B
2	Joe	85
3	Alice	92
4	Luis	90

Formula	Result
=VALUEAT(A1:B4,"Grade","Alice")	92

Related Functions

INDEX

MATCHEXACT

Text Functions

REGEXFIND

Description

Returns the position of the first character of a substring that matches the regular expression pattern. The position value is zero-based. If the function doesn't find a match, it returns the #N/A error.

Syntax

REGEXFIND(text, regex, [ignore_case])

- text: The text to search.
- regex: The regular expression.
- ignore_case: If TRUE, the function ignores the case of the text. If FALSE, the function considers case. The default is FALSE.

Example

Formula	Result
=REGEXFIND(A1,"el+") Where cell A1 contains hello world .	1

Notes

- Workday uses Java's regular expression parser; the expression must conform to Java's regex rules (<http://docs.oracle.com/javase/8/docs/api/java/util/regex/Pattern.html>) .

REGEXPARSE

Description

Extracts parts of a string by matching to a pattern. The regex pattern must match the *entire* input value.

Syntax

REGEXPARSE(text, regex, [ignore_case])

- text: The text to parse.
- regex: The regular expression.

- `ignore_case`: If TRUE, the function ignores case when searching. If FALSE, the function considers case. The default is FALSE.

Example

Formula	Result
=REGEXPARSE("[Los Angeles]","\\([.*]\\)"]")	Los Angeles
=REGEXPARSE("12-OCT-2015","(\\d\\d)-([A-Z]{3})-(\\d{2,4})")	12-OCT-2015 12 OCT 2015
=INDEX(REGEXPARSE("aa;bbbbbb24;cccc;","(.*)?;(.*)?;(.*)?;(.*)?"),3)	bbbbbb24
Extracts the nth part of a delimited string	

Notes

- This function returns an array of values where each value is part of the string where it found a pattern match. This function is useful if you have a pattern and you want to pull out the parts of the text that matched the pattern.
- This function is intended for use in array formulas.
- Workday uses Java's regular expression parser; the expression must conform to Java's regex rules (<http://docs.oracle.com/javase/8/docs/api/java/util/regex/Pattern.html>) .

Reference: Measurement Units in Worksheets Functions

These tables list the primary units of measurement that Worksheets functions support. Use the abbreviations in formulas.

For more information, see the Java library `javax.measure.unit.Dimension`.

Abbreviations are case-sensitive.

Make sure that all unit types in a formula are compatible. Example: Don't try to convert a distance unit to a time unit.

Weight and Mass

Abbreviation	Name
g	Gram
u	U (Atomic Mass Unit)
grain	Grain
uk_cwt	Imperial hundredweight
lcwt	Imperial hundredweight
hweight	Imperial hundredweight
stone	Stone
ton	Ton
uk_ton	Imperial ton
LTON	Imperial ton
brton	Imperial ton

Distance

Abbreviation	Name
m	Meter
mi	Statute mile
Nmi	Nautical mile
in	Inch
ft	Foot
yd	Yard
ang	Angstrom
ly	Light year
Picapt	Picapt (point: 1/72 inch)
Pica	Pica (1/72 inch)
pica	pica (1/6 inch)
survey_mi	US survey mile (statute mile)

Time

Abbreviation	Name
yr	Year
day	Day
d	Day
hr	Hour
mn	Minute
min	Minute
sec	Second
s	Second

Energy

Abbreviation	Name
J	Joule
c	Thermodynamic calorie
cal	IT calorie
eV	Electron volt
HPh	Horsepower-hour
hh	Horsepower-hour

Temperature

Abbreviation	Name
C	Degree Celsius
cel	Degree Celsius
F	Degree Fahrenheit
fah	Degree Fahrenheit
K	Kelvin
kel	Kelvin

Volume (Liquid Measure)

Abbreviation	Name
tsp	Teaspoon
tbs	Tablespoon
oz	Ounce
cup	Cup
pt	Pint
us_pt	US pint
uk_pt	UK pint
qt	Quart
uk qt	Imperial quart
gal	Gallon
uk gal	Imperial gallon
l	Liter
L	Liter
lt	Liter
barrel	US oil barrel
bushel	US bushel
ft^3	Cubic feet
in^3	Cubic inch
m^3	Cubic meter
mi^3	Cubic mile
yd^3	Cubic yard
Pica^3	Cubic Pica
MTON	Measurement ton (freight ton)

Area

Abbreviation	Name
uk_acre	International acre
us_acre	US survey/statute acre
ang ²	Square angstrom
ft ²	Square feet
in ²	Square inches
m ²	Square meters
mi ²	Square miles
Picapt ²	Square Pica
Pica ²	Square Pica
yd ²	Square yards

Information

Abbreviation	Name
bit	Bit
byte	Byte

Speed

Abbreviation	Name
m/h	Meters per hour
m/hr	Meters per hour
m/s	Meters per second
m/sec	Meters per second
mph	Miles per hour

Persons

Abbreviation	Name
person	Person
pers	Person
emp	Employee
hc	Headcount
head	Head

Currency

Abbreviation	Name
AFA	Afghani
AFN	Afghani
ALK	Albanian Old Lek
DZD	Algerian Dinar
ADF	Andorran Franc
ADP	Andorran Peseta
AOR	Angolan Kwanza Readjustado
ARS	Argentine Peso
AMD	Armenian Dram
AWG	Aruban Florin
AUD	Australian Dollar
ATS	Austrian Schilling
AZM	Azerbaijani Manat
AZN	Azerbaijanian Manat
BSD	Bahamian Dollar
BHD	Bahraini Dinar
THB	Baht
PAB	Balboa
BBD	Barbados Dollar
BYR	Belarussian Ruble
BEF	Belgian Franc
BZD	Belize Dollar
BMD	Bermudian Dollar
VEF	Bolivar
BOB	Boliviano
BRL	Brazilian Real
BND	Brunei Dollar
BGN	Bulgarian Lev
BIF	Burundi Franc
CVE	Cabo Verde Escudo
CAD	Canadian Dollar
KYD	Cayman Islands Dollar
XOF	CFA Franc BCEAO

Abbreviation	Name
XAF	CFA Franc BEAC
XPF	CFP Franc
CLP	Chilean Peso
COP	Colombian Peso
KMF	Comoro Franc
CDF	Congolese Franc
BAM	Convertible Mark
NIO	Cordoba Oro
CRC	Costa Rican Colon
HRK	Croatian Kuna
CUP	Cuban Peso
CYP	Cyprus Pound
CZK	Czech Koruna
GMD	Dalasi
DKK	Danish Krone
MKD	Denar
DJF	Djibouti Franc
STD	Dobra
DOP	Dominican Peso
VND	Dong
NLG	Dutch Guilder
XCD	East Caribbean Dollar
ECS	Ecuador Sucre
ECV	Ecuador Unidad de Valor Constante
TJR	Tajikistani ruble
EGP	Egyptian Pound
SVC	El Salvador Colon
ETB	Ethiopian Birr
EUR	Euro
XEU	European Currency Unit
FKP	Falkland Islands Pound
FJD	Fiji Dollar
FIM	Finnish Markka
HUF	Forint

Abbreviation	Name
FRF	French Franc
DEM	German Mark
GHC	Ghana Cedi
GHS	Ghana Cedi
GIP	Gibraltar Pound
XFO	Gold Franc
HTG	Gourde
GRD	Greek Drachma
PYG	Guarani
GNF	Guinea Franc
GWP	Guinea-Bissau Peso
GYD	Guyana Dollar
HKD	Hong Kong Dollar
UAH	Hryvnia
ISK	Iceland Krona
INR	Indian Rupee
IRR	Iranian Rial
IQD	Iraqi Dinar
IEP	Irish Pound
ITL	Italian Lira
JMD	Jamaican Dollar
JOD	Jordanian Dinar
KES	Kenyan Shilling
PGK	Kina
LAK	Kip
EEK	Kroon
KWD	Kuwaiti Dinar
MWK	Kwacha
AOA	Kwanza
MMK	Kyat
GEL	Lari
LVL	Latvian Lats
LBP	Lebanese Pound
ALL	Lek

Abbreviation	Name
HNL	Lempira
SLL	Leone
LRD	Liberian Dollar
LYD	Libyan Dinar
SZL	Lilangeni
LTL	Lithuanian Litas
LSL	Loti
LUF	Luxembourgian Franc
MGA	Malagasy Ariary
MGF	Malagasy Franc
MYR	Malaysian Ringgit
MTL	Maltese Lira
TMM	Manat
MUR	Mauritius Rupee
MXN	Mexican Peso
MXV	Mexican Unidad de Inversion (UDI)
MDL	Moldovan Leu
MCF	Monegasque Franc
MAD	Moroccan Dirham
MZM	Mozambique Metical
MZN	Mozambique Metical
BOV	Mvdol
NGN	Naira
ERN	Nakfa
NAD	Namibia Dollar
NPR	Nepalese Rupee
ANG	Netherlands Antillean Guilder
ILS	New Israeli Sheqel
RON	New Romanian Leu
TWD	New Taiwan Dollar
NZD	New Zealand Dollar
BTN	Ngultrum
KPW	North Korean Won
NOK	Norwegian Krone

