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Jakarta ServiceNow Performance Analytics and Reporting

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Performance Analytics and Reporting

Use ServiceNow® Performance Analytics and Reporting to visualize data from your instance to better understand your processes and drive continual improvement.



Tip: Bookmark the links below to the Performance Analytics, Reporting, and Dashboards landing pages so you can quickly navigate to all needed resources for these applications.

Performance Analytics

Performance Analytics enables you to track and aggregate data over time, such as to measure how many tickets are resolved each week per assignment group. Performance Analytics is enabled for the Incident table by default. To track data for other tables and applications, you must license Performance Analytics.

Explore

- [Performance Analytics and Reporting release notes](#)
- [Upgrade to Jakarta](#)
- [Watch Performance Analytics videos](#)

Data Architecture

- [Indicators](#)
- [Breakdowns](#)
- [Data collection and cleanup](#)

Visualizing Data

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Use

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Develop

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Troubleshoot and get help

- [Ask questions and share your expertise](#)
- [Search the HI Knowledge Base](#)
- [Contact ServiceNow Support](#)
- [Performance Analytics training](#)

Get started with Performance Analytics

Review key concepts, watch videos, and use example functionality.

Watch the videos to familiarize yourself with ServiceNow Performance Analytics concepts, data architecture, and how to create Performance Analytics widgets and dashboards.

Performance Analytics for Incident Management and Performance Analytics Premium

Performance Analytics is available as a complimentary trial version and as a premium subscription.

Performance Analytics for Incident Management

Performance Analytics for Incident Management is a limited version of Performance Analytics that is included in the base system, enabling you to become familiar with the functionality.

Performance Analytics for Incident Management:

- Comes with an Incident Management dashboard and predefined indicators
- Indicators cannot be added or deleted
- A maximum of 180 days of historic scores are visualized
- Is usable only in the global domain

Performance Analytics Premium

Performance Analytics Premium is the full version of Performance Analytics and requires a separate subscription. Upgrading to Performance Analytics Premium enables the following functionality.

- Creating new Performance Analytics indicators, breakdowns, widgets, or other configuration records
- Preserving scores for longer than 180 days
- Creating in-form analytics
- Creating interactive filters and using interactive analysis
- Creating reports from an external Microsoft Excel document within the report creation workflow

Get started with Performance Analytics for Incident Management

Performance Analytics for Incident Management is a limited version of Performance Analytics that is included in the base system, enabling you to become familiar with the functionality. You can upgrade to Performance Analytics Premium for complete Performance Analytics functionality.

Performance Analytics for Incident Management comes with several predefined elements that you can use to assess organizational performance.

Use the following procedures to configure the predefined elements for incident management.

Check an indicator source

Verify that the sample indicator sources match your configuration.

Role required: pa_admin, pa_power_user, or admin

1. Navigate to **Performance Analytics > Indicator Sources**.
2. Open one of the sample indicator sources.
3. Go to the Source section.
4. Change the **Conditions**, if needed.

A good indication to see if the conditions are set up correctly is the number of matching records found. Click the matching records link to view the results in a new tab. Check to see if these are the expected records based on the conditions.

5. Click **Update**.
6. Repeat this procedure for each sample indicator source.

Note: If an indicator source has a condition on a field or column that does not exist, the condition does not appear in the UI (although it is there). Therefore, you cannot change the

condition through the UI. Instead, you can export the XML and import of the indicator source record.

Check a breakdown source

Verify that the sample breakdown sources match your instance configuration.

1. Navigate to **Performance Analytics > Breakdown Sources**.
2. Open one of the sample breakdown sources.
3. Go to the **Source** section.
4. Change the **Facts table**, if needed.
5. Change the **Conditions**, if needed.

A good indication to determine whether the conditions are set up correctly is the number of matching records found. Click the matching records link to view the results in a new tab. Check to see whether these are the expected records based on the conditions.

6. Change the **Security type**, if needed.
7. Add breakdown elements to the **Elements Security List**.
8. Click **Update**.
9. Repeat this procedure for each sample breakdown source.

Collect historical data for the provided indicators

Query scores for the predefined indicators and breakdowns for which historic collection is possible.

Role required: pa_data_collector or admin

1. Navigate to **Performance Analytics > Data Collector > Jobs**.
2. Open the **[PA Incident] Historic Data Collection** job.
3. In the **Collection parameters** section, specify the date range to query data for.
Performance Analytics for Incident Management collects a maximum of 180 days worth of historical data.
4. Click **Execute Now**.

Schedule data collection

After validating the sources for the indicators and the breakdowns, configure and activate the data collection job. Two sample jobs are provided; a daily collection and an on-demand collection for historical scores.

1. Navigate to **Performance Analytics > Data Collector > Jobs**.
2. Open the **[PA Incident] Daily Data Collection** job.
3. Go to the **Job Parameters** section.
4. Change the **Run as**, if needed.
5. Change the **Run as tz** (time zone), if needed.
6. Select the **Active** check box.
7. Click **Update**.

When the job is **Active**, it appears under **System Scheduler > Scheduled Jobs**, where you can change the time to start the job, if needed.

Note: Setting up Performance Analytics to support domain separated ServiceNow instances requires Performance Analytics Premium.

Get started with Performance Analytics Premium

For unlimited access to all Performance Analytics features, you can upgrade to Performance Analytics Premium.

When you subscribe to a premium version of Performance Analytics, the limits in the application are removed. With Performance Analytics Premium you can create indicators and other configuration records such as breakdowns and widgets, and collect data for tables other than Incident. The premium version of Performance Analytics is available for specific applications, or for the entire platform.

Activate Performance Analytics Premium

Use this procedure when your organization is ready to upgrade to a premium edition of Performance Analytics.

To purchase a subscription, contact your ServiceNow account manager. The account manager can arrange to have the plugin activated on your organization's production and sub-production instances, generally within a few days.

If you do not have an account manager, decide to delay activation after purchase, or want to evaluate the product on a sub-production instance without charge, follow these steps.

Role required: none

1. In the HI Service Portal, click **Service Catalog > Activate Plugin**.
2. Fill out the form.

Target Instance	Instance on which to activate the plugin.
Plugin Name	Name of the plugin to activate.
Specify the date and time you would like this plugin to be enabled	Date and time must be at least 2 business days from the current time. Note: Plugins are activated in two batches each business day in the Pacific timezone, once in the morning and once in the evening. If the plugin must be activated at a specific time, enter the request in the Reason/Comments.
Reason/Comments	Any information that would be helpful for the ServiceNow personnel activating the plugin such as if you need the plugin activated at a specific time instead of during one of the default activation windows.

3. Click **Submit**.

Disable Performance Analytics

If Performance Analytics is disabled, users are not able to create configuration records such as indicators, widgets, or dashboards. Additionally, only the last 180 days of scores are shown for each indicator.

To disable Performance Analytics features, set the property com.snc.pa.premium to false.

Set up Performance Analytics Premium

With Performance Analytics Premium you can define your own key metrics, breakdowns, and visualizations to present exactly the data you want for any process.

After Performance Analytics Premium has been activated, complete the following steps to configure Performance Analytics and begin collecting scores.

1. Clearly define the data you want to present. Before creating any records, identify what you want to measure and how you want to present that data.

Ensure that the data is actionable. Changes in scores should provide usable feedback into the performance of individuals, groups, or processes.



Tip: It can be helpful to create a sketch of your planned scorecards and dashboards to help identify your key metrics and visualizations.

2. Review the configuration records such as indicators, breakdowns, data collection jobs, widgets, and dashboards that are provided by default. Review the optional content packs as well. Use the provided configuration records whenever possible, or use them as a template to create your own configuration. Configuration records that enable you to analyze many common processes, such as Incident Management or HR Management, are provided by default.
3. If the provided configuration records do not meet your needs, create your own configuration by completing the following steps.

- a) *Define indicator sources* for the tables you want to analyze.

Indicator sources form the basis of the data that is collected and can be reused for multiple indicators.

An indicator source can specify a filter to include a subset of table data, such as to include only open incidents.

- b) *Create automated indicators* to define the key metrics you want to analyze.

Automated indicators track scores collected regularly and automatically from the instance.

- c) *Create breakdown sources* to define which breakdown elements are available to group and filter scores for further analysis.

A breakdown element is a single possible value for a field, such as the Hardware assignment group or the Critical priority. A breakdown source defines the set of available breakdown elements from a table, such as the assignment groups that you can group and filter scores by.

A breakdown source can define a filtered set of elements. For example, you can add the filter condition [Active][is][true] to a breakdown source on the Groups table to include only active assignment groups as breakdown elements.

- d) *Create breakdowns* to define how you want to group and filter collected scores.

Breakdowns organize data and enable you to analyze or compare subsets of the indicator data. Breakdowns associate indicator scores with elements from a breakdown source, such as to organize incident scores based on the value of the **Assignment group** field using elements from a breakdown source on the Groups table.

For example, you can break down incident data by priority or by assignment group, such as to show scores only for incidents with a certain priority, or to compare scores across assignment groups.

4. After you have defined the data you want to collect and any breakdowns you want to apply, set up and run data collection jobs to populate the scores.

- a) *Create and schedule data collection jobs* to collect data and populate indicator scores.

You can manually run historical data collection to collect scores for existing records. Run a historical data collection job once after defining new indicators, then use a scheduled data collection job to keep the scores updated.

- b) *Check the job log* to see if the data collection jobs have run successfully.

5. After you have confirmed that the data collection jobs ran successfully, view the collected scores and create widgets to visualize the data.
 - a) [*View the scorecards*](#) for your indicators to ensure that the scores were populated as expected. Scorecards display a detailed view of data for a single indicator.
 - b) [*Create widgets*](#) to define how to visualize the collected scores and add the widgets to a dashboard. Widgets enable for additional visualization and formatting options that are not available from scorecards. You can create any number of widgets for your indicators. Widgets only display scores and do not modify the underlying indicator data.

After successfully implementing a simple Performance Analytics configuration, consider taking advantage of these advanced options to refine your data:

- Define bucket groups to break down data in user-defined ranges.
- Create scripts to do more advanced data collection, or to organize scores into bucket groups.
- Apply time series to view aggregate data over different time ranges.
- Apply multi-level breakdowns to group and filter data by multiple dimensions.
- Create indicator groups to organize indicators, and to use with widgets that display multiple indicators such as a scorecard list widget.
- Define improvement goals by creating targets and thresholds.
- Create formula indicators to generate scores based on a formula, or manual indicators to manually enter scores.

Performance Analytics concepts

Use Performance Analytics to visualize data that is collected over time. This data reveals trends, which you can use to make real-time adjustments and improve how your business functions. You can use Performance Analytics to align resources, systems, and employees to strategic objectives and priorities.

The single system of record approach within the ServiceNow platform enables you to measure and drive performance faster and easier within and across all service request management processes. Provide time-based perspectives of relevant data and focus on trend anomalies to prompt action.

With Performance Analytics, companies can:

- **Drive performance:** Provide actionable insight on each level and for every role using key indicators, mobile-enabled scorecards, time charts, analytics, drill-downs, and dashboards.
- **Establish a single version of truth:** Share clear, up-to-date visualizations of performance across teams and organizations, establishing a single version of truth as the basis for objectively discussing service delivery and driving behavioral change.
- **Realize fast time-to-value:** Implement business intelligence within the base ServiceNow system within days, instead of months, and make better use of the time and money that currently go into labor-intensive manual reporting.

Benefits of using Performance Analytics may include:

- Align the organization with company goals.
- Decrease time required to create strategic or operational changes by communicating the changes through a new set of goals.
- Increase overall quality of services.
- Lower cost of services.
- Improve availability of services.

When working with Performance Analytics, you can use:

- **Indicators:** also known as metrics, business metrics, or KPIs, are a type of performance measurement, used by businesses to measure current conditions and to forecast business trends. Indicators are commonly used to evaluate success or the success of a particular activity. Success may be defined as making progress toward strategic goals, or as the repeated achievement of some level of operational goal (for example, zero defects, or 10/10 customer satisfaction). Choosing the right indicator requires a good understanding of what is important to a department in the organization - for example, the KPIs important to finance are quite different from the KPIs important to sales. To help develop this understanding of importance, indicator selection is often closely associated with techniques to assess the present state of the business, and its key activities. These assessments help identify potential improvement areas; so KPIs are usually associated with performance improvement initiatives. Indicators are usually presented in graphs to make them easier to read and understand.
- **Breakdowns:** also known as *dimensions* or *drill-downs*, these divide data in different ways. For example, incidents can be divided by priority or by assignment group. In Performance Analytics, data can be subdivided two levels deep for further analysis. A first-level breakdown could be by priority, for example grouping all Critical incidents. In this example, a second-level breakdown could be by assignment group, subdividing Critical incidents into, for example, Service Desk, Database, CAB, and so on. The breakdowns can also be turned around; for example, first by assignment group and then by priority, creating a so-called breakdown matrix.
- **Scorecards:** a graphical visualization of the scores of an indicator. The basic feel and look of a scorecard can not be changed. Scorecards can be enhanced by adding targets, thresholds, trendlines, and useful comments for significant changes. In a scorecard the scores of an indicator can be analyzed further by viewing the scores by breakdowns (scores per group), aggregates (counts, sums, and maximums), time series (totals and averages applied to different time periods) and drilling down to the records on which the scores are based.
- **Dashboards:** a single-screen display of multiple Performance Analytics, reporting, and other widgets. Dashboards can be responsive or non-responsive. To create or share a responsive dashboard, you need at least one role, but this can be any role. You can drag to move and resize widgets on responsive dashboards. Non-responsive dashboards use less flexible drop zone layouts, and require Performance Analytics roles to view, create, and edit.
- **Widgets:** a graphic visualization on a dashboard. Widget configurations are used to view, set up, edit, and manage properties for dashboards and visualization types: time series, scores, lists, and breakdowns. For example, a widget can display data as a chart, latest score, speedometer, dial, scorecard, or column. Many variations are possible. Widgets are only visible when added to a dashboard.
- **Data collector:** the engine that collects scores from your database on a regular basis by running jobs.

Performance Analytics roles

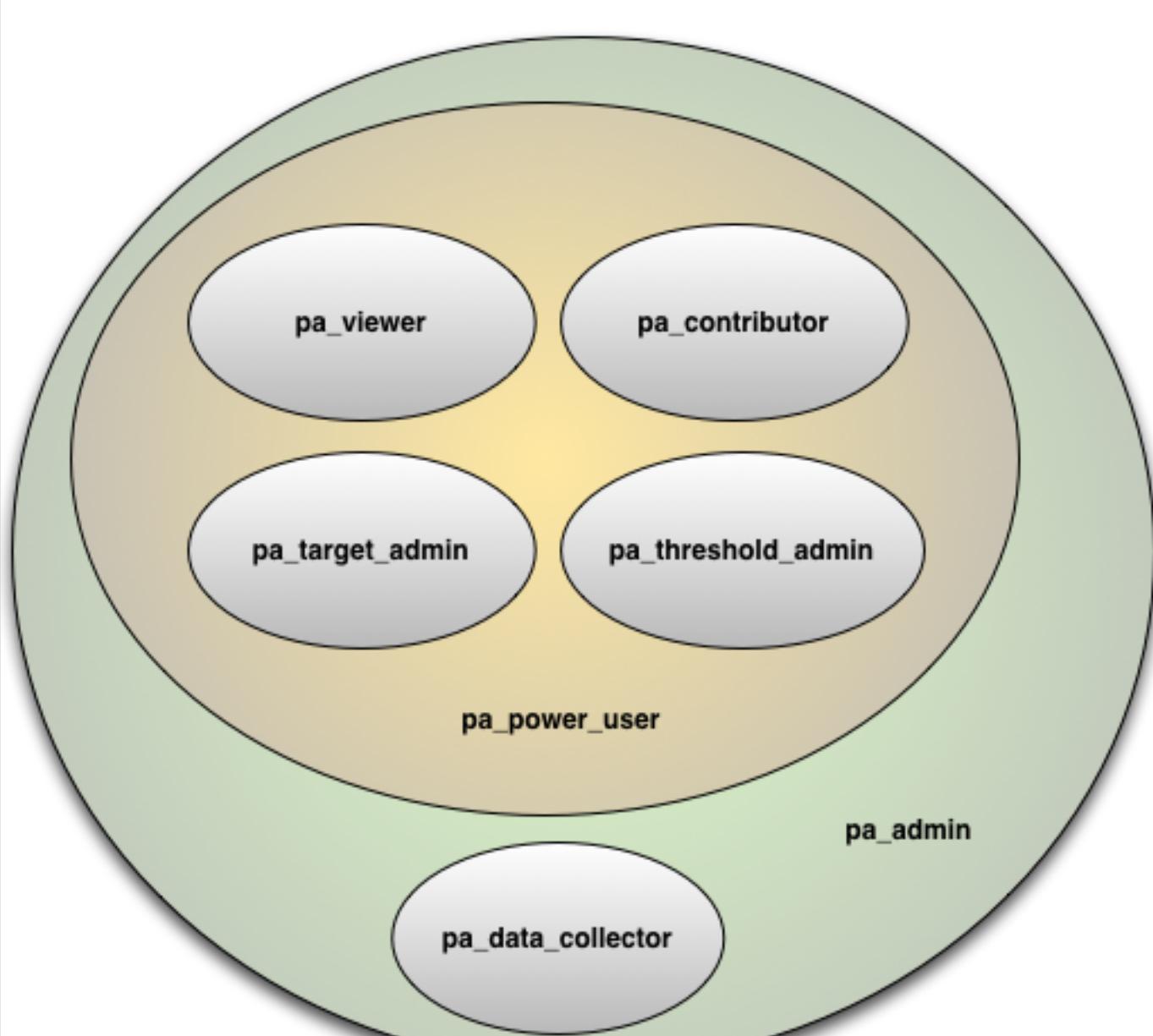
Assign roles to ensure that users can perform all necessary actions.

Table 1: Roles

Role	Description
pa_viewer	Users with the pa_viewer role can view scorecards and dashboards.
pa_contributor	Users with the pa_contributor role can view scorecards and dashboards, as well as manually enter scores. The user must be selected in the Contributor field of an indicator to view and enter scores for that indicator.
pa_target_admin	Users with the pa_target_admin role can add targets to an indicator.

Role	Description
pa_threshold_admin	Users with the pa_threshold_admin role add thresholds to an indicator.
pa_power_user	Users with the pa_power_user role can create Performance Analytics configuration records such as indicators, breakdowns, and dashboards. The pa_power_user role contains the pa_viewer, pa_contributor, pa_target_admin, and pa_threshold_admin roles.
pa_data_collector	Users with the pa_data_collector role can configure and run data collection jobs and can modify Performance Analytics properties.
pa_admin	Users with the pa_admin role can create any Performance Analytics records such as indicators and breakdowns, as well as data collection jobs, and can modify Performance Analytics properties. The pa_admin role contains the pa_power_user and pa_data_collector roles.
admin	The system administrator role. Users with the admin role can perform all pa_admin functions, and can create database views.

Certain roles such as pa_power_user and pa_admin include other roles. For example, pa_power_user includes pa_viewer. This diagram shows the role hierarchy.



Supported browsers for Performance Analytics

ServiceNow supports Performance Analytics in UI15 and UI16.

Performance Analytics supports all browsers that are supported by the UI15 and UI16 interfaces.

Visualize Performance Analytics data

Display collected data using scorecards, widgets, and dashboards.

Performance Analytics scorecards

Scorecards display data for a single indicator and enable you to perform detailed analysis of the indicator data.

Each indicator has an associated scorecard created automatically. To access the list of scorecards, navigate to **Performance Analytics > Scorecards**.

Use a scorecard

Use scorecards to thoroughly analyze indicator data, such as by aggregating data, comparing breakdown scores, or viewing changes over time.

To access the detailed scorecard for an indicator, navigate to **Performance Analytics > Scorecards**, then select an indicator. You can also click the **Show scorecard** related link on the Indicator form to view the scorecard for that indicator.

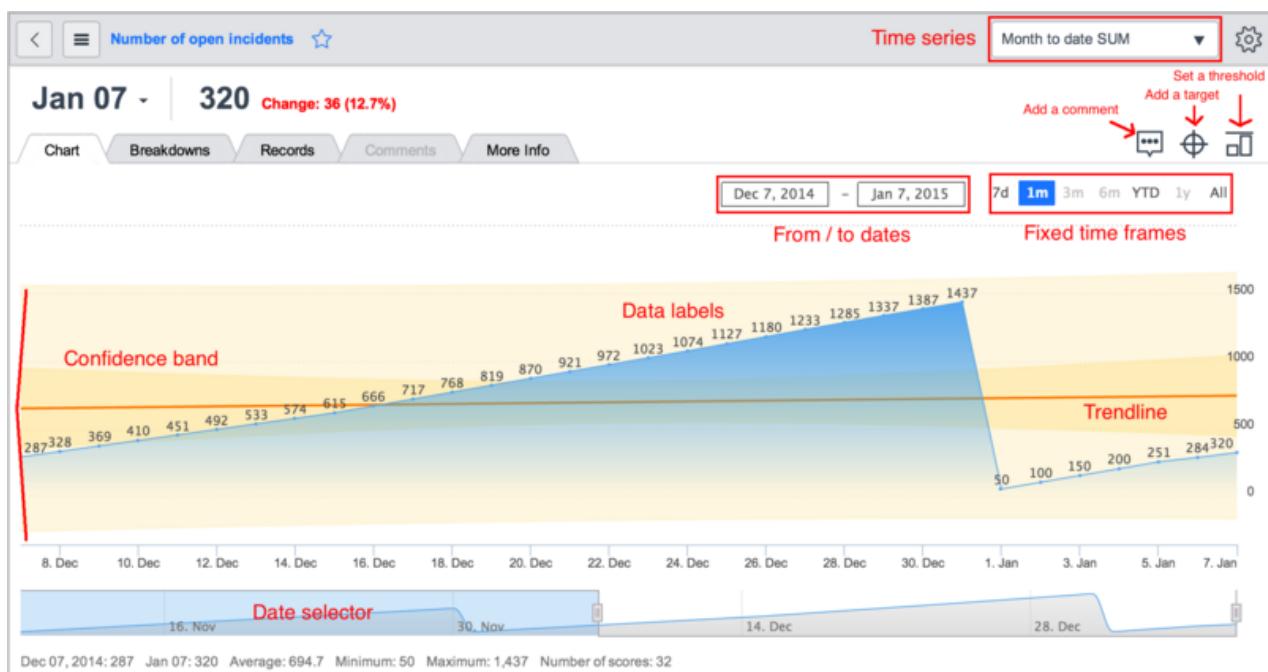


Figure 1: Detailed scorecard

Note: Very large numbers will be rendered with the appropriate abbreviation. For example, K for thousands and M for millions.

You can interact with a scorecard in the following ways.

- To view aggregate data, such as the monthly sum of scores, apply a time series such as **By week SUM**.
- To view the score at a certain date, click that date. After you select a date, you can add a comment, target, or threshold at that date.
- To change the period for which the chart is drawn, you can select one of the fixed time frames, specify specific **from** and **to** dates, or use the date selector at the bottom of the chart.
- To export the scorecard to a PNG, JPG, PDF, or CSV file, click the show functions icon and select the format you want to export to.
- To access the indicator record, or to modify the scores manually, click the show functions icon and select **Edit indicator** or **Edit scores**.
- To control which elements appear on the chart, such as to show a trendline or confidence band, click the chart settings icon.

Scorecard chart settings

Use the chart settings to configure which elements appear on a detailed scorecard.

Click the gear icon



() at the top right to access the chart settings. Use chart settings to enable or disable the following elements.

- **Target** set for this indicator. The option can only be selected if a target is set for the indicator. For more information, see [Create a target](#) on page 94.
- **Thresholds** set for this indicator. A threshold can help to give a warning about abnormal scores. For example, an all time high or an all time low scores. Thresholds are displayed as dashed light gray lines in the detailed scorecard. The option can only be selected if an active threshold is set for the indicator. For more information, see [Create a Performance Analytics threshold](#) on page 96.
- **Trendline** that the system generates based on the indicator scores for the selected period.
- **Confidence band** that displays the bandwidth between which the indicator scores are moving. The dark yellow band displays values that are with a 95% certainty within the bandwidth. The light yellow bands display the prediction band. The prediction band is broader than the confidence band, because outlying values are also considered for the calculation.
- **Comments** can be switched on or off in the detailed scorecard. If a comment was added for a data point, a balloon is displayed above it. When you point to the balloon, the comment itself is shown.
- **Labels** can be enabled or disabled to show data labels for all data points in the chart.
- **Statistics** can be switched on or off in the detailed scorecard. Chart statistics include average, minimum, maximum and number of scores.

Note: If a new date range is selected in the detailed scorecard, targets, thresholds, trendlines, and confidence bands are redrawn for that new date range.

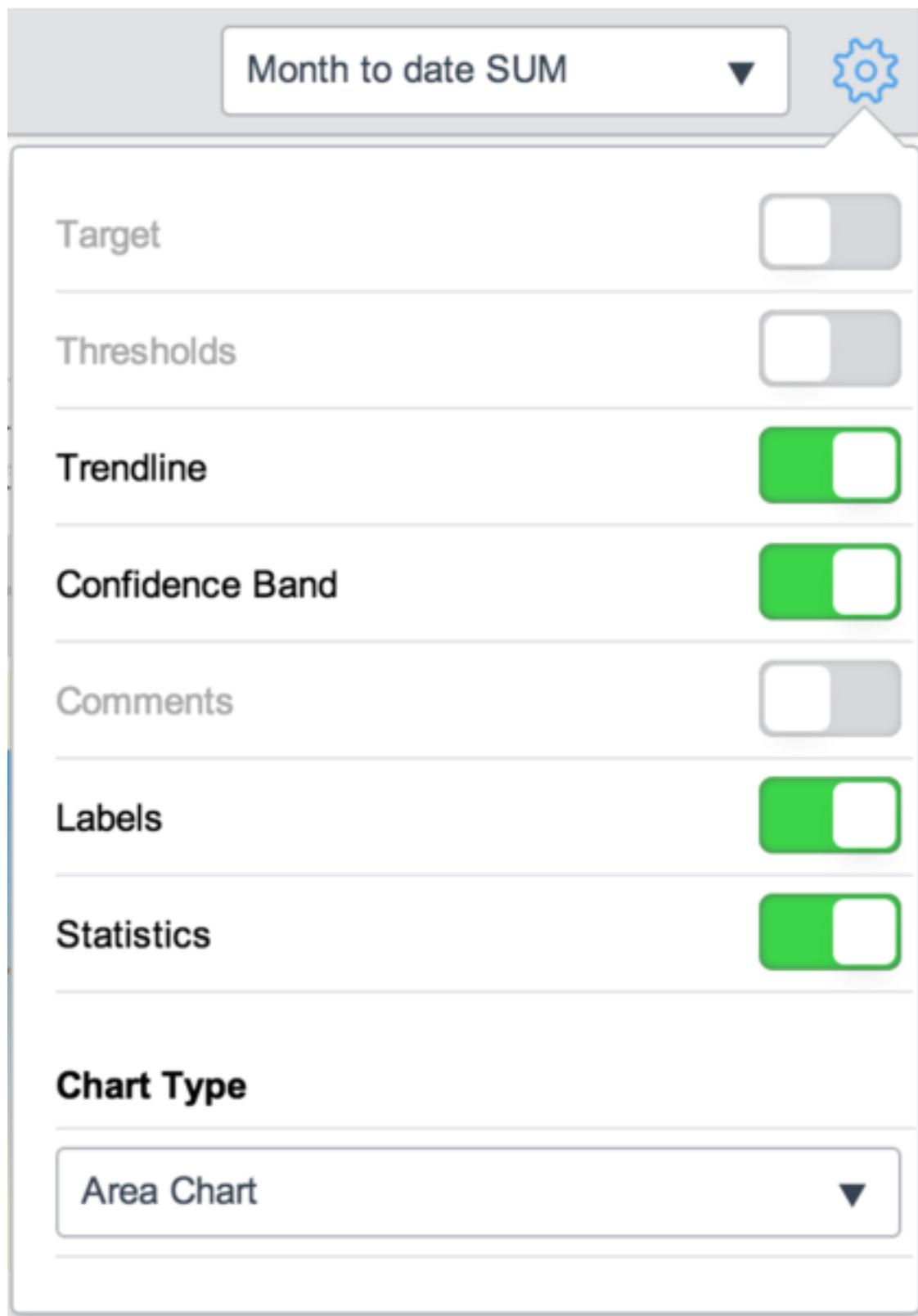


Figure 2: Chart settings

To change the **Type** of chart to display for the scorecard:

1. Click the chart settings menu icon



()
at the top right.

2. Select the type of chart from the choice list:

- **Line Chart**
- **Column Chart**
- **Spline Chart**
- **Area Chart**

3. Click the chart settings icon



()
again to close the menu.

The trend is always shown as a line for all charts.

Scorecard Breakdown tab

Beside the **Chart** tab, there is a **Breakdowns** tab with breakdown information and records for the indicator. If no breakdowns are configured for an indicator, the **Breakdowns** tab is unavailable.

On the **Breakdowns** tab, you can choose the breakdown and optionally the element, known as the breakdown instance, for which a chart is drawn. Choose different chart types from the choice list above the chart.

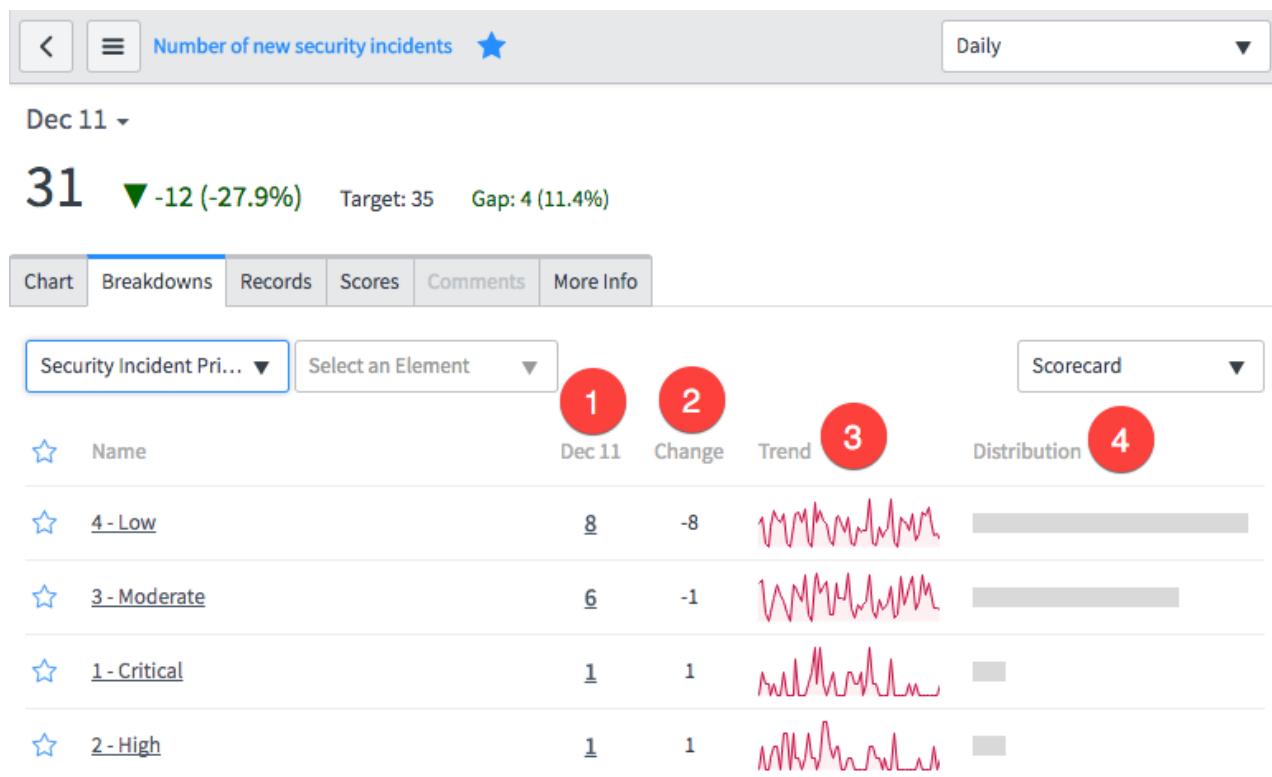


Figure 3: Breakdowns tab

In the default Scorecard view, a table is displayed of the breakdown elements. This table contains the following data for each element:

1. The score for the period that you selected. The most recent period is the default.
2. The change in the score from the previous collection period.
3. The trend in the score. The period for which the trend is calculated depends on the indicator frequency and how far back the data goes. For example, a 3 month average is shown for a daily indicator unless there is not 3 months worth of data, in which case the trend is shown for the longest period for which there is data.
4. The score for the selected period, same as the first column, but represented as a bar. This bar graph is provided to help you see the distribution of scores across the breakdown elements.

If the **Collect breakdown matrix** option has been activated for an indicator, you can select which one of these breakdowns you want to see and click to view its details. From the details of one breakdown, for example, **Priority**, navigate to the **Breakdowns** tab to view the second breakdown, for example, **Category**. After selecting a breakdown element from that second breakdown, for example Network, you can dot-walk one level up by clicking the first breakdown from the title bar, for example, **Priority**, to return to the first breakdown level.

If you want to get a hierarchical view of the breakdowns, select **Breakdown matrix**. This enables you to choose a second breakdown level that is shown indented below the first breakdown. For example, you can list all incidents by **Category** (Software), and then by **Priority** (Critical, High, Moderate, Low, or Planning), or vice versa. Any combinations of breakdowns that result in zero scores are suppressed. This option is not available when viewing the real-time score.

To mark favorites in the breakdown list, click the star icon



)

before the breakdown element. If favorites have been marked in the breakdown list, they are shown by default. Click the filter icon



)

beside the **Name** field to switch between showing only favorite breakdown elements and showing all breakdown elements.

Note: Favorites are user-specific. The system stores the state of the breakdown list as a user preference. If you are showing only favorites in the breakdowns list when you log out, the breakdowns list shows only favorites when you log back in.

A **Records** tab is available only for *automated indicators*. By default, it shows the records that were used at data collection time to calculate the indicator. For example, the **Records** tab for the **Number of Open Incidents** indicator shows the incidents that matched the criteria at the collection date.

Use the record information in combination with the **Zoom into date** option on the chart, to view records for every collection date. For example, if you click a specific date in the chart, a horizontal bar appears in the chart 'locking' the date and the breakdowns and records are displayed for that date. If you want to see the whole date range again, click **Reset selected date**.

Note: Access control rules (ACLs) may apply that prevent showing records for the **Records** tab.

A **Comments** tab is available if comments have been added for data points in the chart.

A **More Info** tab is available with information on the chart description, update frequency, last updated, direction, and formula (if applicable).



You can save the chart as a JPG or PNG file by clicking the context menu icon ().

Viewing changes in collected records

You can compare which records are collected for an indicator at different dates.

You can view a detailed list of records collected for an indicator in the **Records** tab of the detailed scorecard for that indicator. When viewing the records you can compare which records were included in the data set at different dates. You can compare the lists between two different dates, or between a specific date and the real-time data if real time data is enabled for the indicator.

A date picker enables you to specify which date's data you want to compare the currently-displayed data with, and a Venn diagram enables you to display specific sets of data by clicking the diagram. You cannot select a data set with no records.

Table 2: Choices

Data set	Description
Shared with	Click the center of the diagram to display only records that are in both the earlier and the more recent data sets.
Moved in	Click the left side of the diagram to display only records that are in the more recent data set, but are not in the earlier data set.
Moved out	Click the right side of the diagram to display only records that are in the earlier data set, but are not in the more recent data set.

Important: The **Show delta** check box on the Indicator form must be selected for the indicator to show historic data, and for the comparison options to appear on the detailed scorecard.

Scorecard Scores tab

The **Scores** tab on a Performance Analytics detailed scorecard displays a list of collected scores by date. For formula indicators, the formula is also shown unless a time series aggregation is applied to the indicator.

When viewing the **Scores** tab for a formula indicator, you can click a portion of the formula to view the scorecard for that data. For example, on the scorecard Average age of last update of open incidents, you can click the **Number of open incidents** link on the **Scores** tab to view the Number of open incidents scorecard.

Note:

- In Jakarta Patch 6, the formula column was disabled for formula indicators that have time series aggregations applied.
 - Dates for the current year are shown in short format but for previous years are shown in long format.
-

Find a scorecard

You can search, browse, and filter a list of scorecards to find the scorecard you want to view.

To access the scorecard list, navigate to **Performance Analytics > Scorecards**. The scorecard list displays indicator scorecards along with their current score, most recent change in score, and a preview of the scorecard.

You can choose to view all indicators, or filter the list based on the indicator performance.

- **Best:** Shows indicators that are outperforming their target (green), ordered by Gap % (best performers on top).
- **Worst:** Shows indicators that are under performing their target (red), ordered by Gap % (worst performers on top).
- **Improved:** Shows indicators that have improved compared to the previous data collection (moving in the right direction).

- **Degraded:** Shows indicators that have degraded compared to the previous data collection (moving in the wrong direction).
- A solid blue star beside an indicator name indicates that it is a favorite. Click the star beside the scorecard to mark it as a favorite.
- A black dot beside an indicator name indicates that it is a key indicator. Mark indicators as key by selecting the **Key** check box when creating the indicator.



To customize the scorecards list, click the list settings icon () beside the list header search box. You can apply filters and breakdowns, and control which columns appear in the scorecards list. The condition filter at the top of the list displays any currently-selected filter options. You can remove, but not add filter conditions using this filter.

Note: If no scores have been collected and there are no active data collection jobs, the Performance Analytics welcome screen is displayed in scorecards and dashboards. This option can be turned on or off by setting the system property system property com.snc.pa.show_welcome_page to false.

Navigate scorecards using breakdown relations

Relations defined for a breakdown appear when you view a scorecard Breakdowns tab. You can select a related breakdown to filter the scorecard data.

Role required: pa_viewer or admin

Before starting this procedure, create a breakdown with one or more breakdown relations.

Note: You can use breakdown relations for first-level breakdowns only. For example, when viewing the scorecard Number of resolved incidents > Assignment Group = Database > Priority = 1 - Critical, you can use only those breakdown relations defined for the Assignment Group breakdown. Any breakdown relations defined for the Priority breakdown are not available on this scorecard. Change the scorecard breakdown to Number of resolved incidents > Priority = 1 - Critical > Assignment Group = Database to use Priority breakdown relations.

For example, when viewing the scorecard Number of resolved incidents > Assignment Group = Database, the **Breakdowns** tab displays **Child Groups** related breakdowns. Click a child breakdown to view the scorecard specific to that child group, such as Database Atlanta.

1. Navigate to **Performance Analytics > Scorecards**.
2. Select a scorecard with a breakdown that has one or more breakdown relations.
3. Click the **Breakdowns** tab.
4. In the first choice list, select a breakdown field, such as **Assignment Group**.
5. In the list that appears, select a breakdown element, such as **Database**.
6. Click the **Breakdowns** tab again.

- If any breakdown relations exist for the selected breakdown, the first choice list displays the default relation.
7. In the first choice list, select the related breakdown to apply, such as **Child Groups**.
 8. Select a related breakdown element, such as Database Atlanta.

The scorecard now displays data broken down for the Database Atlanta group.

Export a scorecard

You can export data from a detailed scorecard to PDF or CSV, or save the scorecard as an image.

Role required: pa_admin

Export the scorecard chart to PDF, PNG, or JPG, or export the score values to CSV.

1. Navigate to a scorecard.
2. Click the context menu icon at the top left before the indicator title.
3. Select one of the export options, such as **Save chart as PNG**, **Export scorecard to PDF**, or **Export scores to CSV**.
4. Optional: When exporting to PDF, select the scorecard elements you want to export, then click **Export**.
5. Click **Download**.

View real-time scores

You can view real-time data when using a non-formula and non-scripted indicator.

Real-time data is available in detailed scorecards and on workbench process widgets. Real-time data is available in breakdowns on a detailed scorecard, but not in breakdown widgets.

To view the real-time score, click **Real-time** in the date picker when a different date is selected. You can view real-time data in the **Records** tab of a detailed scorecard or workbench widget by clicking the current date and time within the tab.

Note: Record details are not available for the **Unmatched** breakdown element when you view real-time scores.

The indicator must have real-time score enabled for these options to appear on a scorecard. You can enable real-time data for an indicator by selecting the **Show real-time score** check box on the [View real-time scores](#) on page 21 **Other** tab of the Indicator form. You may want to disable real-time data when using the indicator in an integration that does not provide real-time data.

Supported scorecard parameters

You can pass certain parameters in the URL when navigating directly to a scorecard.

Parameters passed to a scorecard must follow the format /scorecard.do?

<parameter>=<value>&<parameter2>=<value2>.

Table 3: Available parameters

Parameter	Description
indicator_group	Enter the sys_id of an indicator group. The scorecard displays only indicators from the specified group.

Performance Analytics widgets

Widgets enable you to define and reuse visualizations for indicators and display these visualizations on dashboards.

A widget determines how data is presented on dashboards such as in a chart, latest score, speedometer, dial, scorecard, or column. Widgets are always linked to an indicator.

Users with the pa_admin and pa_power_user roles can create and manage widget configurations.

Widgets are global, so:

- Anyone can see a widget you created
- Anyone can use the widget when creating their dashboard
- Anyone can edit your widget

Follow these practices when creating and editing widgets:

- Always create a new widget when you need an alternate view.
- Do not change an existing widget when you did not create it.

Create a widget

Create a widget to specify the data to display, and visualization options based on the widget type.

Role required: pa_admin, pa_power_user, or admin

1. Navigate to **Performance Analytics > Widgets**.
2. Click **New**.
3. Enter a **Name** to identify what the widget does. For example, Last score number of open incidents.
4. Optional: Enter a **Lookup name**. The lookup name appears instead of the **Name** when adding the widget to a dashboard.
5. Enter a more detailed description. For example, Widget to represent the last score of open incidents.
6. Select the type of widget to create.
7. Fill in the rest of the form according to the **Type** selected.

For more information about filling out the fields for a specific type, see the appropriate topic.

Create a time series widget

Create a time series widget to display changes in scores over time.

Role required: pa_power_user

Define the time series widget by filling in the following fields.

Note: Some choices vary according to the selected **Visualization**.

Table 4: Time series widget fields

Field	Description
Indicator	Select the indicator you want to display in the widget, such as Number of open incidents.
Breakdown	Select a breakdown to filter the data by, such as Priority. Scores displayed in the widget are filtered based on this value, such as to show only records with a specific priority.

Field	Description
Element	<p>Select the default breakdown element to apply. If specified, only records with the selected breakdown value are displayed in the widget.</p> <p>For example, with the Priority breakdown, select the element 1 - Critical to display only records with a critical priority.</p> <p>If you select a breakdown but do not select an element, the widget uses the unmatched breakdown element.</p>
2nd Breakdown	Select a 2nd-level breakdown to further filter the data by, such as Assignment Group.
Element	<p>Select the default 2nd-level breakdown element to display. If specified, only records with both the selected breakdown element and 2nd-level breakdown element are included in the widget.</p> <p>If you select a 2nd breakdown but do not select a 2nd element, the widget uses the unmatched breakdown element.</p>
Indicator group	When displaying multiple indicators, such as in a relative compare visualization, specify a group of indicators instead of a single indicator.
Time Series	<p>Apply a mathematical aggregation to the widget data for a specific time period.</p> <p>For example, you can display the average yearly score or a weekly sum. You can select only time series that are available for the widget's indicator. A plus sign (+) at the end of the time series indicates that scores for a partially completed period will be included.</p>
Type	Select Time Series .
Visualization	Select the visualization to use to display the indicator scores. Certain configuration options are available only for specific visualizations.
Previous period chart	<p>Select this check box to compare data from previous periods side-by-side.</p> <p>For example, you can compare the number of open incidents per week. Each week is represented in a different color in the same chart for the number of weeks you selected.</p>

Field	Description
Label	Enter a main series label. Use the main series label to search for similar widgets to add to a dashboard.
Color	Select a color to use to display the main indicator when there are multiple indicators, such as for the Relative Compare visualization. This color overrides the selected Color scheme .
Color scheme	Select a chart color scheme to use in the widget. Note: Only the first color in the color scheme is used.
Date Settings	
Period	Select the date range to display in the widget. Several options are available. <ul style="list-style-type: none"> • Select a specific time range. The default is 3m (3 months). • Select max to use scores up to the current date. • Select between and then fill in the From and To fields to define a time period. The Period field is available only if you select Column , Line , Column and Total , or Stacked Column as the Visualization
Show date range selector	Display a date range selector on the widget that enables users to change the selected period from a dashboard. Note: Selecting a date range on a widget does not update the trend line.
Axis Settings	
Y-axis title	Specify a title to display on the vertical axis of the chart.
Y-axis from	Specify the starting point for the range of values for the vertical axis of the chart.
Y-axis to	Specify the ending point for the range of values for the vertical axis of the chart.
2nd Y-axis title	Specify a secondary title to display on the vertical axis of the chart.

Field	Description
2nd Y-axis from	Specify the starting point for a 2nd range of values for the vertical axis of the chart. The 2nd Y-axis can be used if scores normally move between a limited range, but you have some exceptions that would otherwise distort the chart, such as a range of 40 to 60, with an exception of 1000.
2nd Y-axis to	Specify the ending point for a 2nd range of values for the vertical axis of the chart.
Display Settings	
Show target	Compare the scores of this chart with the target scores, if defined. This field appears only if Previous period chart is not selected.
Show thresholds	Display thresholds such as an all time high or an all time low. Thresholds appear only if they have been defined for this indicator.
Show data labels	Display the score for each portion of the chart, such as for each slice of a pie chart.
Show trend	Display the trend line. This field appears only if Previous period chart is not selected.
Show confidence bands	Display confidence bands in this chart.
Show forecast	Display forecast data in the chart based on current trend data.
Show comments	Display comments added to data points in the chart.
Previous Period Settings	
Range of periods	Select the range of periods to compare with the current period,
Number of periods	Specify the number of previous periods to display.

Create a score widget

Create a score widget to display an aggregate score.

Role required: pa_power_user

Define the score widget by filling in the following fields.

Table 5: Score widget fields

Field	Description
Indicator	Select the indicator you want to display in the widget, such as Number of open incidents.
Breakdown	Select a breakdown to filter the data by, such as Priority. Scores displayed in the widget are filtered based on this value, such as to show only records with a specific priority.
Element	Select the default breakdown element to apply. If specified, only records with the selected breakdown value are displayed in the widget. For example, with the Priority breakdown, select the element 1 - Critical to display only records with a critical priority. If you select a breakdown but do not select an element, the widget uses the unmatched breakdown element.
2nd Breakdown	Select a 2nd-level breakdown to further filter the data by, such as Assignment Group.
Element	Select the default 2nd-level breakdown element to display. If specified, only records with both the selected breakdown element and 2nd-level breakdown element are included in the widget. If you select a 2nd breakdown but do not select a 2nd element, the widget uses the unmatched breakdown element.
Time Series	Apply a mathematical aggregation to the widget data for a specific time period. For example, you can display the average yearly score or a weekly sum. You can select only time series that are available for the widget's indicator. A plus sign (+) at the end of the time series indicates that scores for a partially completed period will be included.
Type	Select Score .
Visualization	Select the visualization to use to display the indicator scores. Certain configuration options are available only for specific visualizations.

Field	Description
Template	When the Visualization is Latest Score , select the visualization template to use.
Latest Score Settings	
Compare score with	When the Visualization is Latest Score , select if you want to compare the data with the previous score, or with several previous periods.
Number of periods back	When Compare score with is Periods Back , specify how many previous periods to compare with the current score.
Speedometer/Dial Settings	
Auto scale	Select to automatically determine the start and end points for the dial based on the data. Clear this check box to manually enter the From and To values.
From	Specify the starting point for the dial.
To	Specify the end point for the dial.

Create a list widget

Create a list widget to display scores as a list.

Role required: pa_power_user

Define the list widget by filling in the following fields.

Table 6: List widget fields

Field	Description
Indicator group	Select the group of indicators to display on the widget.
Time Series	Apply a mathematical aggregation to the widget data for a specific time period. For example, you can display the average yearly score or a weekly sum. You can select only time series that are available for the widget's indicator. A plus sign (+) at the end of the time series indicates that scores for a partially completed period will be included.
Type	Select List .
Visualization	Select the visualization to use to display the indicator scores. Certain configuration options are available only for specific visualizations.

Field	Description
Sort on	Define the sort order based on values from the breakdown elements, such as Value or Name , or based on computed metrics, such as Change% or Gap
Sort direction	Select if the sort order should display higher values first (Descending) or lower values first (Ascending).
List Settings	
Scorecard options	Select All scorecards, scorecards marked Key , or Favorite scorecards to show only those scorecards on the dashboard.
Page size	Select the number of rows to show on the list scorecard.
Filter	Filter the scorecard list for Best Performing , Worst Performing , Improved , Declined , or Deteriorated . Only indicator scores that match the filter are shown.
Column Settings	
Current score	Display the score from the latest data collection.
Trend	Shows the direction that the indicator is moving. The trend is shown in a mini-chart on the dashboard.
Bullet chart	Display an additional column on the widget that shows how close the latest score is to the latest target score. The additional column only appears if the indicator has a defined target.
Multiple scores	Adds additional scores to the scorecard. If Current Score is also selected, the Score column is counted as the most recent period and N-1 periods are added.
Number of periods	Select the number of additional periods to include in the widget.

Field	Description
Period step	Select the length of each period. The unit is based on the frequency of the first indicator. Note: Including indicators with different frequencies, such as daily or weekly, may result in different numbers of periods per indicator. For example, if the first indicator has a daily frequency, and another indicator has a weekly frequency, the daily indicator will show 7 scores for every 1 score of the weekly indicator.
Change	Displays the change in value from the previous score.
Change %	Displays the percentage change from the previous score.
Target	Displays the target for the indicator if a target has been defined.
Gap	Displays the difference between the current and the target scores. Gap can be either positive (moving towards the target) or negative (moving away from the target).
Gap %	Displays the percentage difference between the current and target scores. Gap % can be either positive (moving towards the target) or negative (moving away from the target).

Create a breakdown widget

Create a breakdown widget to display a filtered subset of indicator data. For example, a breakdown widget might display open incidents filtered by priority.

Role required: pa_power_user

Define the breakdown widget by filling in the following fields.

Note: Some choices vary according to the selected **Visualization**.

Table 7: Breakdown widget fields

Field	Description
Indicator	Select the indicator you want to display in the widget, such as Number of open incidents.

Field	Description
Breakdown	<p>Select a breakdown to filter the data by, such as Priority.</p> <p>Scores displayed in the widget are filtered based on this value, such as to show only records with a specific priority.</p>
Element	<p>Select the default breakdown element to apply. If specified, only records with the selected breakdown value are displayed in the widget.</p> <p>For example, with the Priority breakdown, select the element 1 - Critical to display only records with a critical priority.</p> <p>If you select a breakdown but do not select an element, the widget uses the unmatched breakdown element.</p>
2nd Breakdown	Select a 2nd-level breakdown to further filter the data by, such as Assignment Group.
Element	<p>Select the default 2nd-level breakdown element to display. If specified, only records with both the selected breakdown element and 2nd-level breakdown element are included in the widget.</p> <p>If you select a 2nd breakdown but do not select a 2nd element, the widget uses the unmatched breakdown element.</p>
Time Series	<p>Apply a mathematical aggregation to the widget data for a specific time period.</p> <p>For example, you can display the average yearly score or a weekly sum. You can select only time series that are available for the widget's indicator. A plus sign (+) at the end of the time series indicates that scores for a partially completed period will be included.</p>
Type	Select Breakdown .
Visualization	Select the visualization to use to display the indicator scores. Certain configuration options are available only for specific visualizations.
Color	Select a color to use to display the main indicator when there are multiple indicators, such as for the Relative Compare visualization. This color overrides the selected Color scheme .

Field	Description
Sort on	Define the sort order based on values from the breakdown elements, such as Value or Name , or based on computed metrics, such as Change% or Gap .
Sort direction	Select if the sort order should display higher values first (Descending) or lower values first (Ascending).
Color scheme	<p>Select a chart color scheme to use in the widget.</p> <p>Note: Only the first color in the color scheme is used.</p>
Follow element	<p>Applies only when this widget is placed in a "breakdown dashboard." Select this option for the widget to follow the element that the user selects interactively on the dashboard. See Using breakdowns on dashboards on page 44.</p> <p>Selecting this option removes the ability to set a filtering option on the widget. Only one Breakdown field remains in the form, for selecting the grouping breakdown.</p>
Follow breakdown	<p>Breakdown dashboard configurations specify breakdown sources, not specific breakdowns. The same breakdown source can be used for multiple breakdowns. Therefore, select this option to set which of the possible breakdowns to follow.</p> <p>For example, consider the indicator Number of open incidents. This indicator uses two breakdowns: Assigned to, and Created by. Both breakdowns are based on the Users.Active breakdown source. You create a widget for this indicator and you select Follow element on this widget. You also need to select Follow breakdown and specify either the Assigned to or the Created by breakdown.</p> <p>This option is available only if Follow element is selected.</p>

Field	Description
Color based on	<p>When the Visualization is Treemap, select the value to use to determine the color of each cell.</p> <p>The choices Score, Change, and Change % color cells based on the indicator direction, values moving in the desired direction show a more positive color. The Target choice colors cells based on how close to the defined target the current score is.</p> <p>You can select the positive and negative colors using the Positive color and Negative color fields in the Display settings tab.</p>
Date Settings	
Period	<p>Select the date range to display in the widget. Several options are available.</p> <ul style="list-style-type: none"> • Select a specific time range. The default is 3m (3 months). • Select max to use scores up to the current date. • Select between and then fill in the From and To fields to define a time period. <p>The Period field is available only if you select Column, Line, Column and Total, or Stacked Column as the Visualization</p>
Show date range selector	<p>Display a date range selector on the widget that enables users to change the selected period from a dashboard.</p> <p>Note: Selecting a date range on a widget does not update the trend line.</p>
Display Settings	
Show data labels	Display the score for each portion of the chart, such as for each slice of a pie chart.
Show visualization selector	<p>Display a choice list on the widget that enables users to change the selected visualization from a dashboard.</p> <p>Note: You cannot select the Pivot Scorecard visualization from a dashboard. You must configure the widget record to use this visualization.</p>

Field	Description
Show breakdown selector	Display a choice list on the widget that enables users to change the selected breakdown from a dashboard. There must be more than 1 breakdown available for the widget for the breakdown choice list to appear.
Positive color	When the Visualization is Treemap , select the color used to indicate a score moving in the desired direction, based on the indicator Direction value. If Color based on is set to Target , the positive color indicates values closer to the target.
Negative color	When the Visualization is Treemap , select the color used to indicate a score moving in the wrong direction, based on the indicator Direction value. If Color based on is set to Target , the negative color indicates values further away from the target. This field is not available when Color based on is Score .
Show legend	When the Visualization is Treemap , select this option to display a legend for the positive and negative colors.
Breakdown Settings	
Elements filter	Specify if only a certain subset of breakdown elements are available for this widget. By default all elements are available. For example, elements of the breakdown Priority can be: Critical , High , Moderate , Low or Planning .
Breakdown on Y axis	Pivot scorecard breakdown widgets display breakdown elements as the X axis and indicators as the Y axis by default. Select this check box to display breakdown elements as the Y axis and indicators as the X axis.
Manual elements	Breakdown elements can be selected automatically or manually. Select the Manual elements check box to display the Widget Elements related list for adding elements. Clear the Manual elements check box to automatically use the elements that belong to the breakdown.

Field	Description
Show top x	If there are many breakdown instances, the breakdown chart may become too large. Enter a number to show only the top x of the instances. The maximum Number of elements in the breakdown charts can also be specified at System > Properties . The top x for a widget cannot be higher than the property maximum.
Percentages	If you select No percentages , no score percentages are shown for the instances. If you select Percentage of elements , a score percentage is shown for each instance. For example, 6.4% of the total incidents are Critical, 11.8% are High, and so on.
Show total	If you selected Scorecard in the Visualization field, an extra row can be included in the breakdown chart showing the totals of all selected breakdowns.
Show bar	The score for each instance is represented by a bar.
Column Settings	
Current score	Display the score from the latest data collection.
Trend	Shows the direction the indicator is moving. The trend is shown in a mini-chart on the dashboard.
Multiple scores	Adds additional scores to the scorecard. Select the number of additional scores to display in Number of periods . Select the length of each period in Period step . If Current Score is also selected, the Score column is counted as the most recent period and N-1 periods are added.
Change	Displays the change from the previous score.
Change %	Displays the percentage change from the previous score.
Target	Displays the target for the indicator if a target has been defined.
Gap	Displays the difference between the current and the target scores. Gap can be either positive (moving towards the target) or negative (moving away from the target).

Field	Description
Gap %	Displays the percentage difference between the current and target scores. Gap % can be either positive (moving towards the target) or negative (moving away from the target).

After creating a widget, navigate to **Performance Analytics > Dashboards** to add the widget to a dashboard.

Monitor a workflow with a workbench process widget

A workbench process widget is a collection of indicators that tell a story, and that enables you to analyze multiple facets of multiple indicators on one screen without drilling down. This widget is useful when you want to monitor a process or service that has a workflow.

You choose the main indicators on the top of the widget. Optionally, each main indicator can have a unique set of supporting indicators.

The widget has four interconnected sections that dynamically update. For example, when you click a main indicator its score, trend, supporting indicators, and breakdown information appear. Click or select a date on any visualization and the entire widget displays data for that day.

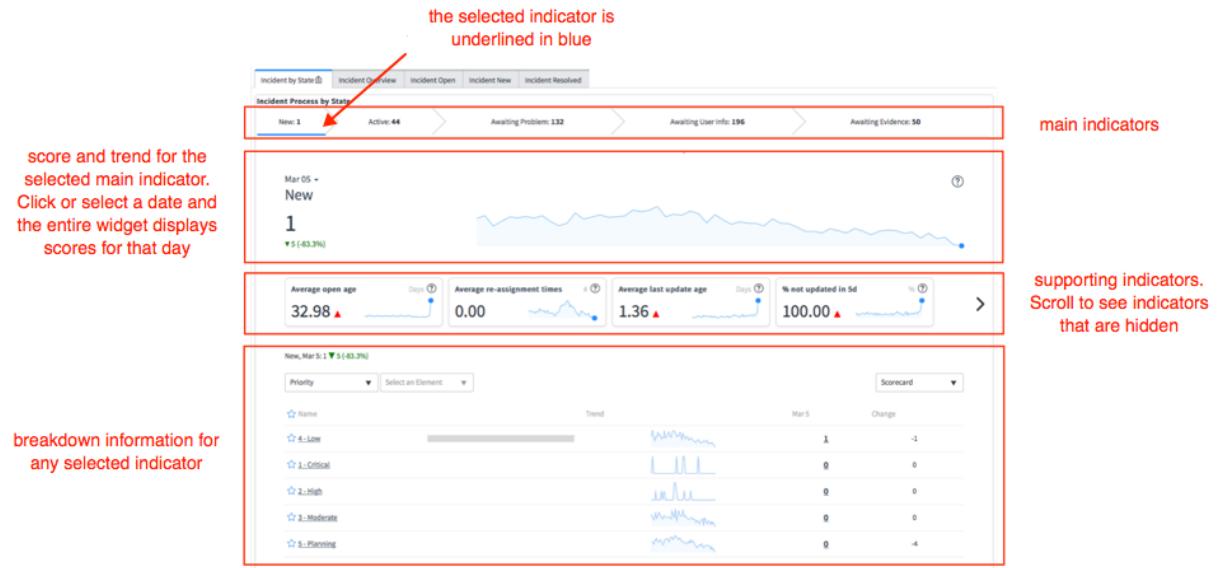


Figure 4: Workbench process widget

The bottom section of the workbench process widget displays available breakdowns or collected records for the selected main or supporting indicator. Click the **Breakdowns** or **Records** tabs to display one or the other. If you select a supporting indicator that specifies an aggregate, such as the average age of open incidents, the **Records** tab is hidden.

When you create a workbench widget, you choose only main and supporting indicators. The score, trend, and breakdown sections of widget are automatically configured and cannot be changed. However, you can change the order and appearance of indicators on the widget.

Create a workbench process widget

Create a workbench widget to monitor a process using multiple indicators.

- Familiarize yourself with the structure of the workbench widget

- Decide which main and supporting indicators to include
- Role required: pa_admin, pa_power_user, or admin

1. Navigate to **Performance Analytics > Widgets** and click **New**.

A new widget record appears.

2. **Name** the widget.

3. In the **Type** field select **Workbench**.

4. Right-click the form header and select **Save**.

The Main Widget Indicators related list appears.

5. Add a main indicator to the workbench widget.

Main indicators appear on the top of the widget. The maximum number of indicators you can add is specified in `com.snc.pa.widget.max_widget_indicators`. The default maximum number of widget indicators is eight.

a) Click **New** in the Main Widget Indicators related list.

b) Select an **Indicator**.

c) Set the **Order** to define where the indicator appears (from left to right).

d) Fill in other fields, as appropriate.

Table 8: Additional indicator configuration options

Field	Description
Breakdown and Element	A breakdown element filters the data that appears in the indicator. If you select a breakdown you must select an element. For example, if your indicator is Number of open Incidents and you select Breakdown for State and Active for Element , only scores for incidents in the active state are included in the widget.
2nd Breakdown and Element	Adds a second breakdown element that filters the data that appears in indicator. If you select a 2nd breakdown you must select an element. For example, imagine your indicator is Number of open incidents and the first breakdown filters for active state. You then select Category for 2nd Breakdown and Software for Element . The indicator will now display only scores for open incidents that are active <i>and</i> in the software category.
Time series	Adds the specified time period and aggregation to the widget's trend visualization.

Field	Description
Follow element	Specifies that a breakdown element applied to the dashboard where the widget is added also applies to the indicator. If you specify a 2nd Breakdown, Follow element is ignored.
Followed breakdown	Specifies that only this breakdown applies to the indicator as a Follow element . All other breakdowns applied to a dashboard where the widget has been added will be ignored. If you do not specify a Followed breakdown all breakdowns applied to the dashboard will apply to the indicator.
Label	Specifies the name of the indicator on the widget. If you do not specify a Label, the name of the indicator is used.

- e) Right-click the form header and select **Save**.
The Supporting Widget indicators list appears.

- 6. Optional: Add supporting indicators.
When you click a main indicator, its supporting indicators appear in the middle of the widget. You can add an unlimited number of supporting indicators.
 - a) Click **New** in the **Supporting Widget Indicators** related list.
 - b) Select an **Indicator**.
 - c) Set the **Order** to define where indicator appears (from left to right).
 - d) Fill in other fields, as appropriate. You can configure supporting indicators the same way as main indicators. See step 5 for configuration options.
 - e) Click **Submit** to return to the Main Indicator record.
 - f) Repeat step 6 until you have added all supporting indicators.

- 7. Click **Update** to return to the widget record.
- 8. Repeat steps 5 - 7 until you have added all indicators.
- 9. Optional: Select one of the main indicators as the **Default indicator**.

This default indicator appears automatically when a user views the widget. If you do not specify a default indicator, the widget displays the main indicator with the lowest **Order** value first.

- 10. Click **Update** to save the widget.

Review the widget to ensure that the new indicators are correct. If you have not already, add the widget to a dashboard to view it.

Create a heatmap widget

Create a heatmap widget to visually compare scores in a pivot table using two breakdowns as the table axes.

Role required: pa_power_user

You must have an indicator with at least two breakdowns to create a heatmap widget. Each breakdown defines one axis for the heatmap table.

Define the heatmap widget by filling in the following fields.

Table 9: Heatmap widget fields

Field	Description
Indicator	Select the indicator you want to display in the widget, such as Number of open incidents.
Type	Select Pivot .
Visualization	Select Heatmap .
Breakdown	Select the breakdown to use as the horizontal axis of the heatmap. Scores are organized into cells in the heatmap for each combination of breakdown elements from the Breakdown and 2nd Breakdown .
2nd Breakdown	Select the breakdown to use as the vertical axis of the heatmap.
Display Settings	
Show data labels	Display the score for each portion of the chart, such as for each slice of a pie chart.
Pivot Settings	
Max color	Select the color that appears in heatmap cells with the highest value. Cells with lower values appear less saturated. Cells with no score or a 0 score appear white.

Interacting with breakdown widgets on dashboards

Performance Analytics users can interact with breakdown widgets on dashboards to change the visualization or breakdown.

Widgets with the **Type of Breakdown** enable users with the pa_viewer role to select the visualization when viewing the widget on a dashboard. Users can select any visualization for the widget type from the **Visualization** choice list when viewing the widget on a dashboard.

Note: You cannot select the **Pivot Scorecard** visualization from a dashboard. You must configure the widget record to use this visualization.

Breakdown widgets also enable users to select the breakdown if multiple breakdowns are available. All available breakdowns for the widget **Indicator** appear in the **Breakdown** choice list when viewing the widget on a dashboard. If the indicator has only 1 associated breakdown, the **Breakdown** choice list does not appear on the widget.

If the **Follow element** check box is selected on the Widget form, the interactive breakdown applies as the 2nd-level breakdown. If **Follow element** is not selected, the interactive breakdown applies as the 1st-level breakdown.

You can disable this functionality for a specific widget by clearing the **Show visualization selector** or **Show breakdown selector** check boxes on the Widgets form.

The visualization or breakdown selected in the widget record is used as the default.

Relative compare visualization to compare multiple data elements over time

Use a relative compare visualization to compare multiple data elements, such as indicators or breakdowns, over time.

Think of a relative compare visualization as a pie chart with an additional time component. Like a pie chart, a relative compare visualization shows relative proportions between data points, but it can also show how those proportions change over time. Traditional uses of relative compare visualizations are stock charts or population growth trends. When you create a relative compare visualization, it uses a baseline of zero and then shows how the data changes over time.

For example, this visualization shows the number of open incidents from December to March for three different incident types. When you point to a line, the number of incidents and the percentage change for that day appear. The percentage change shown for a data point is calculated from a baseline of zero, *not* the previous data point as on most other time series visualizations.

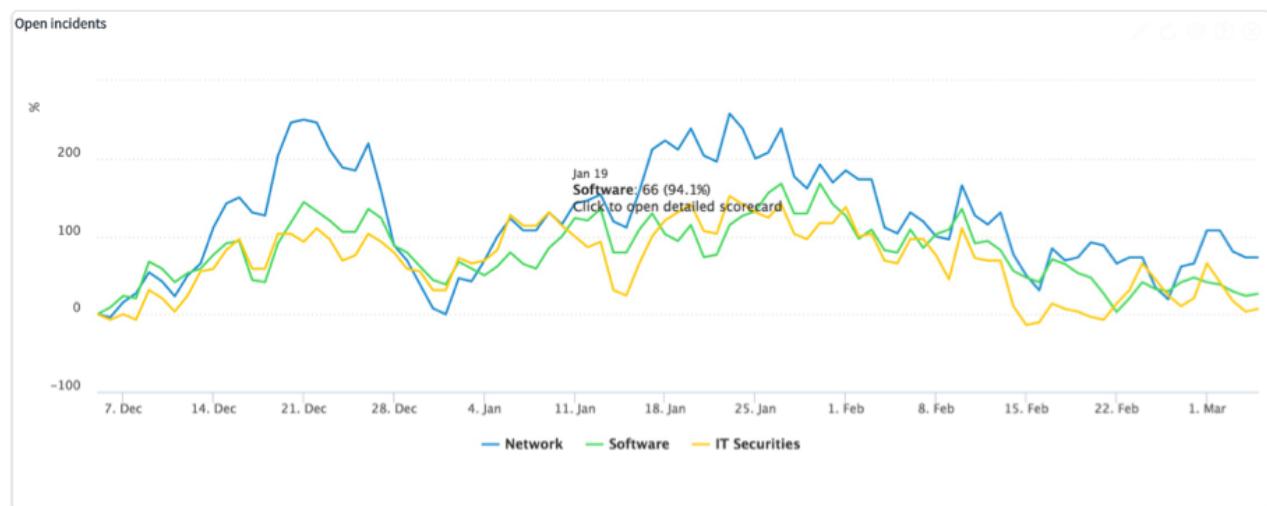


Figure 5: Example of a relative compare visualization

Create a relative compare visualization for a breakdown widget

Create a visualization that compares multiple elements (dimensions) of an indicator over time.

Role required: pa_admin, pa_power_user, or admin

1. Navigate to **Performance Analytics > Widgets**.
2. Click **New**.
3. Fill in these fields.

Field	Description
Type	Select Breakdown .
Visualization	Select Relative Compare .
Indicator	Select an indicator.
Breakdown	Select a breakdown. The individual elements of the breakdown will be shown in the visualization.
2nd Breakdown	Optionally, select a second breakdown.
Show date range selector	Select this check box on the Date Settings tab. This setting lets users dynamically change the amount of time displayed in the visualization.

4. Fill in the other fields, as appropriate.
5. Click **Submit**.

To view the widget, add it to a dashboard.

Create a relative compare visualization for a time series widget

Create a visualization that compares multiple indicators over time.

Role required: pa_admin, pa_power_user, or admin

1. Navigate to **Performance Analytics > Widgets**.
2. Click **New**.
3. From the **Type** list, select **Times Series**.
4. From the **Visualization** list, select **Relative Compare**.
5. Specify which indicators to include in the visualization with one of the following options.

Option	Note
Indicator group	If you select an indicator group, you cannot select a single indicator.
Indicator	If you select a single indicator, you must manually add additional indicators in the Widget Indicators related list.

6. Right-click the form header and select **Save**.
7. If you selected a single indicator, add additional indicators in the Widget Indicators related list.
If you selected an indicator group, additional indicators are optional.
8. Select the **Show date range selector** check box on the **Date Settings** tab.
This setting lets users dynamically change the amount of time displayed in the visualization.
9. Fill in the other fields, as appropriate.

10. Click Update.

To view the widget, add it to a dashboard.

Create a chart color scheme

Create a chart color scheme to predefine and reuse a set of colors in Performance Analytics widgets.

Role required: pa_power_user or admin

1. Navigate to **Performance Analytics > Chart Color Schemes**.

2. Click **New**.

3. Enter a descriptive **Name**.

4. Select colors in the **Color 1** and **Color 2** fields.

A color scheme must have at least two colors. All other colors are optional.

5. Optional: Select up to 32 total colors to include in the color scheme.

6. Click **Submit**.

Configure a widget to use the chart color scheme.

View widget statistics

You can view statistics about Performance Analytics widgets to help identify and resolve problems, such as if a widget is loading slowly on dashboards.

Role required: pa_power_user, pa_admin, or admin

1. Navigate to **Performance Analytics > Widget Statistics**.

2. Select the widget you want to view statistics for.

3. Review the following fields.

Table 10: Report Stats fields

Field	Description
Widget	The widget that the statistics describe.
Number executions total	The total number of times the widget was loaded from the server.
Average execution duration	The average time it took to load the widget, in milliseconds, for all executions of this widget.
Recent number executions	The number of time the widget was recently loaded from the server. The maximum number of recent executions is determined by the property <code>glide.report.recent_executions_number</code> .
Recent avg execution duration	The average time it took to load the widget, in milliseconds, for recent executions. The maximum number of recent executions is determined by the property <code>glide.report.recent_executions_number</code> .

Field	Description
Total executions duration	The total sum duration for all executions of the widget.

Widget statistics properties

These properties control how widget statistics are tracked and maintained.

Table 11: Properties

Property	Description
glide.report.recent_executions_number	<p>The number of widget executions that are considered recent for the purpose of recent average duration calculations.</p> <ul style="list-style-type: none"> • Type: integer • Default value: 25 • Location: Add a system property

Time series aggregations in scorecards and widgets

In scorecards and some widgets, you can apply a time series aggregation to the scores, such as a monthly average. The frequency with which scores are collected for the indicator determines which time series are applicable. Some time series include data from partial collection periods.

Table 12: Time series and associated indicator frequencies

Time series	Includes partial periods?	Indicator frequency
Daily	No	Daily
28d running	No	Daily
30d running	No	Daily
7d running	No	Daily
Fiscal quarter to date	No	Daily
Fiscal year to date	No	Daily
Month to date	No	Daily
Quarter to date	No	Daily
Week to date	No	Daily
Year to date	No	Daily
12m running	No	Monthly
3m running	No	Monthly
6m running	No	Monthly
By month	No	Monthly
By month +	Yes	Monthly

Time series	Includes partial periods?	Indicator frequency
4q running	No	Quarterly
By fiscal quarter	No	Quarterly
By fiscal quarter +	Yes	Quarterly
By quarter	No	Quarterly
By quarter +	Yes	Quarterly
13w running	No	Weekly
4w running	No	Weekly
By week	No	Weekly
By week +	Yes	Weekly
By fiscal year	No	Yearly
By fiscal year +	Yes	Yearly
By year	No	Yearly
By year +	Yes	Yearly

Partial periods

Some time series include indicator scores from incomplete collection periods. These periods can include the current period and the period from the beginning of data collection. A plus sign in the name, +, identifies these time series.

A time series that does not include data from partial periods must have data from the beginning and the end of the period. For example, a **By month** time series requires scores from the start and the end of the month to be present. Otherwise that month is not included. A time series that includes data from partial periods, such as **By month +**, needs only data from one day in the period.



Warning: Partial periods can skew the results of certain aggregations, such as averages.

Default time series definitions

Performance Analytics comes with default SUM, AVG, and other time series definitions. Do not alter these definitions.

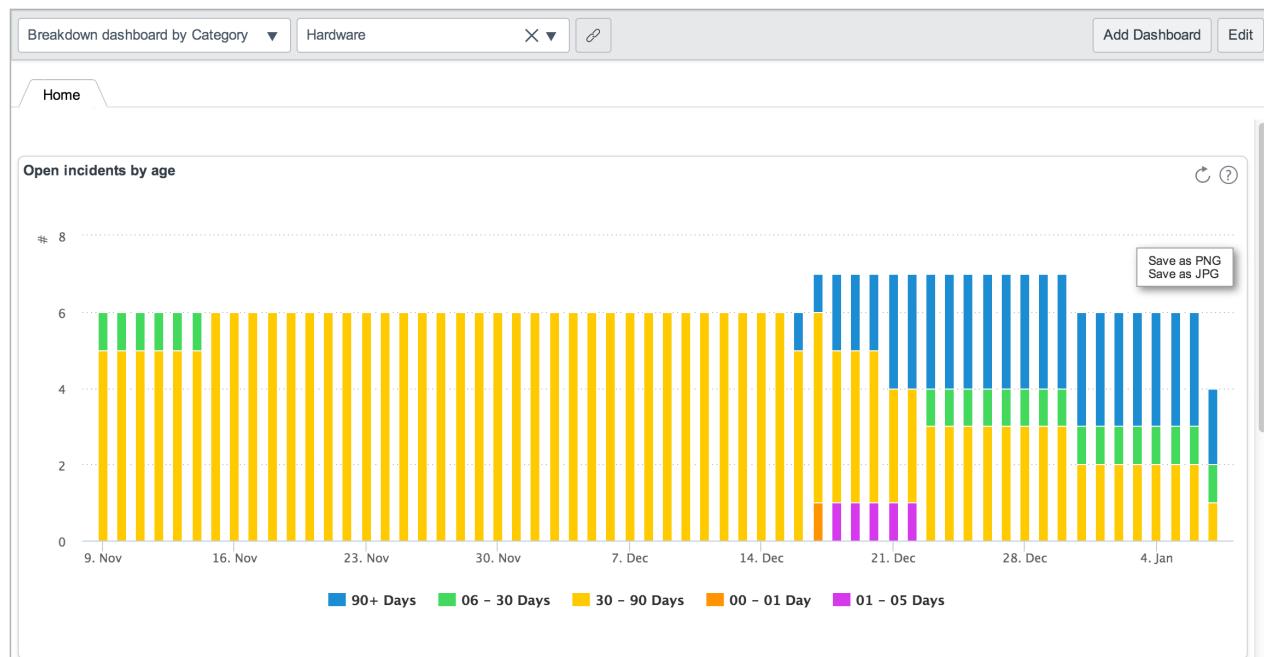


Warning: Any changes to time series definitions can have unexpected results.

Using breakdowns on dashboards

You can add breakdowns to a dashboard. Users can select a breakdown element to filter data in Performance Analytics widgets that have been added to the dashboard.

For example, the breakdown **Category** enables users to select a category from the list. After this selection the entire dashboard shows the data of indicators for that specific category, provided **Follow element** is selected for the widget that is used to render the chart or list in the widget configuration.



Add a breakdown to a dashboard

Add a breakdown to a dashboard to enable the ability to filter by breakdown element for all Performance Analytics widgets.

Role required: pa_admin, pa_power_user, or admin

If you selected **Follow element** for a widget, that widget can follow the breakdown by showing values for the indicators based on the selected breakdown instance. To change this setting while editing the dashboard, click the pencil at the top right of the widget. The Widget Configuration form appears and you can change the setting.

If you did not select **Follow element** for a widget, that widget does not follow a breakdown applied to the dashboard.

1. Navigate to **Performance Analytics > Dashboard Admin**.
2. Open the dashboard that you want to add a breakdown to.
3. Click **Edit** in the Breakdown Source related list.
4. Move the breakdown you want to apply to the **Breakdown Source List**.
5. click **Save**.

The breakdown is applied to the dashboard. Users can select breakdown

Showing breakdown relations

A breakdown widget with the Scorecard visualization can display related breakdown information. The widget must be on a breakdown dashboard, and that dashboard must include the breakdown sources of the related breakdowns.

Consider an indicator such as Number of open incidents. This indicator uses the Assignment Group breakdown. The Assignment Group breakdown has three breakdown relations between its own elements. For an element of Assignment Group, these relations are:

- A Parent Group, whose Sys ID value is in the Parent field of the selected element.
- Child Groups, consisting of other Assignment Group elements whose Parent field value is the Sys ID value of the selected element.
- Sibling Groups, consisting of other Assignment Group elements who share the same value in the Parent field.

	Name	Related breakdown	Breakdown field	Related breakdown field	Common field
<input type="checkbox"/>	Child Groups	Assignment Group	parent	sys_id	
<input type="checkbox"/>	Parent Group	Assignment Group	sys_id	parent	
<input type="checkbox"/>	Sibling Groups	Assignment Group	sys_id	sys_id	parent

Figure 7: Breakdown relations of Assignment Group

Now consider a widget that displays the Number of open incidents indicator scores grouped by Assignment Group. You set the widget to follow an element selected in a breakdown dashboard. Now you must select which of the breakdown relations to follow.

The screenshot shows the configuration of a widget in the ServiceNow interface. The configuration screen has several sections:

- Indicator:** Set to "Number of open incidents".
- Type:** Set to "Breakdown".
- Breakdown:** Set to "Assignment Group".
- Visualization:** Set to "Scorecard".
- Element:** An empty search bar.
- Sort on:** Set to "Value".
- 2nd Breakdown:** An empty search bar.
- Sort direction:** Set to "Descending".
- Element:** An empty search bar.
- Time series:** An empty search bar.
- Followed breakdown relation (?:)**: A blue link.
- *Group:** A dropdown menu showing:
 - Recent selections
 - Child Groups
 - Parent Group
 - Sibling Groups
- Follow element (?:)**: A checked checkbox.

Figure 8: Setting up widget to show elements by breakdown relation

You select Child Groups. Now you put the widget in a breakdown dashboard that uses the Groups breakdown source. Groups is the breakdown source of the Assignment Group breakdown, so on the dashboard you can select any of the elements of Assignment Group. You select ACME Support, and the widget shows the groups that have ACME Support as a parent.

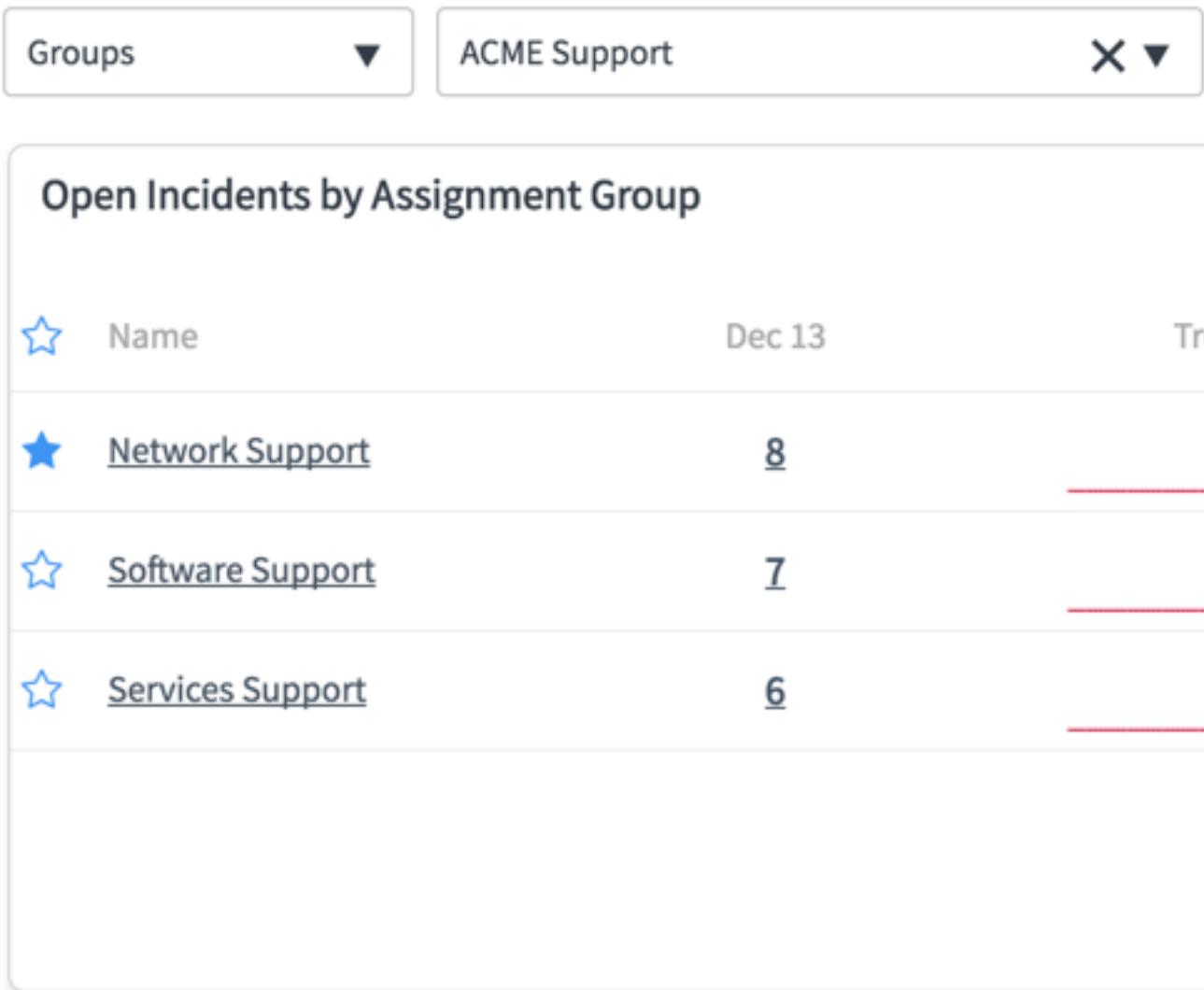


Figure 9: A widget on a breakdown dashboard showing a breakdown relation

If you edit the widget to display the Sibling Groups instead of the Child Group and select ACME Support on the dashboard again, you see the Assignment Groups with the same parent as ACME Support.