Abbreviation	Name
PEN	Nuevo Sol
OMR	Omani Rial
MRO	Ouguiya
TOP	Pa'anga
PKR	Pakistan Rupee
MOP	Pataca
UYU	Peso Uruguayo
PHP	Philippine Peso
PTE	Portuguese Escudo
GBP	Pound Sterling
BWP	Pula
QAR	Qatari Rial
GTQ	Quetzal
ZAR	Rand
KHR	Riel
ROL	Romanian Leu
MVR	Rufiyaa
IDR	Rupiah
RUB	Russian Ruble
RWF	Rwanda Franc
SHP	Saint Helena Pound
SML	San Marinese Lira
SAR	Saudi Riyal
CSD	Serbian Dinar
RSD	Serbian Dinar
SCR	Seychelles Rupee
SGD	Singapore Dollar
SKK	Slovak Koruna
SIT	Slovenian Tolar
SBD	Solomon Islands Dollar
KGS	Som
SOS	Somali Shilling
TJS	Somoni
SSP	South Sudanese Pound

Abbreviation	Name
ESP	Spanish Peseta
LKR	Sri Lanka Rupee
SDD	Sudanese Dinar
SDG	Sudanese Pound
SRD	Surinam Dollar
SRG	Suriname Guilder
SEK	Swedish Krona
CHF	Swiss Franc
SYP	Syrian Pound
BDT	Taka
WST	Tala
TZS	Tanzanian Shilling
KZT	Tenge
TTD	Trinidad and Tobago Dollar
MNT	Tugrik
TND	Tunisian Dinar
TRL	Turkish Lira
TRY	Turkish Lira
TMT	Turkmenistan New Manat
AED	UAE Dirham
UGX	Uganda Shilling
COU	Unidad de Valor Real
CLF	Unidades de fomento
UYI	Uruguay Peso en Unidades Indexadas
USD	US Dollar
UZS	Uzbekistan Sum
VAL	Vatican Coins
VUV	Vatu
VEB	Venezuelan Bolívar
CHE	WIR Euro
CHW	WIR Franc
KRW	Won
YER	Yemeni Rial
JPY	Yen

Abbreviation	Name
CNY	Yuan Renminbi
YUM	Yugoslav Dinar
ZMK	Zambian Kwacha
ZMW	Zambian Kwacha
ZWD	Zimbabwe Dollar
ZWL	Zimbabwe Dollar

Slides

Steps: Set Up Security for Slides

Prerequisites

- Set up Drive for users who need to create, edit, or view Slides presentations. See [Steps: Set Up Security for Drive](#).
- Security: *Security Configuration* domain in the System functional area.

Context

Slides is a presentation application that enables you to share data insights, create narrative, and provide relevant context around Workday data. With Slides you can create, collaborate on, and share presentations that integrate live transactional data from Worksheets workbooks or exported data from People Analytics.

Steps

1. (Optional) Set up Worksheets.

Enable the *Worksheets* domain to provide access for linking to workbook data from a Slides presentation.

See [Set Up Worksheets](#) on page 795.

2. (Optional) Set up People Analytics.

Enable the *People Analytics* domain to provide access for exporting People Analytics data to a Slides presentation.

See [Steps: Prepare for People Analytics Installation](#) on page 631.

3. Create Role-Based Security Groups.

Create these types of security groups for Slides administrators and users:

- Public groups
- Role-based (constrained) groups
- Unconstrained groups

4. Create or edit a security policy for the *Slides* domain in the System functional area.

Ensure that every user who has access to the *Slides* domain also has access to the *Drive* and *Worksheets* domains.

- a) Access the **View Domain** report.
- b) Select the domain from the **Domain** prompt.
- c) From the related actions menu, select **Domain > Create Security Policy**, or select **Edit Security Policy Permissions** if there's an existing policy.
- d) In **Report/Task Permissions**, add or edit security groups.
- e) Select the **View** and **Modify** check boxes.

Note: In the domain setup, you must select both **View** and **Modify**. You can't use these settings to manage access to presentations. You select view and edit permissions for individual presentations when you share them.

- f) From the related action menu on the domain security policy, select **Domain Security Policy > Enable**.

5. Activate Pending Security Policy Changes.

Related Information

Reference

[2021R1 What's New Post: Slides](#)

Concept: Slides

Slides enables you to share data insights, create narrative, and provide relevant context around Workday data. With Slides you can create, collaborate on, and share presentations that integrate live transactional data from Worksheets workbooks or exported data from People Analytics.

With Slides, you can create new presentations from Drive and then:

- Add text, tables, charts, and images and apply formatting and branding.
- Insert linked data from Worksheets workbooks by using defined names or references to pivot tables.
- Export data into presentations from People Analytics.
- Provide narrative and insights alongside linked Workday data.
- Refresh linked Workday data as it changes to keep presentations up to date.
- Share presentations with others and assign viewing or editing permissions.
- Collaboratively edit presentations with others who have edit access.
- Present or download presentations.

Linked Data Indicators

Slides presentations identify data that is linked to a Worksheets workbook. When you refresh the linked data in the presentation, visual indicators display if the data in the workbook changed. These visual indicators don't display when the presentation is in the Present mode.

Indicator	Description
Blue background color around text.	The text contains a linked data item.
Orange background color around text, tile, or slide thumbnail.	The text, tile, or slide contains the linked data item selected in the Linked Data panel.
Orange icon with arrows next to a data item.	The last data refresh updated the linked data item.

Collaboration

Presentation owners can share presentations with other users who have access to Slides to collaborate on the content. When more than 1 user simultaneously views or edits a presentation, Slides assigns a different colored avatar for each user and displays the avatars above the presentation. Colored dots display next to slides in the thumbnail panel and colored squares display next to tiles on slides.

Related Information

Reference

[The Next Level: Leveraging Workday Slides in Project Economics Tracking](#)

Concept: Managing Slides Presentations

This table summarizes some of the actions that you can take with presentations. Users must have access to the *Slides* and *Drive* domains to create, copy, share, and delete presentations.

Action	Notes
Create a presentation	<p>From Drive, select Add New > Presentation.</p> <p>Slides uses the branding color from the Configure Tenant Branding task for slide layouts by default. You can override the color setting by clicking File > Color Settings.</p>
Copy a presentation	<p>From Drive, select the presentation and click Make a Copy, or from a presentation, select File > Copy only Presentation.</p> <p>If the presentation has linked workbook data, the copy of the presentation maintains the links to the original workbooks.</p>
Copy a presentation and copy the linked workbooks	<p>To copy a presentation along with the associated workbooks and data links, from the presentation select File > Copy with Workbook(s). Copies of the presentation and copies of the linked workbooks are saved together in a folder in Drive.</p> <p>The copy of the presentation creates links to the copies of the workbooks.</p> <p>You must have view or edit access to all of the workbooks linked to the presentation to copy the presentation and the workbooks.</p>
Share a presentation	<p>From Drive, or from an open presentation, select Share.</p> <p>When you share a presentation, you can:</p> <ul style="list-style-type: none"> Enable link sharing and provide the URL to multiple users at once. Select specific users, or groups, to share with. Select a permission level for the actions that users can do. <p>Note: The ability to use group sharing is a system setting that requires additional Drive configuration.</p> <p>When you share a presentation with a specific user, Workday sends a notification and an email (if the Workday administrator enabled email notifications). When you enable link sharing and provide a URL, or when you share with a group, Workday doesn't send notifications.</p> <p>If you share a Slides presentation containing linked data from a Worksheets workbook, but you don't share the underlying workbook, the user won't be able to open the workbook.</p>

Action	Notes
Download a presentation	<p>From the presentation, select File > Download and select the file type to create. The download might take a few minutes depending on the size of the presentation.</p> <p>When downloading the presentation as a PowerPoint file, each slide downloads as an image.</p>
Remove (move to Trash) a presentation	<p>From Drive, select the presentation and click Remove.</p> <p>The presentation remains in Trash forever, unless a Drive administrator permanently deletes it.</p>
Restore a presentation from Trash	<p>From Trash in Drive, select the presentation and then click Restore. Workday places the restored presentation in My Files.</p> <p>You can restore a presentation only if you're the person who created it.</p> <p>If you remove a presentation that someone shared with you, and you're not the owner, you remove your access to the presentation. The presentation disappears from the Drive and it doesn't display in Trash.</p>

Related Information

Tasks

[Set Up Group Sharing for Drive](#)

Concept: Editing Slides Presentations

Slide Editing and Navigating

This table summarizes some of the actions that you can take within Slides presentations. Users must have access to the *Slides* and *Drive* domains to create and edit presentations.

A session in Slides will time out after 15 minutes of inactivity.

Action	Notes
Add a slide	<p>To add a slide with the same layout as another slide, click the + icon below the slide in the thumbnail panel. To add a slide with a different layout, select a layout from the drop-down list.</p> <p>A presentation can include up to 100 slides.</p>
Select branding and chart colors	<p>Click File > Color Settings. You can select a color or type a color hex code for the slide accent color and to represent each of the colors in a chart.</p> <p>You can also save custom hex colors and reuse them throughout the presentation when applying color to text, table cells, backgrounds, and borders.</p> <p>Slides uses the branding color from the Configure Tenant Branding task for slide layouts by default. If there's no branding color configured in the Configure Tenant Branding task, Slides uses the blue Workday brand color as the default.</p>

Action	Notes
Add background color or image to a slide	Hover over the slide in the thumbnail panel and click Slide Background . You can select an image or color, or type a color hex code.
Duplicate a slide	Hover over the slide in the thumbnail panel and click Duplicate Slide .
Delete a slide	Hover over the slide in the thumbnail panel and click Delete Slide .

Tile Editing

You can add text, tables, charts, and images to a presentation by inserting content tiles. Each slide can include up to 50 tiles.