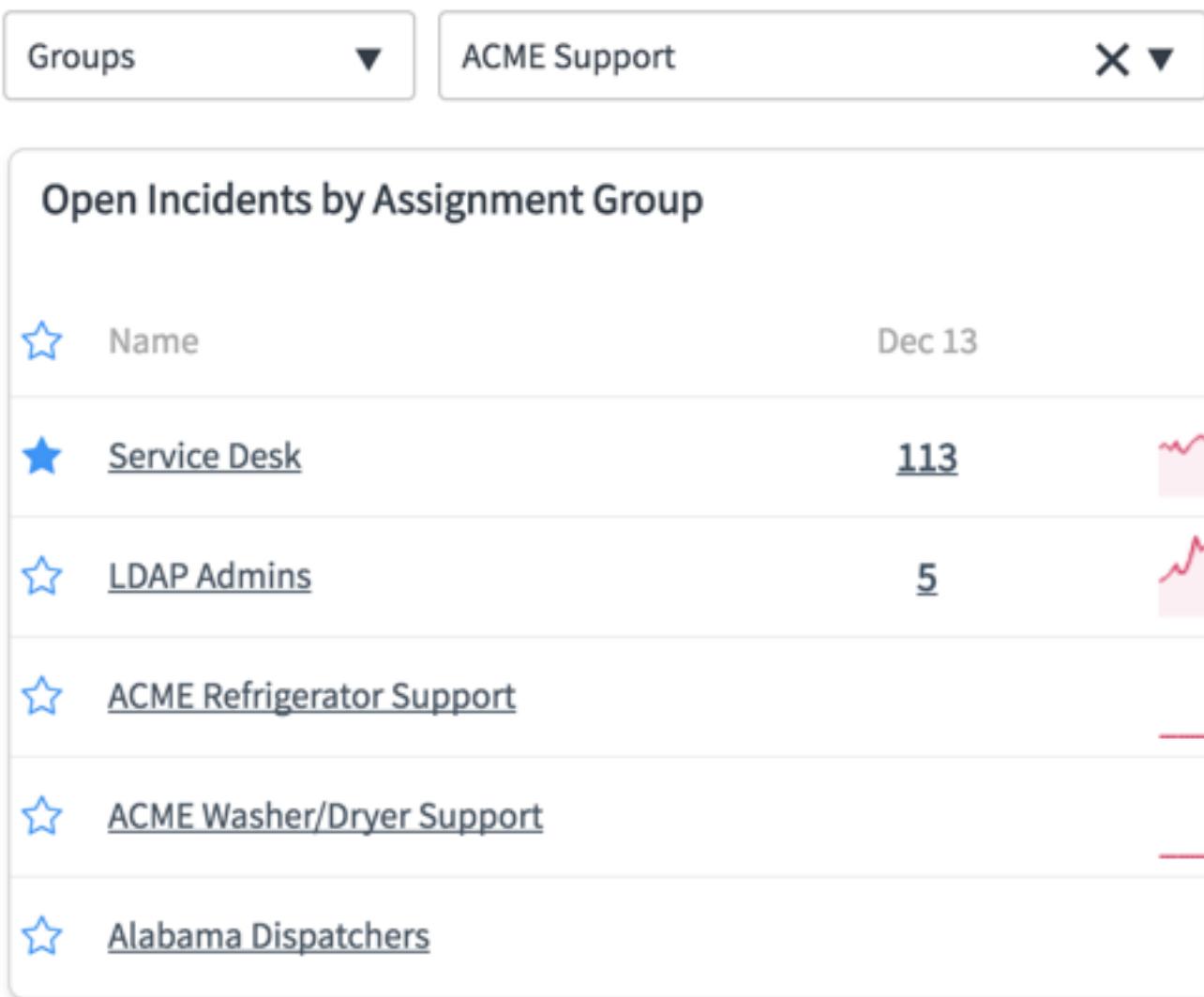


Figure 10: A widget on a breakdown dashboard showing another breakdown relation

Forecasting Performance Analytics data

Performance Analytics enables you to forecast future data based on existing trends. You can forecast data on Performance Analytics time series widgets and detailed scorecards. Forecast data appears as a dotted line.

The number of data points included in the forecast depends on the indicator frequency, and the number of **Periods to forecast** configured on the indicator. A period is set number of data points based on the indicator frequency.

Note: If you select an aggregation, the forecast is based on the frequency of the aggregation instead of the frequency of the indicator. For example, the 7d running SUM aggregation is a daily frequency, whereas the By week SUM aggregation is a weekly frequency.

Table 13: Forecast periods

Score frequency	Number of data points per period	Total period length
Daily	7	1 Week
Weekly	13	1 Quarter
Bi Weekly	6	1 Quarter
Four Weekly	13	1 Year
Monthly	12	1 Year
Bi Monthly	6	1 Year
Quarterly	4	1 Year
Fiscal Quarterly	4	1 Year
Half Yearly	2	1 Year
Yearly	4	4 Years
Fiscal Yearly	4	4 Years

Displaying the forecast

To display the forecast on a time series widget, select the **Show forecast** check box in the **Display Settings** section of the Widgets form.



To display the forecast on a detailed scorecard, click the chart settings icon () and enable the **Forecast** option.

Forecast methods

Several different methods are available for forecasting Performance Analytics data.

Forecast methods

Method	Description
Seasonal Trend Loess (STL)	Generates a seasonal forecast based on a best-fit function, trend data, and a filter to exclude noise from random variation in the data. A 'season' for this analysis is one period.
Naive Seasonal	Generates a seasonal forecast that is a copy of the previous season of data. This method does not take into account trend data beyond the previous season, such as increasing scores season over season. A 'season' for this analysis is one period.

Method	Description
Linear	Generates a linear regression forecast based on the historical scores.

Automatic method selection

If the indicator **Forecast method used** is **Auto**, the instance evaluates each of the available forecast methods against your historical data to determine the method that generates the best fit trend. This evaluation is performed each time the forecast is displayed, so collecting additional scores can alter which forecast method is used.

To determine the best fit forecast method, the instance generates forecasts using each forecast method with your historical data, then compares those forecasts with the latest data based on how far ahead you want to forecast.

For example, if you configure an indicator with a daily frequency to forecast ahead two periods, the instances generates forecasts using each method for your historical data that is older than two weeks, then compares those forecasts against the latest two weeks of data. The forecast that most closely fits the latest two weeks of data is then recalculated using the entire data set and displayed.

Forecasting and targets

When both forecasting is enabled for an indicator and there is a global target defined, the forecast shows when the target will be reached.

Additionally, the instance sends a notification 14 days before a target is reached. You can control how many days ahead the notification is sent by setting the `pa.job.forecast.target.days_to_check` property.

This functionality is available only for global targets. Thresholds and personal targets do not interact with forecasts.

Add in-form analytics to a form

Create a UI action that enables users to access contextual in-form analytics.

Role required: `pa_power_user`, `pa_admin`, or `admin`. In addition to the Performance Analytics roles, you must be able to create records on the UI Actions [`sys_ui_action`] table.

Before adding in-form analytics for a specific table and field, a breakdown dashboard that uses that table and field as a breakdown source must exist.

Performance Analytics must be active to create in-form analytics.

In-form analytics integrate performance insights into forms so that users can access important metrics in context, and make better decisions. A dashboard with relevant visualizations appears as a pop-up when a



user clicks the Analytics icon () next to a field. For example, in-form analytics on an incident form show the expected to time close that incident based on historical data, enabling support engineers to set appropriate customer expectations.

Navigate to **Performance Analytics > In-Form Analytics** and create a new record (see table for field descriptions).

Table 14: In-form analytics fields

Field	Description
Name	A descriptive name for the UI action.
Table	The table to display analytics for. The in-page icon appears on forms for this table.
Field	The field that the in-page icon appears next to. The analytics are broken down based on the value of this field.
Dashboard	The breakdown dashboard to display. The dashboard must use the selected Table and Field as a breakdown source.
Icon	The icon to display next to the selected field on the form.
Icon color	The color of the form icon.
Create in-form link	Display a related link on the form in addition to the icon when this check box is selected. The related link directs to the same dashboard as the icon.

Performance Analytics widgets on Service Portal

You can show Performance Analytics indicators and breakdowns using Service Portal.

When you edit a portal, add the **Performance Analytics** widget. Use the widget options to select an existing Performance Analytics widget to show on the portal and whether to show its title.

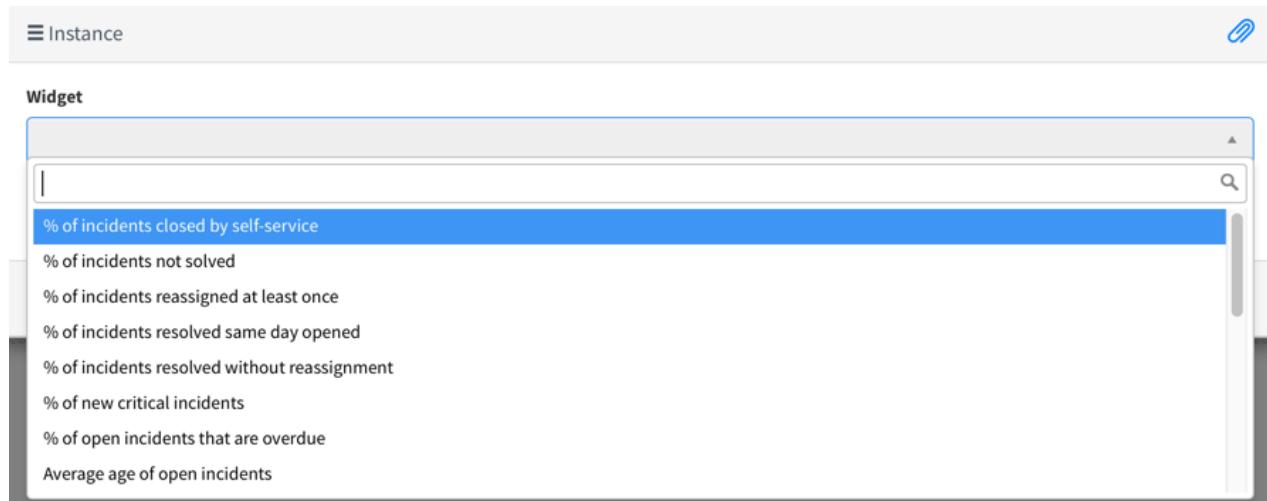


Figure 11: Performance Analytics widget

Activate the Performance Analytics and Reporting - Service Portal Widgets plugin

You can activate the Performance Analytics and Reporting - Service Portal Widgets plugin (com.snc.pa.sp.widget) if you have the admin role. This plugin includes demo data and activates related plugins if they are not already active.

Role required: admin

Performance Analytics and Reporting - Service Portal Widgets activates these related plugins if they are not already active.

Table 15: Plugins for Performance Analytics and Reporting - Service Portal Widgets

Plugin	Description
Service Portal [com.glide.service-portal]	Core Service Portal functionality.

1. Navigate to **System Definition > Plugins**.
2. Find and click the plugin name.
3. On the System Plugin form, review the plugin details and then click the **Activate/Upgrade** related link.

If the plugin depends on other plugins, these plugins are listed along with their activation status.

If the plugin has optional features that depend on other plugins, those plugins are listed under **Some files will not be loaded because these plugins are inactive**. The optional features are not installed until the listed plugins are installed (before or after the installation of the current plugin).

4. Optional: If available, select the **Load demo data** check box.

Some plugins include demo data—Sample records that are designed to illustrate plugin features for common use cases. Loading demo data is a good practice when you first activate the plugin on a development or test instance.

You can also load demo data after the plugin is activated by clicking the **Load Demo Data Only** related link on the System Plugin form.

5. Click **Activate**.

Performance Analytics data architecture

Define key metrics and data structure to generate scores.

Performance Analytics indicators

Indicators are statistics that businesses track to measure current conditions and to forecast trends. They provide you with key information on how your business is doing.

You can present them in scorecards and in user-friendly dashboards.

Set up indicators

To create an indicator, create an indicator source to define the data set to evaluate and the indicator to define an aggregation.

Indicator sources

Indicator sources define the set of records to evaluate when collecting indicator scores.

Indicator sources are based on a facts table, such as Incident, and may specify filter conditions to limit the included records. One indicator source can be used by multiple indicators.

Typically, the indicator tracks the situation on a certain date. The conditions should include a date-related filter, such as **[Opened][on][Today]**. Indicators collected less frequently might specify a larger date range, such as **[Closed][on][This month]**.

Create indicator sources carefully. Since multiple indicators may be linked to an indicator source, it is not easy to change the indicator source after you created it.

Note: Indicator sources must be created before you can create an indicator.

Create an indicator source

Create an indicator source to define the set of records to evaluate when collecting indicator scores.

Role required: pa_data_collector or admin

1. Navigate to **Performance Analytics > Indicator Sources**.
2. Click **New**.
3. Enter a name by which you can easily see what the indicator source is used for.
For example, **Incidents.Open**.
4. Optional: Enter a more detailed description.
For example, Daily collection open incidents.

5. In the **Valid for Frequency** field, select the interval at which the data for the indicator source must be collected, such as **Daily**, **Weekly**, or **Bi-weekly**.
Indicators based on this indicator source use the **Valid for frequency** value as the indicator **Frequency**.
6. Select the **Facts table** that the indicator source is based on.

Note: Do not select a rotated table as the facts table.

For example, **Incident [incident]**.

7. Add **Conditions** that must be fulfilled before data is included in the subset.
For example, **[Active] [is] [true]** or **[Created] [at or before] [date]**. Date fields are often used in conditions for time stamping. Any records that match the conditions are shown immediately.
Conditions should contain high level criteria here because this is meant to extract a large record set. Use the indicator advanced filters to go deeper into the data. Indicator source conditions on text fields are not case sensitive.
8. Click **Submit**.

Name: Incidents.New

Application: Global

Validity for Indicator frequency: Valid for Frequency: Daily

Source: Facts table: Incident [incident]

Conditions: 0 records match condition
 Add Filter Condition | Add "OR" Clause
 Opened on Today AND OR X

Figure 12: Create indicator sources

The following settings create an indicator source that collects new incidents daily:

- **Name:** Incidents.New
- **Frequency:** Daily
- **Facts table:** Incident [incident]
- **Condition:** [Opened] [on] [Today]

Create an indicator source using a report source

Use an existing report source to quickly define an indicator source.

Role required: pa_data_collector or admin

Reuse the table and filter settings from a report source to create an indicator source.

1. Navigate to **Performance Analytics > Indicator Sources**.

2. Click **New**.

3. Enter a descriptive **Name** for the indicator source.

4. Select a **Report source**.

When you select a report source the **Facts table** and **Conditions** are updated automatically to match the report source values.

5. Click **Submit**.

If the report source changes, a warning appears when you view the indicator source to inform you about the change. You can update the indicator source to match by clicking the **Update report source** related link or the refresh button next to the **Report source** field on the Indicator Source form.

The read-only **Report source updated at** field displays the last time the report source was updated. This date and time always appears in the UTC timezone.

Use a database view

Database views enable you to combine data from tables in your ServiceNow instance that are not connected by default.

By combining these tables in a database view, you can easily access them by calling up the view, and then select fields from any of the tables included in the view. For example, if you want to report on the number of SLAs breached, you need fields from both the SLA and the Incident tables.

To create database views, navigate to **System Definition > Database Views**.

If you select a database view as the facts table for an indicator source, you must provide additional configuration in the Additional conditions section of the Indicator Source form. The choice lists present the available views for the joined tables.

Option	Description
View Table	Select the table to collect records from, for example, incident .
List View	Select the list view used to display collected record sets. Default view is suggested, but you can select any defined view, such as Self Service or Mobile.

Create an indicator and related records

You can quickly create a Performance Analytics indicator and breakdowns, widgets, and data collection jobs for that indicator.

Role required: pa_contributor, pa_data_collector, pa_power_user, or pa_admin

Ensure that there is at least one indicator source and a data collection job for the indicator source facts table.

1. Navigate to **Performance Analytics > Indicators > Create New**.

2. Enter an **Indicator name**.

3. Optional: Specify any other descriptive values for the indicator, such as the **Direction** of the chart, the **Unit** of measurement for numerical values, or the indicator **Group**.

4. Click **Next**.

5. Select an **Indicator source.**

6. Select an **Aggregate, such as **Count** or **Average**.**

If you select an aggregate other than **Count**, you must specify a **Field** or **Script** to use when performing aggregate calculations. You can perform aggregate operations using fields from the indicator source facts table.

7. Optional: Select any additional filtering conditions to filter the indicator data. This filter is applied in addition to any filter defined on the indicator source record.

8. Click **Next.**

9. Select the breakdowns you want to apply to this indicator. Clear the check box for any breakdowns you do not want to apply.

10. Click **Next.**

11. Optional: Select the data collection **Job** you want to use to populate the indicator data.

Indicator data is populated only by data collection jobs. If an indicator has no associated collection job, the indicator will not contain any data.

12. Optional: Select **Collect data from the past** and a date range to collect historical data.

If you choose to collect historical data, a new collection job is created and run once to populate the historical data.

13. Click **Next.**

14. Optional: Select any widgets you want to create to display the indicator data.

You can specify widget values such as the **Time Series** or add the widget to a dashboard tab.

15. Click **Next.**

16. Review the changes, then click **Apply.**

The indicator is created and linked to the selected indicator source, breakdowns, and data collection job. Any widgets associated with the indicator are created and added to the specified dashboard tab.

17. Optional: Click **Create another indicator** to restart the process with a new indicator.

If the data collection job is configured to collect historical data, a temporary data collection job with a **Run** value of **Once** is created. You can delete this job record after the job runs.

Indicator creation widget options

There are several options for creating widgets to display the indicator data when creating an indicator and related records.

Table 16: Widget options

Field	Description
Time series widget	Select this check box to create a time series widget to display the indicator data.
Time series	Select the time series to use when determining what data to display.
Visualization	Select the chart type to use to display the data, such as Line or Column .
Put the widgets on a new tab on dashboard	Select a dashboard you want to add this widget to. If you do not select a dashboard, a widget record is created but is not added to any dashboard.
New tab name	Enter a name for the new tab created to display this widget. This field is required if you select a dashboard.

Field	Description
Latest score widget	Select the check box to create a score widget with a Visualization value of Latest Score to display the indicator data.
Time series	Select the time series to use when determining the score.
Periods back	Select the number of periods to compare the score with. For example, if the Time series is By week SUM , enter a Periods back value of 4 to compare the current score with scores from the past 4 weeks.
Breakdown widgets	Select this check box to create a breakdown scorecard widget for each breakdown applied to this indicator.

Create an automated indicator

Create an automated indicator to collect scores regularly.

Role required: pa_admin, pa_power_user, and pa_data_collector

An automated indicator is based on an indicator source. You can set indicator values such as, frequency, direction, and a default time series to influence the way the data is processed.

Note: You must have Performance Analytics to create indicators.

Navigate to **Performance Analytics > Indicators > Automated Indicators** and create a new record (see table for field descriptions).

Table 17: Automated indicator

Field	Description
Name	Descriptive name of the indicator.
Description	A more detailed description of what the indicator does and its purpose.
Frequency	The frequency of data points for the indicator, such as Daily , Weekly , or Monthly . This value is set automatically based on the Valid for frequency value from the selected Indicator source . You can select an indicator Frequency before selecting an indicator source to filter the list of indicator sources to display only those indicator sources with the specified frequency. After selecting an indicator source, the Frequency field is hidden on the Indicator form.

Field	Description
Direction	Indicates when an improvement of the indicator value is taking place. Possible values are Minimize (the lower the value the better) or Maximize (the higher the value, the better).
Unit	The unit of measurement for the indicator.
Precision	The number of digits behind the decimal separator. For indicator scores in the thousands and millions, the score is displayed as the number of thousands or millions with a k or an M, respectively. For example, a score of 612,875 with a precision of 0 is rendered as 613K. A score of 8,546,937 with a precision of 1 is rendered as 8.5M. For more information, see Rounding and precision in indicators on page 72.
Key	Check box to indicate if the indicator is a key metric for the process being monitored. Can be used to filter key indicators when selecting scorecards to be displayed at Performance Analytics > Scorecards .
Source fields	
Indicator source	The basic source for calculating the indicator. You can select only indicator sources for which the Valid for Frequency value for the indicator source is the same as the Frequency for the indicator.
Collect records	Check box to indicate if the individual records sys_ids are stored when the indicator is collected. Selecting this check box enables you to drill down to those details in the scorecard and widgets. When available, collected records appear on the Records tab.
Aggregate	The aggregate function to apply when calculating the indicator on the indicator source. Count counts the number of records. Count distinct counts the number of unique values rather than the total number of records. For example, if the name of a user appears more than once in a list, the user is only counted once. Other choices perform the specified aggregate operation, such as summing or averaging the values in a field across records.

Field	Description
Scripted	A check box to indicate if the value should be aggregated based on a script. This option is available only if Aggregate is not set to Count . Clear the Scripted check box to aggregate the values in a field.
Field	The field to perform the aggregate operation on. This field appears only if Aggregate is not Count , and Scripted is not selected. You can select only numerical fields, including duration, time, and currency fields, when the Aggregate is any value other than Count or Count distinct .
Script	Select a script or create a new script for the aggregation. This option is available only if the Scripted check box is selected. A script is used to add information to a record set that is not stored in the table. This additional, virtual attribute can be used in an indicator to base an aggregation on, or as an attribute to classify scores per bucket. The elements of the breakdown source are not stored in a column in the facts table. The script adds a virtual column and adds an element value to each record. Several sample scripts are available. For example <i>Incident.Age.Days</i> determines the age of open incidents by comparing the creation date with the current date. You can adjust the sample script to your needs or define your own script.
Value when nil	The value that is inserted as the score when no value is collected. Note: This value applies only to the indicator score. It does not impact scores for breakdown elements.
View table	The view to use to filter fields included in the data. If you do not select a view, the default view is used. This field appears only if Collect records is selected.
Additional conditions fields	
Facts table	Table for the indicator. This field automatically displays the table associated with the selected Indicator source .

Field	Description
Conditions	<p>[Optional] Additional conditions can be added to the conditions in the selected Indicator source. Having conditions available at both the indicator source level and the automated indicator level enables you to create extra selections for the indicator data collected. Conditions on text fields are case-sensitive.</p> <p>For example, to view the number of open incidents not reassigned, based on the reassignment count, you could use the indicator source Incident.Open. However, to get the number of open incidents not reassigned, you must add these conditions in the Indicator form:</p> <ul style="list-style-type: none"> • [Reassignment count] [is] [0][or] • [Reassignment count] [is] [empty] <hr/> <p>Note: The operators keywords, is same, is different, greater than field, less than field, greater than or is field, less than or is field, is one of, and is not one of are not supported for indicators. In addition, you cannot define conditions based on service catalog item variables. You can use these options on the indicator source conditions instead.</p>
Access control tab fields	
Publish on Scorecards	Check box to indicate if the indicator can be used for display. Clear this check box to use the indicator only for formula indicators, for example. When this check box is cleared, the indicator is not shown on the scorecard, but is shown in the widget configurations and on the dashboards.
Visible to	Select if the indicator should be visible to all users, or only to specific users and groups. If you select Everyone , you can select specific roles required to view the indicator.
Groups	Select which groups can view this indicator. This field appears only when the Visible to value is Groups and Users
Users	Select which users can view this indicator. This field appears only when the Visible to value is Groups and Users

Field	Description
Visible by all roles	<p>Check box to indicate if the indicator is visible to all roles. If this check box is cleared, you can select the roles for which the indicator is visible. This check box appears only when the Visible to value is Everyone.</p> <p>Note: You must also have at least the pa_viewer role to view any indicators.</p>
Roles	<p>The roles that are required to view this indicator. This field appears only when Visible by all roles is not selected.</p>
Other fields	
Default time series	<p>A predefined analytical function, like a 7-days running average, to display the indicator instead of showing the actual values of the indicator.</p>
Live group profile	<p>Live group profile that indicates the live group where the indicator scores are published.</p>
Order	<p>Number indicating the order in which scorecards are displayed. Indicators with the lowest value are displayed at the top of the scorecard list. If no values are provided in the Order field, scorecards are displayed from a to z using the Name field. To use the order field, you must enter order numbers for all indicators. If you put in numbers for only a few indicators, the order in which scorecards are displayed reverts to a to z.</p>
Default chart type	<p>Set a default chart type (line, column, spline, or area) for this indicator. When opening the detailed scorecard for the first time, the default chart type is used. If the chart type is changed in the detailed scorecard, that preference is remembered.</p>
Render continuous lines	<p>When selected, scorecards displaying this indicator show unbroken data lines, even when there is no data for a specific date. This behavior may be useful when displaying data sets with varied starting dates or data that is not regularly updated, such as stock information.</p>

Field	Description
Show real-time score	When selected, scorecards displaying this indicator show the score in real time, as well as the current state of associated records. Clear this check box when indicator data is not available in real time, such as in an integration that uses data from a third-party source.
Show delta	When selected, enables reporting of historic records when viewing this indicator on a detailed scorecard. You can filter the data to display only the currently data, only the historical data, or the data shared between both sets.
Collect breakdown matrix fields	
Collect breakdown matrix	<p>Enable second-level breakdowns for this indicator, such as Open Incidents by Assignment group by Priority.</p> <p> Warning: Selecting this option exponentially increases the amount of data that Performance Analytics collects. Having a large number of scores or snapshots may impact the performance of widgets and dashboards.</p> <p>Consider other options, such as a grouped report if you need only break down a single score, before enabling second-level breakdowns.</p> <p>This field is selected by default for new indicators. If you select this field for existing indicators, the scores for the second-level breakdowns are collected when you run the first new collection job.</p>
Collection periods fields	
Override collection periods	Select this check box to override the number of periods to collect and preserve scores and snapshots for this indicator.
Periods to keep scores	<p>When Override collection periods is selected, specify how many periods to collect and preserve scores for. The unit of time for each period depends on the indicator source Frequency value, such as Daily, Weekly, or Monthly.</p> <p>This value overrides the property com.snc.pa.dc.keep_scores_for.frequency for this indicator.</p>

Field	Description
Periods to keep snapshots	When Override collection periods is selected, specify how many periods to collect and preserve snapshots for. The unit of time for each period depends on the indicator source Frequency value, such as Daily, Weekly, or Monthly. This value overrides the property com.snc.pa.dc.keep_snapshots_for.frequency for this indicator.
Forecasting fields	
Forecast method used	Select the type of forecast algorithm to use, or select Auto to enable the instance to automatically determine the best fit algorithm based on your historical scores. For details about different forecast methods, see <i>Forecasting Performance Analytics data</i> on page 50.
Periods to forecast	Specify how many periods ahead you want to forecast. The length of a period depends on the indicator Frequency .
Forecast based on	Select how much historical data you want to evaluate when generating a forecast.
Start date	When Forecast based on is Fixed start , select the day to start evaluating the forecast from. Collected scores after this date are used to generate the forecast.
Periods	When Forecast based on is Previous Periods , specify how many previous periods to evaluate to generate the forecast. The length of a period depends on the indicator Frequency .

Add or remove breakdowns in an automated indicator

Add an existing breakdown to an automated indicator to group and filter indicator scores based on the breakdown.

Role required: pa_admin, pa_power_user, or admin

1. Open an existing automated indicator.
2. In the **Breakdowns** related list, click **Edit**.
3. Optional: Use **Add Filter** and **Run Filter** to limit the selection of breakdowns.
4. Select one or more breakdowns in the **Collections or Breakdowns List**.
5. Use the arrow buttons to move the breakdowns to the other list.
6. Click **Save**.

Exclude a breakdown from the breakdown matrix

Exclude certain combinations of breakdowns by defining a breakdown exclusion matrix.

Role required: pa_admin, pa_power_user, or admin

Sometimes, not all breakdown combinations give useful information. For example, the combination [Country, Region] will give the same scores as the breakdown Country. You can prevent the instance from collecting data for these invalid combinations with breakdown matrix exclusions. These exclusions are not shown in the detailed scorecard or in the scoresheet and cannot be selected when creating widgets.

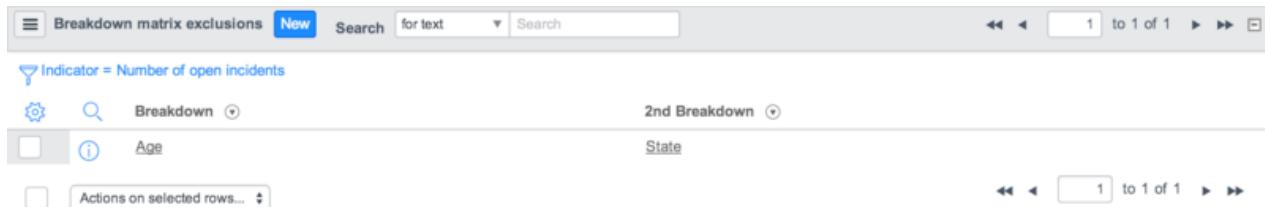


Figure 13: Exclude breakdown

1. Open an existing automated indicator.
2. In the **Breakdown matrix exclusion** related list, click **New**.
3. In the **Breakdown** and **2nd Breakdown** fields, select the two breakdowns whose combination you want to exclude.
The order in which you specify the breakdowns does not matter. All combinations of the two breakdowns are excluded.
4. Click **Submit**.

Edit a job for the indicator

Add a data collection job to an indicator to collect scores for that indicator.

Role required: pa_admin, pa_power_user, or admin

1. Open an existing automated indicator.
2. In the **Jobs** related list, click **Edit**.
3. Optional: Use **Add Filter** and **Run Filter** to limit the selection of jobs.
4. Select one or more jobs in the **Collections or Jobs List**.
5. Use the arrow buttons to move the jobs to the other list.
6. Click **Save**.

Create a manual indicator

Create a manual indicator to enter indicator scores manually. Manual indicators are typically used for data that cannot be retrieved from the ServiceNow instance because it comes from an outside system, such as customer data from a third-party sales system.

Role required: pa_admin, pa_power_user, or admin

Manual indicators are not associated with an indicator source. This means that scores for manual indicators are not generated automatically by a data collection job. Instead, you must populate these indicators by adding scores manually or by importing data.

Note: You must have Performance Analytics to create indicators.

- To create a manual indicator, navigate to **Performance Analytics > Indicators > Manual Indicators**.

You can assign users as contributors for each manual indicator. Users with the pa_admin, pa_power_user or pa_contributor role can view the scoresheet and select which users are allowed to contribute to each indicator.

Note: The frequency for a manual indicator specifies how to visualize its data. For example, if you set the data points per day or per month in the charts, the setting also affects the scoresheet, so it determines whether you can enter daily or monthly values.

Create a formula indicator

Create a formula indicator to use the historic data of other indicators and analytical functions to produce a computed score.

Role required: pa_admin, pa_power_user, or admin

Formulas are often used to:

- Calculate ratios and percentages.
- Combine data from different applications.
- Build predictive indicators based on historic performance.

Note: You must have Performance Analytics to create indicators.

1. Navigate to **Performance Analytics > Formula Indicators**.

The fields of a formula indicator are similar to an automated indicator except for the condition. Formulas can consist of other indicators, constants, and time series, or any combination of these.

2. In the Formula section of the Indicators form, click the **Browse for an indicator** link.

3. Select an **Indicator** to display.

Note: You cannot delete any indicators, such as automated indicators, that are used in a formula. You must change or delete the formula indicator before you can delete any indicators used in the formula.

4. Optional: Select a **Breakdown** and breakdown **Element** to filter the indicator data.

You can select an additional breakdown and breakdown element to further filter the data.

5. Optional: Select a **Default time series** to use when aggregating the data.

6. Optional: Select the **Apply time series to result** check box.

When selected, the indicator calculates the formula first, then applies the time series calculation to the result. For example, when calculating the weekly average incident resolution time using the formula `Total time to resolve incidents / total incidents resolved`, the formula first calculates the average incident resolution time for each day, then the average of those times. Each day is given equal weight, leading to an unweighted average.

When cleared, the indicator applies the time series to each component individually before calculating the score. Using the average incident resolution time example, clearing the check box results in a weighted average. The formula first calculates the weekly sum of the total time to resolve incidents and the weekly total number of incidents, then uses those values to calculate the weekly average time to resolution.

7. Optional: Clear the **Allow breakdowns** check box to prevent breakdowns from applying to this formula component.

8. Click **Select**.

The **Formula** field is automatically populated based on your selections.

9. Modify the **Formula** as needed. Enter any operators or numbers to include in the formula. Use valid operator symbols, such as +, -, /, %, >, <.

For example, if you want to calculate the average age of open incidents based on summed age of open incidents and number of open incidents, you could use the following formula: `[[Summed age of open incidents]] / [[Open incidents]] / 24`

Use the `score_start` and `score_end` *variables* to refer to the beginning and the end of the collection period, respectively.

Formulas support multi-level breakdowns. For indicators that have **Collect breakdown matrix** enabled, it is possible to drill down to the second level in the detailed scorecard on the **Breakdowns** tab. For example, Closed incidents by Category, and then by Priority, or vice versa.

Prevent a formula component from following breakdowns

You can prevent certain formula components from being broken down when a user applies a breakdown to the formula indicator.

When you apply a breakdown to a formula indicator, such as on a breakdown dashboard, the selected breakdown applies to all formula components. You prevent certain components from being broken down using the syntax `{{Indicator}}`. You can also prevent a formula component from following breakdowns by clearing the **Allow breakdowns** check box in the **Browse for an indicator** popup.

For example, consider the formula `[[Incidents]] / [[Customers]]`. If you apply a region breakdown to this indicator, and specify EU as the breakdown element, the formula indicator returns scores using the formula `[[Incidents > region = eu]] / [[Customers > region = eu]]`. However, to view the EU incidents divided by the total number of incidents across all regions, you can write the formula as `[[Incidents]] / {{Customers}}`. Using the `{{Indicator}}` format causes the Customers component to ignore breakdowns. This way, when you apply the region breakdown with the EU breakdown element, this formula indicator is equivalent to the formula `[[Incidents > region = eu]] / [[Customers]]`.

You can specify a breakdown within a component itself, such as `[[Incidents]] / {{Customers > importance = high}}`. In this example, the formula denominator is always broken down to include only the high-importance customers. Any breakdown applied to the formula indicator, such as the region breakdown, does not apply to the Customers component.

Breakdown matrixes in formula indicators

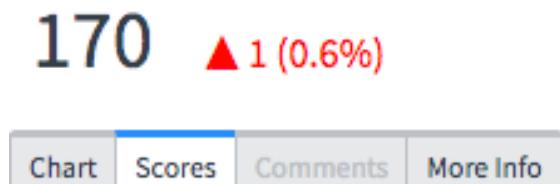
Formula indicators inherit breakdown matrixes from indicators in the formula.

If all the indicators in the formula collect breakdown matrixes, 2nd level breakdowns are available for the formula indicator. If none of the indicators in the formula collect breakdown matrixes, 2nd level breakdowns are not available for the formula indicator. If only some of the indicators in the formula collect breakdown matrixes, only those indicators can be broken down at a 2nd level.

For example, consider a formula indicator with the following formula:

```
[[Summed age of open incidents]] / [[Number of open incidents]] / 24
```

Both the Summed age of open incidents and the Number of open incidents indicators have breakdown matrixes collected. In the detailed scorecard for the formula indicator, you break down the scores first by Category=Software and second by Priority=High(2). The result is a score of 170.

**Formula**

$[[\text{Summed age of open incidents} > \text{Category} = \text{Software} > \text{Priority} = 2 - \text{High}]] / [[\text{Number of open incidents} > \text{Category} = \text{Software} > \text{Priority} = 2 - \text{High}]] / 24$

Date	Formula
Nov 15	8,152 Hrs/2/24 = 170
Nov 14	8,104 Hrs/2/24 = 169
Nov 13	8,056 Hrs/2/24 = 168
Nov 12	8,008 Hrs/2/24 = 167
Nov 11	7,960 Hrs/2/24 = 166
Nov 10	7,912 Hrs/2/24 = 165
Nov 09	7,864 Hrs/2/24 = 164
Nov 08	7,816 Hrs/2/24 = 163
Nov 07	7,768 Hrs/2/24 = 162
Nov 06	7,720 Hrs/2/24 = 161
Nov 05	7,672 Hrs/2/24 = 160
Nov 04	7,622 Hrs/2/24 = 159
Nov 03	7,574 Hrs/2/24 = 158
Nov 02	7,526 Hrs/2/24 = 157
Nov 01	7,478 Hrs/2/24 = 156

Figure 14: Scores when both indicators in formula collect breakdown matrixes

Now consider the same formula indicator, but the breakdown matrix is not collected for the Number of open incidents indicator. The result is a score of 11.

Nov 15 ▾

11 ▲ 0 (0.6%)

[Chart](#) [Scores](#) [Comments](#) [More Info](#)

Formula

$$[[\text{Summed age of open incidents} > \text{Category} = \text{Software} > \text{Priority} = 2 - \text{High}]] / [[\text{Number of open incidents}]] / 24$$

Date	Formula
Nov 15	8,152 Hrs/31/24 = 11
Nov 14	8,104 Hrs/31/24 = 11
Nov 13	8,056 Hrs/31/24 = 11
Nov 12	8,008 Hrs/31/24 = 11
Nov 11	7,960 Hrs/31/24 = 11
Nov 10	7,912 Hrs/31/24 = 11
Nov 09	7,864 Hrs/31/24 = 11
Nov 08	7,816 Hrs/31/24 = 11
Nov 07	7,768 Hrs/31/24 = 10
Nov 06	7,720 Hrs/31/24 = 10
Nov 05	7,672 Hrs/31/24 = 10
Nov 04	7,622 Hrs/31/24 = 10
Nov 03	7,574 Hrs/31/24 = 10
Nov 02	7,526 Hrs/31/24 = 10
Nov 01	7,478 Hrs/31/24 = 10

Figure 15: Scores when only one indicator in formula collects breakdown matrix

Indicator Groups

Use indicator groups to filter or group indicators in Performance Analytics.

You can use indicator groups to filter or group indicators in Performance Analytics, enabling you to quickly search for indicators. For example, group all indicators related to new incidents in the **incidents new** indicator group.

You can use indicator groups when you create widgets, enabling authorized users to browse the indicators by indicator group then viewing all indicators in that indicator group.

Create an indicator group

Create an indicator group to organize indicators.

Role required: pa_admin, pa_power_user, or admin

1. Navigate to **Performance Analytics > Indicator Groups**.

2. Click **New**.
3. Enter a **Label** for the indicator group.
4. Click **Submit**.

Add an existing indicator to an indicator group

Add indicators to an indicator group.

Role required: pa_admin, pa_power_user, or admin

1. Navigate to **Performance Analytics > Indicator Groups**.
2. Open an indicator group record.
3. In the **Indicators** related list, click **Edit**.
4. Select one or more indicators using the slushbucket.



Tip: If you have many indicators, use a filter to limit the number of indicators.

5. Click **Save**.

Rounding and precision in indicators

Indicators round fractional results using "Banker's rounding" or mathematical rounding depending on the indicator **Precision**.

When an indicator has a **Precision** of 0, the indicator rounds the result to the nearest even, whole number. For example, if an indicator with **Precision** 0 calculates the values $7 + (5 / 2)$, the indicator rounds the result up to 10. However, if the formula calculates $2 + (5 / 2)$, the indicator rounds the result down to 4.

When an indicator has a **Precision** greater than 0, the indicator rounds to the nearest decimal point for the given precision. For example, an indicator with **Precision** 1 rounds a result of 4.45 to 4.5.

For indicator scores in the thousands and millions, the score is displayed as the number of thousands or millions with a k or an M, respectively. For example, a score of 612,875 with a precision of 0 is rendered as 613K. A score of 8,546,937 with a precision of 1 is rendered as 8.5M.

Y-axis values plotted on a line or column chart are not rounded. The score and tooltip displayed when you point to a value on the chart are rounded based on the indicator **Precision**.

Note: In formula indicators, rounding applies only to the formula result. Values within the formula are not rounded.

Create a unit

You can define units in which Performance Analytics indicator scores are shown. Units can be numbers, percentages, currencies, quantities of time, or any other entity you define. The most commonly used units are provided by default.

Roles required: pa_admin or pa_data_collector

1. Navigate to **Performance Analytics > System > Units**.
2. Click **New**.
3. Enter the **Name** of the unit.
For example, Gallon.
4. Specify the way the unit must be formatted.
For example, {0}Gal gives you the number of gallons with the abbreviation Gal. For currencies, you can place the symbol for the unit in front of the number, such as \${0}.
5. Click **Submit**.

Units can be used for automated, manual, and formula indicators.

Exclude time series from an indicator

You can exclude time series on automated, formula, and manual indicators. Excluded time series are not selectable, such as from scorecards. Other time series remain selectable.

To exclude a time series from an indicator, select the time series in the **Time series exclusions** related list on the Indicator form.

Control access to an indicator

You can control which user roles grant access to specific indicators. Access to an indicator is regulated in the indicator record.

pa_admin or admin

1. Navigate to **Performance Analytics > Automated Indicators** or to **Manual Indicators** or **Formula Indicators** if applicable.
2. Select an indicator record.
3. In the **Access control** section, clear the **Visible by all roles** check box.
4. Select the **Roles** that grant access to the indicator.
5. Click **Update**.

Performance Analytics data collection and cleanup

Performance Analytics uses scheduled jobs to collect and clean scores and snapshots, and enables you to manually set or import scores.

To collect data immediately for existing records, run a historical data collection job.

For ongoing data collection, choose one of the following methods to collect indicator scores based on the frequency and integrity of your data.

- If you need to measure an indicator once a month, quarter, or year, enter scores manually or import scores.
- If you need to measure indicators more frequently, or you want to eliminate any human involvement, use a scheduled data collection job.

Performance Analytics data collection jobs do not collect scores older than specified in the property com.snc.pa.dc.keep_snapshots_for. Scores or snapshots older than this value are not collected during data collection.



Warning: Data collection from a non-separated table with a domain configuration is not supported.

Collect historical data

Run a historical data collection job to collect scores and snapshots for existing records. When collecting data for the first time, such as for a new indicator, run historical data collection once to generate scores and snapshots for existing records.

Role required: pa_data_collector or admin

1. Navigate to **Performance Analytics > Data Collector > Jobs**.

2. Select a historical data collection job, such as [PA Change] Historic Data Collection.
3. In the **Collection parameters** section, configure the date range to collect data from using one of the following methods.

Option	Description
Fixed date range	In the Operator field, select Fixed . Specify the date range to collect data from using the Fixed start and Fixed end fields.
Relative to the current date	In the Operator field, select Relative . Specify the relative date range to collect data from using the Relative start , Relative end , Relative start interval , and Relative end interval fields.

4. Click **Execute Now**.

After collecting historical data, use a scheduled data collection job to collect new scores regularly.

Schedule a data collection job

Schedule a data collection job to regularly collect scores.

Roles required: pa_data_collector or admin

Before defining data collection jobs, make sure that indicator sources, breakdown sources, and indicators have been defined. Otherwise, jobs cannot return any results.



Warning: Data collection from a non-separated table with a domain configuration is not supported.

1. Navigate to **Performance Analytics > Data Collector > Jobs**.
2. Click **New**.
3. Fill in the fields, as appropriate.

Table 18: Scheduled Data Collection form

Field	Description
Name	Enter a name to identify this scheduled job.
Description	Enter a description to identify this scheduled job.
Operator	Select Fixed start to collect data for an absolute time period. Select Relative to collect historical data, for instance from 60 days backwards, to populate indicator scores.
Fixed start	Enter a fixed start date. Available only when the Operator field is set to Fixed .
Fixed end	Enter a fixed end date. Available only when the Operator field is set to Fixed .
Relative start	Enter the number of days, weeks, or months (set in the Relative start interval) for the relative start. The setting determines which scores are retrieved. Available only when the Operator field is set to Relative .

Field	Description
Relative start interval	Select the unit used when the interval should start in days ago, weeks ago, or months ago. Available only when the Operator field is set to Relative .
Relative end	Enter the number of days, weeks, or months (set in the Relative start interval) for the relative end. The setting determines which scores are retrieved. Available only when the Operator field is set to Relative .
Relative end interval	Select the unit used when the interval should end in days ago, weeks ago, or months ago. Available only when the Operator field is set to Relative . For example, if you want to collect data from one year back up to the current day, enter 12 in Relative start and months ago in Relative start interval . In the other fields, accept the default values. As this type of data collection can take a long time and is typically done when setting up the system, set the Run field to Once or On Demand .
Run as	Select the user that runs this scheduled job. For best performance, choose a user who is authorized to collect scores for the indicators specified in the job. The user who is logged in is used by default.
Run as tz	Select the time zone the queries that will be executed from the scheduled job will use. By default the System time zone is used, but can be changed when needed.
Active	If selected, as it is by default, the data collection occurs at the scheduled date and time.
Run	Select the type of schedule to collect the data. Choices are: <ul style="list-style-type: none"> • Daily • Weekly • Monthly • Periodically • Once • On demand
Day	<ul style="list-style-type: none"> • If Run is Weekly, the day of the week. • If Run is Monthly, the day of the month.

Field	Description
Repeat Interval	If Run is Periodically , the amount of time between scheduled data collections, in days and hour.
Starting	If Run is Periodically or Once , the date and time of the first scheduled data collection.
Time	If Run is Weekly or Monthly , the time of day, on a 24-hour clock.
Conditional	If checked, the data collection occurs only if certain conditions are met.
Conditions	If Conditional is selected, a script determines under what conditions the entity is generated.

4. Right-click the form header and select **Save**.
5. In the **Job Indicators** related list, click **New** to select an indicator for the job to collect.

Important: At least one indicator must be included for the job. Otherwise, the job cannot return any results.

6. Fill in the fields, as appropriate.

Table 19: Job Indicator form

Field	Description
Job	Is automatically copied from the job name.
Indicator	Select the indicator that must be collected for this job.
Active	Select the check box to make the job indicator active (the default). Clear the check box to deactivate the job temporarily without deleting it from the job definition.
Collect	Choose to collect All breakdowns , One breakdown , or No breakdowns .
Breakdown	Specify the breakdown you want to collect. Only available if Collect is set to One breakdown .
Collect indicator	Select the check box to collect data for the indicator itself (the default). Clear this check box if you want to collect data for breakdowns alone. Depending on the setting in Collect , data is collected for all breakdowns, one breakdown, or none at all.

7. Click **Submit**.
8. Repeat steps 6 through 8 to select additional indicators that this job should collect.

Cancel a data collection job

Cancel an active data collection job to stop the job from collecting scores.

Role required: pa_data_collector and schedule_admin, or admin

1. Navigate to **Performance Analytics > Data Collector > Jobs**.
2. Select the job you want to cancel.
3. Click **Cancel Job**.

Add indicator scores manually

You can manually enter score data for indicators. You typically add scores manually for indicators that require an update only once a month or less often. In addition, if data cannot be collected automatically for some entities, like customers, you can manually enter or import data.

Role required: pa_contributor, pa_admin, pa_power_user, or admin

1. Navigate to **Performance > Indicators > Scoresheet**.
2. Select the indicator for which you want to enter manual scores.
3. Optional: Change the selected date by clicking the left or right arrows around the date range, or click the date range to select a new range.
4. Fill in the main scores for the indicator in the **Indicator Scores** row.

Alternatively, if an indicator contains breakdowns, fill in the indicator scores per breakdown instance.

- a) Click **Aggregate scores**.
- b) Choose whether you want to use the **Sum** or the **Average** of a specific breakdown to calculate the main scores for the indicator.
- c) Select the breakdown to aggregate, such as **Priority**, and click **Apply**.

All scores for that breakdown are totaled or the average is calculated for them.

For automated indicators that collect a second-level breakdown and are based on two or more breakdown sources, multi-level breakdown scores can be entered in the scoresheet. For example, for Open incidents by workgroup by priority, you can enter both scores for the elements of workgroup (first level) and the elements of priority (second level). Aggregations for these indicators are calculated in the same way as other breakdowns.

Import indicator score data

You can import indicator score data from Microsoft Excel or CSV files

Role required: pa_admin or admin

To import score data for an indicator from a Microsoft Excel or CSV file that exactly matches the columns of the table, including sys_ids for each row, follow the steps described in [Easy import](#).

If the file does not include sys_ids for each row, look at the descriptions presented in the documentation on [Import sets](#).

Keep the following information in mind as you use import sets for Performance Analytics.

- Transform Map: Select the **Run Business Rules** check box to ensure that all the defined rules are applied when inserting scores.
- Field Map:
 - Set **Choice action** to **Reject** for the target fields **Indicator** and **Breakdown** to ensure that no unknown values are inserted into the table.

- Set the **Referenced value field name** to **Name** for the target fields **Indicator** and **Breakdown** if you do not have the sys_ids.
- For the target field **Start**, make sure that the corresponding date format is specified in **Date Format**.

Note: If you are using a Microsoft Excel spreadsheet, make sure that the column is formatted as **Date**.

- If you do not have the sys_id for a breakdown score, specify a script for the **Element** field to get the sys_id into the target field.

View a data collection job event

Job events show which jobs have been executed for Performance Analytics and which actions have been triggered in your ServiceNow instance, such as notifications or business rules.

Role required: pa_data_collector or admin

1. Navigate to **Performance Analytics > Data Collector > Job Events**.
2. Click **Created** to view the details of a specific job event.
Additional information on the job event is displayed.

View the data collection job log

Job logs display information about the data collection jobs that have run for Performance Analytics. You can view job logs, create events, and view and edit the event registry. The list view displays all log entries, unless filtered.

Role required: pa_data_collector or admin

1. Navigate to **Performance Analytics > Data Collector > Job Logs**.
The log provides the following information for all occurrences.

Table 20: Data Collection Job Log

Field	Description
Created	Date and time the data collection job started.
State	One of the following values: Collecting , Collected , or Collected with errors .
Name	Name of the job.
Completed	Date and time the data collection job ended.
Inserts	The number of new records that have been inserted.
Updates	The number of existing records that have been updated.
Warnings	The number of warnings that occurred during the data collection process.
Errors	The number of errors that occurred during the data collection process.
Run time	Duration of the job.

2. Click **Created** to view the details of a specific job.

Additional information on the job settings and sequence steps is displayed. If notifications are enabled, you can send emails about the data collection results to users.

Cleaning collected Performance Analytics data

Performance Analytics scores and snapshots may grow over time and should be routinely cleaned to ensure optimal performance and accurate data.

Performance Analytics uses a scheduled job to remove old scores and snapshots.

The Clean PA collections scheduled job is active by default and has no impact on performance. By default, the job runs daily so it only has to delete a small amount of data.

Note: The table attributes nibble_size and nibble_sleep affect the behavior of the collection cleaner job if the attributes are defined for the Scores or Snapshots tables.

This scheduled job also deletes any Score [pa_scores], Score Level 1 [pa_scores_l1], Score Level 2 [pa_scores_l2], or Snapshots [pa_snapshots] records that do not have an associated indicator or breakdown. For example, if a user deletes an indicator, the scheduled job cleans up any scores or snapshots that were associated with the deleted indicator.

Modify the Clean PA collections job

Modify the scheduled job to configure when Performance Analytics scores and snapshots are cleaned. The scheduled cleanup job should not run while a data collection job is running.

Role required: pa_admin or admin

By default, the Clean PA collections job runs at 05:00 which is appropriate when using the default data collection jobs. If you create additional data collection jobs, you may need to change the start time of the Clean PA collections job.

1. Navigate to **Performance Analytics > Automation > Schedules**.
2. Select the **Clean PA collections** job.
3. Make any necessary changes. For example, change the **Run time** field value to change when the job runs.
4. Click **Update**.

Performance Analytics breakdowns

Breakdowns enable you to organize and filter indicator scores based on instance data for more detailed analysis, such as to show separate scores for each assignment group.

You can apply a breakdown on scorecards and dashboards. Breakdowns can be based on available instance data, or on bucket groups, which are custom groups for categorizing data.

For example, a breakdown could divide incident data by priority, by assignment group, or by age, or divide a geographical area by country or region. You can create automated breakdowns to organize scores based on existing instance data, or create manual breakdowns to manually define an organization.

Create and apply a simple breakdown

Create a breakdown, breakdown source, and breakdown mappings, and associate the breakdown with indicators.

Role required: pa_power_user, pa_data_collector, or admin

Note: Users with only the pa_power_user role cannot create breakdown sources.

Create a simple breakdown based on an existing indicator. To create more advanced breakdowns or breakdown sources, such as to limit data sets with complex filters, create or update breakdown and breakdown source records directly.

1. Navigate to **Performance Analytics > Breakdowns > Create New**.

2. Select the **Indicator** that you want to create the breakdown for.

The **Table** field is automatically populated based on the indicator source table. You can apply the new breakdown to other indicators with the same source table on the **Link to indicators** tab.

3. Select the **Field** to base the breakdown on.

The breakdown uses values from this field as breakdown elements and breaks down collected data based on the value of this field in each record.

4. Click **Next**.

The **Define the breakdown** tab displays different data depending on if a breakdown, breakdown source, or breakdown mapping exist for the specified indicator, table, and field.

5. Perform one of the following actions.

Option	Description
Create a breakdown, breakdown source, and mapping	If no breakdown or breakdown source exists for the specified table, enter a name for the new breakdown. A breakdown source and mapping for the selected table and field are created automatically. Click Show filter to make adjustments to filter the data included in the breakdown source.
Create a mapping using an existing breakdown source	If at least one breakdown source exists for the specified table and there are one or more breakdowns using the source, select the breakdown to create a mapping for. If a mapping exists between a breakdown with the selected source and a field on a parent of the indicator table, you can only select an existing breakdown to create the mapping for. If no such mapping exists for a parent table, you can select an existing breakdown or create a new breakdown.
Review existing records	If a breakdown and breakdown source exist for the specified table, and a breakdown mapping exists for the specified breakdown and field, review the settings. You do not need to make any changes.

6. Click **Next**.

7. On the **Link to indicators** tab, select any additional indicators that you want to apply the breakdown to.

You can apply the breakdown to other indicators with the same source table as the indicator you selected first. If the breakdown already applies to an indicator, that indicator is not displayed.

8. Click **Next**.

9. On the **Data Collection** tab, select how many days of historical, broken-down scores and snapshots to collect, or clear the **Collect data from the past** to skip historical data collection.

10. Click **Next**.

11. Review the settings and confirm that the correct records will be created, then click **Apply**. A check mark appears next to each record after it is created. When all records are created the **Create another breakdown** button appears.

Automated breakdowns

Automated breakdowns group automated and formula indicator scores based on existing instance data.

Automated breakdowns are based on a breakdown source, which is a set of records from a table. The breakdown maps these records, known as breakdown elements, with fields on tables that indicators collect scores from. Scores collected from mapped tables can then be grouped and filtered based on the values in the mapped fields and the breakdown elements.

For example, the Groups breakdown source that includes records from the Groups [sys_user_groups] table is available by default. This breakdown source specifies the filter **[Active][is][true]** to include only active groups as elements. You can map this breakdown source to fields on other tables that reference the Groups table, such as the Incident **Assignment group** field. Scores collected from the mapped table are grouped based on the value of that field. You can then filter the scores on scorecards and dashboards by selecting the breakdown and an element, such as to show scores only for incidents assigned to the Hardware group.

Define a breakdown source

A breakdown source specifies the elements that the breakdown should contain.

Roles required: pa_data_collector, pa_admin, or admin

Breakdown sources are based on a facts table that provides breakdown elements, which are the groups that broken-down scores are organized by. For example, a breakdown source might specify the choices from the **Priority** choice list as the breakdown elements. Scores broken down based on this breakdown source are then organized based on the **Priority** value of each record. A breakdown source can be shared by multiple breakdowns and indicators.

1. Navigate to **Performance Analytics > Breakdown Sources**.
2. Click **New**.
3. Fill in the fields, as appropriate.

Table 21: Breakdown source fields

Field	Description
Facts table	The table that the breakdown source gets elements from. For example, if the breakdown source should specify user groups as elements, select Group [sys_user_group] .
Field	Select a field from the facts table. This field should contain the values that records in an indicator source reference, such as in a reference field or choice list. Usually the Sys ID .

Field	Description
Conditions	<p>Conditions for filtering the element list. For example:</p> <p>[Table] [is] [Incident] and [Element] [is] [Category] and [Language] [is] [en] and [Inactive] [is] [false] or [Inactive] [is] [empty]</p>
	<p>Note: You can view the list of records that match the selected conditions by clicking the <#> records match condition link.</p>
Label for unmatched	<p>The label to use if an empty value is collected during data collection. The default label is Unmatched.</p>
Security type	<p>Whether to exclude (Blacklist) or include (WhiteList) breakdown source elements by role based on element security lists.</p>
DC active	<p>Whether to collect breakdown elements for this breakdown source during data collection. This field is selected and hidden by default.</p> <p>The field is cleared and displayed automatically if data collection for this breakdown source fails, such as if there are more breakdown elements than allowed by the property com.snc.pa.dc.max_breakdown_elements_limit.</p> <p>To reenable the breakdown source, add Conditions to limit the number of breakdown elements and select the DC active check box before running another data collection job.</p>

4. Click **Submit**.

Example of a breakdown source:

Breakdown Source - Incident.Category

* Name Incident.Category

Description

Source

Select the facts table for the breakdown source elements and apply conditions to optimize the element list.

* Facts table Choice [sys_choice]

Conditions 6 records match condition

All of these conditions must be met

Table	is	incident			
Element	is	category			
Language	is	en			
Inactive	is	false			
or	Inactive	is empty			

Label for unmatched

Security

Breakdown source elements can be blacklisted (exclusion) and white listed (inclusion) by role based on ele...

* Security type Blacklist

Update **Delete**

Elements Security List **New** Go to Name

Dimension = Incident.Category

	Name	Description

Create an automated breakdown

Create a breakdown to group and filter scores from automated or formula indicators based on elements from a breakdown source.

Role required: pa_data_collector, pa_power_user, pa_admin, or admin

An automated breakdown uses a breakdown source to determine selectable elements.

Navigate to **Performance Analytics > Automated Breakdowns** and create a new record (see field descriptions).

Table 22: Breakdown fields

Field	Description
Type	For an automated breakdown, select Automated .
Breakdown source	Select the breakdown source to base this breakdown on. The breakdown source determines what elements are available to select when a user applies this breakdown.
Default elements filter	[Optional] Select an elements filter to apply by default. Elements filters enable users to filter the list of breakdown elements to only those elements that user is interested in.
Access control fields	
Visible to	Select which users can view and apply this breakdown. Select Everyone to specify which roles are required, or select Groups and Users to specify groups and individual users.
Visible by all roles	When Visible to is Everyone , select this check box to require no specific role for users to apply the breakdown.
Roles	When Visible to is Everyone , select the roles required to apply the breakdown. Users must have at least one of these roles. This field is hidden if Visible by all roles is selected.
Groups	When Visible to is Groups and Users , select the groups that can apply the breakdown.
Users	When Visible to is Groups and Users , select the individual users that can apply the breakdown.

Create breakdown mappings and associate indicators with the breakdown.

Breakdown mappings

Breakdown mappings enable you to define relationships between the indicator source table and the breakdown source table. This behavior enables you to use one breakdown for multiple indicator source tables.

For example, you can map the sys_id from Group [sys_user_group] records in the **Group.Active** breakdown source with Incident table **Assignment group** values. You can use the same breakdown to create additional mappings between the **Group.Active** breakdown source and other tables and fields that reference the Group table, such as the CMDB **Support group** field.

Create a breakdown mapping

Create a breakdown mapping to define a relationship between an indicator facts table and the breakdown source elements.

Role required: pa_admin, pa_power_user, pa_admin, or pa_data_collector

1. Navigate to **Performance Analytics > Automated Breakdowns** or **Manual Breakdowns**.
2. Select the breakdown you want to map to an indicator facts table.
3. In the **Breakdown Mapping** related list, click **New**.
4. Select the **Facts table** that contains values you want to map to breakdown elements. This is the source table for indicators that you want to break down.
5. Do one of these actions:

Option	Description
Use a field to map values to elements	Select the Field that contains the values to map to breakdown elements. For example, when mapping the Incident table with the Groups.Active breakdown source, select the Assignment group field to break down scores based on the assignment group of each incident.
Use a script to map values to elements	Select Scripted , then select the Script that defines the association between indicator records and breakdown elements.

6. Click **Submit**.
7. Repeat steps 3-6 as needed to define additional mappings.

Assign an indicator to an automated breakdown

Associate automated or formula indicators with a breakdown to enable the collection of broken down scores for those indicators.

The breakdown must have a breakdown mapping for the indicator source table.

Role required: pa_data_collector, pa_power_user, pa_admin, or admin

1. Navigate to **Performance Analytics > Automated Breakdowns**.
2. Select a breakdown record.
3. In the **Indicators** related list, click **Edit**.
4. Use the slushbucket to select the indicators you want to assign to this breakdown.
5. Click **Save**.
6. Optional: In the **Indicator Breakdowns** related list, set the **Display** value to false to hide the breakdown on the scorecard and dashboard widgets.

If the **Display** field is false, broken-down scores are still populated during data collection, but the breakdown is not selectable on the scorecard or on dashboard widgets.

Manual breakdowns

In a manual breakdown, you define the breakdown elements and the indicator scores for each element manually instead of using records from a breakdown source.

Unlike an automated breakdown, a manual breakdown does not map to any fields on the indicator source table. Instead, users must populate the broken-down scores manually.

Create a manual breakdown

Create a breakdown for an indicator where you add scores manually.

Roles required: pa_data_collector, pa_power_user, pa_admin, or admin

1. Navigate to **Performance Analytics > Manual Breakdowns**.
2. Click **New**.
The **Type** is set to **Manual** automatically.
3. Enter a descriptive **Name**.
4. Right-click the form header and select **Save**.
5. In the **Manual** section, double-click **Insert a new row** to add a new breakdown element.
6. Press Enter or click the green check mark to save the entry.
7. Optional: Change the **Order** value.
Elements with a lower **Order** value appear higher in the list of elements, such as on scorecards and dashboards.
8. Repeat steps 5-7 to add additional breakdown elements.
9. Click **Submit**.

Associate indicators with this breakdown and populate scores using the scoresheet.

Assign a manual indicator to a manual breakdown

Associate a manual indicator with a manual breakdown to enable users to enter broken-down scores for the indicator.

Role required: pa_data_collector, pa_power_user, pa_admin, or admin

1. Navigate to **Performance Analytics > Manual Breakdowns**.
2. Select a breakdown record.
3. In the **Indicators** related list, click **Edit**.
4. Use the slushbucket to select the indicators you want to assign to this breakdown.
5. Click **Save**.
6. Optional: In the **Indicator Breakdowns** related list, set the **Display** value to false to hide the breakdown on the scorecard and dashboard widgets.
If the **Display** field is false, broken-down scores are still populated during data collection, but the breakdown is not selectable on the scorecard or on dashboard widgets.

Populate broken-down scores for the indicators using the scoresheet.

Bucket groups

Bucket groups are custom groups that can be used when you define a breakdown source that uses Bucket [pa_buckets] as the facts table.

Bucket groups can also be used with a script. When configuring the indicator, you can attach a script that runs through the collected data and places the records into a bucket group. For example, you can arrange open incidents according to age, such as <1 day, 2-5 days, 6-30 days, >30 days old. In this case, the indicator **Open Incidents** is broken down by **Incident Age**.

Create a bucket group

Define the ranges of values that you want to group into buckets.

To create a bucket group:

1. Navigate to **Performance Analytics > Data Collector > Bucket Groups**.
2. Click **New**.
3. Enter a **Name** that clearly identifies the bucket group, like **Age Ranges in Days**.
4. Double-click **Insert a new row** to add a new bucket.
5. Enter a **Name** for the first bucket, then press Enter or click the green check icon.

6. Double-click in the **Start** and **End** columns to enter the starting and ending values for the range.
7. Click **Submit** after all the bucket ranges have been defined.

Bucket group - Incident Age Ranges (Days) 

* Name     

Description  

Buckets

Define the buckets for this bucket group by providing start and end ranges for each of the buckets.

 Name	 Start	 End
  00 - 01 Day		1
  01 - 05 Days	1	6
  06 - 30 Days	6	31
  30 - 90 Days	31	91
  90+ Days		
 Insert a new row...		

Figure 16: Bucket groups

Breakdown element filters

Element filters enable you to limit the displayed breakdown elements on a scorecard or widget using filter conditions.

You can select an element filter when viewing breakdowns on a scorecard, or when configuring a breakdown widget.

Create an element filter

Select the breakdown source and filter conditions to filter breakdown elements from that breakdown source.

Role required: pa_data_collector or admin

Navigate to **Performance Analytics > Element Filters** and create a new record (see table for field descriptions).

Table 23: Element filter fields

Field	Description
Breakdown source	Select the breakdown source you want to create an element filter for. The element filter is available for any breakdowns based on this breakdown source.
Facts table	Read-only. Displays the breakdown source facts table.
Filter	<p>Specify the filter conditions to limit the available elements. Only elements that meet these conditions are displayed when you apply this element filter.</p> <p>For example, if the breakdown source facts table is User [sys_user], you can add a filter condition to include only users in a particular department such as [Department][is][HR].</p>
Roles	Select any roles that a user must have to select this element filter. A user must have at least one of the specified roles. If no roles are specified, all users can access this element filter.

You can select the element filter on a scorecard **Breakdown** tab when viewing a breakdown based on the same breakdown source as the element filter.

You can specify a **Default element filter** for a breakdown to select that element filter automatically when viewing the breakdown. Users that view the breakdown on a scorecard can change or clear the selected element filter.

You can also specify a **Element filter** from the **Breakdown settings** tab when creating a breakdown widget. Users cannot change or clear the element filter on a widget when viewing the widget.

Create a breakdown relation

Breakdown relations define how two Performance Analytics breakdowns relate to each other and provide an additional way to navigate dashboards and scorecards. Create a breakdown relation to view related metrics on scorecards and widgets.

Role required: pa_admin

For example, on a scorecard broken down by the Database assignment group, breakdown relations enable you to view the scorecard for a child group of the Database group such as Database Atlanta, or for a specific member of the Database group.

1. Navigate to **Performance Analytics > Breakdowns**.
2. Select a breakdown.
3. In the **Breakdown Relations** related list, click **New**.
4. Fill in the fields on the form, as appropriate.

Table 24: Breakdown relation fields

Field	Description
Breakdown	<p>Select the breakdown that this relationship belongs to. You can access related breakdowns from this breakdown only.</p> <p>Note: Breakdown relations are one-way relationships. Define multiple breakdown relations to create a bi-directional relationship.</p>
Related breakdown	<p>Select the breakdown you want to associate with the first breakdown.</p> <p>For hierarchical relationships, such as associating parent and child groups, you can select the same breakdown as in the Breakdown field. For non-hierarchical breakdown relationships, such as users in a group, the Related breakdown may be different.</p>
Table	<p>Select the table that defines the relationship between the breakdowns.</p> <p>For hierarchical relationships select the same table as the breakdown source facts table. For example, select Group [sys_user_group] when relating a parent group to child groups.</p> <p>For many-to-many relationships, select the many-to-many table. For example, select Group User [sys_user_grmember] when relating groups to group members.</p>

Field	Description
Breakdown field	<p>Select the field from the specified Table that identifies the breakdown element you can navigate from.</p> <p>For example, when creating a breakdown relation from groups to group members, select the Group field from the Group User [sys_user_grmember] table.</p>
Related breakdown field	<p>Select the field from the specified Table that identifies the breakdown element values you can navigate to when viewing this relation.</p> <p>For example, when creating a breakdown relation from groups to group members, select the User field from the Group User [sys_user_grmember] table.</p>
Common field	<p>When the Breakdown field and Related breakdown field specify the same field, select which field to use to identify related records. When Breakdown field and Related breakdown field have different values, do not set a Common field value.</p> <p>For example, in a breakdown relation associating Group [sys_user_group] records that have the same Parent, both the Breakdown field and Related breakdown field values are Sys ID. In this example, set the Common field value to Parent.</p> <p>When viewing a scorecard broken down by a group, you can view the scorecard broken down by other groups with the same parent group.</p>
Conditions	<p>Define any further conditions that a record must fulfill to appear as a related breakdown for this relationship. For example, when relating a parent group to child groups, use the condition [Active] [is] [true] to include only active child groups.</p>

5. Click **Submit**.

Control access to a breakdown

You can control access to specific breakdowns.

Roles required: pa_admin or admin

There are no visibility options for breakdowns. Instead, access to breakdowns is regulated by ACLs in the breakdown sources.

1. Navigate to **Performance Analytics > Breakdown Sources**.
2. Open the breakdown sources record for the breakdown you want to set access to.

3. In the **Security type** choice list, select if you want to blacklist (exclude) or whitelist (include) source elements by role based on element security lists.
4. Define an Elements Security List record and either select the elements to be included or excluded, or use conditions to define which elements should be included.
5. Specify the roles that have access to the elements security list.

Define an elements security list

An elements security list prevents unauthorized access to breakdown elements.

1. Navigate to **Performance Analytics > Breakdown Sources**.
2. Open an existing breakdown source record.
3. In the **Elements Security List** related list, click **New**.
4. Fill in the fields, as appropriate.

Name	Description
Name	Descriptive name of the elements security list.
Description	A more detailed description of what the elements security list does and its purpose.
Active	Check box for making the elements security list active (selected) or inactive (cleared).
All roles	Check box for indicating whether the list applies to all roles (selected). Clear the check box and click the lock icon to specify the roles belonging to this elements security list. You can use the search button to look for specific roles.
Security type	[Read-Only] Security type selected for the associated breakdown source.
Dimension	[Read-Only] Dimension selected for the associated breakdown source.
Facts table	[Read-Only] Facts table selected for the associated breakdown source.
Select elements	Check box for including individual elements in this security list (selected). If this option is cleared, use Conditions to define which elements should be included.
All elements	Check box for including all elements in the security list (selected). Clear the check box to include individual elements in this security list.

Name	Description
Show blank option	<p>Controls if users can select a blank breakdown element from the breakdown dashboard element selector. The following conditions affect if a user can select the blank option:</p> <ul style="list-style-type: none"> • A user with the admin role can always select the blank option. • If no blacklist element security lists match the current user's roles, the blank option is available. • If no whitelist element security lists match the current user's roles, the blank option is not available. • If a blacklist element security list matches the current user's roles, and Show blank option is selected, the blank option is not available. • If a whitelist element security list matches the current user's roles, and Show blank option is selected, the blank option is available. • If a blacklist element security list matches the current user's roles, and Show blank option is not selected, the blank option is available. • If a whitelist element security list matches the current user's roles, and Show blank option is not selected, the blank option is not available.
Conditions	The conditions that must be met before the security list is applied. For example, [Category] [is] [Software] . Conditions are applied on top of the breakdown source conditions. This field is available only if Select elements is not selected.

5. Click **Submit**.

Performance Analytics targets and thresholds

Targets and thresholds enable you to define important points in your data and provide notifications when a score reaches a specific point.

Performance Analytics targets

Targets are goals your organization wants to achieve. Targets enable you to visualize the difference between the desired score at a certain date and the actual score of an indicator.

A target can be personal or global. A personal target is visible only to the user that created it and appears as a light line, a global target is visible to all users and appears as a dark line. Personal targets appear only on scorecards, global targets appear on scorecards and time series widgets.

Create a target

You can set targets for indicators, breakdowns, and time series.

Role required:

- pa_viewer to create personal targets that are visible only to the user that created them
- pa_target_admin or admin to create global targets that are visible to all users

1. Navigate to **Performance Analytics > Scorecards**.

2. Select a scorecard.

3. Optional: Select a breakdown and breakdown element if you want to add a target to a subset of the data.

You can also select a 2nd-level breakdown and element.

4. Optional: Select a time series if the target should apply only to a specific aggregation of the data.

5. Select the date on the scorecard that you want to add a target to.

A target is used from the specified start date until the start date for another target. For example, to set a target per quarter in a year, add four targets, each starting on the first day of the quarter.

6.



Click the target icon ().

7. Enter the numeric target value for the score at the selected date.

8. Optional: Clear the **Global target** check box to create a personal target. Leave the check box selected to create a global target.

Only users with the pa_target_admin role can create global targets. Users without this role can create only personal targets.

9. Click **Save**.

Create a target color scheme

A target color scheme can be used to visualize the position of the indicator score relative to its target.

Role required: pa_admin, pa_power_user, or admin

For example, if you want to filter the number of open incidents, the scores for an increase of 25% can be shown in red, an increase of 10% in orange, and no change in yellow. Whereas, for example, a decrease by 25% can be shown in dark green. Two target color schemes are available in Performance Analytics by default: the 3-color traffic light and the 5-color traffic light.

1. Navigate to **Performance Analytics > System > Target Color Schemes**.

2. Click **New**.

3. Enter a **Name** and a **Description**.

4. Define each of the five ranges and their associated colors. If you do not want to use all the ranges, you can use the same range color for multiple range limits.

5. Click **Submit**.

A **Default indicator target color scheme** can be set in **Performance Analytics > System > Properties**. This is used when no color scheme has been selected for an indicator target.

Add a target for all elements of a breakdown

You can specify a target that applies separately to each subset of data for an indicator with a breakdown.

Role required: pa_target_admin or admin

For example, you can set a target on an Incident indicator that applies separately to the scores for each assignment group.

Note: This functionality is available only for global targets. The **Any element** check box does not appear for personal targets.

1. Navigate to **Performance Analytics > Targets**.
2. Select the **Indicator** you want to set the target for.
3. Select a **Breakdown**.

The **Any element** check box is selected by default. Do not clear this check box.

4. Optional: Select a **Time series**.
For example, you can measure closed incidents daily and set monthly targets for closed incidents.
5. Optional: Select a **Color scheme** for the target.
6. Click **Submit**.

Define target values for the new target.

Configure which users receive a target notification

You can control which users receive a notification when a target is reached.

Role required: pa_target_admin

This functionality applies to global targets only. For personal targets, the target owner automatically receives notifications.

1. Navigate to **Performance Analytics > Targets**.
2. Select a target.
3. In the **Users** related list, click **Edit**.
4. Move the users that you want to notify from the **Collection** column to the **Users List** column.
5. Click **Save**.

The notification is sent automatically when a target is reached. Users that receive a notification can unsubscribe from that notification.

Add, modify, or delete a target or threshold

Performance Analytics administrators can add, modify, or delete global targets and thresholds as well as personal targets and thresholds for all users.

Role required: pa_admin

Personal targets and thresholds are visible on scorecards only to the user that created them. Using the indicator form, you can create personal targets and thresholds for other users, or modify and delete existing targets and thresholds that other users have created.

1. Navigate to **Performance Analytics > Automated Indicators, Manual Indicators, or Formula Indicators**.
2. Select the indicator for which you want to add, modify, or delete a target or threshold.
3. Use the **Targets or Thresholds** related lists to add, modify, or delete targets or thresholds.

The related lists display both personal and global targets and thresholds. When you create a new personal target or threshold, ensure that the **Owner** field is populated.

Performance Analytics thresholds

Thresholds define a normal range of scores for an indicator and alert you when certain events occurs, such as when a score reaches an all-time high or low.

When a threshold is triggered the instance generates an email notification. This message is associated with the indicator and the message is directly available via the detailed scorecard.

A threshold can be personal or global. A personal threshold is visible only to the user that created it and appears as a light grey dotted line, a global threshold is visible to all users and appears as a dark grey dotted line. Personal thresholds appear only on scorecards, global thresholds appear on scorecards and time series widgets.

Create a Performance Analytics threshold

Create a threshold to define the range of scores considered normal.

Role required: pa_power_user or admin

Thresholds can be set for any indicator in combination with a time series and elements of a breakdown.

1. Navigate to **Performance Analytics > Scorecards**.
2. Select a scorecard.
3. Optional: Select a breakdown and breakdown element if you want to add a threshold to a subset of the data.
You can also select a 2nd-level breakdown and element.
4. Optional: Select a time series if the threshold should apply only to a specific aggregation of the data.
5. 
Click the threshold icon ().
6. Select the condition that triggers the threshold notification, such as when the score reaches an all-time high, or when the score falls lower than a specific value.
7. Optional: Clear the **Global threshold** check box to create a personal threshold. Leave the check box selected to create a global threshold.
Only users with the pa_threshold_admin role can create global thresholds. Users without this role can create only personal thresholds.
8. Click **Save**.

Configure which users receive a threshold notification

Configure which users should receive an email when a threshold is reached.

Role required: pa_admin, pa_power_user, or admin

This procedure applies to global thresholds. Notifications for personal thresholds are sent only to the owner of the threshold. To configure the message content, modify the PA Threshold Reached notification. See the Notifications documentation for more information.

1. Navigate to **Performance Analytics > Indicators > Thresholds**.
2. Open a threshold.
3. In the **Users** related list, click **Edit**.
4. In the Edit Members screen, use the slushbucket to add members.
5. Click **Save**.

Besides the notifications for each indicator, you can also send notifications with an overview of all indicators for which the threshold is reached.

Configure the threshold comment

The Check PA Thresholds job triggers the PA threshold reached comment script action, which adds a comment for the indicator that has reached the threshold.

Role required: admin

The comment is displayed when you open the detailed scorecard for the indicator. Configure the threshold comment to display different text.

1. Navigate to **System Policy > Events > Script Actions**.
2. Open **PA threshold reached comment**.
3. Modify the `buildMessage` function within the script.
4. Click **Update**.

Configure threshold overview notifications

Besides the notifications for each indicator, you can also send notifications with an overview of all indicators for which the threshold is reached.

Role required: pa_admin, pa_power_user, or admin

This procedures describes how to access the summary notification and change the users who receive the notification as well as the content of the notification.

1. Navigate to **System Policy > Email > Notifications**.
2. Select **PA Thresholds Notification**.
3. Optional: Add users or groups to the **Who will receive** section by clicking the lock icon for either **Users** or **Groups** and then selecting the appropriate users or groups.
4. Optional: Change the content of the message by modifying the **Message** field.
5. Click **Update**.

Add, modify, or delete a target or threshold

Performance Analytics administrators can add, modify, or delete global targets and thresholds as well as personal targets and thresholds for all users.

Role required: pa_admin

Personal targets and thresholds are visible on scorecards only to the user that created them. Using the indicator form, you can create personal targets and thresholds for other users, or modify and delete existing targets and thresholds that other users have created.

1. Navigate to **Performance Analytics > Automated Indicators, Manual Indicators, or Formula Indicators**.
2. Select the indicator for which you want to add, modify, or delete a target or threshold.
3. Use the **Targets** or **Thresholds** related lists to add, modify, or delete targets or thresholds.

The related lists display both personal and global targets and thresholds. When you create a new personal target or threshold, ensure that the **Owner** field is populated.

Create a notification for an indicator or group of indicators

Performance Analytics can automatically generate an email when an indicator or a group of indicators meets predefined conditions.

You must enable and configure email notifications before you can use email summaries.

1. Navigate to **Performance Analytics > Automation > Email Summaries**.
2. Click **New**.
3. Enter a **Name** and a **Description** for the email summary.
4. Select the **Active** check box to run a scheduled job that creates the email summary.
5. Select when the job should run.
 - Daily
 - Weekly

- Monthly
 - Periodically
 - Once
 - On Demand
6. Set the time to run the job by changing the hours, minutes, and seconds (using 24 hour notation).
By default, the job runs at midnight.
 7. Select indicators dynamically or manually.

Dynamically

Select the **By Condition** check box. Use the condition builder to define the conditions for which indicators the email summary should include. For example, you might select all key indicators by setting the condition to [Key] [is] [true].

Manually

Clear the **By Condition** check box. Specify the conditions you want to apply on the indicator records.

8. Right-click the form header and select **Save**.
The indicator list and the user list become available.
9. Select any number of users and indicators and click **Update**.
The email summary job runs based on the schedule you configured.

Add indicators

After you submit an email summary record with the **By Condition** check box cleared, the **Indicators** related list becomes available.

1. Click **Edit** in the **Indicators** related list.
2. Optional: Add a filter to limit the selection of the indicators.
For example, **[Name]** **[contains]** **[incident]**. When you click **Run filter**, only indicators whose name contains incident are displayed.
3. Add the desired indicators to the **Indicators List**.
4. Click **Save**.

If your instance has the full version of Performance Analytics, you can add new indicators from the Scheduled Email Summary form.

1. In the **Indicators** related list, click **New**.
2. Define the indicator.
3. Click **Submit** to save the indicator and add it to the email summary.

Specify users

Before an email summary job can be scheduled for Performance Analytics, you must specify users who will receive the email.

1. In the **Users** related list, click **Edit**.
2. Perform one or both of the following actions.
 - a) Add a filter to limit the selection of the users.
For example, **[Department]** **[is]** **[Customer Support]**. When you click **Run filter**, only users who are in the Customer Support department are displayed.

- b) Add users to the **Users List**.
3. Click **Save**.

Quickly configure Performance Analytics for a task table

The configuration generator enables you to quickly configure Performance Analytics to display data from any task table.

You can specify a Task-based table to report on, and the configuration generator automatically creates indicators, breakdowns, formulas, data collection jobs, and dashboards. This configuration provides the same elements as the Performance Analytics incident content pack, but for any Task table. When using domain separation, all records are created in the domain of the current user.

Note: You can use the configuration generator only with tables that extend Task.

You can access the configuration generator by navigating to **Performance Analytics > Configuration Generator**.

After generating a configuration for the selected table, you can view the created records using the **Go to the configuration record**, **Generated Indicators**, and **Generated Jobs** related links. You can modify the generated records as needed using standard Performance Analytics configuration options.

Activate the Performance Analytics configuration generator

As an administrator, you can enable the Performance Analytics configuration generator plugin (com.snc.pa.configurationgenerator).

Role required: admin

Before starting this procedure, you must have Performance Analytics.

1. Navigate to **System Definition > Plugins**.
2. Find and click the plugin name.
3. On the System Plugin form, review the plugin details and then click the **Activate/Upgrade** related link.
 - If the plugin depends on other plugins, these plugins are listed along with their activation status.
 - If the plugin has optional features that depend on other plugins, those plugins are listed under **Some files will not be loaded because these plugins are inactive**. The optional features are not installed until the listed plugins are installed (before or after the installation of the current plugin).
4. Optional: If available, select the **Load demo data** check box.

Some plugins include demo data—Sample records that are designed to illustrate plugin features for common use cases. Loading demo data is a good practice when you first activate the plugin on a development or test instance.

You can also load demo data after the plugin is activated by clicking the **Load Demo Data Only** related link on the System Plugin form.
5. Click **Activate**.

Performance Analytics schema maps

You can view a schema map of Performance Analytics configuration records.

To view the schema map for a Performance Analytics configuration record, click the **Show Schema Map** related link on the appropriate form.

You can view the schema map for these types of records:

- Automated indicators
- Breakdowns
- Indicator sources
- Breakdown sources
- Scripts
- Element filters

Performance Analytics with domain separation

Performance Analytics supports collecting scores from multiple domains and can be configured to enable domain-specific administration. Additional domain functionality is available for managed service providers.

Note: You must have Performance Analytics Premium to use Performance Analytics in any domain other than global.

Performance Analytics domain configurations

When using Performance Analytics with domain separation you can collect domain-specific scores, and use global or domain-specific configuration records such as indicators, breakdowns, and dashboards.

Collecting domain-specific scores

Data collector jobs can access records based on the roles, entitlements, and domain of the user selected in the job **Run as** field. To collect scores from a particular domain, ensure the **Run as** user is a member of that domain.

The domain of each data collector job determines the domain of scores generated by that data collector. The domain of the source records do not affect the domain of the scores.

Only users with the pa_admin role that are a member of the domain that contains the scheduled job, or the domain of the **Run as** user, can modify domain-separated data collection jobs.

Global configuration

By using configuration records in the global domain, you can present domain-appropriate data automatically.

Note: Additional functionality is available for MSP customers using domain separation. For more information, see [Performance Analytics domain separation for managed service providers](#) on page 102. This functionality requires a global configuration.

To populate the data, create a separate data collector job for each domain. Ensure each user selected in the **Run as** field is a member of the correct domain. The collected score is recorded under the domain of the **Run as** user. When a user in a domain views a widget or scorecard, only scores from that user's domain appear.

By default, configuration records from Performance Analytics content packs use the global domain.

Domain-specific configuration

By using domain-specific configuration records, you can grant the pa_admin role to domain users to create their own domain-specific components. Users, including system administrators, can create and edit configuration records only within their domain. Users in child domains can read but not edit configuration records in a parent domain.

You must create a domain-specific copy of a configuration record to use it in that domain. For example, to add a domain-specific condition to a indicator source, you must create a copy of the indicator and indicator source in that domain.

You can quickly copy an indicator or breakdown and related data from a different domain using the **Insert and Stay with Relations** UI action on the Indicator or Breakdown forms. Any breakdowns, breakdown exclusions, or time series exclusion relationships are also copied. Any associated scheduled jobs are copied only if the **Run as** user for that job is the current user.

To collect scores, create a new data collector job associated with the domain-specific indicators.

Note: Domain users cannot set Performance Analytics properties that begin with com.snc.pa. These properties can only be set by users with the admin or pa_admin roles in the global domain.

Hybrid configuration

By using a hybrid configuration you can maintain reusable foundation configuration records such as indicator sources within the global domain or a parent domain while allowing administrators in other domains to create domain-specific configuration records such as indicators and widgets.

Note: The hybrid configuration is an advanced option. Implement either the global or domain-specific configurations successfully before attempting to use a hybrid configuration.

When using a hybrid configuration, foundation records should be managed only within the global domain or a parent domain. All other configuration records, such as widgets and indicators should be managed separately within each child domain. The following record types are considered foundation records.

- Bucket groups
- Buckets
- Scripts
- Breakdown sources
- Indicator sources
- Filters
- Breakdowns
- Managed sources
- Manual breakdowns
- Breakdown mappings
- Breakdown relations

Copying configuration data

You can reuse Performance Analytics configurations in multiple domains. The PADomainUtils API provides functionality that enables system administrators to move or copy Performance Analytics configuration records between domains.

Performance Analytics domain separation for managed service providers

Managed service providers can configure Performance Analytics with domain separation to provide domain-specific analytics and to control how scores are collected through the domain hierarchy.

You can create domain configurations to define which domains to collect data from and which domains to display on dashboards. Associate these domain configurations with specific data collection jobs and dashboards to provide relevant scores to users while maintaining your Performance Analytics configuration in a single domain.

To use this functionality you must have Performance Analytics, the Domain Support - Domain Extension Installer plugin, and responsive dashboards.

Activate the Performance Analytics - Domain Support plugin

You can activate the Performance Analytics - Domain Support plugin (com.snc.pa.domain_support) if you have the admin role.

Role required: admin

Performance Analytics - Domain Support activates these related plugins if they are not already active.

Table 25: Plugins for Performance Analytics - Domain Support

Plugin	Description
Responsive Dashboards [com.glideapp_dashboards]	Easily create, modify and share dashboards using responsive and dynamic widget layouts.

1. Navigate to **System Definition > Plugins**.

2. Find and click the plugin name.

3. On the System Plugin form, review the plugin details and then click the **Activate/Upgrade** related link.

If the plugin depends on other plugins, these plugins are listed along with their activation status.

If the plugin has optional features that depend on other plugins, those plugins are listed under **Some files will not be loaded because these plugins are inactive**. The optional features are not installed until the listed plugins are installed (before or after the installation of the current plugin).