You can also link to data from Worksheets by selecting defined names or references to pivot tables from a Worksheets workbook. A presentation can have links to as many as 500 unique data items, including up to 20 different Worksheets workbooks.

Note: Currently Slides can use only explicitly specified defined names from Worksheets such as =Sheet1!\$A\$1:\$A\$13. It can't use "dynamic" defined names from a workbook such as =ARRAYAREA('Sheet1'!A1).

You can also export data into presentations from People Analytics.

Action	Notes
Add text	<p>Click Insert > Text and type the text to add. Use the toolbar to select fonts, styles, formats, and colors. Each text tile can include up to 1 MB (1048576 characters) of text, excluding linked values.</p> <p>To add linked data, click Insert > Linked Value, navigate to the workbook, and select the defined name containing the data.</p> <p>To open the workbook containing the linked data, click the text and then click the workbook name. You must have view or edit access to the workbook.</p>
Add a table	<p>Click Insert > Table and select the type of table to add:</p> <ul style="list-style-type: none"> Linked table: Inserts a table with data that is linked to a workbook. Navigate to the workbook, select the defined name containing the data, and click Insert. Linked tables can have a maximum of 1,000 cells. Editable table: Inserts an empty table with cells that are editable. Click to change the table size and click Insert. You can type data in the cells or click Insert > Linked Value to add linked data. <p>To open the workbook containing the linked data, click the table and then click View Data Source. You must have view or edit access to the workbook.</p>
Add a chart	<p>Click Insert > Linked Chart. Navigate to a workbook, select a data item, click Choose Chart Type, and click Insert Chart. Click the chart to open the chart editor panel and add titles, labels, and legends.</p> <p>To open the workbook containing the linked data, click the chart and then click View Data Source. You must have view or edit access to the workbook.</p> <p>To select custom chart colors, click File > Color Settings. You can select a color or type a color hex code to represent each of the colors in the chart.</p>

Action	Notes
	Linked charts can have a maximum of 5,000 cells. Slides doesn't support linked charts with data that includes numbers and percentages.
Add an image	<p>Click Insert > Image and navigate to the image. Presentations can include up to 100 unique images and each image can be up to 5 MB in size.</p> <p>To crop the image and fill the entire area within the tile, click Format > Image Fit > Crop to fit.</p> <p>To change the shape of the image to a circle, click Format > Image to Circle. To change it back to a square, click Tile > Border Radius > None.</p>
Add a video	Click Insert > Video and navigate to a media file in Drive. You can only add media file types available in Drive.
Add a text hyperlink	Highlight the text, click Insert > Hyperlink and type or paste the URL.
Show or hide linked data values	Click View > Show Linked Value Indicator to show or hide the blue background color that indicates text contains a linked value.
View linked data	<p>Click View > Linked Data to open the Linked Data panel and view all linked data sources and data items in the presentation.</p> <p>When you select a data item in the Linked Data panel, an orange border displays around each tile and slide that contains that linked data.</p> <p>If the name of a workbook is missing in the Linked Data panel then you don't have access to that workbook or the linked data, either because the workbook is not shared with you or because the workbook is in Trash in Drive.</p>
Refresh linked data	<p>Click File > Refresh Linked Data to check for changes in linked workbook data and update it throughout the presentation. An orange icon displays in the Linked Data panel next to the data items that change.</p> <p>To refresh data for a specific workbook data source or item, click the Refresh arrows. You must have view or edit access to the workbook to refresh the data. If the name of the workbook is missing in the Linked Data panel then you don't have access to that workbook, either because the workbook is not shared with you or because the workbook is in Trash in Drive. If a linked value is missing in the presentation, it might be because a defined name was edited in the workbook, and you may need to replace it by linking to a new or different defined name.</p> <p>You can't refresh data items exported from People Analytics.</p> <p>When you insert a linked table from Worksheets, table formatting is copied to the table in Slides. When linked data is refreshed in Slides, format changes made to the Worksheets table are not updated in Slides, unless the size of the table in Worksheets has changed.</p>
Revert last data refresh	Click Revert Last Refresh to revert changes that occurred during the preceding data refresh.
Move a tile	Select and hold a tile and then move it to the new location.
Resize a tile	<p>Select a tile and click and drag the border sizing handles.</p> <p>Press and hold the Shift key while dragging the corner of the tile to maintain the tile's width and height ratio.</p>

Action	Notes
Adjust tile alignment	Select View > Show Grid to display visual gridlines and View > Grid Size to adjust the size of the gridlines. Select View > Snap to Grid to have a tile automatically align to the gridlines when you move it.
Arrange tiles on a slide	Select a tile and click Tile > Order to move a tile in front of or behind another tile.
Add background color to a tile	Select a tile and click Tile > Background . You can then select a color or type a color hex code.
Increase or decrease tile padding	Select a tile and click Tile > Padding .
Change the type of content in a tile	Select a tile, click Tile > Change Tile Type , and select the type of content for the tile.
Delete a tile	Select a tile and click Tile > Delete .

Reference: Access to Linked Worksheets Data in Slides

The actions you can do with linked Worksheets data in Slides is based on the type of access you have to the presentation. If you create the presentation, you have edit access. If you share a presentation with someone else, you can specify either Can View or Can Edit permissions.

Actions	Can View Permissions	Can Edit Permissions
View linked data	X	X
Insert linked data		X
Refresh linked data		X
Copy a presentation with linked workbooks	X	X

You can view all linked data in a presentation by clicking **View > Linked Data** to open the **Linked Data** panel. If you have view or edit access to a linked workbook, you can click the link in the workbook name to open it and view the source of the data. If the name of a workbook is missing, or the link to the workbook is disabled, you don't have access to that workbook.

Reference: Slides Presentation Limits

These limits apply when creating a presentation:

Limit	Maximum Value
Number of slides per presentation	100
Number of tiles per slide	50
Size of text	1 MB (1048576 characters excluding linked values embedded in text)
Size of an image	5MB
Number of unique images	200

Limit	Maximum Value
Number of unique linked data items	500
Number of unique linked Worksheets workbooks	20
Number of cells in linked table	1,000
Number of cells in linked chart	5,000

Reference: Presentation Actions Available Based on Permissions

This table summarizes the actions available for Slides presentations based on the user's permission level. You specify permission levels when you share a presentation.

Action	Can View Permission	Can Edit Permission	Owner
View a presentation.	X	X	X
Copy a presentation. (Allowed for Can View permissions only if the presentation owner selected the Commenters and viewers can copy, download, and print option when sharing the presentation.)	X	X	X
Download a presentation. (Allowed for Can View permissions only if the presentation owner selected the Commenters and viewers can copy, download, and print option when sharing the presentation.)	X	X	X
View a list of users the presentation is shared with.	X	X	X
Remove (self) from shared presentation access.	X	X	
Share a presentation or change share permissions. (Allowed for Can Edit permissions only if the presentation owner selected the Editors can share option when sharing the presentation.)		X	X
Edit content in a presentation (including format and delete).		X	X
Rename a presentation.			X
Remove a presentation and restore it from Trash.			X

Reporting on Modeled Data Sources

Enable OfficeConnect for Workday Financial Management

Prerequisites

Security: Set Up: Tenant Setup - Financials domain in the System functional area.

Context

You can enable OfficeConnect in your tenant to use it with Workday Financial Management data.

Steps

1. Access the **Tenant Setup** report.
2. Navigate to **Financials > OfficeConnect**.
3. Select **Enable OfficeConnect**.
4. Click the **API Client** link.

Copy these values and save somewhere for a later step:

- Client ID
- Workday REST API Endpoint
- Authorization Endpoint

See also [FAQ: Troubleshooting OfficeConnect for Workday Financial Management](#).

Related Information

Tasks

[Add OfficeConnect Tenants \(Workday\)](#)

Reference

[The Next Level: Video Shorts - OfficeConnect - Financial Management](#)

Set Up the Financial Reporting Data Model

Prerequisites

Security: Set Up: *Financial Reporting and Analytics Data Model* domain in the System functional area.

Context

Set up the financial reporting data model before you sign in to Workday in OfficeConnect. By defining the reporting data model, you're curating the Workday Financials data model (FDM), so that you only expose the components of the FDM needed for reporting. When you set up the financial data model, Workday creates the financial modeled data source.

Steps

1. Access the **Set Up Financial Reporting and Analytics Data Model** task.
2. As you complete this task, consider:

Option	Description
Company	Select the primary top-level hierarchy for the company to report on. The company you select determines the Account Set value and the Fiscal Schedule value. In the Alternate Company Hierarchies field, optionally select one or more additional company hierarchies to use.
Ledger Accounts	Select the top-level hierarchy that includes the accounts to report on and analyze. The company you select determines the Account Set value. In the Alternate Account Top-Level Hierarchies field, optionally select one or more additional ledger account hierarchies to use.