4. Optional: If available, select the **Load demo data** check box.

Some plugins include demo data—Sample records that are designed to illustrate plugin features for common use cases. Loading demo data is a good practice when you first activate the plugin on a development or test instance.

You can also load demo data after the plugin is activated by clicking the **Load Demo Data Only** related link on the System Plugin form.

5. Click **Activate**.

Create a domain configuration

Create a domain configuration to define which domains to collect scores from and how to store scores within the domain hierarchy.

Role required: pa_admin or admin

Navigate to **Performance Analytics > Domain Configuration** and create a new record.

Table 26:

Field	Description
Configuration type	<p>Specify how you want to determine which domains to include in this configuration.</p> <p>Select Visibility group to include all domains visible to a specific group, based on existing visibility domains associated with that group.</p> <p>Select Conditions to specify the domains directly, using conditions.</p>
Visibility group	<p>When Configuration type is Visibility group, select the user group. All domains available to this group, based on associated visibility domains, are included in this domain configuration.</p>
Conditions	<p>When Configuration type is Conditions, specify conditions to determine which domains are included in this configuration.</p>
Collect aggregate	<p>Aggregate scores from the specified domain hierarchy. Aggregate scores are stored in a separate domain that exists outside of the domain hierarchy and contains only scores.</p> <p>One aggregate domain is created for each domain configuration where Collect aggregate is selected. The name of this domain is displayed in the read-only Aggregate domain field.</p> <p>Aggregate domains are stored as children of the Performance Analytics Aggregation Container domain.</p>
Collect children	<p>Select this option to collect scores from children of the specified domains. Scores are collected from all child domains, not only those domains that are direct children of the specified domains.</p> <p>Scores collected from a child domain are stored in that domain.</p>
Roll up	<p>Select this option to roll collected scores up to the top-level domain in the selected hierarchy. Scores collected from child domains are stored in the top-level domain of the specified domain hierarchy.</p>

Field	Description
Roll up type	Select All child domains to roll up scores from the specified domains and all of their child domains. Select Only selected domains to roll up scores only from the domains you specified.

Associate a domain configuration with a data collection job

Associated a domain configuration with a collection job to collect scores from specific domains.

Role required: pa_data_collector or admin

When you use a domain configuration to control the domain of a data collection job, the domain of the **Run as** user is not used.

1. Navigate to **Performance Analytics > Jobs**.
2. Select a data collection job.
3. In the **Domain Configurations** related list click **Edit**.
4. Select the domain configurations you want to associate with this job.

A separate data collection job runs for each domain included in the configuration.

5. Click **Save**.
6. Optional: Modify the **Order** of the domain configuration.

If multiple domain configurations are associated with a collection job, any overlap in the included domains may cause scores to be collected incorrectly. Only the scores collected for the domain configuration with the highest **Order** value are preserved for the overlapping domains.



Tip: When using multiple domain configurations with a single job, ensure each domain configuration specifies a unique set of domains.

Associate a domain configuration with a dashboard

Associate a domain configuration with a dashboard to display the domain picker on that dashboard and enable users to view scores from specific domains.

Role required: pa_power_user or admin

A user must have visibility into all domains in the domain configuration to view domain-specific scores on a dashboard.

1. Navigate to **Performance Analytics > Dashboard Administration**.
2. Select a dashboard.
3. In the **Domain Configurations** related list click **Edit**.
4. Select the domain configurations you want to associate with this dashboard.
5. Click **Save**.

Domain separation on dashboards and scorecards

You can view domain-specific scores on dashboards and scorecards.

When you view a dashboard associated with one or more domain configurations you can select which domain's scores to view.

Note: You must have access to all domains in the domain configuration to view the domain choice list.

Select a specific domain, or select **My domain** to view scores associated with your domain.

When viewing domain scores on a dashboard, click a widget to view the domain-specific scorecard. The name of the domain appears following the indicator name on the scorecard. All details on the scorecard are specific to the domain. Any target, threshold, or comment you add is automatically associated with the current domain. The **Edit scores** option is not available from a domain scorecard.

PADomainUtils

The PADomainUtils API enables you to copy Performance Analytics configurations between different domains.

Use this API in server scripts to copy Performance Analytics configuration records, such as indicators, breakdowns, and dashboards, to different domains. This API enables you to create a Performance Analytics configuration in one domain and copy that configuration to any number of additional domains.

Note: This API cannot copy records into the Global domain.

To use PADomainUtils, you must satisfy these requirements:

- Performance Analytics Premium must be enabled.
- The user running the script must have the admin role.
- The instance must use domain separation.
- The script must be run from the global domain.
- When moving or copying records, the source and target domains must be different.

PADomainUtils - PADomainUtils()

Instantiates a new PADomainUtils object to move or copy Performance Analytics configuration records from the global domain.

Use the `PADomainUtils(String domainFrom)` constructor instead when moving or copying records from a domain other than the global domain.

Table 27: Parameters

Name	Type	Description
None		

```
// PADomainUtils initialized with the global domain
var globalUtils = new SNC.PADomainUtils();
```

PADomainUtils - PADomainUtils(String domainFrom)

Instantiates a new PADomainUtils object to move or copy Performance Analytics configuration records from the specified domain.

Use the `PADomainUtils()` constructor instead when moving or copying from the global domain.

Table 28: Parameters

Name	Type	Description
domainFrom	String	The domain to copy records from.

```
// c90d4b084a362312013398f051272c0d is the sys id of the ACME
domain
var acmeUtils = new
SNC.PADomainUtils('c90d4b084a362312013398f051272c0d');
```

PADomainUtils - setFoundation(Boolean foundation)

Use this method to move or copy only foundation records in a hybrid domain configuration.

You can implement a hybrid configuration by maintaining some types of record in a parent domain and some types in child domains. Records maintained in the parent domain are known as foundation records. The following types of record are considered foundation records.

- Bucket groups
- Buckets
- Scripts
- Breakdown sources
- Indicator sources
- Filters
- Breakdowns
- Managed sources
- Manual breakdowns
- Breakdown mappings
- Breakdown relations

Other Performance Analytics configuration records such as widgets and indicators are not foundation records. Set this method to false to move or copy these additional records as well.

Table 29: Parameters

Name	Type	Description
foundation	Boolean	Indicates if only foundation records should be copied or moved by this PADomainUtils object.

Table 30: Returns

Type	Description
PADomainUtils	The object calling this function.

```
var pa = new SNC.PADomainUtils().setFoundation(true);
pa.copy('bb6b58b01f1310005a3637b8ec8b70dd');
```

PADomainUtils - setOverrides(Boolean overrides)

Use this method before copying records to set the sys_override value of the new record to the original parent record.

Using this method enables you to automatically override records in a parent domain. By overriding the parent records, the parent records do not impact the child domain. If the source domain is not the parent of the target domain when copying records, setting the sys_override value will not have any impact on behavior. You can specify an override only when copying records, not when moving records.

Table 31: Parameters

Name	Type	Description
overrides	Boolean	Indicates that copied records in a child domain should override the source record in the parent domain. This value is true by default.

Table 32: Returns

Type	Description
PADomainUtils	The object calling this function.

```
var pa = new
SNC.PADomainUtils('c90d4b084a362312013398f051272c0d');
pa.setOverrides(false);
pa.copy('bb6b58b01f1310005a3637b8ec8b70dd');
```

PADomainUtils - copy(String runAs)

Copies Performance Analytics configuration records to a different domain.

To copy dashboards or scheduled jobs, see [copyDashboard](#) and [copyJob](#).

Table 33: Parameters

Name	Type	Description
runAs	String	The user whose domain you want to copy records to.

Table 34: Returns

Type	Description
void	

```
// copy all the Performance Analytics records from global to
user's domain
var pa = new SNC.PADomainUtils();
pa.copy('09ff3d105f231000b12e3572f2b4775d');
```

PADomainUtils - copyJob(String paJob, String runAs)

Copies a Performance Analytics scheduled data collection job record to another domain.

Table 35: Parameters

Name	Type	Description
paJob	String	The sys_id of a Performance Analytics scheduled data collection job [sysauto_pa] record.
runAs	String	The user whose domain you want to copy the job to.

Table 36: Returns

Type	Description
String	An error message if an error occurs, or an empty string if there is no error.

```
// No source domain needs to be set
var pa = new SNC.PADomainUtils();
// copy the OOTB '[PA Incident] Daily Data Collection job'
// set the 'run as' of the new record to be the 'acme.itial' user
// first argument is the sys_id of the sysauto_pa record
// the second is the sys_id of the acme.itial user record
pa.copyJob('82ba2023d7101100b96d45a3ce6103cd', '797d14341f1310005a3637b8ec8b7010');
```

PADomainUtils - copyDashboard(String dashboardId, String runAs)

Copy a dashboard to another domain.

Table 37: Parameters

Name	Type	Description
dashboardId	String	The sys_id of the dashboard to copy.
runAs	String	The user whose domain you want to copy the dashboard to.

Table 38: Returns

Type	Description
void	

Optional example explanation

```
//Copy Incident Management dashboard from global to user's
domain
var pa = new SNC.PADomainUtils();
pa.copyDashboard('a64b7031d7201100b96d45a3ce610335','09ff3d105f231000b12e3572f2b4
```

PADomainUtils - move(String runAs)

Moves Performance Analytics configuration records to a different domain.

Table 39: Parameters

Name	Type	Description
runAs	String	The user whose domain you want to copy records to.

Table 40: Returns

Type	Description
void	

```
// move all the Performance Analytics records from the global to
the customers domain
var pa = new SNC.PADomainUtils();
pa.move('774190f01f1310005a3637b8ec8b70ef')
```

PADomainUtils - isWriteable(String table, String id)

Evaluate if you can write to a specific record identified by table and sys_id.

Table 41: Parameters

Name	Type	Description
table	String	The name of the table containing the record to query, such as pa_indicators.
id	String	The sys_id of the record to query.

Table 42: Returns

Type	Description
Boolean	Indicates that you can write to the specified record. Returns true if the record exists within the domain of the current user. Returns false if the record does not exist, or is in a different domain.

```
var pa = new SNC.PADomainUtils();
pa.isWriteable('pa_incidents','cd8125b5140012007665a83e633b028d');
```

Scripting in Performance Analytics

Performance Analytics provides several script objects for use in scripts such as formula scripts, as well as APIs for querying Performance Analytics data.

Performance Analytics script variables

Several variables are available for use in Performance Analytics scripts and formula scripts.

The following variables can be used in Performance Analytics scripts and formula indicator scripts. You can obtain a GlideDateTime object from these variables by calling `getGlideObject()`, such as in the example `gs.info("Score main = " + score_end.getGlideObject().getDayOfWeek())`;

- `score_start`: start of the collection period
- `score_end`: end of the collection period

Example script for calculating the age of open incidents:

```
var diff=function(x,y){return y.dateNumericValue() -
  x.dateNumericValue();};
var days=function(x,y){return diff(x,y)/(24*60*60*1000);};
days(current.opened_at, score_end)
```

PAScorecard

The PAScorecard API enables you to query information about Performance Analytics scorecards and indicators.

PAScorecard - addParam(String parameter, String value)

Add a query parameter to filter the returned scores.

Call this method multiple times on the same PAScorecard object to pass multiple parameters, such as the indicator sys_id and a breakdown sys_id. After specifying all parameters, call `query()` to run the query and get the resulting scorecard object.

Table 43: Parameters

Name	Type	Description
parameter	String	The parameter to set. For a detailed list of available parameters, see PAScorecard parameters .
value	String	The value to assign to the specified parameter.

Table 44: Returns

Type	Description
void	

```
var sc = new SNC.PAScorecard(); //in a scoped app, do not use
    the SNC namespace
sc.addParam('uuid', 'fb007202d7130100b96d45a3ce6103b4');
    // Number of open incidents
sc.addParam('breakdown', '0df47e02d7130100b96d45a3ce610399');
    // by Priority
var result = sc.query();
var json = sc.asJSON();
for (var i = 0; i < result.length; i++)
gs.info(result[i].name + ':' + result[i].value + ' ' +
    result[i].unit.display_value);
```

PAScorecards parameters

You can set these parameters using the PAScorecards API addParam method.

uuid	<p>Enter a colon-separated list of sys_id values to specify which indicators, breakdowns, and aggregates to query. The parameter follows this format:</p> <p><indicator sys_id>:<breakdown sys_id>:<element sys_id>:<aggregate sys_id></p> <p>The parameter must begin with the sys_id of an indicator record. Optionally, you can append the sys_id values of a breakdown and breakdown element to group the response based on the breakdown, and the sys_id of an aggregate to apply that aggregate. You can use a breakdown with an aggregate, or use only one.</p> <hr/> <p>Note: If an indicator is configured to use a Default time series, all scorecards for that indicator use the selected aggregate.</p>
------	---

breakdown	Enter the sys_id of a breakdown to return chart information organized as defined by the breakdown. For example, enter the sys_id of a priority breakdown to return separate task chart information for each priority value, such as Number of open incidents / Priority / 2 - High.
breakdown_relation	Specify the sys_id of a breakdown relation to break down the returned data using that relation. You can view available breakdown relations by setting the sysparm_include_available_breakdowns parameter to true.
elements_filter	Specify the sys_id of an elements filter to apply that filter to the returned data.
display	Set to true to return only scorecards where the indicator Display field is selected. Set this parameter to all to return scorecards with any Display field value. This parameter is true by default.
favorites	Set to true to return only scorecards that are favorites of the querying user.
key	Set to true to return only scorecards for key indicators.
target	Set to true to return only scorecards that have a target.
contains	Enter a comma-separated list of names or descriptions to return only scorecards with a matching value.
tags	Enter a comma-separated list of sys_id values to return only scorecards with a matching sys_id.
per_page	Enter the maximum number of scorecards each query can return. By default this value is 10, and the maximum is 100.
page	Specify the page number. For example, when querying 20 scorecards with the default per_page value (10), specify a page value of 2 to retrieve scorecards 11-20.
sortby	Specify the value to use when sorting results. Valid values for this parameter are value, change, changeperc, gap, gapperc, duedate, name, order, default, group, indicator_group, frequency, target, date, trend, bullet, and direction. By default, queries sort records by value.
sortdir	Specify the sort direction, ascending or descending. By default, queries sort records in descending order. Set this parameter to asc to sort in ascending order.

display_value	<p>Data retrieval operation for reference and choice fields.</p> <p>Based on this value, the display value and/or the actual value in the database are retrieved.</p> <ul style="list-style-type: none"> • true returns display values for all of the fields. • false returns actual values from the database. If a value is not specified, this parameter defaults to false. • all returns both actual and display values.
exclude_reference_link	Set to <code>true</code> to hide additional information provided for reference fields, such as the URI to the reference resource.
include_scores	Set to <code>true</code> to return all scores for a scorecard. If a value is not specified, this parameter defaults to false and returns only the most recent score value.
from	Specify the earliest date to return scores from. Only scores from this date or later are returned. The date format must match the ISO-8601 standard.
to	Specify the latest date to return scores from. Only scores from this date or earlier are returned. The date format must match the ISO-8601 standard.
step	Specify a numeric value to skip scores, based on the indicator frequency. For example, specify a value of 3 to return only scores from every third day for a daily indicator, or from every third week for a weekly indicator.
limit	Specify the maximum number of scores to return.
include_available_breakdowns	Set to <code>true</code> to return all available breakdowns for an indicator. If a value is not specified, this parameter defaults to false and returns no breakdowns.
include_available_aggregates	Set to <code>true</code> to always return all available aggregates for an indicator, including when an aggregate has already been applied. If a value is not specified, this parameter defaults to false and returns no aggregates.
include_realtime	Set this parameter to <code>true</code> to return the <code>realtime_enabled</code> element which indicates if real-time scores are enabled for the indicator, and the <code>realtime_value</code> element which contains the real-time score value. This parameter is not supported for formula indicators.

include_target_color_scheme	Set this parameter to <code>true</code> to return the <code>target_color_scheme</code> element that contains the minimum and maximum values, and the color of each section of the target color scheme for the scorecard.
include_forecast_Scores	Set this parameter to <code>true</code> to return the <code>forecast_scores</code> element that contains an array of date-value pairs that define the forecast data for the scorecard.
include_trendline_scores	Set this parameter to <code>true</code> to return the <code>trendline_scores</code> element that contains an array of date-value pairs that define the scorecard trendline.

PAScorecard - query()

Performs a query based on the specified parameters and return the scorecard as an object.

Before calling this method, configure parameters for the PAScorecard object by calling `addParam(String parameter, String value)`.

Table 45: Parameters

Name	Type	Description
None		

Table 46: Returns

Type	Description
Object	The scorecard object.

PAScorecard - result()

Returns the latest query result as an object.

This method does not perform a query. To perform a query before returning the result, use `query()`.

Table 47: Parameters

Name	Type	Description
None		

Table 48: Returns

Type	Description
Object	The scorecard object from the last query.

PAScorecard - asJSON()

Returns the latest query result as a JSON string.

This method does not perform a query. To perform a query before returning the result, use `query()`.

Table 49: Parameters

Name	Type	Description
None		

Table 50: Returns

Type	Description
String	A JSON representation of the query result.

PASnapshot

The PASnapshot API enables you to query information about Performance Analytics snapshots.

You can query information about a snapshot at a certain date using the indicator `sys_id` and `date`, and perform comparisons between snapshots for an indicator at different dates.

PASnapshot - getIDs(String sys_id, Number date)

Get the `sys_id` values for all records contained in the snapshot for a specified indicator at the specified date.

Table 51: Parameters

Name	Type	Description
<code>sys_id</code>	String	The indicator <code>sys_id</code> .
<code>date</code>	Number	The date when the snapshot was taken, in the format <code>yyyymmdd</code> .

Table 52: Returns

Type	Description
String	A comma-separated list of <code>sys_id</code> values.

```
var snapshot1 =
  PASnapshot.getIDs('fb007202d7130100b96d45a3ce6103b4',
  20160530);
gs.info(snapshot1);
```

Output: *** Script:

09c01200d7002100b81145a3ce6103ab,19c01200d7002100b81145a3ce6103e9,fcc01200d7002100b81145a3c

....

PASnapshot - getCompareIDs(String sys_id, Number date1, Number date2, String type)

Compare records in snapshots for a specified indicator at multiple dates, such as to identify records included in one snapshot but not the other.

Table 53: Parameters

Name	Type	Description
sys_id	String	The indicator sys_id.
date1	Number	The date of the first snapshot, in the format yyyyymmdd.
date2	Number	The date of the second snapshot, in the format yyyyymmdd.
type	String	Specifies what data to retrieve. Valid values are: <ul style="list-style-type: none"> • all1: all records in the first snapshot • all2: all records in the second snapshot • shared: records that are in both snapshots • movedin: records that are in the second snapshot, but not the first • movedout: records that are in the first snapshot, but not the second

Table 54: Returns

Type	Description
String	A comma-separated list of sys_id values.

```
var snapshot2 =
  PASnapshot.getCompareIDs('fb007202d7130100b96d45a3ce6103b4',
  20160430, 20160531, 'shared');
gs.info(snapshot2);
```

Output: *** Script:

09c01200d7002100b81145a3ce6103ab,19c01200d7002100b81145a3ce6103e9,fcc01200d7002100b81145a3c

....

PASnapshot - getQuery(String sys_id, Number date)

Get the query used to generate the snapshot for a specified indicator at the specified date.

Table 55: Parameters

Name	Type	Description
sys_id	String	The indicator sys_id.

Name	Type	Description
date	Number	The date when the snapshot was taken, in the format yyyyymmdd.

Table 56: Returns

Type	Description
String	The table, view, and encoded query as a JSON string.

```
var snapshot3 =
  PASnapshot.getQuery('fb007202d7130100b96d45a3ce6103b4',
  20160530);
gs.info(snapshot3);
```

Output: *** Script: {"view":"","query":"sys_idINjavascript:new
PAUtils().getSnapshotIDs(\"fb007202d7130100b96d45a3ce6103b4\",
\"20160530\")","table":"incident"}

PASnapshot - getCompareQuery(String sys_id, Number date1, Number date2, String type)
Get the query used to compare records in snapshots for a specified indicator at multiple dates.

Table 57: Parameters

Name	Type	Description
sys_id	String	The indicator sys_id.
date1	Number	The date of the first snapshot, in the format yyyyymmdd.
date2	Number	The date of the second snapshot, in the format yyyyymmdd.

Name	Type	Description
type	String	<p>Specifies what data to retrieve. Valid values are:</p> <ul style="list-style-type: none"> • all1: all records in the first snapshot • all2: all records in the second snapshot • shared: records that are in both snapshots • movedin: records that are in the second snapshot, but not the first • movedout: records that are in the first snapshot, but not the second

Table 58: Returns

Type	Description
String	The table, view, and encoded query as a JSON string.

```
var snapshot4 =
  PASnapshot.getCompareQuery('fb007202d7130100b96d45a3ce6103b4',
  20160530, 20160531, 'all1');
gs.info(snapshot4);
```

Output: *** Script: {"view":"","query":"sys_idInjavascript:new
PAUtils().getCompareSnapshotIDs(\"fb007202d7130100b96d45a3ce6103b4\",
\"20160530\", \"20160531\", \"all1\")", "table": "incident"}

Performance Analytics properties

These system properties control the behavior of Performance Analytics.

To configure properties, navigate to **Performance Analytics > Properties** or to **sys_properties.list**.

Collection cleanup properties

Several properties determine how long Performance Analytics scores and snapshots are maintained before being deleted by the scheduled cleanup job.

Property	Description
com.snc.pa.dc.keep_scores_for.frequency	<p>Maximum number of periods that scores will be kept before being deleted, for each indicator frequency, such as Daily or Weekly.</p> <p>The length of each period depends on the indicator frequency. For example, daily scores are kept for 732 days by default, or weekly scores for 105 weeks.</p> <p>Additionally, scores older than this limit are not collected during data collection.</p> <ul style="list-style-type: none"> • Type: String • Default value: 732;105;53;40;60;30;20;20;20;10;10 • Location: Performance Analytics > System > Properties
com.snc.pa.dc.keep_snapshots_for.frequency	<p>Maximum number of days the snapshots related to a score will be kept before being deleted for each indicator frequency, such as Daily or Weekly.</p> <p>The unit of each period depends on the indicator frequency. For example, daily snapshots are kept for 183 days by default, or weekly snapshots for 26 weeks.</p> <p>Additionally, snapshots older than this limit are not collected during data collection.</p> <ul style="list-style-type: none"> • Type: String • Default value: 183;26;13;10;15;8;5;5;5;3;3 • Location: Performance Analytics > System > Properties

Fiscal year properties

These properties set the year in Performance Analytics to match your company fiscal year.

Property	Description
com.snc.pa.fy_start	Start of the fiscal year of your company

Data collector properties

Data collector properties enable you to configure various limits for Performance Analytics data collection. The properties are configured to safeguard the data collection process. The default values are appropriate for most environments.

Property	Description
com.snc.pa.dc.script_timeout	<p>The maximum time in seconds that a script is allowed to run during a data collection cycle, such as an indicator source script or a breakdown script.</p> <p>This limit applies individually for each record processed by the data collection job. If a script exceeds this limit, the current record is skipped by the data collection job.</p> <p>If your scripts frequently reach the default limit, simplify the scripts as much as possible before modifying this property.</p> <ul style="list-style-type: none"> Type: integer Default value: 30
com.snc.pa.dc.query_time_limit	<p>The maximum duration in minutes that a single query for a data collection job can run before a warning is logged.</p> <ul style="list-style-type: none"> Type: integer Default value: 60
com.snc.pa.dc.max_row_count_indicator_source	<p>The maximum number of records that a job can collect from a single indicator source.</p> <p> Warning: If an indicator source contains a number of records higher than the value of this property, no indicators are collected for this indicator source.</p> <p>Increasing this value may cause data collection jobs to take longer to complete.</p> <p>This limit applies separately to each indicator source included in a data collection job. The number of indicators associated with each indicator source does not affect this limit.</p> <p>For example, if a data collection job collects scores for twelve indicators from three indicator sources, the job can collect a maximum of 150,000 records by default, 50,000 from each indicator source.</p> <ul style="list-style-type: none"> Type: integer Default value: 50,000

Property	Description
com.snc.pa.dc.max_breakdown_elements_limit	<p>Maximum number of breakdown elements for a breakdown to be included in data collection. You may encounter this limit when defining a breakdown based on a reference field, such as the Assigned to or Configuration item fields.</p> <p>Increasing this limit may impact performance when viewing breakdown information on a detailed scorecard. Additionally, it may be difficult for users to access data for a specific breakdown element when there are a very large number of elements.</p> <p>If you have more breakdown elements than this limit, consider defining a breakdown based on a bucket group instead. Bucket groups enable you to maintain a manageable number of breakdown elements, and simplify navigation for users viewing the broken-down data.</p> <ul style="list-style-type: none"> • Type: integer • Default value: 10,000
com.snc.pa.dc.max_error_count	<p>The maximum number errors that may occur for a single data collection job run before data collection is stopped.</p> <p>Errors during data collection usually occur due to an invalid script, or when encountering the script timeout limit.</p> <p>Do not increase this value. If you encounter this limit, review any scripts that run during data collection to ensure they are valid and perform as expected.</p> <ul style="list-style-type: none"> • Type: integer • Default value: 500

Property	Description
com.snc.pa.dc.max_breakdown_elements_level2_limit	<p>Maximum number of breakdown elements resulting from the combination of two breakdowns for a data collection. For example, if the first-level breakdown has 10 elements, and the second-level breakdown has 5, 50 breakdown elements are collected.</p> <p>Increasing this limit can cause data collection to use a large amount of memory which may impact performance.</p> <p>This limit is also affected by the com.snc.pa.dc.max_breakdown_elements_limit property. For example, if the first-level breakdown has greater than 10,000 elements, only 10,000 are collected by default. In this scenario, the second-level breakdown can specify at most 100 breakdown elements before reaching the default second-level limit of 1,000,000 total elements.</p> <ul style="list-style-type: none"> • Type: integer • Default value: 1,000,000
com.snc.pa.dc.max_records	<p>Maximum number of records that are stored on the Snapshots [pa_snapshots] table during each data collection. This limit applies only when Collect records is selected for an indicator. This limit does not apply to scores.</p> <p>Generally, the default limit provides enough detail into collected records. Increasing this limit may impact performance during data collection or when performing operations on the Snapshots table.</p> <ul style="list-style-type: none"> • Type: integer • Default value: 5000

Property	Description
com.snc.pa.breakdown_element_cutoff	<p>Maximum number of elements that a breakdown can have for the elements without scores to be shown in a scorecard. If the value of this parameter is exceeded, no scoreless elements are shown in the scorecard.</p> <p>Example: The value of the parameter is 10. Breakdown A has 8 elements. All 8 are shown in the scorecard. Breakdown B has 12 elements, of which 5 have scores. Only those 5 elements are shown.</p> <p>Notes:</p> <ul style="list-style-type: none"> • This parameter does not affect whether unmatched elements are shown. • If the element involves a formula with multiple scores, the element is considered to have a score if all parts of the formula have scores at any point in time. The formula is considered to have a score even if the result is invalid, such as a division by 0.

Target and Threshold properties

Table 59: Target properties

Property	Description
com.snc.pa.default_chart_personal_target_color	<p>The line color for personal targets displayed on scorecards.</p> <ul style="list-style-type: none"> • Type: string • Default value: #BDC0C4

Table 60: Threshold properties

Property	Description
com.snc.pa.default_chart_personal_threshold_color	<p>The line color for personal thresholds displayed on scorecards.</p> <ul style="list-style-type: none"> • Type: string • Default value: #BDC0C4

Property	Description
com.snc.pa.thresholds.frequency_intervals_in_the_past	The maximum number of frequency intervals in the past that a threshold check job will analyze. <ul style="list-style-type: none">• Type: integer• Default value: 2

Integrate Performance Analytics

Integrate Performance Analytics with an external system to collect scores based on remote data or to expose scorecard information.

Performance Analytics API

The Performance Analytics REST API enables you to query data about Performance Analytics scorecards.

The Performance Analytics API supports only the GET action. Performance Analytics queries never update records.

Performance Analytics API - GET /now/pa/scorecards

This method retrieves Performance Analytics scorecard details.

URL format

Versioned URL: /api/now/v1/pa/scorecards

Default URL: /api/now/pa/scorecards

Supported parameters

Table 61: Supported parameters

Parameter	Description
sysparm_uuid	<p>Enter a colon-separated list of sys_id values to specify which indicators, breakdowns, and aggregates to query. The parameter follows this format:</p> <pre><indicator sys_id>:<breakdown sys_id>:<element sys_id>:<aggregate sys_id></pre> <p>The parameter must begin with the sys_id of an indicator record. Optionally, you can append the sys_id values of a breakdown and breakdown element to group the response based on the breakdown, and the sys_id of an aggregate to apply that aggregate. You can use a breakdown with an aggregate, or use only one.</p> <p>Note: If an indicator is configured to use a Default time series, all scorecards for that indicator use the selected aggregate.</p> <p>See Performance Analytics API Examples for examples of fully-constructed sysparm_uuid values.</p>
sysparm_breakdown	Enter the sys_id of a breakdown to return chart information organized as defined by the breakdown. For example, enter the sys_id of a priority breakdown to return separate task chart information for each priority value, such as Number of open incidents / Priority / 2 - High.
sysparm_include_scores	Set to <code>true</code> to return all scores for a scorecard. If a value is not specified, this parameter defaults to <code>false</code> and returns only the most recent score value.
sysparm_include_aggregates	Set to <code>true</code> to always return all available aggregates for an indicator, including when an aggregate has already been applied. If a value is not specified, this parameter defaults to <code>false</code> and returns no aggregates.
sysparm_include_available_breakdowns	Set to <code>true</code> to return all available breakdowns for an indicator. If a value is not specified, this parameter defaults to <code>false</code> and returns no breakdowns.

Parameter	Description
sysparm_include_available_aggregates	Set to <code>true</code> to return all available aggregates for an indicator when no aggregate has been applied. If a value is not specified, this parameter defaults to <code>false</code> and returns no aggregates.
sysparm_display_value	<p>Data retrieval operation for reference and choice fields.</p> <p>Based on this value, retrieves the display value and/or the actual value from the database.</p> <ul style="list-style-type: none"> • <code>true</code> returns display values for all fields. • <code>false</code> returns actual values from the database. If a value is not specified, this parameter defaults to <code>false</code>. • <code>all</code> returns both actual and display values. <p>Note: There is no preferred method for setting this parameter. However, specifying the display value may cause performance issues since it is not reading directly from the database and may include referencing other fields and records. For more information on display values and actual values, see Table API FAQs (KB0534905).</p>
sysparm_exclude_reference_link	Set to <code>true</code> to hide additional information provided for reference fields, such as the URI to the reference resource.
sysparmFavorites	Set to <code>true</code> to return only scorecards that are favorites of the querying user.
sysparm_key	Set to <code>true</code> to return only scorecards for key indicators.
sysparm_target	Set to <code>true</code> to return only scorecards that have a target.
sysparm_display	Set to <code>true</code> to return only scorecards where the indicator Display field is selected. Set this parameter to <code>all</code> to return scorecards with any Display field value. This parameter is <code>true</code> by default.
sysparm_contains	Enter a comma-separated list of names or descriptions to return only scorecards with a matching value.
sysparm_tags	Enter a comma-separated list of sys_id values to return only scorecards with a matching sys_id.
sysparm_per_page	Enter the maximum number of scorecards each query can return. By default this value is 10, and the maximum is 100.

Parameter	Description
sysparm_page	Specify the page number. For example, when querying 20 scorecards with the default sysparm_per_page value (10), specify a sysparm_page value of 2 to retrieve scorecards 11-20.
sysparm_sortby	Specify the value to use when sorting results. Valid values for this parameter are value, change, changeperc, gap, gapperc, duedate, name, order, default, group, indicator_group, frequency, target, date, trend, bullet, and direction. By default, queries sort records by value.
sysparm_sortdir	Specify the sort direction, ascending or descending. By default, queries sort records in descending order. Set this parameter to <code>asc</code> to sort in ascending order.
sysparm_from	Specify the earliest date to return scores from. Only scores from this date or later are returned. The date format must match the ISO-8601 standard.
sysparm_to	Specify the latest date to return scores from. Only scores from this date or earlier are returned. The date format must match the ISO-8601 standard.
sysparm_step	Specify a numeric value to skip scores, based on the indicator frequency. For example, specify a value of 3 to return only scores from every third day for a daily indicator, or from every third week for a weekly indicator.
sysparm_limit	Specify the maximum number of scores to return.
sysparm_elements_filter	Specify the sys_id of an elements filter to apply that filter to the returned data.
sysparm_breakdown_relation	Specify the sys_id of a breakdown relation to break down the returned data using that relation. You can view available breakdown relations by setting the sysparm_include_available_breakdowns parameter to <code>true</code> .
sysparm_include_score_notes	Set this parameter to <code>true</code> to return all notes associated with the score. The note element contains the note text as well as the author and timestamp when the note was added.

Parameter	Description
sysparm_include_realtime	Set this parameter to <code>true</code> to return the <code>realtime_enabled</code> element which indicates if real-time scores are enabled for the indicator, and the <code>realtime_value</code> element which contains the real-time score value. This parameter is not supported for formula indicators.
sysparm_include_target_color_scheme	Set this parameter to <code>true</code> to return the <code>target_color_scheme</code> element that contains the minimum and maximum values, and the color of each section of the target color scheme for the scorecard.
sysparm_include_forecast_scores	Set this parameter to <code>true</code> to return the <code>forecast_scores</code> element that contains an array of date-value pairs that define the forecast data for the scorecard.
sysparm_include_trendline_scores	Set this parameter to <code>true</code> to return the <code>trendline_scores</code> element that contains an array of date-value pairs that define the scorecard trendline.

Headers

Table 62: Request headers

Header	Description
None	

Status codes

Table 63: Status codes

Status code	Description
200	Indicates that the query ran successfully.

Performance Analytics API security

You must meet certain requirements to access the Performance Analytics REST API.

Access to tables via the REST API is restricted by BasicAuth. ACLs defined for tables are enforced to restrict access to data.

To make queries using the Performance Analytics API, you must also have the `pa_viewer` role.

Performance Analytics API examples

These examples demonstrate how to perform a REST query using cURL commands, and show the data returned for each command. Each example builds upon the last, with later examples using the data returned by earlier examples.

Return all main scorecards

You can request a list of all scorecards for indicators that have a **Display** value set to true.

Command:

```
curl -v -u "admin:admin" -H "Accept:application/json" "https://
instance.service-now.com/api/now/v1/pa/scorecards"
```

Response:

```
{
  "result" : [
    {
      "change_formatted" : "",
      "key" : true,
      "value_unit" : "",
      "value_formatted" : "",
      "period_title" : null,
      "gapperc" : null,
      "gap" : null,
      "target" : null,
      "period" : null,
      "target_formatted" : "",
      "favorite" : false,
      "direction_label" : "Maximize",
      "uuid" : "002d65c3d7131100b96d45a3ce6103e2",
      "name" : "% of incidents resolved by first assigned group",
      "value_color" : "#000000",
      "frequency_label" : "Daily",
      "change" : null,
      "gap_formatted" : "",
      "gapperc_formatted" : "",
      "formula" : "( [[Number of resolved incidents by first assigned
group]] / [[Number of resolved incidents]] ) * 100",
      "value" : null,
      "unit" : {
        "display_value" : "%",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_units/f9c365e2d7320100ba986f14ce6103b8",
        "value" : "f9c365e2d7320100ba986f14ce6103b8"
      },
      "changeperc_formatted" : "",
      "direction" : 3,
      "frequency" : 10,
      "precision" : 2,
      "changeperc" : null,
      "indicator" : {
        "display_value" : "% of incidents resolved by first assigned group",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_indicators/002d65c3d7131100b96d45a3ce6103e2",
        "value" : "002d65c3d7131100b96d45a3ce6103e2"
      }
    }
  ]
}
```

```

    "description" : "Percentage of incidents resolved by first assigned
group."
},
{
    "change_formatted" : "",
    "key" : true,
    "value_unit" : "",
    "value_formatted" : "",
    "period_title" : null,
    "gapperc" : null,
    "gap" : null,
    "target" : null,
    "period" : null,
    "target_formatted" : "",
    "favorite" : false,
    "direction_label" : "Minimize",
    "uuid" : "4660f602d7130100b96d45a3ce610383",
    "name" : "% of new critical incidents",
    "value_color" : "#000000",
    "frequency_label" : "Daily",
    "change" : null,
    "gap_formatted" : "",
    "gapperc_formatted" : "",
    "formula" : "( [Number of new incidents / Priority / 1 - Critical]] /
[[Number of new incidents]] ) * 100",
    "value" : null,
    "unit" : {
        "display_value" : "%",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_units/f9c365e2d7320100ba986f14ce6103b8",
        "value" : "f9c365e2d7320100ba986f14ce6103b8"
    },
    "changeperc_formatted" : "",
    "direction" : 2,
    "frequency" : 10,
    "precision" : 2,
    "changeperc" : null,
    "indicator" : {
        "display_value" : "% of new critical incidents",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_indicators/4660f602d7130100b96d45a3ce610383",
        "value" : "4660f602d7130100b96d45a3ce610383"
    },
    "description" : "Number of new critical incidents as a percentage of
number of new incidents."
},
{
    "change_formatted" : "",
    "key" : true,
    "value_unit" : "",
    "value_formatted" : "",
    "period_title" : null,
    "gapperc" : null,
    "gap" : null,
    "target" : null,
    "period" : null,
    "target_formatted" : "",
    "favorite" : false,
    "direction_label" : "Minimize",
    "uuid" : "f0f07202d7130100b96d45a3ce610383",
    "name" : "% of open incidents not updated in last 30 days",
    "value_color" : "#000000",
    "frequency_label" : "Daily",
    "change" : null,

```

```

    "gap_formatted" : "",
    "gapperc_formatted" : "",
    "formula" : "( [[Number of open incidents not updated in last 30 days]] / [[Number of open incidents]] ) * 100",
    "value" : null,
    "unit" : {
        "display_value" : "%",
        "link" : "https://instance.service-now.com/api/now/v1/table/pa_units/f9c365e2d7320100ba986f14ce6103b8",
        "value" : "f9c365e2d7320100ba986f14ce6103b8"
    },
    "changeperc_formatted" : "",
    "direction" : 2,
    "frequency" : 10,
    "precision" : 2,
    "changeperc" : null,
    "indicator" : {
        "display_value" : "% of open incidents not updated in last 30 days",
        "link" : "https://instance.service-now.com/api/now/v1/table/pa_indicators/f0f07202d7130100b96d45a3ce610383",
        "value" : "f0f07202d7130100b96d45a3ce610383"
    },
    "description" : "Number of open incidents not updated in last 30 days as a percentage of number of open incidents."
},
{
    "change_formatted" : "",
    "key" : true,
    "value_unit" : "",
    "value_formatted" : "",
    "period_title" : null,
    "gapperc" : null,
    "gap" : null,
    "target" : null,
    "period" : null,
    "target_formatted" : "",
    "favorite" : false,
    "direction_label" : "Minimize",
    "uuid" : "fd51f602d7130100b96d45a3ce610385",
    "name" : "% of open incidents not updated in last 5 days",
    "value_color" : "#000000",
    "frequency_label" : "Daily",
    "change" : null,
    "gap_formatted" : "",
    "gapperc_formatted" : "",
    "formula" : "( [[Number of open incidents not updated in last 5 days]] / [[Number of open incidents]] ) * 100",
    "value" : null,
    "unit" : {
        "display_value" : "%",
        "link" : "https://instance.service-now.com/api/now/v1/table/pa_units/f9c365e2d7320100ba986f14ce6103b8",
        "value" : "f9c365e2d7320100ba986f14ce6103b8"
    },
    "changeperc_formatted" : "",
    "direction" : 2,
    "frequency" : 10,
    "precision" : 2,
    "changeperc" : null,
    "indicator" : {
        "display_value" : "% of open incidents not updated in last 5 days",
        "link" : "https://instance.service-now.com/api/now/v1/table/pa_indicators/fd51f602d7130100b96d45a3ce610385",
        "value" : "fd51f602d7130100b96d45a3ce610385"
    }
}

```

```

},
"description" : "Number of open incidents not updated in last 5 days
as a percentage of number of open incidents."
},
{
"change_formatted" : "",
"key" : true,
"value_unit" : "",
"value_formatted" : "",
"period_title" : null,
"gapperc" : null,
"gap" : null,
"target" : null,
"period" : null,
"target_formatted" : "",
"favorite" : false,
"direction_label" : "Minimize",
"uuid" : "88a0b602d7130100b96d45a3ce61030c",
"name" : "Average age open incidents",
"value_color" : "#000000",
"frequency_label" : "Daily",
"change" : null,
"gap_formatted" : "",
"gapperc_formatted" : "",
"formula" : "[[Summed age of open incidents]] / [[Number of open
incidents]] / 24",
"value" : null,
"unit" : {
    "display_value" : "Days",
    "link" : "https://instance.service-now.com/api/now/v1/table/
pa_units/94d365e2d7320100ba986f14ce6103be",
    "value" : "94d365e2d7320100ba986f14ce6103be"
},
"changeperc_formatted" : "",
"direction" : 2,
"frequency" : 10,
"precision" : 2,
"changeperc" : null,
"indicator" : {
    "display_value" : "Average age open incidents",
    "link" : "https://instance.service-now.com/api/now/v1/table/
pa_indicators/88a0b602d7130100b96d45a3ce61030c",
    "value" : "88a0b602d7130100b96d45a3ce61030c"
},
"description" : "Summed age open incidents / Number of open
incidents / 24 hours"
},
{
"change_formatted" : "",
"key" : true,
"value_unit" : "",
"value_formatted" : "",
"period_title" : null,
"gapperc" : null,
"gap" : null,
"target" : null,
"period" : null,
"target_formatted" : "",
"favorite" : false,
"direction_label" : "Minimize",
"uuid" : "6fb7202d7130100b96d45a3ce610360",
"name" : "Average resolution time of resolved incidents",
"value_color" : "#000000",
"frequency_label" : "Daily",

```

```

    "change" : null,
    "gap_formatted" : "",
    "gapperc_formatted" : "",
    "formula" : "[[Summed duration of resolved incidents]] / [[Number of resolved incidents]] / 24",
    "value" : null,
    "unit" : {
        "display_value" : "Days",
        "link" : "https://instance.service-now.com/api/now/v1/table/pa_units/94d365e2d7320100ba986f14ce6103be",
        "value" : "94d365e2d7320100ba986f14ce6103be"
    },
    "changeperc_formatted" : "",
    "direction" : 2,
    "frequency" : 10,
    "precision" : 2,
    "changeperc" : null,
    "indicator" : {
        "display_value" : "Average resolution time of resolved incidents",
        "link" : "https://instance.service-now.com/api/now/v1/table/pa_indicators/6fbb7202d7130100b96d45a3ce610360",
        "value" : "6fbb7202d7130100b96d45a3ce610360"
    },
    "description" : "Average resolution time of resolved incidents"
},
{
    "change_formatted" : "",
    "key" : true,
    "value_unit" : "",
    "value_formatted" : "",
    "period_title" : null,
    "gapperc" : null,
    "gap" : null,
    "target" : null,
    "period" : null,
    "target_formatted" : "",
    "favorite" : false,
    "direction_label" : "Minimize",
    "uuid" : "d0b0f602d7130100b96d45a3ce6103b0",
    "name" : "Incident backlog growth",
    "value_color" : "#000000",
    "frequency_label" : "Daily",
    "change" : null,
    "gap_formatted" : "",
    "gapperc_formatted" : "",
    "formula" : "[[Number of new incidents]] - [[Number of resolved incidents]]",
    "value" : null,
    "unit" : {
        "display_value" : "#",
        "link" : "https://instance.service-now.com/api/now/v1/table/pa_units/17b365e2d7320100ba986f14ce6103ad",
        "value" : "17b365e2d7320100ba986f14ce6103ad"
    },
    "changeperc_formatted" : "",
    "direction" : 2,
    "frequency" : 10,
    "precision" : 0,
    "changeperc" : null,
    "indicator" : {
        "display_value" : "Incident backlog growth",
        "link" : "https://instance.service-now.com/api/now/v1/table/pa_indicators/d0b0f602d7130100b96d45a3ce6103b0",
        "value" : "d0b0f602d7130100b96d45a3ce6103b0"
    }
}

```

```

},
"description" : "Number of new incidents - Number of resolved
incidents."
},
{
"change_formatted" : "",
"key" : false,
"value_unit" : "",
"value_formatted" : "",
"period_title" : null,
"gapperc" : null,
"gap" : null,
"target" : null,
"period" : null,
"target_formatted" : "",
"favorite" : false,
"direction_label" : "Minimize",
"uuid" : "31efe602d7130100b96d45a3ce610300",
"name" : "Number of new incidents",
"value_color" : "#000000",
"frequency_label" : "Daily",
"change" : null,
"gap_formatted" : "",
"gapperc_formatted" : "",
"value" : null,
"unit" : {
    "display_value" : "#",
    "link" : "https://instance.service-now.com/api/now/v1/table/
pa_units/17b365e2d7320100ba986f14ce6103ad",
    "value" : "17b365e2d7320100ba986f14ce6103ad"
},
"changeperc_formatted" : "",
"direction" : 2,
"frequency" : 10,
"precision" : 0,
"changeperc" : null,
"indicator" : {
    "display_value" : "Number of new incidents",
    "link" : "https://instance.service-now.com/api/now/v1/table/
pa_indicators/31efe602d7130100b96d45a3ce610300",
    "value" : "31efe602d7130100b96d45a3ce610300"
},
"description" : "Number of incidents based on registration date."
},
{
"change_formatted" : "",
"key" : false,
"value_unit" : "",
"value_formatted" : "",
"period_title" : null,
"gapperc" : null,
"gap" : null,
"target" : null,
"period" : null,
"target_formatted" : "",
"favorite" : false,
"direction_label" : "Minimize",
"uuid" : "fb007202d7130100b96d45a3ce6103b4",
"name" : "Number of open incidents",
"value_color" : "#000000",
"frequency_label" : "Daily",
"change" : null,
"gap_formatted" : "",
"gapperc_formatted" : ""
}

```

```

    "value" : null,
    "unit" : {
        "display_value" : "#",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_units/17b365e2d7320100ba986f14ce6103ad",
        "value" : "17b365e2d7320100ba986f14ce6103ad"
    },
    "changeperc_formatted" : "",
    "direction" : 2,
    "frequency" : 10,
    "precision" : 0,
    "changeperc" : null,
    "indicator" : {
        "display_value" : "Number of open incidents",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_indicators/fb007202d7130100b96d45a3ce6103b4",
        "value" : "fb007202d7130100b96d45a3ce6103b4"
    },
    "description" : "Number of incidents open based on resolved date is
empty."
},
{
    "change_formatted" : "",
    "key" : false,
    "value_unit" : "",
    "value_formatted" : "",
    "period_title" : null,
    "gapperc" : null,
    "gap" : null,
    "target" : null,
    "period" : null,
    "target_formatted" : "",
    "favorite" : false,
    "direction_label" : "Minimize",
    "uuid" : "44944f12bf130100b96dac808c0739a7",
    "name" : "Number of open incidents not updated in last 30 days",
    "value_color" : "#000000",
    "frequency_label" : "Daily",
    "change" : null,
    "gap_formatted" : "",
    "gapperc_formatted" : "",
    "value" : null,
    "unit" : {
        "display_value" : "#",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_units/17b365e2d7320100ba986f14ce6103ad",
        "value" : "17b365e2d7320100ba986f14ce6103ad"
    },
    "changeperc_formatted" : "",
    "direction" : 2,
    "frequency" : 10,
    "precision" : 0,
    "changeperc" : null,
    "indicator" : {
        "display_value" : "Number of open incidents not updated in last 30
days",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_indicators/44944f12bf130100b96dac808c0739a7",
        "value" : "44944f12bf130100b96dac808c0739a7"
    },
    "description" : "Number of open incidents not updated in last 30 days
based on updated date."
}
]

```

```
}
```

Return the number of open incidents scorecard

You can query scorecards for a particular indicator by providing the sysparm_uuid parameter with an indicator sys_id value.

Command:

```
curl -v -u "admin:admin" -H "Accept:application/json"
  "https://instance.service-now.com/api/now/v1/pa/scorecards?
sysparm_uuid=fb007202d7130100b96d45a3ce6103b4"
```

Response:

```
{
  "result" : [
    {
      "change_formatted" : "",
      "key" : false,
      "value_unit" : "",
      "value_formatted" : "",
      "period_title" : null,
      "gapperc" : null,
      "gap" : null,
      "target" : null,
      "period" : null,
      "target_formatted" : "",
      "favorite" : false,
      "direction_label" : "Minimize",
      "uuid" : "fb007202d7130100b96d45a3ce6103b4",
      "name" : "Number of open incidents",
      "value_color" : "#000000",
      "frequency_label" : "Daily",
      "change" : null,
      "gap_formatted" : "",
      "gapperc_formatted" : "",
      "value" : null,
      "unit" : {
        "display_value" : "#",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_units/17b365e2d7320100ba986f14ce6103ad",
        "value" : "17b365e2d7320100ba986f14ce6103ad"
      },
      "changeperc_formatted" : "",
      "direction" : 2,
      "frequency" : 10,
      "precision" : 0,
      "changeperc" : null,
      "indicator" : {
        "display_value" : "Number of open incidents",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_indicators/fb007202d7130100b96d45a3ce6103b4",
        "value" : "fb007202d7130100b96d45a3ce6103b4"
      },
      "description" : "Number of incidents open based on resolved date is
empty."
    }
  ]
}
```

Return the scorecard with all breakdowns and aggregates

You can query a list of available breakdowns and aggregates for an indicator by setting the sysparm_include_available_breakdowns and sysparm_include_available_aggregates parameters to true.

Command:

```
curl -v -u "admin:admin" -H "Accept:application/json"
  "https://instance.service-now.com/api/now/v1/pa/scorecards?
sysparm_uuid=fb007202d7130100b96d45a3ce6103b4&sysparm_include_available_breakdowns=true"
```

Response:

```
{
  "result" : [
    {
      "key" : false,
      "change_formatted" : "",
      "aggregates" : [
        {
          "display_value" : "7d running SUM",
          "link" : "https://instance.service-now.com/api/now/v1/table/
pa_aggregates/89ea4c11d7001100ba986f14ce6103dc",
          "value" : "89ea4c11d7001100ba986f14ce6103dc"
        },
        {
          "display_value" : "28d running SUM",
          "link" : "https://instance.service-now.com/api/now/v1/table/
pa_aggregates/4dfa4c11d7001100ba986f14ce6103e2",
          "value" : "4dfa4c11d7001100ba986f14ce6103e2"
        },
        {
          "display_value" : "30d running SUM",
          "link" : "https://instance.service-now.com/api/now/v1/table/
pa_aggregates/3e409011d7001100ba986f14ce610319",
          "value" : "3e409011d7001100ba986f14ce610319"
        },
        {
          "display_value" : "7d running AVG",
          "link" : "https://instance.service-now.com/api/now/v1/table/
pa_aggregates/9ef05051d7001100ba986f14ce610372",
          "value" : "9ef05051d7001100ba986f14ce610372"
        },
        {
          "display_value" : "28d running AVG",
          "link" : "https://instance.service-now.com/api/now/v1/table/
pa_aggregates/ee015051d7001100ba986f14ce610378",
          "value" : "ee015051d7001100ba986f14ce610378"
        },
        {
          "display_value" : "30d running AVG",
          "link" : "https://instance.service-now.com/api/now/v1/table/
pa_aggregates/d5115051d7001100ba986f14ce61038b",
          "value" : "d5115051d7001100ba986f14ce61038b"
        },
        {
          "display_value" : "By week SUM",
          "link" : "https://instance.service-now.com/api/now/v1/table/
pa_aggregates/75a15011d7001100ba986f14ce6103ee",
          "value" : "75a15011d7001100ba986f14ce6103ee"
        }
      ]
    }
  ]
}
```

```

        "display_value" : "By month SUM",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_aggregates/80e19051d7001100ba986f14ce610320",
        "value" : "80e19051d7001100ba986f14ce610320"
    },
    {
        "display_value" : "By quarter SUM",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_aggregates/03e19051d7001100ba986f14ce610327",
        "value" : "03e19051d7001100ba986f14ce610327"
    },
    {
        "display_value" : "By fiscal quarter SUM",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_aggregates/4f6d2851d7001100ba986f14ce61034c",
        "value" : "4f6d2851d7001100ba986f14ce61034c"
    },
    {
        "display_value" : "By week AVG",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_aggregates/4ead2851d7001100ba986f14ce61039d",
        "value" : "4ead2851d7001100ba986f14ce61039d"
    },
    {
        "display_value" : "By month AVG",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_aggregates/cdbd2851d7001100ba986f14ce6103a3",
        "value" : "cdbd2851d7001100ba986f14ce6103a3"
    },
    {
        "display_value" : "By quarter AVG",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_aggregates/71cd2851d7001100ba986f14ce6103aa",
        "value" : "71cd2851d7001100ba986f14ce6103aa"
    },
    {
        "display_value" : "By fiscal quarter AVG",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_aggregates/b2ed2851d7001100ba986f14ce6103e8",
        "value" : "b2ed2851d7001100ba986f14ce6103e8"
    },
    {
        "display_value" : "Week to date SUM",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_aggregates/a33e6851d7001100ba986f14ce610331",
        "value" : "a33e6851d7001100ba986f14ce610331"
    },
    {
        "display_value" : "Month to date SUM",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_aggregates/9f5e2011d7001100ba986f14ce6103e4",
        "value" : "9f5e2011d7001100ba986f14ce6103e4"
    },
    {
        "display_value" : "Quarter to date SUM",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_aggregates/136e2011d7001100ba986f14ce6103eb",
        "value" : "136e2011d7001100ba986f14ce6103eb"
    },
    {
        "display_value" : "Fiscal quarter to date SUM",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_aggregates/3f7e6851d7001100ba986f14ce610354",
        "value" : "3f7e6851d7001100ba986f14ce610354"
    }

```

```

        },
        {
            "display_value" : "Week to date AVG",
            "link" : "https://instance.service-now.com/api/now/v1/table/
pa_aggregates/03ae6851d7001100ba986f14ce610380",
            "value" : "03ae6851d7001100ba986f14ce610380"
        },
        {
            "display_value" : "Month to date AVG",
            "link" : "https://instance.service-now.com/api/now/v1/table/
pa_aggregates/4abe6851d7001100ba986f14ce610392",
            "value" : "4abe6851d7001100ba986f14ce610392"
        },
        {
            "display_value" : "Quarter to date AVG",
            "link" : "https://instance.service-now.com/api/now/v1/table/
pa_aggregates/cace6851d7001100ba986f14ce610398",
            "value" : "cace6851d7001100ba986f14ce610398"
        },
        {
            "display_value" : "Fiscal quarter to date AVG",
            "link" : "https://instance.service-now.com/api/now/v1/table/
pa_aggregates/d9de6851d7001100ba986f14ce6103b7",
            "value" : "d9de6851d7001100ba986f14ce6103b7"
        }
    ],
    "changeperc" : null,
    "value_formatted" : "",
    "period_title" : null,
    "gapperc" : null,
    "value_unit" : "",
    "target" : null,
    "period" : null,
    "target_formatted" : "",
    "favorite" : false,
    "gap" : null,
    "direction_label" : "Minimize",
    "uuid" : "fb007202d7130100b96d45a3ce6103b4",
    "name" : "Number of open incidents",
    "value_color" : "#000000",
    "frequency_label" : "Daily",
    "change" : null,
    "gap_formatted" : "",
    "gapperc_formatted" : "",
    "value" : null,
    "unit" : {
        "display_value" : "#",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_units/17b365e2d7320100ba986f14ce6103ad",
        "value" : "17b365e2d7320100ba986f14ce6103ad"
    },
    "breakdowns" : [
        {
            "display_value" : "Priority",
            "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/0df47e02d7130100b96d45a3ce610399",
            "value" : "0df47e02d7130100b96d45a3ce610399"
        },
        {
            "display_value" : "Category",
            "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/1f918835d7231100b96d45a3ce6103fe",
            "value" : "1f918835d7231100b96d45a3ce6103fe"
        }
    ]
}

```

```
{
    "display_value" : "Assignment Group",
    "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/baec0752bf130100b96dac808c0739ed",
    "value" : "baec0752bf130100b96dac808c0739ed"
},
{
    "display_value" : "State",
    "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/f0647e02d7130100b96d45a3ce61030b",
    "value" : "f0647e02d7130100b96d45a3ce61030b"
},
{
    "display_value" : "Age",
    "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/65947e02d7130100b96d45a3ce61033a",
    "value" : "65947e02d7130100b96d45a3ce61033a"
}
],
"changeperc_formatted" : "",
"frequency" : 10,
"precision" : 0,
"direction" : 2,
"indicator" : [
    {
        "display_value" : "Number of open incidents",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_indicators/fb007202d7130100b96d45a3ce6103b4",
        "value" : "fb007202d7130100b96d45a3ce6103b4"
    },
    "description" : "Number of incidents open based on resolved date is
empty."
]
}
}
```

Return the scorecard with breakdown relations

You can obtain the sys_id values for all breakdown relations associated with the scorecard using the sysparm_include_available_breakdowns parameter.

Command:

```
curl -v -u "admin:admin" -H "Accept:application/json"
"https://<instance>.service-now.com/api/now/v1/pa/scorecards?
sysparm_uuid=fb007202d7130100b96d45a3ce6103b4:baec0752bf130100b96dac808c0739ed:287ee6fea
"
```

Response:

```
{
    "result": [
        {
            "value_formatted": "37",
            "indicator": {
                "display_value": "Number of open incidents",
                "link": "https://<instance>.service-now.com/api/now/v1/table/
pa_indicators/fb007202d7130100b96d45a3ce6103b4",
                "value": "fb007202d7130100b96d45a3ce6103b4"
            },
            "gapperc": null,
            "change": 9.0,
            "value_color": "#455464",
        }
    ]
}
```

```

    "direction": 2,
    "target_formatted": "",
    "frequency": 10,
    "changeperc_formatted": "32.1%",
    "direction_label": "Minimize",
    "period_title": "Jul 22",
    "description": "Number of incidents open based on resolved date is empty.",
    "name": "Number of open incidents / Assignment Group / Database",
    "value": 37.0,
    "key": false,
    "gap_formatted": "",
    "element": {
        "display_value": "Database",
        "link": "https://<instance>.service-now.com/api/now/v1/table/sys_user_group/287ee6fea9fe198100ada7950d0b1b73",
        "value": "287ee6fea9fe198100ada7950d0b1b73"
    },
    "precision": 0,
    "breakdowns": [
        {
            "display_value": "Priority",
            "link": "https://<instance>.service-now.com/api/now/v1/table/pa_breakdowns/0df47e02d7130100b96d45a3ce610399",
            "value": "0df47e02d7130100b96d45a3ce610399"
        },
        {
            "display_value": "Category",
            "link": "https://<instance>.service-now.com/api/now/v1/table/pa_breakdowns/1f918835d7231100b96d45a3ce6103fe",
            "value": "1f918835d7231100b96d45a3ce6103fe"
        },
        {
            "display_value": "State",
            "link": "https://<instance>.service-now.com/api/now/v1/table/pa_breakdowns/f0647e02d7130100b96d45a3ce61030b",
            "value": "f0647e02d7130100b96d45a3ce61030b"
        },
        {
            "display_value": "Age",
            "link": "https://<instance>.service-now.com/api/now/v1/table/pa_breakdowns/65947e02d7130100b96d45a3ce61033a",
            "value": "65947e02d7130100b96d45a3ce61033a"
        },
        {
            "display_value": "Business Service",
            "link": "https://<instance>.service-now.com/api/now/v1/table/pa_breakdowns/9a6f62f36780020005d1ff5557415a85",
            "value": "9a6f62f36780020005d1ff5557415a85"
        }
    ],
    "breakdown_relations": [
        {
            "display_value": "Child Groups",
            "link": "https://<instance>.service-now.com/api/now/v1/table/pa_breakdown_relations/301fd511eb23310065deac6aa206fe31",
            "value": "301fd511eb23310065deac6aa206fe31"
        },
        {
            "display_value": "Parent Group",
            "link": "https://<instance>.service-now.com/api/now/v1/table/pa_breakdown_relations/790b6e11eb23310065deac6aa206felc",
            "value": "790b6e11eb23310065deac6aa206felc"
        }
    ]
}

```

```
{
    "display_value": "Sibling Groups",
    "link": "https://<instance>.service-now.com/api/now/v1/table/
pa_breakdown_relations/15e15a12eb233100871aac6aa206fe59",
    "value": "15e15a12eb233100871aac6aa206fe59"
}
],
"breakdown": {
    "display_value": "Assignment Group",
    "link": "https://<instance>.service-now.com/api/now/v1/table/
pa_breakdowns/baec0752bf130100b96dac808c0739ed",
    "value": "baec0752bf130100b96dac808c0739ed"
},
"period": "Jul 22",
"favorite": false,
"change_formatted": "9",
"unit": {
    "display_value": "#",
    "link": "https://<instance>.service-now.com/api/now/v1/table/
pa_units/17b365e2d7320100ba986f14ce6103ad",
    "value": "17b365e2d7320100ba986f14ce6103ad"
},
"frequency_label": "Daily",
"target": null,
"changeperc": 0.32142857142857145,
"uuid": "fb007202d7130100b96d45a3ce6103b4:baec0752bf130100b96dac808c0739ed:287ee6fea9fe198100ad
    "gapperc_formatted": "",
    "value_unit": "37",
    "gap": null
}
]
}
```

Return the scorecard broken down using a breakdown relation

You can break down the returned data by passing a breakdown relation sys_id in the sysparm_breakdown_relation parameter.

Command:

```
curl -v -u "admin:admin" -H "Accept:application/json"
"https://<instance>.service-now.com/api/now/v1/pa/scorecards?
sysparm_uuid=fb007202d7130100b96d45a3ce6103b4:baec0752bf130100b96dac808c0739ed:db53580b0
```

Response:

```
{
    "result": [
        {
            "value_formatted": "37",
            "indicator": {
                "display_value": "Number of open incidents",
                "link": "https://<instance>.service-now.com/api/now/v1/table/
pa_indicators/fb007202d7130100b96d45a3ce6103b4",
                "value": "fb007202d7130100b96d45a3ce6103b4"
            },
            "gapperc": null,
            "change": 9.0,
            "value_color": "#455464",
            "direction": 2,
        }
    ]
}
```

```

    "target_formatted": "",
    "frequency": 10,
    "changeperc_formatted": "32.1%",
    "direction_label": "Minimize",
    "period_title": "Jul 22",
    "description": "Number of incidents open based on resolved date is empty.",
    "name": "Number of open incidents / Assignment Group / Database",
    "value": 37.0,
    "key": false,
    "gap_formatted": "",
    "element": {
        "display_value": "Database",
        "link": "https://<instance>.service-now.com/api/now/v1/table/sys_user_group/287ee6fea9fe198100ada7950d0b1b73",
        "value": "287ee6fea9fe198100ada7950d0b1b73"
    },
    "precision": 0,
    "breakdown": {
        "display_value": "Assignment Group",
        "link": "https://<instance>.service-now.com/api/now/v1/table/pa_breakdowns/baec0752bf130100b96dac808c0739ed",
        "value": "baec0752bf130100b96dac808c0739ed"
    },
    "period": "Jul 22",
    "favorite": false,
    "change_formatted": "9",
    "unit": {
        "display_value": "#",
        "link": "https://<instance>.service-now.com/api/now/v1/table/pa_units/17b365e2d7320100ba986f14ce6103ad",
        "value": "17b365e2d7320100ba986f14ce6103ad"
    },
    "frequency_label": "Daily",
    "target": null,
    "changeperc": 0.32142857142857145,
    "uuid": "fb007202d7130100b96d45a3ce6103b4:baec0752bf130100b96dac808c0739ed:287ee6fea9fe198100ad"
    "gapperc_formatted": "",
    "value_unit": "37",
    "gap": null
}
]
}

```

Return the scorecard broken down by location

The Performance Analytics API returns geolocation data when available.

Command:

```

curl -v -u "admin:admin" -H "Accept:application/json"
"https://<instance>.service-now.com/api/now/v1/pa/scorecards?
sysparm_uuid=fb007202d7130100b96d45a3ce6103b4&sysparm_breakdown=656d5662eb23310065deac6a

```

Response:

```

{
  "result": [
    {
      ...
    }
  ]
}

```

```

    "element": {
        "display_value": "San Diego",
        "link": "https://<instance>.service-now.com/api/now/v1/table/
cmn_location/108752c8c611227501d4ab0e392ba97f",
        "value": "108752c8c611227501d4ab0e392ba97f",
        "longitude": -117.15726,
        "latitude": 32.71533
    },
    ...
}
{
    ...
    "element": {
        "display_value": "Florida",
        "link": "https://<instance>.service-now.com/api/now/v1/table/
cmn_location/8e3e85f037d0200044e0bfc8bcbe5d14",
        "value": "8e3e85f037d0200044e0bfc8bcbe5d14",
        "longitude": -95.71289,
        "latitude": 37.09024
    },
    ...
}
]
}

```

Return the scorecard with a filter

You can apply a filter to the scorecard data using the **sysparm_elements_filter** parameter with the sys_id of a Performance Analytics element filter record.

Command:

```
curl -v -u "admin:admin" -H "Accept:application/json"
"https://<instance>.service-now.com/api/now/v1/pa/scorecards?
sysparm_uuid=fb007202d7130100b96d45a3ce6103b4&sysparm_breakdown=baec0752bf130100b96dac80"
```

Response:

```
{
    "result": [
        {
            "value_formatted": "37",
            "indicator": {
                "display_value": "Number of open incidents",
                "link": "https://<instance>.service-now.com/api/now/v1/table/
pa_indicators/fb007202d7130100b96d45a3ce6103b4",
                "value": "fb007202d7130100b96d45a3ce6103b4"
            },
            "gapperc": null,
            "change": 9.0,
            "value_color": "#455464",
            "direction": 2,
            "target_formatted": "",
            "frequency": 10,
            "changeperc_formatted": "32.1%",
            "direction_label": "Minimize",
            "period_title": "Jul 22",
            "description": "Number of incidents open based on resolved date is
empty.",
            "name": "Number of open incidents / Assignment Group / Database",
            "value": 37.0,
        }
    ]
}
```

```

    "key": false,
    "gap_formatted": "",
    "element": {
        "display_value": "Database",
        "link": "https://<instance>.service-now.com/api/now/v1/table/
sys_user_group/287ee6fea9fe198100ada7950d0b1b73",
        "value": "287ee6fea9fe198100ada7950d0b1b73"
    },
    "precision": 0,
    "breakdown": {
        "display_value": "Assignment Group",
        "link": "https://<instance>.service-now.com/api/now/v1/table/
pa_breakdowns/baec0752bf130100b96dac808c0739ed",
        "value": "baec0752bf130100b96dac808c0739ed"
    },
    "period": "Jul 22",
    "favorite": false,
    "change_formatted": "9",
    "unit": {
        "display_value": "#",
        "link": "https://<instance>.service-now.com/api/now/v1/table/
pa_units/17b365e2d7320100ba986f14ce6103ad",
        "value": "17b365e2d7320100ba986f14ce6103ad"
    },
    "frequency_label": "Daily",
    "target": null,
    "changeperc": 0.32142857142857145,
    "uuid": "fb007202d7130100b96d45a3ce6103b4:baec0752bf130100b96dac808c0739ed:287ee6fea9fe198100ad",
    "gapperc_formatted": "",
    "value_unit": "37",
    "gap": null
},
{
    "value_formatted": "20",
    "indicator": {
        "display_value": "Number of open incidents",
        "link": "https://<instance>.service-now.com/api/now/v1/table/
pa_indicators/fb007202d7130100b96d45a3ce6103b4",
        "value": "fb007202d7130100b96d45a3ce6103b4"
    },
    "gapperc": null,
    "change": 4.0,
    "value_color": "#455464",
    "direction": 2,
    "target_formatted": "",
    "frequency": 10,
    "changeperc_formatted": "25.0%",
    "direction_label": "Minimize",
    "period_title": "Jul 22",
    "description": "Number of incidents open based on resolved date is empty.",
    "name": "Number of open incidents / Assignment Group / Database Atlanta",
    "value": 20.0,
    "key": false,
    "gap_formatted": "",
    "element": {
        "display_value": "Database Atlanta",
        "link": "https://<instance>.service-now.com/api/now/v1/table/
sys_user_group/db53580b0a0a0a6501aa37c294a2ba6b",
        "value": "db53580b0a0a0a6501aa37c294a2ba6b"
    },
    "precision": 0,
}

```

```

    "breakdown": {
        "display_value": "Assignment Group",
        "link": "https://<instance>.service-now.com/api/now/v1/table/
pa_breakdowns/baec0752bf130100b96dac808c0739ed",
        "value": "baec0752bf130100b96dac808c0739ed"
    },
    "period": "Jul 22",
    "favorite": false,
    "change_formatted": "4",
    "unit": {
        "display_value": "#",
        "link": "https://<instance>.service-now.com/api/now/v1/table/
pa_units/17b365e2d7320100ba986f14ce6103ad",
        "value": "17b365e2d7320100ba986f14ce6103ad"
    },
    "frequency_label": "Daily",
    "target": null,
    "changeperc": 0.25,
    "uuid": "fb007202d7130100b96d45a3ce6103b4:baec0752bf130100b96dac808c0739ed:db53580b0a0a0a6501aa
gapperc_formatted": "",
    "value_unit": "20",
    "gap": null
},
{
    "value_formatted": "19",
    "indicator": {
        "display_value": "Number of open incidents",
        "link": "https://<instance>.service-now.com/api/now/v1/table/
pa_indicators/fb007202d7130100b96d45a3ce6103b4",
        "value": "fb007202d7130100b96d45a3ce6103b4"
    },
    "gapperc": null,
    "change": 5.0,
    "value_color": "#455464",
    "direction": 2,
    "target_formatted": "",
    "frequency": 10,
    "changeperc_formatted": "35.7%",
    "direction_label": "Minimize",
    "period_title": "Jul 22",
    "description": "Number of incidents open based on resolved date is
empty.",
    "name": "Number of open incidents / Assignment Group / NY DB",
    "value": 19.0,
    "key": false,
    "gap_formatted": "",
    "element": {
        "display_value": "NY DB",
        "link": "https://<instance>.service-now.com/api/now/v1/table/
sys_user_group/5f74727dc0a8010e01efe33a251993f9",
        "value": "5f74727dc0a8010e01efe33a251993f9"
    },
    "precision": 0,
    "breakdown": {
        "display_value": "Assignment Group",
        "link": "https://<instance>.service-now.com/api/now/v1/table/
pa_breakdowns/baec0752bf130100b96dac808c0739ed",
        "value": "baec0752bf130100b96dac808c0739ed"
    },
    "period": "Jul 22",
    "favorite": false,
    "change_formatted": "5",
    "unit": {

```

```

        "display_value": "#",
        "link": "https://<instance>.service-now.com/api/now/v1/table/
pa_units/17b365e2d7320100ba986f14ce6103ad",
        "value": "17b365e2d7320100ba986f14ce6103ad"
    },
    "frequency_label": "Daily",
    "target": null,
    "changeperc": 0.35714285714285715,
    "uuid":
"fb007202d7130100b96d45a3ce6103b4:baec0752bf130100b96dac808c0739ed:5f74727dc0a8010e01e
    "gapperc_formatted": "",
    "value_unit": "19",
    "gap": null
},
{
    "value_formatted": "10",
    "indicator": {
        "display_value": "Number of open incidents",
        "link": "https://<instance>.service-now.com/api/now/v1/table/
pa_indicators/fb007202d7130100b96d45a3ce6103b4",
        "value": "fb007202d7130100b96d45a3ce6103b4"
    },
    "gapperc": null,
    "change": 0.0,
    "value_color": "#455464",
    "direction": 2,
    "target_formatted": "",
    "frequency": 10,
    "changeperc_formatted": "0.0%",
    "direction_label": "Minimize",
    "period_title": "Jul 22",
    "description": "Number of incidents open based on resolved date is
empty.",
    "name": "Number of open incidents / Assignment Group / Database San
Diego",
    "value": 10.0,
    "key": false,
    "gap_formatted": "",
    "element": {
        "display_value": "Database San Diego",
        "link": "https://<instance>.service-now.com/api/now/v1/table/
sys_user_group/db53a9290a0a0a650091abebccf833c6",
        "value": "db53a9290a0a0a650091abebccf833c6"
    },
    "precision": 0,
    "breakdown": {
        "display_value": "Assignment Group",
        "link": "http://localhost:8080/api/now/v1/table/pa_breakdowns/
baec0752bf130100b96dac808c0739ed",
        "value": "baec0752bf130100b96dac808c0739ed"
    },
    "period": "Jul 22",
    "favorite": false,
    "change_formatted": "0",
    "unit": {
        "display_value": "#",
        "link": "http://<instance>.service-now.com/api/now/v1/table/
pa_units/17b365e2d7320100ba986f14ce6103ad",
        "value": "17b365e2d7320100ba986f14ce6103ad"
    },
    "frequency_label": "Daily",
    "target": null,
    "changeperc": 0.0,

```

```

        "uuid": "fb007202d7130100b96d45a3ce6103b4:baec0752bf130100b96dac808c0739ed:db53a9290a0a0a65009",
        "gapperc_formatted": "",
        "value_unit": "10",
        "gap": null
    }
]
}

```

Return the scorecard with an aggregate

You can apply the 7d running SUM aggregate to the scorecard using the sysparm_uuid value with the sys_id of the aggregate.

Command:

```

curl -v -u "admin:admin" -H "Accept:application/json"
"https://instance.service-now.com/api/now/v1/pa/scorecards?
sysparm_uuid=fb007202d7130100b96d45a3ce6103b4:89ea4c11d7001100ba986f14ce6103dc"

```

Response:

```

{
  "result" : [
    {
      "key" : false,
      "change_formatted" : "",
      "value_unit" : "",
      "value_formatted" : "",
      "period_title" : null,
      "aggregate" : {
        "display_value" : "7d running SUM",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_aggregates/89ea4c11d7001100ba986f14ce6103dc",
        "value" : "89ea4c11d7001100ba986f14ce6103dc"
      },
      "gapperc" : null,
      "target" : null,
      "period" : null,
      "target_formatted" : "",
      "favorite" : false,
      "gap" : null,
      "direction_label" : "Minimize",
      "uuid" :
"fb007202d7130100b96d45a3ce6103b4:89ea4c11d7001100ba986f14ce6103dc",
      "name" : "Number of open incidents / 7d running SUM",
      "value_color" : "#000000",
      "frequency_label" : "Daily",
      "change" : null,
      "gap_formatted" : "",
      "gapperc_formatted" : "",
      "value" : null,
      "unit" : {
        "display_value" : "#",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_units/17b365e2d7320100ba986f14ce6103ad",
        "value" : "17b365e2d7320100ba986f14ce6103ad"
      },
      "changeperc_formatted" : "",
      "direction" : 2,
      "frequency" : 10,
    }
  ]
}

```

```

    "precision" : 0,
    "changeperc" : null,
    "indicator" : [
        {
            "display_value" : "Number of open incidents",
            "link" : "https://instance.service-now.com/api/now/v1/table/
pa_indicators/fb007202d7130100b96d45a3ce6103b4",
            "value" : "fb007202d7130100b96d45a3ce6103b4"
        },
        "description" : "Number of incidents open based on resolved date is
empty."
    ]
}

```

Return the scorecard with priority breakdown

You can request broken down scorecard data by passing the sysparm_breakdown parameter. This example shows the Number of open incidents scorecard broken down by priority.

In this example, the [PA Incident] Daily Data Collection job must run at least once to populate the data.

Command:

```

curl -v -u "admin:admin" -H "Accept:application/json"
      "https://instance.service-now.com/api/now/v1/pa/scorecards?
sysparm_uuid=fb007202d7130100b96d45a3ce6103b4&sysparm_breakdown=0df47e02d7130100b96d45a3

```

Response:

```

{
    "result" : [
        {
            "key" : false,
            "change_formatted" : "0",
            "changeperc" : 0,
            "value_unit" : "15",
            "value_formatted" : "15",
            "period_title" : "Mar 23",
            "gapperc" : null,
            "gap" : null,
            "target" : null,
            "period" : "Mar 23",
            "target_formatted" : "",
            "favorite" : false,
            "direction_label" : "Minimize",
            "uuid" :
"fb007202d7130100b96d45a3ce6103b4:0df47e02d7130100b96d45a3ce610399:dce1db9cc803310026c1
            "name" : "Number of open incidents / Priority / 1 - Critical",
            "value_color" : "#000000",
            "frequency_label" : "Daily",
            "element" : {
                "display_value" : "1 - Critical",
                "link" : "https://instance.service-now.com/api/now/v1/table/
sys_choice/dce1db9cc803310026c1c49f3d065511",
                "value" : "dce1db9cc803310026c1c49f3d065511"
            },
            "change" : 0,
            "gap_formatted" : "",
            "gapperc_formatted" : "",
            "value" : 15,
            "unit" : {

```

```

        "display_value" : "#",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_units/17b365e2d7320100ba986f14ce6103ad",
        "value" : "17b365e2d7320100ba986f14ce6103ad"
    },
    "breakdown" : {
        "display_value" : "Priority",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/0df47e02d7130100b96d45a3ce610399",
        "value" : "0df47e02d7130100b96d45a3ce610399"
    },
    "changeperc_formatted" : "0.0%",
    "frequency" : 10,
    "precision" : 0,
    "direction" : 2,
    "indicator" : {
        "display_value" : "Number of open incidents",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_indicators/fb007202d7130100b96d45a3ce6103b4",
        "value" : "fb007202d7130100b96d45a3ce6103b4"
    },
    "description" : "Number of incidents open based on resolved date is
empty."
},
{
    "key" : false,
    "change_formatted" : "0",
    "changeperc" : 0,
    "value_unit" : "5",
    "value_formatted" : "5",
    "period_title" : "Mar 23",
    "gapperc" : null,
    "gap" : null,
    "target" : null,
    "period" : "Mar 23",
    "target_formatted" : "",
    "favorite" : false,
    "direction_label" : "Minimize",
    "uuid" :
"fb007202d7130100b96d45a3ce6103b4:0df47e02d7130100b96d45a3ce610399:50e1db9cc803310026c
        "name" : "Number of open incidents / Priority / 3 - Moderate",
        "value_color" : "#000000",
        "frequency_label" : "Daily",
        "element" : {
            "display_value" : "3 - Moderate",
            "link" : "https://instance.service-now.com/api/now/v1/table/
sys_choice/50e1db9cc803310026c1c49f3d065512",
            "value" : "50e1db9cc803310026c1c49f3d065512"
        },
        "change" : 0,
        "gap_formatted" : "",
        "gapperc_formatted" : "",
        "value" : 5,
        "unit" : {
            "display_value" : "#",
            "link" : "https://instance.service-now.com/api/now/v1/table/
pa_units/17b365e2d7320100ba986f14ce6103ad",
            "value" : "17b365e2d7320100ba986f14ce6103ad"
        },
        "breakdown" : {
            "display_value" : "Priority",
            "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/0df47e02d7130100b96d45a3ce610399",
            "value" : "0df47e02d7130100b96d45a3ce610399"
        }
}

```

```

},
"changeperc_formatted" : "0.0%",
"frequency" : 10,
"precision" : 0,
"direction" : 2,
"indicator" : {
    "display_value" : "Number of open incidents",
    "link" : "https://instance.service-now.com/api/now/v1/table/
pa_indicators/fb007202d7130100b96d45a3ce6103b4",
    "value" : "fb007202d7130100b96d45a3ce6103b4"
},
"description" : "Number of incidents open based on resolved date is
empty."
},
{
    "key" : false,
    "change_formatted" : "0",
    "changeperc" : 0,
    "value_unit" : "4",
    "value_formatted" : "4",
    "period_title" : "Mar 23",
    "gapperc" : null,
    "gap" : null,
    "target" : null,
    "period" : "Mar 23",
    "target_formatted" : "",
    "favorite" : false,
    "direction_label" : "Minimize",
    "uuid" :
"fb007202d7130100b96d45a3ce6103b4:0df47e02d7130100b96d45a3ce610399:10e1db9cc803310026c
    "name" : "Number of open incidents / Priority / 2 - High",
    "value_color" : "#000000",
    "frequency_label" : "Daily",
    "element" : {
        "display_value" : "2 - High",
        "link" : "https://instance.service-now.com/api/now/v1/table/
sys_choice/10e1db9cc803310026c1c49f3d065512",
        "value" : "10e1db9cc803310026c1c49f3d065512"
    },
    "change" : 0,
    "gap_formatted" : "",
    "gapperc_formatted" : "",
    "value" : 4,
    "unit" : {
        "display_value" : "#",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_units/17b365e2d7320100ba986f14ce6103ad",
        "value" : "17b365e2d7320100ba986f14ce6103ad"
    },
    "breakdown" : {
        "display_value" : "Priority",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/0df47e02d7130100b96d45a3ce610399",
        "value" : "0df47e02d7130100b96d45a3ce610399"
    },
    "changeperc_formatted" : "0.0%",
    "frequency" : 10,
    "precision" : 0,
    "direction" : 2,
    "indicator" : {
        "display_value" : "Number of open incidents",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_indicators/fb007202d7130100b96d45a3ce6103b4",
        "value" : "fb007202d7130100b96d45a3ce6103b4"
}

```

```

        },
        "description" : "Number of incidents open based on resolved date is
empty."
    },
    {
        "key" : false,
        "change_formatted" : "0",
        "changeperc" : 0,
        "value_unit" : "3",
        "value_formatted" : "3",
        "period_title" : "Mar 23",
        "gapperc" : null,
        "gap" : null,
        "target" : null,
        "period" : "Mar 23",
        "target_formatted" : "",
        "favorite" : false,
        "direction_label" : "Minimize",
        "uuid" :
"fb007202d7130100b96d45a3ce6103b4:0df47e02d7130100b96d45a3ce610399:d0e1db9cc803310026c
        "name" : "Number of open incidents / Priority / 5 - Planning",
        "value_color" : "#000000",
        "frequency_label" : "Daily",
        "element" : {
            "display_value" : "5 - Planning",
            "link" : "https://instance.service-now.com/api/now/v1/table/
sys_choice/d0e1db9cc803310026c1c49f3d065512",
            "value" : "d0e1db9cc803310026c1c49f3d065512"
        },
        "change" : 0,
        "gap_formatted" : "",
        "gapperc_formatted" : "",
        "value" : 3,
        "unit" : {
            "display_value" : "#",
            "link" : "https://instance.service-now.com/api/now/v1/table/
pa_units/17b365e2d7320100ba986f14ce6103ad",
            "value" : "17b365e2d7320100ba986f14ce6103ad"
        },
        "breakdown" : {
            "display_value" : "Priority",
            "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/0df47e02d7130100b96d45a3ce610399",
            "value" : "0df47e02d7130100b96d45a3ce610399"
        },
        "changeperc_formatted" : "0.0%",
        "frequency" : 10,
        "precision" : 0,
        "direction" : 2,
        "indicator" : {
            "display_value" : "Number of open incidents",
            "link" : "https://instance.service-now.com/api/now/v1/table/
pa_indicators/fb007202d7130100b96d45a3ce6103b4",
            "value" : "fb007202d7130100b96d45a3ce6103b4"
        },
        "description" : "Number of incidents open based on resolved date is
empty."
    },
    {
        "key" : false,
        "change_formatted" : "0",
        "changeperc" : 0,
        "value_unit" : "1",
        "value_formatted" : "1",

```

```

"period_title" : "Mar 23",
"gapperc" : null,
"gap" : null,
"target" : null,
"period" : "Mar 23",
"target_formatted" : "",
"favorite" : false,
"direction_label" : "Minimize",
"uuid" :
"fb007202d7130100b96d45a3ce6103b4:0df47e02d7130100b96d45a3ce610399:90e1db9cc803310026c",
"name" : "Number of open incidents / Priority / 4 - Low",
"value_color" : "#000000",
"frequency_label" : "Daily",
"element" : {
    "display_value" : "4 - Low",
    "link" : "https://instance.service-now.com/api/now/v1/table/
sys_choice/90e1db9cc803310026c1c49f3d065512",
    "value" : "90e1db9cc803310026c1c49f3d065512"
},
"change" : 0,
"gap_formatted" : "",
"gapperc_formatted" : "",
"value" : 1,
"unit" : {
    "display_value" : "#",
    "link" : "https://instance.service-now.com/api/now/v1/table/
pa_units/17b365e2d7320100ba986f14ce6103ad",
    "value" : "17b365e2d7320100ba986f14ce6103ad"
},
"breakdown" : {
    "display_value" : "Priority",
    "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/0df47e02d7130100b96d45a3ce610399",
    "value" : "0df47e02d7130100b96d45a3ce610399"
},
"changeperc_formatted" : "0.0%",
"frequency" : 10,
"precision" : 0,
"direction" : 2,
"indicator" : {
    "display_value" : "Number of open incidents",
    "link" : "https://instance.service-now.com/api/now/v1/table/
pa_indicators/fb007202d7130100b96d45a3ce6103b4",
    "value" : "fb007202d7130100b96d45a3ce6103b4"
},
"description" : "Number of incidents open based on resolved date is
empty."
}
]
}

```

Return the scorecard with priority breakdown and available breakdowns

You can request broken down scorecard data by passing the sysparm_breakdown parameter, and a list of available breakdowns by passing the sysparm_include_available_breakdowns parameter. Passing both parameters in the same request enables you to query both sets of data using a single request.