Option	Description
	<p>The Default Amount Field is summarized by ledger debit minus credit. When creating a report in OfficeConnect, you can select a different amount field, such as Natural Amount, by applying a filter to the worksheet or workbook.</p>
Time	<p>Select a Fiscal Summary Schedule that represents a time period in the selected Fiscal Schedule that's between year and the posting interval period, such as quarter.</p> <p>Workday creates a three-tier time hierarchy in the reporting data model that goes from year (based on Fiscal Schedule) to the selected Fiscal Summary Schedule to the posting interval period.</p> <p>Example: FY2021 > Quarter > Month</p> <p>The company hierarchy that you select determines the Fiscal Schedule value.</p>
Currency	<p>Select the default currency to use when reporting on the Corporate currency or any company hierarchy level.</p> <p>When reporting on a single company, Workday uses the ledger currency for that company by default.</p> <p>Select the Default Translation Rule Set that defines the translation method to apply based on ledger account type when Workday performs currency translation. In OfficeConnect, you can select a different translation rule set by applying a filter to the worksheet or workbook.</p>
Versions	<p>Journal lines and plan lines are selected by default. To report on plan lines, you must select the financial plan structures.</p> <p>You can select from a limited number of plans.</p>
Effective Date	<p>Select the default effective date that determines the dimension hierarchies and values in your model elements. The date can be:</p> <ul style="list-style-type: none"> • Dynamic. Select a date relative to the current date (or the current date itself). <p>Example: Prior Period End Date. If the period is monthly and the current date is April 5, 2022, then the effective date is March 31, 2022. If the period is monthly and the current date is May 5, 2022, then the effective date is April 30, 2022.</p> • Static. Commonly used static dates that the system populates. These dates are auto-generated based on the model's selected fiscal schedule and summary schedule. The list updates automatically over time. <p>Example: The date of the end of each interval posting period for the past 12 months.</p> • Custom: Define custom dates that represent something specific to the company. These dates are available for selection indefinitely. <p>Example: An org change that occurred on <i>mm/dd/yyyy</i>.</p> <p>A change in the date applies to all users of the model.</p>

Option	Description
	<p>Note: OfficeConnect displays the effective date as a label under Labels > Model > Model Effective Date so that users know which effective date is used.</p>
Dimensions	<p>Select the optional dimensions, such as worktags and organizations, to drill down into the data. If you add a hierarchical dimension, select a hierarchy to use. If you don't specify a hierarchy, Workday includes the values as a flat list.</p> <p>The dimensions you select determine how report creators can filter and group the data.</p> <p>In Alternate Top-Level Hierarchies, optionally select one or more additional hierarchies to use. You have to select a primary hierarchy before you can add alternate hierarchies.</p>
Show Details	<p>Manage the journal and plan line details users can view for a report cell when they click Show Details for deeper analysis. You can:</p> <ul style="list-style-type: none"> • Delete any optional fields. • Search for and add fields. • Reorder the fields to change the display and sort order. <p>If you don't change anything, Show Details displays the default set of fields from OfficeConnect reports.</p> <p>Note: The number of fields you configure to display in the OfficeConnect worksheet impacts performance. A large number of rows and columns creates larger and slower reports.</p>

Result

Workday creates the financial modeled data source using the components you defined in the financial reporting data model. You can use this modeled data source when you sign in to Workday from OfficeConnect.

Related Information

Concepts

[Concept: The Financial Reporting Data Model](#) on page 953

Tasks

[Display Journal Line Details for Report Cells](#)

Reference

[2023R1 What's New Post: Multiple Hierarchy Support in OfficeConnect for Financial Management](#)

[2023R1 What's New Post: Effective Date Support in OfficeConnect for Financial Management](#)

[2022R2 What's New Post: Workday Financial Plan Lines in OfficeConnect for Financial Management](#)

[2022R2 What's New Post: Journal Line Details in OfficeConnect for Financial Management](#)

[2022R1 What's New Post: OfficeConnect Availability for Financial Management](#)

Concept: Modeled Data Sources

A modeled data source is a curated tenant-specific data source that makes it easier to interact with Workday data when creating reports by exposing relevant dimensions in a data model. You create a modeled data source in Workday by setting up a reporting data model. When you set up a reporting data

model, you can use it in OfficeConnect to query Workday data directly. Modeled data sources enable easy, performant reporting.

Workday provides the financial reporting data model that you can set up to create the financial modeled data source.

Related Information

Concepts

[Concept: The Financial Reporting Data Model](#) on page 953

Concept: Reporting on the Financial Modeled Data Source

Workday provides the financial reporting data model that you can set up to create the financial modeled data source. You can use the financial modeled data source in OfficeConnect to query Workday Financial Management data directly, enabling easy, performant reporting.

OfficeConnect is a Microsoft Excel add-in that enables you to create reports in Excel securely using up-to-date financial data in Workday directly from the financial modeled data source. With OfficeConnect, you can create financial reports using the Excel interface you're familiar with, using data backed by Workday, such as journal lines.

OfficeConnect updates the data when you run or refresh your report in real time. These reports are based on model elements like ledger accounts, time period, and worktags.

You might want to use OfficeConnect to perform ad hoc analysis on journal line data.

When creating and editing a report, you can:

- Use Excel formatting capabilities.
- Use Excel cell formulas and calculations.
- Expand and collapse hierarchies in the data model.
- Filter Workday data.

Example: You can use OfficeConnect for Financial Reporting to:

- Create an income statement.
- Create a balance sheet.
- Perform ad hoc dimension analysis.
- Perform salary and benefit analysis.
- Calculate product and customer margin.

OfficeConnect is only supported on Windows operating systems.

Related Information

Reference

[The Next Level: Getting Started with OfficeConnect - Financial Management](#)

[Reference: OfficeConnect Technical Requirements](#)

[2022R1 What's New Post: OfficeConnect Availability for Financial Management](#)

[The Next Level: Support the Physician Bonus Process with OfficeConnect](#)

[OfficeConnect for Financial Management: Real-Time Excel Data and Customer Story](#)

Concept: The Financial Reporting Data Model

The financial reporting data model is a curated subset of components selected from the Workday financial data model (FDM). The reporting data model determines which information from the FDM, such as which company hierarchies, ledger account hierarchies, and dimensions, is available for analyzing and reporting on in OfficeConnect.

When you set up the financial reporting data model, Workday creates the financial modeled data source that you can access from OfficeConnect.

When you sign in to Workday from OfficeConnect using the financial data source, OfficeConnect displays most of the information in the reporting data model in the Elements tab. You can drag and drop individual elements, such as a company or ledger account, from the Elements tab into the worksheet.

OfficeConnect summarizes the data in your Workday ledger accounts as determined by the intersection of the elements you place in the worksheet.

The financial reporting data model includes these elements:

Model Elements	Description
Company	The primary top-level company hierarchy you can report on. One or more alternate company hierarchies you can report on.
Ledger Accounts	The primary account top-level hierarchy you can report on. One or more alternate ledger account hierarchies you can report on.
Time	The three-tier time hierarchy defined in the reporting data model. Typically, the hierarchy goes from year to quarter to month/period: <ul style="list-style-type: none"> • Year is based on the Fiscal Schedule. • Quarter is based on the configured Fiscal Summary Schedule. • Month/Period is based on the posting interval period. Example: FY2021 > Quarter > Month
Currency	Defines: <ul style="list-style-type: none"> • The default currency to use when reporting on the Corporate currency or any company hierarchy level. • The translation method to apply based on ledger account type when Workday performs currency translation.
Versions	The scenarios used for comparison: Journal Line or Plan Lines.
Effective Date	The default effective date that determines the dimension hierarchies and values in your model elements (prepopulated dynamic and static dates, or custom dates defined by an administrator).
Dimensions	The list of optional dimensions, such as worktags and organizations, that you can use to group and filter the data. For hierarchical dimensions, a primary top-level hierarchy and optionally one or more alternate hierarchies. Required dimensions don't count toward your maximum number of dimensions that can have alternate hierarchies.
Show Details	The contributing journal line, plan line, and transaction details that users can view for a data point.

The financial reporting data model:

- Includes aggregated data at the ledger account level.
- Summarizes the amount field by Ledger Debit Minus Credit. When creating a report in OfficeConnect, you can select a different amount field, such as Natural Amount, by applying a filter to the worksheet or workbook. You can't change the amount field at the row, column, or cell level.

- Specifies a default translation rule set to use for currency translation. You can select a different translation rule set by applying a filter to the worksheet or workbook. You can't change the translation rule set at the row, column, or cell level.
- Includes these amount types:
 - Ending Balance (default)
 - Beginning Balance
 - Beginning Balance Translation Adjustment
 - Adjusted Beginning Balance
 - Activity
- Displays intercompany eliminations in OfficeConnect at the lowest common parent level.

Considerations for Plan Lines

When working with plan lines, keep these considerations in mind:

- Only Workday Financial Plan Lines are supported.
- You can't disable the currency translation adjustment (CTA) account, which might affect your partial balance sheet plans.
- Revisit the dimensions selected for the model to ensure that the selected plan structure dimensions are also in the model, or add them.

Example: If a plan uses Cost Center as its dimension, the model doesn't require that specific dimension to be present. For reporting purposes, you need to add the same dimensions to the model so that they're available in reports.

- When applying a plan version in a report, specify the company (or companies) and time periods for the report.

Example: Even if a plan name says 2012 Company A Plan, the time period for 2012 and Company A aren't automatically applied and should be applied to the row, column, cell, or worksheet filter.

- When using dimensions for plan lines that are intended only for journal lines:
 - *Journal Status*: Plan lines have a blank status and display under Journal Status (Uncategorized/Blanks) because there is no journal status for plan lines.
 - *Journal Source*: Plan lines have a blank source and display under Journal Source (Uncategorized/Blanks) because there is no journal source for plan lines.
 - *Match Status*: Plan lines have a blank status and display under Match Status (Uncategorized/Blanks) because there is no match status for plan lines.

Note: These fields can't be ignored for plan lines because the same summarized Plan Value would be applied for every instance of Journal Status.

- You can now include a new dimension called Plan Entry Document Status in the financial reporting data model to filter on the financial plan line status explicitly (Available, Draft, In Progress). Otherwise, all available Plan Entry Document Statuses are included.
- If your plan is at a higher summary level than period, OfficeConnect uses the last period for any activity on that plan and the last period's end date to match up with its translation exchange rate.