In this example, the [PA Incident] Daily Data Collection job must run at least once to populate the data.

Command:

```
curl -v -u "admin:admin" -H "Accept:application/json"
  "https://instance.service-now.com/api/now/v1/pa/scorecards?
sysparm_uuid=fb007202d7130100b96d45a3ce6103b4&sysparm_breakdown=0df47e02d7130100b96d45a3ce6103b4&sysparm_limit=100&sysparm_offset=0&sysparm_sort=period_title%20asc"
```

Response:

```
{
  "result" : [
    {
      "key" : false,
      "direction" : 2,
      "change_formatted" : "0",
      "changeperc" : 0,
      "value_formatted" : "15",
      "period_title" : "Mar 23",
      "gapperc" : null,
      "value_unit" : "15",
      "target" : null,
      "period" : "Mar 23",
      "target_formatted" : "",
      "favorite" : false,
      "gap" : null,
      "direction_label" : "Minimize",
      "uuid" :
      "fb007202d7130100b96d45a3ce6103b4:0df47e02d7130100b96d45a3ce610399:dce1db9cc803310026c1c49f3d065511",
      "name" : "Number of open incidents / Priority / 1 - Critical",
      "value_color" : "#000000",
      "frequency_label" : "Daily",
      "element" : {
        "display_value" : "1 - Critical",
        "link" : "https://instance.service-now.com/api/now/v1/table/
sys_choice/dce1db9cc803310026c1c49f3d065511",
        "value" : "dce1db9cc803310026c1c49f3d065511"
      },
      "change" : 0,
      "gap_formatted" : "",
      "gapperc_formatted" : "",
      "value" : 15,
      "unit" : {
        "display_value" : "#",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_units/17b365e2d7320100ba986f14ce6103ad",
        "value" : "17b365e2d7320100ba986f14ce6103ad"
      },
      "breakdown" : {
        "display_value" : "Priority",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/0df47e02d7130100b96d45a3ce610399",
        "value" : "0df47e02d7130100b96d45a3ce610399"
      },
      "breakdowns" : [
        {
          "display_value" : "Category",
          "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/1f918835d7231100b96d45a3ce6103fe",
          "value" : "1f918835d7231100b96d45a3ce6103fe"
        },
        {
          "display_value" : "Assignment Group",
          "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/baec0752bf130100b96dac808c0739ed",
          "value" : "baec0752bf130100b96dac808c0739ed"
        }
      ]
    }
  ]
}
```

```

        "value" : "baec0752bf130100b96dac808c0739ed"
    },
    {
        "display_value" : "State",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/f0647e02d7130100b96d45a3ce61030b",
        "value" : "f0647e02d7130100b96d45a3ce61030b"
    },
    {
        "display_value" : "Age",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/65947e02d7130100b96d45a3ce61033a",
        "value" : "65947e02d7130100b96d45a3ce61033a"
    }
],
"changeperc_formatted" : "0.0%",
"precision" : 0,
"frequency" : 10,
"indicator" : [
    {
        "display_value" : "Number of open incidents",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_indicators/fb007202d7130100b96d45a3ce6103b4",
        "value" : "fb007202d7130100b96d45a3ce6103b4"
    },
    {
        "description" : "Number of incidents open based on resolved date is
empty."
    }
],
{
    "key" : false,
    "direction" : 2,
    "change_formatted" : "0",
    "changeperc" : 0,
    "value_formatted" : "5",
    "period_title" : "Mar 23",
    "gapperc" : null,
    "value_unit" : "5",
    "target" : null,
    "period" : "Mar 23",
    "target_formatted" : "",
    "favorite" : false,
    "gap" : null,
    "direction_label" : "Minimize",
    "uuid" :
"fb007202d7130100b96d45a3ce6103b4:0df47e02d7130100b96d45a3ce610399:50e1db9cc803310026c1
        "name" : "Number of open incidents / Priority / 3 - Moderate",
        "value_color" : "#000000",
        "frequency_label" : "Daily",
        "element" : [
            {
                "display_value" : "3 - Moderate",
                "link" : "https://instance.service-now.com/api/now/v1/table/
sys_choice/50e1db9cc803310026c1c49f3d065512",
                "value" : "50e1db9cc803310026c1c49f3d065512"
            },
            {
                "change" : 0,
                "gap_formatted" : "",
                "gapperc_formatted" : "",
                "value" : 5,
                "unit" : [
                    {
                        "display_value" : "#",
                        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_units/17b365e2d7320100ba986f14ce6103ad",
                        "value" : "17b365e2d7320100ba986f14ce6103ad"
                    },
                    {
                        "breakdown" : {

```

```

        "display_value" : "Priority",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/0df47e02d7130100b96d45a3ce610399",
        "value" : "0df47e02d7130100b96d45a3ce610399"
    },
    "breakdowns" : [
        {
            "display_value" : "Category",
            "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/1f918835d7231100b96d45a3ce6103fe",
            "value" : "1f918835d7231100b96d45a3ce6103fe"
        },
        {
            "display_value" : "Assignment Group",
            "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/baec0752bf130100b96dac808c0739ed",
            "value" : "baec0752bf130100b96dac808c0739ed"
        },
        {
            "display_value" : "State",
            "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/f0647e02d7130100b96d45a3ce61030b",
            "value" : "f0647e02d7130100b96d45a3ce61030b"
        },
        {
            "display_value" : "Age",
            "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/65947e02d7130100b96d45a3ce61033a",
            "value" : "65947e02d7130100b96d45a3ce61033a"
        }
    ],
    "changeperc_formatted" : "0.0%",
    "precision" : 0,
    "frequency" : 10,
    "indicator" : [
        {
            "display_value" : "Number of open incidents",
            "link" : "https://instance.service-now.com/api/now/v1/table/
pa_indicators/fb007202d7130100b96d45a3ce6103b4",
            "value" : "fb007202d7130100b96d45a3ce6103b4"
        },
        "description" : "Number of incidents open based on resolved date is
empty."
    ],
    {
        "key" : false,
        "direction" : 2,
        "change_formatted" : "0",
        "changeperc" : 0,
        "value_formatted" : "4",
        "period_title" : "Mar 23",
        "gapperC" : null,
        "value_unit" : "4",
        "target" : null,
        "period" : "Mar 23",
        "target_formatted" : "",
        "favorite" : false,
        "gap" : null,
        "direction_label" : "Minimize",
        "uuid" :
"fb007202d7130100b96d45a3ce6103b4:0df47e02d7130100b96d45a3ce610399:10e1db9cc803310026c",
        "name" : "Number of open incidents / Priority / 2 - High",
        "value_color" : "#000000",
        "frequency_label" : "Daily",
        "element" : {

```

```

        "display_value" : "2 - High",
        "link" : "https://instance.service-now.com/api/now/v1/table/
sys_choice/10e1db9cc803310026c1c49f3d065512",
        "value" : "10e1db9cc803310026c1c49f3d065512"
    },
    "change" : 0,
    "gap_formatted" : "",
    "gapperc_formatted" : "",
    "value" : 4,
    "unit" : {
        "display_value" : "#",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_units/17b365e2d7320100ba986f14ce6103ad",
        "value" : "17b365e2d7320100ba986f14ce6103ad"
    },
    "breakdown" : {
        "display_value" : "Priority",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/0df47e02d7130100b96d45a3ce610399",
        "value" : "0df47e02d7130100b96d45a3ce610399"
    },
    "breakdowns" : [
        {
            "display_value" : "Category",
            "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/1f918835d7231100b96d45a3ce6103fe",
            "value" : "1f918835d7231100b96d45a3ce6103fe"
        },
        {
            "display_value" : "Assignment Group",
            "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/baec0752bf130100b96dac808c0739ed",
            "value" : "baec0752bf130100b96dac808c0739ed"
        },
        {
            "display_value" : "State",
            "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/f0647e02d7130100b96d45a3ce61030b",
            "value" : "f0647e02d7130100b96d45a3ce61030b"
        },
        {
            "display_value" : "Age",
            "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/65947e02d7130100b96d45a3ce61033a",
            "value" : "65947e02d7130100b96d45a3ce61033a"
        }
    ],
    "changeperc_formatted" : "0.0%",
    "precision" : 0,
    "frequency" : 10,
    "indicator" : {
        "display_value" : "Number of open incidents",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_indicators/fb007202d7130100b96d45a3ce6103b4",
        "value" : "fb007202d7130100b96d45a3ce6103b4"
    },
    "description" : "Number of incidents open based on resolved date is
empty."
},
{
    "key" : false,
    "direction" : 2,
    "change_formatted" : "0",
    "changeperc" : 0,

```

```

"value_formatted" : "3",
"period_title" : "Mar 23",
"gapperc" : null,
"value_unit" : "3",
"target" : null,
"period" : "Mar 23",
"target_formatted" : "",
"favorite" : false,
"gap" : null,
"direction_label" : "Minimize",
"uuid" :
"fb007202d7130100b96d45a3ce6103b4:0df47e02d7130100b96d45a3ce610399:d0e1db9cc803310026c
    "name" : "Number of open incidents / Priority / 5 - Planning",
    "value_color" : "#000000",
    "frequency_label" : "Daily",
    "element" : {
        "display_value" : "5 - Planning",
        "link" : "https://instance.service-now.com/api/now/v1/table/
sys_choice/d0e1db9cc803310026c1c49f3d065512",
        "value" : "d0e1db9cc803310026c1c49f3d065512"
    },
    "change" : 0,
    "gap_formatted" : "",
    "gapperc_formatted" : "",
    "value" : 3,
    "unit" : {
        "display_value" : "#",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_units/17b365e2d7320100ba986f14ce6103ad",
        "value" : "17b365e2d7320100ba986f14ce6103ad"
    },
    "breakdown" : {
        "display_value" : "Priority",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/0df47e02d7130100b96d45a3ce610399",
        "value" : "0df47e02d7130100b96d45a3ce610399"
    },
    "breakdowns" : [
        {
            "display_value" : "Category",
            "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/1f918835d7231100b96d45a3ce6103fe",
            "value" : "1f918835d7231100b96d45a3ce6103fe"
        },
        {
            "display_value" : "Assignment Group",
            "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/baec0752bf130100b96dac808c0739ed",
            "value" : "baec0752bf130100b96dac808c0739ed"
        },
        {
            "display_value" : "State",
            "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/f0647e02d7130100b96d45a3ce61030b",
            "value" : "f0647e02d7130100b96d45a3ce61030b"
        },
        {
            "display_value" : "Age",
            "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/65947e02d7130100b96d45a3ce61033a",
            "value" : "65947e02d7130100b96d45a3ce61033a"
        }
    ],
    "changeperc_formatted" : "0.0%"
}

```

```

    "precision" : 0,
    "frequency" : 10,
    "indicator" : [
        {
            "display_value" : "Number of open incidents",
            "link" : "https://instance.service-now.com/api/now/v1/table/
pa_indicators/fb007202d7130100b96d45a3ce6103b4",
            "value" : "fb007202d7130100b96d45a3ce6103b4"
        },
        "description" : "Number of incidents open based on resolved date is
empty."
    ],
    {
        "key" : false,
        "direction" : 2,
        "change_formatted" : "0",
        "changeperc" : 0,
        "value_formatted" : "1",
        "period_title" : "Mar 23",
        "gapperc" : null,
        "value_unit" : "1",
        "target" : null,
        "period" : "Mar 23",
        "target_formatted" : "",
        "favorite" : false,
        "gap" : null,
        "direction_label" : "Minimize",
        "uuid" :
"fb007202d7130100b96d45a3ce6103b4:0df47e02d7130100b96d45a3ce610399:90e1db9cc803310026c
        "name" : "Number of open incidents / Priority / 4 - Low",
        "value_color" : "#000000",
        "frequency_label" : "Daily",
        "element" : [
            {
                "display_value" : "4 - Low",
                "link" : "https://instance.service-now.com/api/now/v1/table/
sys_choice/90e1db9cc803310026c1c49f3d065512",
                "value" : "90e1db9cc803310026c1c49f3d065512"
            },
            "change" : 0,
            "gap_formatted" : "",
            "gapperc_formatted" : "",
            "value" : 1,
            "unit" : [
                {
                    "display_value" : "#",
                    "link" : "https://instance.service-now.com/api/now/v1/table/
pa_units/17b365e2d7320100ba986f14ce6103ad",
                    "value" : "17b365e2d7320100ba986f14ce6103ad"
                },
                "breakdown" : [
                    {
                        "display_value" : "Priority",
                        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/0df47e02d7130100b96d45a3ce610399",
                        "value" : "0df47e02d7130100b96d45a3ce610399"
                    },
                    "breakdowns" : [
                        {
                            "display_value" : "Category",
                            "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/1f918835d7231100b96d45a3ce6103fe",
                            "value" : "1f918835d7231100b96d45a3ce6103fe"
                        },
                        {
                            "display_value" : "Assignment Group",
                            "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/baec0752bf130100b96dac808c0739ed",
                            "value" : "baec0752bf130100b96dac808c0739ed"
                        }
                    ]
                }
            ]
        }
    ]
}

```

```

        "value" : "baec0752bf130100b96dac808c0739ed"
    },
    {
        "display_value" : "State",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/f0647e02d7130100b96d45a3ce61030b",
        "value" : "f0647e02d7130100b96d45a3ce61030b"
    },
    {
        "display_value" : "Age",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/65947e02d7130100b96d45a3ce61033a",
        "value" : "65947e02d7130100b96d45a3ce61033a"
    }
],
"changeperc_formatted" : "0.0%",
"precision" : 0,
"frequency" : 10,
"indicator" : [
    {
        "display_value" : "Number of open incidents",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_indicators/fb007202d7130100b96d45a3ce6103b4",
        "value" : "fb007202d7130100b96d45a3ce6103b4"
    },
    "description" : "Number of incidents open based on resolved date is
empty."
]
}

```

Return the scorecard for priority 1 incidents

You can apply a breakdown by appending the breakdown and breakdown element sys_id values to the sysparm_uuid parameter. In this example, the data is broken down to show priority 1 incidents.

Command:

```
curl -v -u "admin:admin" -H "Accept:application/json"
"https://instance.service-now.com/api/now/v1/pa/scorecards?
sysparm_uuid=fb007202d7130100b96d45a3ce6103b4:0df47e02d7130100b96d45a3ce610399:e59001402
```

Response:

```
{
  "result": [
    {
      "value_formatted": "",
      "indicator": {
        "display_value": "Number of open incidents",
        "link": "http://instance.service-now.com/api/now/v1/table/
pa_indicators/fb007202d7130100b96d45a3ce6103b4",
        "value": "fb007202d7130100b96d45a3ce6103b4"
      },
      "gapperc": null,
      "change": null,
      "value_color": "#000000",
      "direction": 2,
      "target_formatted": "",
      "frequency": 10,
      "changeperc_formatted": "",
      "direction_label": "Minimize",
      "label": "Priority 1"
    }
  ]
}
```

```

    "period_title": null,
    "description": "Number of incidents open based on resolved date is
empty.",
    "name": "Number of open incidents / Priority / 1 - Critical",
    "value": null,
    "key": false,
    "gap_formatted": "",
    "element": {
        "display_value": "1 - Critical",
        "link": "http://instance.service-now.com/api/now/v1/table/
sys_choice/e5900140200331007665978299a805f3",
        "value": "e5900140200331007665978299a805f3"
    },
    "precision": 0,
    "breakdown": {
        "display_value": "Priority",
        "link": "http://instance.service-now.com/api/now/v1/table/
pa_breakdowns/0df47e02d7130100b96d45a3ce610399",
        "value": "0df47e02d7130100b96d45a3ce610399"
    },
    "period": null,
    "favorite": false,
    "change_formatted": "",
    "unit": {
        "display_value": "#",
        "link": "http://instance.service-now.com/api/now/v1/table/
pa_units/17b365e2d7320100ba986f14ce6103ad",
        "value": "17b365e2d7320100ba986f14ce6103ad"
    },
    "frequency_label": "Daily",
    "target": null,
    "changeperc": null,
    "uuid": "fb007202d7130100b96d45a3ce6103b4:0df47e02d7130100b96d45a3ce610399:e5900140200331007665978299a805f3"
    "gapperc_formatted": "",
    "value_unit": "",
    "gap": null
}
]
}

```

Return the scorecard for priority 1 database incidents

You can apply multiple breakdowns by appending multiple breakdown sys_ids to the sysparm_uuid parameter. In this example, the data is broken down by priority to show priority 1 incidents, and by category to show database incidents.

Command:

```

curl -v -u "admin:admin" -H "Accept:application/json"
"https://instance.service-now.com/api/now/v1/pa/scorecards?
sysparm_uuid=fb007202d7130100b96d45a3ce6103b4:0df47e02d7130100b96d45a3ce610399:e5900140200331007665978299a805f3"

```

Response:

```

{
  "result": [
    {
      "value_formatted": "",
      "indicator": {
        "display_value": "Number of open incidents",

```

```

        "link": "http://instance.service-now.com/api/now/v1/table/
pa_indicators/fb007202d7130100b96d45a3ce6103b4",
        "value": "fb007202d7130100b96d45a3ce6103b4"
    },
    "gapperc": null,
    "change": null,
    "value_color": "#000000",
    "direction": 2,
    "target_formatted": "",
    "frequency": 10,
    "changeperc_formatted": "",
    "direction_label": "Minimize",
    "period_title": null,
    "description": "Number of incidents open based on resolved date is
empty.",
    "name": "Number of open incidents / Priority / 1 - Critical /
Category / Database",
    "value": null,
    "key": false,
    "gap_formatted": "",
    "element": {
        "display_value": "1 - Critical",
        "link": "http://instance.service-now.com/api/now/v1/table/
sys_choice/e5900140200331007665978299a805f3",
        "value": "e5900140200331007665978299a805f3"
    },
    "precision": 0,
    "element_level2": {
        "display_value": "Database",
        "link": "http://instance.service-now.com/api/now/v1/table/
sys_choice/9e418d40200331007665978299a805c1",
        "value": "9e418d40200331007665978299a805c1"
    },
    "breakdown": {
        "display_value": "Priority",
        "link": "http://instance.service-now.com/api/now/v1/table/
pa_breakdowns/0df47e02d7130100b96d45a3ce610399",
        "value": "0df47e02d7130100b96d45a3ce610399"
    },
    "period": null,
    "favorite": false,
    "change_formatted": "",
    "unit": {
        "display_value": "#",
        "link": "http://instance.service-now.com/api/now/v1/table/
pa_units/17b365e2d7320100ba986f14ce6103ad",
        "value": "17b365e2d7320100ba986f14ce6103ad"
    },
    "frequency_label": "Daily",
    "breakdown_level2": {
        "display_value": "Category",
        "link": "http://instance.service-now.com/api/now/v1/table/
pa_breakdowns/1f918835d7231100b96d45a3ce6103fe",
        "value": "1f918835d7231100b96d45a3ce6103fe"
    },
    "target": null,
    "changeperc": null,
    "uuid": "fb007202d7130100b96d45a3ce6103b4:0df47e02d7130100b96d45a3ce610399:e5900140200331007665978299a805f3"
}
]

```

```
}
```

Return the scorecard for priority 1 database incidents with all scores

You can request a list of individual scores by setting the sysparm_include_scores parameter to true.

Command:

```
curl -v -u "admin:admin" -H "Accept:application/json"
"https://instance.service-now.com/api/now/v1/pa/scorecards?
sysparm_uuid=fb007202d7130100b96d45a3ce6103b4:0df47e02d7130100b96d45a3ce610399:e59001402
```

Response:

```
{
  "result" : [
    {
      "key" : false,
      "change_formatted" : "0",
      "changeperc" : 0,
      "value_unit" : "15",
      "value_formatted" : "15",
      "period_title" : "Mar 23",
      "gapperc" : null,
      "gap" : null,
      "target" : null,
      "period" : "Mar 23",
      "target_formatted" : "",
      "favorite" : false,
      "scores" : [
        {
          "end_at" : "2015-03-23",
          "period" : "Mar 23",
          "start_at" : "2015-03-23",
          "value_formatted" : "15",
          "value" : 15
        },
        {
          "end_at" : "2015-03-22",
          "period" : "Mar 22",
          "start_at" : "2015-03-22",
          "value_formatted" : "15",
          "value" : 15
        },
        {
          "end_at" : "2015-03-21",
          "period" : "Mar 21",
          "start_at" : "2015-03-21",
          "value_formatted" : "22",
          "value" : 22
        },
        {
          "end_at" : "2015-03-20",
          "period" : "Mar 20",
          "start_at" : "2015-03-20",
          "value_formatted" : "22",
          "value" : 22
        },
        {
          "end_at" : "2015-03-19",
          "period" : "Mar 19",
          "start_at" : "2015-03-19",
          "value_formatted" : "22",
          "value" : 22
        }
      ]
    }
  ]
}
```

```

        "start_at" : "2015-03-19",
        "value_formatted" : "22",
        "value" : 22
    },
    {
        "end_at" : "2015-03-18",
        "period" : "Mar 18",
        "start_at" : "2015-03-18",
        "value_formatted" : "22",
        "value" : 22
    },
    {
        "end_at" : "2015-03-17",
        "period" : "Mar 17",
        "start_at" : "2015-03-17",
        "value_formatted" : "22",
        "value" : 22
    },
    {
        "end_at" : "2015-03-16",
        "period" : "Mar 16",
        "start_at" : "2015-03-16",
        "value_formatted" : "22",
        "value" : 22
    }
],
"direction_label" : "Minimize",
"uuid" :
"fb007202d7130100b96d45a3ce6103b4:0df47e02d7130100b96d45a3ce610399:dce1db9cc803310026c1",
"name" : "Number of open incidents / Priority / 1 - Critical",
"value_color" : "#000000",
"frequency_label" : "Daily",
"element" : {
    "display_value" : "1 - Critical",
    "link" : "https://instance.service-now.com/api/now/v1/table/
sys_choice/dce1db9cc803310026c1c49f3d065511",
    "value" : "dce1db9cc803310026c1c49f3d065511"
},
"change" : 0,
"gap_formatted" : "",
"gapperc_formatted" : "",
"value" : 15,
"unit" : {
    "display_value" : "#",
    "link" : "https://instance.service-now.com/api/now/v1/table/
pa_units/17b365e2d7320100ba986f14ce6103ad",
    "value" : "17b365e2d7320100ba986f14ce6103ad"
},
"breakdown" : {
    "display_value" : "Priority",
    "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/0df47e02d7130100b96d45a3ce610399",
    "value" : "0df47e02d7130100b96d45a3ce610399"
},
"changeperc_formatted" : "0.0%",
"frequency" : 10,
"precision" : 0,
"direction" : 2,
"indicator" : {
    "display_value" : "Number of open incidents",
    "link" : "https://instance.service-now.com/api/now/v1/table/
pa_indicators/fb007202d7130100b96d45a3ce6103b4",
    "value" : "fb007202d7130100b96d45a3ce6103b4"
}
,
```

```
    "description" : "Number of incidents open based on resolved date is empty."
},
{
    "key" : false,
    "change_formatted" : "0",
    "changeperc" : 0,
    "value_unit" : "4",
    "value_formatted" : "4",
    "period_title" : "Mar 23",
    "gapperc" : null,
    "gap" : null,
    "target" : null,
    "period" : "Mar 23",
    "target_formatted" : "",
    "favorite" : false,
    "scores" : [
        {
            "end_at" : "2015-03-23",
            "period" : "Mar 23",
            "start_at" : "2015-03-23",
            "value_formatted" : "4",
            "value" : 4
        },
        {
            "end_at" : "2015-03-22",
            "period" : "Mar 22",
            "start_at" : "2015-03-22",
            "value_formatted" : "4",
            "value" : 4
        },
        {
            "end_at" : "2015-03-21",
            "period" : "Mar 21",
            "start_at" : "2015-03-21",
            "value_formatted" : "4",
            "value" : 4
        },
        {
            "end_at" : "2015-03-20",
            "period" : "Mar 20",
            "start_at" : "2015-03-20",
            "value_formatted" : "4",
            "value" : 4
        },
        {
            "end_at" : "2015-03-19",
            "period" : "Mar 19",
            "start_at" : "2015-03-19",
            "value_formatted" : "4",
            "value" : 4
        },
        {
            "end_at" : "2015-03-18",
            "period" : "Mar 18",
            "start_at" : "2015-03-18",
            "value_formatted" : "4",
            "value" : 4
        },
        {
            "end_at" : "2015-03-17",
            "period" : "Mar 17",
            "start_at" : "2015-03-17",
            "value_formatted" : "4",
            "value" : 4
        }
    ]
}
```

```

        "value" : 4
    },
    {
        "end_at" : "2015-03-16",
        "period" : "Mar 16",
        "start_at" : "2015-03-16",
        "value_formatted" : "4",
        "value" : 4
    }
],
"direction_label" : "Minimize",
"uuid" :
"fb007202d7130100b96d45a3ce6103b4:0df47e02d7130100b96d45a3ce610399:10e1db9cc803310026c1",
"name" : "Number of open incidents / Priority / 2 - High",
"value_color" : "#000000",
"frequency_label" : "Daily",
"element" : {
    "display_value" : "2 - High",
    "link" : "https://instance.service-now.com/api/now/v1/table/sys_choice/10e1db9cc803310026c1c49f3d065512",
    "value" : "10e1db9cc803310026c1c49f3d065512"
},
"change" : 0,
"gap_formatted" : "",
"gapperc_formatted" : "",
"value" : 4,
"unit" : {
    "display_value" : "#",
    "link" : "https://instance.service-now.com/api/now/v1/table/pa_units/17b365e2d7320100ba986f14ce6103ad",
    "value" : "17b365e2d7320100ba986f14ce6103ad"
},
"breakdown" : {
    "display_value" : "Priority",
    "link" : "https://instance.service-now.com/api/now/v1/table/pa_breakdowns/0df47e02d7130100b96d45a3ce610399",
    "value" : "0df47e02d7130100b96d45a3ce610399"
},
"changeperc_formatted" : "0.0%",
"frequency" : 10,
"precision" : 0,
"direction" : 2,
"indicator" : {
    "display_value" : "Number of open incidents",
    "link" : "https://instance.service-now.com/api/now/v1/table/pa_indicators/fb007202d7130100b96d45a3ce6103b4",
    "value" : "fb007202d7130100b96d45a3ce6103b4"
},
"description" : "Number of incidents open based on resolved date is empty."
},
{
    "key" : false,
    "change_formatted" : "0",
    "changeperc" : 0,
    "value_unit" : "5",
    "value_formatted" : "5",
    "period_title" : "Mar 23",
    "gapperc" : null,
    "gap" : null,
    "target" : null,
    "period" : "Mar 23",
    "target_formatted" : "",
    "favorite" : false,
}

```

```
"scores" : [
    {
        "end_at" : "2015-03-23",
        "period" : "Mar 23",
        "start_at" : "2015-03-23",
        "value_formatted" : "5",
        "value" : 5
    },
    {
        "end_at" : "2015-03-22",
        "period" : "Mar 22",
        "start_at" : "2015-03-22",
        "value_formatted" : "5",
        "value" : 5
    },
    {
        "end_at" : "2015-03-21",
        "period" : "Mar 21",
        "start_at" : "2015-03-21",
        "value_formatted" : "6",
        "value" : 6
    },
    {
        "end_at" : "2015-03-20",
        "period" : "Mar 20",
        "start_at" : "2015-03-20",
        "value_formatted" : "6",
        "value" : 6
    },
    {
        "end_at" : "2015-03-19",
        "period" : "Mar 19",
        "start_at" : "2015-03-19",
        "value_formatted" : "6",
        "value" : 6
    },
    {
        "end_at" : "2015-03-18",
        "period" : "Mar 18",
        "start_at" : "2015-03-18",
        "value_formatted" : "6",
        "value" : 6
    },
    {
        "end_at" : "2015-03-17",
        "period" : "Mar 17",
        "start_at" : "2015-03-17",
        "value_formatted" : "6",
        "value" : 6
    },
    {
        "end_at" : "2015-03-16",
        "period" : "Mar 16",
        "start_at" : "2015-03-16",
        "value_formatted" : "6",
        "value" : 6
    }
],
"direction_label" : "Minimize",
"uuid" :
"fb007202d7130100b96d45a3ce6103b4:0df47e02d7130100b96d45a3ce610399:50e1db9cc803310026c1
"name" : "Number of open incidents / Priority / 3 - Moderate",
"value_color" : "#000000",
"frequency_label" : "Daily",
```

```

"element" : {
    "display_value" : "3 - Moderate",
    "link" : "https://instance.service-now.com/api/now/v1/table/
sys_choice/50e1db9cc803310026c1c49f3d065512",
    "value" : "50e1db9cc803310026c1c49f3d065512"
},
"change" : 0,
"gap_formatted" : "",
"gapperc_formatted" : "",
"value" : 5,
"unit" : {
    "display_value" : "#",
    "link" : "https://instance.service-now.com/api/now/v1/table/
pa_units/17b365e2d7320100ba986f14ce6103ad",
    "value" : "17b365e2d7320100ba986f14ce6103ad"
},
"breakdown" : {
    "display_value" : "Priority",
    "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/0df47e02d7130100b96d45a3ce610399",
    "value" : "0df47e02d7130100b96d45a3ce610399"
},
"changeperc_formatted" : "0.0%",
"frequency" : 10,
"precision" : 0,
"direction" : 2,
"indicator" : {
    "display_value" : "Number of open incidents",
    "link" : "https://instance.service-now.com/api/now/v1/table/
pa_indicators/fb007202d7130100b96d45a3ce6103b4",
    "value" : "fb007202d7130100b96d45a3ce6103b4"
},
"description" : "Number of incidents open based on resolved date is
empty."
},
{
    "key" : false,
    "change_formatted" : "0",
    "changeperc" : 0,
    "value_unit" : "1",
    "value_formatted" : "1",
    "period_title" : "Mar 23",
    "gapperc" : null,
    "gap" : null,
    "target" : null,
    "period" : "Mar 23",
    "target_formatted" : "",
    "favorite" : false,
    "scores" : [
        {
            "end_at" : "2015-03-23",
            "period" : "Mar 23",
            "start_at" : "2015-03-23",
            "value_formatted" : "1",
            "value" : 1
        },
        {
            "end_at" : "2015-03-22",
            "period" : "Mar 22",
            "start_at" : "2015-03-22",
            "value_formatted" : "1",
            "value" : 1
        },
        {

```

```

        "end_at" : "2015-03-21",
        "period" : "Mar 21",
        "start_at" : "2015-03-21",
        "value_formatted" : "3",
        "value" : 3
    },
    {
        "end_at" : "2015-03-20",
        "period" : "Mar 20",
        "start_at" : "2015-03-20",
        "value_formatted" : "3",
        "value" : 3
    },
    {
        "end_at" : "2015-03-19",
        "period" : "Mar 19",
        "start_at" : "2015-03-19",
        "value_formatted" : "3",
        "value" : 3
    },
    {
        "end_at" : "2015-03-18",
        "period" : "Mar 18",
        "start_at" : "2015-03-18",
        "value_formatted" : "3",
        "value" : 3
    },
    {
        "end_at" : "2015-03-17",
        "period" : "Mar 17",
        "start_at" : "2015-03-17",
        "value_formatted" : "3",
        "value" : 3
    },
    {
        "end_at" : "2015-03-16",
        "period" : "Mar 16",
        "start_at" : "2015-03-16",
        "value_formatted" : "3",
        "value" : 3
    }
],
"direction_label" : "Minimize",
"uuid" :
"fb007202d7130100b96d45a3ce6103b4:0df47e02d7130100b96d45a3ce610399:90e1db9cc803310026c1
    "name" : "Number of open incidents / Priority / 4 - Low",
    "value_color" : "#000000",
    "frequency_label" : "Daily",
    "element" : {
        "display_value" : "4 - Low",
        "link" : "https://instance.service-now.com/api/now/v1/table/
sys_choice/90e1db9cc803310026c1c49f3d065512",
        "value" : "90e1db9cc803310026c1c49f3d065512"
    },
    "change" : 0,
    "gap_formatted" : "",
    "gapperc_formatted" : "",
    "value" : 1,
    "unit" : {
        "display_value" : "#",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_units/17b365e2d7320100ba986f14ce6103ad",
        "value" : "17b365e2d7320100ba986f14ce6103ad"
    },

```

```

    "breakdown" : {
        "display_value" : "Priority",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/0df47e02d7130100b96d45a3ce610399",
        "value" : "0df47e02d7130100b96d45a3ce610399"
    },
    "changeperc_formatted" : "0.0%",
    "frequency" : 10,
    "precision" : 0,
    "direction" : 2,
    "indicator" : {
        "display_value" : "Number of open incidents",
        "link" : "https://instance.service-now.com/api/now/v1/table/
pa_indicators/fb007202d7130100b96d45a3ce6103b4",
        "value" : "fb007202d7130100b96d45a3ce6103b4"
    },
    "description" : "Number of incidents open based on resolved date is
empty."
},
{
    "key" : false,
    "change_formatted" : "0",
    "changeperc" : 0,
    "value_unit" : "3",
    "value_formatted" : "3",
    "period_title" : "Mar 23",
    "gapperc" : null,
    "gap" : null,
    "target" : null,
    "period" : "Mar 23",
    "target_formatted" : "",
    "favorite" : false,
    "scores" : [
        {
            "end_at" : "2015-03-23",
            "period" : "Mar 23",
            "start_at" : "2015-03-23",
            "value_formatted" : "3",
            "value" : 3
        },
        {
            "end_at" : "2015-03-22",
            "period" : "Mar 22",
            "start_at" : "2015-03-22",
            "value_formatted" : "3",
            "value" : 3
        },
        {
            "end_at" : "2015-03-21",
            "period" : "Mar 21",
            "start_at" : "2015-03-21",
            "value_formatted" : "12",
            "value" : 12
        },
        {
            "end_at" : "2015-03-20",
            "period" : "Mar 20",
            "start_at" : "2015-03-20",
            "value_formatted" : "12",
            "value" : 12
        },
        {
            "end_at" : "2015-03-19",
            "period" : "Mar 19",
            "start_at" : "2015-03-19",
            "value_formatted" : "12",
            "value" : 12
        }
    ]
}

```

```

        "start_at" : "2015-03-19",
        "value_formatted" : "12",
        "value" : 12
    },
    {
        "end_at" : "2015-03-18",
        "period" : "Mar 18",
        "start_at" : "2015-03-18",
        "value_formatted" : "12",
        "value" : 12
    },
    {
        "end_at" : "2015-03-17",
        "period" : "Mar 17",
        "start_at" : "2015-03-17",
        "value_formatted" : "12",
        "value" : 12
    },
    {
        "end_at" : "2015-03-16",
        "period" : "Mar 16",
        "start_at" : "2015-03-16",
        "value_formatted" : "12",
        "value" : 12
    }
],
"direction_label" : "Minimize",
"uuid" :
"fb007202d7130100b96d45a3ce6103b4:0df47e02d7130100b96d45a3ce610399:d0e1db9cc803310026c1",
"name" : "Number of open incidents / Priority / 5 - Planning",
"value_color" : "#000000",
"frequency_label" : "Daily",
"element" : {
    "display_value" : "5 - Planning",
    "link" : "https://instance.service-now.com/api/now/v1/table/
sys_choice/d0e1db9cc803310026c1c49f3d065512",
    "value" : "d0e1db9cc803310026c1c49f3d065512"
},
"change" : 0,
"gap_formatted" : "",
"gapperc_formatted" : "",
"value" : 3,
"unit" : {
    "display_value" : "#",
    "link" : "https://instance.service-now.com/api/now/v1/table/
pa_units/17b365e2d7320100ba986f14ce6103ad",
    "value" : "17b365e2d7320100ba986f14ce6103ad"
},
"breakdown" : {
    "display_value" : "Priority",
    "link" : "https://instance.service-now.com/api/now/v1/table/
pa_breakdowns/0df47e02d7130100b96d45a3ce610399",
    "value" : "0df47e02d7130100b96d45a3ce610399"
},
"changeperc_formatted" : "0.0%",
"frequency" : 10,
"precision" : 0,
"direction" : 2,
"indicator" : {
    "display_value" : "Number of open incidents",
    "link" : "https://instance.service-now.com/api/now/v1/table/
pa_indicators/fb007202d7130100b96d45a3ce6103b4",
    "value" : "fb007202d7130100b96d45a3ce6103b4"
}
,
```

```

        "description" : "Number of incidents open based on resolved date is
empty."
    }
]
}

```

Example integration - LinkedIn

Performance Analytics includes an optional example integration that demonstrates how to fetch data from the LinkedIn service and display it on a Performance Analytics dashboard.

To use the LinkedIn integration, you must activate the Performance Analytics - Example - LinkedIn plugin.

The integration enables you to track, break down, and report on the number of followers and updates for a particular company.

LinkedIn enforces several limits and requirements:

- The LinkedIn Updates API supports only 600 calls per day. The integration tracks at most the latest 600 updates.
- The application authentication must be refreshed every 90 days. See the access_token_expire field to determine when authentication expires.

Configure LinkedIn integration

Configure the LinkedIn integration to display LinkedIn data in Performance Analytics.

Role required: linkedin_admin

Before starting this procedure, ensure that you have complete the following prerequisites with the LinkedIn service:

- A LinkedIn Client Application is associated with your company LinkedIn profile.
- Configure the Client Application with the redirect URL for your instance. You can view this URL by creating a LinkedInApps record (**LinkedIn > Apps**).
- You have recorded the LinkedIn Client Application API Key and API Secret values.

1. Navigate to **LinkedIn > Apps**.
2. Click **New**.
3. Enter a descriptive **App name**.
4. Enter the **Api key** and **Api secret** for your LinkedIn Client Application.
5. Right-click the form header and select **Save**.
6. Click the **Authenticate** related link.
You are redirected to LinkedIn. Complete any steps required by LinkedIn.
7. On the LinkedInApp form, right-click the form header and select **Reload form** to confirm that the application was authenticated.
Note the access token expiry date.
8. Navigate to **LinkedIn > Companies**.
9. Click **New**.
10. Enter the company **Name** and the company ID **Code**.
11. Click **Submit**.
12. Navigate to **LinkedIn > Access Rights**.
13. Click **New**.
14. Select the **App** and **Company** records you created.
15. Click **Submit**.

16. Navigate to **LinkedIn > LinkedIn Collector Job**.
17. Schedule this job to run at least once.
The job state changes to **Running**, then to **Ready**. Wait for this process to complete before moving on--this may take several minutes.
18. Navigate to **LinkedIn > Aggregate Update Table** and **LinkedIn > Individual Update Table** to verify that the tables were populated.
19. Navigate to **LinkedIn > PA Data Collector Job**.
20. Change the **Relative end** value to 0.
21. Schedule this job to run at least once.
An entry is added to the **Job Logs** related list. Wait for this record to reach the **Collected** state before moving on--this may take several minutes.

After configuring the integration and collecting the data, you can view the LinkedIn dashboard by navigating to **LinkedIn > Dashboard**.

You can view all LinkedIn scorecards by navigating to **Performance Analytics > Scorecards** and filtering the list to include only scorecards that contain the text LinkedIn.

Example integration - Twitter

Performance Analytics includes an optional example integration that demonstrates how to fetch data from the Twitter service and display it on a Performance Analytics dashboard.

To use the Twitter integration you must activate the Performance Analytics - Example - Twitter plugin.

The integration enables you to track, break down, and report on the number of tweets and retweets containing certain tags and mentions.

You can define which tags and users to track by creating Twitter context records.

The Twitter service enforces several limits:

- The Twitter Search API limits results to tweets at most three weeks old. Historic collection of hashtags and mentions is not available.
- The integration is intended for use with a single user account and timeline. Support for multiple Twitter accounts is not available.

Configure Twitter integration

Configure the Twitter service integration to display Twitter data in Performance Analytics.

Role required: pa_admin, u_pa_twitter_context_user, and web_service_admin

Before starting this procedure, ensure that you have completed the following prerequisites with the Twitter service:

- A Twitter application is associated with your Twitter account.
- You have recorded the Twitter application Consumer Key and Consumer Secret values.

1. Navigate to **System Web Services > REST Message**.
2. Select the Get Twitter OAuth Token REST message record.
3. In the **HTTP Methods** related list, select the POST method.
4. In the **Basic authentication user ID** field, enter your Twitter application Consumer Key.
5. In the **Basic authentication password** field, enter your Twitter application Consumer Secret.
6. Click **Update**.
7. Navigate to **Twitter > Twitter Collector Job**.

8. Schedule this job to run at least once.
The job state changes to **Running**, then to **Ready**. Wait for this process to complete before moving on--this may take several minutes.
9. Navigate to **Twitter > PA Data Collector Job**.
10. Schedule this job to run at least once.
When the job runs, an entry is added to the **Job Logs** related list. Wait for this record to reach the **Collected** state before moving on--this may take several minutes.

After configuring the integration and collecting the data, you can view the Twitter dashboard by navigating to **Twitter > Dashboard**.

You can view all Twitter scorecards by navigating to **Performance Analytics > Scorecards** and filtering the list to include only scorecards where the **Indicator group** is Twitter.

Example integration - Yahoo stocks

Performance Analytics includes an optional example integration that demonstrates how to fetch data from the Yahoo stocks service and display it on a Performance Analytics dashboard.

The integration enables you to regularly query stock information for various stock symbols from the Yahoo service, and display that stock information over time using Performance Analytics.

The integration uses outbound REST to query the Yahoo API. You can customize this query in the StockQuotesCollector script include. All stock information is stored on the u_pa_stock_symbols table.

To use the Yahoo stocks integration you must activate the Performance Analytics - Example - Stocks Quotes plugin. Activating this plugin also adds the 50d running AVG, 100d running AVG, and 200d running AVG time series.

Configure Yahoo stocks integration

Configure the Yahoo stocks integration to display stock quote information in Performance Analytics.

Role required:

pa_stock_quotes_user, pa_stock_symbols_user, and pa_admin

1. Navigate to **Stock Quotes > Symbols**.
2. Define which stocks you want to track by adding a record for each stock symbol, such as NOW.
3. Navigate to **Stock Quotes > Stock Quotes Collector**.
4. Schedule this job to run at least once.
The initial data collection job runs. Wait for this job to complete before moving on.
5. Navigate to **Stock Quotes > PA Data Collector Job**.
6. Schedule this job to run at least once.

After collecting the stock information, navigate to **Stock Quotes > Dashboard** to view the collected information.

Visualize Yahoo stock data

You can display Yahoo stock information in a widget.

The UI macro pa_stock_quote_widget enables you to visualize stock quote information for a specific stock symbol. This widget displays real time data based on the u_pa_stock_quotes table.

This example shows a dynamic content block displaying stock data for the NOW symbol.

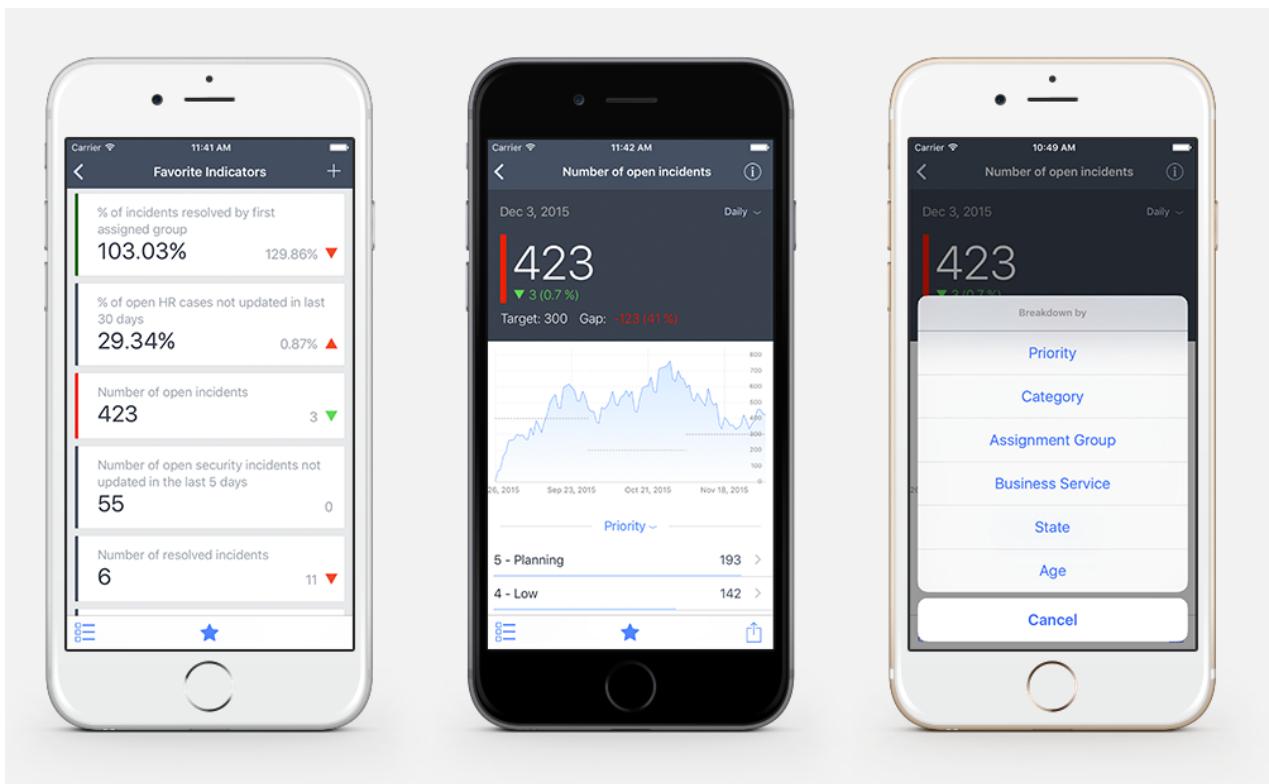
```
<?xml version="1.0" encoding="utf-8" ?>
```

```
<j:jelly trim="false" xmlns:j="jelly:core" xmlns:g="glide" xmlns:j2="null"
  xmlns:g2="null">
<g:macro_invoke macro="pa_stock_quote_widget" symbol="NOW"/>
</j:jelly>
```

Performance Analytics for mobile devices

You can view Performance Analytics scorecards using the ServiceNow mobile application.

You can use the mobile application to view and share scorecards, mark favorite scorecards, and perform detailed analysis of scorecard data such as by applying an aggregate or breakdown.



For information about device support and how to obtain the mobile application, refer to the general mobile application documentation.

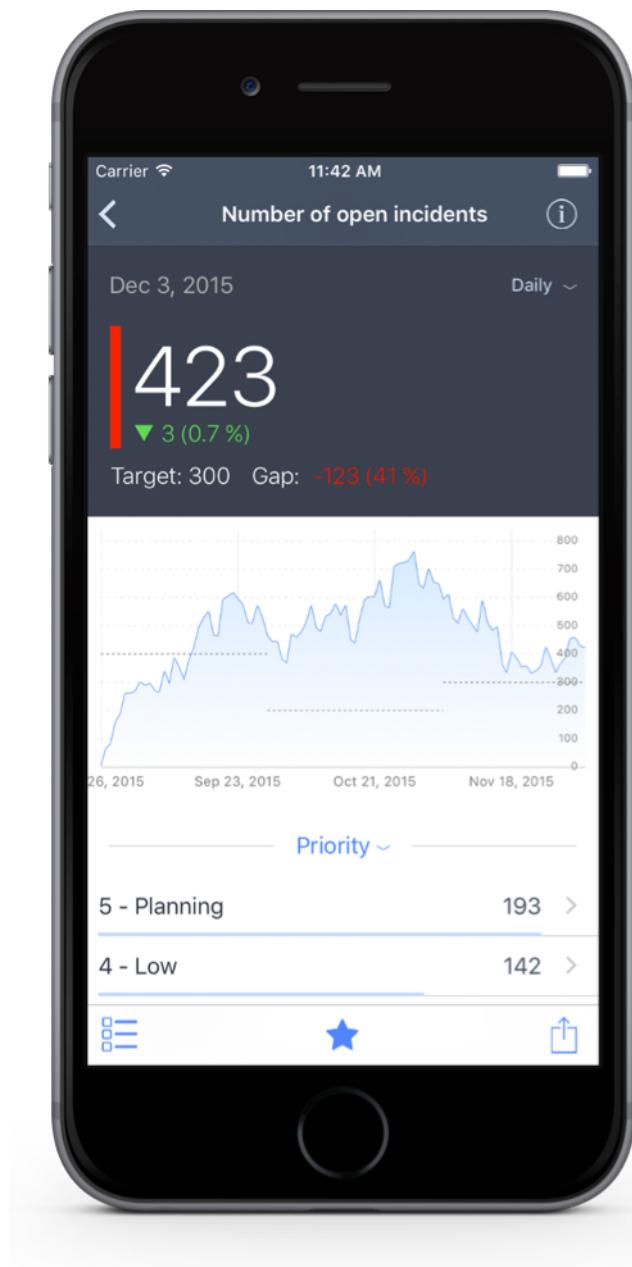
Scorecard mobile interface

The scorecard mobile interface enables you to interact with scorecards.

You can perform many of the same actions on a scorecard in the mobile interface as in the standard web interface. For example, you can apply aggregates and breakdowns, view the score at specific dates, and view target and gap information.

The mobile scorecard interface is divided into three main sections.

- The top section shows the indicator details such as the indicator name, score, the selected aggregate, and target information if targets are defined for the indicator. You can change the aggregation by tapping on the current aggregate in the top-right corner, such as **Daily**. Tap on the information icon  to view metadata about the indicator, such as the formula for formula indicators.
- The center section shows all collected scores as a graph. You can pinch to zoom in and out, or select a specific date by tapping on the graph. Selecting a specific date causes the top section to display details for the selected date instead of for the most recent score.
- The bottom section displays breakdown information. You can select a breakdown by tapping on the breakdown name, such as **Priority**. Available breakdown elements and the score for each element appears below the breakdown. Tap on a breakdown element to filter the scorecard by that breakdown and element. The breakdown section does not appear if you have already selected both first and second level breakdowns.



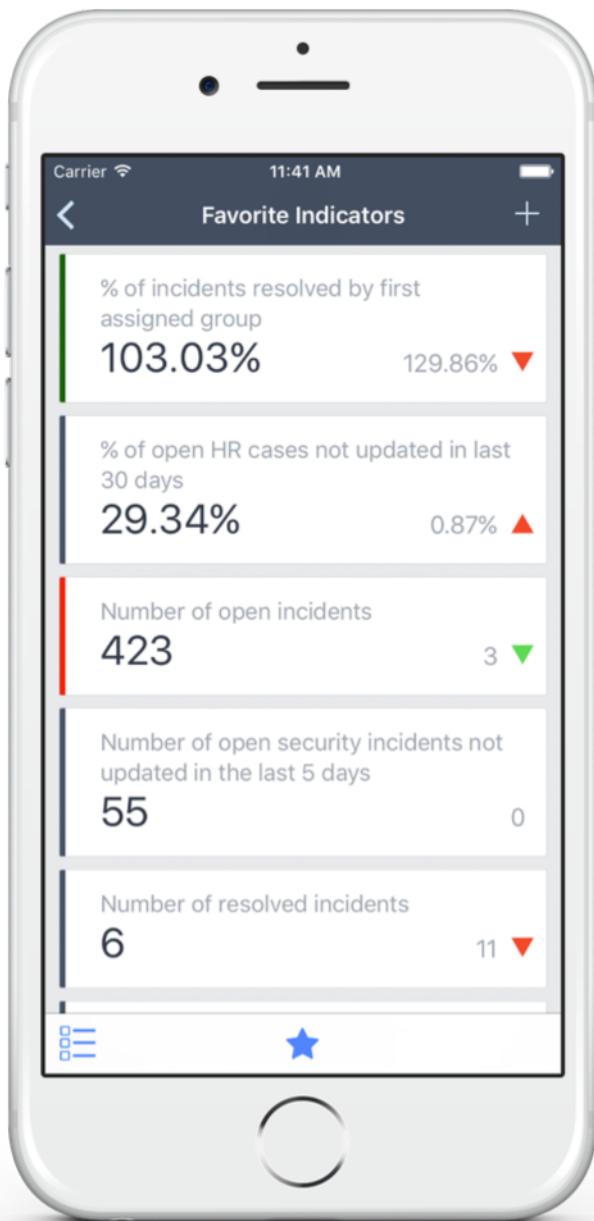
Access a scorecard in the mobile application

You can browse your favorite Performance Analytics scorecards.

You must have a System Mobile UI Navigator application with a module that accesses \$pa_scorecards.do. The Now Platform provides a default System Mobile UI Navigator application named Analytics, with a module named Favorite KPIs that accesses \$pa_scorecards.do. You can replace this module or create additional modules and applications that display scorecards. For more information, see [Configure the mobile application navigator](#).

Role required: pa_viewer, pa_admin, or admin

The mobile application displays indicators marked as favorites in alphabetical order. Each entry includes the indicator name, current score, change, and an indication if the score is improving based on the indicator direction and a defined target. You can select an indicator to view the detailed scorecard.



1. In the mobile application, tap the general navigator icon ().
2. Select **Analytics > Favorite KPIs**.
Any indicators you have marked as favorites appear. If no indicators appear, you must first select at least one favorite.
3. Optional: Tap the favorites icon () to add an icon for the Favorite KPIs page to the mobile application homepage so you can quickly access the Favorite KPIs page later.
4. Tap on an indicator to view the scorecard.

Select favorite indicators in the mobile application

Mark an indicator as a favorite to access it quickly.

Role required: pa_viewer, pa_admin, or admin

Select multiple indicators as favorites to quickly access the scorecards. You can also select individual

indicators as favorites by tapping the favorites icon () when viewing the scorecard.

1. Navigate to the list of your favorite indicators.
2. Tap the plus (+) icon in the top-right corner.
The list of all indicators appears.
3.  Tap the check mark () next to the indicators you want to favorite.
To filter the list by name, enter text in the top search box. Filtering may hide but does not clear indicators you have already selected.
4. Tap **Add** to mark all selected indicators as favorites.

To remove a favorite, swipe the favorite to the side when viewing the list of your favorite indicators, then tap **Delete**.

Share a scorecard in the mobile application

You can share an image of a scorecard, such as by MMS or email.

Role required: pa_viewer, pa_admin, or admin

You can share an image of a scorecard that includes the latest score and change, the graph, the instance URL, and the target and gap values if defined.

1. Navigate to a scorecard using the mobile application.
2.  Tap the share icon ().
3. Select how you want to share or save the image using your device's default options.

Spotlight

Spotlight enables you to prioritize work based on multiple weighted criteria and quickly identify high-priority tasks.

Spotlight enables you to define weighted criteria for important work and quickly identify the most important tasks based on these criteria, such as when triaging incidents or performing lead scoring. You can prioritize tasks based on multiple dimensions, instead by a single field value like priority.

For example, you might want to prioritize a High priority incident over a Critical priority incident if the High priority incident has been open for a long time, breached an SLA, or has been reassigned multiple times.

The score of a record being evaluated, such as an incident, is the sum of the weight of all criteria that apply to that record. If the score exceeds the threshold defined in the Spotlight group that the record belongs to, a spotlight is created automatically, allowing you to quickly identify that record as high priority.

The following diagram demonstrates scoring in Spotlight. The large circle represents the set of all open incidents. Each of the smaller circles represents a weighted Spotlight criteria that applies to a subset of the open incidents.

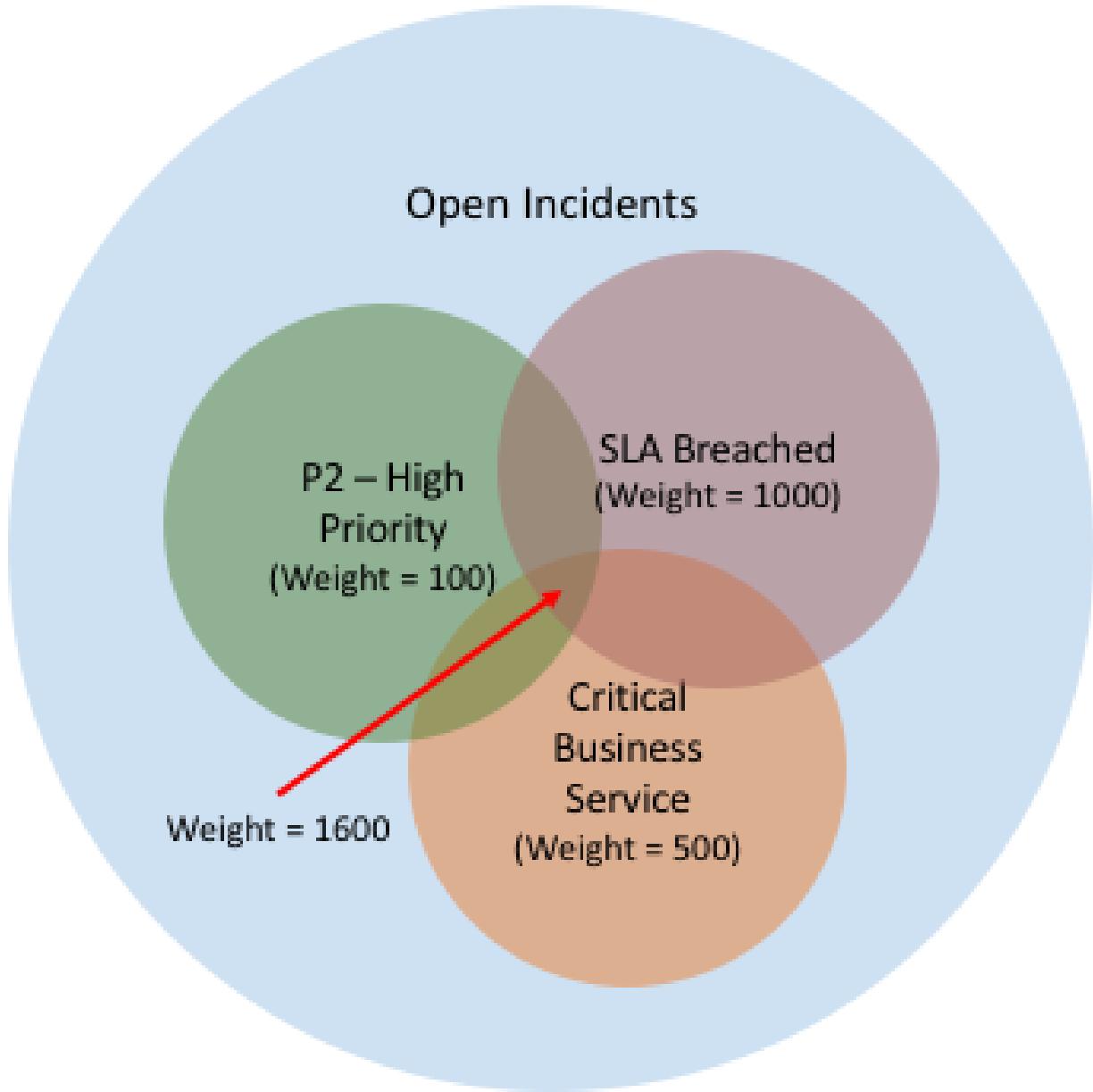


Figure 17: Spotlight diagram

Set up Spotlight

To set up Spotlight, specify the data you want to evaluate and the criteria used to weight records in the data set, then collect scores for the data.

Specify the data you want to evaluate by creating a Spotlight group. Create multiple Spotlight criteria and associate them with the group to define how to weight records in the data set.

After creating the Spotlight group and multiple Spotlight criteria, collect scores for the records in the data set. A spotlight is automatically created for any records with scores that exceed the Spotlight group threshold, allowing you to quickly identify the highest priority work.

Spotlight groups

Spotlight groups define the data to evaluate and the weight threshold needed to create a spotlight.

Spotlight groups specify a set of data to evaluate, and a threshold. If the score of a record in the data set exceeds the threshold, a spotlight is created for that record. The score of a record is the total weight from all applicable spotlight criteria in the spotlight group.

The data set to evaluate is defined in an Performance Analytics indicator.

Create a spotlight group

Create a spotlight group to define the data to evaluate and the threshold a record must exceed to create a spotlight.

Role required: pa_spotlight and pa_viewer

Navigate to **Spotlight > Spotlight Groups** and create a new record (see table for field descriptions).

Table 64: Spotlight Group fields

Field	Description
Threshold	Specify the weight threshold that a record must exceed to create a spotlight. If the cumulative weight of a record exceeds this value, a spotlight is created for that record. Records are weighted based on all criteria associated with this group.
Main Indicator	Select an indicator to specify the data set of records to evaluate. All criteria associated with this group must use the same table as the selected main indicator.
Breakdown	Optionally select a breakdown to limit the data to evaluate.
Element	If you select a breakdown, select the breakdown element to limit the included records to only those with the specified breakdown element value.
Run Daily	Select this check box to automatically collect scores for the specified main indicator each day.

Field	Description
Use Snapshot	<p>Select this check box to use the most recently collected snapshot data for the selected main indicator. Clear this check box to use real-time data.</p> <hr/> <p>Note: Using real-time data requires additional system resources to query the indicator data.</p> <hr/> <p>When using real-time data, certain conditions are not available, such as those based on an indicator that uses a bucket group. Use conditions based on a query instead when using real-time data. For example, to check for incidents that are 30-90 days old, instead of using an indicator for incident age, use the query conditions [Opened][relative][on or before][30][days][ago] and [Opened][relative][on or after][90][days][ago].</p>

Spotlight criteria

Spotlight criteria define how to weight records based on specific attributes, such as assigning a higher weight to incidents with a higher priority.

Some criteria may be more important than others and have a higher weight. Weight from multiple criteria is cumulative within a spotlight group. The score of a record is the total weight from all applicable spotlight criteria in the spotlight group.

For example, the priority P1 - Critical has a weight of 1000, the priority P2 - High has a weight of 100, and open incidents not updated in 30 days have a weight of 1000. In this example an open P2 incident that has not been updated in 30 days has a total score of 1100 and is prioritized above a recently-opened P1 incident that has a total score of 1000.

Create spotlight criteria

Create spotlight criteria to define when to weight a record, and the weight to assign.

Role required: pa_spotlight and pa_viewer

You can define spotlight criteria based on values in a table, or based on a Performance Analytics indicator.

1. Navigate to **Spotlight > Spotlight Criteria**.
2. Click **New**.
3. Required: Select the **Spotlight Group** to associate this criterion with.
Each criterion can be associated with one spotlight group. A spotlight group can have any number of criteria associated with it.
4. Enter the **Weight** you want to assign to records that meet this criterion.
5. Select the **Criteria Type** to determine which records are assigned the specified weight.

Option	Description
Indicator	Select an Indicator to assign the weight to all records included in that indicator. Optionally select one or two breakdowns and elements to limit the included records to only those with the specified breakdown element values.
Query	Select Filter conditions . The facts table that is the source for the indicators of the Spotlight Group is selected automatically, but is not visible until you save or submit the spotlight criteria. The specified weight is assigned to all records from that table that match the filter conditions.

6. Click **Submit**.

Collect Spotlight scores

You can collect daily scores for records included in Spotlight groups, or use real-time scores.

You can configure a Spotlight group to automatically collect scores every day by selecting the **Schedule Daily** check box on the Spotlight Group form. To configure when scheduled data collection runs, navigate to **Spotlight > Spotlight Job** and change the **Time** field value. All Spotlight groups configured for daily collection run at this time.

Role required: pa_spotlight and pa_viewer

To immediately collect scores for all Spotlight groups, navigate to **Spotlight > Spotlight Job** and click **Execute Now**.

Important: Before you can collect Spotlight scores, the Performance Analytics daily collection job must run for the Spotlight group **Main indicator**.

When you collect new Spotlight scores, the **Active** field is set to false for existing Spotlight scores.

You can configure a Spotlight group to use real-time scores instead of using collected scores. To enable real-time scores, clear the **Use Snapshot** check box on the Spotlight Group form. Using real-time data requires additional system resources to query the indicator data.

Note: When using real-time data, certain conditions are not available. See [Create a spotlight group](#) on page 182 for details.

Analyze Spotlight data

Combine Spotlight data with data from the source table to perform detailed analysis on high-priority work.

When the total weight of a record included in a Spotlight group exceeds the threshold for that group, a new record is created on the Spotlight [spotlight] table. This table stores the record sys_id in the **ID** field, as well as the total weight for that record in the **Score** field.

To perform detailed analysis and to easily view record details along with the Spotlight weight, create a database view between the Spotlight table and the record source table, such as incident. Join the tables so that the Spotlight ID value matches the source record sys_id value. To view the latest Spotlight data, filter the list to show only active Spotlight records.

The Spotlight for incident content pack includes a database view that joins the Spotlight and Incident tables. You can use it as an example to create your own database views to other tables.

Spotlight for incident content pack

Spotlight includes an additional optional content pack to quickly set up Spotlight for the incident application.

The content pack contains the Incident Spotlight group for analyzing open incidents, and several spotlight criteria based on common business use cases. The content pack also adds the Spotlight - Incident dashboard that you can access by navigating to **Incident > Spotlight Dashboard**.

To add this content, activate the Performance Analytics - Spotlight - Incident Spotlight content pack plugin. This plugin requires the Performance Analytics incident management content pack and responsive dashboards.

Activate the Spotlight plugin

You can activate the Performance Analytics - Spotlight plugin (com.snc.pa.spotlight) if you have the admin role.

Role required: admin

1. Navigate to **System Definition > Plugins**.
2. Find and click the plugin name.
3. On the System Plugin form, review the plugin details and then click the **Activate/Upgrade** related link.

If the plugin depends on other plugins, these plugins are listed along with their activation status.

If the plugin has optional features that depend on other plugins, those plugins are listed under **Some files will not be loaded because these plugins are inactive**. The optional features are not installed until the listed plugins are installed (before or after the installation of the current plugin).

4. Optional: If available, select the **Load demo data** check box.

Some plugins include demo data—Sample records that are designed to illustrate plugin features for common use cases. Loading demo data is a good practice when you first activate the plugin on a development or test instance.

You can also load demo data after the plugin is activated by clicking the **Load Demo Data Only** related link on the System Plugin form.

5. Click **Activate**.

Reporting

ServiceNow® Reporting enables you to create and distribute reports that show the current state of instance data, such as how many open incidents of each priority there are. Reporting functionality is available by default for all tables, except for *system tables*.

Explore	Administer	Use
<ul style="list-style-type: none"> • Reporting release notes • Upgrade to Jakarta 	<ul style="list-style-type: none"> • Administering reports on page 551 includes role information • Report Administration module on page 575 	<ul style="list-style-type: none"> • Getting started with reports on page 186 • Report Designer – Report types and creation details on page 209 • Distribute reports on page 197 • Add a report to a homepage or dashboard on page 205

- [Using multiple data series in a report](#)

Videos

- [Watch Reporting videos](#)

Troubleshoot and get help

- [Ask or answer questions in the Performance Analytics and Reporting community](#)
- [Search the HI knowledge base](#)
- [Contact ServiceNow Support](#)

Getting started with reports

ServiceNow reports are visualizations of your data that you can share with users on dashboards and service portals, export to PDF, and send via email. Learn how to create, run, edit, view, and share reports.

Note: To administer reports, reporting roles, and report sources, navigate to **Reports > Administration** and select the area to administer. See [Administering reports](#) on page 551.

The ServiceNow system includes a range of predefined reports that provide data on applications and features like incident management and service catalog requests. You can also create your own reports. Add reports on homepages and dashboards to share information across your organization.

The following podcast offers additional information on Reporting.

Run a report

Run a report to view current data with an existing report configuration.

To administer reports, reporting roles, and report sources, navigate to **Reports > Administration** and select the area to administer. See [Administering reports](#) on page 551.

1. Navigate to **Reports > View/Run**.
2. Click the title of the report you want to run.

Run a report from a list

You can create a pie or bar chart report directly from a list. If you have a reporting role you can also save, distribute, and export these reports.

1. Navigate to the list.
2. Right-click the header of the column that contains the values you want to be displayed as the bars or slices in the chart.
3. Select **Pie Chart** or **Bar Chart**.

See [Pie charts](#) on page 478 and [Bar and horizontal bar charts](#) on page 395.

The report is generated.

Create a report

Create a report to visualize and analyze current instance data or temporary data that you have imported.

- Follow one of these paths:

Option	Description
Create a report	Navigate to Reports > Create New .
Edit an existing report	Navigate to Reports > View / Run and click the edit icon () beside the report name.
Create a report on a dashboard	Navigate to the dashboard where you want to add the report, click the Add Widgets icon (), and select Reports .
Edit a report on a dashboard	Navigate to the dashboard where the report resides and click Edit . To edit a report, click its edit icon ().

- On the **Configure** and **Style** tabs, fill in the fields, as appropriate.

- Click **Save**.

The report is generated.

Note: For details on creating a specific report type, see [Report Designer – Report types and creation details](#) on page 209.

Report options

When you edit a form, you can also choose to save, share, run, delete, or view more information about the report.

All actions are available from the upper right side of the form, from the **Save** and **Share** choice lists and the **Info**, **Delete**, and **Run** buttons. Available report options vary depending on the role of the user working with the report. For more information, see [Administering reports](#) on page 551.

Note: In the Report Builder ("Classic UI"), these options are found in the **Save** menu.

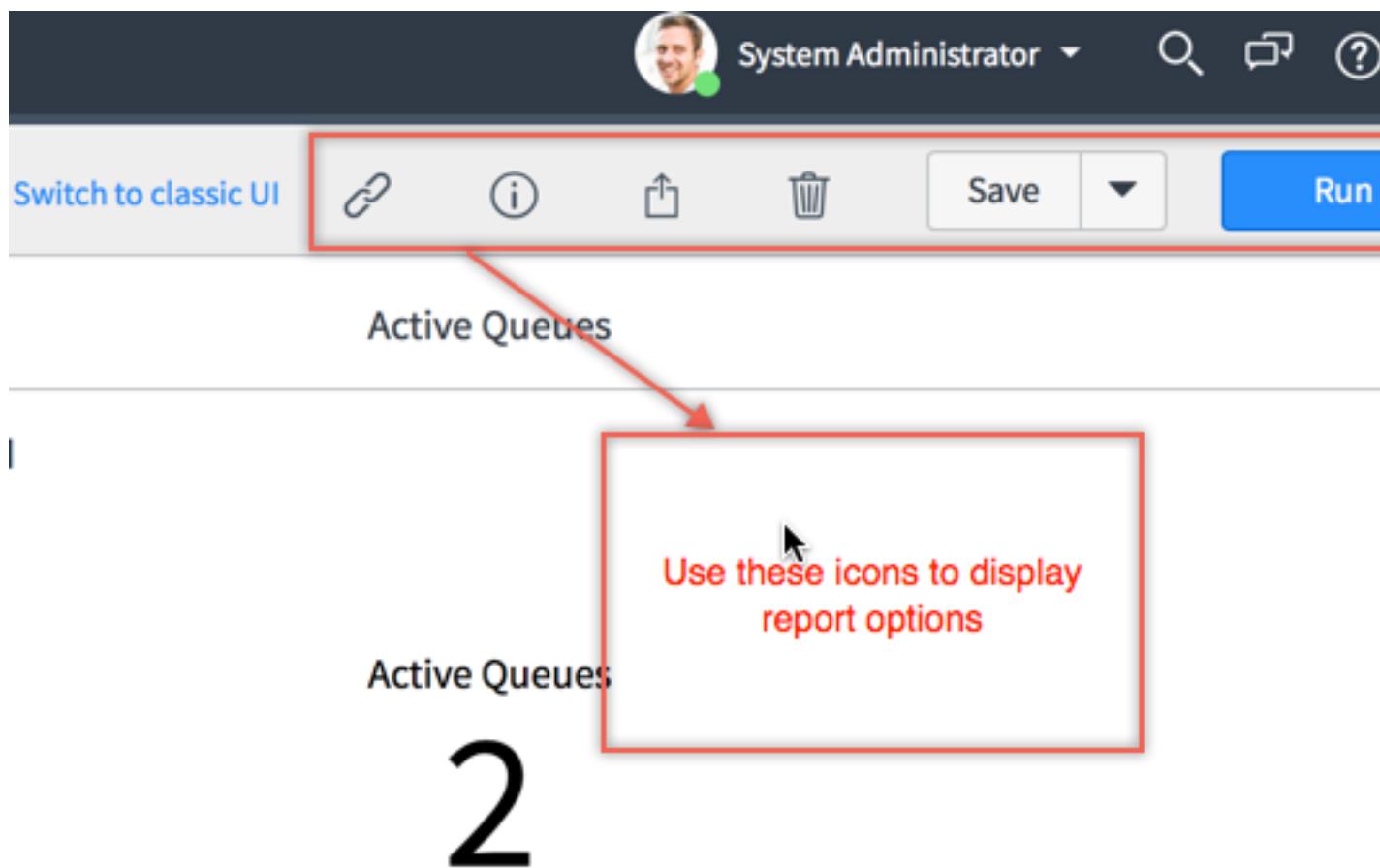


Table 65: Report options

Name	Description
Link ()	Displays the URL of a saved report that you can copy into other documents.
Info ()	Displays general and statistical information for the report. General information includes the base table, type, creator, users, groups, and last modification date of the report. Statistical information includes when the report was last run, the number of runs, and run time.
Sharing ()	Displays several options for sharing the output of the report.

Name	Description
Share	Enables you to set the visibility of the report. Options are Me , Everyone , and Groups and Users . See Share a report – Report Designer on page 197 for more information on sharing. This option is available from the Sharing icon ().
Schedule	Creates a schedule for running the report. Note: You cannot schedule calendar reports.
Add to Dashboard	Adds the current report to a dashboard or homepage. For details on how to edit reports and other dashboard content, see Edit a responsive dashboard on page 607. Note: Users can add reports to any homepage they can view. Users who do not have edit rights to a homepage create new homepages with the added information when they modify a homepage that they don't own.
Export to PDF	Generates a PDF that you can download or email. This option is not available for calendar reports. Note: Drilldown reports do not export to PDF. If you select Export to PDF on a drilldown report, a PDF of the top-level report is generated.
Publish	Creates a URL for the report and displays the URL above the report form. You can email this URL to share the report.
Delete	 Deletes the report.
Save	
Save	Saves your changes to the report and leaves the form open.
Update	Saves your changes to the report and returns to the Reports list.

Name	Description
Insert	Duplicates the report record, inserts it into the Reports list, and opens the Reports list. Use this option to create a report quickly by changing values in an existing report. Be sure to give the new report a unique name.
Insert and Stay	Duplicates the report record, inserts it into the Reports list, and opens the new record. Use this option to create a report quickly by changing values in an existing report. Be sure to give the new report a unique name.
Save as data source	Opens the <i>Create new report source</i> window in which you can save the report conditions as a report source that can be reused for other reports.
Run	
Run	Creates the report based on the conditions and layout you select.

Differences between Report Builder and Report Designer

The Report Designer provides a guided flow for report creation. Selection of the data source, selection of the report type, configuration, and styling of the report are presented on successive tabs. The Report Builder provides most report creation functionality in a single panel.

Using the Report Designer users can configure a report, preview it, iterate and adjust, then share it using the integrated Share panel.

The older Report Builder provides functionality for naming, selection of the data source, and configuration on one page. Style option selection is provided in a pop-up.

The Report Designer supports imported data sources, but the Report Builder does not.

Determine the report creation tool

You can create and edit reports in both report creation UIs. The new Report Designer has separate panels for specifying the report source, the type, the configuration, and the style options. The Report Builder ("Classic UI") provides most of this functionality on a single panel.

The layout of the report creation tool indicates the type:

1. Report Designer:

< Edit report

Data > Type > **Configure** > Style

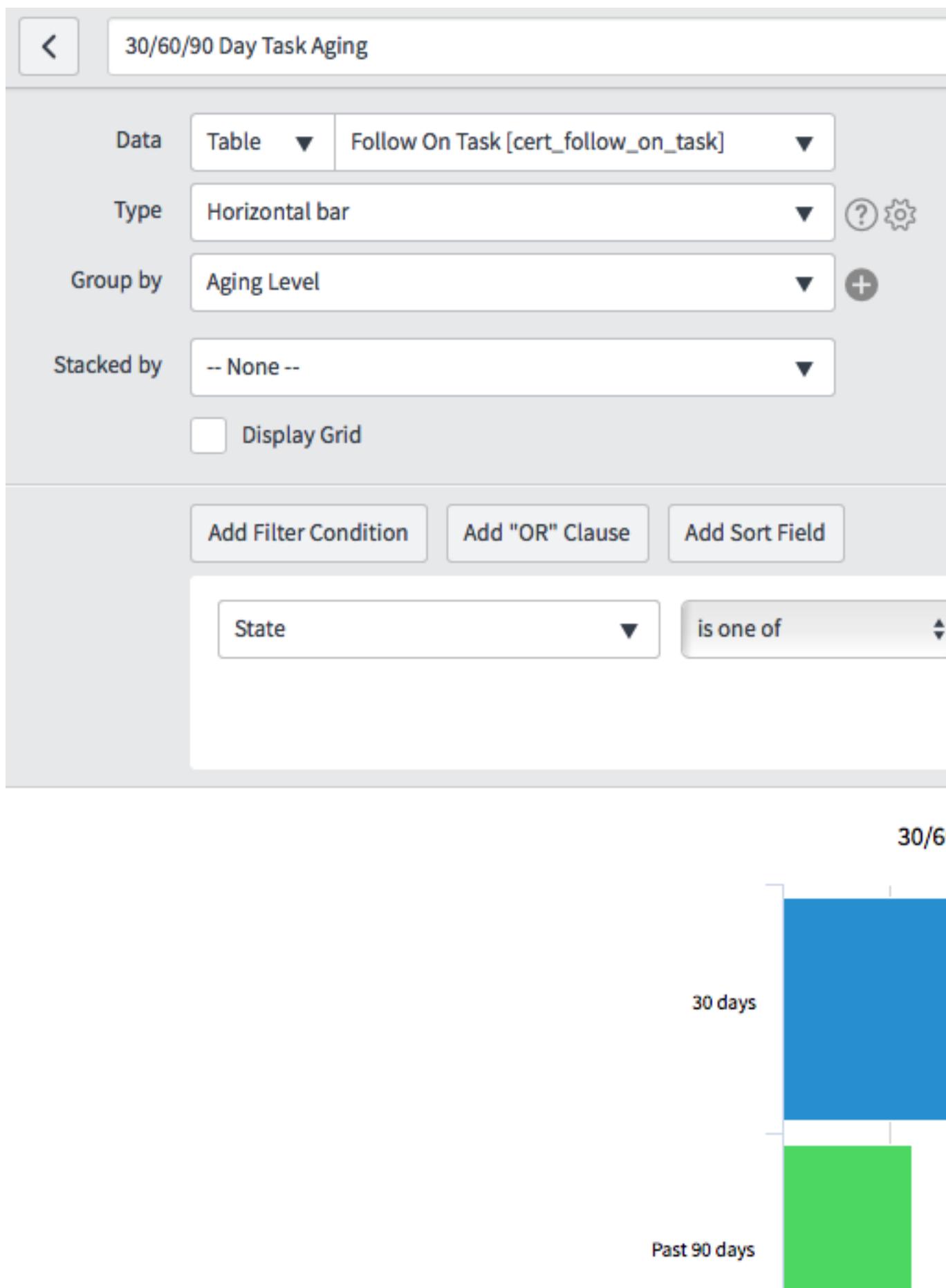
↻

* Report name
30/60/90 Day Task Aging

* Source type
Table ▾

* Table
Follow On Task [cert_follow_on_task] ▾

2. Report Builder:



View the Reports list

View a list of reports and create reports from the Reports list.

On the **View / Run** report module, standard platform ACLs control access to reports in the reports list. For information about the ACLs used to control access to reports, see [KB0546694](#).

You can sort and filter the search results using the standard report list controls, such as by clicking tabs, column headings, or the favorites icon (★).

Select the gear icon (⚙️) next to the **Create a report** button to configure the columns displayed in the Reports list.

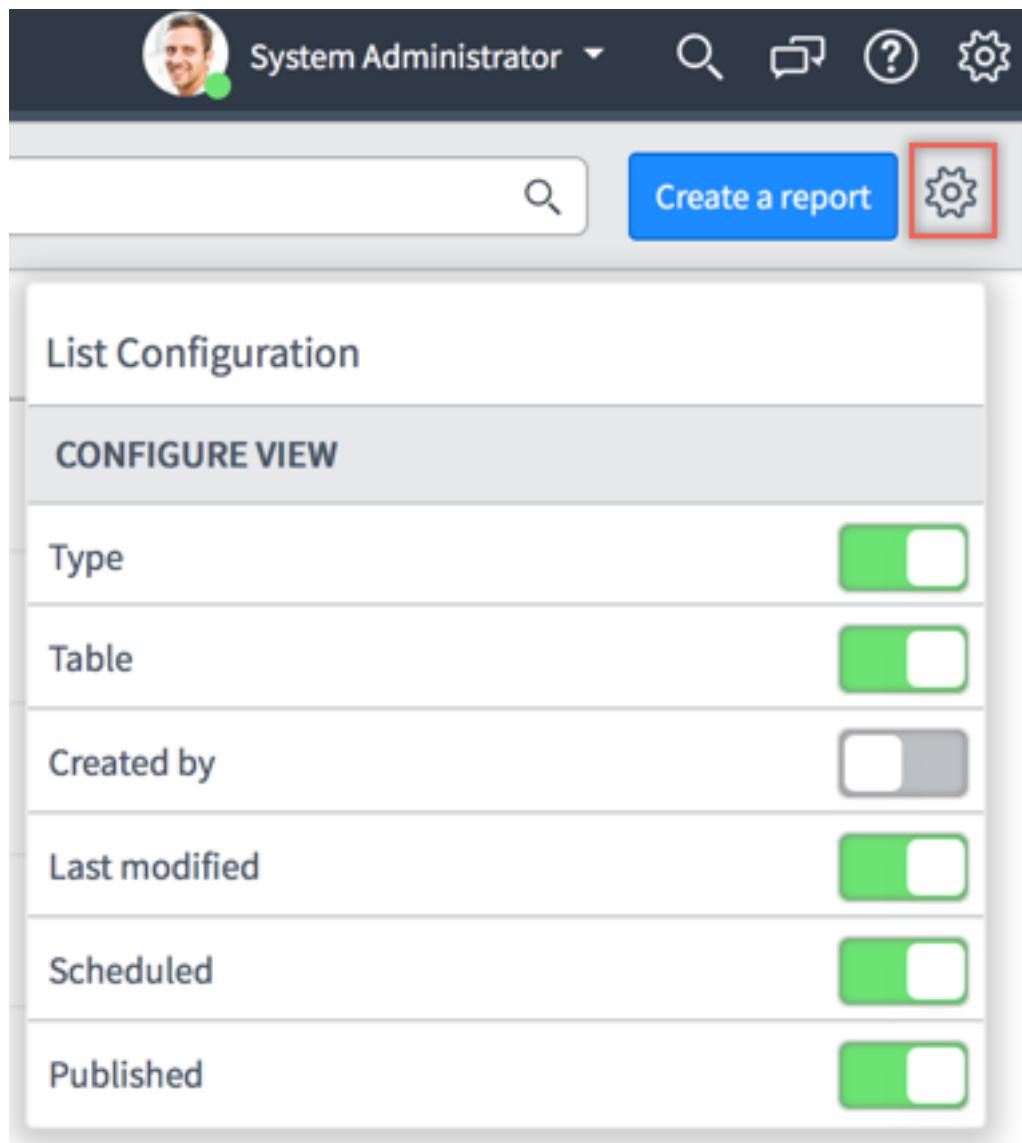


Figure 18: Reports list configuration window

You can filter the Reports list with the following tabs:

Table 66: Reports list

Tab	Description
My reports	Reports that you created.
Group	Reports that have been shared with you and with the groups that you are a member of.
Global	Reports that are available to everyone.
All	All reports that you have access to (Global, Group, and My reports).

The screenshot shows the 'Reports' list page. At the top, there is a navigation bar with tabs: 'Reports' (selected), 'My reports', 'Group', 'Global', and 'All'. Below the navigation bar, there is a search/filter section with columns for 'Type' (star icon) and 'Title' (down arrow icon). Four report cards are listed:

- KPI - Average Work Effort for Resolving Incidents by Category** (Icon: star, calendar)
- 30/60/90 Day Desired State Task Aging** (Icon: star, bar chart)
- 30/60/90 Day Task Aging** (Icon: star, bar chart)
- Achieved SLAs by Type** (Icon: star, bar chart)

Figure 19: View / Create report list

Users with report_admin or admin roles also see these columns on their Reports list.

Table 67: Additional columns

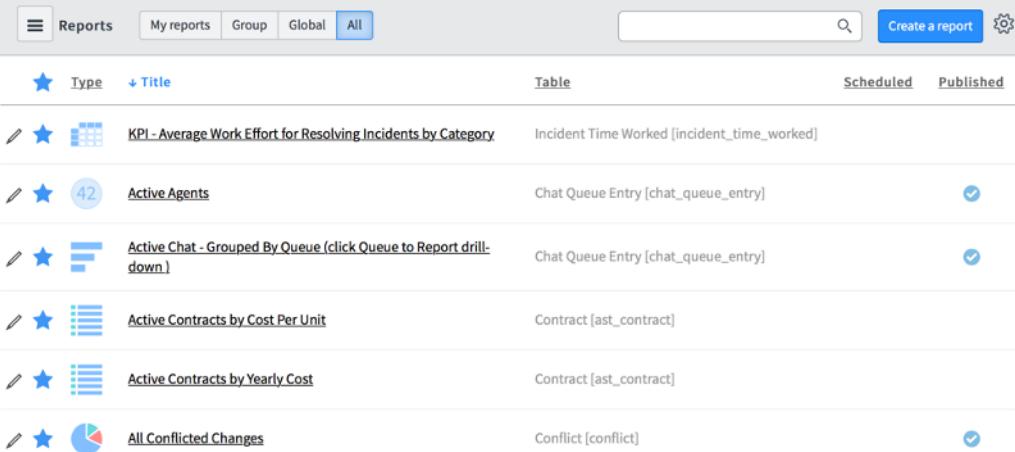
Column	Description
Scheduled	Indicates if the report is scheduled to run in the future. Reports can be run periodically to be emailed.

Column	Description
Published	Shows a check mark () if the report is published.

View favorite reports

You can manually mark a report as a favorite by clicking the star icon beside the report title.

To toggle between showing only favorite reports and showing all reports, click the star icon in the list header.



Type	Title	Table	Scheduled	Published
	  KPI - Average Work Effort for Resolving Incidents by Category	Incident Time Worked [incident_time_worked]		
	  Active Agents	Chat Queue Entry [chat_queue_entry]		
	  Active Chat - Grouped By Queue (click Queue to Report drill-down)	Chat Queue Entry [chat_queue_entry]		
	  Active Contracts by Cost Per Unit	Contract [ast_contract]		
	  Active Contracts by Yearly Cost	Contract [ast_contract]		
	  All Conflicted Changes	Conflict [conflict]		

Figure 20: Report favorites

A report is automatically marked as a favorite when you open it. To turn off the automatic marking of reports as favorites, disable the user preference `glide.ui.nav.auto_favorite`. For more information, see [User preferences](#).

Copy a report

Copying a report enables users who cannot create their own global reports to modify a global report, and then save a personal version of the report.

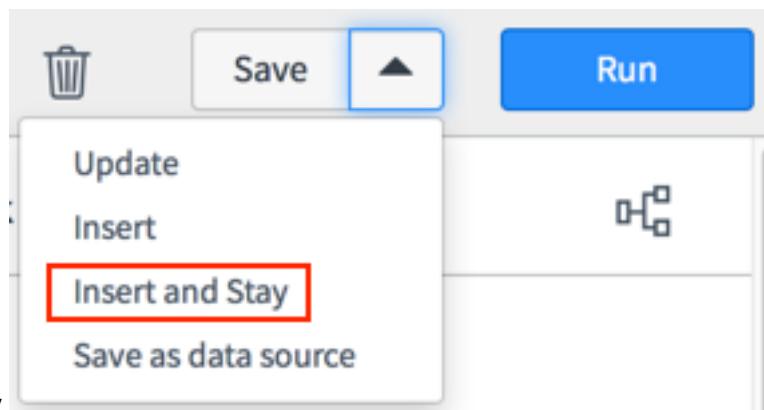
Role required: `itil`, `report_group`, `report_global`, `report_admin`, or `admin`.

If you save a global report as a group or personal report, the platform copies the report rather than changing its security state.

Note: If you open a personal report and try to save it as a group or global report, security state is changed rather than copying the report.

1. Navigate to **Reports > View / Run**.
2. Click the arrow next to **Save**.

3.



Select **Insert and Stay**.

Creates a copy of the report that you can modify.

4. Modify the report. See [Report Designer – Report types and creation details](#) on page 209.
5. Optional: Change the report visibility. In the upper right side of the report form, click the **Sharing** icon



() and select **Share**. See [Share a report – Report Designer](#) on page 197.

Delete a report

Delete reports that are no longer used.

You must be the creator, an administrator, or have a managing role of a report to delete it. If a report has been shared with you, and you do not have a report managing role, you do not have the ability to delete it. For more information about roles that can delete reports, see [Reporting roles](#) on page 552.

1. Navigate to **Reports > View / Run**.

2. Select the report to delete.

3.



When the report opens, click the **Delete** icon ().

If you are using the Report Builder, click the arrow next to the **Save** button and select **Delete**.

4. Confirm that you want to delete the report.

The selected report is removed, and is no longer available to share, publish, or view.

Report Designer keyboard shortcuts

Keyboard shortcuts enable you to perform certain functions in the Report Designer without using your mouse.

You can use the following keyboard shortcuts.

Function	Shortcut
Run the current report	Control + Alt (Option) + R
Save the current report	Control + Alt (Option) + S
Delete the current report	Control + Alt (Option) + D
Opens the Data tab	Control + Alt (Option) + 1
Open the Sharing menu	Control + Alt (Option) + H

Function	Shortcut
Display the Report info panel	Control + Alt (Option) + N

Distribute reports

Distribute reports to provide business information to other users.

Watch the following video for an overview of distributing reports.

Report access control

You can control who sees reports by applying a security state. You can make reports that are:

- Globally visible to all users
- Visible only to you if you are the report creator.
- Visible to one or more specific roles
- Visible to one or more specific users or groups

Sharing by user, group, or role, is the primary method of sharing reports. You can use access control lists (ACLs) to control access to the underlying table or database view data. Users are able to view reports when the user does not have access rights to a data record in a data source or source table of a report. However, they are not able to see that record in a list view or in a drill-down view. Database-view-list reports require the reporting user to satisfy ACLs on the target data to view records in the list. Users without sufficient permissions see filtered list reports.

Note: ACLs for a table do not propagate to database views based on that table. Database views require separate ACLs. For more information, see [Database views](#) on page 510.

Reports that present aggregate data, such as pie or bar reports, do not require the user to satisfy target table ACLs to view the report. ACLs are required to view the list of records when you select a portion of a report visualization. When you have access to a report but not to some of its records, you do not see those records in a drill-down list or in a list view of the data in the report. However, they are included in visualizations of data.

If a user saves a global report as a group or personal report, the platform copies the report rather than changing its security state. Copying the report enables users who cannot create their own global reports to modify a global report, and then save a personal version of the report.

If a user opens a personal report and tries to save it as a group or global report, the security state is changed rather than copying the report.

Share a report – Report Designer

Control which users and groups can see a report in their Reports list.

Role required:

report_publisher can share reports they can manage.

report_group can share reports that are shared with them.

report_global can share reports that are shared with everyone.

report_admin can share all reports.

For more information about roles that can share reports, see [Reporting roles](#) on page 552.

You can control who sees reports by making them:

- Globally visible to all users
- Visible only to you if you are the report creator.
- Visible to one or more specific users
- Visible to one or more specific groups

Note: The permissions of a report can constrain the number of users or groups you can share a report with. For more information, see [Restrict report creation with an ACL rule](#) on page 553.

1. Navigate to **Reports > View / Run** and select the report you want to control.

- 2.



In the upper right side of the report form, click the **Sharing** icon () and select **Share**.

3. In the Sharing settings dialog box, fill in the fields and click **OK**.

Table 68: Sharing settings

Field	Description
Visible to	<p>Users to whom the report is available. You can select the following options:</p> <ul style="list-style-type: none"> • Me Only you can view the report. This option is only available to you on reports that you created. • Everyone All users can view the report. If roles are selected from the Roles field and added to the Role required list, only users with those roles can view the report. • Groups and Users Only specific groups and users can see the report. <p>The Groups and Users option is visible to users with the <code>report_group</code> role.</p>
Groups	<p>Groups whose members are authorized to see the report.</p> <p>This field is available when the Groups and Users option is selected.</p>
Users	<p>Users who are authorized to see the report.</p> <p>This field is available when the Groups and Users option is selected.</p>

- 4.



Click the **Sharing** icon () and select **Add to Dashboard** or **Publish**.

5. Share the dashboard or share the URL of the published report with the user, role, or group with whom you have shared the report. See [Share a responsive dashboard](#) on page 610 or [Control access to a non-responsive dashboard](#).

The people with whom you share the report must have rights to view the report data.

Share a report – Report Builder

Control which users and groups can see a report in their reports list.

Role required:

report_publisher can share reports they can manage.

report_group can share reports that are shared with them.

report_global can share reports that are shared with everyone.

report_admin can share all reports.

For more information about roles that can share reports, see [Reporting roles](#) on page 552.

You can control who sees reports by making them:

- Globally visible to all users.
- Visible only to the report creator.
- Visible to one or more specific users.
- Visible to one or more specific groups.

Note: The permissions of a report can constrain the number of users or groups you can share a report with. For more information, see [Restrict report creation with an ACL rule](#) on page 553.

ACLs control access to the underlying table data. List reports require the reporting user to satisfy ACLs on the target table to view records in the list. Users without sufficient permissions may see filtered list reports.

Reports that present aggregate data, such as pie or bar charts, do not require the user to satisfy target table ACLs to view the chart. These reports are not filtered due to security, though may be filtered by an on-query business rule defined for the target table. ACLs are required to view the list of records when you click a portion of a chart.

If a user saves global report as a group or personal report, the platform copies the report rather than moving it from one security state to another. This means users who cannot create their own global reports can modify a global report, and then save a personal version of the report.

If a user opens a personal report and tries to save it as a group or global report, the platform moves the report rather than copying it.

1. Click the arrow next to the **Save** button to open the Report Options menu and select **Sharing**.
2. In the Sharing settings dialog box, fill in the fields and click **Close**.

Table 69: Sharing settings

Field	Description
Visible to	<p>Users to whom the report is available:</p> <ul style="list-style-type: none"> • Me Only the report creator can view the report. Users who did not create the report cannot set it to Me. • Everyone All users can view the report. Specific roles can be assigned for viewing reports under Everyone, so access can be restricted. • Groups and Users Only specific groups and users can see the report. <p>Groups and Users is visible to users with the report_group role.</p>
Groups	<p>Groups whose members are authorized to see the report.</p> <p>This field is available when Groups and Users is selected.</p>
Users	<p>Users who are authorized to see the report.</p> <p>This field is available when Groups and Users is selected.</p>

3. Click the arrow next to the **Save** button to open the Report Options menu and select **Add to Dashboard or Publish**.
4. Share the dashboard or share the URL of the published report with the user, role, or group with whom you have shared the report. See [Control access to a non-responsive dashboard](#) and [Restrict responsive dashboard access to specific roles](#) on page 613.

The people with whom you share the report must have rights to view the report data.

Automate report distribution

Schedule a report to automate its distribution. Scheduled reports can be distributed in PDF, CSV, or XLS format. Graphical reports can be distributed in PNG or PDF format.

Role required: To create scheduled reports, you must have both the itil role and either the report_admin or report_scheduler role.

Note: It is not possible to schedule Calendar, Map, Pivot Table, and Single Score reports.

1. Navigate to **Reports > View / Run**.
2. Click a report to be scheduled for distribution.
- 3.



In the Report Designer, click the **Sharing** icon () and select **Schedule**.

In the Report Builder, click the down arrow next to the **Save** button and select **Schedule**.

4. Fill in the fields, as appropriate.

Field	Description
Name	Name of the scheduled report. The default name is based on the name of the underlying report.
Report	The report to schedule. This field is filled in by default. To send a report as a URL instead of as an image, clear this field and include the report URL in the Introductory Message field.
Users	Individual recipients of the report. To receive reports, users must have an email address defined and have Notifications set to Enable in their user records.
Groups	Group recipients of the report.
Email addresses	Email addresses of report recipients who are not in the system.
Active	Check box that enables (selected) or disables (cleared) scheduling for the report.
Run	Frequency for generating the report.
Time	Time of day to generate the report.
Conditional	Check box that shows (selected) or hides (cleared) the Condition field, which lets you specify the conditions under which the report is generated.
Omit if no records	Check box that prevents (selected) or allows (cleared) the distribution of empty reports.
Condition	User-created script that checks for certain conditions to be true before generating reports. This field is visible only when Conditional is selected.
Subject	Text that appears in the subject line of the distribution email.
Introductory message	Additional message that is delivered with the report.

Field	Description
Type	Report output type. Graphical reports are sent as PNG or PDF files, and list reports are sent as PDF files. When scheduling a graphical report to be emailed, select output type PDF or PDF-landscape to include the chart grid data. When scheduling a data report, select output type Excel or CSV . All reports are generated with the Highcharts charting engine, giving them a consistent look.
Zip output	Check box to send the report as a zip file.
Include with	Additional scheduled report to send.
Page size (Multilevel pivot report only)	Select from A3, A4, Letter, or Legal size. To specify the dimensions for a different paper size, select Custom and enter the Page height and Page width in pixels.
Page height (in pixels) (Multilevel pivot report only)	Shows when Page size is set to Custom . For non-standard paper sizes, multiply the page height in inches by 72 and enter the value in this field.
Page width (in pixels) (Multilevel pivot report only)	Shows when Page size is set to Custom . For non-standard paper sizes, multiply the page width in inches by 72 and enter the value in this field.

5. Click **Submit**.

6. Optional: Use the **Included in Email** related list to create additional scheduled reports.

Each report you add to the **Included in Email** related list must have its own schedule. By specifying a schedule for each report, you can send different reports to recipients of the previously identified reports, each with its own schedule.

To unschedule a report:

1. Navigate to **Reports > Scheduled reports**.
2. Select the entry.
3. Choose **Delete** from **Actions on selected rows**.

This action only deletes the report schedule, not the report itself.

Schedule a report in the Report Builder

Schedule a report to automate its distribution. Scheduled reports can be sent as PDF, CSV, or XLS format.

To create scheduled reports, users must have both the itil role and either the report_admin or report_scheduler role.

Note: It is not possible to schedule Calendar, Map, Pivot Table, and Single Score reports.

1. Navigate to **Reports > View / Run**.

2. Select a report to be scheduled for distribution.
3. Click the arrow next to the **Save** button to open the Report Options menu and select **Schedule**.
4. Fill in the fields, as appropriate.

Field	Description
Name	Name of the scheduled report. The default name is based on the name of the underlying report.
Report	The report to schedule. This field is filled in by default. To send a report as a URL instead of as an image, such as if the report image is too large for an email attachment, clear this field and include the report URL in the Introductory Message field.
Users	Users who should receive the report. To receive reports, users must have an Email address defined and have Notifications set to Enable in their user records.
Groups	Groups that should receive the report.
Email addresses	Email addresses of users who should receive the report but who are not in the system.
Active	Check box that enables (selected) or disables (cleared) scheduling for the report.
Run	Frequency for generating the report.
Time	Time of day to generate the report.
Conditional	Check box that displays (selected) or hides (cleared) the Condition field, which allows you to specify conditions under which the report is generated.
Omit if no records	Check box that prevents (selected) or allows (cleared) the distribution of empty reports.
Condition	User-created script that checks for certain conditions to be true before generating reports. This field is visible only when Conditional is selected.
Subject	Text that appears in the subject line of the distribution email.
Introductory message	Additional message that is delivered with the report.
Type	Report output type. Graphical reports are sent as PNG or PDF files, and list reports are sent as PDF files. When scheduling a graphical report to be emailed, select output type PDF or PDF-landscape to include the chart grid data. When scheduling a data report, select output type Excel or CSV . All reports are generated with the Highcharts charting engine, giving them a consistent look.
Zip output	Check box for indicating that the report is to be sent as a zip file.
Include with	Additional scheduled report to send.

5. Click **Submit**.
6. Optional: Use the Included in Email related list to create additional scheduled reports.

Each report you add to the Included in Email related list must have its own schedule. This allows you to send different reports to one or more of the recipients of the previously identified reports, each with its own schedule.

To unschedule a report:

1. Navigate to **Reports > Scheduled reports**.
2. Select the entry.
3. Choose **Delete** from **Actions on selected rows**.

This action only deletes the schedule of the report, not the report itself.

Report output formats

You can export reports in certain output formats. You can schedule these reports for regular export.

Table 70: Report output formats

Report format	Description
PDF	<p>Generate a PDF in portrait or landscape orientation. PDF reports include the chart grid data. Map reports cannot be exported to PDF format.</p> <p>Note: To export <i>Multilevel pivot tables</i> on page 464 to PDF, you must enable the Webkit HTML to PDF (com.snc.whtp) plugin.</p>
Excel	Report visualization shows as a Microsoft Excel (XLS) spreadsheet.
PNG	Report visualization shows as a Portable Network Graphic (PNG) file.
CSV	Report visualization shows as a comma-separated value (CSV) plain-text file.

Publish a report

Publish a report to create a URL that anyone can use to access the report, including people who are not users. When anyone navigates to the URL, the report is generated with current data from the instance. Reports are available until they are unpublished.

Role required: both the report_publisher and itil role, report_admin, or admin

There are limitations to what users see when they follow the publish URL for a report:

- Data that is visualized as a graphic report and not limited by business rules is always visible in published reports. Graphic reports are all reports except for list reports.
- Read ACLs govern the content of list reports. Users cannot see records for which they do not have access.

Users with the admin or report_admin role can see if a report has been published. Navigate to **Reports > View / Run**,



open the report, and click the **Sharing** icon (). If the Sharing menu has the **Publish** option, the report is not yet published. If the Sharing menu has the **Unpublish** option, the report has been published.

Note: To make a report available only to logged in users, set its **Sharing** setting to **Everyone**, but do not publish it.

1. Navigate to **Reports > View / Run**.
2. Click the report you want to publish.
- 3.



In the upper right side of the report form, click the **Sharing** icon () and select **Publish**.



A link icon () shows with the Report option icons message. Click this icon to show a link to the published report. This link is available as long as the report is published. See [Report options](#) on page 187.

Note: Business rules may affect how records are collected for public reports. For more information, see [Business rules](#).

Unpublish a report

Published reports are available at the published URL until you unpublish them.

Role required: both the report_publisher and itil role, report_admin, or admin

1. Navigate to **Reports > View / Run**.
2. Select the report you want to unpublish.
- 3.



From the upper right side of the report form, click the **Sharing** icon () and select **Unpublish**.



The report is no longer published and the link icon () is removed from the report designer for the unpublished report.

Add a report to a homepage or dashboard

When viewing a report, you can add that report to a homepage or a dashboard.

Before starting this procedure, make sure that there is a report you want to include on a homepage or dashboard.

Role required: Any user who can create a report can add it to a homepage. To add a report to a dashboard, one of the following roles is required: itil, report_global, report_group, report_admin, pa_power_user.

1. Navigate to **Reports > View/Run**.
2. Select a report.
- 3.



Click the **Sharing** icon () and select **Add to Dashboard**.

4. Select if you want to add the report to a **Homepage** or **Dashboard**.
5. Based on your selection, perform one of the following actions.

Option	Description
Homepage	Select the Homepage to add the report to.
Dashboard	Select the Dashboard and Tab to add the report to.

6. Perform one of the following actions:

Option	Description
for responsive dashboards	Click Add . The widget is added to the dashboard in the top position and the dashboard opens. Click Edit to move or resize the widget.
for non-responsive dashboards and homepages	Click Add here to add the report in a specific position, or click Add to add the report to the first available position on the homepage or dashboard.

Reports on Service Portal

Show reports using Service Portal.

When you edit a portal, add the **Report** widget. Use the widget options to specify a report to show on the service portal and whether to show the title of the report.

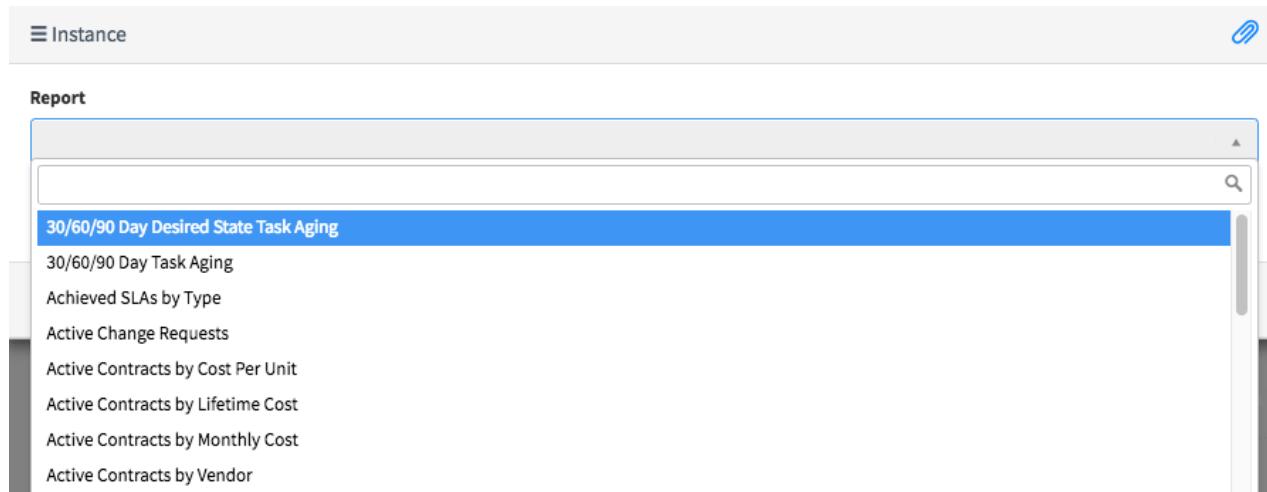


Figure 21: Report widget

With the report widget, you can show all report types on your portal except for list reports. Use the [simple list widget](#) instead.

Activate the Performance Analytics and Reporting - Service Portal Widgets plugin

You can activate the Performance Analytics and Reporting - Service Portal Widgets plugin (com.snc.pa.sp.widget) if you have the admin role. This plugin includes demo data and activates related plugins if they are not already active.

Role required: admin

Performance Analytics and Reporting - Service Portal Widgets activates these related plugins if they are not already active.

Table 71: Plugins for Performance Analytics and Reporting - Service Portal Widgets

Plugin	Description
Service Portal [com.glide.service-portal]	Core Service Portal functionality.

1. Navigate to **System Definition > Plugins**.
2. Find and click the plugin name.

3. On the System Plugin form, review the plugin details and then click the **Activate/Upgrade** related link. If the plugin depends on other plugins, these plugins are listed along with their activation status. If the plugin has optional features that depend on other plugins, those plugins are listed under **Some files will not be loaded because these plugins are inactive**. The optional features are not installed until the listed plugins are installed (before or after the installation of the current plugin).
4. Optional: If available, select the **Load demo data** check box. Some plugins include demo data—Sample records that are designed to illustrate plugin features for common use cases. Loading demo data is a good practice when you first activate the plugin on a development or test instance. You can also load demo data after the plugin is activated by clicking the **Load Demo Data Only** related link on the System Plugin form.
5. Click **Activate**.

PDF page header footer templates

Administrators and report owners can create header and footer templates for reports exported as PDFs. Reporting users can apply the available templates to specific reports.

A default PDF page header footer template appears on all PDF exports that do not specify a custom header footer template. PDF page header footer templates are saved independently from reports. All header and footer text uses 8-point Helvetica bold font. A PDF page header footer template is made of multiple cells containing report attributes or user-specified content.

The default PDF page header footer template appears on all reports, as well as *exports from lists*, unless you define a specific template for that report. You can modify the default template but you cannot delete it. In the default template, the header shows the report **Title** and the page number in the format **Page X**. The footer shows the report **Run by** field and the report run time and date.

Configure PDF export settings for a report

You can customize the header and footer of reports exported to PDF.

Role required: report_admin or admin

1. Click **Switch to classic UI**.
2. From the upper right side of the report form, click the arrow next to **Save** and select **Export settings**.
3. In the Export settings dialog box, fill in the fields as appropriate.

Table 72: PDF export settings

Field	Description
Export report details	Check box to show the report attributes in the top right of exported PDF pages.
Header Footer Template	The template for the PDF header and footer.

4. Click **Close**.

Create a header footer template for reports exported to PDF

A PDF page header footer template defines the page header and footer layout for PDF files exported from your instance.

Role required: report_admin or admin

The header and footer each have three cells: Left, Middle, and Right. To leave a cell blank, select **Empty**.

1. Navigate to **Reports > Header Footer Templates**.
2. Click **New**.
3. Enter a **Name** for the template.
4. Select the content option for each header and footer cell, and enter or upload content as appropriate.

Table 73: Template form view

Type	Description
Page number of the PDF	Page number in either the Page X format or Page X of Y format.
Report Title	Title of the report.
Run by	Name of the user who ran the report.
Run Date and Time	Date and time the report ran.
User Specified Text	User-defined message. Messages are truncated at 150 characters.
Image	User-specified. Upload a new image when selecting Image content. Images are scaled to fit the space available in the template cell.

5. Click **Submit**.

Apply a PDF page header footer template to a report

Reporting users can apply the available templates to specific reports, so the custom header footer template replaces the default PDF page header footer template.

Any user who can edit reports can apply a PDF page header footer template to a report.

1. Navigate to **Reports > View/Run**.
2. Open a report.
3. Click the **Switch to classic UI** link.
4.  Click the arrow next to **Save** () and select **Export settings**.
5. In the **Header Footer Template** field, select the template to apply.
6. Click **Close**.
This procedure saves the report with the selected template.
7. Optional: Export the report as a PDF to view the newly applied page header and footer.

Report Designer – Report types and creation details

Learn about different types of reports you can create, and when and how to create them.

You can generate the following types of reports, organized by category:

- *Bar charts* enable you to compare scores across data dimensions.
- *Proportional reports* visualize the relationship between the parts and the whole of a data set using other shapes such as pies and pyramids.
- *Time Series reports* visualize data over time.

- *Multidimensional reports* visualize data across dimensions in a single table or graph.
- *Scores* visualize single data points either across ranges or as a single value.
- *Statistical reports* visualize data with statistical values such as medians and means.
- *Other reports* include calendars, maps, and lists.

Table 74: Bar charts

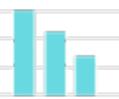
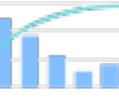
	Report	Description
	<i>Bar</i>	Shows vertical bars with lengths proportional to the values that they represent.
	<i>Horizontal bar</i>	Shows horizontal bars with lengths proportional to the values that they represent.
	<i>Pareto</i>	Combines bar and line reports to identify the most important factors in a large set of factors.
	<i>Histogram</i>	Provides visual interpretation of numerical data by indicating the number of data points that lie within a range of values.

Table 75: Other proportional reports

	Report	Description
	<i>Pie</i>	Shows how individual pieces of data relate to the whole using a circle to represent the whole.
	<i>Donut</i>	Shows how individual pieces of data relate to the whole using a donut shape to represent the whole.
	<i>Semi-donut</i>	Shows how individual pieces of data relate to the whole using a semi-donut shape to represent the whole. A semi-donut chart uses a donut sliced in half to represent the whole.

	Report	Description
	<i>Funnel</i>	Displays values as progressively decreasing proportions. The size of each section reflects a percentage of the total of all values. (Found in the Other reports section.)
	<i>Pyramid</i>	Visualizes a variation on a bar chart using pyramid sections instead of rectangles. (Found in the Other reports section.)

Table 76: Time series reports

	Report	Description
	<i>Column</i>	Shows how one or more values change over time by displaying them as proportional vertical columns.
	<i>Line</i>	Shows how one or more values change over time by connecting a series of data points with straight lines.
		Resembles a line chart, but the area between the axis and line is commonly emphasized with colors.
	<i>Area</i>	Resembles a line chart, but the area between the axis and line is commonly emphasized with colors.
	<i>Spline</i>	Shows how one or more values change over time by connecting a series of data points with a fitted curve through the data points. Spline charts let you take a limited set of known data points and approximate intervening values.

Table 77: Multidimensional reports

	Report	Description
	<i>Multilevel pivot table</i>	Displays aggregate data broken down by multiple metrics in a single chart.
	<i>Heatmap</i>	Displays aggregate data in a matrix using colors to represent different values.
	<i>Bubble</i>	Displays multiple metrics on a single chart.

Table 78: Scores

	Report	Description
	<i>Speedometer</i>	Shows an overview of the count of an indicator at the current moment in the form of a round meter.
	<i>Dial</i>	Shows an overview of the count of an indicator you want to measure at this moment in a half circle, where the part in which scores are shown is filled out with a color.
	<i>Single score</i>	Displays a single aggregate value that is important to your business.

Table 79: Statistical analysis visualizations

	Report	Description
	<i>Control</i>	Displays data as a series of connected points to determine whether a business process is in a state of statistical control and to identify outliers. (Found in the Other reports section.)

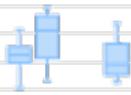
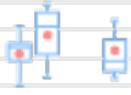
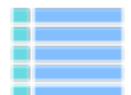
	Report	Description
	Trend	Shows how the value of one or more items changes over time. Values along the horizontal axis of the trend chart represent the time measurement. Values on the vertical axis represent the changes to the items being monitored. The trend line or curve reveals a general pattern of change. (Found in the Other reports section.)
	Box	Shows the distribution of values in a data set highlighting statistical averages. (Found in the Other reports section.)
	Trendbox	Shows the distribution of values in a data set highlighting statistical averages for a specified period of time. (Found in the Other reports section.)

Table 80: Other reports

	Report	Description
	List	Displays data in the form of an expandable list, similar to a standard ServiceNow <i>list</i> .
	Calendar	Displays data-driven events in a calendar format.
	Map	Displays data on a geographical map image.
	Pivot table	Aggregates data from a table to display the source of summarized data. This functionality is expanded in multilevel pivot reports .

Create an area or spline report in the Report Designer

Area and spline reports

Area reports show trends over time for related attributes. Spline reports show how one or more values change over time by connecting a series of known data points with a curve that emphasizes the trend over individual data points.

For example, you can create an area or spline reports for incident counts, to show how the number of incidents changes over time. The incident count often increases during the first few months after a product upgrade is deployed. Over time, the number of reported incidents decreases as users become more accustomed to the changes in the product.

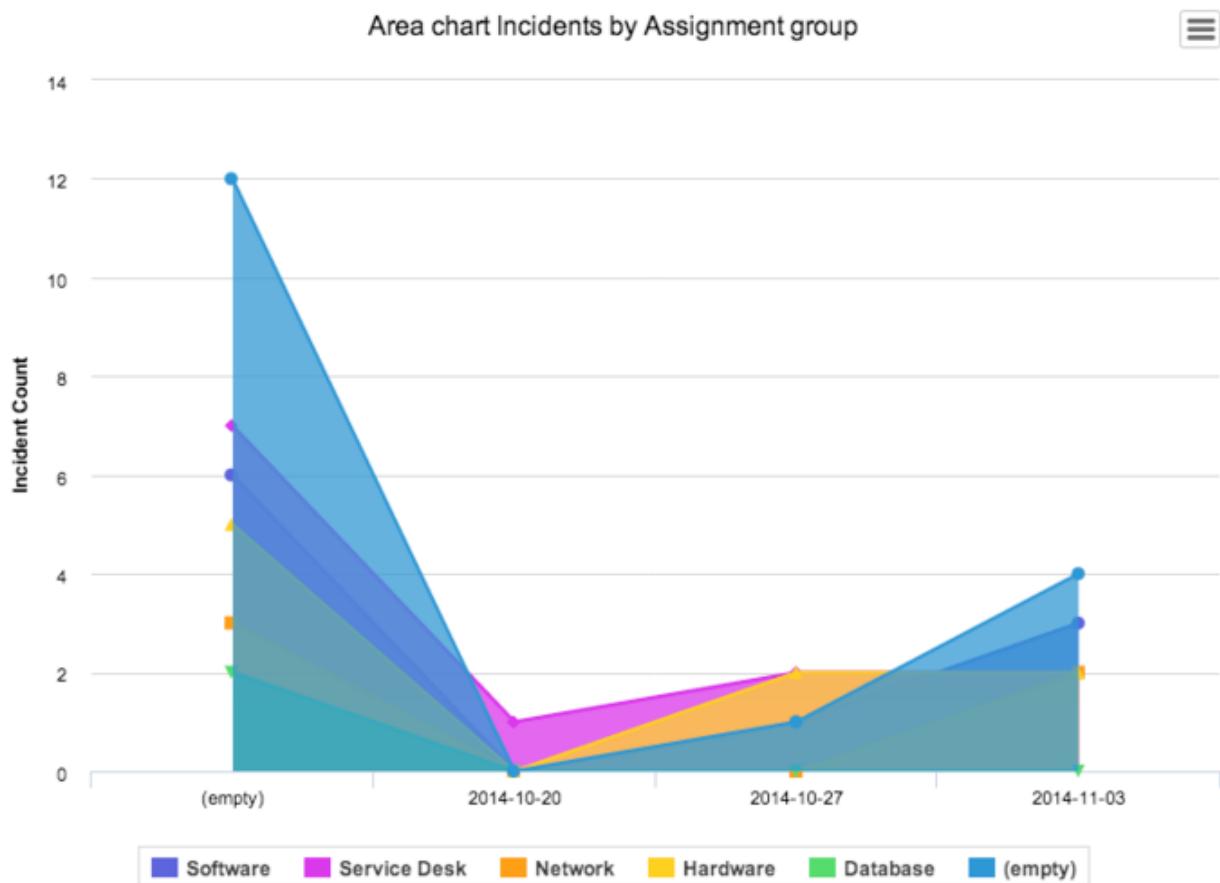


Figure 22: Area reports

Note:

When the sections of an area report with multiple datasets overlap, it is not possible to drill down into the various sections. To drill down, click items in the legend to clear them from the report.

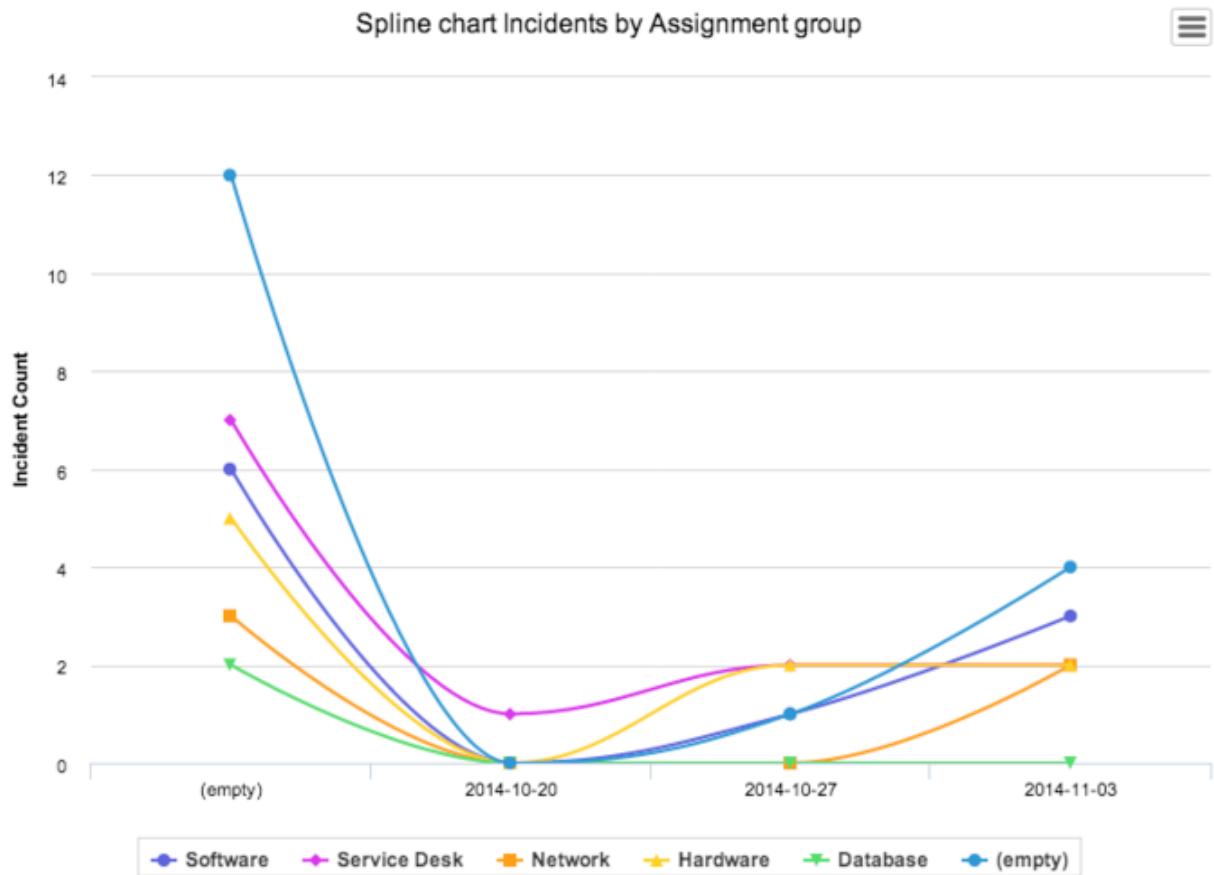


Figure 23: Spline report

Create an area or spline report with the Report Designer

Create an area or spline report to show trends over time for related attributes.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

This task refers to the Jakarta release under UI15 and UI16. If you are using an earlier UI or the Classic UI for creating reports, follow the instructions in the Helsinki documentation instead: [Report types and creation details](#).

1. Navigate to **Reports > Create New**.
2. On the **Data** tab, give the report a name that reflects the information being grouped.
3. Select the source for the report:

Option	Description
Data source	A table with filters applied to provide a single source of information for all users.
Table	The raw data from a table with no filters applied.
External import	Choose an existing imported report source, or click the Upload icon () to import a new file. See Create a report from an imported Microsoft Excel document on page 524

4. Click **Next**.
5. On the **Type** tab, select **Area** or **Spline** from the **Time Series** section and click **Next**.

A preliminary version of the report is displayed. To view the updated report at any time, click **Run**.

6. On the **Configure** tab, fill in the following fields and click **Next**.

Table 81: Configure tab

Field	Description
Group by	<p>Group report data using the values of this field. For example, in an incident report grouped by Assignment group, all incidents that belong to Software, Service Desk, and Network are placed in separate groups.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p>
Additional group by	<p>Extra fields to group the report by. When you select Additional group by fields, a control is added to the bottom of the report that groups the report by any one of the additional fields.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p>

Field	Description
Display data table	<p>Check this box to display report data in a grid beneath the report. The table appears on dashboards where the report is added.</p> <p>All reports that use charts, including reports that are used on dashboards, display the table of report data when the glide.ui.section508 system property is set to true. The glide.ui.section508 property overrides the Display data table field.</p>
Trend by	<p>Table field whose values you want to display in a time sequence.</p>
per	<p>Time period to group data by. Time periods range from an hour to a year. You can also specify a date.</p> <p>Note: Reporting per Week is not supported when the report range includes more than one year. Inconsistent results are produced when a week is split between two years.</p>

Field	Description
Aggregation	<p>Mathematical calculation to perform on the data. The default is Count, which displays the number of records selected.</p> <p>To display only unique records, select Count Distinct. For example, if you want a report on the distinct number of users who have one or more of the roles in a given list of roles. Users with more than one role would be counted twice unless you use Count Distinct.</p> <p>Select Average, Sum, or Count Distinct, to display a list of fields from the selected Table. Select a field to aggregate by from this list. For example, if you select a duration field, such as Business duration on the Incident table, the aggregated data is expressed in days, hours, and minutes. If you select an integer field, such as Priority, the data is expressed as a decimal value number.</p> <p>If you choose Sum or Average, select Show related fields to aggregate on dot-walked fields. See Selecting fields on related tables using dot-walking</p> <hr/> <p>Note: For duration values, the unit of measurement displayed in the aggregation axis cannot be customized.</p>

Field	Description
Percentage calculation	<p>Method of calculating percentages. The percentage appears when you point to a report segment, such as a bar on a bar report. This field appears when Aggregation is set to Average, Sum, or Count Distinct.</p> <ul style="list-style-type: none"> • Use Aggregation calculates the percentage using the selection in the Aggregation field. Only data that is displayed in the report is used to calculate the percentage. For example, a report shows assets by department with the Aggregation set to Sum and the percentage calculated using aggregation. If the total cost of assets is \$100,000 and the cost of assets for Customer Support is \$10,000, the percentage for Customer Support is 10%. • Use Record Count calculates the percentage using the total number of records in the data set. For example, a report shows incidents by priority. Out of 500 incident records, 200 have low priority. The percentage for the Low priority section is 40%.

7.

Optional: To limit the information displayed in the report, click the filter icon () and select conditions to filter the report data.

For more details on how conditions are constructed, see [Condition builder](#).

Note: Keywords is a special field used for text searches across all fields. It's use in a filter or condition, in combination with other conditions, may return inconsistent results.

8. On the **Style** tab, fill in the fields as appropriate to configure the appearance of the report.

9. Click **Save**.

The report is generated.

-



Click the Report info icon () and add a description of the report.

-



Click the sharing icon () to open the **Sharing** menu. On this menu, you can add the report to a dashboard, export the report to PDF, publish the report to the web, and set visibility and schedules. For more information, see [Share a report – Report Designer](#) on page 197.

Area and spline report style options – Report Designer

Change the look of your area or spline report.

When you create or edit a report, click the **Style** tab for options to configure the look of your report. The options are organized under two or more of the following tabs: **General**, **Title**, **Legend**, and **Axis**. To see how the chart looks with the changed settings, click **Save**.

Table 82: Area and spline report style options

Field	Description
General	
Chart color	<p>Colors used in the report.</p> <p>If you do not group or stack the report, Use one color is automatically selected. Select a single predefined system color.</p> <p>If you group or stack the report, select one of the following options:</p> <ul style="list-style-type: none"> • Use color palette: Select a color palette from the predefined system color palettes. • Use several colors: Define a custom set of Colors using hex codes. You can add any number of colors. • Use chart colors: Use the colors defined in Reports > Chart Colors. <p>Note: It is not possible to use transparency hex values.</p>
Set color	<p>Color used in the report. This field displays when you select Use one color from the Chart color list. Click the search icon () to choose from the Chart color schemes or Color Definitions list.</p>
Set palette	<p>Color palette used in the report. This field appears when you select Use color palette from the Chart color list. Click the search icon () to choose from the Color color schemes list.</p>
Display data labels	<p>Check box to display the value for each data point.</p>
Show marker	<p>Check box to display a symbol at each data point.</p>

Field	Description
Custom chart size	<p>Check box to specify the width and height of the report in pixels.</p> <p>Note: The chart size is ignored when you export the report to PDF. In PDFs, the full page width is used to display the chart.</p>
Chart size	<p>Chart size. This field is available when Custom chart size is cleared. Options are Small, Medium, and Large.</p> <p>Note: The chart size is ignored when you export the report to PDF. In PDFs, the full page width is used to display the chart.</p>
Drilldown view	<p>List view to display when a user selects a segment of a report for which no drilldown report type is specified. This view is also used when the user reaches the lowest drilldown level of a report. See Configure the list layout. If you specify a Report drilldown, Drilldown view is ignored.</p> <p>Note: All users can view report visualizations, such as pie charts and column reports. However, the last level of a drill down is always a list. Platform access control lists determine user access to list information. Users who do not have rights to any part of the list data see the message "Number of rows removed from this list by Security constraints:" followed by the number. See Access control rules.</p> <p>For more information, see Define a report drilldown in the Report Designer on page 501.</p>
Decimal precision	Number of decimal places to display. You can display From zero to four decimal places. Default value: 2. To change the default value, create the system property glide.chart.decimal.precision and specify the value.
Title	

Field	Description
Show chart title	<p>When the chart title is displayed for the report.</p> <ul style="list-style-type: none"> • Never: Never displays the chart title. • Report only: Displays the chart title on reports. • Always: Displays the chart title on reports, and dashboards and homepages.
Chart title	<p>The chart title has a maximum length of 40 characters. If no title is entered, the report name is used for the title. This field appears when Report only or Always is selected from the Show chart title list.</p>
Size of the chart title	<p>Size of the chart title in pixels. This field appears when Report only or Always is selected from the Show chart title list.</p>
Chart title color	<p>Color of the chart title. This field appears when Report only or Always is selected from the Show chart title list.</p>
Custom chart title position	<p>Check box to specify X and Y coordinates for the position of the chart title. This field appears when Report only or Always is selected from the Show chart title list.</p>
Title horizontal alignment	<p>How the chart title is aligned horizontally. This field is available when Custom chart title position is cleared.</p>
Title vertical alignment	<p>How the chart title is aligned vertically. This field appears when Custom chart title position is cleared.</p>
Chart title X position	<p>Number of pixels to adjust the chart title position right or left. By default the title appears at the center top of the chart. To move the chart title to the right, enter a positive value. To move the title to the left, enter a negative value.</p> <p>This field appears only when Custom chart title position is selected.</p>
Chart title Y position	<p>Number of pixels to adjust the chart title position up or down. By default the title appears at the center top of the chart. To move up the chart title, enter a positive value. To move the chart title down, enter a negative value.</p> <p>This field appears only when Custom chart title position is selected.</p>
Legend	
Show legend	<p>Check box to display a chart legend. This check box appears when a Group by field is selected on the report form.</p>

Field	Description
Legend horizontal alignment	How the legend is aligned horizontally. This field appears when Show legend is selected.
Legend vertical alignment	How the legend is aligned vertically. This field appears when Show legend is selected.
Show legend border	Check box to display a border around the legend. This check box appears when Show legend is selected.
Left align legend text	Check box to left-align the legend text. By default, the legend text is centered. This check box appears when Show legend is selected.
Axis	
Y axis and X axis	Axis for which you want to configure the titles, appearance, and labels.
Title	Title for the axis.
Title size	Size of the axis title in pixels. Default value is 12.
Title color	Color of the axis title. Default value is Black .
Title bold	Check this box to display the axis title in a bold typeface.
Opposite	On the X axis tab, select this check box to display the X-axis title on the right side of the report instead. On the Y axis tab, select this check box to display the Y-axis title on top of the report instead of across the bottom.
Display grid	On the X axis tab, select this check box to display horizontal grid lines on the report. On the Y axis tab, select this check box to display vertical grid lines on top the report.
X axis / Y axis grid width	Width of grid lines on the report. Default value is 1 pixel.
Grid color	Color of grid lines. Default value is LightGrey .
Grid dotted	Check this box to display dotted grid lines instead of solid lines.
From	Specify a minimum Y-axis value to limit the amount of information in the report. If you select an aggregation field that is not of the type Number , the From and To fields are not available.
To	Specify a maximum Y-axis value to limit the amount of information in the report. If you select an aggregation field that is not of the type Number , the From and To fields are not available.

Field	Description
X axis / Y axis label size	On the X axis tab, specify the size of the labels for the rows of the report. On the Y axis tab, specify the size of the labels for the columns in the report.
Label bold	Check this box to display the labels of the report in a bold typeface.

Create a bar report in the Report Designer

Bar and horizontal bar charts

Use bar charts to compare individual or aggregate scores across data dimensions. You can create bar and horizontal bar chart reports. Bar chart columns originate on the x-axis and horizontal bar chart columns originate on the y-axis.

Bar charts display data in either a horizontal or vertical bar format with each bar representing a specific category of data. A bar chart can use a single color to represent all categories of data, or a different color for each category. Bar charts can be placed on homepages where users can quickly interpret the information displayed.

The following figure shows an example of a bar chart that displays discrete categories of data. The chart includes data from the Incident [incident] table for all incidents recorded up until the time that the report is generated.

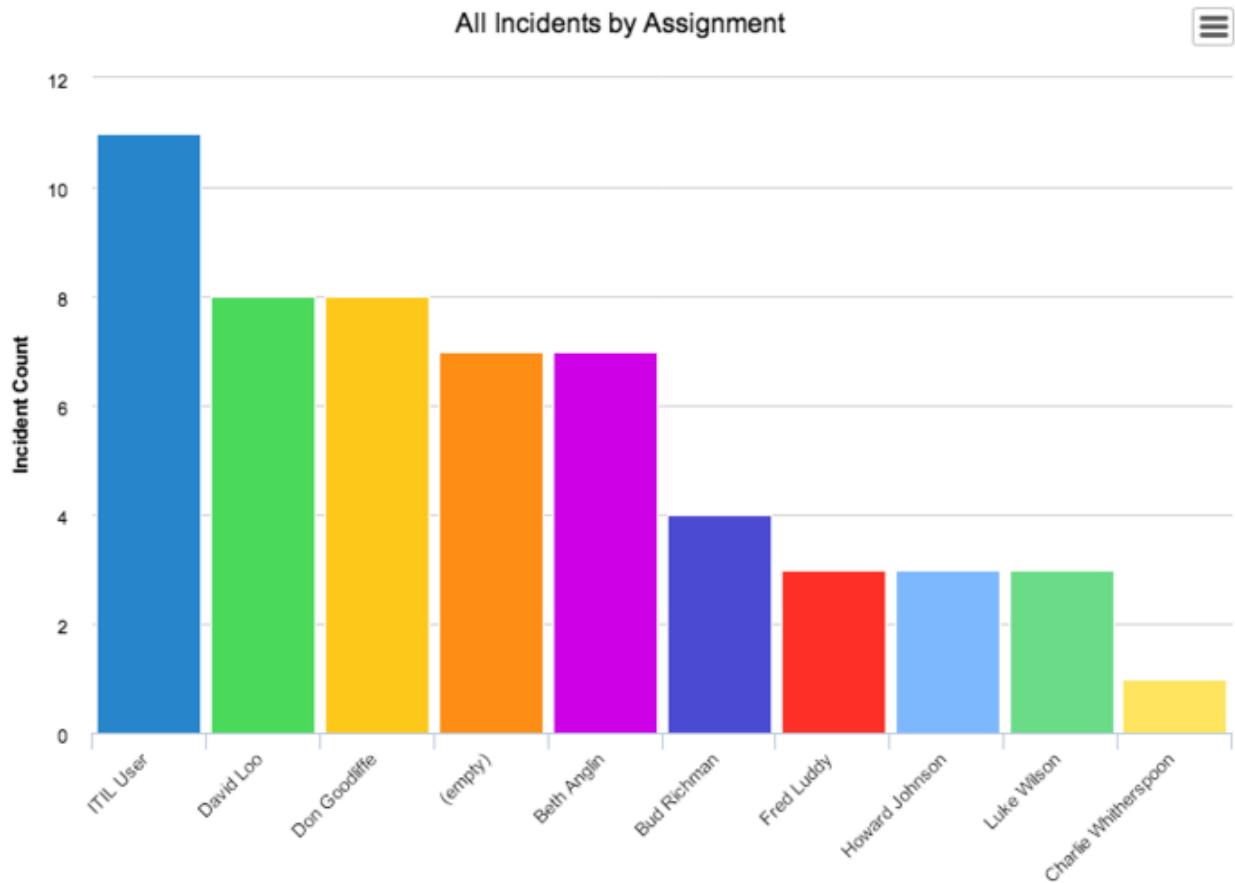


Figure 24: Bar chart

You can configure the bar chart to stack data or change the measurement units of the bars. Stacked bar charts show the parts that contribute to the total. The following figure shows a bar chart with the number of incidents that are assigned to each user. It is also stacked to display how many of the incidents are from each incident category.

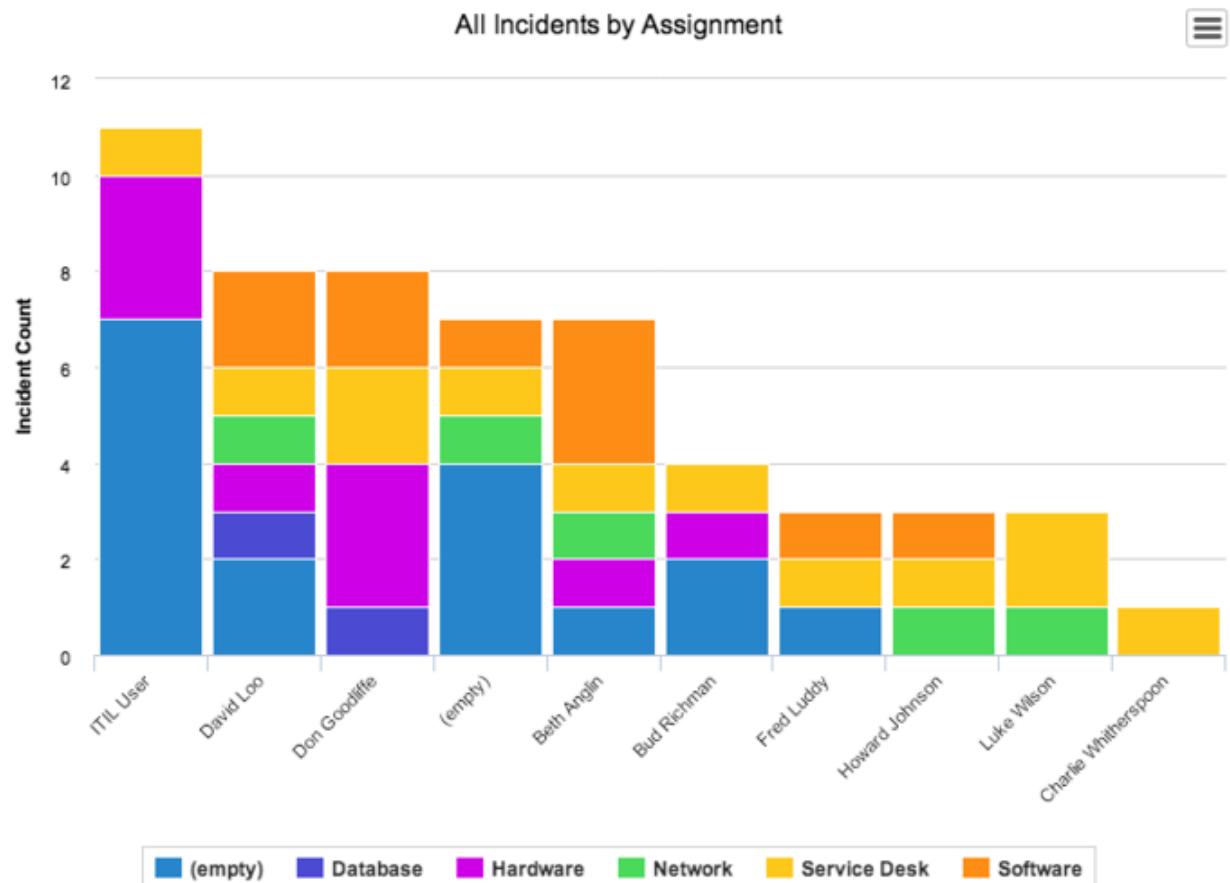


Figure 25: Stacked bar chart

Create a bar report in the Report Designer

Create a bar report that compares two or more values.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

This task refers to the Jakarta release under UI15 and UI16. If you are using an earlier UI or the Classic UI for creating reports, follow the instructions in the Helsinki documentation instead: [Report types and creation details](#).

1. Navigate to **Reports > Create New**.
2. On the **Data** tab, give the report a name that reflects the information being grouped.
3. Select the source for the report:

Option	Description
Data source	A table with filters applied to provide a single source of information for all users.
Table	The raw data from a table with no filters applied.
External import	Choose an existing imported report source, or click the Upload icon () to import a new file. See Create a report from an imported Microsoft Excel document on page 524

4. Click **Next**.
5. On the **Type** tab, select **Bar** or **Horizontal bar** in the **Bars** section and click **Next**.

A preliminary version of the report is displayed. To view the updated report at any time, click **Run**.

6. On the **Configure** tab, fill in the following fields and click **Next**.

Table 83: Configure tab

Field	Description
Group by	<p>Group report data using the values of this field. For example, in an incident report grouped by Assignment group, all incidents that belong to Software, Service Desk, and Network are placed in separate groups.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p>
Additional group by	<p>Extra fields to group the report by. When you select Additional group by fields, a control is added to the bottom of the report that groups the report by any one of the additional fields.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p>

Field	Description
Stack by	<p>Divide each bar using values of this field.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p> <p>On a bar chart of incidents sorted by Category and stacked by Priority, a user sees the proportion of high, medium, and low priority issues for each category.</p> <p>Select stacked fields carefully to avoid cluttering the report. Sometimes it is a better practice to create another report that shows these relationships rather than stack too much data. Bar charts display a legend only when a stacked field is selected. Boolean, reference, and choice lists can be used as stacked fields. Date, date/time, integer, long, string, and text fields cannot be used as stacked fields.</p> <p>Note: Date types are not allowed starting with the introduction of the Report Charting v2 plugin.</p> <p>You can choose to display the stacked field either in a single bar or as a group of bars.</p> <p>If you select a Group by field on the report form, you can choose to visualize the bars as Grouped bars. In this case, bars are displayed next to one another per the Group by field (for example, the state of the incident), instead of stacked.</p> <p>If you choose fields with Additional group by, these fields are also available in a Stacked by control at the bottom of the report.</p>
Display data table	<p>Check this box to display report data in a grid beneath the report. The table appears on dashboards where the report is added.</p> <p>All reports that use charts, including reports that are used on dashboards, display the table of report data when the glide.ui.section508 system property is set to true. The glide.ui.section508 property overrides the Display data table field.</p>

Field	Description
Aggregation	<p>Mathematical calculation to perform on the data. The default is Count, which displays the number of records selected.</p> <p>To display only unique records, select Count Distinct. For example, if you want a report on the distinct number of users who have one or more of the roles in a given list of roles. Users with more than one role would be counted twice unless you use Count Distinct.</p> <p>Select Average, Sum, or Count Distinct, to display a list of fields from the selected Table. Select a field to aggregate by from this list. For example, if you select a duration field, such as Business duration on the Incident table, the aggregated data is expressed in days, hours, and minutes. If you select an integer field, such as Priority, the data is expressed as a decimal value number.</p> <p>If you choose Sum or Average, select Show related fields to aggregate on dot-walked fields. See Selecting fields on related tables using dot-walking</p> <hr/> <p>Note: For duration values, the unit of measurement displayed in the aggregation axis cannot be customized.</p>

Field	Description
Percentage calculation	<p>Method of calculating percentages. The percentage appears when you point to a report segment, such as a bar on a bar report. This field appears when Aggregation is set to Average, Sum, or Count Distinct.</p> <ul style="list-style-type: none"> • Use Aggregation calculates the percentage using the selection in the Aggregation field. Only data that is displayed in the report is used to calculate the percentage. <p>For example, a report shows assets by department with the Aggregation set to Sum and the percentage calculated using aggregation. If the total cost of assets is \$100,000 and the cost of assets for Customer Support is \$10,000, the percentage for Customer Support is 10%.</p> <ul style="list-style-type: none"> • Use Record Count calculates the percentage using the total number of records in the data set. <p>For example, a report shows incidents by priority. Out of 500 incident records, 200 have low priority. The percentage for the Low priority section is 40%.</p>
Max number of groups	<p>Maximum number of groups to display in the report. Groups with highest values are included first. Any excluded groups are combined into the single group Other.</p> <p>If you select Show all, all groups up to a limit of 50 are displayed. The rest of the results are grouped as Other. If you select Remove Other, the Other group is hidden.</p>
Show Other	<p>Check box to include the Other group in the report. The Other group contains data for all groups that exceed the number specified in Max number of groups.</p>

7.

Optional: To limit the information displayed in the report, click the filter icon () and select conditions to filter the report data.

For more details on how conditions are constructed, see [Condition builder](#).

Note: Keywords is a special field used for text searches across all fields. It's use in a filter or condition, in combination with other conditions, may return inconsistent results.

8. On the **Style** tab, fill in the fields as appropriate to configure the appearance of the report.
9. Click **Save**.

The report is generated.

-  Click the Report info icon () and add a description of the report.
-  Click the sharing icon () to open the **Sharing** menu. On this menu, you can add the report to a dashboard, export the report to PDF, publish the report to the web, and set visibility and schedules. For more information, see [Share a report – Report Designer](#) on page 197.

Bar report style options – Report Designer

Change the look of your bar chart.

When you create or edit a report, click the **Style** tab for options to configure the look of your report. The options are organized under two or more of the following tabs: **General**, **Title**, **Legend**, and **Axis**. To see how the chart looks with the changed settings, click **Save**.

Table 84: Bar report style options

Field	Description
General	<p>Chart color</p> <p>Colors used in the report.</p> <p>If you do not group or stack the report, Use one color is automatically selected. Select a single predefined system color.</p> <p>If you group or stack the report, select one of the following options:</p> <ul style="list-style-type: none"> • Use color palette: Select a color palette from the predefined system color palettes. • Use several colors: Define a custom set of Colors using hex codes. You can add any number of colors. • Use chart colors: Use the colors defined in Reports > Chart Colors. <hr/> <p>Note: It is not possible to use transparency hex values.</p>
Set color	<p>Color used in the report. This field displays when you select Use one color from the Chart color list. Click the search icon () to choose from the Chart color schemes or Color Definitions list.</p>
Set palette	<p>Color palette used in the report. This field appears when you select Use color palette from the Chart color list. Click the search icon () to choose from the Color color schemes list.</p>

Field	Description
Display data labels	<p>Check box to display the current value for each bar. This field is available when you select None from the Stacked by list.</p>
Custom chart size	<p>Check box to specify the width and height of the report in pixels.</p> <p>Note: The chart size is ignored when you export the report to PDF. In PDFs, the full page width is used to display the chart.</p>
Chart width	<p>Width of the report in pixels. The default value is 600.</p> <p>This field is available when Custom chart size is selected.</p>
Chart height	<p>Height of the report in pixels. The default value is 450.</p> <p>This field appears when Custom chart size is selected.</p>
Chart size	<p>Chart size. This field is available when Custom chart size is cleared. Options are Small, Medium, and Large.</p> <p>Note: The chart size is ignored when you export the report to PDF. In PDFs, the full page width is used to display the chart.</p>
Drilldown view	<p>List view to display when a user selects a segment of a report for which no drilldown report type is specified. This view is also used when the user reaches the lowest drilldown level of a report. See Configure the list layout. If you specify a Report drilldown, Drilldown view is ignored.</p> <p>Note: All users can view report visualizations, such as pie charts and column reports. However, the last level of a drill down is always a list. Platform access control lists determine user access to list information. Users who do not have rights to any part of the list data see the message "Number of rows removed from this list by Security constraints:" followed by the number. See Access control rules.</p> <p>For more information, see Define a report drilldown in the Report Designer on page 501.</p>

Field	Description
Decimal precision	Number of decimal places to display. You can display From zero to four decimal places. Default value: 2. To change the default value, create the system property glide.chart.decimal.precision and specify the value.
Title	
Show chart title	<p>When the chart title is displayed for the report.</p> <ul style="list-style-type: none"> • Never: Never displays the chart title. • Report only: Displays the chart title on reports. • Always: Displays the chart title on reports, and dashboards and homepages.
Chart title	<p>The chart title has a maximum length of 40 characters. If no title is entered, the report name is used for the title. This field appears when Report only or Always is selected from the Show chart title list.</p>
Size of the chart title	<p>Size of the chart title in pixels. This field appears when Report only or Always is selected from the Show chart title list.</p>
Chart title color	<p>Color of the chart title. This field appears when Report only or Always is selected from the Show chart title list.</p>
Custom chart title position	<p>Check box to specify X and Y coordinates for the position of the chart title. This field appears when Report only or Always is selected from the Show chart title list.</p>
Title horizontal alignment	<p>How the chart title is aligned horizontally. This field is available when Custom chart title position is cleared.</p>
Title vertical alignment	<p>How the chart title is aligned vertically. This field appears when Custom chart title position is cleared.</p>
Chart title X position	<p>Number of pixels to adjust the chart title position right or left. By default the title appears at the center top of the chart. To move the chart title to the right, enter a positive value. To move the title to the left, enter a negative value.</p> <p>This field appears only when Custom chart title position is selected.</p>

Field	Description
Chart title Y position	<p>Number of pixels to adjust the chart title position up or down. By default the title appears at the center top of the chart. To move up the chart title, enter a positive value. To move the chart title down, enter a negative value.</p> <p>This field appears only when Custom chart title position is selected.</p>
Axis	
Y axis and X axis	Axis for which you want to configure the titles, appearance, and labels.
Title	Title for the axis.
Title size	Size of the axis title in pixels. Default value is 12.
Title color	Color of the axis title. Default value is Black .
Title bold	Check this box to display the axis title in a bold typeface.
Opposite	On the X axis tab, select this check box to display the X-axis title on the right side of the report instead. On the Y axis tab, select this check box to display the Y-axis title on top of the report instead of across the bottom.
Display grid	<p>On the X axis tab, select this check box to display horizontal grid lines on the report.</p> <p>On the Y axis tab, select this check box to display vertical grid lines on top the report.</p>
X axis / Y axis grid width	Width of grid lines on the report. Default value is 1 pixel.
Grid color	Color of grid lines. Default value is LightGrey .
Grid dotted	Check this box to display dotted grid lines instead of solid lines.
From	Specify a minimum Y-axis value to limit the amount of information in the report. If you select an aggregation field that is not of the type Number , the From and To fields are not available.
To	Specify a maximum Y-axis value to limit the amount of information in the report. If you select an aggregation field that is not of the type Number , the From and To fields are not available.
X axis / Y axis label size	<p>On the X axis tab, specify the size of the labels for the rows of the report.</p> <p>On the Y axis tab, specify the size of the labels for the columns in the report.</p>

Field	Description
Label bold	Check this box to display the labels of the report in a bold typeface.

Create a box report in the Report Designer

Box reports

Box reports visualize the distribution of data including the maximum, minimum, quartiles, median, and mean.

Use box charts to report multiple data sets from different sources that are related to each other.

For example, use a box chart to view the age range of all customers who attended a convention. The box chart helps you determine where most ages are grouped. With this information, you can attempt to increase attendance levels at future events by targeting advertisements at the age groups that had lower attendance levels.

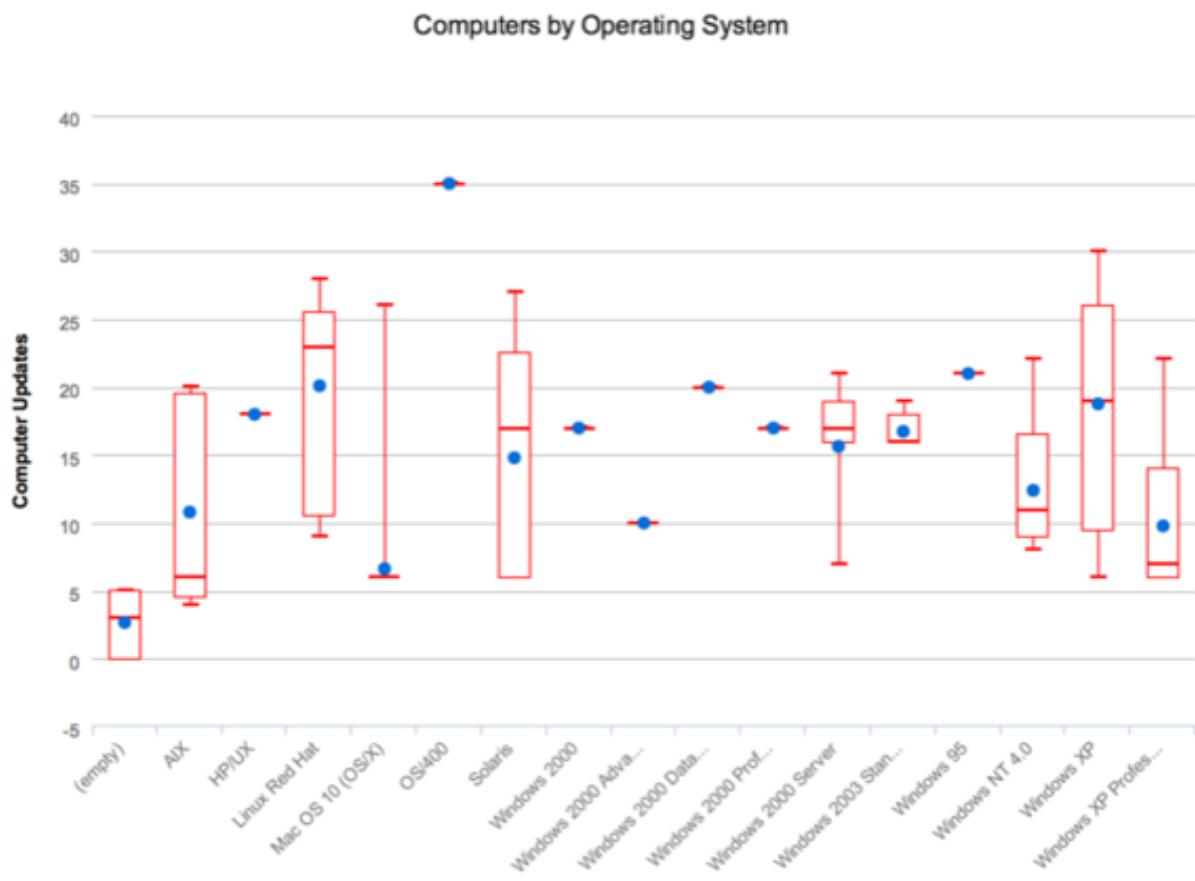


Figure 26: Box report

A box chart displays the following information for each group of data:

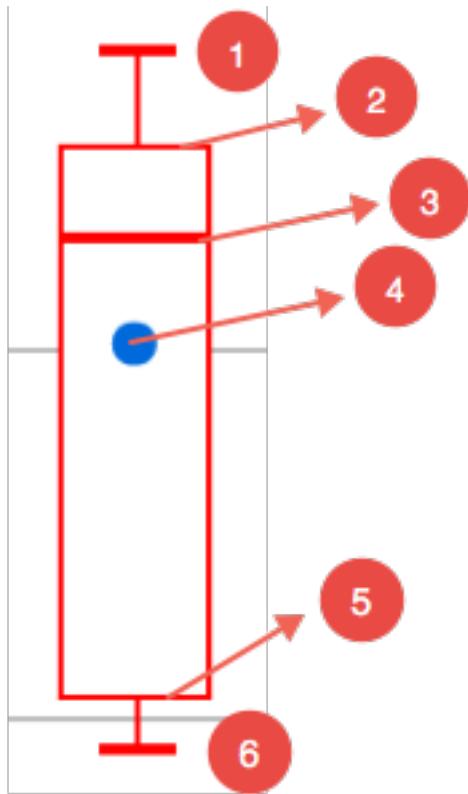


Figure 27: Box chart scale

1. Sample maximum
2. Upper quartile
3. Median
4. Mean
5. Lower quartile
6. Sample minimum

Note: When accessibility is enabled, this visualization includes a report that screen readers can interpret. For more information, see [Enabling accessibility features](#)

Create a box report in the Report Designer

Create a box report to show the distribution of values in a data set.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

This task refers to the Jakarta release under UI15 and UI16. If you are using an earlier UI or the Classic UI for creating reports, follow the instructions in the Helsinki documentation instead: [Report types and creation details](#).

1. Navigate to **Reports > Create New**.
2. On the **Data** tab, give the report a name that reflects the information being grouped.
3. Select the source for the report:

Option	Description
Data source	A table with filters applied to provide a single source of information for all users.
Table	The raw data from a table with no filters applied.
External import	Choose an existing imported report source, or click the Upload icon () to import a new file. See Create a report from an imported Microsoft Excel document on page 524

4. Click **Next**.
5. On the **Type** tab, select **Box** in the **Other** section and click **Next**.
A preliminary version of the report is displayed. To view the updated report at any time, click **Run**.
6. On the **Configure** tab, fill in the following fields and click **Next**.

Table 85: Configure tab

Field	Description
Group by	<p>Group report data using the values of this field. For example, in an incident report grouped by Assignment group, all incidents that belong to Software, Service Desk, and Network are placed in separate groups.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p>
Additional group by	<p>Extra fields to group the report by. When you select Additional group by fields, a control is added to the bottom of the report that groups the report by any one of the additional fields.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p>
Measured by	Field to use as a measurement for the data. Date and time fields are not supported for box charts.

7. Optional: To limit the information displayed in the report, click the filter icon () and select conditions to filter the report data.

For more details on how conditions are constructed, see [Condition builder](#).

Note: Keywords is a special field used for text searches across all fields. Its use in a filter or condition, in combination with other conditions, may return inconsistent results.

8. On the **Style** tab, fill in the fields as appropriate to configure the appearance of the report.
9. Click **Save**.

The report is generated.

-  Click the Report info icon () and add a description of the report.
-  Click the sharing icon () to open the **Sharing** menu. On this menu, you can add the report to a dashboard, export the report to PDF, publish the report to the web, and set visibility and schedules. For more information, see [Share a report – Report Designer](#) on page 197.

Box report style options – Report Designer

Configure the look of your box report.

When you create or edit a report, click the **Style** tab for options to configure the look of your report. The options are organized under two or more of the following tabs: **General**, **Title**, **Legend**, and **Axis**. To see how the chart looks with the changed settings, click **Save**.

Table 86: Report style options

Field	Description
General	
Custom chart size	<p>Check box to specify the width and height of the report in pixels.</p> <p>Note: The chart size is ignored when you export the report to PDF. In PDFs, the full page width is used to display the chart.</p>
Chart width	<p>Width of the report in pixels. The default value is 600.</p> <p>This field is available when Custom chart size is selected.</p>
Chart height	<p>Height of the report in pixels. The default value is 450.</p> <p>This field appears when Custom chart size is selected.</p>
Chart size	<p>Chart size. This field is available when Custom chart size is cleared. Options are Small, Medium, and Large.</p> <p>Note: The chart size is ignored when you export the report to PDF. In PDFs, the full page width is used to display the chart.</p>

Field	Description
Decimal precision	Number of decimal places to display. You can display From zero to four decimal places. Default value: 2. To change the default value, create the system property glide.chart.decimal.precision and specify the value.
Title	
Show chart title	<p>When the chart title is displayed for the report.</p> <ul style="list-style-type: none"> • Never: Never displays the chart title. • Report only: Displays the chart title on reports. • Always: Displays the chart title on reports, and dashboards and homepages.
Chart title	<p>The chart title has a maximum length of 40 characters. If no title is entered, the report name is used for the title. This field appears when Report only or Always is selected from the Show chart title list.</p>
Size of the chart title	<p>Size of the chart title in pixels. This field appears when Report only or Always is selected from the Show chart title list.</p>
Chart title color	<p>Color of the chart title. This field appears when Report only or Always is selected from the Show chart title list.</p>
Custom chart title position	<p>Check box to specify X and Y coordinates for the position of the chart title. This field appears when Report only or Always is selected from the Show chart title list.</p>
Title horizontal alignment	<p>How the chart title is aligned horizontally. This field is available when Custom chart title position is cleared.</p>
Title vertical alignment	<p>How the chart title is aligned vertically. This field appears when Custom chart title position is cleared.</p>
Chart title X position	<p>Number of pixels to adjust the chart title position right or left. By default the title appears at the center top of the chart. To move the chart title to the right, enter a positive value. To move the title to the left, enter a negative value.</p> <p>This field appears only when Custom chart title position is selected.</p>

Field	Description
Chart title Y position	<p>Number of pixels to adjust the chart title position up or down. By default the title appears at the center top of the chart. To move up the chart title, enter a positive value. To move the chart title down, enter a negative value.</p> <p>This field appears only when Custom chart title position is selected.</p>
Axis	
Y axis and X axis	Axis for which you want to configure the titles, appearance, and labels.
Title	Title for the axis.
Title size	Size of the axis title in pixels. Default value is 12.
Title color	Color of the axis title. Default value is Black .
Title bold	Check this box to display the axis title in a bold typeface.
Opposite	On the X axis tab, select this check box to display the X-axis title on the right side of the report instead. On the Y axis tab, select this check box to display the Y-axis title on top of the report instead of across the bottom.
Display grid	<p>On the X axis tab, select this check box to display horizontal grid lines on the report.</p> <p>On the Y axis tab, select this check box to display vertical grid lines on top the report.</p>
X axis / Y axis grid width	Width of grid lines on the report. Default value is 1 pixel.
Grid color	Color of grid lines. Default value is LightGrey .
Grid dotted	Check this box to display dotted grid lines instead of solid lines.
From	Specify a minimum Y-axis value to limit the amount of information in the report. If you select an aggregation field that is not of the type Number , the From and To fields are not available.
To	Specify a maximum Y-axis value to limit the amount of information in the report. If you select an aggregation field that is not of the type Number , the From and To fields are not available.
X axis / Y axis label size	<p>On the X axis tab, specify the size of the labels for the rows of the report.</p> <p>On the Y axis tab, specify the size of the labels for the columns in the report.</p>

Field	Description
Label bold	Check this box to display the labels of the report in a bold typeface.

Create a bubble report in the Report Designer

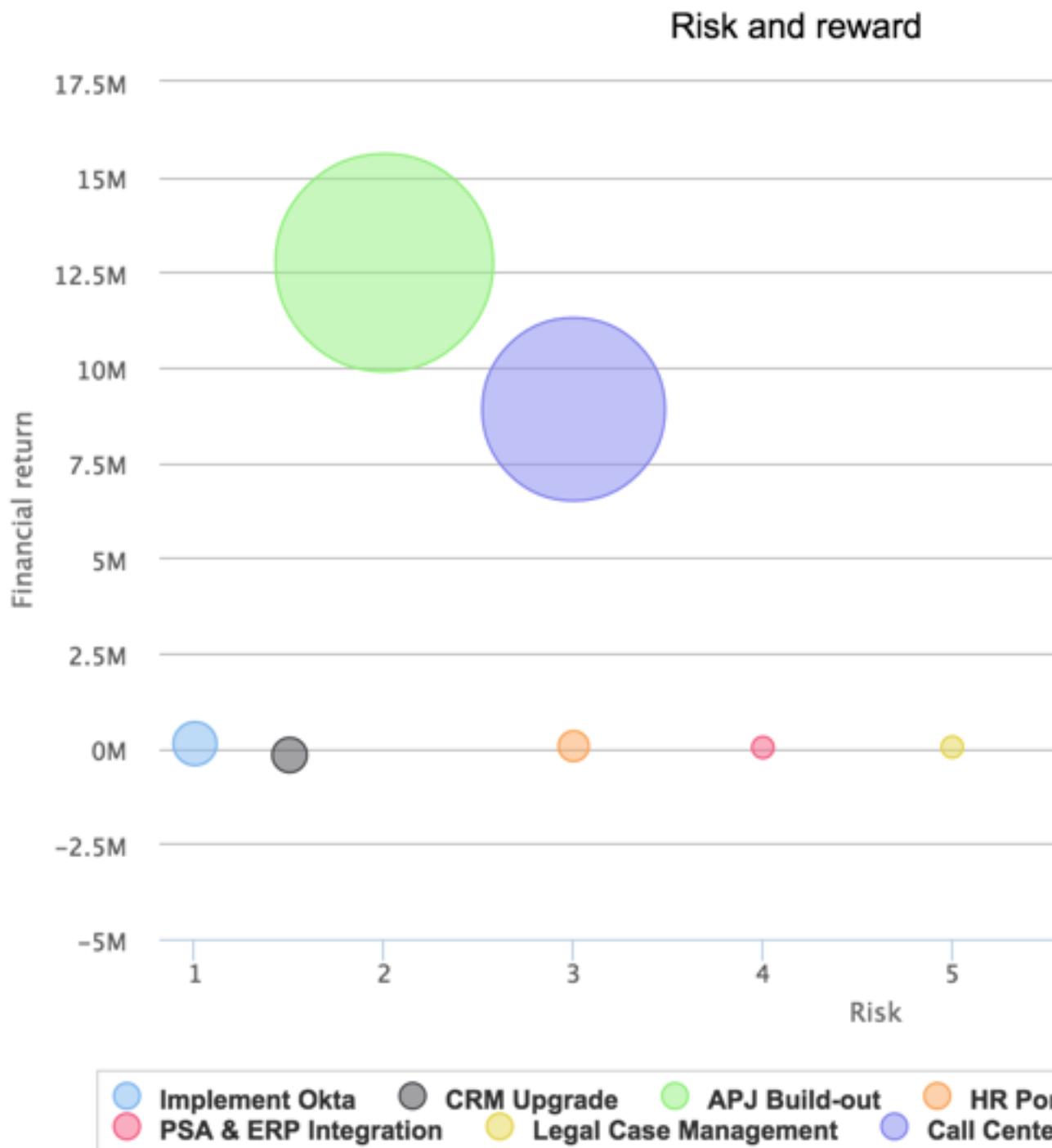
Bubble reports

Bubble reports plot data points on X and Y axes and use a third aggregate dimension to define bubble size.

Bubble reports can use numeric values to define the X and Y axes, and an aggregate value to determine the size of each bubble.

For example, when using Demand Management you can create a bubble report on the Demand table to compare risk and reward for various demands. Each bubble represents one demand. The risk and financial return determine the position of each bubble, while the total financial benefit for the demand determines the bubble size. You can quickly identify demands with low risk and high reward using the large bubbles in the top left of the report.

Note: When accessibility is enabled, this visualization includes a report that screen readers can interpret. For more information, see [Enabling accessibility features](#)



Create a bubble report in the Report Designer

Create a bubble chart to display multiple separate metrics on a single visualization.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

This task refers to the Jakarta release under UI15 and UI16. If you are using an earlier UI or the Classic UI for creating reports, follow the instructions in the Helsinki documentation instead: [Report types and creation details](#).

1. Navigate to **Reports > Create New**.
2. On the **Data** tab, give the report a name that reflects the information being grouped.
3. Select the source for the report:

Option	Description
Data source	A table with filters applied to provide a single source of information for all users.
Table	The raw data from a table with no filters applied.
External import	Choose an existing imported report source, or click the Upload icon () to import a new file. See Create a report from an imported Microsoft Excel document on page 524

4. Click **Next**.
5. On the **Type** tab, select **Bubble** in the **Multidimensional reports** section and click **Next**.

A preliminary version of the report is displayed. To view the updated report at any time, click **Run**.

6. On the **Configure** tab, fill in the following fields and click **Next**.

Table 87: Configure tab

Field	Description
Group by	<p>Field to group data by. Each value is represented by a unique bubble color on the chart.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p>
Additional group by	<p>Extra fields to group the report by. When you select Additional group by fields, a control is added to the bottom of the report that groups the report by any one of the additional fields.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p>
Row	Numeric field to use as the Y axis.
Column	Numeric field to use as the X axis.

Field	Description
Aggregation	<p>Mathematical calculation to perform on the data. The default is Count, which displays the number of records selected.</p> <p>To display only unique records, select Count Distinct. For example, if you want a report on the distinct number of users who have one or more of the roles in a given list of roles. Users with more than one role would be counted twice unless you use Count Distinct.</p> <p>Select Average, Sum, or Count Distinct, to display a list of fields from the selected Table. Select a field to aggregate by from this list. For example, if you select a duration field, such as Business duration on the Incident table, the aggregated data is expressed in days, hours, and minutes. If you select an integer field, such as Priority, the data is expressed as a decimal value number.</p> <p>If you choose Sum or Average, select Show related fields to aggregate on dot-walked fields. See <i>Selecting fields on related tables using dot-walking</i></p> <hr/> <p>Note: For duration values, the unit of measurement displayed in the aggregation axis cannot be customized.</p>

7.

Optional: To limit the information displayed in the report, click the filter icon () and select conditions to filter the report data.

For more details on how conditions are constructed, see [Condition builder](#) .

Note: Keywords is a special field used for text searches across all fields. It's use in a filter or condition, in combination with other conditions, may return inconsistent results.

8. On the **Style** tab, fill in the fields as appropriate to configure the appearance of the report.
9. Click **Save**.

The report is generated.

-



Click the Report info icon () and add a description of the report.

-



Click the sharing icon () to open the **Sharing** menu. On this menu, you can add the report to a dashboard, export the report to PDF, publish the report to the web, and set visibility and schedules. For more information, see [Share a report – Report Designer](#) on page 197.

Bubble report style options – Report Designer

Change the look of your bubble report.

When you create or edit a report, click the **Style** tab for options to configure the look of your report. The options are organized under two or more of the following tabs: **General**, **Title**, **Legend**, and **Axis**. To see how the chart looks with the changed settings, click **Save**.

Table 88: Bubble report style options

Field	Description
General	
Custom chart size	<p>Check box to specify the width and height of the report in pixels.</p> <p>Note: The chart size is ignored when you export the report to PDF. In PDFs, the full page width is used to display the chart.</p>
Chart width	<p>Width of the report in pixels. The default value is 600.</p> <p>This field is available when Custom chart size is selected.</p>
Chart height	<p>Height of the report in pixels. The default value is 450.</p> <p>This field appears when Custom chart size is selected.</p>
Chart size	<p>Chart size. This field is available when Custom chart size is cleared. Options are Small, Medium, and Large.</p> <p>Note: The chart size is ignored when you export the report to PDF. In PDFs, the full page width is used to display the chart.</p>

Field	Description
Drilldown view	<p>List view to display when a user selects a segment of a report for which no drilldown report type is specified. This view is also used when the user reaches the lowest drilldown level of a report. See Configure the list layout. If you specify a Report drilldown, Drilldown view is ignored.</p> <hr/> <p>Note: All users can view report visualizations, such as pie charts and column reports. However, the last level of a drill down is always a list. Platform access control lists determine user access to list information. Users who do not have rights to any part of the list data see the message "Number of rows removed from this list by Security constraints:" followed by the number. See Access control rules.</p> <hr/> <p>For more information, see Define a report drilldown in the Report Designer on page 501.</p>
Decimal precision	<p>Number of decimal places to display. You can display From zero to four decimal places. Default value: 2. To change the default value, create the system property <code>glide.chart.decimal.precision</code> and specify the value.</p>
Title	
Show chart title	<p>When the chart title is displayed for the report.</p> <ul style="list-style-type: none"> • Never: Never displays the chart title. • Report only: Displays the chart title on reports. • Always: Displays the chart title on reports, and dashboards and homepages.
Chart title	<p>The chart title has a maximum length of 40 characters. If no title is entered, the report name is used for the title. This field appears when Report only or Always is selected from the Show chart title list.</p>
Size of the chart title	<p>Size of the chart title in pixels. This field appears when Report only or Always is selected from the Show chart title list.</p>
Chart title color	<p>Color of the chart title. This field appears when Report only or Always is selected from the Show chart title list.</p>

Field	Description
Custom chart title position	Check box to specify X and Y coordinates for the position of the chart title. This field appears when Report only or Always is selected from the Show chart title list.
Title horizontal alignment	How the chart title is aligned horizontally. This field is available when Custom chart title position is cleared.
Title vertical alignment	How the chart title is aligned vertically. This field appears when Custom chart title position is cleared.
Chart title X position	Number of pixels to adjust the chart title position right or left. By default the title appears at the center top of the chart. To move the chart title to the right, enter a positive value. To move the title to the left, enter a negative value. This field appears only when Custom chart title position is selected.
Chart title Y position	Number of pixels to adjust the chart title position up or down. By default the title appears at the center top of the chart. To move up the chart title, enter a positive value. To move the chart title down, enter a negative value. This field appears only when Custom chart title position is selected.
Legend	
Show legend	Check box to display a chart legend. This check box appears when a Group by field is selected on the report form.
Legend horizontal alignment	How the legend is aligned horizontally. This field appears when Show legend is selected.
Legend vertical alignment	How the legend is aligned vertically. This field appears when Show legend is selected.
Show legend border	Check box to display a border around the legend. This check box appears when Show legend is selected.
Left align legend text	Check box to left-align the legend text. By default, the legend text is centered. This check box appears when Show legend is selected.