Example: If your plan is at the quarterly level for Q3 (Jul-Sep), the plan amount registers activity in September and uses the September 30 end date for the currency translation exchange rate. A similar impact would apply to a plan amount meant to cover an entire year.

- All plan amounts entered in Workday Budgets are considered as period activity (plan amount for a specific time period). If you enter plan ending balances as plan amounts, use the Amount Type of "Activity" when reporting on ending balances for these plans.

Related Information

Concepts

[Concept: Currencies and Currency Translation](#) on page 957

[Concept: Modeled Data Sources](#) on page 952

Tasks

[Set Up the Financial Reporting Data Model](#) on page 950

[Display Journal Line Details for Report Cells](#)

Reference

[2023R1 What's New Post: Multiple Hierarchy Support in OfficeConnect for Financial Management](#)

[2023R1 What's New Post: Effective Date Support in OfficeConnect for Financial Management](#)

[2022R2 What's New Post: Workday Financial Plan Lines in OfficeConnect for Financial Management](#)

[2022R2 What's New Post: Journal Line Details in OfficeConnect for Financial Management](#)

[2022R1 What's New Post: OfficeConnect Availability for Financial Management](#)

[The Next Level: Support the Physician Bonus Process with OfficeConnect](#)

Concept: Caching and Refreshing the Financial Modeled Data Source

Workday saves some information from the financial modeled data source, such as exchange rates and the data model elements, in a cache for a limited time to optimize performance in OfficeConnect. Workday automatically refreshes this information at different intervals depending on the type of data. Workday saves the cached data in Workday.

You can run the **Clear Financial Reporting Caches** report (secured to the *Set Up: Financial Reporting and Analytics Data Model* domain) to clear these caches immediately:

- Security Data Access. This cache stores user permissions to access financial data for each user. By default, Workday updates this cache each hour. You can clear this cache if you changed the permissions of a particular user in Workday and need to enforce the new permissions immediately.
- Currency Exchange Rates. This cache stores the exchange rates between different source and target currencies. By default, Workday updates this cache each day. You can clear this cache if you did a bulk upload of new exchange rates and you want to use the new rates immediately.
- Financial Reporting Model. This cache stores model elements that you use to build OfficeConnect reports. By default Workday updates this cache each day. Whenever admins save changes using the [Set Up Financial Reporting and Analytics Data Model](#) task, Workday automatically clears this cache.

Refreshing Data in OfficeConnect

By default, OfficeConnect queries the data in financial modeled data source each time you click:

- Refresh
- Expand
- Collapse

You can change the default Refresh behavior by adjusting the Explore settings in the workbook properties.

Workday also saves the financial reporting data model elements in OfficeConnect. OfficeConnect updates the reporting data model elements only when you log in to Workday using the financials data source. If you're logged in to OfficeConnect and the financial reporting data model updates, you can click **Update Elements** in OfficeConnect to get the latest model elements.

Related Information

Reference

[Reference: User, Workbook, and Selection Properties](#)

Concept: Enforcing Security in OfficeConnect

Workday enforces security in OfficeConnect based on the user's permissions. Your security access in Workday determines:

- Your ability to log in to Workday from OfficeConnect.

- The lowest-level hierarchy subordinate from the reporting data model that OfficeConnect displays in the Elements tab.
- The data in the spreadsheet.

To sign in to Workday from OfficeConnect, you must have permission on the *Access Workday Financials* OfficeConnect security domain, and also have permission on at least 1 of these security domains:

- *Reports: Financial Accounting* (Company based)
- *Reports: Organization Financial Reporting* (Organization based)
- *Reports: Organization Journal Lines* (Organization based)
- *Reports: Projects* (Project based)
- *Process: Budget* (Company based)
- *Reports: Company Financial Budgets* (Company based)
- *Reports: Manager Budgets* (Organization based)
- *Reports: Manager Financial Budgets* (Organization based)

OfficeConnect displays model elements and data that Workday secures using at least 1 of these security domains:

- *Reports: Financial Accounting* (Company based)
- *Reports: Organization Financial Reporting* (Organization based)
- *Reports: Organization Journal Lines* (Organization based)
- *Reports: Projects* (Project based)
- *Process: Budget* (Company based)
- *Reports: Company Financial Budgets* (Company based)
- *Reports: Manager Budgets* (Organization based)
- *Reports: Manager Financial Budgets* (Organization based)

The data in the modeled data source contains data controlled by multiple security domains. As a result, when you create a report in OfficeConnect, you can see model elements and data that you have access to from multiple domains.

When a user logs in to Workday from OfficeConnect, OfficeConnect stores their security permissions for up to 1 hour.

Related Information

Concepts

[Concept: Caching and Refreshing the Financial Modeled Data Source](#) on page 956

Concept: Currencies and Currency Translation

The Workday Financial Management data that you report on might use different currencies for different companies.

By default, Workday uses these currencies in the report you create in OfficeConnect:

- The ledger currency when you report on a single company.
- The configured default report currency when you report on any company hierarchy level.
- The configured default report currency when you select **Primary Ledger Currency** from the **Workbook Properties**.

You can perform currency translation by dragging a different currency onto a row or column in the report.

OfficeConnect uses the default translation rule set configured in the financial reporting data model when performing currency translation. You can select a different translation rule set by applying a filter to the worksheet or workbook. You apply filters to an individual worksheet or workbook, not to specific rows, columns, or cells.

OfficeConnect stores the currency rates for up to 24 hours before retrieving the latest rates from Workday.

Related Information Concepts

[Concept: Caching and Refreshing the Financial Modeled Data Source](#) on page 956
[Add Elements to Report Filters](#)

Concept: Differences Between OfficeConnect and Report Writer

This section describes the differences between reporting on journal line data using OfficeConnect with the financial modeled data source and using Workday Report Writer with a Workday-delivered data source.

Eliminations

OfficeConnect supports intercompany and noncontrolling interest (NCI) elimination rules. For NCI, you must first set up the NCI by Ownership feature. See:

- [Steps: Set Up for Persisting Noncontrolling Interest](#)
- [Set Up Elimination Rules for Noncontrolling Interest](#)

OfficeConnect doesn't support interworktag eliminations.

OfficeConnect displays intercompany eliminations at the lowest common parent level.

Currency Translation Adjustment

OfficeConnect only uses Translation Loss account and its posting conditions for currency translation adjustment.

Current Year Retained Earnings

OfficeConnect doesn't automatically calculate the current year retained earnings. To include current year retained earnings in your worksheet, add a row that aggregates net revenue and expenses.

Filtering Data

OfficeConnect filters data differently than Report Writer. In Report Writer, data source filters, built-in prompts, and report filters all filter the data displayed in the report in an additive way, further constraining the data that ultimately is displayed.

OfficeConnect uses default values for filtering data in the report, and you can define filters at different levels. The filters you define at the different levels might conflict with each other, so OfficeConnect follows predefined precedence rules to determine what data to display.

Example: Cells override rows.

Breadth of Data

When you create a report in Report Writer, you specify a data source and data source filter to determine the data that the report displays.

When you create a report in OfficeConnect, the modeled data source contains data that comes from multiple security domains. The data you see in a report in OfficeConnect is all data you have access to in all applicable domains. As a result, the data in your OfficeConnect report is a union of data you have access to in multiple domains.

Rounding and Significant Digits with Currency Translation

Significant digits and rounding are important when performing arithmetic operations. When you report on a currency that's different than the ledger currency, the report performs currency translation.

When performing currency translation, OfficeConnect and Report Writer round numbers at different times. This difference in rounding might lead to a small, but noticeable difference in numbers when you compare reports using the same data from each tool.

- OfficeConnect retains all significant digits without rounding when performing internal calculations. OfficeConnect leaves all formatting decisions, such as rounding, to the user. Retaining the precision until the last possible moment improves performance when performing currency translation.
- Users can specify rounding for the entire workbook by accessing Workbook Properties and on the **Format** tab, select how to round data for OfficeConnect. Users can also leverage the Excel rounding functionality.
- Report Writer performs currency translation for each journal line and then rounds the value before performing other calculations.

If you compare the numbers in an OfficeConnect worksheet to a Workday Report Writer report with the same data, there might be a difference in numbers due to the different method of handling significant digits.

Time Period Planning

If your plan is at a higher summary level than period, OfficeConnect uses the last period for any activity on that plan and the last period's end date to match up with its translation exchange rate.

Example: If your plan is at the quarterly level for Q3 (Jul-Sep), the plan amount registers activity in September and uses the September 30 end date for the currency translation exchange rate. A similar impact would apply to a plan amount meant to cover an entire year.

In contrast, Report Writer uses the first period in the summary period but the end period for the translation rate. In the prior example, the plan amount registers activity in July, but uses the September 30 end date for the currency translation exchange rate.

Related Information

Concepts

[Concept: Default Types and Precedence Rules](#)

Concept: Differences in OfficeConnect Between Financials and Planning Data Sources

This table describes the differences in OfficeConnect between using the Financials data source and the Adaptive Planning data source.

Functionality	Financials Data Source	Adaptive Planning Data Source
Elements hierarchy	<ul style="list-style-type: none"> • Ledger Accounts • Company • Dimensions <p>A valid intersection includes these elements at a minimum:</p> <ul style="list-style-type: none"> • Version • Company • Time • Ledger account 	<ul style="list-style-type: none"> • Accounts • Level • Custom Dimensions <p>A valid intersection includes these elements at a minimum:</p> <ul style="list-style-type: none"> • Version • Level • Time • Account or account attribute
Workbook properties:	<ul style="list-style-type: none"> • Round to • Report date 	<p>By default, we:</p> <ul style="list-style-type: none"> • Select <i>No Rounding</i>.