Create a calendar report in the Report Designer

Calendar reports

Calendar reports display date-driven events on a calendar.

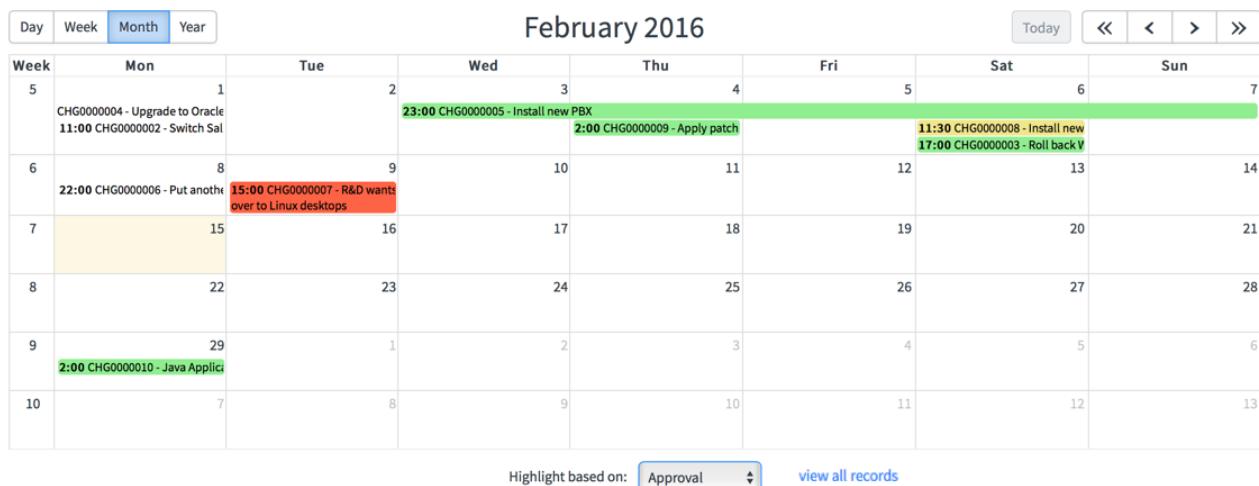


Figure 28: Calendar report

You can highlight calendar events by relevant criteria such as priority, status, or escalation. Events that have no end date have a duration of one hour.

Limitations

- Calendar reports with an updated look-and-feel are not supported in Internet Explorer 8, which displays an older version of calendars.
- Events that started more than 30 days before the first day visible on a calendar are not displayed on the calendar. For example, if you select **Year**, then the calendar includes events that start between December 1 of the previous year and December 31 of the current year.
- To view more or fewer days, edit the `glide.report.calendar.max_days_back` property. See [Reporting properties](#) on page 577.

Note: Performance may degrade if this value is too large.

- This report type cannot be run as a scheduled report.

Create a calendar report in the Report Designer

Create a calendar report to display date-driven events on a calendar.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

This task refers to the Jakarta release under UI15 and UI16. If you are using an earlier UI or the Classic UI for creating reports, follow the instructions in the Helsinki documentation instead: [Report types and creation details](#).

This report type cannot be run as a scheduled report.

Note: To export multilevel pivot tables to PDF, you must activate the Webkit HTML to PDF plugin.

1. Navigate to **Reports > Create New**.
2. On the **Data** tab, give the report a name that reflects the information being grouped.
3. Select the source for the report:

Option	Description
Data source	A table with filters applied to provide a single source of information for all users.
Table	The raw data from a table with no filters applied.
External import	Choose an existing imported report source, or click the Upload icon () to import a new file. See Create a report from an imported Microsoft Excel document on page 524

4. Click **Next**.
5. On the **Type** tab, select **Calendar** in the **Other** section and click **Next**.

A preliminary version of the report is displayed. To view the updated report at any time, click **Run**.

6. On the **Configure** tab, fill in the following fields and click **Next**.

Field	Description
Event to display	The date-driven event to display on the calendar. This list contains fields that are in the date/time format in the data source or source table.

7.

Optional: To limit the information displayed in the report, click the filter icon () and select conditions to filter the report data.

For more details on how conditions are constructed, see [Condition builder](#).

Note: Keywords is a special field used for text searches across all fields. Its use in a filter or condition, in combination with other conditions, may return inconsistent results.

8. Click **Save**.

The report is generated.

- To enter a description of the report, click the Report info icon ().
- Click the sharing icon () to open the **Sharing** menu. On this menu, you can share the report with users and groups, add the report to a dashboard, and publish the report to the web. See [Share a report – Report Designer](#) on page 197 for more information.
- To export a calendar report to PDF:
 1. Click the sharing icon () and select **Publish**.
 2. Click the link icon () to copy the report link and open the link in a browser.
 3. Select **Click to Print** and choose PDF output from your printer options.
- [Change highlighting of calendar report events](#) on page 574.
- [Configure how calendar entries look](#) on page 569

Disable new calendar reports

To use the version of calendars from releases prior to Helsinki, disable the new calendar version. Reasons to use the old calendar include having scripts that are incompatible with the new calendar and preference for the style of the older calendar. The updated calendar is also not supported in Internet Explorer versions 7 and 8.

Role required: report_admin or admin

1. Navigate to **Reports > Administration > Properties**.
2. Add the glide.report.new_calendar system property, and set it to **false**.

See [Reporting properties](#) on page 577.

Note:

If this system property is set to true, it is supported only in the classic UI. Click **Switch to classic UI** in the report designer.

Create a column report in the Report Designer

Column reports

Column reports show how the value of one or more items changes over time by with columns.

Values along the horizontal axis of the column chart represent the time measurement (years, hours, minutes, milliseconds, and so on). Values on the vertical axis represent the changes to the items being monitored. Users with the report_admin role can define the ranges that are used in a column chart report. See [Report ranges](#) for information on creating report ranges.

For example, you can create a column chart for incident counts, to show how the number of incidents changes over time. The incident count often increases during the first few months after a product upgrade is deployed. Over time, the number of reported incidents decreases as users become more accustomed to the changes in the product.

The figure shows resolved incidents stacked by category with a legend that indicates which category the colors represent.

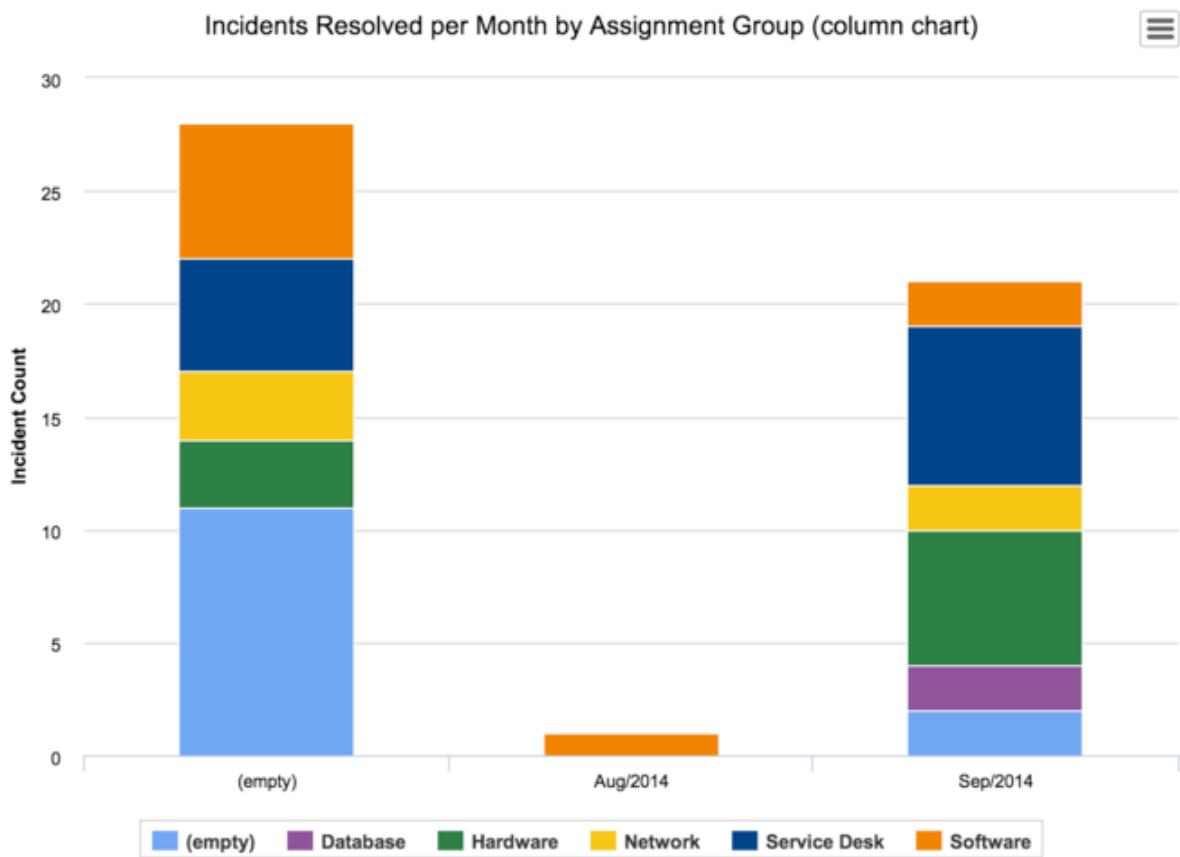


Figure 29: Stacked column chart

A grouped column chart shows the categories as individual bars, rather than stacked colors in a single bar.

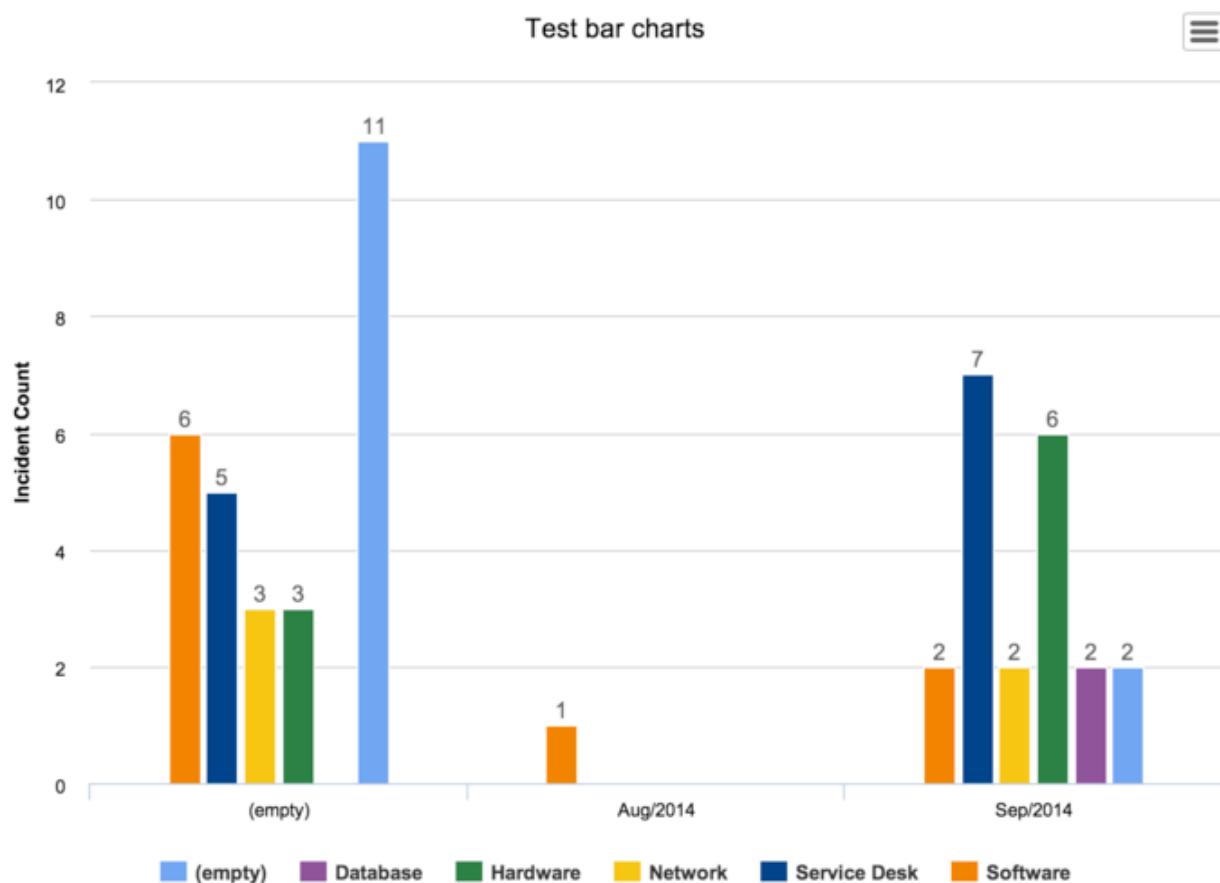


Figure 30: Grouped column chart

Create a column report in the Report Designer

Create a column report to show how the value of one or more data elements changes over time using vertical columns.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

This task refers to the Jakarta release under UI15 and UI16. If you are using an earlier UI or the Classic UI for creating reports, follow the instructions in the Helsinki documentation instead: [Report types and creation details](#).

1. Navigate to **Reports > Create New**.
2. On the **Data** tab, give the report a name that reflects the information being grouped.
3. Select the source for the report:

Option	Description
Data source	A table with filters applied to provide a single source of information for all users.
Table	The raw data from a table with no filters applied.
External import	Choose an existing imported report source, or click the Upload icon () to import a new file. See Create a report from an imported Microsoft Excel document on page 524

4. Click **Next**.
5. On the **Type** tab, select **Column** in the **Time Series** section and click **Next**.
A preliminary version of the report is displayed. To view the updated report at any time, click **Run**.
6. On the **Configure** tab, fill in the following fields and click **Next**.

Table 89: Configure tab

Field	Description
Group by	<p>Group report data using the values of this field. For example, in an incident report grouped by Assignment group, all incidents that belong to Software, Service Desk, and Network are placed in separate groups.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p>
Additional group by	<p>Extra fields to group the report by. When you select Additional group by fields, a control is added to the bottom of the report that groups the report by any one of the additional fields.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p>

Field	Description
Stacked bars / Grouped bars	<p>How to show the relationship of individual items from the selected field to the whole.</p> <p>You can choose to display the stacked field either in a single bar or as a group of bars.</p> <p>Select Stacked bars to display the parts that contribute to the whole for each column in the chart.</p> <p>Select Grouped bars to display the parts that contribute to the whole as individual columns. Bars are displayed next to one another according to the Group by field (for example, the state of the incident), instead of stacked.</p>
Display data table	<p>Check this box to display report data in a grid beneath the report. The table appears on dashboards where the report is added.</p> <p>All reports that use charts, including reports that are used on dashboards, display the table of report data when the glide.ui.section508 system property is set to true. The glide.ui.section508 property overrides the Display data table field.</p>
Trend by	<p>Table field whose values you want to display in a time sequence.</p>
per	<p>Time period to group data by. Time periods range from an hour to a year. You can also specify a date.</p> <hr/> <p>Note: Reporting per Week is not supported when the report range includes more than one year. Inconsistent results are produced when a week is split between two years.</p>

Field	Description
Aggregation	<p>Mathematical calculation to perform on the data. The default is Count, which displays the number of records selected.</p> <p>To display only unique records, select Count Distinct. For example, if you want a report on the distinct number of users who have one or more of the roles in a given list of roles. Users with more than one role would be counted twice unless you use Count Distinct.</p> <p>Select Average, Sum, or Count Distinct, to display a list of fields from the selected Table. Select a field to aggregate by from this list. For example, if you select a duration field, such as Business duration on the Incident table, the aggregated data is expressed in days, hours, and minutes. If you select an integer field, such as Priority, the data is expressed as a decimal value number.</p> <p>If you choose Sum or Average, select Show related fields to aggregate on dot-walked fields. See Selecting fields on related tables using dot-walking</p> <hr/> <p>Note: For duration values, the unit of measurement displayed in the aggregation axis cannot be customized.</p>

Field	Description
Percentage calculation	<p>Method of calculating percentages. The percentage appears when you point to a report segment, such as a bar on a bar report. This field appears when Aggregation is set to Average, Sum, or Count Distinct.</p> <ul style="list-style-type: none"> • Use Aggregation calculates the percentage using the selection in the Aggregation field. Only data that is displayed in the report is used to calculate the percentage. For example, a report shows assets by department with the Aggregation set to Sum and the percentage calculated using aggregation. If the total cost of assets is \$100,000 and the cost of assets for Customer Support is \$10,000, the percentage for Customer Support is 10%. • Use Record Count calculates the percentage using the total number of records in the data set. For example, a report shows incidents by priority. Out of 500 incident records, 200 have low priority. The percentage for the Low priority section is 40%.

7.

Optional: To limit the information displayed in the report, click the filter icon () and select conditions to filter the report data.

For more details on how conditions are constructed, see [Condition builder](#).

Note: Keywords is a special field used for text searches across all fields. It's use in a filter or condition, in combination with other conditions, may return inconsistent results.

8. On the **Style** tab, fill in the fields as appropriate to configure the appearance of the report.

9. Click **Save**.

The report is generated.

-



Click the Report info icon () and add a description of the report.

-



Click the sharing icon () to open the **Sharing** menu. On this menu, you can add the report to a dashboard, export the report to PDF, publish the report to the web, and set visibility and schedules. For more information, see [Share a report – Report Designer](#) on page 197.

Column report style options – Report Designer

Change the look of your column report.

When you create or edit a report, click the **Style** tab for options to configure the look of your report. The options are organized under two or more of the following tabs: **General**, **Title**, **Legend**, and **Axis**. To see how the chart looks with the changed settings, click **Save**.

Table 90: Column report style options

Field	Description
General	
Chart color	<p>Colors used in the report.</p> <p>If you do not group or stack the report, Use one color is automatically selected. Select a single predefined system color.</p> <p>If you group or stack the report, select one of the following options:</p> <ul style="list-style-type: none"> • Use color palette: Select a color palette from the predefined system color palettes. • Use several colors: Define a custom set of Colors using hex codes. You can add any number of colors. • Use chart colors: Use the colors defined in Reports > Chart Colors. <p>Note: It is not possible to use transparency hex values.</p>
Set palette	<p>Color palette used in the report. This field appears when you select Use color palette from the Chart color list. Click the search icon () to choose from the Color color schemes list.</p>
Display data labels	<p>Check box to display the value for each data point.</p>
Custom chart size	<p>Check box to specify the width and height of the report in pixels.</p> <p>Note: The chart size is ignored when you export the report to PDF. In PDFs, the full page width is used to display the chart.</p>
Chart width	<p>Width of the report in pixels. The default value is 600.</p> <p>This field is available when Custom chart size is selected.</p>

Field	Description
Chart height	<p>Height of the report in pixels. The default value is 450.</p> <p>This field appears when Custom chart size is selected.</p>
Chart size	<p>Chart size. This field is available when Custom chart size is cleared. Options are Small, Medium, and Large.</p> <p>Note: The chart size is ignored when you export the report to PDF. In PDFs, the full page width is used to display the chart.</p>
Drilldown view	<p>List view to display when a user selects a segment of a report for which no drilldown report type is specified. This view is also used when the user reaches the lowest drilldown level of a report. See Configure the list layout. If you specify a Report drilldown, Drilldown view is ignored.</p> <p>Note: All users can view report visualizations, such as pie charts and column reports. However, the last level of a drill down is always a list. Platform access control lists determine user access to list information. Users who do not have rights to any part of the list data see the message "Number of rows removed from this list by Security constraints:" followed by the number. See Access control rules.</p> <p>For more information, see Define a report drilldown in the Report Designer on page 501.</p>
Decimal precision	<p>Number of decimal places to display. You can display From zero to four decimal places. Default value: 2. To change the default value, create the system property glide.chart.decimal.precision and specify the value.</p>
Title	
Show chart title	<p>When the chart title is displayed for the report.</p> <ul style="list-style-type: none"> • Never: Never displays the chart title. • Report only: Displays the chart title on reports. • Always: Displays the chart title on reports, and dashboards and homepages.

Field	Description
Chart title	The chart title has a maximum length of 40 characters. If no title is entered, the report name is used for the title. This field appears when Report only or Always is selected from the Show chart title list.
Size of the chart title	Size of the chart title in pixels. This field appears when Report only or Always is selected from the Show chart title list.
Chart title color	Color of the chart title. This field appears when Report only or Always is selected from the Show chart title list.
Custom chart title position	Check box to specify X and Y coordinates for the position of the chart title. This field appears when Report only or Always is selected from the Show chart title list.
Title horizontal alignment	How the chart title is aligned horizontally. This field is available when Custom chart title position is cleared.
Title vertical alignment	How the chart title is aligned vertically. This field appears when Custom chart title position is cleared.
Chart title X position	Number of pixels to adjust the chart title position right or left. By default the title appears at the center top of the chart. To move the chart title to the right, enter a positive value. To move the title to the left, enter a negative value. This field appears only when Custom chart title position is selected.
Chart title Y position	Number of pixels to adjust the chart title position up or down. By default the title appears at the center top of the chart. To move up the chart title, enter a positive value. To move the chart title down, enter a negative value. This field appears only when Custom chart title position is selected.
Legend	
Show legend	Check box to display a chart legend. This check box appears when a Group by field is selected on the report form.
Legend horizontal alignment	How the legend is aligned horizontally. This field appears when Show legend is selected.
Legend vertical alignment	How the legend is aligned vertically. This field appears when Show legend is selected.

Field	Description
Show legend border	Check box to display a border around the legend. This check box appears when Show legend is selected.
Left align legend text	Check box to left-align the legend text. By default, the legend text is centered. This check box appears when Show legend is selected.
Axis	
Y axis and X axis	Axis for which you want to configure the titles, appearance, and labels.
Title	Title for the axis.
Title size	Size of the axis title in pixels. Default value is 12.
Title color	Color of the axis title. Default value is Black .
Title bold	Check this box to display the axis title in a bold typeface.
Opposite	On the X axis tab, select this check box to display the X-axis title on the right side of the report instead. On the Y axis tab, select this check box to display the Y-axis title on top of the report instead of across the bottom.
Display grid	On the X axis tab, select this check box to display horizontal grid lines on the report. On the Y axis tab, select this check box to display vertical grid lines on top the report.
X axis / Y axis grid width	Width of grid lines on the report. Default value is 1 pixel.
Grid color	Color of grid lines. Default value is LightGrey .
Grid dotted	Check this box to display dotted grid lines instead of solid lines.
From	Specify a minimum Y-axis value to limit the amount of information in the report. If you select an aggregation field that is not of the type Number , the From and To fields are not available.
To	Specify a maximum Y-axis value to limit the amount of information in the report. If you select an aggregation field that is not of the type Number , the From and To fields are not available.
X axis / Y axis label size	On the X axis tab, specify the size of the labels for the rows of the report. On the Y axis tab, specify the size of the labels for the columns in the report.

Field	Description
Label bold	Check this box to display the labels of the report in a bold typeface.

Create a control report in the Report Designer

Control reports

Control reports visualize data over time using standard deviations to show statistical likelihood and identify outliers.

Control reports display data as a series of connected points. The blue line at the center of the report is drawn at the mean. Upper and lower control limits, represented by red lines, indicate the thresholds at which activity is considered statistically unlikely. If the process is in control, all points are plotted within the control limits. You may want to investigate any activity outside these limits.

Note: When accessibility is enabled, this visualization includes a report that screen readers can interpret. For more information, see [Enabling accessibility features](#)

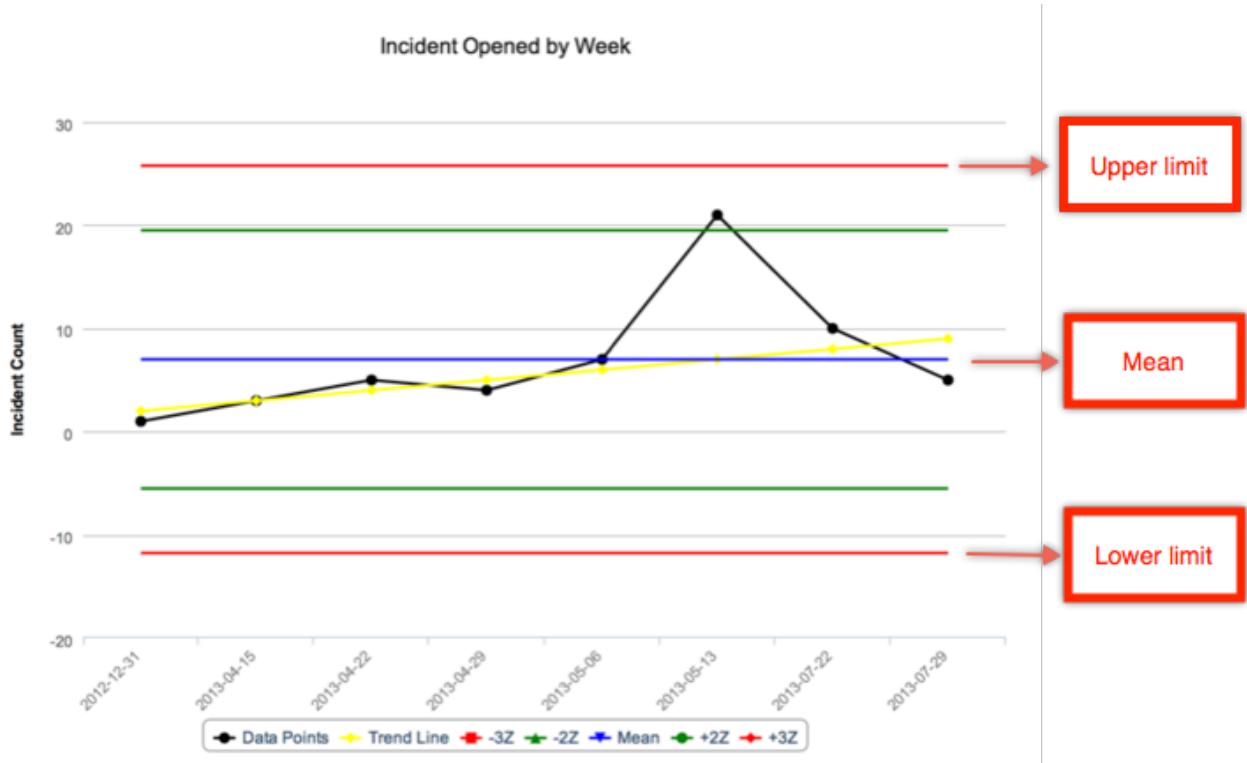


Figure 31: Control report

Note: The mean is calculated by taking a sum of the data points on the **Data Points** line and dividing by the number of points. These values depend on the aggregation (Count, Average, Sum, or Count Distinct). This mean can differ from averages in other reports based on the same data if the other reports use different aggregations. For example, the mean number of incidents (**Count**) per month over a period is different from the mean **Average** duration of those same incidents.

Create a control report in the Report Designer

Create a control chart to determine whether a business process is in a state of statistical control.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

This task refers to the Jakarta release under UI15 and UI16. If you are using an earlier UI or the Classic UI for creating reports, follow the instructions in the Helsinki documentation instead: [Report types and creation details](#).

1. Navigate to **Reports > Create New**.
2. On the **Data** tab, give the report a name that reflects the information being grouped.
3. Select the source for the report:

Option	Description
Data source	A table with filters applied to provide a single source of information for all users.
Table	The raw data from a table with no filters applied.
External import	Choose an existing imported report source, or click the Upload icon () to import a new file. See Create a report from an imported Microsoft Excel document on page 524

4. Click **Next**.
5. On the **Type** tab, select **Control** in the **Other** section and click **Next**.
A preliminary version of the report is displayed. To view the updated report at any time, click **Run**.
6. On the **Configure** tab, fill in the following fields and click **Next**.

Table 91: Configure tab

Field	Description
Trend by	Table field whose values you want to display in a time sequence.
per	Time period to group data by. Time periods range from an hour to a year. You can also specify a date. Note: Reporting per Week is not supported when the report range includes more than one year. Inconsistent results are produced when a week is split between two years.

Field	Description
Aggregation	<p>Mathematical calculation to perform on the data. The default is Count, which displays the number of records selected.</p> <p>To display only unique records, select Count Distinct. For example, if you want a report on the distinct number of users who have one or more of the roles in a given list of roles. Users with more than one role would be counted twice unless you use Count Distinct.</p> <p>Select Average, Sum, or Count Distinct, to display a list of fields from the selected Table. Select a field to aggregate by from this list. For example, if you select a duration field, such as Business duration on the Incident table, the aggregated data is expressed in days, hours, and minutes. If you select an integer field, such as Priority, the data is expressed as a decimal value number.</p> <p>If you choose Sum or Average, select Show related fields to aggregate on dot-walked fields. See <i>Selecting fields on related tables using dot-walking</i></p> <hr/> <p>Note: For duration values, the unit of measurement displayed in the aggregation axis cannot be customized.</p>

7.

Optional: To limit the information displayed in the report, click the filter icon () and select conditions to filter the report data.

For more details on how conditions are constructed, see [Condition builder](#) .

Note: Keywords is a special field used for text searches across all fields. It's use in a filter or condition, in combination with other conditions, may return inconsistent results.

8. On the **Style** tab, fill in the fields as appropriate to configure the appearance of the report.
9. Click **Save** to generate the report.

-



Click the Report info icon () and add a description of the report.

-



Click the sharing icon () to open the **Sharing** menu. On this menu, you can add the report to a dashboard, export the report to PDF, publish the report to the web, and set visibility and schedules. For more information, see [Share a report – Report Designer](#) on page 197.

Control chart style options – Report Designer

Change the look of your control chart.

When you create or edit a report, click the **Style** tab for options to configure the look of your report. The options are organized under two or more of the following tabs: **General**, **Title**, **Legend**, and **Axis**. To see how the chart looks with the changed settings, click **Save**.

Table 92: Control chart style options

Field	Description
General	
Display data labels	Check box to display the value for each data point.
Custom chart size	<p>Check box to specify the width and height of the report in pixels.</p> <p>Note: The chart size is ignored when you export the report to PDF. In PDFs, the full page width is used to display the chart.</p>
Chart width	<p>Width of the report in pixels. The default value is 600.</p> <p>This field is available when Custom chart size is selected.</p>
Chart height	<p>Height of the report in pixels. The default value is 450.</p> <p>This field appears when Custom chart size is selected.</p>
Chart size	<p>Chart size. This field is available when Custom chart size is cleared. Options are Small, Medium, and Large.</p> <p>Note: The chart size is ignored when you export the report to PDF. In PDFs, the full page width is used to display the chart.</p>

Field	Description
Drilldown view	<p>List view to display when a user selects a segment of a report for which no drilldown report type is specified. This view is also used when the user reaches the lowest drilldown level of a report. See Configure the list layout. If you specify a Report drilldown, Drilldown view is ignored.</p> <hr/> <p>Note: All users can view report visualizations, such as pie charts and column reports. However, the last level of a drill down is always a list. Platform access control lists determine user access to list information. Users who do not have rights to any part of the list data see the message "Number of rows removed from this list by Security constraints:" followed by the number. See Access control rules.</p> <hr/> <p>For more information, see Define a report drilldown in the Report Designer on page 501.</p>
Decimal precision	<p>Number of decimal places to display. You can display From zero to four decimal places. Default value: 2. To change the default value, create the system property <code>glide.chart.decimal.precision</code> and specify the value.</p>
Title	
Show chart title	<p>When the chart title is displayed for the report.</p> <ul style="list-style-type: none"> • Never: Never displays the chart title. • Report only: Displays the chart title on reports. • Always: Displays the chart title on reports, and dashboards and homepages.
Chart title	<p>The chart title has a maximum length of 40 characters. If no title is entered, the report name is used for the title. This field appears when Report only or Always is selected from the Show chart title list.</p>
Size of the chart title	<p>Size of the chart title in pixels. This field appears when Report only or Always is selected from the Show chart title list.</p>
Chart title color	<p>Color of the chart title. This field appears when Report only or Always is selected from the Show chart title list.</p>

Field	Description
Custom chart title position	Check box to specify X and Y coordinates for the position of the chart title. This field appears when Report only or Always is selected from the Show chart title list.
Title horizontal alignment	How the chart title is aligned horizontally. This field is available when Custom chart title position is cleared.
Title vertical alignment	How the chart title is aligned vertically. This field appears when Custom chart title position is cleared.
Chart title X position	Number of pixels to adjust the chart title position right or left. By default the title appears at the center top of the chart. To move the chart title to the right, enter a positive value. To move the title to the left, enter a negative value. This field appears only when Custom chart title position is selected.
Chart title Y position	Number of pixels to adjust the chart title position up or down. By default the title appears at the center top of the chart. To move up the chart title, enter a positive value. To move the chart title down, enter a negative value. This field appears only when Custom chart title position is selected.
Legend	
Show legend	Check box to display a chart legend. This check box appears when a Group by field is selected on the report form.
Legend horizontal alignment	How the legend is aligned horizontally. This field appears when Show legend is selected.
Legend vertical alignment	How the legend is aligned vertically. This field appears when Show legend is selected.
Show legend border	Check box to display a border around the legend. This check box appears when Show legend is selected.
Left align legend text	Check box to left-align the legend text. By default, the legend text is centered. This check box appears when Show legend is selected.
Axis	
Y axis and X axis	Axis for which you want to configure the titles, appearance, and labels.
Title	Title for the axis.
Title size	Size of the axis title in pixels. Default value is 12.
Title color	Color of the axis title. Default value is Black .

Field	Description
Title bold	Check this box to display the axis title in a bold typeface.
Opposite	On the X axis tab, select this check box to display the X-axis title on the right side of the report instead. On the Y axis tab, select this check box to display the Y-axis title on top of the report instead of across the bottom.
Display grid	On the X axis tab, select this check box to display horizontal grid lines on the report. On the Y axis tab, select this check box to display vertical grid lines on top the report.
X axis / Y axis grid width	Width of grid lines on the report. Default value is 1 pixel.
Grid color	Color of grid lines. Default value is LightGrey .
Grid dotted	Check this box to display dotted grid lines instead of solid lines.
From	Specify a minimum Y-axis value to limit the amount of information in the report. If you select an aggregation field that is not of the type Number , the From and To fields are not available.
To	Specify a maximum Y-axis value to limit the amount of information in the report. If you select an aggregation field that is not of the type Number , the From and To fields are not available.
X axis / Y axis label size	On the X axis tab, specify the size of the labels for the rows of the report. On the Y axis tab, specify the size of the labels for the columns in the report.
Label bold	Check this box to display the labels of the report in a bold typeface.

Create a dial or speedometer report in the Report Designer

Dial and speedometer reports

Dials and speedometers provide a real-time count for an indicator. These charts cannot contain comparison or historical data. You can configure colors in these reports to display at a glance values that are within acceptable ranges.

For example, red indicates unacceptable value ranges. A low value for monthly sales is worse than a high value, but a low value for incident resolution times is better than a high value. So you would configure red for low values in the report for monthly sales and red for high values in the report for incident resolution times.

Dials and speedometers also have different appearances:

- A speedometer shows numbers in the form of a round meter with a defined range.
- A dial shows where a score falls across ranges on a half-circle dial.

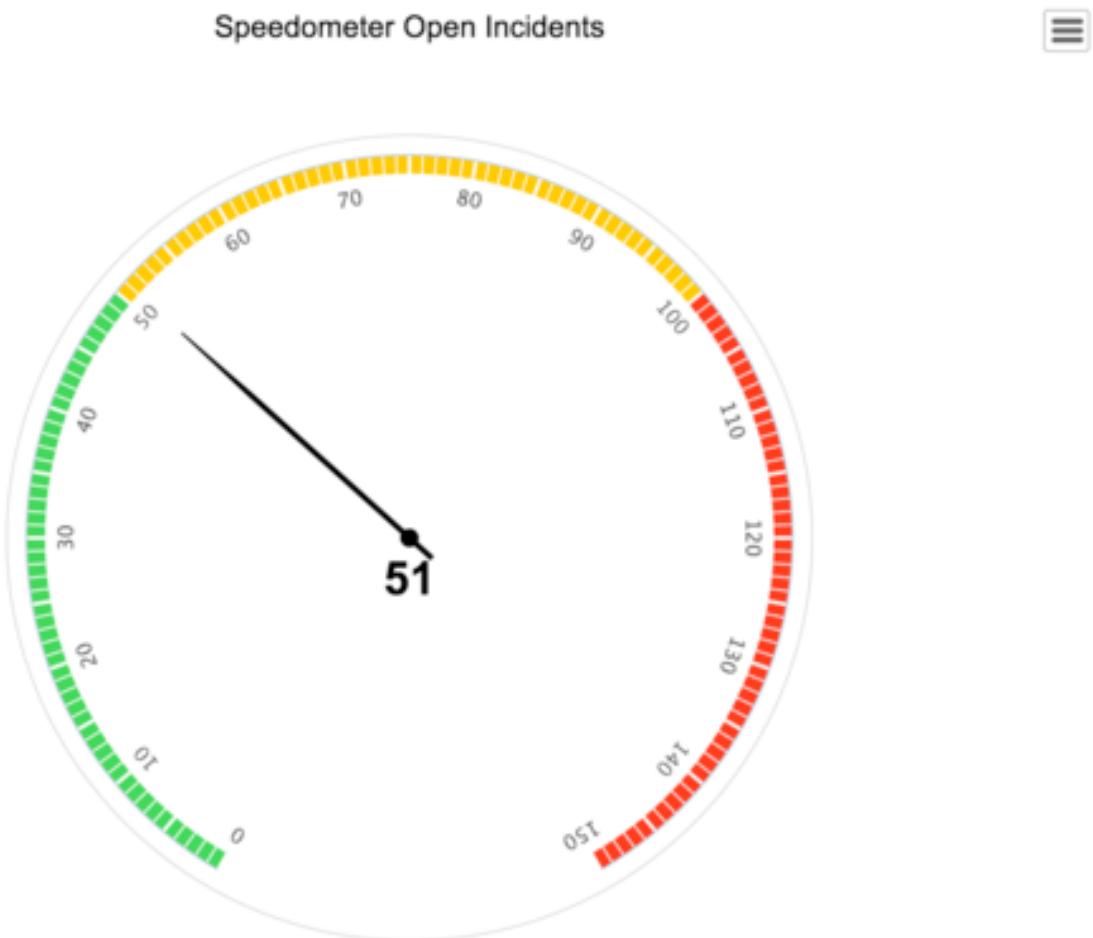


Figure 32: Angular speedometer report

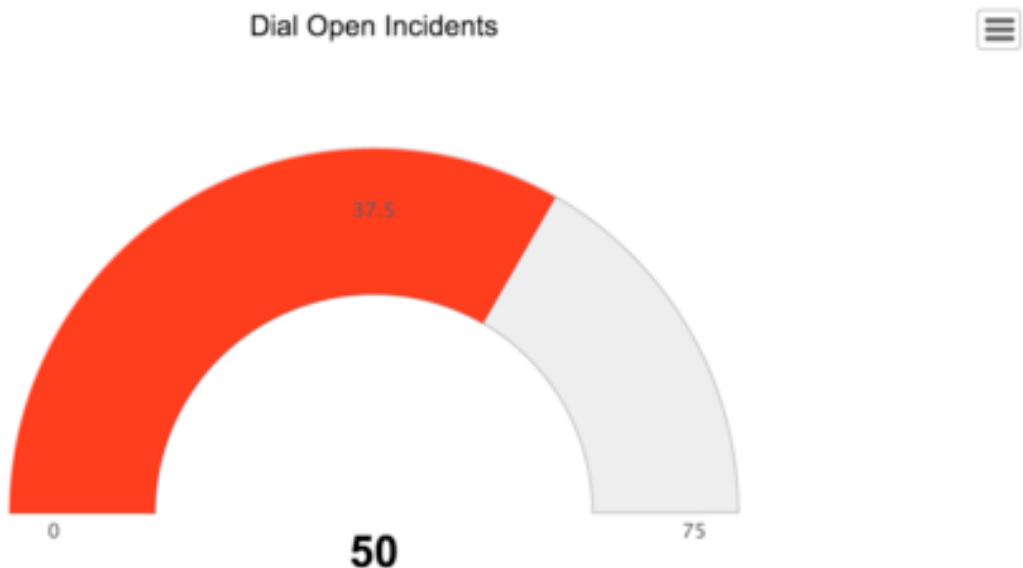


Figure 33: Solid dial report

Create a dial or speedometer report in the Report Designer

Create a dial or speedometer to provide a real-time count for an indicator.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

This task refers to the Jakarta release under UI15 and UI16. If you are using an earlier UI or the Classic UI for creating reports, follow the instructions in the Helsinki documentation instead: [Report types and creation details](#).

1. Navigate to **Reports > Create New**.
2. On the **Data** tab, give the report a name that reflects the information being grouped.
3. Select the source for the report:

Option	Description
Data source	A table with filters applied to provide a single source of information for all users.
Table	The raw data from a table with no filters applied.
External import	Choose an existing imported report source, or click the Upload icon () to import a new file. See Create a report from an imported Microsoft Excel document on page 524

4. Click **Next**.
5. On the **Type** tab, select **Speedometer** or **Dial** in the **Scores** section and click **Next**.
A preliminary version of the report is displayed. To view the updated report at any time, click **Run**.
6. On the **Configure** tab, fill in the following fields and click **Next**.

Table 93: Configure tab

Field	Description
Aggregation	<p>Select a computational method for aggregating report data. The default is Count, which displays the number of records selected.</p> <p>If you select Count Distinct, only unique records are counted. For example, if you want to generate a report with a distinct number of users who have one or more of the roles in a given list of roles, these users would be counted twice unless you use count distinct.</p> <p>If you select Average, Sum, or Count Distinct, a list of fields from the selected Table appears. From this list, select a field to aggregate by. For example, if you select an integer field, such as the Priority field, the data is expressed as a number.</p> <p>Note: Dial and speedometer charts do not support aggregating duration field values. Duration fields do not appear in the list of available aggregation fields.</p>

7.

Optional: To limit the information displayed in the report, click the filter icon () and select conditions to filter the report data.

For more details on how conditions are constructed, see [Condition builder](#).

Note: Keywords is a special field used for text searches across all fields. It's use in a filter or condition, in combination with other conditions, may return inconsistent results.

8. On the **Style** tab, fill in the fields as appropriate to configure the appearance of the report.

9. Click **Save**.

The report is generated.

-  Click the Report info icon () and add a description of the report.
-  Click the sharing icon () to open the **Sharing** menu. On this menu, you can add the report to a dashboard, export the report to PDF, publish the report to the web, and set visibility and schedules. For more information, see [Share a report – Report Designer](#) on page 197.

Dial and speedometer report style options – Report Designer

Change the look of your dial or speedometer report.

When you create or edit a report, click the **Style** tab for options to configure the look of your report. The options are organized under two or more of the following tabs: **General**, **Title**, **Legend**, and **Axis**. To see how the chart looks with the changed settings, click **Save**.

Table 94: Dial chart style options

Field	Description
General	
Chart color (dial chart only)	A predefined system color for the dial.
Set color	Color used in the report. This field displays when you select Use one color from the Chart color list. Click the search icon () to choose from the Chart color schemes or Color Definitions list.
Custom chart size	<p>Check box to specify the width and height of the report in pixels.</p> <p>Note: The chart size is ignored when you export the report to PDF. In PDFs, the full page width is used to display the chart.</p>
Chart width	<p>Width of the report in pixels. The default value is 600.</p> <p>This field is available when Custom chart size is selected.</p>
Chart height	<p>Height of the report in pixels. The default value is 450.</p> <p>This field appears when Custom chart size is selected.</p>
Chart size	<p>Chart size. This field is available when Custom chart size is cleared. Options are Small, Medium, and Large.</p> <p>Note: The chart size is ignored when you export the report to PDF. In PDFs, the full page width is used to display the chart.</p>

Field	Description
Direction	<p>Choose whether lower or larger numbers are better. Select Minimize if lower numbers are better. Select Maximize if larger numbers are better. This setting works with Lower Limit and Upper Limit, which determine the colors for the areas in the dial or speedometer.</p> <ul style="list-style-type: none"> Green indicates that the figures are acceptable. Orange indicates that the figures have changed, but are still within the acceptable range. Red indicates that the figures are not acceptable.
Lower limit	<p>The lower threshold for color change on the dial or speedometer. If it uses only two colors, specify the same number for both lower and upper limits.</p>
Upper limit	<p>The upper threshold for color change on the dial or speedometer. If it uses only two colors, specify the same number for both lower and upper limits.</p> <p>For example, a dial contains a current score of 50 and Dial Autoscale is selected. The Lower Limit is set to 50 and Upper Limit is set to 100 and the direction is Minimize. The dial displays the area 0–50 in green, the area 50–100 in orange, and the area above 100 in red.</p> <p>If Lower Limit is set to 50, Upper Limit is set to 100 and the direction is Maximize, the colors are reversed.</p> <p>If no upper and lower limits have been set, no colors are used in the visualization. If you want to have only two section or colors, you can set the upper and lower limits to the same number.</p>
Dial autoscale	<p>Check box to automatically generate start and end values for the dial or speedometer based on the selected data.</p>
From	<p>Custom minimum value to display on the left side of the dial or speedometer. This field is available when Dial Autoscale is cleared.</p>
To	<p>Custom maximum value to display on the right side of the dial or speedometer. This field is available when Dial Autoscale is cleared.</p>

Field	Description
Drilldown view	<p>List view to display when a user selects a segment of a report for which no drilldown report type is specified. This view is also used when the user reaches the lowest drilldown level of a report. See Configure the list layout. If you specify a Report drilldown, Drilldown view is ignored.</p> <hr/> <p>Note: All users can view report visualizations, such as pie charts and column reports. However, the last level of a drill down is always a list. Platform access control lists determine user access to list information. Users who do not have rights to any part of the list data see the message "Number of rows removed from this list by Security constraints:" followed by the number. See Access control rules.</p> <hr/> <p>For more information, see Define a report drilldown in the Report Designer on page 501.</p>
Decimal precision	<p>Number of decimal places to display. You can display From zero to four decimal places. Default value: 2. To change the default value, create the system property <code>glide.chart.decimal.precision</code> and specify the value.</p>
Title	
Show chart title	<p>When the chart title is displayed for the report.</p> <ul style="list-style-type: none"> • Never: Never displays the chart title. • Report only: Displays the chart title on reports. • Always: Displays the chart title on reports, and dashboards and homepages.
Chart title	<p>The chart title has a maximum length of 40 characters. If no title is entered, the report name is used for the title. This field appears when Report only or Always is selected from the Show chart title list.</p>
Size of the chart title	<p>Size of the chart title in pixels. This field appears when Report only or Always is selected from the Show chart title list.</p>
Chart title color	<p>Color of the chart title. This field appears when Report only or Always is selected from the Show chart title list.</p>

Field	Description
Custom chart title position	Check box to specify X and Y coordinates for the position of the chart title. This field appears when Report only or Always is selected from the Show chart title list.
Chart title X position	<p>Number of pixels to adjust the chart title position right or left. By default the title appears at the center top of the chart. To move the chart title to the right, enter a positive value. To move the title to the left, enter a negative value.</p> <p>This field appears only when Custom chart title position is selected.</p>
Chart title Y position	<p>Number of pixels to adjust the chart title position up or down. By default the title appears at the center top of the chart. To move up the chart title, enter a positive value. To move the chart title down, enter a negative value.</p> <p>This field appears only when Custom chart title position is selected.</p>
Title horizontal alignment	How the chart title is aligned horizontally. This field is available when Custom chart title position is cleared.
Title vertical alignment	How the chart title is aligned vertically. This field appears when Custom chart title position is cleared.

Create a donut report in the Report Designer

Donut charts

Donut and semi-donut charts show the proportions that make up a whole.

Donut charts are similar to pie charts, but the donut chart has empty space in the middle. The difference between a donut and a semi-donut chart is that a semi-donut is a donut sliced in half. The information presented is the same. Donut and semi-donut charts can be placed on homepages where users can quickly interpret the information displayed.

For example, use a donut or semi-donut chart to show open incidents by priority. At any time, there are open incidents of different priority levels. A donut or semi-donut chart enables you to see quickly whether incident counts of different priorities are within acceptable ranges.

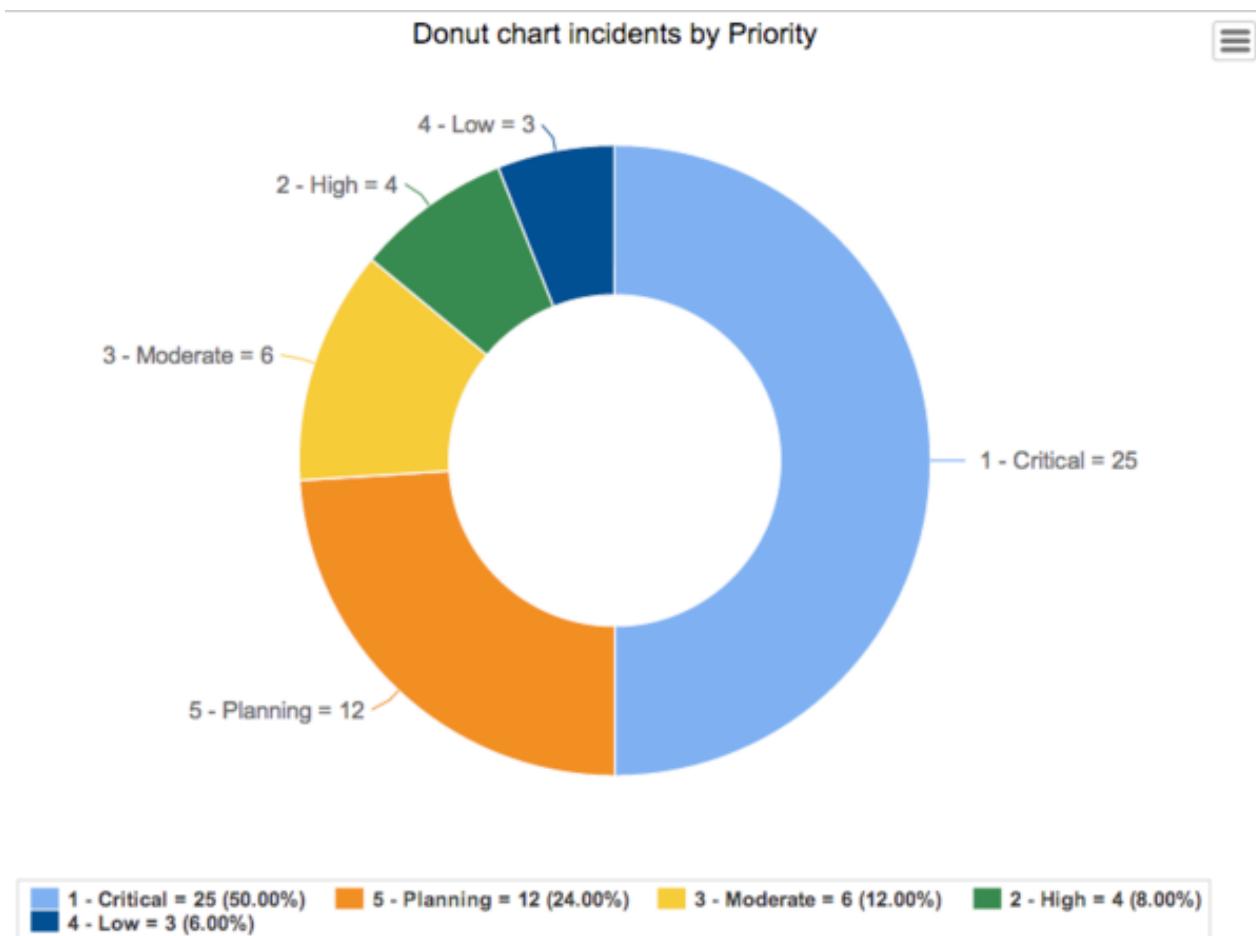


Figure 34: Donut chart of incidents by priority

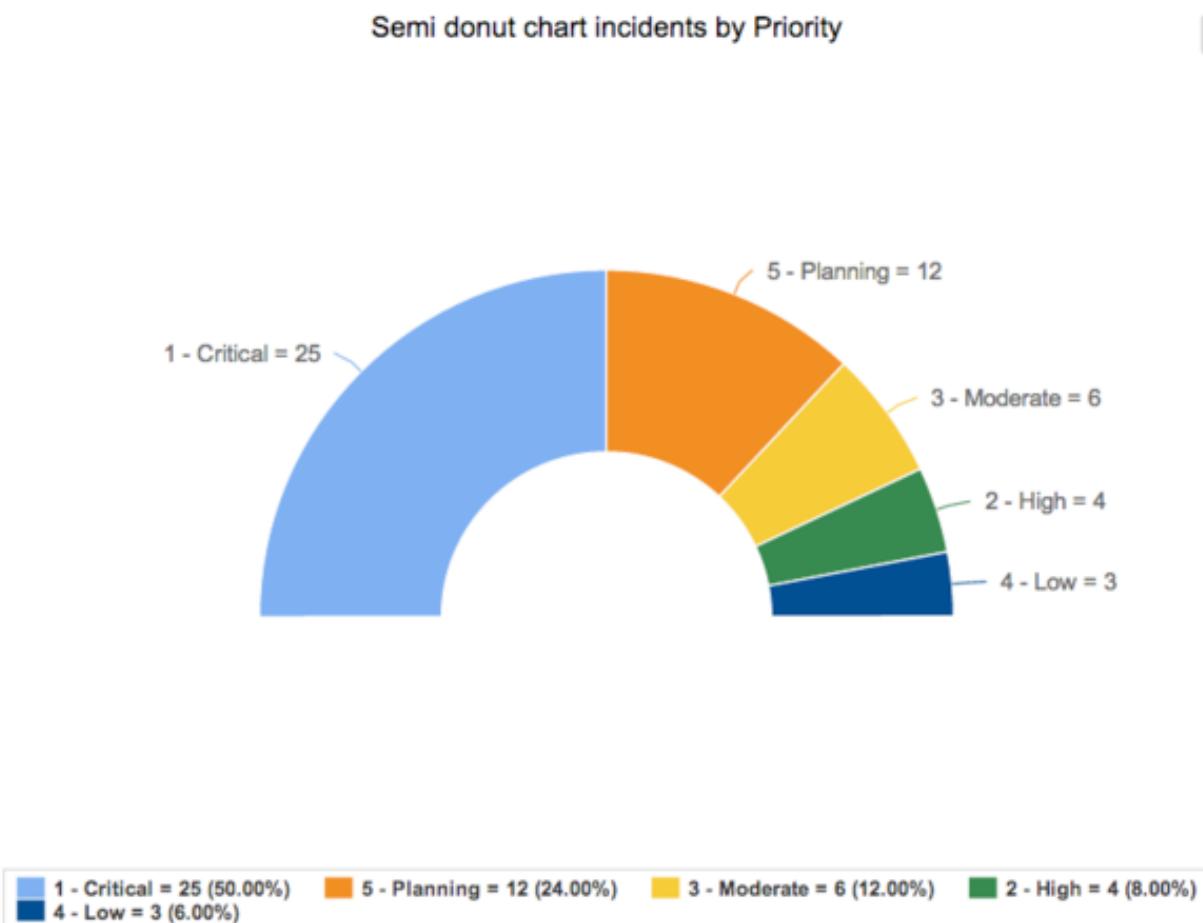


Figure 35: Semi-donut chart of incidents by priority

Create a donut report in the Report Designer

Create a donut report to compare the size of parts to the whole.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

This task refers to the Jakarta release under UI15 and UI16. If you are using an earlier UI or the Classic UI for creating reports, follow the instructions in the Helsinki documentation instead: [Report types and creation details](#).

1. Navigate to **Reports > Create New**.
2. On the **Data** tab, give the report a name that reflects the information being grouped.
3. Select the source for the report:

Option	Description
Data source	A table with filters applied to provide a single source of information for all users.
Table	The raw data from a table with no filters applied.
External import	Choose an existing imported report source, or click the Upload icon () to import a new file. See Create a report from an imported Microsoft Excel document on page 524

4. Click **Next**.
5. On the **Type** tab, select **Donut** or **Semi-donut** in the **Pies and Donuts** section and click **Next**.
A preliminary version of the report is displayed. To view the updated report at any time, click **Run**.
6. On the **Configure** tab, fill in the following fields and click **Next**.

Table 95: Configure tab

Field	Description
Group by	<p>Group report data using the values of this field. For example, in an incident report grouped by Assignment group, all incidents that belong to Software, Service Desk, and Network are placed in separate groups.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p>
Additional group by	<p>Extra fields to group the report by. When you select Additional group by fields, a control is added to the bottom of the report that groups the report by any one of the additional fields.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p>
Display data table	<p>Check this box to display report data in a grid beneath the report. The table appears on dashboards where the report is added.</p> <p>All reports that use charts, including reports that are used on dashboards, display the table of report data when the <code>glide.ui.section508</code> system property is set to true. The <code>glide.ui.section508</code> property overrides the Display data table field.</p>

Field	Description
Aggregation	<p>Mathematical calculation to perform on the data. The default is Count, which displays the number of records selected.</p> <p>To display only unique records, select Count Distinct. For example, if you want a report on the distinct number of users who have one or more of the roles in a given list of roles. Users with more than one role would be counted twice unless you use Count Distinct.</p> <p>Select Average, Sum, or Count Distinct, to display a list of fields from the selected Table. Select a field to aggregate by from this list. For example, if you select a duration field, such as Business duration on the Incident table, the aggregated data is expressed in days, hours, and minutes. If you select an integer field, such as Priority, the data is expressed as a decimal value number.</p> <p>If you choose Sum or Average, select Show related fields to aggregate on dot-walked fields. See <i>Selecting fields on related tables using dot-walking</i></p> <hr/> <p>Note: For duration values, the unit of measurement displayed in the aggregation axis cannot be customized.</p>
Max number of groups	<p>Maximum number of groups to display in the report. Groups with highest values are included first. Any excluded groups are combined into the single group Other.</p> <p>If you select Show all, all groups up to a limit of 50 are displayed. The rest of the results are grouped as Other. If you select Remove Other, the Other group is hidden.</p>
Show Other	<p>Check box to include the Other group in the report. The Other group contains data for all groups that exceed the number specified in Max number of groups.</p>

7.

Optional: To limit the information displayed in the report, click the filter icon () and select conditions to filter the report data.

For more details on how conditions are constructed, see [Condition builder](#).

Note: Keywords is a special field used for text searches across all fields. It's use in a filter or condition, in combination with other conditions, may return inconsistent results.

8. On the **Style** tab, fill in the fields as appropriate to configure the appearance of the report.

9. Click **Save**.

The report is generated.

-



Click the Report info icon () and add a description of the report.

-



Click the sharing icon () to open the **Sharing** menu. On this menu, you can add the report to a dashboard, export the report to PDF, publish the report to the web, and set visibility and schedules. For more information, see [Share a report – Report Designer](#) on page 197.

Donut report style options – Report Designer

Change the look of your donut or semi-donut report.

When you create or edit a report, click the **Style** tab for options to configure the look of your report. The options are organized under two or more of the following tabs: **General**, **Title**, **Legend**, and **Axis**. To see how the chart looks with the changed settings, click **Save**.

Table 96: Donut chart style options

Field	Description
General	
Donut width	Percentage for the width of the donut or semi-donut band, ranging from 1 through 100 percent. 100 percent equals a pie chart. The default value is 50.
Show total and hide legend	Check box to display the total aggregation value in the center of the donut. Also automatically hides the chart legend.
Chart color	Color for the chart. Select one of the following options: <ul style="list-style-type: none"> • Use color palette: Select a color palette from the predefined system color palettes. • Use several colors: Define a custom set of Colors using hex codes. You can add any number of colors. • Use chart colors: Use the colors defined in Reports > Chart Colors.
Display data labels	Check box to display the value for each data point.
Set palette	Color palette used in the report. This field appears when you select Use color palette from the Chart color list. Click the search icon () to choose from the Color color schemes list.

Field	Description
Custom chart size	<p>Check box to specify the width and height of the report in pixels.</p> <p>Note: The chart size is ignored when you export the report to PDF. In PDFs, the full page width is used to display the chart.</p>
Chart width	<p>Width of the report in pixels. The default value is 600.</p> <p>This field is available when Custom chart size is selected.</p>
Chart height	<p>Height of the report in pixels. The default value is 450.</p> <p>This field appears when Custom chart size is selected.</p>
Chart size	<p>Chart size. This field is available when Custom chart size is cleared. Options are Small, Medium, and Large.</p> <p>Note: The chart size is ignored when you export the report to PDF. In PDFs, the full page width is used to display the chart.</p>
Drilldown view	<p>List view to display when a user selects a segment of a report for which no drilldown report type is specified. This view is also used when the user reaches the lowest drilldown level of a report. See Configure the list layout. If you specify a Report drilldown, Drilldown view is ignored.</p> <p>Note: All users can view report visualizations, such as pie charts and column reports. However, the last level of a drill down is always a list. Platform access control lists determine user access to list information. Users who do not have rights to any part of the list data see the message "Number of rows removed from this list by Security constraints:" followed by the number. See Access control rules.</p> <p>For more information, see Define a report drilldown in the Report Designer on page 501.</p>

Field	Description
Decimal precision	Number of decimal places to display. You can display From zero to four decimal places. Default value: 2. To change the default value, create the system property glide.chart.decimal.precision and specify the value.
Title	
Show chart title	<p>When the chart title is displayed for the report.</p> <ul style="list-style-type: none"> Never: Never displays the chart title. Report only: Displays the chart title on reports. Always: Displays the chart title on reports, and dashboards and homepages.
Chart title	<p>The chart title has a maximum length of 40 characters. If no title is entered, the report name is used for the title. This field appears when Report only or Always is selected from the Show chart title list.</p>
Size of the chart title	<p>Size of the chart title in pixels. This field appears when Report only or Always is selected from the Show chart title list.</p>
Chart title color	<p>Color of the chart title. This field appears when Report only or Always is selected from the Show chart title list.</p>
Custom chart title position	<p>Check box to specify X and Y coordinates for the position of the chart title. This field appears when Report only or Always is selected from the Show chart title list.</p>
Chart title X position	<p>Number of pixels to adjust the chart title position right or left. By default the title appears at the center top of the chart. To move the chart title to the right, enter a positive value. To move the title to the left, enter a negative value.</p> <p>This field appears only when Custom chart title position is selected.</p>
Chart title Y position	<p>Number of pixels to adjust the chart title position up or down. By default the title appears at the center top of the chart. To move up the chart title, enter a positive value. To move the chart title down, enter a negative value.</p> <p>This field appears only when Custom chart title position is selected.</p>
Title horizontal alignment	<p>How the chart title is aligned horizontally. This field is available when Custom chart title position is cleared.</p>

Field	Description
Title vertical alignment	How the chart title is aligned vertically. This field appears when Custom chart title position is cleared.
Legend	
Show legend	Check box to display a chart legend. This check box appears when a Group by field is selected on the report form.
Legend horizontal alignment	How the legend is aligned horizontally. This field appears when Show legend is selected.
Legend vertical alignment	How the legend is aligned vertically. This field appears when Show legend is selected.
Show legend border	Check box to display a border around the legend. This check box appears when Show legend is selected.
Left align legend text	Check box to left-align the legend text. By default, the legend text is centered. This check box appears when Show legend is selected.

Create a funnel or pyramid report in the Report Designer

Funnel and pyramid reports

Funnel and pyramid reports visualize the distribution of data. The size of the slices or sections represents a percentage of the total of all values.

Funnel reports are often used to represent stages in a sales process (from lead to closed deal), or to identify potential problem areas in a process. If you apply a neck in a funnel chart, all values below a certain percentage of the total value are represented as a bar. The bar indicates that their differences are of equal importance.

Funnel reports stack slices from top to bottom by decreasing percentage and pyramid charts stack slices by increasing percentage. Pyramid reports are often used to represent hierarchical levels in an organization. Funnel and pyramid reports can be placed on homepages where users can quickly interpret the information displayed.

For example, use a funnel or pyramid report to show open incidents by priority. At any time, there are open incidents of different priority levels. For example, an organization has a policy that P1 incidents can never exceed 40% of all open incidents. Funnel and pyramid charts show whether incident counts are within acceptable ranges.

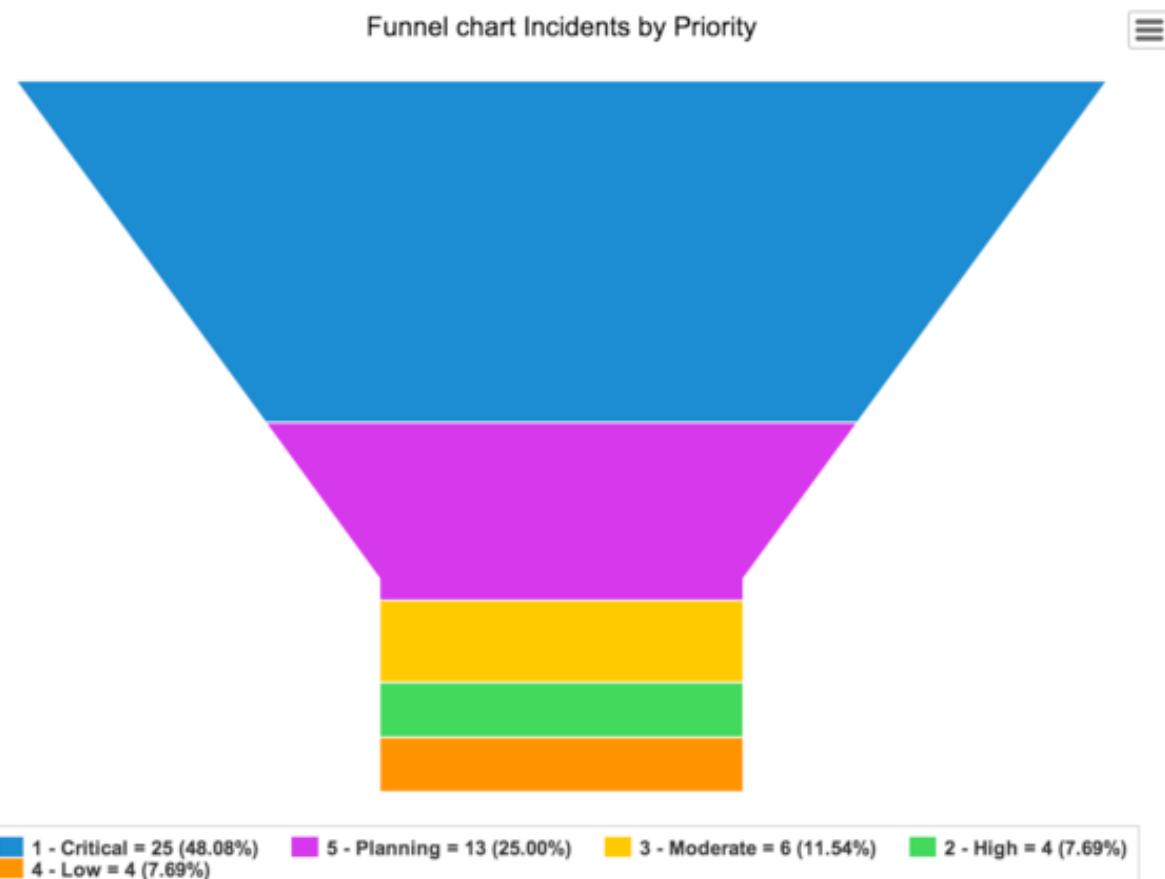


Figure 36: Funnel report of incidents by priority

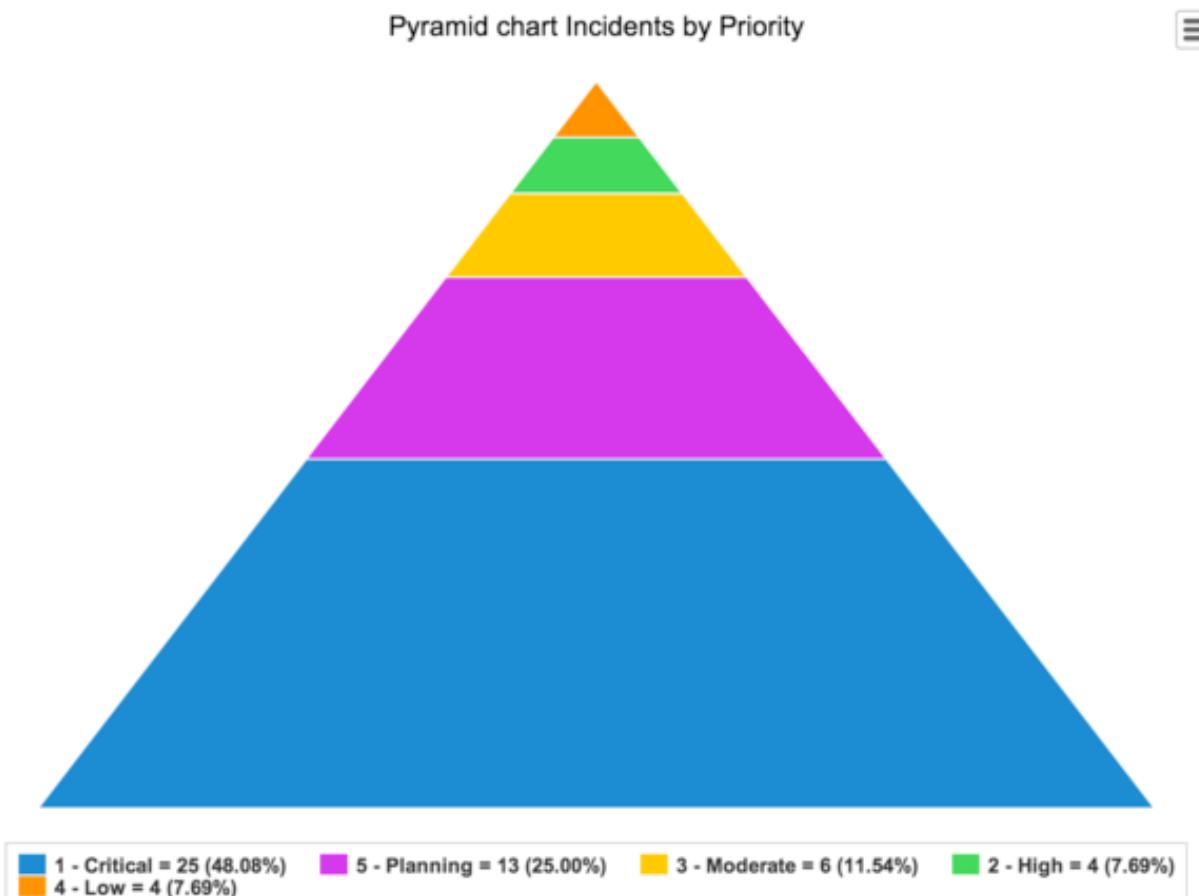


Figure 37: Pyramid report of incidents by priority

Create a funnel or pyramid report in the Report Designer

Create a funnel report where the size of each slice represents a percentage of the total.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

This task refers to the Jakarta release under UI15 and UI16. If you are using an earlier UI or the Classic UI for creating reports, follow the instructions in the Helsinki documentation instead: [Report types and creation details](#).

1. Navigate to **Reports > Create New**.
2. On the **Data** tab, give the report a name that reflects the information being grouped.
3. Select the source for the report:

Option	Description
Data source	A table with filters applied to provide a single source of information for all users.
Table	The raw data from a table with no filters applied.
External import	Choose an existing imported report source, or click the Upload icon () to import a new file. See Create a report from an imported Microsoft Excel document on page 524

4. Click **Next**.
5. On the **Type** tab, select **Pyramid** or **Funnel** in the **Other** section and click **Next**.

A preliminary version of the report is displayed. To view the updated report at any time, click **Run**.

6. On the **Configure** tab, fill in the following fields and click **Next**.

Table 97: Funnel chart

Field	Description
Group by	<p>Group report data using the values of this field. For example, in an incident report grouped by Assignment group, all incidents that belong to Software, Service Desk, and Network are placed in separate groups.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p>
Additional group by	<p>Extra fields to group the report by. When you select Additional group by fields, a control is added to the bottom of the report that groups the report by any one of the additional fields.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p>
Display data table	<p>Check this box to display report data in a grid beneath the report. The table appears on dashboards where the report is added.</p> <p>All reports that use charts, including reports that are used on dashboards, display the table of report data when the <code>glide.ui.section508</code> system property is set to <code>true</code>. The <code>glide.ui.section508</code> property overrides the Display data table field.</p>

Field	Description
Aggregation	<p>Mathematical calculation to perform on the data. The default is Count, which displays the number of records selected.</p> <p>To display only unique records, select Count Distinct. For example, if you want a report on the distinct number of users who have one or more of the roles in a given list of roles. Users with more than one role would be counted twice unless you use Count Distinct.</p> <p>Select Average, Sum, or Count Distinct, to display a list of fields from the selected Table. Select a field to aggregate by from this list. For example, if you select a duration field, such as Business duration on the Incident table, the aggregated data is expressed in days, hours, and minutes. If you select an integer field, such as Priority, the data is expressed as a decimal value number.</p> <p>If you choose Sum or Average, select Show related fields to aggregate on dot-walked fields. See <i>Selecting fields on related tables using dot-walking</i></p> <hr/> <p>Note: For duration values, the unit of measurement displayed in the aggregation axis cannot be customized.</p>
Max number of groups	<p>Maximum number of groups to display in the report. Groups with highest values are included first. Any excluded groups are combined into the single group Other.</p> <p>If you select Show all, all groups up to a limit of 50 are displayed. The rest of the results are grouped as Other. If you select Remove Other, the Other group is hidden.</p>
Show Other	<p>Check box to include the Other group in the report. The Other group contains data for all groups that exceed the number specified in Max number of groups.</p>

7.

Optional: To limit the information displayed in the report, click the filter icon () and select conditions to filter the report data.

For more details on how conditions are constructed, see [Condition builder](#).

Note: Keywords is a special field used for text searches across all fields. It's use in a filter or condition, in combination with other conditions, may return inconsistent results.

8. On the **Style** tab, fill in the fields as appropriate to configure the appearance of the report.

9. Click **Save**.

The report is generated.

-  Click the Report info icon () and add a description of the report.
-  Click the sharing icon () to open the **Sharing** menu. On this menu, you can add the report to a dashboard, export the report to PDF, publish the report to the web, and set visibility and schedules. For more information, see [Share a report – Report Designer](#) on page 197.

Funnel and pyramid report style options – Report Designer

Change the look of your funnel or pyramid report.

When you create or edit a report, click the **Style** tab for options to configure the look of your report. The options are organized under two or more of the following tabs: **General**, **Title**, **Legend**, and **Axis**. To see how the chart looks with the changed settings, click **Save**.

Table 98: Funnel and pyramid chart style options

Field	Description
General	
Funnel neck size	[Funnel charts only] Enter a percentage for the width of the funnel, from 1–100 percent. 1 percent is the lowest value that can be represented above the funnel neck. Values lower than 1 percent are stacked below the neck in a bar of a set width. 100 percent equals a bar chart. The default value is 30.
Chart color	<p>Select one of the following options:</p> <ul style="list-style-type: none"> • Use color palette: Select a color palette from the predefined system color palettes. • Use several colors: Define a custom set of Colors using hex codes. You can add any number of colors. • Use chart colors: Use the colors defined in Reports > Chart Colors.
Set color	Color used in the report. This field displays when you select Use one color from the Chart color list. Click the search icon () to choose from the Chart color schemes or Color Definitions list.
Set palette	Color palette used in the report. This field appears when you select Use color palette from the Chart color list. Click the search icon () to choose from the Color color schemes list.

Field	Description
Custom chart size	<p>Check box to specify the width and height of the report in pixels.</p> <p>Note: The chart size is ignored when you export the report to PDF. In PDFs, the full page width is used to display the chart.</p>
Chart width	<p>Width of the report in pixels. The default value is 600.</p> <p>This field is available when Custom chart size is selected.</p>
Chart height	<p>Height of the report in pixels. The default value is 450.</p> <p>This field appears when Custom chart size is selected.</p>
Chart size	<p>Chart size. This field is available when Custom chart size is cleared. Options are Small, Medium, and Large.</p> <p>Note: The chart size is ignored when you export the report to PDF. In PDFs, the full page width is used to display the chart.</p>
Drilldown view	<p>List view to display when a user selects a segment of a report for which no drilldown report type is specified. This view is also used when the user reaches the lowest drilldown level of a report. See Configure the list layout. If you specify a Report drilldown, Drilldown view is ignored.</p> <p>Note: All users can view report visualizations, such as pie charts and column reports. However, the last level of a drill down is always a list. Platform access control lists determine user access to list information. Users who do not have rights to any part of the list data see the message "Number of rows removed from this list by Security constraints:" followed by the number. See Access control rules.</p> <p>For more information, see Define a report drilldown in the Report Designer on page 501.</p>

Field	Description
Decimal precision	Number of decimal places to display. You can display From zero to four decimal places. Default value: 2. To change the default value, create the system property glide.chart.decimal.precision and specify the value.
Title	
Show chart title	<p>When the chart title is displayed for the report.</p> <ul style="list-style-type: none"> • Never: Never displays the chart title. • Report only: Displays the chart title on reports. • Always: Displays the chart title on reports, and dashboards and homepages.
Chart title	<p>The chart title has a maximum length of 40 characters. If no title is entered, the report name is used for the title. This field appears when Report only or Always is selected from the Show chart title list.</p>
Size of the chart title	<p>Size of the chart title in pixels. This field appears when Report only or Always is selected from the Show chart title list.</p>
Chart title color	<p>Color of the chart title. This field appears when Report only or Always is selected from the Show chart title list.</p>
Custom chart title position	<p>Check box to specify X and Y coordinates for the position of the chart title. This field appears when Report only or Always is selected from the Show chart title list.</p>
Chart title X position	<p>Number of pixels to adjust the chart title position right or left. By default the title appears at the center top of the chart. To move the chart title to the right, enter a positive value. To move the title to the left, enter a negative value.</p> <p>This field appears only when Custom chart title position is selected.</p>
Chart title Y position	<p>Number of pixels to adjust the chart title position up or down. By default the title appears at the center top of the chart. To move up the chart title, enter a positive value. To move the chart title down, enter a negative value.</p> <p>This field appears only when Custom chart title position is selected.</p>
Title horizontal alignment	<p>How the chart title is aligned horizontally. This field is available when Custom chart title position is cleared.</p>

Field	Description
Title vertical alignment	How the chart title is aligned vertically. This field appears when Custom chart title position is cleared.
Legend	
Show legend	Check box to display a chart legend. This check box appears when a Group by field is selected on the report form.
Legend horizontal alignment	How the legend is aligned horizontally. This field appears when Show legend is selected.
Legend vertical alignment	How the legend is aligned vertically. This field appears when Show legend is selected.
Show legend border	Check box to display a border around the legend. This check box appears when Show legend is selected.
Left align legend text	Check box to left-align the legend text. By default, the legend text is centered. This check box appears when Show legend is selected.

Create a heatmap report in the Report Designer

Heatmap reports

Heatmap reports show aggregate data visually using colors to represent different values on a matrix. Heatmap reports can have no more than 1000 cells.

Note: When accessibility is enabled, this visualization includes a report that screen readers can interpret. For more information, see [Enabling accessibility features](#)

In the figure, the cell for confirmed low priority problems is filled to highlight the large value.

Problems older than 30 Days by Priority and Status

	Investigation	Fix Deployment	New	Confirmed	Work in Progress
1 - High	6	2	29	10	
2 - Moderate	90	2	194	303	
3 - Low	343	4	858	2,193	
5 - Planning	41		43	328	

Create a heatmap report in the Report Designer

Create a heatmap report to display aggregate data visually using colors to represent different values on a matrix.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

This task refers to the Jakarta release under UI15 and UI16. If you are using an earlier UI or the Classic UI for creating reports, follow the instructions in the Helsinki documentation instead: [Report types and creation details](#).

1. Navigate to **Reports > Create New**.
2. On the **Data** tab, give the report a name that reflects the information being grouped.
3. Select the source for the report:

Option	Description
Data source	A table with filters applied to provide a single source of information for all users.
Table	The raw data from a table with no filters applied.
External import	Choose an existing imported report source, or click the Upload icon () to import a new file. See Create a report from an imported Microsoft Excel document on page 524

4. Click **Next**.
5. On the **Type** tab, select **Heatmap** in the **Multidimensional reports** section and click **Next**.
A preliminary version of the report is displayed. To view the updated report at any time, click **Run**.
6. Fill in the fields, as appropriate (see table).

Table 99: Fields

Field	Description
Row	Field used as the source of the data for the rows in the heatmap.
Column	Field used as the source of the data for the columns in the heatmap.

Field	Description
Aggregation	<p>Mathematical calculation to perform on the data. The default is Count, which displays the number of records selected.</p> <p>To display only unique records, select Count Distinct. For example, if you want a report on the distinct number of users who have one or more of the roles in a given list of roles. Users with more than one role would be counted twice unless you use Count Distinct.</p> <p>Select Average, Sum, or Count Distinct, to display a list of fields from the selected Table. Select a field to aggregate by from this list. For example, if you select a duration field, such as Business duration on the Incident table, the aggregated data is expressed in days, hours, and minutes. If you select an integer field, such as Priority, the data is expressed as a decimal value number.</p> <p>If you choose Sum or Average, select Show related fields to aggregate on dot-walked fields. See <i>Selecting fields on related tables using dot-walking</i></p> <hr/> <p>Note: For duration values, the unit of measurement displayed in the aggregation axis cannot be customized.</p>
Max number of groups	<p>Maximum number of groups to display in the report. Groups with highest values are included first. Any excluded groups are combined into the single group Other.</p> <p>If you select Show all, all groups up to a limit of 50 are displayed. The rest of the results are grouped as Other. If you select Remove Other, the Other group is hidden.</p>
Show Other	<p>Check box to include the Other group in the report. The Other group contains data for all groups that exceed the number specified in Max number of groups.</p>

7.

Configure the sort order of column and row fields in the report. Click the filter icon () and select **Add Sort**.

- In the Sorting Order drop-down list, choose the field you want to sort on and then choose **a-z** or **z-a** for alphabetical order or reverse alphabetical order.

The list contains all possible fields from the report's source. The only effective values, however, are the column and row fields chosen for the current report.

2. Click to configure additional sorting order conditions. (Click to delete configured sorting order conditions.)
3. Click **Save**.

For fields of the type Choice list, the sort order is determined by the sequence of the choices in the choice list, not alphabetically or numerically. For example, a priority choice list is often indexed from Critical to Planning as shown in the figure below.

The screenshot shows the ServiceNow interface with the following elements:

- Add Sort Dialog:** A modal window titled "Add Sort" is open, showing a "Sorting Order" section. It contains a list item "1 Priority" with a dropdown arrow and a sorting order indicator "z to a".
- Report Preview:** Below the dialog, a report titled "Open incidents by Priority" is displayed. The report has a header with columns "Priority", "State", and "Category". The "Priority" column is highlighted with a red border. Data rows show "5 - Planning" and "4 - Lo".
- Report Footer:** The report footer includes buttons for "New", "Total", and a page number "3".
- UI Elements:** On the left, there are vertical sorting arrows. At the top right, there are "Switch to classic UI" and "(i)" buttons. A "Close" button is also visible.

8. Optional: To limit the information displayed in the report, click the filter icon () and select conditions to filter the report data.
- For more details on how conditions are constructed, see [Condition builder](#).

Note: Keywords is a special field used for text searches across all fields. It's use in a filter or condition, in combination with other conditions, may return inconsistent results.

9. On the **Style** tab, fill in the fields as appropriate to configure the appearance of the report.

10. Click **Save**.

The report is generated.

-  Click the Report info icon () and add a description of the report.
-  Click the sharing icon () to open the **Sharing** menu. On this menu, you can add the report to a dashboard, export the report to PDF, publish the report to the web, and set visibility and schedules. For more information, see [Share a report – Report Designer](#) on page 197.

Heatmap report style options – Report Designer

Change the look of your heatmap chart.

When you create or edit a report, click the **Style** tab for options to configure the look of your report. The options are organized under two or more of the following tabs: **General**, **Title**, **Legend**, and **Axis**. To see how the chart looks with the changed settings, click **Save**.

Table 100: Heatmap chart style options

General	
Use heatmap colors	Check box to use different colors to indicate different values.
Color for high scores	Color used to indicate a high value on the chart.
Color for low scores	Color used to indicate a low value on the chart.
Display data labels	Check box to display the value for each data point.
Display Zero	Select this check box to display the number 0 when the value of a cell is 0. Clear this check box to display an empty cell when the value of the cell is 0.
Custom chart size	<p>Check box to specify the width and height of the report in pixels.</p> <p>Note: The chart size is ignored when you export the report to PDF. In PDFs, the full page width is used to display the chart.</p>
Chart width	<p>Width of the report in pixels. The default value is 600.</p> <p>This field is available when Custom chart size is selected.</p>

General	
Chart height	Height of the report in pixels. The default value is 450. This field appears when Custom chart size is selected.
Chart size	Chart size. This field is available when Custom chart size is cleared. Options are Small , Medium , and Large . Note: The chart size is ignored when you export the report to PDF. In PDFs, the full page width is used to display the chart.
Drilldown view	List view to display when a user selects a segment of a report for which no drilldown report type is specified. This view is also used when the user reaches the lowest drilldown level of a report. See Configure the list layout . If you specify a Report drilldown , Drilldown view is ignored. Note: All users can view report visualizations, such as pie charts and column reports. However, the last level of a drill down is always a list. Platform access control lists determine user access to list information. Users who do not have rights to any part of the list data see the message "Number of rows removed from this list by Security constraints:" followed by the number. See Access control rules . For more information, see Define a report drilldown in the Report Designer on page 501.
Decimal precision	Number of decimal places to display. You can display From zero to four decimal places. Default value: 2. To change the default value, create the system property glide.chart.decimal.precision and specify the value.
Title	
Show chart title	When the chart title is displayed for the report. <ul style="list-style-type: none"> • Never: Never displays the chart title. • Report only: Displays the chart title on reports. • Always: Displays the chart title on reports, and dashboards and homepages.

General	
Chart title	The chart title has a maximum length of 40 characters. If no title is entered, the report name is used for the title. This field appears when Report only or Always is selected from the Show chart title list.
Size of the chart title	Size of the chart title in pixels. This field appears when Report only or Always is selected from the Show chart title list.
Chart title color	Color of the chart title. This field appears when Report only or Always is selected from the Show chart title list.
Custom chart title position	Check box to specify X and Y coordinates for the position of the chart title. This field appears when Report only or Always is selected from the Show chart title list.
Chart title X position	Number of pixels to adjust the chart title position right or left. By default the title appears at the center top of the chart. To move the chart title to the right, enter a positive value. To move the title to the left, enter a negative value. This field appears only when Custom chart title position is selected.
Chart title Y position	Number of pixels to adjust the chart title position up or down. By default the title appears at the center top of the chart. To move up the chart title, enter a positive value. To move the chart title down, enter a negative value. This field appears only when Custom chart title position is selected.
Title horizontal alignment	How the chart title is aligned horizontally. This field is available when Custom chart title position is cleared.
Title vertical alignment	How the chart title is aligned vertically. This field appears when Custom chart title position is cleared.
Legend	
Show legend	Check box to display a chart legend. This check box appears when a Group by field is selected on the report form.
Legend horizontal alignment	How the legend is aligned horizontally. This field appears when Show legend is selected.
Legend vertical alignment	How the legend is aligned vertically. This field appears when Show legend is selected.

General	
Show legend border	Check box to display a border around the legend. This check box appears when Show legend is selected.
Left align legend text	Check box to left-align the legend text. By default, the legend text is centered. This check box appears when Show legend is selected.

Create a histogram report in the Report Designer

Histogram reports

Histograms group numbers in a data set into ranges. The data used in a histogram is continuous data. Continuous data is measured whereas discrete data, which is used in bar charts, is counted.

For example, a histogram can show the pattern of P1 incidents logged over a four-week period after a product release. For the first week after the product was released, P1 incidents are low because users do not really understand the product enough to use it. In the second week, more users start working with the product and P1 issues increased. In the third week, P1 issues increase even more as more users began working with the product. In the fourth week, P1 issues stay the same as the third week. The information suggests that it is not necessary to increase support staff until the third week after a product is released.

Note: When accessibility is enabled, this visualization includes a report that screen readers can interpret. For more information, see [Enabling accessibility features](#)

Create a histogram report in the Report Designer

Histograms group numbers in a continuous data set into ranges.

Role required: `itil, report_group, report_global, report_admin, or admin`. To create a meaningful report, you must have the right to access the data you want to report on.

This task refers to the Jakarta release under UI15 and UI16. If you are using an earlier UI or the Classic UI for creating reports, follow the instructions in the Helsinki documentation instead: [Report types and creation details](#).

1. Navigate to **Reports > Create New**.
2. On the **Data** tab, give the report a name that reflects the information being grouped.
3. Select the source for the report:

Option	Description
Data source	A table with filters applied to provide a single source of information for all users.
Table	The raw data from a table with no filters applied.
External import	Choose an existing imported report source, or click the Upload icon () to import a new file. See Create a report from an imported Microsoft Excel document on page 524

4. Click **Next**.
5. On the **Type** tab, select **Histogram** in the **Bars** section and click **Next**.

A preliminary version of the report is displayed. To view the updated report at any time, click **Run**.

6. On the **Configure** tab, fill in the following fields and click **Next**.

Table 101: Configure tab

Field	Description
Measured by	Select a field to report against. The values from this field appear on the X axis of the histogram and determine the width of the bars.

7. Optional: To limit the information displayed in the report, click the filter icon () and select conditions to filter the report data.

For more details on how conditions are constructed, see [Condition builder](#).

Note: Keywords is a special field used for text searches across all fields. It's use in a filter or condition, in combination with other conditions, may return inconsistent results.

8. Click **Save**.

The report is generated.

-  Click the Report info icon () and add a description of the report.
-  Click the sharing icon () to open the **Sharing** menu. On this menu, you can add the report to a dashboard, export the report to PDF, publish the report to the web, and set visibility and schedules. For more information, see [Share a report – Report Designer](#) on page 197.

Create a line report in the Report Designer

Line reports

Line reports plot individual data points to show how the value of one or more items changes over time.

The value of an item at specific dates or times is displayed as data points connected by horizontal lines. Values along the horizontal axis of the line chart represent the time measurement (years, hours, minutes, milliseconds, and so on). Values on the vertical axis represent the changes to the items being monitored. Users with the report_admin role can define the ranges that are used in a line chart report.

For example, you can create a line report for incident counts, to show how the number of incidents changes over time. The incident count often increases during the first few months after a product upgrade is deployed. Over time, the number of reported incidents decreases as users become more accustomed to the changes in the product. This figure shows the number of incidents per caller over time.

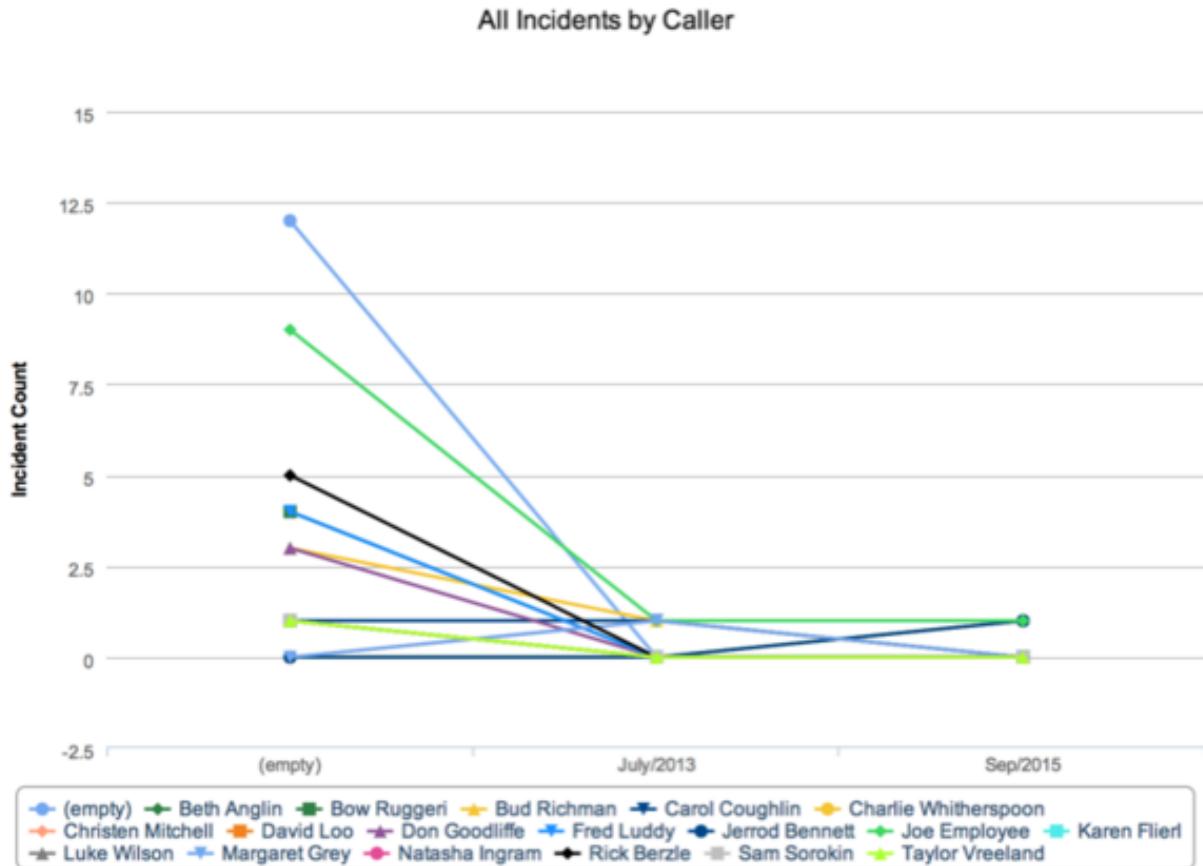


Figure 38: Line report

Create a line report in the Report Designer

Create a line report to show how the value of one or more items changes over time.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

This task refers to the Jakarta release under UI15 and UI16. If you are using an earlier UI or the Classic UI for creating reports, follow the instructions in the Helsinki documentation instead: [Report types and creation details](#).

1. Navigate to **Reports > Create New**.
2. On the **Data** tab, give the report a name that reflects the information being grouped.
3. Select the source for the report:

Option	Description
Data source	A table with filters applied to provide a single source of information for all users.
Table	The raw data from a table with no filters applied.
External import	Choose an existing imported report source, or click the Upload icon () to import a new file. See Create a report from an imported Microsoft Excel document on page 524

4. Click **Next**.
5. On the **Type** tab, select **Line**.

This report type is in the **Time Series** section.

A preliminary version of the report is displayed. To view the updated report at any time, click **Run**.

6. On the **Configure** tab, fill in the following fields and click **Next**.

Table 102: Configure tab

Field	Description
Group by	<p>Group report data using the values of this field. For example, in an incident report grouped by Assignment group, all incidents that belong to Software, Service Desk, and Network are placed in separate groups.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p>
Additional group by	<p>Extra fields to group the report by. When you select Additional group by fields, a control is added to the bottom of the report that groups the report by any one of the additional fields.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p>
Display data table	<p>Check this box to display report data in a grid beneath the report. The table appears on dashboards where the report is added.</p> <p>All reports that use charts, including reports that are used on dashboards, display the table of report data when the <code>glide.ui.section508</code> system property is set to <code>true</code>. The <code>glide.ui.section508</code> property overrides the Display data table field.</p>
Trend by	Table field whose values you want to display in a time sequence.

Field	Description
per	<p>Time period to group data by. Time periods range from an hour to a year. You can also specify a date.</p> <hr/> <p>Note: Reporting per Week is not supported when the report range includes more than one year. Inconsistent results are produced when a week is split between two years.</p>
Aggregation	<p>Mathematical calculation to perform on the data. The default is Count, which displays the number of records selected.</p> <p>To display only unique records, select Count Distinct. For example, if you want a report on the distinct number of users who have one or more of the roles in a given list of roles. Users with more than one role would be counted twice unless you use Count Distinct.</p> <p>Select Average, Sum, or Count Distinct, to display a list of fields from the selected Table. Select a field to aggregate by from this list. For example, if you select a duration field, such as Business duration on the Incident table, the aggregated data is expressed in days, hours, and minutes. If you select an integer field, such as Priority, the data is expressed as a decimal value number.</p> <p>If you choose Sum or Average, select Show related fields to aggregate on dot-walked fields. See Selecting fields on related tables using dot-walking</p> <hr/> <p>Note: For duration values, the unit of measurement displayed in the aggregation axis cannot be customized.</p>

Field	Description
Percentage calculation	<p>Method of calculating percentages. The percentage appears when you point to a report segment, such as a bar on a bar report. This field appears when Aggregation is set to Average, Sum, or Count Distinct.</p> <ul style="list-style-type: none"> • Use Aggregation calculates the percentage using the selection in the Aggregation field. Only data that is displayed in the report is used to calculate the percentage. For example, a report shows assets by department with the Aggregation set to Sum and the percentage calculated using aggregation. If the total cost of assets is \$100,000 and the cost of assets for Customer Support is \$10,000, the percentage for Customer Support is 10%. • Use Record Count calculates the percentage using the total number of records in the data set. For example, a report shows incidents by priority. Out of 500 incident records, 200 have low priority. The percentage for the Low priority section is 40%.

7.

Optional: To limit the information displayed in the report, click the filter icon () and select conditions to filter the report data.

For more details on how conditions are constructed, see [Condition builder](#).

Note: Keywords is a special field used for text searches across all fields. It's use in a filter or condition, in combination with other conditions, may return inconsistent results.

8. On the **Style** tab, fill in the fields as appropriate to configure the appearance of the report.

9. Click **Save**.

The report is generated.

-



Click the Report info icon () and add a description of the report.

-



Click the sharing icon () to open the **Sharing** menu. On this menu, you can add the report to a dashboard, export the report to PDF, publish the report to the web, and set visibility and schedules. For more information, see [Share a report – Report Designer](#) on page 197.

Line report style options – Report Designer

Configure the look of your line report.

When you create or edit a report, click the **Style** tab for options to configure the look of your report. The options are organized under two or more of the following tabs: **General**, **Title**, **Legend**, and **Axis**. To see how the chart looks with the changed settings, click **Save**.

Table 103: Line chart style options

Field	Description
General	
Chart color	<p>Colors used in the report.</p> <p>If you do not group or stack the report, Use one color is automatically selected. Select a single predefined system color.</p> <p>If you group or stack the report, select one of the following options:</p> <ul style="list-style-type: none"> • Use color palette: Select a color palette from the predefined system color palettes. • Use several colors: Define a custom set of Colors using hex codes. You can add any number of colors. • Use chart colors: Use the colors defined in Reports > Chart Colors. <hr/> <p>Note: It is not possible to use transparency hex values.</p>
Set palette	<p>Color palette used in the report. This field appears when you select Use color palette from the Chart color list. Click the search icon () to choose from the Color color schemes list.</p>
Display data labels	<p>Check box to display the value for each data point.</p>
Show marker	<p>Check box to display a symbol at each data point.</p>
Custom chart size	<p>Check box to specify the width and height of the report in pixels.</p> <hr/> <p>Note: The chart size is ignored when you export the report to PDF. In PDFs, the full page width is used to display the chart.</p>

Field	Description
Chart width	<p>Width of the report in pixels. The default value is 600.</p> <p>This field is available when Custom chart size is selected.</p>
Chart height	<p>Height of the report in pixels. The default value is 450.</p> <p>This field appears when Custom chart size is selected.</p>
Chart size	<p>Chart size. This field is available when Custom chart size is cleared. Options are Small, Medium, and Large.</p> <p>Note: The chart size is ignored when you export the report to PDF. In PDFs, the full page width is used to display the chart.</p>
Drilldown view	<p>List view to display when a user selects a segment of a report for which no drilldown report type is specified. This view is also used when the user reaches the lowest drilldown level of a report. See Configure the list layout. If you specify a Report drilldown, Drilldown view is ignored.</p> <p>Note: All users can view report visualizations, such as pie charts and column reports. However, the last level of a drill down is always a list. Platform access control lists determine user access to list information. Users who do not have rights to any part of the list data see the message "Number of rows removed from this list by Security constraints:" followed by the number. See Access control rules.</p> <p>For more information, see Define a report drilldown in the Report Designer on page 501.</p>
Decimal precision	<p>Number of decimal places to display. You can display From zero to four decimal places. Default value: 2. To change the default value, create the system property glide.chart.decimal.precision and specify the value.</p>
Title	

Field	Description
Show chart title	<p>When the chart title is displayed for the report.</p> <ul style="list-style-type: none"> • Never: Never displays the chart title. • Report only: Displays the chart title on reports. • Always: Displays the chart title on reports, and dashboards and homepages.
Chart title	<p>The chart title has a maximum length of 40 characters. If no title is entered, the report name is used for the title. This field appears when Report only or Always is selected from the Show chart title list.</p>
Size of the chart title	<p>Size of the chart title in pixels. This field appears when Report only or Always is selected from the Show chart title list.</p>
Chart title color	<p>Color of the chart title. This field appears when Report only or Always is selected from the Show chart title list.</p>
Custom chart title position	<p>Check box to specify X and Y coordinates for the position of the chart title. This field appears when Report only or Always is selected from the Show chart title list.</p>
Chart title X position	<p>Number of pixels to adjust the chart title position right or left. By default the title appears at the center top of the chart. To move the chart title to the right, enter a positive value. To move the title to the left, enter a negative value.</p> <p>This field appears only when Custom chart title position is selected.</p>
Chart title Y position	<p>Number of pixels to adjust the chart title position up or down. By default the title appears at the center top of the chart. To move up the chart title, enter a positive value. To move the chart title down, enter a negative value.</p> <p>This field appears only when Custom chart title position is selected.</p>
Title horizontal alignment	<p>How the chart title is aligned horizontally. This field is available when Custom chart title position is cleared.</p>
Title vertical alignment	<p>How the chart title is aligned vertically. This field appears when Custom chart title position is cleared.</p>
Legend	
Show legend	<p>Check box to display a chart legend. This check box appears when a Group by field is selected on the report form.</p>

Field	Description
Legend horizontal alignment	How the legend is aligned horizontally. This field appears when Show legend is selected.
Legend vertical alignment	How the legend is aligned vertically. This field appears when Show legend is selected.
Show legend border	Check box to display a border around the legend. This check box appears when Show legend is selected.
Left align legend text	Check box to left-align the legend text. By default, the legend text is centered. This check box appears when Show legend is selected.
Axis	
Y axis and X axis	Axis for which you want to configure the titles, appearance, and labels.
Title	Title for the axis.
Title size	Size of the axis title in pixels. Default value is 12.
Title color	Color of the axis title. Default value is Black .
Title bold	Check this box to display the axis title in a bold typeface.
Opposite	On the X axis tab, select this check box to display the X-axis title on the right side of the report instead. On the Y axis tab, select this check box to display the Y-axis title on top of the report instead of across the bottom.
Display grid	On the X axis tab, select this check box to display horizontal grid lines on the report. On the Y axis tab, select this check box to display vertical grid lines on top the report.
X axis / Y axis grid width	Width of grid lines on the report. Default value is 1 pixel.
Grid color	Color of grid lines. Default value is LightGrey .
Grid dotted	Check this box to display dotted grid lines instead of solid lines.
From	Specify a minimum Y-axis value to limit the amount of information in the report. If you select an aggregation field that is not of the type Number , the From and To fields are not available.
To	Specify a maximum Y-axis value to limit the amount of information in the report. If you select an aggregation field that is not of the type Number , the From and To fields are not available.

Field	Description
X axis / Y axis label size	On the X axis tab, specify the size of the labels for the rows of the report. On the Y axis tab, specify the size of the labels for the columns in the report.
Label bold	Check this box to display the labels of the report in a bold typeface.

Create a list report in the Report Designer

List reports

List reports display data in the form of an expandable list. You can configure whether lists display expanded or collapsed. Lists are often used for enumerations such as the number of incidents or changes. They contain columns that show more detailed information, such as a short description, category, or state.

Note: List reports display in List v2, even if List v3 is enabled.

This list report displays incidents sorted by caller.

Incidents						
	Number	Caller	Short description	Category	Priority	State
INC0000004			Forgot email password	Request	● 1 - Critical	Closed
INC0000020			I need a replacement iPhone, please	Request	5 - Planning	Active
INC0000021			New employee hire	Inquiry / Help	5 - Planning	Closed
INC0000024			Issue with a web page	Inquiry / Help	5 - Planning	Closed
INC0000001			Can't read email	Network	● 1 - Critical	Closed
INC0000002			Unable to get to network file shares	Network	● 1 - Critical	Awaiting Problem
INC6200001	Abel Tuter			Inquiry / Help	5 - Planning	Closed
INC0000005	Alejandro Mascall		CPU load high for over 10 minutes	Hardware	● 1 - Critical	Resolved
INC0000001	Alene Rabeck		Generating monthly report causes out of memory error	Software	● 2 - High	Closed
INC0010001	Allan Schwandt		PC restart	Inquiry / Help	5 - Planning	New
INC6200002	Beth Anglin			Inquiry / Help	5 - Planning	Closed
INC0000049	Beth Anglin		Network storage unavailable	Network	● 2 - High	Active
INC0000038	Bow Ruggeri		my PDF docs are all locked from editing	Software	4 - Low	Closed
INC0000016	Bow Ruggeri		Rain is leaking on main DNS Server	Hardware	● 1 - Critical	Active

Figure 39: List report

Create a list report in the Report Designer

List reports display data in the form of an expandable list. For example, an incident report grouped by priority displays only the priority names and a number of records that display if the user clicks the priority. You can configure whether lists display expanded or collapsed.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

This task refers to the Jakarta release under UI15 and UI16. If you are using an earlier UI or the Classic UI for creating reports, follow the instructions in the Helsinki documentation instead: [Report types and creation details](#).

1. Navigate to **Reports > Create New**.
2. On the **Data** tab, give the report a name that reflects the information being grouped.
3. Select the source for the report:

Option	Description
Data source	A table with filters applied to provide a single source of information for all users.
Table	The raw data from a table with no filters applied.
External import	Choose an existing imported report source, or click the Upload icon () to import a new file. See Create a report from an imported Microsoft Excel document on page 524

4. Click **Next**.
5. On the **Type** tab, select **List** in the **Other** section and click **Next**.
A preliminary version of the report is displayed. To view the updated report at any time, click **Run**.
6. On the **Configure** tab, fill in the following fields and click **Next**.

Table 104: Configure tab

Field	Description
Choose columns	<p>Fields to display as columns in the list report. In the Columns window that opens after you click Choose columns, select fields in the Available list that you want to appear in your report and move them to the Selected list.</p> <p>Depending on system configuration, you can add fields from tables that extend the selected table. For more information, see How to access fields on extended tables in a report on page 539.</p>
Group by	<p>Group report data using the values of this field. For example, in an incident report grouped by Assignment group, all incidents that belong to Software, Service Desk, and Network are placed in separate groups.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p>

Field	Description
Additional group by	<p>Extra fields to group the report by. When you select Additional group by fields, a control is added to the bottom of the report that groups the report by any one of the additional fields.</p> <hr/> <p>Note: It is not possible to group or stack reports by the Tags field.</p>

7.

Optional: To limit the information displayed in the report, click the filter icon () and select conditions to filter the report data.

For more details on how conditions are constructed, see [Condition builder](#).

Note: Keywords is a special field used for text searches across all fields. It's use in a filter or condition, in combination with other conditions, may return inconsistent results.

8. Click **Save**.

The report is generated.

-  Click the Report info icon () and add a description of the report.
-  Click the sharing icon () to open the **Sharing** menu. On this menu, you can add the report to a dashboard, export the report to PDF, publish the report to the web, and set visibility and schedules. For more information, see [Share a report – Report Designer](#) on page 197.

Note: The default number of rows in a list report exported to PDF is 1000. To configure this value, enter `sys_properties.list` in the Filter Navigator, and edit the property `glide.pdf.max_rows`. For more information, see [Add a system property](#).

- [Customize the number of list rows per page](#)

Create a list report in the Report Designer with variable columns

You can create a list report with variables columns based on a data source or table that has variables associated with it. For example, if an item has a variable called **Storage**, you can create a list report that has a column for the values in this variable.

Role required: `itil`, `report_group`, `report_global`, `report_admin`, or `admin`. To create a meaningful report, you must have the right to access the data you want to report on.

This task refers to the Jakarta release under UI15 and UI16. If you are using an earlier UI or the Classic UI for creating reports, follow the instructions in the Helsinki documentation instead: [Report types and creation details](#).

1. Navigate to **Reports > Create New**.
2. On the **Data** tab, give the report a name that reflects the information being grouped.
3. Select a report source that has variables associated with it. There are two kinds of report sources:

Option	Description
Data source	A table with filters applied to provide a single source of information for all users.
Table	The raw data from a table with no filters applied.

For list reports with variables, the report source is usually the service catalog table.

4. Click **Next**.

5. On the **Type** tab, select **List** in the **Other** section and click **Next**.

A preliminary version of the report is displayed. To view the updated report at any time, click **Run**.

6. On the **Configure** tab, click **Choose columns** and select **Variables [+]** in the Columns window that opens.

Variables [+] is at the bottom of the list of available columns.

Depending on system configuration, you can add fields from tables that extend the selected table. For more information, see [How to access fields on extended tables in a report](#) on page 539.

- 7.

Click the structure icon () to choose an item.

Columns

The screenshot shows the 'Columns' window with two main sections: 'Available' and 'Selected'. The 'Available' section contains a list of items, one of which, 'Variables [+]', is highlighted with a red border. A red arrow points from this highlighted item to a central control panel. The control panel features three buttons: a top button with a grid icon and a red border, a right-pointing arrow button below it, and a left-pointing arrow button below that. To the right of the 'Selected' section, there is some partially visible text.

Available	Selected
State	Number
Tags	Item
Task type	Stage
Time worked	Request
Updated	Android.How many gigs of storage?
Updated by	
Updates	
Upon approval	
Upon reject	
Urgency	
User input	
Watch list	
Work notes	
Work notes list	
Variables [+]	

8. Select an item from the Catalog item list that appears.

The variables associated with the selected item then appear in the **Columns** window.

Columns

Available

Requested Item fields
.Variables-->iPhone 6
iPhone 6.What color would you like?
iPhone 6.How many gigs of storage?

Selected

Number
Item
Stage
Request



9. Select and move variables to the **Selected** column and click **OK**.
10. On the **Configure** tab, fill in the following fields and click **Next**.

Table 105: Configure tab

Field	Description
Group by	<p>Group report data using the values of this field. For example, in an incident report grouped by Assignment group, all incidents that belong to Software, Service Desk, and Network are placed in separate groups.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p>
Additional group by	<p>Extra fields to group the report by. When you select Additional group by fields, a control is added to the bottom of the report that groups the report by any one of the additional fields.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p>

11.

Optional: To limit the information displayed in the report, click the filter icon () and select conditions to filter the report data.

For more details on how conditions are constructed, see [Condition builder](#).

Note: Keywords is a special field used for text searches across all fields. It's use in a filter or condition, in combination with other conditions, may return inconsistent results.

12. Click Save.

The report is generated.

-



Click the sharing icon () to open the **Sharing** menu. On this menu, you can add the report to a dashboard, export the report to PDF, publish the report to the web, and set visibility and schedules. For more information, see [Share a report – Report Designer](#) on page 197.

Note: The default number of rows in a list report exported to PDF is 1000. To configure this value, enter `sys_properties.list` in the Filter Navigator, and edit the property `glide.pdf.max_rows`. For more information, see: [Add a system property](#).

Grouping records in list reports

Grouped list reports can display only the records in each group that are configured to appear in a normal list. You can group rows of information in list reports by specific fields. You cannot group list reports by service catalog variables.

For example, a list configured to display 100 records at a time can show only the first 100 records, regardless of the number of records in that group. Paging is not available within groups, and you cannot access the remaining records without leaving the grouped list. To access all the records in a group:

- Increase the display size of the list.
- Click the group header to return to a normal list for that group with paging enabled.

List reports do not support the user preference to automatically expand grouped records.

This figure shows a list of products grouped by manufacturer. By default, the sections of the report are collapsed. In this example, the items associated with Gateway are expanded.

The screenshot shows a list report titled "Computers". The top navigation bar includes "Name", "Configuration automation", "Node definition", "Management server", and "Management server type". A status bar at the top right indicates "1 to 15 of 15" and "852 total Computers". The main content area displays a hierarchical list of manufacturers. The "Manufacturer: Gateway" section is expanded, showing the following items:

Name	Configuration automation	Node definition	Management server	Management server type
Manufacturer: (empty) (2)				
Manufacturer: Apple (474)				
Manufacturer: Asus (36)				
Manufacturer: Cyberpower (13)				
Manufacturer: Dell Inc. (197)				
Manufacturer: Gateway (9)				
*CAROL3-GATEWAY				
8400-053105				
DIANEK				
DX Series				
JENREALTY				
KIRKK				
MEGANS				
OLGAS				
Product KIOSK				
Manufacturer: IBM (35)				
Manufacturer: iBUYPOWER (4)				
Manufacturer: Iris (4)				

Figure 40: Grouped list report

Export a list report to Excel

You can export a list report to Excel from the list columns, or by scheduling it to be exported.

- You can export a list report as an Excel spreadsheet by right-clicking any column heading and selecting **Export > Excel**.
- You can *schedule* a saved list report to be exported as an Excel spreadsheet, by clicking **Schedule** and specifying **Type** as Excel Spreadsheet. Excel displays report duration values in milliseconds, rather than the "<x> days <y> hours" format.

Create a map report in the Report Designer

Map reports

Map reports display data on a map. You can display data as a geographical heatmap () or view specific data points ().

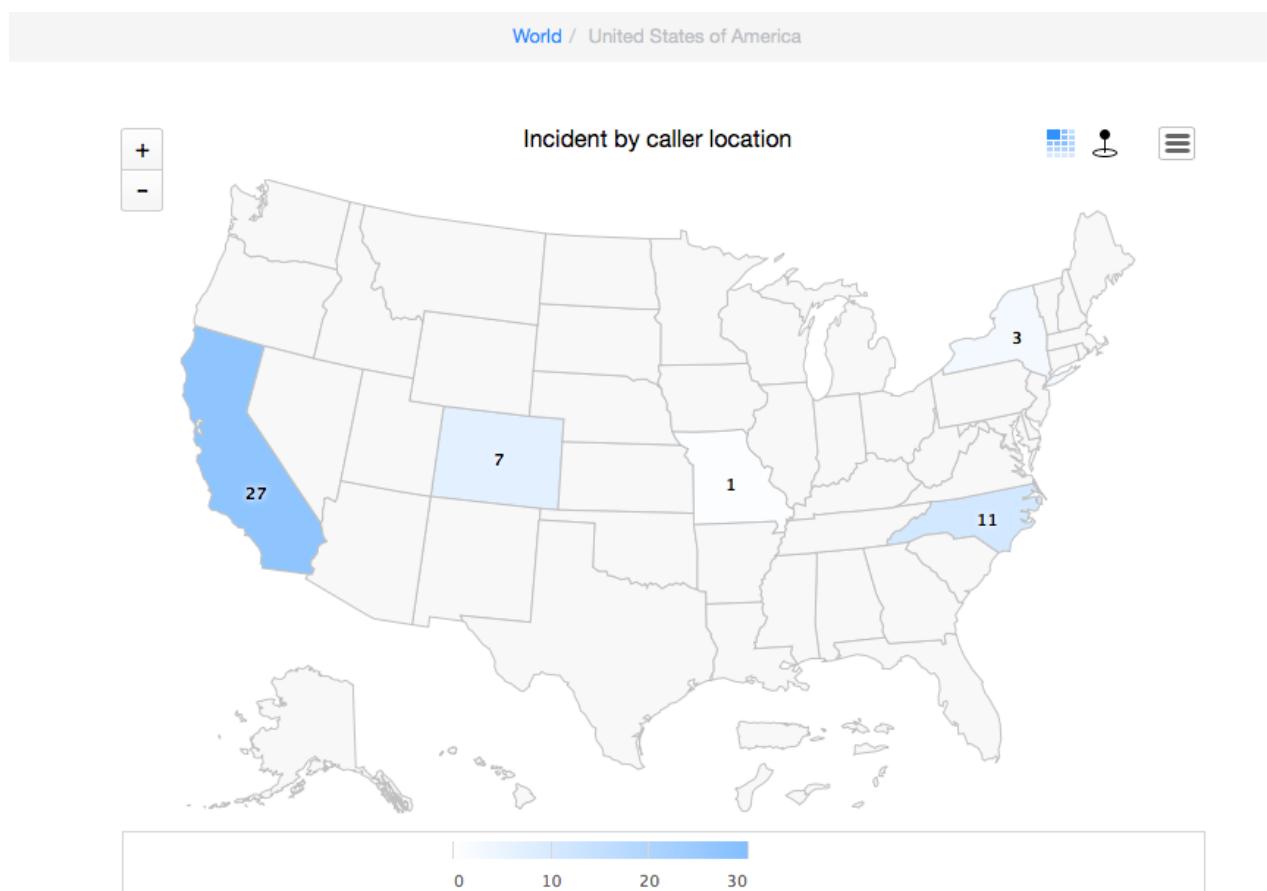
Zoom in on a map to get a more detailed view. In heatmap mode, click any region on the map that contains data to drill down into its map.

Note: Save the map report to drill down into it. You cannot drill down into unsaved reports.

The lowest level of a map hierarchy can display only data points. Click data on this lowest level to see the data in list view, or in drill-down view if one has been configured.

Limitations

- Maps are not supported on Internet Explorer versions 7 and 8.
- Map reports cannot be saved as images on Internet Explorer versions 7 to 9, Firefox versions 31 to 37, Safari 5, or all versions of the Edge browser. For best results, use Chrome to work with map reports.
- Map reports cannot be exported as PDFs, but can be saved as images.
- This report type cannot be run as a scheduled report.



Create a map report in the Report Designer

Create a map report to plot your data on a map.

Role required: itil

This task refers to the Jakarta release under UI15 and UI16. If you are using an earlier UI or the Classic UI for creating reports, follow the instructions in the Helsinki documentation instead: [Report types and creation details](#).

This report type cannot be run as a scheduled report.

Note: To export multilevel pivot tables to PDF, you must activate the Webkit HTML to PDF plugin.

1. Navigate to **Reports > Create New**.
2. On the **Data** tab, give the report a name that reflects the information being grouped.
3. Select the source for the report:

Option	Description
Data source	A table with filters applied to provide a single source of information for all users.
Table	The raw data from a table with no filters applied.
External import	Choose an existing imported report source, or click the Upload icon () to import a new file. See Create a report from an imported Microsoft Excel document on page 524

4. Click **Next**.
5. On the **Type** tab, select **Map** in the **Other** section and click **Next**.

A preliminary version of the report is displayed. To view the updated report at any time, click **Run**.

6. On the **Configure** tab, fill in the following fields and click **Next**.

Field	Description
Display data table	<p>Check this box to display report data in a grid beneath the report. The table appears on dashboards where the report is added.</p> <p>All reports that use charts, including reports that are used on dashboards, display the table of report data when the <code>glide.ui.section508</code> system property is set to <code>true</code>. The <code>glide.ui.section508</code> property overrides the Display data table field.</p>

Field	Description
Aggregation	<p>Mathematical calculation to perform on the data. The default is Count, which displays the number of records selected.</p> <p>To display only unique records, select Count Distinct. For example, if you want a report on the distinct number of users who have one or more of the roles in a given list of roles. Users with more than one role would be counted twice unless you use Count Distinct.</p> <p>Select Average, Sum, or Count Distinct, to display a list of fields from the selected Table. Select a field to aggregate by from this list. For example, if you select a duration field, such as Business duration on the Incident table, the aggregated data is expressed in days, hours, and minutes. If you select an integer field, such as Priority, the data is expressed as a decimal value number.</p> <p>If you choose Sum or Average, select Show related fields to aggregate on dot-walked fields. See <i>Selecting fields on related tables using dot-walking</i></p> <hr/> <p>Note: For duration values, the unit of measurement displayed in the aggregation axis cannot be customized.</p>
Map this data	The data that you want to plot on the map. Only data that a report administrator has prepared as a map source is available.
Set map	The starting map for the report. You can zoom in but cannot zoom out from this map.

7.

Optional: To limit the information displayed in the report, click the filter icon () and select conditions to filter the report data.

For more details on how conditions are constructed, see [Condition builder](#).

Note: Keywords is a special field used for text searches across all fields. It's use in a filter or condition, in combination with other conditions, may return inconsistent results.

8. On the **Style** tab, configure the appearance of the report. Fill in the fields as appropriate.

Table 106: Map report style options

Field	Description
General	

Field	Description
Use heatmap colors	Check box to use different colors to indicate different values on the map. If you clear this check box, all geographical locations with data are displayed in the same color.
Color for high scores	Color to indicate high values.
Color for low scores	Color to indicate low values.
Display data labels	Check box to display the value for each data point.
Display geographical labels	Check box to display the names of geographical objects on the map, such as countries, regions, and states.
Custom chart size	<p>Check box to specify the width and height of the report in pixels.</p> <p>Note: The chart size is ignored when you export the report to PDF. In PDFs, the full page width is used to display the chart.</p>
Chart width	<p>Width of the report in pixels. The default value is 600.</p> <p>This field is available when Custom chart size is selected.</p>
Chart height	<p>Height of the report in pixels. The default value is 450.</p> <p>This field appears when Custom chart size is selected.</p>
Chart size	<p>Chart size. This field is available when Custom chart size is cleared. Options are Small, Medium, and Large.</p> <p>Note: The chart size is ignored when you export the report to PDF. In PDFs, the full page width is used to display the chart.</p>

Field	Description
Drilldown view	<p>List view to display when a user selects a segment of a report for which no drilldown report type is specified. This view is also used when the user reaches the lowest drilldown level of a report. See Configure the list layout. If you specify a Report drilldown, Drilldown view is ignored.</p> <p>Note: All users can view report visualizations, such as pie charts and column reports. However, the last level of a drill down is always a list. Platform access control lists determine user access to list information. Users who do not have rights to any part of the list data see the message "Number of rows removed from this list by Security constraints:" followed by the number. See Access control rules.</p> <p>For more information, see Define a report drilldown in the Report Designer on page 501.</p>
Decimal precision	<p>Number of decimal places to display. You can display From zero to four decimal places. Default value: 2. To change the default value, create the system property glide.chart.decimal.precision and specify the value.</p>
Title	
Show chart title	<p>When the chart title is displayed for the report.</p> <ul style="list-style-type: none"> • Never: Never displays the chart title. • Report only: Displays the chart title on reports. • Always: Displays the chart title on reports, and dashboards and homepages.
Chart title	<p>The chart title has a maximum length of 40 characters. If no title is entered, the report name is used for the title. This field appears when Report only or Always is selected from the Show chart title list.</p>
Size of the chart title	<p>Size of the chart title in pixels. This field appears when Report only or Always is selected from the Show chart title list.</p>

Field	Description
Chart title color	Color of the chart title. This field appears when Report only or Always is selected from the Show chart title list.
Custom chart title position	Check box to specify X and Y coordinates for the position of the chart title. This field appears when Report only or Always is selected from the Show chart title list.
Chart title X position	Number of pixels to adjust the chart title position right or left. By default the title appears at the center top of the chart. To move the chart title to the right, enter a positive value. To move the title to the left, enter a negative value. This field appears only when Custom chart title position is selected.
Chart title Y position	Number of pixels to adjust the chart title position up or down. By default the title appears at the center top of the chart. To move up the chart title, enter a positive value. To move the chart title down, enter a negative value. This field appears only when Custom chart title position is selected.
Title horizontal alignment	How the chart title is aligned horizontally. This field is available when Custom chart title position is cleared.
Title vertical alignment	How the chart title is aligned vertically. This field appears when Custom chart title position is cleared.
Legend tab fields (available only when colors are used on the report)	
Show legend	Check box to display a chart legend. This check box appears when a Group by field is selected on the report form.
Legend horizontal alignment	How the legend is aligned horizontally. This field appears when Show legend is selected.
Legend vertical alignment	How the legend is aligned vertically. This field appears when Show legend is selected.
Show legend border	Check box to display a border around the legend. This check box appears when Show legend is selected.

Field	Description
Left align legend text	Check box to left-align the legend text. By default, the legend text is centered. This check box appears when Show legend is selected.

9.

Optional: To limit the information displayed in the report, click the filter icon () and select conditions to filter the report data.

For more details on how conditions are constructed, see [Condition builder](#).

Note: Keywords is a special field used for text searches across all fields. It's use in a filter or condition, in combination with other conditions, may return inconsistent results.

10. Click **Save**.

The report is generated.

-  Click the Report info icon () and add a description of the report.
-  Click the sharing icon () to open the **Sharing** menu. On this menu, you can share the report with users and groups, add the report to a dashboard, and publish the report to the web. See [Share a report – Report Designer](#) on page 197 for more information.

Create a multilevel pivot report in the Report Designer

Multilevel pivot tables

Multilevel pivot tables display aggregate data broken down by multiple dimensions in a single table. They display separate cells for each row and column value combination, as well as a column subtotal for each first-level row. Aggregate information is presented in the top left of the chart.

You can also create multilevel pivot tables with columns and rows containing variables. See [Use service catalog variables in a report – Report Designer](#) on page 540.

You can expand and collapse rows in the table to show the chart details, or only the subtotals. The top row of a multilevel pivot report is always visible.

Note: Some row configurations prevent the chart from displaying subtotal information, such as when a string column has the same text value but with different character cases.

Note: This report type cannot be run as a scheduled report.

Multilevel Pivot Report Example

		Active	false					true	
		State		Closed	New	In Progress	On Hold	Resolved	Co
Last name	Name								
▼ (empty)	Total			5				1	
	(empty)			5				1	
▼ Anglin	Total			1		5			
	Sales			1		5			
▼ Goodliffe	Total			4		4			
	Development			4		4			
▼ Johnson	Total			1		1			
	Sales			1		1			
▼ Loo	Total			6		1			
	Development			6		1			
► Luddy	Total					2			
► Richman	Total			1		1			
► User	Total			3		6			
► Whitherspoon	Total			1					
► Wilson	Total			3					
Count				20	5	20	6	2	

Figure 41: Multilevel pivot with subtotals and expanded rows

Create a multilevel pivot report in the Report Designer

Create a multilevel pivot report to display aggregate data broken down by multiple metrics in a single table.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

This task refers to the Jakarta release under UI15 and UI16. If you are using an earlier UI or the Classic UI for creating reports, follow the instructions in the Helsinki documentation instead: [Report types and creation details](#).

Note: To export multilevel pivot tables to PDF, you must activate the Webkit HTML to PDF plugin.

1. Navigate to **Reports > Create New**.

2. On the **Data** tab, give the report a name that reflects the information being grouped.

3. Select the source for the report:

Option	Description
Data source	A table with filters applied to provide a single source of information for all users.
Table	The raw data from a table with no filters applied.
External import	Choose an existing imported report source, or click the Upload icon () to import a new file. See Create a report from an imported Microsoft Excel document on page 524

4. Click **Next**.

5. On the **Type** tab, select **Multi-level pivot table** in the **Multidimensional reports** section and click **Next**.

A preliminary version of the report is displayed. To view the updated report at any time, click **Run**.

6. On the **Configure** tab, fill in the following fields and click **Next**.

Table 107: Configure tab

Field	Description
Select columns	<p>One or more fields to use as chart columns. The chart displays data broken down by a combination of row and column values. You can select up to three columns.</p> <p>Note: It is not possible to group by the Tags field.</p>
Select rows	<p>One or more fields to use as chart rows. The chart displays data broken down by a combination of row and column values. You can select up to five rows.</p> <p>Note: The Tags field is not supported for multilevel pivot reports.</p>

Field	Description
Aggregation	<p>Mathematical calculation to perform on the data. The default is Count, which displays the number of records selected.</p> <p>To display only unique records, select Count Distinct. For example, if you want a report on the distinct number of users who have one or more of the roles in a given list of roles. Users with more than one role would be counted twice unless you use Count Distinct.</p> <p>Select Average, Sum, or Count Distinct, to display a list of fields from the selected Table. Select a field to aggregate by from this list. For example, if you select a duration field, such as Business duration on the Incident table, the aggregated data is expressed in days, hours, and minutes. If you select an integer field, such as Priority, the data is expressed as a decimal value number.</p> <p>If you choose Sum or Average, select Show related fields to aggregate on dot-walked fields. See Selecting fields on related tables using dot-walking</p> <hr/> <p>Note: For duration values, the unit of measurement displayed in the aggregation axis cannot be customized.</p>
Max number of groups	<p>Maximum number of groups to display in the report. Groups with highest values are included first. Any excluded groups are combined into the single group Other.</p> <p>If you select Show all, all groups up to a limit of 50 are displayed. The rest of the results are grouped as Other. If you select Remove Other, the Other group is hidden.</p>
Show Other	<p>Check box to include the Other group in the report. The Other group contains data for all groups that exceed the number specified in Max number of groups.</p>

7. Optional: Select **Default expanded** to display the report with the rows expanded. Otherwise, the report will display with all rows collapsed.

Open incidents by Priority/State/Category

Click here to expand or collapse all rows

Priority	State	Category	Count				
			1 - Critical	2 - High	3 - Moderate	4 - Low	5 - Info
	New	Total	0	0	2	0	0
		Inquiry / Help	0	1	0	0	0
		Software	0	0	1	0	0
		Network	0	0	0	0	0
	In Progress	Total	3	0	0	0	0
	On Hold	Total	4	0	1	1	0
	Count		15	4	6	1	0

Figure 42: Multilevel pivot report with collapsed and expanded rows

8. Optional: Check **Display row lines** and **Display column lines** to show the lines that separate the cells in the report.

Open incidents by Priority/State/Category

Priority	State	Category	Count				
			1 - Critical	2 - High	3 - Moderate	4 - Low	5 - Info
	New	Total	0	0	2	0	0
	In Progress	Total	11	4	3	0	0
	On Hold	Total	4	0	1	1	0
	Count		15	4	6	1	0

9.

Configure the sort order of column and row fields in the report. Click the filter icon () and select **Add Sort**.

1. In the Sorting Order drop-down list, choose the field you want to sort on and then choose **a-z** or **z-a** for alphabetical order or reverse alphabetical order.

The list contains all possible fields from the report's source. The only effective values, however, are the column and row fields chosen for the current report.

2.

Click  to configure additional sorting order conditions. (Click  to delete configured sorting order conditions.)

3. Click **Save**.

For fields of the type Choice list, the sort order is determined by the sequence of the choices in the choice list, not alphabetically or numerically. For example, a priority

choice list is often indexed from Critical to Planning as shown in the figure below.

The screenshot shows the 'Add Sort' dialog box in the foreground, which contains a sorting order for 'Priority' from 'z to a'. Below this, a report preview titled 'Open incidents by Priority' is displayed. The report includes filters for 'State' and 'Category', and a summary table with columns for 'Priority', 'State', 'Category', 'New', 'Total', and a count of 3. The 'Priority' column is highlighted with a red box. The report also includes a 'RELATED LIST CONDITIONS' section.

Priority	State	Category	New	Total	
5 - Planning				3	

10.

Optional: To limit the information displayed in the report, click the filter icon () and select conditions to filter the report data.

For more details on how conditions are constructed, see [Condition builder](#).

Note: Keywords is a special field used for text searches across all fields. It's use in a filter or condition, in combination with other conditions, may return inconsistent results.

11. On the **Style** tab, fill in the fields as appropriate to configure the appearance of the report.

12. Click Save.

The report is generated.

-

Click the Report info icon () and add a description of the report.

- 

Click the sharing icon () to open the **Sharing** menu. On this menu, you can add the report to a dashboard, export the report to PDF, publish the report to the web, and set visibility and schedules. For more information, see [Share a report – Report Designer](#) on page 197.

Create a multilevel pivot report in the Report Designer with variable columns and rows

You can create a multilevel pivot report with variables columns and rows based on a data source or table that has variables associated with it. Variables are descriptions of catalog items. For example, if a service catalog item has a variable called **Storage**, you can create a report that has a column or row for the values in this variable, such as 128 GB, 500 GB, and 1 TB.

Role required: `itil`, `report_group`, `report_global`, `report_admin`, or `admin`. To create a meaningful report, you must have the right to access the data you want to report on.

This task refers to the Jakarta release under UI15 and UI16. If you are using an earlier UI or the Classic UI for creating reports, follow the instructions in the Helsinki documentation instead: [Report types and creation details](#).

Note: To export multilevel pivot tables to PDF, you must activate the Webkit HTML to PDF plugin.

1. Navigate to **Reports > Create New**.
2. On the **Data** tab, give the report a name that reflects the information being grouped.
3. Select the source for the report:

Option	Description
Data source	A table with filters applied to provide a single source of information for all users.
Table	The raw data from a table with no filters applied.
External import	Choose an existing imported report source, or click the Upload icon () to import a new file. See Create a report from an imported Microsoft Excel document on page 524

4. Click **Next**.
5. On the **Type** tab, select **Multi-level pivot table** in the **Multidimensional reports** section and click **Next**.

A preliminary version of the report is displayed. To view the updated report at any time, click **Run**.

6. On the **Configure** tab, click **Select columns**.

From the Available list in the **Multilevel Pivot Columns** window, select columns that you want to use in the report and move them to the **Selected** list.

Note: It is not possible to group or stack reports by the **Tags** field.

Depending on system configuration, you can add fields from tables that extend the table selected as the report data source. For more information, see [How to access fields on extended tables in a report](#) on page 539.

7. Select variables to use as columns:
 - a) Select one or more fields to use as report columns.

The report visualization displays data broken down by a combination of row and column values. You can select up to three columns including the variables.

b)

Select **Variables [+]** and click the structure icon () to choose an item.

Columns

Available

- State
- Tags
- Task type
- Time worked
- Updated
- Updated by
- Updates
- Upon approval
- Upon reject
- Urgency
- User input
- Watch list
- Work notes
- Work notes list

Variables [+]

Selected

- Number
- Item
- Stage
- Request
- Android.How many gigs of stor



c) Select a **Catalog item** from the pop-up window.

The variables associated with the item appear in the **Columns** window.

Available

Requested Item fields

.Variables-->iPhone 6

iPhone 6.What color would you like?

iPhone 6.How many gigs of storage?

Selected

Number

Item

Stage

Request

- d) Move the selected variables to the **Selected** column and click **OK**.
8. Click **Select rows** to select one or more fields to use as report rows. You select rows similarly to how you select columns.
The report visualization displays data broken down by a combination of row and column values. You can select up to five rows including the variables.
- Note:** It is not possible to group or stack reports by the **Tags** field.
9. On the **Configure** tab, fill in the following fields and click **Next**.

Table 108: Configure tab

Field	Description
Aggregation	<p>Mathematical calculation to perform on the data. The default is Count, which displays the number of records selected.</p> <p>To display only unique records, select Count Distinct. For example, if you want a report on the distinct number of users who have one or more of the roles in a given list of roles. Users with more than one role would be counted twice unless you use Count Distinct.</p> <p>Select Average, Sum, or Count Distinct, to display a list of fields from the selected Table. Select a field to aggregate by from this list. For example, if you select a duration field, such as Business duration on the Incident table, the aggregated data is expressed in days, hours, and minutes. If you select an integer field, such as Priority, the data is expressed as a decimal value number.</p> <p>If you choose Sum or Average, select Show related fields to aggregate on dot-walked fields. See Selecting fields on related tables using dot-walking</p> <p>Note: For duration values, the unit of measurement displayed in the aggregation axis cannot be customized.</p>
Max number of groups	<p>Maximum number of groups to display in the report. Groups with highest values are included first. Any excluded groups are combined into the single group Other.</p> <p>If you select Show all, all groups up to a limit of 50 are displayed. The rest of the results are grouped as Other. If you select Remove Other, the Other group is hidden.</p>
Show Other	<p>Check box to include the Other group in the report. The Other group contains data for all groups that exceed the number specified in Max number of groups.</p>

10. Optional: Check **Display row lines** and **Display column lines** to show the lines that separate the cells in the report.

Open incidents by Priority/State/Category

		Priority	1 - Critical	2 - High	3 - Moderate	4 - Low	5
State	Category						
► New	Total		0	0	2	0	
► In Progress	Total		11	4	3	0	
► On Hold	Total		4	0	1	1	
Count			15	4	6	1	

11.

Configure the sort order of column and row fields in the report. Click the filter icon () and select **Add Sort**.

1. In the Sorting Order drop-down list, choose the field you want to sort on and then choose **a-z** or **z-a** for alphabetical order or reverse alphabetical order.
The list contains all possible fields from the report's source. The only effective values, however, are the column and row fields chosen for the current report.
2. Click  to configure additional sorting order conditions. (Click  to delete configured sorting order conditions.)
3. Click **Save**.

For fields of the type Choice list, the sort order is determined by the sequence of the choices in the choice list, not alphabetically or numerically. For example, a priority

choice list is often indexed from Critical to Planning as shown in the figure below.

The screenshot shows the 'Add Sort' dialog box in the foreground, which contains a 'Sorting Order' section with 'Priority' selected and 'z to a' as the sort direction. Below this, a report preview titled 'Open incidents by Priority' is displayed. The report includes a header with 'Priority', 'State', 'Category', and a redboxed 'New' column. The main body shows a single row for 'New' incidents with columns for State (5 - Planning), Category (4 - Lo), and a redboxed 'Priority' value of 5 - Planning. At the bottom, there are 'Total' counts of 3 for New and 3 for Total.

12.

Optional: To limit the information displayed in the report, click the filter icon () and select conditions to filter the report data.

For more details on how conditions are constructed, see [Condition builder](#).

Note: Keywords is a special field used for text searches across all fields. It's use in a filter or condition, in combination with other conditions, may return inconsistent results.

13. On the **Style** tab, fill in the fields as appropriate to configure the appearance of the report.

14. Click **Save**.

The report is generated.

-

Click the Report info icon () and add a description of the report.



- Click the sharing icon () to open the **Sharing** menu. On this menu, you can add the report to a dashboard, export the report to PDF, publish the report to the web, and set visibility and schedules. For more information, see [Share a report – Report Designer](#) on page 197.

Multilevel pivot report style options – Report Designer

Change the look of your multi-level pivot chart.

When you create or edit a report, click the **Style** tab for options to configure the look of your report. The options are organized under two or more of the following tabs: **General**, **Title**, **Legend**, and **Axis**. To see how the chart looks with the changed settings, click **Save**.

Table 109: Multilevel pivot report style options

Field	Description
General	
Display Zero	Check this box to display the number 0 when the value of a cell is 0. Clear this check box to display an empty cell when the value of the cell is 0. Applicable when Aggregation is Count or Count Distinct .
Default expanded	Check this box to expand all rows when the report is displayed. Clear this check book to collapse all rows when the report is displayed. See Multilevel pivot report with collapsed and expanded rows
Display row lines	Check this box to display lines between rows in the report.
Display column lines	Check this box to display lines between columns in the report.

Field	Description
Drilldown view	<p>List view to display when a user selects a segment of a report for which no drilldown report type is specified. This view is also used when the user reaches the lowest drilldown level of a report. See Configure the list layout. If you specify a Report drilldown, Drilldown view is ignored.</p> <hr/> <p>Note: All users can view report visualizations, such as pie charts and column reports. However, the last level of a drill down is always a list. Platform access control lists determine user access to list information. Users who do not have rights to any part of the list data see the message "Number of rows removed from this list by Security constraints:" followed by the number. See Access control rules.</p> <hr/> <p>For more information, see Define a report drilldown in the Report Designer on page 501.</p>
Edit coloring rules	<p>Click this hyperlink to configure how cells and cell text with numerical values are colored in the report. You can create rules to define which colors are used based on operators and values. For example, you can specify that any value greater than 5 displays in red. See Create coloring rules for multilevel pivot reports on page 472.</p>
Decimal precision	<p>Number of decimal places to display. You can display From zero to four decimal places. Default value: 2. To change the default value, create the system property glide.chart.decimal.precision and specify the value.</p>
Title	
Show chart title	<p>When the chart title is displayed for the report.</p> <ul style="list-style-type: none"> • Never: Never displays the chart title. • Report only: Displays the chart title on reports. • Always: Displays the chart title on reports, and dashboards and homepages.
Chart title	<p>The chart title has a maximum length of 40 characters. If no title is entered, the report name is used for the title. This field appears when Report only or Always is selected from the Show chart title list.</p>

Field	Description
Size of the chart title	Size of the chart title in pixels. This field appears when Report only or Always is selected from the Show chart title list.
Chart title color	Color of the chart title. This field appears when Report only or Always is selected from the Show chart title list.
Custom chart title position	Check box to specify X and Y coordinates for the position of the chart title. This field appears when Report only or Always is selected from the Show chart title list.
Chart title X position	<p>Number of pixels to adjust the chart title position right or left. By default the title appears at the center top of the chart. To move the chart title to the right, enter a positive value. To move the title to the left, enter a negative value.</p> <p>This field appears only when Custom chart title position is selected.</p>
Chart title Y position	<p>Number of pixels to adjust the chart title position up or down. By default the title appears at the center top of the chart. To move up the chart title, enter a positive value. To move the chart title down, enter a negative value.</p> <p>This field appears only when Custom chart title position is selected.</p>
Title horizontal alignment	How the chart title is aligned horizontally. This field is available when Custom chart title position is cleared.
Title vertical alignment	How the chart title is aligned vertically. This field appears when Custom chart title position is cleared.

Open incidents by Priority/State/Category

The screenshot shows a pivot table with the following structure:

		Priority				
		1 - Critical	2 - High	3 - Moderate	4 - Low	5 - Pla
State	Category					
New	Total	0	0	2	0	
	Inquiry / Help	0	1	0		
	Software	0	1	0		
	Network	0	0	0	0	
In Progress	Total	3	0			
	On Hold	4	0	1	1	
Count	15	4	6	1		

Annotations in red boxes highlight specific features:

- A red box with a downward arrow and the text "Click here to expand or collapse all rows" points to the top-left corner of the table area.
- A red box labeled "Expanded rows" points to the row for "Inquiry / Help" under the "New" state.
- A red box labeled "Collapsed rows" points to the rows for "In Progress" and "On Hold".

Figure 43: Multilevel pivot report with collapsed and expanded rows

Create coloring rules for multilevel pivot reports

Configure rules for how numerical values are displayed in a multilevel pivot table report, to easily highlight the more important values. The color rule is applied to the content of cells in pivot reports.

This task is part of configuring the style options of a multilevel pivot report.

1. On the **Style** tab of the report designer, click **Edit coloring rules**.
2. In the Multilevel Pivot Rules dialog box, click **New rule**.
3. In the New record dialog box, select an **Operator**.
Options are: greater than, greater than or is, lower than, lower than or is, is, and between.
4. Specify a value. If you selected the operator **between**, specify two values. The color rule is applied to the aggregated values.
5. Select a font color and a background color.
6. Optional: Specify a **Rule order**. Rules are evaluated from lowest value to highest. For example, you have one rule applies the color blue to the value 7, and a second rule that applies the color red to values between 1 and 10. If you want the 7 to appear blue, the **Rule order** value for the first rule should be higher so that the second rule does not override it.
If you do not specify a rule order, coloring rules are applied in the order in which they were created.
7. Click **Submit** to save the rule and create a new rule, or click **OK** to save the rule and return to the report designer.

Create a pareto report in the Report Designer

Pareto reports

Pareto charts help you identify the most important dimension in a large set of dimensions. Columns show data in descending order. A line shows cumulative percentage.

Pareto charts contain both bar and line graphs. The bars display the data in descending order from left to right, and the line graph shows the cumulative totals from each category in the same order. The left Y axis is the record count, and the right Y axis is the cumulative percentage of the total number of records evaluated. The blue line at the 80% mark helps determine which data is the most influential in the process. The data to the left of the intersection of the line graph and the 80% mark have the greatest effect on the overall outcome.

The figure below shows that five callers account for 80% of the incident calls, while seven account for the other 20%.

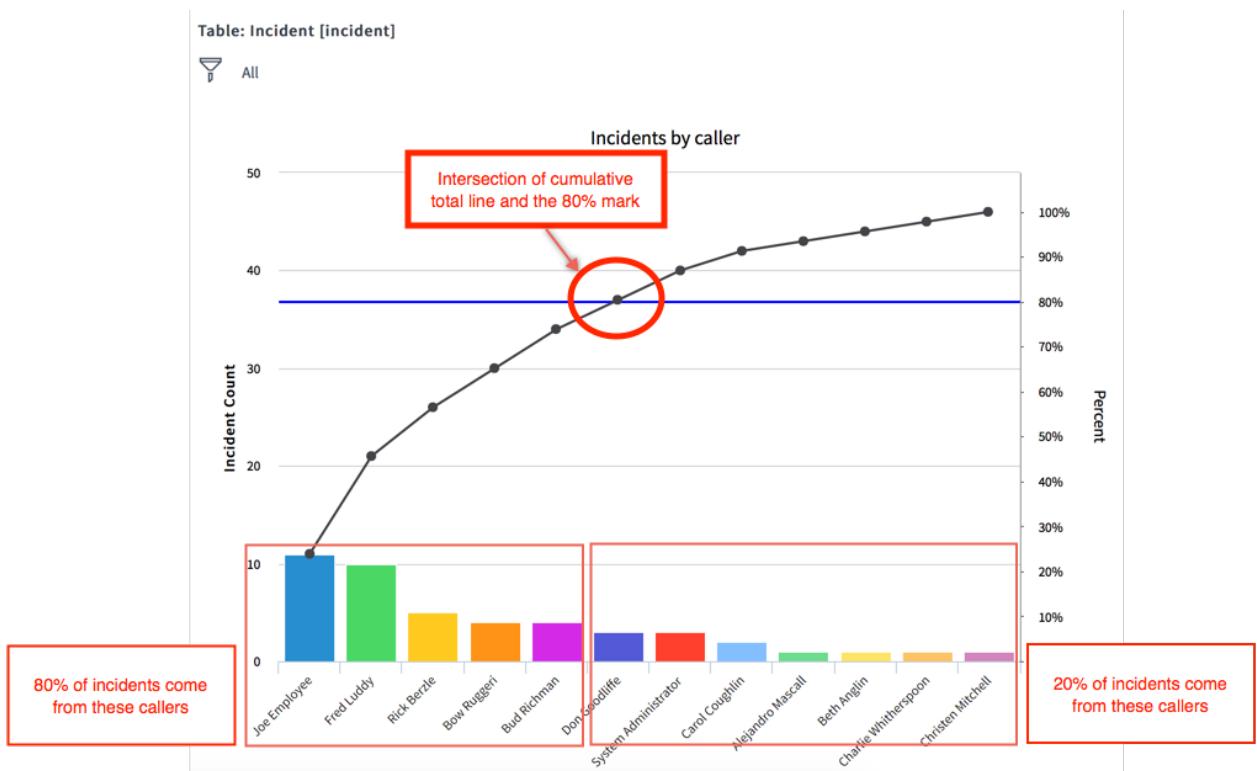


Figure 44: Pareto chart

Create a pareto report in the Report Designer

Create a pareto report to identify the most important factors in a large set of factors.

This task refers to the Jakarta release under UI15 and UI16. If you are using an earlier UI or the Classic UI for creating reports, follow the instructions in the Helsinki documentation instead: [Report types and creation details](#).

1. Navigate to **Reports > Create New**.
2. On the **Data** tab, give the report a name that reflects the information being grouped.
3. Select the source for the report:

Option	Description
Data source	A table with filters applied to provide a single source of information for all users.
Table	The raw data from a table with no filters applied.
External import	Choose an existing imported report source, or click the Upload icon () to import a new file. See Create a report from an imported Microsoft Excel document on page 524

4. Click **Next**.
5. On the **Type** tab, select **Pareto** in the **Bars** section and click **Next**.

A preliminary version of the report is displayed. To view the updated report at any time, click **Run**.

6. On the **Configure** tab, fill in the following fields and click **Next**.

Table 110: Configure tab

Field	Description
Group by	<p>Group report data using the values of this field. For example, in an incident report grouped by Assignment group, all incidents that belong to Software, Service Desk, and Network are placed in separate groups.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p>
Additional group by	<p>Extra fields to group the report by. When you select Additional group by fields, a control is added to the bottom of the report that groups the report by any one of the additional fields.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p>

Field	Description
Display data table	<p>Check this box to display report data in a grid beneath the report. The table appears on dashboards where the report is added.</p> <p>All reports that use charts, including reports that are used on dashboards, display the table of report data when the <code>glide.ui.section508</code> system property is set to <code>true</code>. The <code>glide.ui.section508</code> property overrides the Display data table field.</p>
Max number of groups	<p>Maximum number of groups to display in the report. Groups with highest values are included first. Any excluded groups are combined into the single group Other.</p> <p>If you select Show all, all groups up to a limit of 50 are displayed. The rest of the results are grouped as Other. If you select Remove Other, the Other group is hidden.</p>
Show Other	<p>Check box to include the Other group in the report. The Other group contains data for all groups that exceed the number specified in Max number of groups.</p>

7.

Optional: To limit the information displayed in the report, click the filter icon () and select conditions to filter the report data.

For more details on how conditions are constructed, see [Condition builder](#) .

Note: Keywords is a special field used for text searches across all fields. It's use in a filter or condition, in combination with other conditions, may return inconsistent results.

8. On the **Style** tab, fill in the fields as appropriate to configure the appearance of the report.

9. Click **Save**.

The report is generated.

-



Click the Report info icon () and add a description of the report.

-



Click the sharing icon () to open the **Sharing** menu. On this menu, you can add the report to a dashboard, export the report to PDF, publish the report to the web, and set visibility and schedules. For more information, see [Share a report – Report Designer](#) on page 197.

Pareto report style options – Report Designer

Change the look of your Pareto report.

When you create or edit a report, click the **Style** tab for options to configure the look of your report. The options are organized under two or more of the following tabs: **General**, **Title**, **Legend**, and **Axis**. To see how the chart looks with the changed settings, click **Save**.

Table 111: Pareto chart style options

Field	Description
General	
Chart color	<p>Colors used in the report.</p> <p>If you do not group or stack the report, Use one color is automatically selected. Select a single predefined system color.</p> <p>If you group or stack the report, select one of the following options:</p> <ul style="list-style-type: none"> • Use color palette: Select a color palette from the predefined system color palettes. • Use several colors: Define a custom set of Colors using hex codes. You can add any number of colors. • Use chart colors: Use the colors defined in Reports > Chart Colors. <p>Note: It is not possible to use transparency hex values.</p>
Set color	<p>Color used in the report. This field displays when you select Use one color from the Chart color list. Click the search icon () to choose from the Chart color schemes or Color Definitions list.</p>
Set palette	<p>Color palette used in the report. This field appears when you select Use color palette from the Chart color list. Click the search icon () to choose from the Color color schemes list.</p>
Display data labels	<p>Check box to display the value for each data point.</p>
Custom chart size	<p>Check box to specify the width and height of the report in pixels.</p> <p>Note: The chart size is ignored when you export the report to PDF. In PDFs, the full page width is used to display the chart.</p>
Chart width	<p>Width of the report in pixels. The default value is 600.</p> <p>This field is available when Custom chart size is selected.</p>

Field	Description
Chart height	<p>Height of the report in pixels. The default value is 450.</p> <p>This field appears when Custom chart size is selected.</p>
Chart size	<p>Chart size. This field is available when Custom chart size is cleared. Options are Small, Medium, and Large.</p> <p>Note: The chart size is ignored when you export the report to PDF. In PDFs, the full page width is used to display the chart.</p>
Drilldown view	<p>List view to display when a user selects a segment of a report for which no drilldown report type is specified. This view is also used when the user reaches the lowest drilldown level of a report. See Configure the list layout. If you specify a Report drilldown, Drilldown view is ignored.</p> <p>Note: All users can view report visualizations, such as pie charts and column reports. However, the last level of a drill down is always a list. Platform access control lists determine user access to list information. Users who do not have rights to any part of the list data see the message "Number of rows removed from this list by Security constraints:" followed by the number. See Access control rules.</p> <p>For more information, see Define a report drilldown in the Report Designer on page 501.</p>
Title	
Show chart title	<p>When the chart title is displayed for the report.</p> <ul style="list-style-type: none"> • Never: Never displays the chart title. • Report only: Displays the chart title on reports. • Always: Displays the chart title on reports, and dashboards and homepages.
Chart title	<p>The chart title has a maximum length of 40 characters. If no title is entered, the report name is used for the title. This field appears when Report only or Always is selected from the Show chart title list.</p>

Field	Description
Size of the chart title	Size of the chart title in pixels. This field appears when Report only or Always is selected from the Show chart title list.
Chart title color	Color of the chart title. This field appears when Report only or Always is selected from the Show chart title list.
Custom chart title position	Check box to specify X and Y coordinates for the position of the chart title. This field appears when Report only or Always is selected from the Show chart title list.
Chart title X position	Number of pixels to adjust the chart title position right or left. By default the title appears at the center top of the chart. To move the chart title to the right, enter a positive value. To move the title to the left, enter a negative value. This field appears only when Custom chart title position is selected.
Chart title Y position	Number of pixels to adjust the chart title position up or down. By default the title appears at the center top of the chart. To move up the chart title, enter a positive value. To move the chart title down, enter a negative value. This field appears only when Custom chart title position is selected.
Title horizontal alignment	How the chart title is aligned horizontally. This field is available when Custom chart title position is cleared.
Title vertical alignment	How the chart title is aligned vertically. This field appears when Custom chart title position is cleared.
Axis	
Y axis and X axis	Axis for which you want to configure the titles, appearance, and labels.
Title	Title for the axis.
Title size	Size of the axis title in pixels. Default value is 12.
Title color	Color of the axis title. Default value is Black .
Title bold	Check this box to display the axis title in a bold typeface.
Opposite	On the X axis tab, select this check box to display the X-axis title on the right side of the report instead. On the Y axis tab, select this check box to display the Y-axis title on top of the report instead of across the bottom.

Field	Description
Display grid	On the X axis tab, select this check box to display horizontal grid lines on the report. On the Y axis tab, select this check box to display vertical grid lines on top the report.
X axis / Y axis grid width	Width of grid lines on the report. Default value is 1 pixel.
Grid color	Color of grid lines. Default value is LightGrey .
Grid dotted	Check this box to display dotted grid lines instead of solid lines.
From	Specify a minimum Y-axis value to limit the amount of information in the report. If you select an aggregation field that is not of the type Number , the From and To fields are not available.
To	Specify a maximum Y-axis value to limit the amount of information in the report. If you select an aggregation field that is not of the type Number , the From and To fields are not available.
X axis / Y axis label size	On the X axis tab, specify the size of the labels for the rows of the report. On the Y axis tab, specify the size of the labels for the columns in the report.
Label bold	Check this box to display the labels of the report in a bold typeface.

Create a pie report in the Report Designer

Pie charts

Pies charts show the proportions that make up a whole.

You can use a pie chart to show things like open incidents by priority. For example, suppose that an organization has a policy that critical incidents can never exceed 40% of all open incidents. Given that there are always open incidents of various priority levels, you can quickly see with a pie chart when incident counts exceed acceptable ranges. This figure shows that 14.61% of the open incidents are critical.

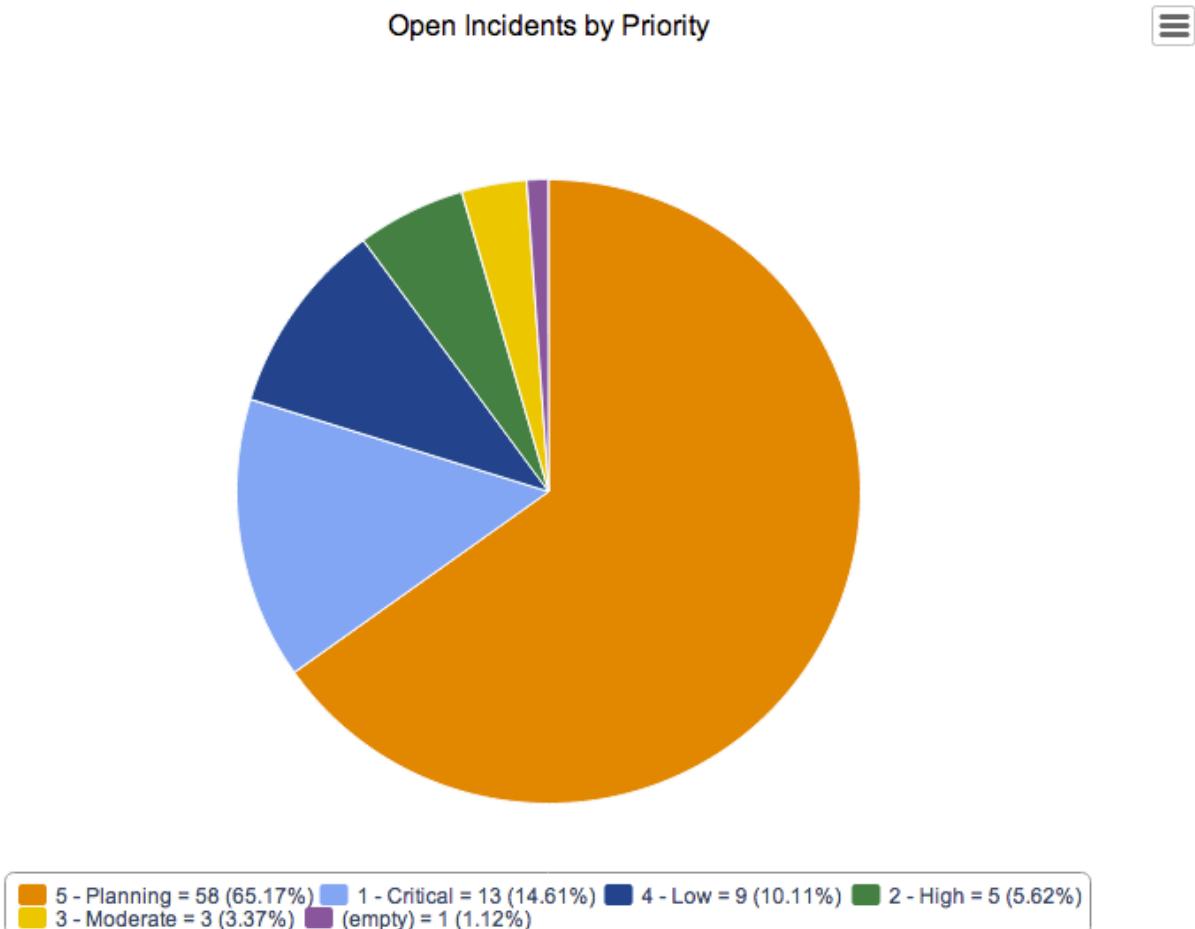


Figure 45: Pie chart

Create a pie report in the Report Designer

Create a pie report to compare the size of individual categories to the whole.

This task refers to the Jakarta release under UI15 and UI16. If you are using an earlier UI or the Classic UI for creating reports, follow the instructions in the Helsinki documentation instead: [Report types and creation details](#).

1. Navigate to **Reports > Create New**.
2. On the **Data** tab, give the report a name that reflects the information being grouped.
3. Select the source for the report:

Option	Description
Data source	A table with filters applied to provide a single source of information for all users.
Table	The raw data from a table with no filters applied.
External import	Choose an existing imported report source, or click the Upload icon () to import a new file. See Create a report from an imported Microsoft Excel document on page 524

4. Click **Next**.
5. On the **Type** tab, select **Pie** in the **Pies and Donuts** section and click **Next**.
A preliminary version of the report is displayed. To view the updated report at any time, click **Run**.
6. On the **Configure** tab, fill in the following fields and click **Next**.

Table 112: Configure tab

Field	Description
Group by	<p>Group report data using the values of this field. For example, in an incident report grouped by Assignment group, all incidents that belong to Software, Service Desk, and Network are placed in separate groups.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p>
Additional group by	<p>Extra fields to group the report by. When you select Additional group by fields, a control is added to the bottom of the report that groups the report by any one of the additional fields.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p>

Field	Description
Display data table	<p>Check this box to display report data in a grid beneath the report. The table appears on dashboards where the report is added.</p> <p>All reports that use charts, including reports that are used on dashboards, display the table of report data when the glide.ui.section508 system property is set to true. The glide.ui.section508 property overrides the Display data table field.</p>
Aggregation	<p>Mathematical calculation to perform on the data. The default is Count, which displays the number of records selected.</p> <p>To display only unique records, select Count Distinct. For example, if you want a report on the distinct number of users who have one or more of the roles in a given list of roles. Users with more than one role would be counted twice unless you use Count Distinct.</p> <p>Select Average, Sum, or Count Distinct, to display a list of fields from the selected Table. Select a field to aggregate by from this list. For example, if you select a duration field, such as Business duration on the Incident table, the aggregated data is expressed in days, hours, and minutes. If you select an integer field, such as Priority, the data is expressed as a decimal value number.</p> <p>If you choose Sum or Average, select Show related fields to aggregate on dot-walked fields. See Selecting fields on related tables using dot-walking</p> <hr/> <p>Note: For duration values, the unit of measurement displayed in the aggregation axis cannot be customized.</p>
Max number of groups	<p>Maximum number of groups to display in the report. Groups with highest values are included first. Any excluded groups are combined into the single group Other.</p> <p>If you select Show all, all groups up to a limit of 50 are displayed. The rest of the results are grouped as Other. If you select Remove Other, the Other group is hidden.</p>

Field	Description
Show Other	Check box to include the Other group in the report. The Other group contains data for all groups that exceed the number specified in Max number of groups .

7.

Optional: To limit the information displayed in the report, click the filter icon () and select conditions to filter the report data.

For more details on how conditions are constructed, see [Condition builder](#) .

Note: Keywords is a special field used for text searches across all fields. It's use in a filter or condition, in combination with other conditions, may return inconsistent results.

8. On the **Style** tab, fill in the fields as appropriate to configure the appearance of the report.

9. Click **Save**.

The report is generated.

-



Click the Report info icon () and add a description of the report.

-



Click the sharing icon () to open the **Sharing** menu. On this menu, you can add the report to a dashboard, export the report to PDF, publish the report to the web, and set visibility and schedules. For more information, see [Share a report – Report Designer](#) on page 197.

Pie report style options – Report Designer

Change the look of your pie report.

When you create or edit a report, click the **Style** tab for options to configure the look of your report. The options are organized under two or more of the following tabs: **General**, **Title**, **Legend**, and **Axis**. To see how the chart looks with the changed settings, click **Save**.

Table 113: Chart style options

Field	Description
General	

Field	Description
Chart color	<p>Colors used in the report.</p> <p>If you do not group or stack the report, Use one color is automatically selected. Select a single predefined system color.</p> <p>If you group or stack the report, select one of the following options:</p> <ul style="list-style-type: none"> • Use color palette: Select a color palette from the predefined system color palettes. • Use several colors: Define a custom set of Colors using hex codes. You can add any number of colors. • Use chart colors: Use the colors defined in Reports > Chart Colors. <p>Note: It is not possible to use transparency hex values.</p>
Set palette	<p>Color palette used in the report. This field appears when you select Use color palette from the Chart color list. Click the search icon () to choose from the Color color schemes list.</p>
Display data labels	<p>Check box to display the value for each slice. By default, data labels can be displayed for pie charts with up to 8 slices. To change this limit, edit the <code>glide.ui.chart.pie.labels.max_items</code> system property.</p>
Custom chart size	<p>Check box to specify the width and height of the report in pixels.</p> <p>Note: The chart size is ignored when you export the report to PDF. In PDFs, the full page width is used to display the chart.</p>
Chart width	<p>Width of the report in pixels. The default value is 600.</p> <p>This field is available when Custom chart size is selected.</p>
Chart height	<p>Height of the report in pixels. The default value is 450.</p> <p>This field appears when Custom chart size is selected.</p>

Field	Description
Chart size	<p>Chart size. This field is available when Custom chart size is cleared. Options are Small, Medium, and Large.</p> <p>Note: The chart size is ignored when you export the report to PDF. In PDFs, the full page width is used to display the chart.</p>
Drilldown view	<p>List view to display when a user selects a segment of a report for which no drilldown report type is specified. This view is also used when the user reaches the lowest drilldown level of a report. See Configure the list layout. If you specify a Report drilldown, Drilldown view is ignored.</p> <p>Note: All users can view report visualizations, such as pie charts and column reports. However, the last level of a drill down is always a list. Platform access control lists determine user access to list information. Users who do not have rights to any part of the list data see the message "Number of rows removed from this list by Security constraints:" followed by the number. See Access control rules.</p> <p>For more information, see Define a report drilldown in the Report Designer on page 501.</p>
Decimal precision	<p>Number of decimal places to display. You can display From zero to four decimal places. Default value: 2. To change the default value, create the system property glide.chart.decimal.precision and specify the value.</p>
Title	
Show chart title	<p>When the chart title is displayed for the report.</p> <ul style="list-style-type: none"> • Never: Never displays the chart title. • Report only: Displays the chart title on reports. • Always: Displays the chart title on reports, and dashboards and homepages.
Chart title	<p>The chart title has a maximum length of 40 characters. If no title is entered, the report name is used for the title. This field appears when Report only or Always is selected from the Show chart title list.</p>

Field	Description
Size of the chart title	Size of the chart title in pixels. This field appears when Report only or Always is selected from the Show chart title list.
Chart title color	Color of the chart title. This field appears when Report only or Always is selected from the Show chart title list.
Custom chart title position	Check box to specify X and Y coordinates for the position of the chart title. This field appears when Report only or Always is selected from the Show chart title list.
Title horizontal alignment	How the chart title is aligned horizontally. This field is available when Custom chart title position is cleared.
Title vertical alignment	How the chart title is aligned vertically. This field appears when Custom chart title position is cleared.
Chart title X position	Number of pixels to adjust the chart title position right or left. By default the title appears at the center top of the chart. To move the chart title to the right, enter a positive value. To move the title to the left, enter a negative value. This field appears only when Custom chart title position is selected.
Chart title Y position	Number of pixels to adjust the chart title position up or down. By default the title appears at the center top of the chart. To move up the chart title, enter a positive value. To move the chart title down, enter a negative value. This field appears only when Custom chart title position is selected.
Legend	
Show legend	Check box to display a chart legend. This check box appears when a Group by field is selected on the report form.
Legend horizontal alignment	How the legend is aligned horizontally. This field appears when Show legend is selected.
Legend vertical alignment	How the legend is aligned vertically. This field appears when Show legend is selected.
Show legend border	Check box to display a border around the legend. This check box appears when Show legend is selected.
Left align legend text	Check box to left-align the legend text. By default, the legend text is centered. This check box appears when Show legend is selected.

Create a pivot table report in the Report Designer

Note: [Multilevel pivot table reports](#) provide more configuration features, more style options, and are more stable.

Pivot tables

Pivot tables aggregate data from a table into columns and rows, which you define. They help you quickly investigate the source of the summarized data. Non-empty cells display hints that indicate how many records the cell represents. Click a non-empty cell to display a breakdown of those records.

You can configure a filter to further refine the data and select the aggregation values.

Note: Pivot tables are no longer supported. If you have a problem with a pivot table report, open the report and change the type to [Multilevel pivot table](#). The multilevel pivot table report is more stable and has more features than the pivot table.

Incident Breakdown

Assigned to	Category							Total
	Request	Inquiry / Help	Software	Hardware	Network	Database		
(empty)	0	0	1	0	1	0		2
Beth Anglin	0	2	1	1	1	0		5
Bow Ruggeri	0	1	0	0	0	0		1
Bud Richman	1	0	1	0	0	0		2
Charlie Whitherspoon	0	0	1	0	1	0		2
David Loo	0	4	1	3	0	1		9
Don Goodliffe	0	3	2	1	0	1		7
Fred Luddy	0	0	1	0	0	0		1
Howard Johnson	0	0	2	1	0	0		3
ITIL User	0	8	5	2	0	0		15
Luke Wilson	0	2	1	0	0	0		3
Total	1	20	16	8	3	2		50

Figure 46: Pivot table

Create a pivot table in the Report Designer

Create a pivot table to aggregate data from a table into columns and rows.

This task refers to the Jakarta release under UI15 and UI16. If you are using an earlier UI or the Classic UI for creating reports, follow the instructions in the Helsinki documentation instead: [Report types and creation details](#).

1. Navigate to **Reports > Create New**.
2. On the **Data** tab, give the report a name that reflects the information being grouped.
3. Select the source for the report:

Option	Description
Data source	A table with filters applied to provide a single source of information for all users.
Table	The raw data from a table with no filters applied.

Option	Description
External import	<p>Choose an existing imported report source, or click the Upload icon () to import a new file.</p> <p>See Create a report from an imported Microsoft Excel document on page 524</p>

4. Click **Next**.
5. On the **Type** tab, select **Pivot table** in the **Other** section and click **Next**.
A preliminary version of the report is displayed. To view the updated report at any time, click **Run**.
6. On the **Configure** tab, fill in the following fields and click **Next**.