Functionality	Financials Data Source	Adaptive Planning Data Source
• Clear Data	<ul style="list-style-type: none"> Don't select Make new time elements relative to the report date. Don't select Always clear data upon save. 	<ul style="list-style-type: none"> Select Make new time elements relative to the report date Select Always clear data upon save.
Groups	Not available	Available
Cell Details	Use Show Details to display contributing journal line and plan line details for a cell.	Use Explore Cell to explore cell data.
Versions	The default version is Actuals. You can select a plan element from any plan structure that your administrator configures in Workday.	The default version depends on your model. You can override the default version by applying a version element to a report cell, row, or column.
Exclude elimination elements when expanding	Available in user settings and Expand dialog	Not available
Time contexts and components	Based on the time configuration in the data model.	Based on the instance calendar.
Alternate Ledger Currency	Ledger Currency Mapping is available as a dimension if alternate ledger currency is enabled in Workday.	Not available
Amount Type dimension	Includes Beginning Balance, Ending Balance, and Average Daily Balance.	Not available. Time Context includes Beginning Balance.
Labels	<ul style="list-style-type: none"> Model label type is available. Account Contra Indicator label type value isn't available. Levels and dimensions include these display type values: <ul style="list-style-type: none"> Dimension short name Dimension display name Label Suppression option isn't available. 	<ul style="list-style-type: none"> Model label type isn't available. Account Contra Indicator label type value is available. Levels and dimensions include these display type values: <ul style="list-style-type: none"> Dimension code Dimension display name Dimension name Dimension short name Label Suppression option is available.
Effective Date for reporting on dimension hierarchies	Available	Not Available
Multiple hierarchies per dimension	Available	Only available for Time dimension

Glossary

Full Glossary of Terms

A	B	C	D	E	F	G	H	I	J	K	L	M
N	O	P	Q	R	S	T	U	V	W	X	Y	Z

[Was this helpful?](#)

A

Academic Date Range

The period of time associated with a student recruiting cycle.

Academic Level

The level of an educational objective that a student can pursue at an institution, such as:

- Undergraduate, Graduate, or Professional at a university.
- Associates or Baccalaureate at a community college.

Academic Unit

A Workday organization type that represents a school, college, university, or other unit of your institution. These units can recruit prospective students, admit students, offer programs of study or courses, or administer financial aid. Academic units are also used with academic appointments in Workday.

Academic Unit Hierarchy

A hierarchical grouping of academic units primarily used for roll-up reporting.

Accounting Cash

A group of cash ledger accounts that you can use to check cash balances against during settlement.

Accounting Cash Pool

One or more primary balancing worktag hierarchies that you can use to pool cash ledger balances for cash balance checks during settlement.

Active Candidate

A person with an application for a specific job requisition. Candidates must be linked to a job requisition for Workday to initiate a job application event.

All Ledgers Journal

An accounting journal that's not configured as a single ledger for the given company and is posted to both primary and alternate ledgers.

Applicant Pool

A subset of applications in an application grouping. Applicant pools enable you to control and adjust workload for application reviewers.

Application Grouping

A grouping of applications for the same admitting level of an academic unit and the same anticipated start date. Groupings can have 1 or more

Auto-fill	application pools, with an admissions counselor assigned to each pool.
Award	A time entry option that copies time blocks from a worker's schedule or from a previous week when entering time.
Award Costs Processing (ACP)	A contract agreement with your sponsor in the form of funding to perform an activity for a public purpose. It defines how to capture direct and facilities and administration costs, recognize revenue, and bill your sponsor.
Award Credits	Processing facilities and administration costs and revenue recognition related to spend transactions on awards.
Aggregation Security Group	Percentage of award or award lines you allocate to specific worktags for reporting purposes.
Approve	A security group that grants access rights to members of an included set of security groups. Revokes access of members of any excluded security groups.
Assignable Roles	An action in a business process that designated participants select to progress the event to the next step.
Back to Top	Positions you can assign to organization roles.
B	
Basis Limit	The maximum amount of direct costs you can use to calculate facilities and administration costs.
Base Pay Element	The compensation components that are included in the calculation of base pay for the purposes of determining the compa-ratio and target penetration. Example: Include both base pay and bonuses in the base pay calculation for compa-ratio.
Benefit Credit Bundle	A defined group of benefit credits that you can award together.
Benefit Defaulting Rule	A rule that identifies the benefit plans, coverage targets, and coverage amounts that employees receive by default when they do not complete an enrollment event.
Benefit Event Rules	These rules specify coverage increase limits, EOI requirements, waiting periods, and other rules and conditions of enrollment for benefits enrollment events.
Benefit Event Type	Identifies the events that trigger benefit enrollment, such as open enrollment, new hires, or the birth of a child. It also identifies the coverage types to make

Benefit Group	available to employees for when an event of this type occurs.
Business Object	A group of employees who qualify for benefits based on eligibility rules. Employees must be included in a benefit group to enroll in a benefit plan.
Business Process Definition	Objects used to store data in Workday (such as organizations or workers). A business object has <i>fields</i> and <i>instances</i> , which are analogous to rows and columns in a spreadsheet. Workday links related business objects: a worker is associated with a position, the position to a job profile, and so on.
Business Process Instance	The tasks that compose a business process, the order in which they must be done, and who can do them.
Business Process Security Policy	A business process that the initiator has started. The <i>Hire Employee for Organization X</i> business process definition becomes an instance when the initiator uses it to hire an employee.
	A business process security policy secures the steps and process-wide actions including view, rescind, cancel and correct. It specifies which security groups have access to each action.

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C

Calculated Time	Result of applying time calculations to a worker's reported time. Automates application of company or regulatory rules.
Calendar-Based Time Entry	A time entry method that uses the time entry calendar as the focal point for entering, editing, and submitting time.
Cancel (business process)	Canceling a business process stops the workflow in progress and reverses changes made to data. You can't cancel a completed business process; you must rescind it. A securable action in a business process security policy.
Candidate	Candidates include both prospects and active candidates.
Candidate Pipeline	All active candidates.
Candidate Pool	Candidates grouped together based on specific criteria.
Cascading Leave	A sequence of related leave types that are linked together. When an employee meets the conditions defined for ending a leave, Workday generates a return from leave request and a separate request for the next leave.

Company	Companies are organizations within Workday that represent the internal business entities within your enterprise. In Workday Financial Management, companies are the primary organization for all business processes. A Company is considered the level at which one holds a balanced set of books and should reflect Legal Entities where possible.
Company Hierarchy	Defines a parent-child or reporting relationship between Companies in your organizations. The way that you structure your hierarchies influences many important Workday functions, especially role assignments, planning, and reporting.
Compensation Basis	A grouping of compensation components, such as salary, commission, and allowance plans, that define estimated earnings for an employee population.
Compensation Component	The umbrella term for compensation packages, grades, grade profiles, and plans that can be associated with compensation eligibility rules.
Compensation Defaulting Rule	A rule that establishes the criteria for how compensation components default to worker compensation during staffing transactions (such as hire or job change).
Compensation Element	Compensation elements link Compensation to Payroll. When a compensation element is attached to a plan that is assigned to an employee, Workday can determine which earnings to use to pay the employee.
Compensation Package	A grouping of compensation guidelines (grades, grade profiles, and their associated steps) and plans that you can assign to workers as a set. Packages provide a quick view of the eligible plans for a particular job or group of employees.
Compensation Rule	Guidelines for determining which workers are eligible for which components of compensation.
Compensation Step	A specific monetary amount within a grade or grade profile.
Compensation Target Rule	A rule used to segment your employee population for assignment of compensation plans.
Conditional Calculation	Time calculation that tags time blocks that meet certain conditions.
Conditions	Conditions are one or more logical matches that are resolved to True or False and used to decide if some action should be taken. You can add conditions to steps in a business process to determine if the step should run.
Connection Map	A tool on a customer profile that enables you to establish and manage the relationships between business entities and ship-to addresses.

Connector	A set of 1 or more integration templates that provide a framework for building integrations in a particular functional area. The integration can support a specific type of data, or can support a specific endpoint (example: Salesforce.com or Okta).
Consolidated Billing Schedule	A billing schedule type that allows you to combine all charges for multiple projects or services within a specific billing period into one invoice.
Contextual Custom Report	A custom report created from the related actions menu of a Workday object by selecting Reporting > Create Custom Report from Here . Simplifies choices of data and fields to those related to the context of the object.
Contract Rate Sheet	A document that outlines the contract billing hourly rates for roles such as the engineer, manager, or consultant, with the option to add billing rules for specific contract considerations.
Conversation Tag	A descriptor, such as Dietary Restrictions or Special Needs that you can assign to an engagement conversation to identify its topic. You can search for conversations by conversation tag.
Conversation Topic	A conversation tag or recruiting event name that you can associate with an engagement conversation to make conversations easier to find.
Correct (business process)	Correcting a business process changes a specification or data in the workflow while in progress. A securable action in a business process security policy.
Cost Reimbursable Spend	A billing item that Workday creates to help you bill your sponsor for award-related spending. The cost reimbursable spend amount includes both the original spend amount and any overhead costs Workday calculates based on your award costs configurations.
Coverage Target	Defines whether a specific health care plan or insurance plan applies only to the employee or also to the dependents, spouse, family, and so on.
Cross Plan Dependency	Limits the coverage options available to workers during an enrollment event based on their choice of other benefit plans and coverage amounts.
	Example: You can limit coverage in a specific plan to a percentage of the total coverage in 1 or more other benefit plans.
Custom Report	Reports not delivered by Workday and built using the Workday Report Writer. Can be created new or by copying another standard or custom report.
Customer Payment Matching	A feature that uses historical payment applications to suggest customer invoices and adjustments

Customer Refund Payments in Settlement Runs

that match customer payments with insufficient remittance advice.

A refund payment generated by the settlement run with a payment date that reflects the date you settle the refund.

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D**Dashboard (landing pages)**

A specialized landing page containing a set of pre-configured worklets for a functional area that you can copy or modify. You can add additional custom worklets to dashboards using the report writer.

Data Source

A data source defines a set of business object instances for reporting purposes. Allows reporting access to all business objects related to those in the data source.

Day Breaker

The time of day on which a worker's work day and work week begins. Defines the 24-hour period over which daily time calculations execute and the 168-hour period over which weekly time calculations execute. Unless otherwise specified, the default day breaker is 12am.

Deny (business process)

When you deny a business process, the business process is terminated and all Workday data is restored to its state before the business process started. To restart the business process, you need to submit the process again, and redo all previously completed steps.

Depreciation Profile

A configuration that determines how Workday depreciates assets by defining a depreciation method, convention, and useful life.

Designation

An attribute, such as Community Learning Partner, Honors, or STEM, that you can associate with educational institutions and external associations to make them easy to find and report on.

Discrete Composite Asset

A combination of related but distinct assets for which you can individually track cost, depreciation, and lifecycle events.

Disposition

Status of candidates that have been rejected for hire or declined a job during the job application event.

Domain

A collection of related securable items such as actions, reports, report data, report data sources, or custom report fields. Each domain is secured by a domain security policy.

Domain Security Policy

A collection of related securable elements of different types and user-specified security groups that have access to elements of each type.

Dynamic Period

A date that identifies the anticipated start date for a student of online education or other asynchronous learning.

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E**Educational Taxonomy**

A taxonomy scheme and set of codes you can assign to programs of study and their concentrations to meet state, local, or other classification requirements.

Eligible Investigator

A type of role that you can use to assign individuals to awards, grants, and grant hierarchies, so that the role assignments remain intact even when the person's position or organization changes.

Engagement Action Item

Defines a requirement that must be met for an application for admission to be considered complete. Example: Submit transcripts.

Engagement Item

An engagement email or printed engagement item. You can include engagement items in engagement plans and use them to support student recruiting events.

Enrollment Event Rule

A rule that defines coverage start and end dates, waiting periods, coverage increase limits, Evidence of Insurability requirements, and other coverage rules and conditions. Rules ensure that the benefits process presents only the options that each employee is eligible for based on the event type.

Enterprise Interface Builder (EIB)

An integration tool that enables you to create simple, secure, and customizable integrations with Workday. Alternately, an EIB is a simple integration created by the integration tool. An EIB consists of an integration system, an integration data source, an integration transformation, and an integration transport protocol.

Estimate at Completion (EAC)

Includes all the hours logged and approved for the project, as well as the future hours the worker expects to complete.

Estimate to Completion (ETC)

Includes the future hours the worker expects to complete.

Event

A business process transaction that occurs within your organization, such as hiring or terminating an employee.

External Association

A nonprofit, community-based, or other noneducational organization that you can associate with student prospects or identify as a location for recruiting events.

External Engagement Item

Used to send and track third-party engagement items for recruiting events, communication plans, or ad hoc communications.

[Back to Top](#)**F****Fast Path**

A streamlined approach to moving applications for admission from submission to matriculation as quickly as possible.

Field Overrides

A tool that lets you customize integration systems that are based on a connector template. Field overrides are managed through an integration service. They use calculated fields or report fields to supply values to an integration system. Example: member IDs in benefit provider integrations.

Financial Aid Period Record

A record containing data such as academic unit, academic level, and program of study for a student that Workday uses to process financial aid for an academic period.

Functional Area

A collection of domain or business process security policies that are related to the same set of product features, for example, Benefits or Compensation.

[Back to Top](#)**G****Grade Profile**

A breakdown of a compensation grade by functional task, geographical region, or other categorization your business requires. A profile enables you to assign more granular compensation ranges to workers.

Grant

A worktag that you can use to capture award-related expenses.

[Back to Top](#)**H****Headcount Plan**

Provides visibility into the number of workers necessary to achieve your business goals within a specified period of time.

[Back to Top](#)**I****Individual Target**

An individual bonus or merit target for a worker during a compensation review process that overrides the target defined on the compensation plan.

Integration Attribute

An integration component that specifies the tenanted value of a data element in Workday. Example: Plan Sponsor Name is a type of attribute in benefit provider integrations.

Integration Data Source	Indicates the type of data that Workday receives from or exports to an external system and its location.
Integration Event	The record of an integration process. Every integration—current or past, involving the import or export of data, successful or not—gets recorded as an integration event. The integration event contains all the information about the integration process, including its status.
Integration Map	An integration component that specifies how values in Workday map to values in an external system. Example: Pay Rate Frequency is a type of map in third-party payroll integrations.
Integration Service	A group of related integration attributes, maps, and XSLT that provides a framework to transform Workday data into the format required by an external system.
Integration System	A tenanted definition of an integration between Workday and an external system based on a template that provides the methodology for communicating data.
Integration Template	A collection of integration services that enables communication between Workday and an external system. Workday provides integration templates in categories such as Benefits, Financials, HCM, Payroll, Payroll Interface, Procurement, Recruiting, Security, and Settlement. Many of the delivered templates contain default values for attributes, as well as prompt values for attributes and maps, to define the integration further.
Integration Transformation	Converts data into a format that Workday or a receiving external system can understand. Workday provides some delivered transformations, and you can also create custom transformations.
Integration Transport Protocol	Controls how Workday exports data to an external endpoint or service or imports the data from an external endpoint or service. Workday supports several types of transport protocols, including email, FTP and SFTP, HTTP/SSL, Workday attachments, and Workday Web Services.
Intersection Security Group	A security group whose members are other security groups. Members associated with all included security groups are granted access through an intersection security group.
Initiation Step	The first step of a business process.
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J	
Job-Based Security Group	A security group that includes one or more job-related attributes or objects including job profile, job

Job Management Staffing Model

family, job category, management level, or exempt/non-exempt status.

Job Profile

A structure that defines 1 set of hiring restrictions for all jobs in a supervisory organization, with no specific limits on the number of jobs that can be filled.

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K**Knowledge Article**

An article that is accessible to workers in your organization based on the assigned article audience. You can use these articles to document, share, and manage HR information specific to your organization.

Knowledge Article Audience

A group of employees that can view designated Knowledge articles. Their access to articles is determined by condition rules assigned to the audience.

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L**Landing Page**

Landing pages display a collection of worklets. Landing pages may have different display formats (grid or bubble) and support different functions. The Home landing page is intended for common worklets, such as self-service worklets.

Leave Family

A set of similar leave of absence types. Example: A company-specific family includes disability leave and bereavement leave, while a separate regulatory family includes jury duty and family medical leave.

Leave of Absence Rule

A rule that defines worker eligibility for leaves of absence.

Line Tax Rate Application (LTRA)

A collection of tax amounts that apply to a given transaction line or supplier invoice line split on a taxable document.

Linked Customer Contracts

Child customer contracts that you associate with a parent customer contract for revenue allocation purposes.

Linked Leave

A leave type that shares an entitlement with other leave types or time offs. Eligibility rules, validation rules, and supporting data reference the combined balance of the associated leave types and time offs. Also known as coordinated leaves and time off.

Location Membership Security Group

A security group whose members are any workers assigned to that location.

[Back to Top](#)**M****Match and Merge**

A process that helps eliminate duplicate student prospect information in Workday.

Micro-edit

The ability to edit existing time blocks or add time blocks directly to a day by clicking the time entry calendar.

Multiplier-Based Coverage

Insurance coverage based on multiples of salary, such as 1x, 2x, or 3x salary.

[Back to Top](#)**N****Nonbillable**

A nonbillable project is an internal project that you don't invoice customers for.

[Back to Top](#)**O****Object Class**

The spend categories that award sponsors agree to reimburse award recipients for maintaining their projects.

On-Account Document

A document that's generated when you place a payment amount on an existing customer account. You can apply on-account documents to future payments.

Organization Security Group

A security group whose members are any workers assigned to that organization.

[Back to Top](#)**P****Parent Customer Contract**

A customer contract that you associate with a child customer contract so you can add contract lines across contracts to the same schedule. When you view the parent customer contract, Workday displays the child customer contracts as linked contracts.

Passive Event

Events that result from the passage of time rather than from a specific change to employee data.

Payment Group

The payments that result from a settlement run.

Payment Tax Rate Application (PTRA)

A collection of tax amounts that apply to a given payment on a taxable document.

Position Management Staffing Model

A structure that defines different staffing rules and restrictions for each position in an organization.

Position Restrictions

The attributes and conditions that apply to an unfilled position in a supervisory organization that uses the position management staffing model.

Pre-Hire	Example: Job profile, location, qualifications, and worker type.
Procurement Contract	In Staffing, an individual you're tracking before employment. In Recruiting, a candidate who is in the <i>Offer</i> , <i>Employment Agreement</i> , <i>Background Check</i> , or <i>Ready for Hire</i> stage.
Procurement Contract Type	Contracts enable your organization to define preferred suppliers, analyze spend for better control, and standardization. They also allow your organization to implement contractual spend to better negotiate and enforce discounts and other supplier terms.
Project Advanced Labor Costing	A procurement contract in Workday is always associated with a Contract Type that dictates how the contract can be used across the procure-to-pay chain. Example: when a Contract Type has the Scheduled Purchase Orders option set, Workday can use the contract to automatically create purchase orders based on a predefined schedule.
Project Asset	Prorating project labor costs using standard or fully burdened costing.
Project Billing Rate Sheet	A container that captures separate, ongoing costs of a capital project in progress. You can associate multiple projects assets with a project to track costs over the life of a project.
Project Plan Phase	A document that outlines the hourly or daily rates charged per project role, with the option to be more specific based on defined categories such as Region, Skill Level, and Project Size.
Project Plan Task	A phase in the project plan that represents a stage in the project work. Example: Plan and Strategize. A project plan organizes projects into sequenced phases and tasks. A project phase is generally project agnostic, but when you add that phase into a project plan, it becomes a project plan phase.
Project Transaction Source	The work details in a project plan phase. Example: Define Project Objectives.
Prospect	The source of project billing transactions. Example: Supplier Invoice, Expense, or Time.
Back to Top	Someone you are interested in tracking who isn't associated with a specific job. You can use tags, prospect types, and prospect statuses to help track these individuals.
Q	
Quick Add	A time entry option that enables you to create a time block and copy it to multiple days in a week.

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R

Recipient Threshold	The maximum number of prospects to whom you can send an engagement item at the same time without requiring approval.
Recruiting Cycle	A recruiting period for 1 or more academic levels of an academic unit. You associate recruiting cycles with campaigns to measure the effectiveness of each campaign per recruiting cycle.
Reference ID	A unique identifier used to look up data for integration purposes.
Reference Pay Range	A range of pay established for a compensation grade or grade profile.
Related Customer Contract	A customer contract that you associate with another customer contract for reporting purposes. When you create a customer contract, you can associate 1 related customer contract with it. The related customer contract must share the same company and sold-to customer.
Reported Time	A worker's time that has been entered, but has not had any time calculations applied.
Revenue Category	An attribute in customer contracts and billing used to search for and report on goods and services you sell. Also a dimension in account posting rule types for customer contracts, billing, and accounts receivable that drives accounting behavior.
Risk Insight	Provides the reason why Workday identifies an expense report with a High or Medium risk level. Reasons may include 1 or more of these: Amount Anomaly, Duplicate Expense, and Incorrect Expense Item.
Risk Level	The value (Low, Medium, and High) that Workday provides from risk evaluation. Workday provides default risk levels, which can also be configured based on Risk Score.
Risk Score	The numerical value (0 to 100) that Workday provides from risk evaluation. The score helps identify anomalous expense reports.

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S

Single Ledger Journal	An accounting journal that's a single primary or alternate ledger currency for the given company.
Source	The duplicate record that you want to merge in the Duplicate Management Framework.
Spend Category	A logical grouping to search and report on acquired items and services. Also a dimension in account

Staffing Model	posting rules for procurement and spend that drives accounting behavior.
Staffing Organization	A structure that defines how jobs and positions are created and filled in a supervisory organization. Workday supports 2 kinds of staffing models:
	<ul style="list-style-type: none"> • Job management. • Position Management.
Stage	An organization category that includes supervisory organizations, matrix organizations, or retiree organizations.
Student Financials Period Record	A value, such as Lead, Inquirer, or Applicant, that identifies where a student prospect is in the recruitment or admissions process.
Student Prospect Profile	A record containing data such as academic unit, academic level, and program of study for a student that Workday uses to process student financials transactions for an academic period.
Student Prospect Type	A worklet that displays information for a prospective student, including contact information and recruitment details.
Student Recruiting Region	A value, such as First Year or Adult Returning, that you can assign to prospective students and use to match student prospects to admissions counselors automatically.
Student Tags	Workday term for recruiting territory. A recruiting region can represent a geographical area, 1 or more schools, or schools in selected school districts.
Supplier Contract	An attribute, such as Veteran, Athlete, or Scholarship Recipient, that you can assign to student prospects. You can use tags to match student prospects to recruiters automatically, find prospects, and use as criteria for associating engagement plans with prospects.
Supplier Contract Type	Contracts enable your organization to define preferred suppliers, analyze spend for better control, and standardization. They also allow your organization to implement contractual spend to better negotiate and enforce discounts and other supplier terms.
System User	A supplier contract in Workday is always associated with a Contract Type that dictates how the contract can be used across the procure-to-pay chain. Example: when a Contract Type has the Scheduled Purchase Orders option set, Workday can use the contract to automatically create purchase orders based on a predefined schedule.
	An account associated with and required to launch a Connector or Studio integration. Workday delivered integrations and custom integrations

Staffing Organization

require a system user account for authentication and web service calls. A system user account is not associated with a person in Workday.

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T**Target**

The record into which you want to merge the source in the Duplicate Management Framework.

Tax Code

A combination of tax rates that you select on transaction lines.

Tax Rate Application (TRA)

A collection of tax amounts across all lines on a taxable document with the same tax applicability, tax code, tax option, tax point date, tax rate, and tax recoverability.

Tax Recovery Pro Rata Factor Percentage

A company-specific percentage that modifies the tax recoverabilities that you configure for the tenant.

Termination Adjustment

A time off adjustment that automatically sets the remaining balance of a worker's time off plan to zero upon the worker's termination.

Time Block

A time block carries information about a portion of time, such as the number of hours worked or in/out times. Time blocks can be reported or calculated, but only calculated time blocks are pulled into Workday Payroll.

Time Calculation

A set of rules to apply time calculation tags to calculated time blocks for Payroll or other purposes. Example: You could create a time calculation to convert regular hours into overtime hours automatically if a worker works more than 40 hours in a week.

Time Calculation Tag

Workday applies calculation tags to time blocks during time calculations. The tags map to payroll earnings to drive how time blocks are paid and can be included in time off and accrual calculations. You can also use them to display time and time off totals on the time entry calendar.

Time Clock Event

A time clock event describes a worker's actions, such as a check-in or check-out, on the web time clock or an external time clock. Workday matches time clock events to form time blocks, which workers can edit and submit.

Time Code Group

The primary use of a time code group is to determine which time entry codes a worker is eligible for. Time code groups are assigned to a worker or to a position through eligibility rules.

Time Entry Calendar	A set of self-service pages that workers use to enter, edit, and submit time, when using calendar-based time entry. When using high volume time entry, workers can view and submit time from the time entry calendar.
Time Entry Code	A time entry code describes the type of time a worker enters, such as worked time or meal allowance. To use time entry codes, you must attach them to time code groups, except for the default time entry code assigned to a time entry template.
Time Entry Template	A template defines how a worker's time entry calendar is configured. Workers are matched to time entry templates through eligibility rules.
Time Entry Validation	Errors or warnings that prevent users from entering invalid time. Critical validations prevent a user from submitting time. Warnings display when entering time but don't prevent the worker from submitting time.
Time Off	The rules that apply to a specific type of time off, including eligibility rules, whether adjustments are allowed, and limits that differ from the time off plan.
Time Off Plan	The rules for entering and tracking 1 or more related time offs. Identifies the unit of time, eligibility requirements, whether to track balances, and if time offs are position-based or worker-based.
Time Period Schedule	A time period schedule defines which dates are available for entry at a given time and defines which dates are paid in which pay periods. They can line up with pay periods, or, in more complex scenarios, they can be paid on a lag.
Time Proration Rule	A rule that prorates employees' target compensation in a bonus or merit increase compensation event according to time-based criteria, such as leave of absence or time since hire.
Time Shift	A grouping of consecutive time blocks that you can use in standard overtime calculations, time block conditional calculations, and validations.

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U

Unbillable	An unbillable transaction is a billing transaction that has an issue preventing it from being billed. You can't take action on the transaction until you resolve the issue.
Unnamed Resources	Placeholders for project resources that you can use to assign tasks and perform resource forecasting without specific resource assignments.

[Back to Top](#)**V****Value-Based Project**

A customer contract line type that you use when your project billing installment values are not known at the time of contract creation.

[Back to Top](#)**W****Wave Picking**

Enables you to group picking lists together in groups to better organize and prioritize your inventory picking process

Week Breaker

The day of the week on which a worker's work week begins. Defines the 7-day period over which weekly time calculations execute. Unless otherwise specified, the default week breaker is Sunday at 12am.

Work Schedule Calendar

A calendar that defines the days and hours that a worker is scheduled to work. In Time Tracking, work schedule calendars affect time entry options, calendar displays, and time calculations.

Workday Studio

An Eclipse-based development environment that enables you to build more complex integrations with Workday.

Workday Web Services

Workday's public API. Based on open standards, Workday Web Services (WWS) provide the core method for integration with Workday.

Worker

An employee or a contingent worker.

Worklets

Mini applications represented by clickable icons in Workday, providing quick and easy access to tasks and data that you access regularly. Example: the Inventory or Time Off worklets, or a worklet based on a report.

[Back to Top](#)**X****No Entries**[Back to Top](#)**Y****No Entries**[Back to Top](#)

Z**Zone Picking**

A method of picking for orders from different zones at an inventory site. In Workday, you can split a stock request into multiple zone picking lists for more efficient picking and shipping. You can then ship the zone picking lists separately or merge them before shipment.

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