Table 114: Configure tab

Field	Description
Row	Select one field for the chart rows. The chart displays data broken down by a combination of row and column values.
Column	Select one field for the chart columns. The chart displays data broken down by a combination of row and column values.
Aggregation	<p>Mathematical calculation to perform on the data. The default is Count, which displays the number of records selected.</p> <p>To display only unique records, select Count Distinct. For example, if you want a report on the distinct number of users who have one or more of the roles in a given list of roles. Users with more than one role would be counted twice unless you use Count Distinct.</p> <p>Select Average, Sum, or Count Distinct, to display a list of fields from the selected Table. Select a field to aggregate by from this list. For example, if you select a duration field, such as Business duration on the Incident table, the aggregated data is expressed in days, hours, and minutes. If you select an integer field, such as Priority, the data is expressed as a decimal value number.</p> <p>If you choose Sum or Average, select Show related fields to aggregate on dot-walked fields. See Selecting fields on related tables using dot-walking</p> <p>Note: For duration values, the unit of measurement displayed in the aggregation axis cannot be customized.</p>

Field	Description
Max number of groups	Maximum number of groups to display in the report. Groups with highest values are included first. Any excluded groups are combined into the single group Other . If you select Show all , all groups up to a limit of 50 are displayed. The rest of the results are grouped as Other . If you select Remove Other , the Other group is hidden.
Show Other	Check box to include the Other group in the report. The Other group contains data for all groups that exceed the number specified in Max number of groups .

7.

Optional: To limit the information displayed in the report, click the filter icon () and select conditions to filter the report data.

For more details on how conditions are constructed, see [Condition builder](#).

Note: Keywords is a special field used for text searches across all fields. It's use in a filter or condition, in combination with other conditions, may return inconsistent results.

8. On the **Style** tab, fill in the fields as appropriate to configure the appearance of the report.

9. Click **Save**.

The report is generated.

-  Click the Report info icon () and add a description of the report.
-  Click the sharing icon () to open the **Sharing** menu. On this menu, you can add the report to a dashboard, export the report to PDF, publish the report to the web, and set visibility and schedules. For more information, see [Share a report – Report Designer](#) on page 197.

Pivot report style options – Report Designer

Change the look of your pivot report.

When you create or edit a report, click the **Style** tab for options to configure the look of your report. The options are organized under two or more of the following tabs: **General**, **Title**, **Legend**, and **Axis**. To see how the chart looks with the changed settings, click **Save**.

Table 115: Pivot report style options

Field	Description
General	

Field	Description
Drilldown view	<p>List view to display when a user selects a segment of a report for which no drilldown report type is specified. This view is also used when the user reaches the lowest drilldown level of a report. See Configure the list layout. If you specify a Report drilldown, Drilldown view is ignored.</p> <hr/> <p>Note: All users can view report visualizations, such as pie charts and column reports. However, the last level of a drill down is always a list. Platform access control lists determine user access to list information. Users who do not have rights to any part of the list data see the message "Number of rows removed from this list by Security constraints:" followed by the number. See Access control rules.</p> <hr/> <p>For more information, see Define a report drilldown in the Report Designer on page 501.</p>

Create a single score report in the Report Designer

Single score report

Single score reports display a single value that is key to your business. You can add single score reports to dashboards and configure them to update in real time.



Figure 47: Single score report that has been added to a dashboard

Note: This report type cannot be run as a scheduled report.

Create a single score report in the Report Designer

Create a single score chart to display a metric or score that is key to your business.

Role required: itil

This task refers to the Jakarta release under UI15 and UI16. If you are using an earlier UI or the Classic UI for creating reports, follow the instructions in the Helsinki documentation instead: [Report types and creation details](#).

This report type cannot be run as a scheduled report.

Note: To export multilevel pivot tables to PDF, you must activate the Webkit HTML to PDF plugin.

1. Navigate to **Reports > Create New**.
2. On the **Data** tab, give the report a name that reflects the information being grouped.
3. Select the source for the report:

Option	Description
Data source	A table with filters applied to provide a single source of information for all users.
Table	The raw data from a table with no filters applied.
External import	Choose an existing imported report source, or click the Upload icon () to import a new file. See Create a report from an imported Microsoft Excel document on page 524

4. Click **Next**.
5. On the **Type** tab, select **Single score** in the **Scores** section and click **Next**.

A preliminary version of the report is displayed. To view the updated report at any time, click **Run**.

6. On the **Configure** tab, fill in the following fields and click **Next**.

Table 116: Configuration tab

Field	Description
Aggregation	<p>Computational method for aggregating report data. The default is Count, which displays the number of records selected.</p> <p>Note: A single score chart displays only the aggregate value.</p> <p>If you select Count Distinct, only unique records are counted. For example, you want to generate a report with a distinct number of users who have one or more of the roles in a given list of roles. Users with more than one role would be counted twice unless you use Count Distinct.</p> <p>If you select Average, Sum, or Count Distinct, a list of fields from the selected Table appears. Select a field to aggregate by from this list. For example, if you select a duration field, such as Business duration on the Incident table, the aggregated data is expressed in days, hours, and minutes. If you select an integer field, such as the Priority field, the data is expressed as a number.</p> <p>Note: For duration values, the unit of measurement displayed in the aggregation axis cannot be customized.</p>

7.

Optional: To limit the information displayed in the report, click the filter icon () and select conditions to filter the report data.

For more details on how conditions are constructed, see [Condition builder](#).

Note: Keywords is a special field used for text searches across all fields. Its use in a filter or condition, in combination with other conditions, may return inconsistent results.

- 8. On the **Style** tab, fill in the fields as appropriate to configure the appearance of the report.
- 9. Click **Save**.

The report is generated.

-



Click the Report info icon () and add a description of the report.



- Click the sharing icon () to open the **Sharing** menu. On this menu, you can share the report with users and groups, add the report to a dashboard, and publish the report to the web. See [Share a report – Report Designer](#) on page 197 for more information.

Single score report style options – Report Designer

Change the look of your single score report.

When you create or edit a report, click the **Style** tab for options to configure the look of your report. The options are organized under two or more of the following tabs: **General**, **Title**, **Legend**, and **Axis**. To see how the chart looks with the changed settings, click **Save**.

Table 117: Single score chart style options

Field	Description
General	
Display Zero	Check box to display the number 0 when the value of the report is zero. Clear this check box to display an error message when the value of the cell is 0. Applicable when Aggregation is Count or Count Distinct .
Score color	Color of the score in the chart.
Drilldown view	<p>List view to display when a user selects a segment of a report for which no drilldown report type is specified. This view is also used when the user reaches the lowest drilldown level of a report. See Configure the list layout. If you specify a Report drilldown, Drilldown view is ignored.</p> <p>Note: All users can view report visualizations, such as pie charts and column reports. However, the last level of a drill down is always a list. Platform access control lists determine user access to list information. Users who do not have rights to any part of the list data see the message "Number of rows removed from this list by Security constraints:" followed by the number. See Access control rules .</p>
Edit coloring rules	<p>For more information, see Define a report drilldown in the Report Designer on page 501.</p> <p>Click this hyperlink to configure how values are colored in the report. You can create rules to define which colors are used based on operators and values. For example, you can specify that any value greater than 5 displays in red. See Create coloring rules for single score reports on page 490.</p>

Field	Description
Decimal precision	Number of decimal places to display. You can display From zero to four decimal places. Default value: 2. To change the default value, create the system property glide.chart.decimal.precision and specify the value.
Title	
Show chart title	<p>When the chart title is displayed for the report.</p> <ul style="list-style-type: none"> • Never: Never displays the chart title. • Report only: Displays the chart title on reports. • Always: Displays the chart title on reports, and dashboards and homepages.
Chart title	<p>The chart title has a maximum length of 40 characters. If no title is entered, the report name is used for the title. This field appears when Report only or Always is selected from the Show chart title list.</p>
Size of the chart title	<p>Size of the chart title in pixels. This field appears when Report only or Always is selected from the Show chart title list.</p>
Chart title color	<p>Color of the chart title. This field appears when Report only or Always is selected from the Show chart title list.</p>
Custom chart title position	<p>Check box to specify X and Y coordinates for the position of the chart title. This field appears when Report only or Always is selected from the Show chart title list.</p>
Chart title X position	<p>Number of pixels to adjust the chart title position right or left. By default the title appears at the center top of the chart. To move the chart title to the right, enter a positive value. To move the title to the left, enter a negative value.</p> <p>This field appears only when Custom chart title position is selected.</p>
Chart title Y position	<p>Number of pixels to adjust the chart title position up or down. By default the title appears at the center top of the chart. To move up the chart title, enter a positive value. To move the chart title down, enter a negative value.</p> <p>This field appears only when Custom chart title position is selected.</p>
Title horizontal alignment	<p>How the chart title is aligned horizontally. This field is available when Custom chart title position is cleared.</p>

Field	Description
Title vertical alignment	How the chart title is aligned vertically. This field appears when Custom chart title position is cleared.

Create coloring rules for single score reports

Configure rules for how numerical values are displayed in single score reports, to easily highlight why a value is important.

This task is part of configuring the style options of a single score report.

1. On the **Style** tab of the report designer, click **Edit coloring rules**.
2. In the Multilevel Pivot Rules [Single Score Color Rule] dialog box, click **New rule**.
3. In the New record dialog box, select an **Operator**.
Options are: greater than, greater than or is, lower than, lower than or is, is, and between.
4. Specify a value. If you selected the operator **between**, specify two values. The color rule is applied to the aggregated values.
5. Select a font color.
6. Optional: Specify a **Rule order**. Rules are evaluated from lowest value to highest. For example, you have one rule applies the color blue to the value 7, and a second rule that applies the color red to values between 1 and 10. If you want the 7 to appear blue, the **Rule order** value for the first rule should be higher so that the second rule does not override it.
If you do not specify a rule order, coloring rules are applied in the order in which they were created.
7. Click **Submit** to save the rule and create a new rule, or click **OK** to save the rule and return to the report designer.

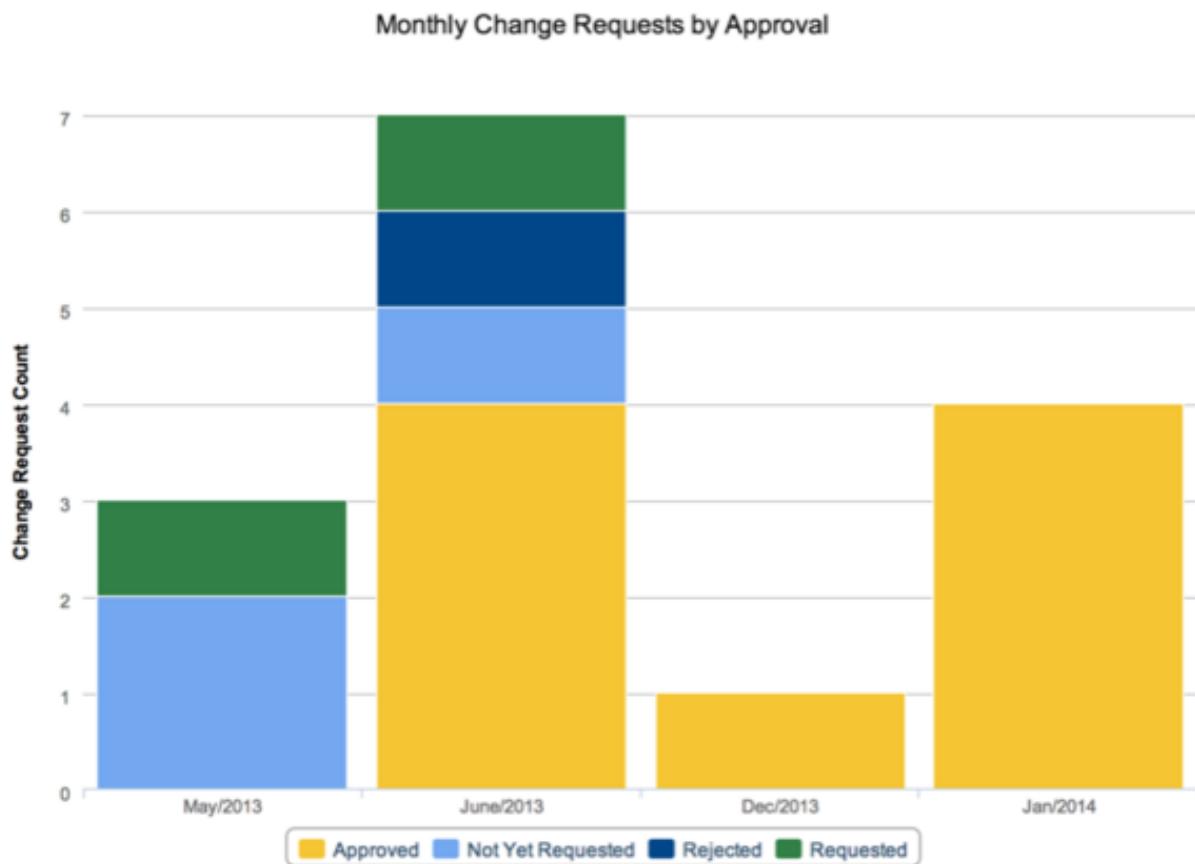
Create a trend report in the Report Designer

Trend reports

Trend reports show how the value of one or more items changes over time. Values along the horizontal axis of the trend report represent the time measurement. Values on the vertical axis represent the changes to the items being monitored.

Users with the `report_admin` role can define the ranges that are used in a trend chart report. See [Report ranges](#) on page 556 for information on creating report ranges.

An example of an item that changes over time is incident count. The incident count will likely increase during the first few months after a product upgrade is released. Over time, the number of incidents reported drops as users become more accustomed to the changes in the product.



Create a trend report in the Report Designer

Create a trend report to show how the value of one or more data element changes over time.

This task refers to the Jakarta release under UI15 and UI16. If you are using an earlier UI or the Classic UI for creating reports, follow the instructions in the Helsinki documentation instead: [Report types and creation details](#).

1. Navigate to **Reports > Create New**.
2. On the **Data** tab, give the report a name that reflects the information being grouped.
3. Select the source for the report:

Option	Description
Data source	A table with filters applied to provide a single source of information for all users.
Table	The raw data from a table with no filters applied.

Option	Description
External import	<p>Choose an existing imported report source, or click the Upload icon () to import a new file.</p> <p>See Create a report from an imported Microsoft Excel document on page 524</p>

4. Click **Next**.
5. On the **Type** tab, select **Trend** in the **Other** section and click **Next**.
A preliminary version of the report is displayed. To view the updated report at any time, click **Run**.
6. On the **Configure** tab, fill in the following fields and click **Next**.

Table 118: Configure tab

Field	Description
Group by	<p>Group report data using the values of this field. For example, in an incident report grouped by Assignment group, all incidents that belong to Software, Service Desk, and Network are placed in separate groups.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p>
Additional group by	<p>Extra fields to group the report by. When you select Additional group by fields, a control is added to the bottom of the report that groups the report by any one of the additional fields.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p>
Display data table	<p>Check this box to display report data in a grid beneath the report. The table appears on dashboards where the report is added.</p> <p>All reports that use charts, including reports that are used on dashboards, display the table of report data when the <code>glide.ui.section508</code> system property is set to <code>true</code>. The <code>glide.ui.section508</code> property overrides the Display data table field.</p>
Trend by	Table field whose values you want to display in a time sequence.

Field	Description
per	<p>Time period to group data by. Time periods range from an hour to a year. You can also specify a date.</p> <hr/> <p>Note: Reporting per Week is not supported when the report range includes more than one year. Inconsistent results are produced when a week is split between two years.</p>
Aggregation	<p>Mathematical calculation to perform on the data. The default is Count, which displays the number of records selected.</p> <p>To display only unique records, select Count Distinct. For example, if you want a report on the distinct number of users who have one or more of the roles in a given list of roles. Users with more than one role would be counted twice unless you use Count Distinct.</p> <p>Select Average, Sum, or Count Distinct, to display a list of fields from the selected Table. Select a field to aggregate by from this list. For example, if you select a duration field, such as Business duration on the Incident table, the aggregated data is expressed in days, hours, and minutes. If you select an integer field, such as Priority, the data is expressed as a decimal value number.</p> <p>If you choose Sum or Average, select Show related fields to aggregate on dot-walked fields. See Selecting fields on related tables using dot-walking</p> <hr/> <p>Note: For duration values, the unit of measurement displayed in the aggregation axis cannot be customized.</p>

Field	Description
Percentage calculation	<p>Method of calculating percentages. The percentage appears when you point to a report segment, such as a bar on a bar report. This field appears when Aggregation is set to Average, Sum, or Count Distinct.</p> <ul style="list-style-type: none"> • Use Aggregation calculates the percentage using the selection in the Aggregation field. Only data that is displayed in the report is used to calculate the percentage. <p>For example, a report shows assets by department with the Aggregation set to Sum and the percentage calculated using aggregation. If the total cost of assets is \$100,000 and the cost of assets for Customer Support is \$10,000, the percentage for Customer Support is 10%.</p> <ul style="list-style-type: none"> • Use Record Count calculates the percentage using the total number of records in the data set. <p>For example, a report shows incidents by priority. Out of 500 incident records, 200 have low priority. The percentage for the Low priority section is 40%.</p>
Max number of groups	<p>Maximum number of groups to display in the report. Groups with highest values are included first. Any excluded groups are combined into the single group Other.</p> <p>If you select Show all, all groups up to a limit of 50 are displayed. The rest of the results are grouped as Other. If you select Remove Other, the Other group is hidden.</p>
Show Other	<p>Check box to include the Other group in the report. The Other group contains data for all groups that exceed the number specified in Max number of groups.</p>

7.

Optional: To limit the information displayed in the report, click the filter icon () and select conditions to filter the report data.

For more details on how conditions are constructed, see [Condition builder](#).

Note: Keywords is a special field used for text searches across all fields. It's use in a filter or condition, in combination with other conditions, may return inconsistent results.

8. On the **Style** tab, fill in the fields as appropriate to configure the appearance of the report.
9. Click **Save**.

The report is generated.

-  Click the Report info icon () and add a description of the report.
-  Click the sharing icon () to open the **Sharing** menu. On this menu, you can add the report to a dashboard, export the report to PDF, publish the report to the web, and set visibility and schedules. For more information, see [Share a report – Report Designer](#) on page 197.

Trend report style options – Report Designer

Change the look of your trend report.

When you create or edit a report, click the **Style** tab for options to configure the look of your report. The options are organized under two or more of the following tabs: **General**, **Title**, **Legend**, and **Axis**. To see how the chart looks with the changed settings, click **Save**.

Table 119: Trend chart style options

Field	Description
General	
Chart color	<p>Colors used in the report.</p> <p>If you do not group or stack the report, Use one color is automatically selected. Select a single predefined system color.</p> <p>If you group or stack the report, select one of the following options:</p> <ul style="list-style-type: none"> • Use color palette: Select a color palette from the predefined system color palettes. • Use several colors: Define a custom set of Colors using hex codes. You can add any number of colors. • Use chart colors: Use the colors defined in Reports > Chart Colors. <p>Note: It is not possible to use transparency hex values.</p>
Set palette	<p>Color palette used in the report. This field appears when you select Use color palette from the Chart color list. Click the search icon () to choose from the Color color schemes list.</p>
Display data labels	<p>Check box to display the value for each data point.</p>

Field	Description
Custom chart size	<p>Check box to specify the width and height of the report in pixels.</p> <p>Note: The chart size is ignored when you export the report to PDF. In PDFs, the full page width is used to display the chart.</p>
Chart width	<p>Width of the report in pixels. The default value is 600.</p> <p>This field is available when Custom chart size is selected.</p>
Chart height	<p>Height of the report in pixels. The default value is 450.</p> <p>This field appears when Custom chart size is selected.</p>
Chart size	<p>Chart size. This field is available when Custom chart size is cleared. Options are Small, Medium, and Large.</p> <p>Note: The chart size is ignored when you export the report to PDF. In PDFs, the full page width is used to display the chart.</p>
Drilldown view	<p>List view to display when a user selects a segment of a report for which no drilldown report type is specified. This view is also used when the user reaches the lowest drilldown level of a report. See Configure the list layout. If you specify a Report drilldown, Drilldown view is ignored.</p> <p>Note: All users can view report visualizations, such as pie charts and column reports. However, the last level of a drill down is always a list. Platform access control lists determine user access to list information. Users who do not have rights to any part of the list data see the message "Number of rows removed from this list by Security constraints:" followed by the number. See Access control rules.</p> <p>For more information, see Define a report drilldown in the Report Designer on page 501.</p>

Field	Description
Decimal precision	Number of decimal places to display. You can display From zero to four decimal places. Default value: 2. To change the default value, create the system property glide.chart.decimal.precision and specify the value.
Title	
Show chart title	<p>When the chart title is displayed for the report.</p> <ul style="list-style-type: none"> Never: Never displays the chart title. Report only: Displays the chart title on reports. Always: Displays the chart title on reports, and dashboards and homepages.
Chart title	<p>The chart title has a maximum length of 40 characters. If no title is entered, the report name is used for the title. This field appears when Report only or Always is selected from the Show chart title list.</p>
Size of the chart title	<p>Size of the chart title in pixels. This field appears when Report only or Always is selected from the Show chart title list.</p>
Chart title color	<p>Color of the chart title. This field appears when Report only or Always is selected from the Show chart title list.</p>
Custom chart title position	<p>Check box to specify X and Y coordinates for the position of the chart title. This field appears when Report only or Always is selected from the Show chart title list.</p>
Chart title X position	<p>Number of pixels to adjust the chart title position right or left. By default the title appears at the center top of the chart. To move the chart title to the right, enter a positive value. To move the title to the left, enter a negative value.</p> <p>This field appears only when Custom chart title position is selected.</p>
Chart title Y position	<p>Number of pixels to adjust the chart title position up or down. By default the title appears at the center top of the chart. To move up the chart title, enter a positive value. To move the chart title down, enter a negative value.</p> <p>This field appears only when Custom chart title position is selected.</p>
Title horizontal alignment	<p>How the chart title is aligned horizontally. This field is available when Custom chart title position is cleared.</p>

Field	Description
Title vertical alignment	How the chart title is aligned vertically. This field appears when Custom chart title position is cleared.
Legend	
Show legend	Check box to display a chart legend. This check box appears when a Group by field is selected on the report form.
Legend horizontal alignment	How the legend is aligned horizontally. This field appears when Show legend is selected.
Legend vertical alignment	How the legend is aligned vertically. This field appears when Show legend is selected.
Show legend border	Check box to display a border around the legend. This check box appears when Show legend is selected.
Left align legend text	Check box to left-align the legend text. By default, the legend text is centered. This check box appears when Show legend is selected.
Axis	
Y axis and X axis	Axis for which you want to configure the titles, appearance, and labels.
Title	Title for the axis.
Title size	Size of the axis title in pixels. Default value is 12.
Title color	Color of the axis title. Default value is Black .
Title bold	Check this box to display the axis title in a bold typeface.
Opposite	On the X axis tab, select this check box to display the X-axis title on the right side of the report instead. On the Y axis tab, select this check box to display the Y-axis title on top of the report instead of across the bottom.
Display grid	On the X axis tab, select this check box to display horizontal grid lines on the report. On the Y axis tab, select this check box to display vertical grid lines on top the report.
X axis / Y axis grid width	Width of grid lines on the report. Default value is 1 pixel.
Grid color	Color of grid lines. Default value is LightGrey .
Grid dotted	Check this box to display dotted grid lines instead of solid lines.

Field	Description
From	Specify a minimum Y-axis value to limit the amount of information in the report. If you select an aggregation field that is not of the type Number , the From and To fields are not available.
To	Specify a maximum Y-axis value to limit the amount of information in the report. If you select an aggregation field that is not of the type Number , the From and To fields are not available.
X axis / Y axis label size	On the X axis tab, specify the size of the labels for the rows of the report. On the Y axis tab, specify the size of the labels for the columns in the report.
Label bold	Check this box to display the labels of the report in a bold typeface.

Create a trendbox report in the Report Designer

Trendbox reports

Trendbox reports visualize the distribution of data for a specific time period.

A trendbox report is similar to a box report, but it also allows you to specify a time period for the report. When defining the report, use a descriptive title that indicates the use of the time period. Use trendbox reports when you have multiple small data sets from different sources that are related to each other. Examples include incident resolution times for different product features, or incident resolution times for different priorities.

For example, a trendbox report can show incident resolution duration for high priority incidents by support employee. Suppose every support employee handles P1 incidents, but you know that the time it takes to resolve each P1 incident varies. A trendbox report would show, by employee, the longest and shortest resolution times, and a grouping with the most common or closely clustered resolution times. With this information, you can compare resolution times by employee, or you can use the information to estimate future support staffing levels.

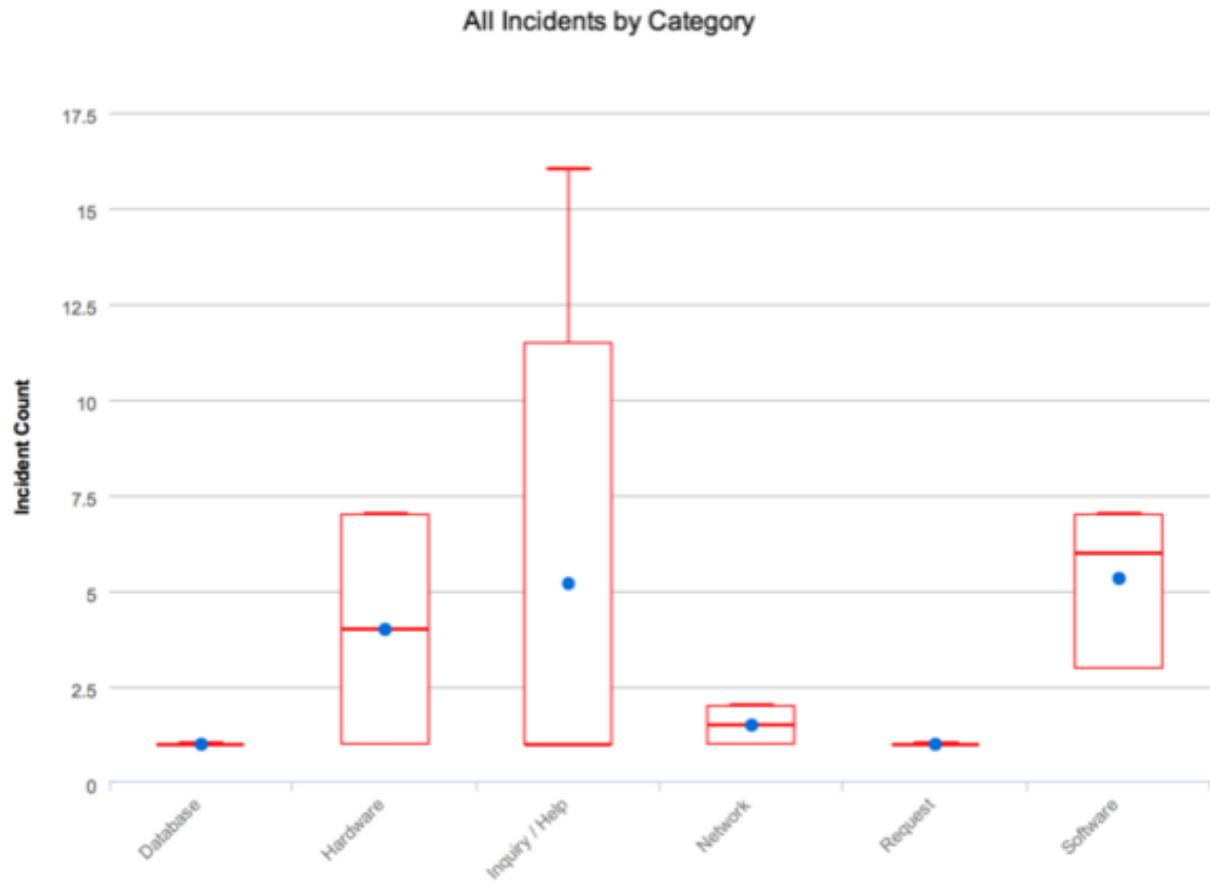


Figure 48: Trendbox report

About trendbox report

Each box in a trendbox report displays the following information for each group of data:

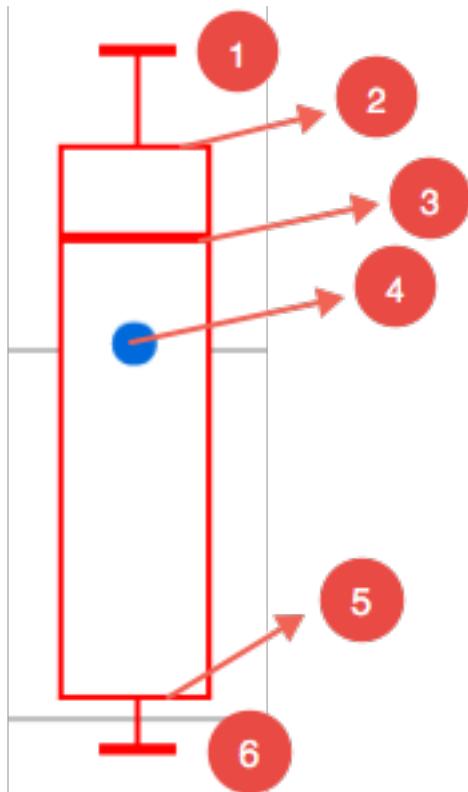


Figure 49: Box chart scale

1. Sample maximum
2. Upper quartile
3. Median
4. Mean
5. Lower quartile
6. Sample minimum

Note: When accessibility is enabled, this visualization includes a report that screen readers can interpret. For more information, see [Enabling accessibility features](#)

Create a trendbox report in the Report Designer

Create a trendbox report to show the distribution of values in a data set, with a specified time period.

This task refers to the Jakarta release under UI15 and UI16. If you are using an earlier UI or the Classic UI for creating reports, follow the instructions in the Helsinki documentation instead: [Report types and creation details](#).

1. Navigate to **Reports > Create New**.
2. On the **Data** tab, give the report a name that reflects the information being grouped.
3. Select the source for the report:

Option	Description
Data source	A table with filters applied to provide a single source of information for all users.
Table	The raw data from a table with no filters applied.
External import	Choose an existing imported report source, or click the Upload icon () to import a new file. See Create a report from an imported Microsoft Excel document on page 524

4. Click **Next**.
5. On the **Type** tab, select **Trendbox** in the **Other** section and click **Next**.
A preliminary version of the report is displayed. To view the updated report at any time, click **Run**.
6. On the **Configure** tab, fill in the following fields and click **Next**.

Table 120: Trendbox report configuration options

Field	Description
Group by	<p>Group report data using the values of this field. For example, in an incident report grouped by Assignment group, all incidents that belong to Software, Service Desk, and Network are placed in separate groups.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p>
Trend by	Table field whose values you want to display in a time sequence.
per	<p>Time period to group data by. Time periods range from an hour to a year. You can also specify a date.</p> <p>Note: Reporting per Week is not supported when the report range includes more than one year. Inconsistent results are produced when a week is split between two years.</p>

Field	Description
Aggregation	<p>Mathematical calculation to perform on the data. The default is Count, which displays the number of records selected.</p> <p>To display only unique records, select Count Distinct. For example, if you want a report on the distinct number of users who have one or more of the roles in a given list of roles. Users with more than one role would be counted twice unless you use Count Distinct.</p> <p>Select Average, Sum, or Count Distinct, to display a list of fields from the selected Table. Select a field to aggregate by from this list. For example, if you select a duration field, such as Business duration on the Incident table, the aggregated data is expressed in days, hours, and minutes. If you select an integer field, such as Priority, the data is expressed as a decimal value number.</p> <p>If you choose Sum or Average, select Show related fields to aggregate on dot-walked fields. See <i>Selecting fields on related tables using dot-walking</i></p> <hr/> <p>Note: For duration values, the unit of measurement displayed in the aggregation axis cannot be customized.</p>

7.

Optional: To limit the information displayed in the report, click the filter icon () and select conditions to filter the report data.

For more details on how conditions are constructed, see [Condition builder](#) .

Note: Keywords is a special field used for text searches across all fields. It's use in a filter or condition, in combination with other conditions, may return inconsistent results.

8. On the **Style** tab, fill in the fields as appropriate to configure the appearance of the report.
9. Click **Save**.

The report is generated.

-



Click the Report info icon () and add a description of the report.

-



Click the sharing icon () to open the **Sharing** menu. On this menu, you can add the report to a dashboard, export the report to PDF, publish the report to the web, and set visibility and schedules. For more information, see [Share a report – Report Designer](#) on page 197.

Trendbox report style options – Report Designer

Change the look of your trendbox report.

When you create or edit a report, click the **Style** tab for options to configure the look of your report. The options are organized under two or more of the following tabs: **General**, **Title**, **Legend**, and **Axis**. To see how the chart looks with the changed settings, click **Save**.

Table 121: Trendbox chart style options

Field	Description
General	
Custom chart size	<p>Check box to specify the width and height of the report in pixels.</p> <p>Note: The chart size is ignored when you export the report to PDF. In PDFs, the full page width is used to display the chart.</p>
Chart width	<p>Width of the report in pixels. The default value is 600.</p> <p>This field is available when Custom chart size is selected.</p>
Chart height	<p>Height of the report in pixels. The default value is 450.</p> <p>This field appears when Custom chart size is selected.</p>
Chart size	<p>Chart size. This field is available when Custom chart size is cleared. Options are Small, Medium, and Large.</p> <p>Note: The chart size is ignored when you export the report to PDF. In PDFs, the full page width is used to display the chart.</p>
Decimal precision	<p>Number of decimal places to display. You can display From zero to four decimal places. Default value: 2. To change the default value, create the system property glide.chart.decimal.precision and specify the value.</p>
Title	

Field	Description
Show chart title	<p>When the chart title is displayed for the report.</p> <ul style="list-style-type: none"> • Never: Never displays the chart title. • Report only: Displays the chart title on reports. • Always: Displays the chart title on reports, and dashboards and homepages.
Chart title	<p>The chart title has a maximum length of 40 characters. If no title is entered, the report name is used for the title. This field appears when Report only or Always is selected from the Show chart title list.</p>
Size of the chart title	<p>Size of the chart title in pixels. This field appears when Report only or Always is selected from the Show chart title list.</p>
Chart title color	<p>Color of the chart title. This field appears when Report only or Always is selected from the Show chart title list.</p>
Custom chart title position	<p>Check box to specify X and Y coordinates for the position of the chart title. This field appears when Report only or Always is selected from the Show chart title list.</p>
Chart title X position	<p>Number of pixels to adjust the chart title position right or left. By default the title appears at the center top of the chart. To move the chart title to the right, enter a positive value. To move the title to the left, enter a negative value.</p> <p>This field appears only when Custom chart title position is selected.</p>
Chart title Y position	<p>Number of pixels to adjust the chart title position up or down. By default the title appears at the center top of the chart. To move up the chart title, enter a positive value. To move the chart title down, enter a negative value.</p> <p>This field appears only when Custom chart title position is selected.</p>
Title horizontal alignment	<p>How the chart title is aligned horizontally. This field is available when Custom chart title position is cleared.</p>
Title vertical alignment	<p>How the chart title is aligned vertically. This field appears when Custom chart title position is cleared.</p>
Axis	
Y axis and X axis	<p>Axis for which you want to configure the titles, appearance, and labels.</p>

Field	Description
Title	Title for the axis.
Title size	Size of the axis title in pixels. Default value is 12.
Title color	Color of the axis title. Default value is Black .
Title bold	Check this box to display the axis title in a bold typeface.
Opposite	On the X axis tab, select this check box to display the X-axis title on the right side of the report instead. On the Y axis tab, select this check box to display the Y-axis title on top of the report instead of across the bottom.
Display grid	On the X axis tab, select this check box to display horizontal grid lines on the report. On the Y axis tab, select this check box to display vertical grid lines on top the report.
X axis / Y axis grid width	Width of grid lines on the report. Default value is 1 pixel.
Grid color	Color of grid lines. Default value is LightGrey .
Grid dotted	Check this box to display dotted grid lines instead of solid lines.
From	Specify a minimum Y-axis value to limit the amount of information in the report. If you select an aggregation field that is not of the type Number , the From and To fields are not available.
To	Specify a maximum Y-axis value to limit the amount of information in the report. If you select an aggregation field that is not of the type Number , the From and To fields are not available.
X axis / Y axis label size	On the X axis tab, specify the size of the labels for the rows of the report. On the Y axis tab, specify the size of the labels for the columns in the report.
Label bold	Check this box to display the labels of the report in a bold typeface.

Report Builder – Report types and creation details

Learn about different types of reports you can create, and when and how to create them.

You can generate the following types of reports, organized by category:

- *Bar charts* enable you to compare scores across data dimensions.
- *Proportional reports* visualize the relationship between the parts and the whole of a data set using other shapes such as pies and pyramids.

- *Time Series reports* visualize data over time.
- *Multidimensional reports* visualize data across dimensions in a single table or graph.
- *Scores* visualize single data points either across ranges or as a single value.
- *Statistical reports* visualize data with statistical values such as medians and means.
- *Other reports* include calendars, maps, and lists.

Table 122: Bar charts

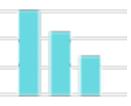
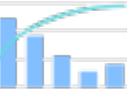
	Report	Description
	<i>Bar</i>	Shows vertical bars with lengths proportional to the values that they represent.
	<i>Horizontal bar</i>	Shows horizontal bars with lengths proportional to the values that they represent.
	<i>Pareto</i>	Combines bar and line reports to identify the most important factors in a large set of factors.
	<i>Histogram</i>	Provides visual interpretation of numerical data by indicating the number of data points that lie within a range of values.

Table 123: Other proportional reports

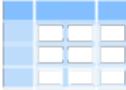
	Report	Description
	<i>Pie</i>	Shows how individual pieces of data relate to the whole using a circle to represent the whole.
	<i>Donut</i>	Shows how individual pieces of data relate to the whole using a donut shape to represent the whole.
	<i>Semi-donut</i>	Shows how individual pieces of data relate to the whole using a semi-donut shape to represent the whole. A semi-donut chart uses a donut sliced in half to represent the whole.

	Report	Description
	<i>Funnel</i>	Displays values as progressively decreasing proportions. The size of each section reflects a percentage of the total of all values. (Found in the Other reports section.)
	<i>Pyramid</i>	Visualizes a variation on a bar chart using pyramid sections instead of rectangles. (Found in the Other reports section.)

Table 124: Time series reports

	Report	Description
	<i>Column</i>	Shows how one or more values change over time by displaying them as proportional vertical columns.
	<i>Line</i>	Shows how one or more values change over time by connecting a series of data points with straight lines.
	<i>Area</i>	Resembles a line chart, but the area between the axis and line is commonly emphasized with colors.
	<i>Spline</i>	Shows how one or more values change over time by connecting a series of data points with a fitted curve through the data points. Spline charts let you take a limited set of known data points and approximate intervening values.

Table 125: Multidimensional reports

	Report	Description
	<i>Multilevel pivot table</i>	Displays aggregate data broken down by multiple metrics in a single chart.

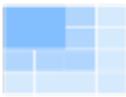
	Report	Description
	<i>Heatmap</i>	Displays aggregate data in a matrix using colors to represent different values.
	<i>Bubble</i>	Displays multiple metrics on a single chart.

Table 126: Scores

	Report	Description
	<i>Speedometer</i>	Shows an overview of the count of an indicator at the current moment in the form of a round meter.
	<i>Dial</i>	Shows an overview of the count of an indicator you want to measure at this moment in a half circle, where the part in which scores are shown is filled out with a color.
	<i>Single score</i>	Displays a single aggregate value that is important to your business.

Table 127: Statistical analysis visualizations

	Report	Description
	<i>Control</i>	Displays data as a series of connected points to determine whether a business process is in a state of statistical control and to identify outliers. (Found in the Other reports section.)

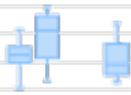
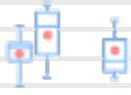
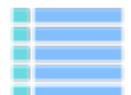
	Report	Description
	Trend	Shows how the value of one or more items changes over time. Values along the horizontal axis of the trend chart represent the time measurement. Values on the vertical axis represent the changes to the items being monitored. The trend line or curve reveals a general pattern of change. (Found in the Other reports section.)
	Box	Shows the distribution of values in a data set highlighting statistical averages. (Found in the Other reports section.)
	Trendbox	Shows the distribution of values in a data set highlighting statistical averages for a specified period of time. (Found in the Other reports section.)

Table 128: Other reports

	Report	Description
	List	Displays data in the form of an expandable list, similar to a standard ServiceNow <i>list</i> .
	Calendar	Displays data-driven events in a calendar format.
	Map	Displays data on a geographical map image.
	Pivot table	Aggregates data from a table to display the source of summarized data. This functionality is expanded in <i>multilevel pivot reports</i> .

Create an area or spline report in the Report Builder

Area and spline reports

Area reports show trends over time for related attributes. Spline reports show how one or more values change over time by connecting a series of known data points with a curve that emphasizes the trend over individual data points.

For example, you can create an area or spline reports for incident counts, to show how the number of incidents changes over time. The incident count often increases during the first few months after a product upgrade is deployed. Over time, the number of reported incidents decreases as users become more accustomed to the changes in the product.

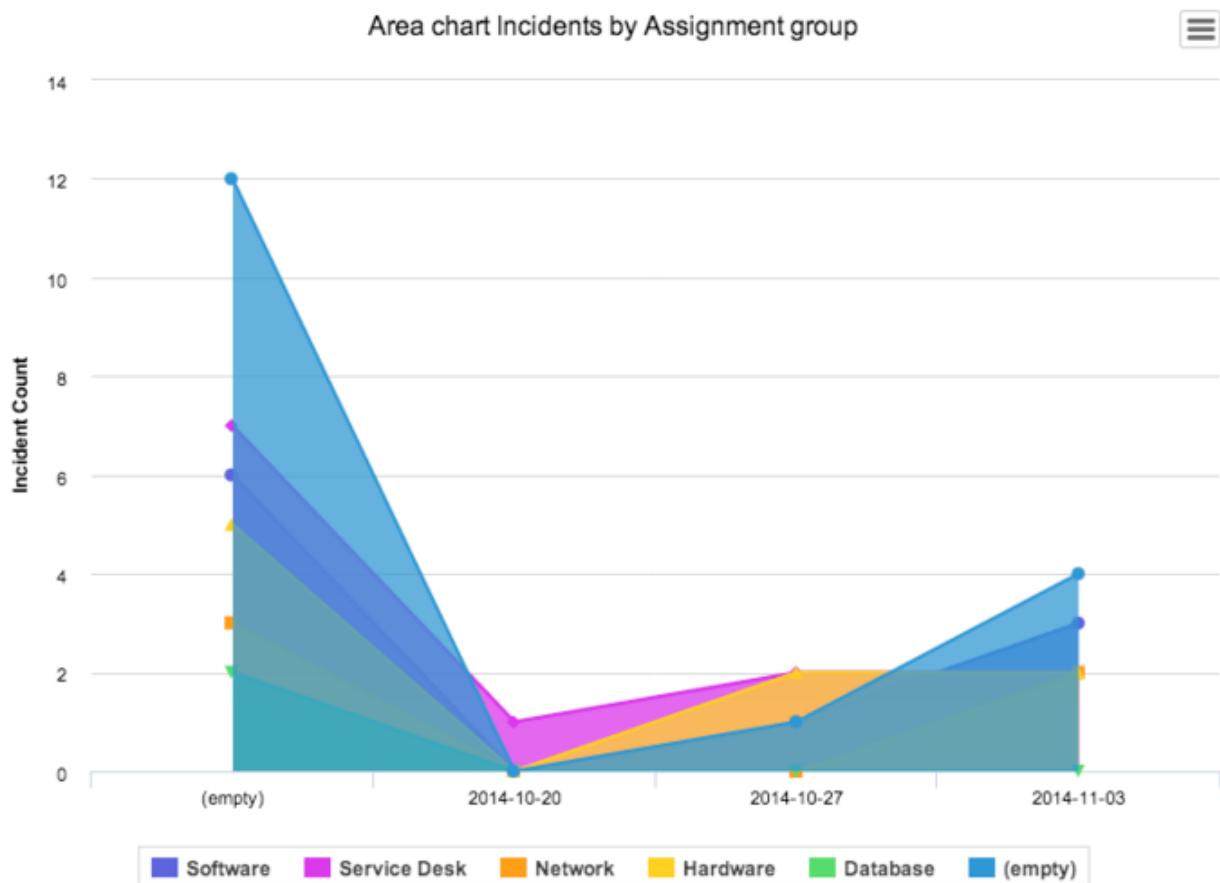


Figure 50: Area reports

Note:

When the sections of an area report with multiple datasets overlap, it is not possible to drill down into the various sections. To drill down, click items in the legend to clear them from the report.

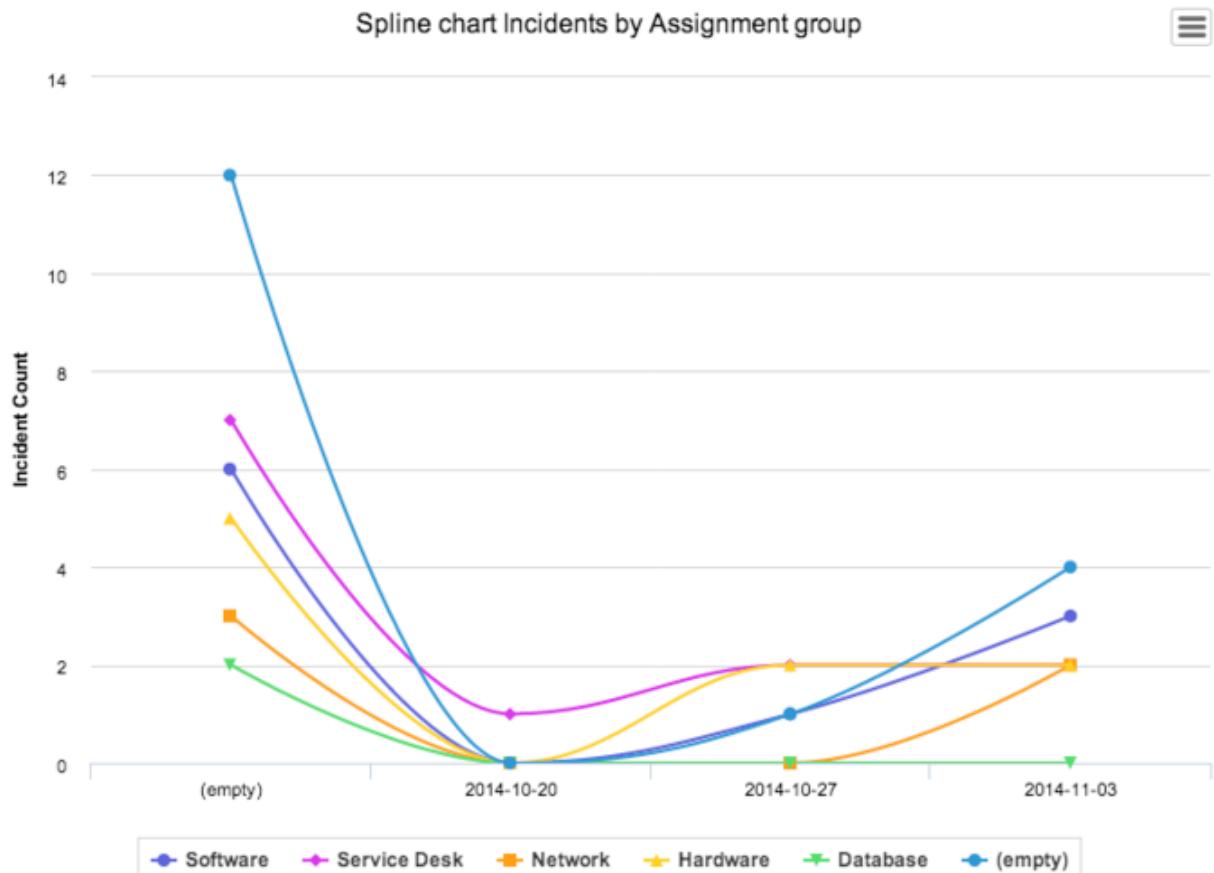


Figure 51: Spline report

Create an area or spline report in the Report Builder

Create an area or spline report to show trends over time for related attributes.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

1. Navigate to **Reports > Create New**.
2. Fill in the fields, as appropriate.

Table 129: Area report

Field	Description
Name	Name the report.
Description	Click the information icon () to enter a more detailed description of what the report does and its purpose.
Data	Specify the table or report source containing the data set that you want to include in the report. From the first choice list, select Table or Report source . Then select the specific table or <i>predefined data set</i> from the second choice list.
Type	Select Area or Spline .
Style your chart	Click the gear icon () after the Type field to configure the chart style options.
Group by	<p>Select a field to organize data into groups from the selected table. For example, in an incident report that is grouped by Assignment group, all incidents belonging to Software, Service Desk, Network, and so on, are placed in separate groups. Make sure you give the report a name that reflects the field you select.</p> <p>Click  to select additional group by fields. When you select Additional group by fields, a control is added to the bottom of the report that groups the report by any one of the additional fields.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p>
Display Grid	<p>Select this check box to display details of the report data in a table below the chart.</p> <p>All reports that use charts, including reports that are used <i>on homepages</i>, display the table of report data when the <code>glide.ui.section508</code> system property is set to true, even if Display Grid is cleared.</p>
Trend by	Select the table field whose values you want to display in a time sequence.
per	<p>Time period to group data by. Time periods range from an hour to a year. You can also specify a date.</p> <p>Note: Reporting per Week is not supported when the report range includes more than one year. Inconsistent results are produced when a week is split between two years.</p>

Field	Description
Aggregation	<p>Select a computational method for aggregating report data. The default is Count, which displays the number of records selected.</p> <p>If you select Count Distinct, only unique records are counted. For example, if you want to generate a report with a distinct number of users who have one or more of the roles in a given list of roles, these users would be counted twice unless you use count distinct.</p> <p>If you select Average, Sum, or Count Distinct, a list of fields from the selected Table appears. From this list, select a field to aggregate by. For example, if you select a duration field, such as the Business duration field on the Incident table, the aggregated data is expressed in days, hours, and minutes. If you select an integer field, such as the Priority field, the data is expressed as a number.</p> <p>Note: For duration values, the unit of measurement displayed in the aggregation axis cannot be customized.</p>
Percentages	<p>Select the computational method used for calculating percentages for each element (selected record) in a data set.</p> <ul style="list-style-type: none"> • Use Aggregation: default method. Computes percentages for each element using the sum of all elements in the data set. • Use Record Count: computes percentages for each element using the total number (count) of elements in the data set. <p>This field is only available when Aggregation is set to Average, Sum, or Count Distinct.</p>
Add Filter Condition	Create conditions for filtering data to include in the report. For example, to include only records with priorities of 2 - High and 1 - Critical , select [Priority] [is] [Database] .
Add "OR" Clause	Select a second condition that must be met if the first condition is invalid. For example, select [Assignment Group] [is] [Database] , to include records that are assigned to the Database group if the first condition is false.
Add Sort Field	Select fields to sort data by. For example, to sort results from lowest to highest priority, select [Priority] [z to a] .

3. Click **Save**.

The report is generated.

Add reports to homepages or dashboards, publish to the internet, schedule email distribution of PDFs or URLs of published reports, and share reports with others. See [Distribute reports](#) on page 197.

Area and spline report style options – Report Builder

Change the look of your area or spline report.



When you create or edit a report, click the gear icon () after the Type field to open the Style your chart dialog box with options to configure the look of your report. Report options are automatically saved when you click **Close**. To see how the report looks with the saved settings, click **Save**.

Table 130: Area and spline report style options

Field	Description
General	
Chart color	<p>If no group by or stack by is used, Use one color is automatically selected. Select a single predefined system color.</p> <p>If a group by or stack by is used, select one of the following options:</p> <ul style="list-style-type: none"> • Use color palette: Select a color palette from the predefined system color palettes. • Use several colors: Define a custom set of Colors using hex codes. You can add any number of colors. • Use chart colors: Use the colors defined in Reports > Chart Colors.
Display data labels	Select this check box to display the value for each data point.
Marker	Select this check box to display a symbol at each data point.
Custom chart size	Select this check box to specify the chart's width and height in pixels.
Chart size	Select a chart size. This field is available when Custom chart size is cleared.
Drilldown View	Select a view that determines how detailed records are shown when a specific part of the chart is clicked. This option is available for charts with drill-down capabilities. If you select a view that has no fields in common to link to the table that the report is based on, the default view is used. See Define a report drilldown in the Report Designer on page 501.
Decimal precision	Number of decimal places to display. You can display From zero to four decimal places. Default value: 2. To change the default value, create the system property glide.chart.decimal.precision and specify the value.
Title	
Show chart title	<p>Select when the chart title is displayed.</p> <ul style="list-style-type: none"> • Never: never displays the chart title. • Report only: displays the chart title on reports. • Always: displays the chart title on reports, and dashboards and homepages.
Chart title	Enter a title for this chart. The title has a maximum length of 40 characters. If no title is entered, the report name is used for the title. This field is available when Report only or Always is selected from the Show chart title list.
Chart title size	Enter the size of the chart title in pixels. This field is available when Report only or Always is selected from the Show chart title list.
Chart title color	Select the color for the chart title. This field is available when Report only or Always is selected from the Show chart title list.
Custom chart title position	Select this check box to specify X and Y coordinates for the position of the chart title. This field is available when Report only or Always is selected from the Show chart title list.

Field	Description
Title horizontal alignment	Select how the chart title is aligned horizontally. This field is available when Custom chart title position is cleared.
Title vertical alignment	Select how the chart title is aligned vertically. This field is available when Custom chart title position is cleared.
Legend	
Show legend	Select this check box to display a chart legend. This check box is available when a Group by field is selected on the report form.
Legend horizontal alignment	Select how the legend is aligned horizontally. This field is available when Show legend is selected.
Legend vertical alignment	Select how the legend is aligned vertically. This field is available when Show legend is selected.
Left align legend text	Select to left-align the legend text. By default, legend text is centered.
Show legend border	Select this check box to display a border around the legend. This check box is available when Show legend is selected.
Axis	
Axis tab	Configure the titles, appearance, and labels of the X and Y axis. For the Y axis, you can also specify a From and To range.

Create a bar report in the Report Builder

Bar and horizontal bar charts

Use bar charts to compare individual or aggregate scores across data dimensions. You can create bar and horizontal bar chart reports. Bar chart columns originate on the x-axis and horizontal bar chart columns originate on the y-axis.

Bar charts display data in either a horizontal or vertical bar format with each bar representing a specific category of data. A bar chart can use a single color to represent all categories of data, or a different color for each category. Bar charts can be placed on homepages where users can quickly interpret the information displayed.

The following figure shows an example of a bar chart that displays discrete categories of data. The chart includes data from the Incident [incident] table for all incidents recorded up until the time that the report is generated.

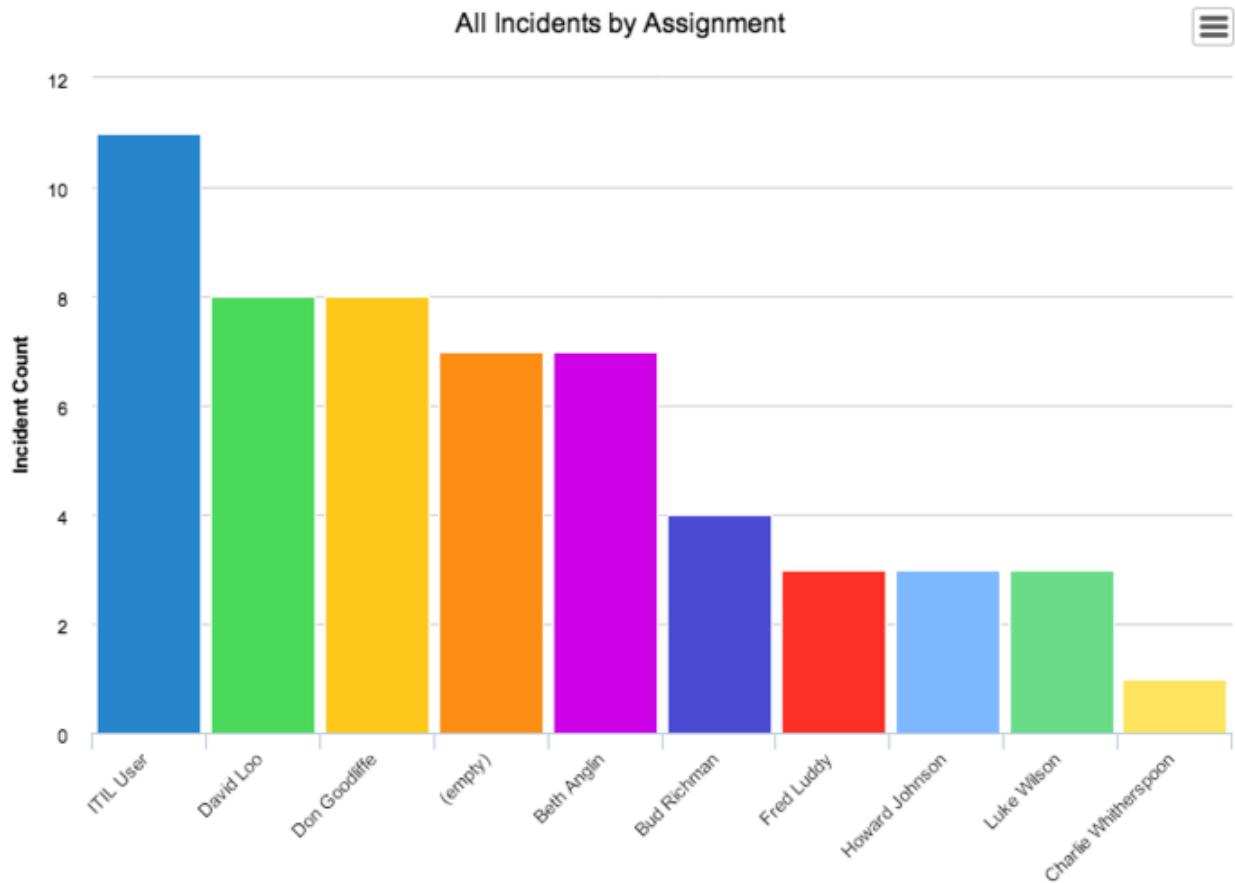


Figure 52: Bar chart

You can configure the bar chart to stack data or change the measurement units of the bars. Stacked bar charts show the parts that contribute to the total. The following figure shows a bar chart with the number of incidents that are assigned to each user. It is also stacked to display how many of the incidents are from each incident category.

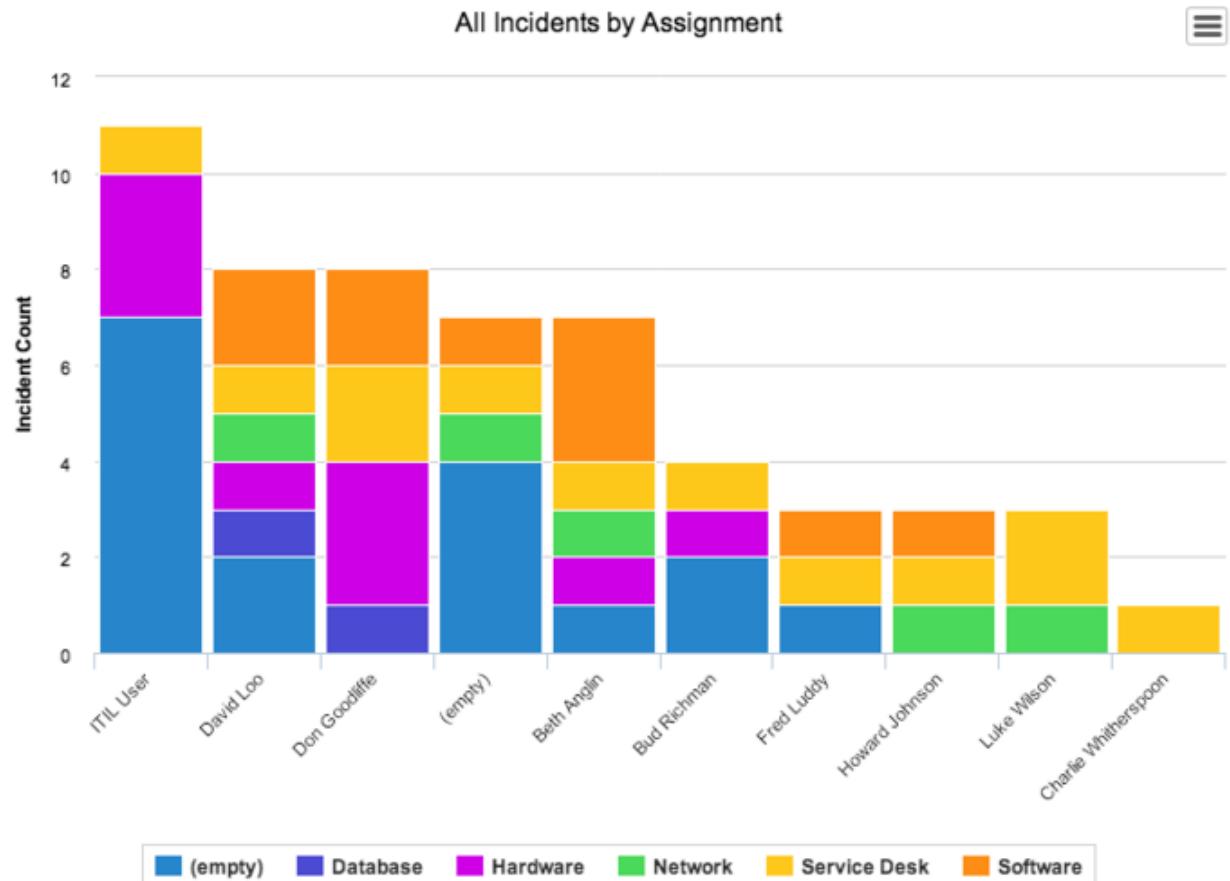


Figure 53: Stacked bar chart

Create a bar report in the Report Builder

Create a bar chart that compares two or more values.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

1. Navigate to **Reports > Create New**.
2. Fill in the fields, as appropriate.

Field	Description
Name	Enter a unique and descriptive name for your report.
Description	Click the information icon () to enter a more detailed description of what the report does and its purpose.
Data	Specify the table or report source containing the data set that you want to include in the report. From the first choice list, select the Table or Report source . Then select the specific table or predefined data set from the second choice list.
Type	Select Bar or Horizontal bar .
Style your chart	Click the gear icon () after the Type field to configure the style options for the look of your chart.
Group by	<p>Select a field to organize data into groups from the selected table. In an incident report grouped by Assignment group, all incidents belonging to Software, Service Desk, Network, and so on, are placed in separate groups. Make sure that you give the report a name that reflects the field you select.</p> <p> Click  to select additional group by fields. When you select Additional group by fields, a control is added to the bottom of the report that groups the report by any one of the additional fields.</p> <hr/> <p>Note: It is not possible to group or stack reports by the Tags field.</p>

Field	Description
Stacked by	<p>Select the field used to show the relationship of individual items from the selected field to the whole.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p> <p>For example, you might create a bar chart of incidents by Category and stack by Priority, enabling a manager to determine at a glance the proportion of high, medium, and low priority issues for each category. Select stacked fields carefully to avoid cluttering the report. In some cases, it is a better practice to create another report to show these relationships rather than stack too much data. Bar charts display a legend only when a stacked field is selected. Boolean, reference, and choice lists can be used as stacked fields. Date, date/time, integer, long, string, and text fields cannot be used as stacked fields. Date types are not allowed starting with the introduction of the Report Charting v2 plugin.</p> <p>You can choose to display the stacked field either in a single column or as a group of columns.</p> <p>If you select a Grouped by field on the report form, you can choose to visualize the bars as Grouped columns. This means that bars are displayed next to one another per the Group by field (for example, the state of the incident), instead of stacked.</p>
Display Grid	<p>Select this check box to display details of the report data in a table below the chart.</p> <p>All reports that use charts, including reports that are used on homepages, display a table of report data when the glide.ui.section508 system property is set to true, even if Display Grid is cleared.</p>
Aggregation	<p>Select a computational method for aggregating report data. The default is Count, which displays the number of records selected.</p> <p>If you select Count Distinct, only unique records are counted. For example, if you want to generate a report with a distinct number of users who have one or more of the roles in a given list of roles, these users would be counted twice unless you use count distinct.</p> <p>If you select Average, Sum, or Count Distinct, a list of fields from the selected Table appears. From this list, select a field to aggregate by. For example, if you select a duration field, such as the Business duration field on the Incident table, the aggregated data is expressed in days, hours, and minutes. If you select an integer field, such as the Priority field, the data is expressed as a number.</p> <p>Note: For duration values, the unit of measurement displayed in the aggregation axis cannot be customized.</p>

Field	Description
Percentages	<p>Select a computational method used for calculating percentages for each element (selected record) in a data set.</p> <ul style="list-style-type: none"> • Use Aggregation: default method. Computes percentages for each element using the sum of all elements in the data set. • Use Record Count: computes percentages for each element using the total number (count) of elements in the data set. <p>This field is available when Aggregation is set to Average, Sum, or Count Distinct.</p>
No. groups	<p>Select the maximum number of bars that can be displayed in the chart. If the number of values from the selected data exceeds this limit, only the largest values are represented by the bars. By default, up to the 12 of the largest values from the selected data can be represented. Remaining values are grouped into an Other bar.</p> <p>If you select Show all, all bars up to a limit of 50 bars are displayed. The rest of the results are stacked on the Other bar. If you select Remove Other, the Other bar is hidden.</p>
Show Other	<p>Select this check box to display the Other bar for values that exceed the No. groups limit. This check box is not available when Show all or Remove Other is selected from the No. groups list. Select Yes from this list to display the Other bar.</p>
Add Filter Condition	<p>Click the filter icon  to create conditions for filtering and ordering data. For example, you might create a condition that states Priority + less than + 3 – Moderate to have the report include only records with priorities of 2 – High and 1 – Critical.</p> <p>Note: Applying a string filter with other filters to donut and bar charts is not supported.</p> <p>Note: Keywords is a special field used for text searches across all fields. Its use in a filter or condition, in combination with other conditions, may return inconsistent results.</p>
Add "OR" Clause	<p>Select a second condition that must be met if the first condition is invalid. For example, select [Assignment Group] [is] [Database], to include records that are assigned to the Database group if the first condition is false. This field is only available after at least one filter condition has been created.</p>
Add Sort Field	<p>Select fields to sort data by. For example, to sort results from lowest to highest priority, select [Priority] [z to a].</p>

3. Click **Save**. The report is generated.

Add reports to homepages or dashboards, publish to the internet, schedule email distribution of PDFs or URLs of published reports, and share reports with others. See [Distribute reports](#) on page 197.

Bar report style options – Report Builder

Change the look of your bar report.



When you create or edit a report, click the gear icon () after the Type field to open the Style your chart dialog box with options to configure the look of your report. Report options are automatically saved when you click **Close**. To see how the report looks with the saved settings, click **Save**.

Table 131: Bar report style options

Field	Description
General	
Chart color	<p>If no group by or stack by is used, Use one color is automatically selected. Select a single predefined system color.</p> <p>If a group by or stack by is used, select one of the following options:</p> <ul style="list-style-type: none"> • Use color palette: Select a color palette from the predefined system color palettes. • Use several colors: Define a custom set of Colors using hex codes. You can add any number of colors. • Use chart colors: Use the colors defined in Reports > Chart Colors.
Display data labels	Select this check box to display the current value for each bar. This field is available when you select None from the Stacked by list.
Custom chart size	Select this check box to specify the chart's width and height in pixels.
Chart size	Select a chart size. This field is available when Custom chart size is cleared.
Drilldown View	Select a view that determines how detailed records are shown when a specific part of the chart is clicked. This option is available for all charts that have drill-down capabilities. If you select a view that has no fields in common to link to the table that the report is based on, the default view is used.
Decimal precision	Number of decimal places to display. You can display From zero to four decimal places. Default value: 2. To change the default value, create the system property glide.chart.decimal.precision and specify the value.
Title	
Show chart title	<p>Select when the chart title is displayed.</p> <ul style="list-style-type: none"> • Never: never displays the chart title. • Report only: displays the chart title on reports. • Always: displays the chart title on reports, dashboards, and homepages.
Chart title	Enter a title for this chart. The title has a maximum length of 40 characters. If no title is entered, the report name is used for the title. This field is available when Report only or Always is selected from the Show chart title list.
Chart title size	Enter the size of the chart title in pixels. This field is available when Report only or Always is selected from the Show chart title list.

Field	Description
Chart title color	Select the color for the chart title. This field is available when Report only or Always is selected from the Show chart title list.
Custom chart title position	Select this check box to specify the X and Y coordinates for the position of the chart title.
Title horizontal alignment	Select how the chart title is aligned horizontally. This field is available when Custom chart title position is cleared.
Title vertical alignment	Select how the chart title is aligned vertically. This field is available when Custom chart title position is cleared.
Legend	
Show legend	Select this check box to display the legend. This field is available when a Stacked by option is selected on the report form.
Legend horizontal alignment	Select how the legend is aligned horizontally. This field is available when Show legend is selected.
Legend vertical alignment	Select how the legend is aligned vertically. This field is available when Show legend is selected.
Left align legend text	Select to left-align the legend text. By default, legend text is centered.
Show legend border	Select this check box to display a border around the legend. This field is available when Show legend is selected.
Axis	
Axis button	Configure the titles, appearance, and labels of the X and Y axis. For the Y axis, you can also specify a From and To range. If you select an aggregation field that is not of the type number, such as an average or a sum with a business duration, the From and To fields are not available.

Create a box report in the Report Builder

Box reports

Box reports visualize the distribution of data including the maximum, minimum, quartiles, median, and mean.

Use box charts to report multiple data sets from different sources that are related to each other.

For example, use a box chart to view the age range of all customers who attended a convention. The box chart helps you determine where most ages are grouped. With this information, you can attempt to increase attendance levels at future events by targeting advertisements at the age groups that had lower attendance levels.

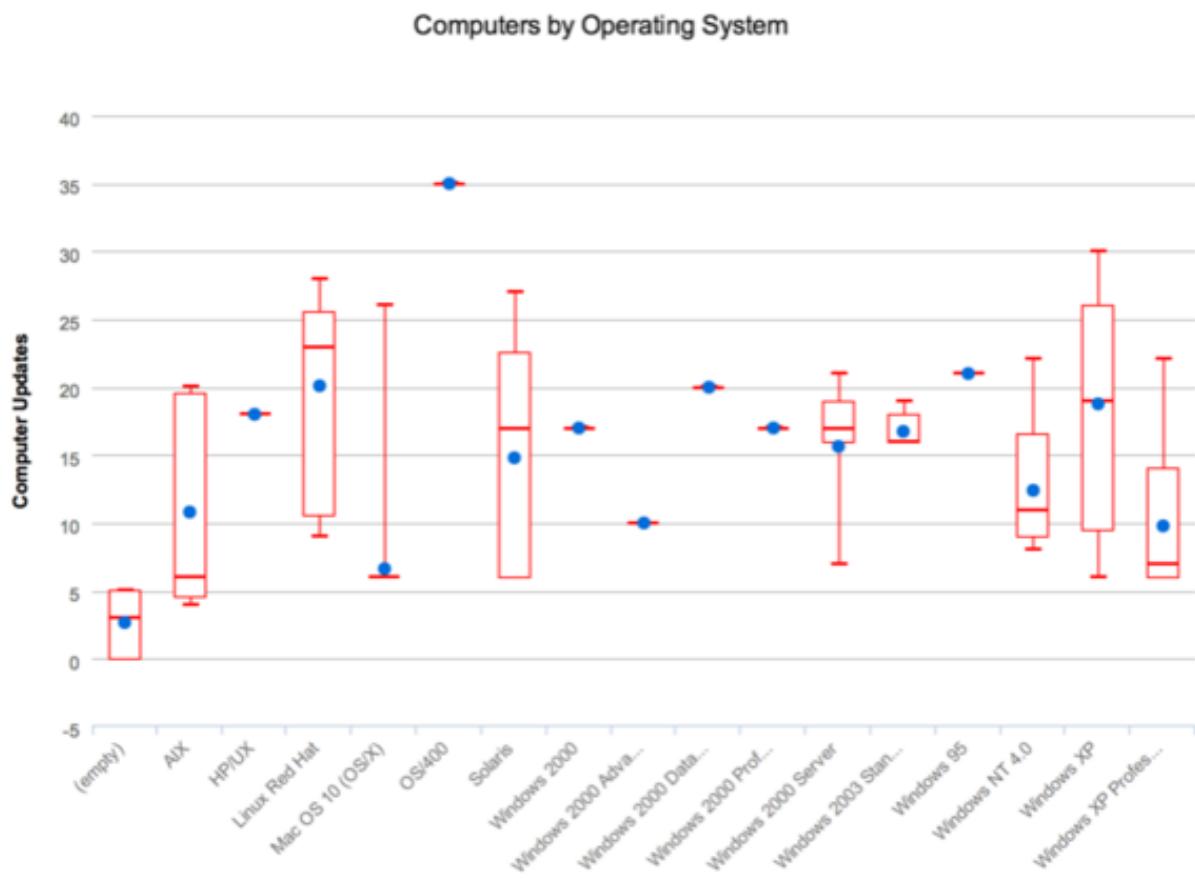


Figure 54: Box report

A box chart displays the following information for each group of data:

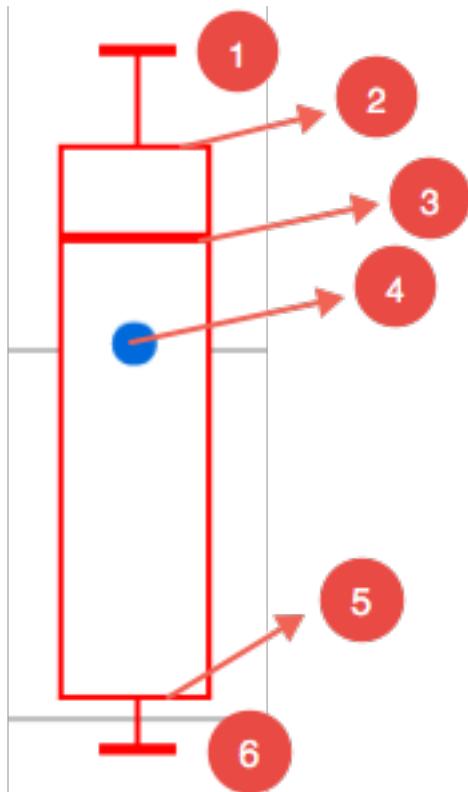


Figure 55: Box chart scale

1. Sample maximum
2. Upper quartile
3. Median
4. Mean
5. Lower quartile
6. Sample minimum

Note: When accessibility is enabled, this visualization includes a report that screen readers can interpret. For more information, see [Enabling accessibility features](#)

Create a box report in the Report Builder

Create a box report to show the distribution of values in a data set.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

1. Navigate to **Reports > Create New**.
2. Fill in the fields, as appropriate.

Table 132: Box Charts Creating Reports

Field	Description
Name	Enter a unique and descriptive name for your report.
Description	Click the information icon to enter a more detailed description of what the report does and its purpose.
Data	Specify the table or report source containing the data set that you want to include in the report. From the first choice list, select Table or Report source . Then select the specific table or predefined data set from the second choice list.
Type	Select Box . Alternatively, click the question mark icon to use the report type selector.
Style your chart	Click the gear icon after the Type field and configure the chart style options to edit the layout and look of your chart.
Group by	<p>Select a field to organize data into groups from the selected table. In an incident report grouped by Assignment group, all incidents belonging to Software, Service Desk, Network, and so on, are placed in separate groups. Make sure that you give the report a name that reflects the field you select.</p> <p>Click  to select additional group by fields. When you select Additional group by fields, a control is added to the bottom of the report that groups the report by any one of the additional fields.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p>
Measured by	Select a field to use as a measurement for the data. Date and time fields are not supported for box charts.
Add Filter Condition	Create conditions for filtering data to include in the report. For example, to include only records with priorities of 2 - High and 1 - Critical, select [Priority] [less than] [3 - Moderate] .
Add "OR" Clause	Select a second condition that must be met if the first condition is invalid. For example, select [Assignment Group] [is] [Database] , to include records that are assigned to the Database group if the first condition is false.
Add Sort Field	Select fields to sort data by. For example, to sort results from lowest to highest priority, select [Priority] [z to a] .

3. Click **Save or Insert**.

Add reports to homepages or dashboards, publish to the internet, schedule email distribution of PDFs or URLs of published reports, and share reports with others. See [Distribute reports](#) on page 197.

Box report style options – Report Builder

Change the look of your box report.



When you create or edit a report, click the gear icon () after the Type field to open the Style your chart dialog box with options to configure the look of your report. Report options are automatically saved when you click **Close**. To see how the report looks with the saved settings, click **Save**.

Table 133: Chart style options

Field	Description
General	
Custom chart size	Select this check box to specify the chart's width and height in pixels.
Chart size	Select a chart size. This field is available when Custom chart size is cleared.
Decimal precision	Number of decimal places to display. You can display From zero to four decimal places. Default value: 2. To change the default value, create the system property glide.chart.decimal.precision and specify the value.
Title	
Show chart title	Select when the chart title is displayed. <ul style="list-style-type: none"> Never: never displays the chart title. Report only: displays the chart title on reports. Always: displays the chart title on reports, and dashboards and homepage.
Chart title	Enter a title for this chart. The title has a maximum length of 40 characters. If no title is entered, the report name is used for the title. This field is available when Report only or Always is selected from the Show chart title list.
Chart title size	Enter the size of the chart title in pixels. This field is available when Report only or Always is selected from the Show chart title list.
Chart title color	Select the color for the chart title. This field is available when Report only or Always is selected from the Show chart title list.
Custom chart title position	Select this check box to specify the X and Y coordinates for the position of the chart title. This field is available when Report only or Always is selected from the Show chart title list.
Title horizontal alignment	Select how the chart title is aligned horizontally. This field is available when Custom chart title position is cleared.
Title vertical alignment	Select how the chart title is aligned vertically. This field is available when Custom chart title position is cleared.
Axis	
Axis button	Configure the titles, appearance, and labels of the X and Y axis. For the Y axis, you can also specify a From and To range.

Create a bubble report in the Report Builder

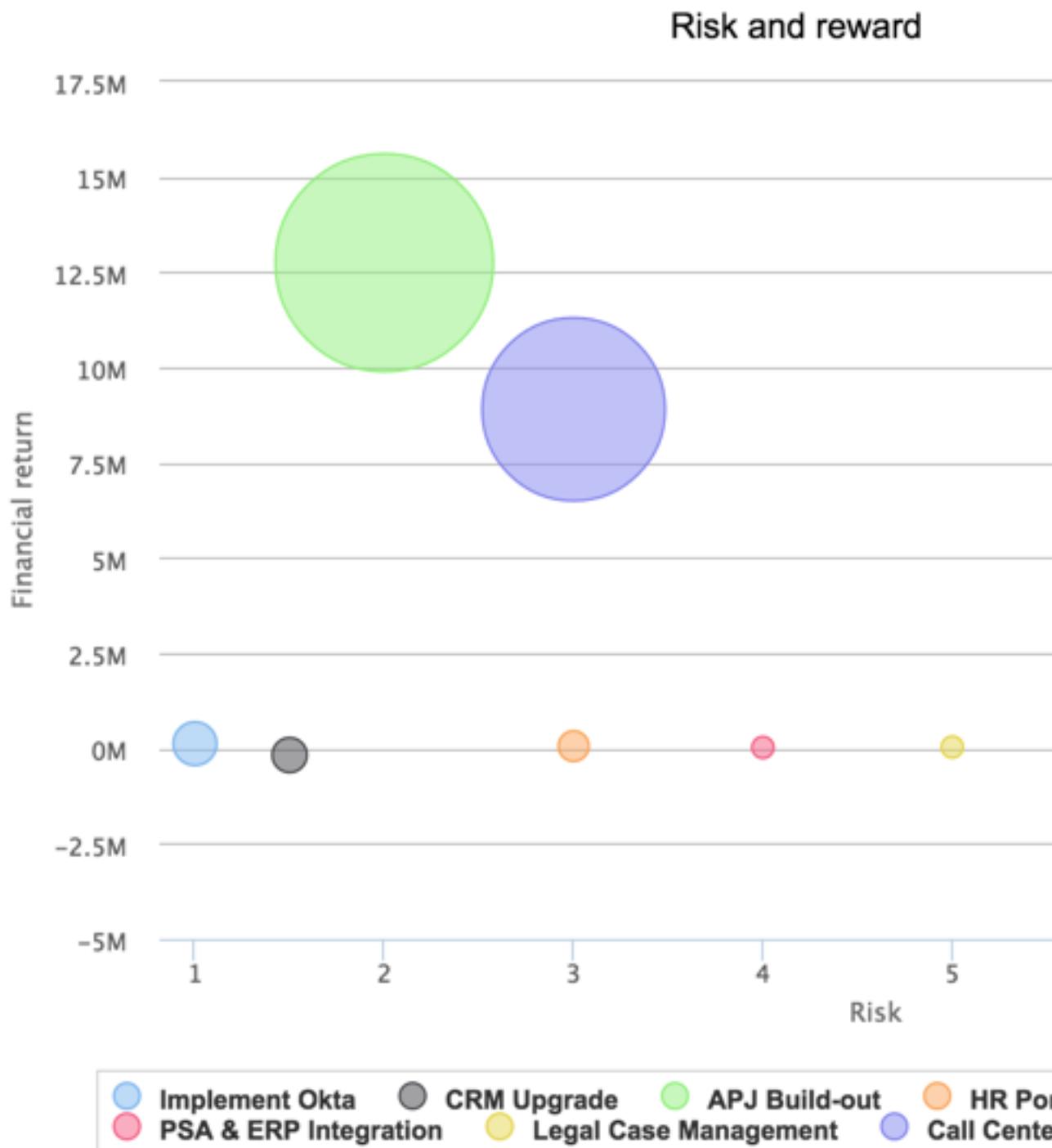
Bubble reports

Bubble reports plot data points on X and Y axes and use a third aggregate dimension to define bubble size.

Bubble reports can use numeric values to define the X and Y axes, and an aggregate value to determine the size of each bubble.

For example, when using Demand Management you can create a bubble report on the Demand table to compare risk and reward for various demands. Each bubble represents one demand. The risk and financial return determine the position of each bubble, while the total financial benefit for the demand determines the bubble size. You can quickly identify demands with low risk and high reward using the large bubbles in the top left of the report.

Note: When accessibility is enabled, this visualization includes a report that screen readers can interpret. For more information, see [Enabling accessibility features](#)



Create a bubble report in the Report Builder

Create a bubble report to display multiple separate metrics on a chart.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

1. Navigate to **Reports > Create New**.

2. Fill in the fields, as appropriate (see table).

Table 134: Fields

Field	Description
Data	Specify the table or report source containing the data set that you want to include in the report. From the first choice list, select Table or Report source . Then select the specific table or <i>predefined data set</i> from the second choice list.
Type	Select Bubble .
Style your chart	 Click the gear icon () after the Type field to configure the bubble report style options for the look and layout of the chart.
Group by	Select a field to group data by. Each value is represented by a unique bubble color on the chart. Note: It is not possible to group or stack reports by the Tags field.
Row	Select a numeric field to use as the chart Y axis.
Columns	Select a numeric field to use as the chart X axis.
Aggregation	Select a computational method for aggregating report data. The size of each bubble depends on the aggregate value. The default is Count , which displays the number of records selected. If you select Count Distinct , only unique records are counted. For example, if you want to generate a report with a distinct number of users who have one or more of the roles in a given list of roles, these users would be counted twice unless you use count distinct. If you select Average , Sum , or Count Distinct , this displays an additional list of fields from the selected Table . From this list, select a field to aggregate by. For example, if you select a duration field, such as the Business duration field on the Incident table, the aggregated data is expressed in days, hours, and minutes. If you select an integer field, such as the Priority field, the data is expressed as a number. If a value in a column being aggregated has a comma, the value will be separated by the comma, and the aggregation will not be performed accurately. Note: For duration values, the unit of measurement displayed in the aggregation axis cannot be customized.
Add Filter Condition	Create <i>conditions</i> for filtering data to include in the report. For example, to include only records with priorities of 2 - High and 1 - Critical , select [Priority] [is] [Database] .
Add "OR" Clause	Select a second condition that must be met if the first condition is invalid. For example, select [Assignment Group] [is] [Database] , to include records that are assigned to the Database group, if the first condition is false.

Field	Description
Add Sort Field	Define the order of values on either axis, such as to display higher values on top or on the right side of the chart. You can sort both axes by setting the sort order for both axis fields.

3. Click **Save**. The report is generated.

Add reports to homepages or dashboards, publish to the internet, schedule email distribution of PDFs or URLs of published reports, and share reports with others. See *Distribute reports* on page 197.

Bubble report style options – Report Builder

Change the look of your bubble report.



When you create or edit a report, click the gear icon () after the Type field to open the Style your chart dialog box with options to configure the look of your report. Report options are automatically saved when you click **Close**. To see how the report looks with the saved settings, click **Save**.

Table 135: Chart style options

Field	Description
General	
Custom chart size	<p>Check box to specify the width and height of the report in pixels.</p> <p>Note: The chart size is ignored when you export the report to PDF. In PDFs, the full page width is used to display the chart.</p>
Chart size	<p>Chart size. This field is available when Custom chart size is cleared. Options are Small, Medium, and Large.</p> <p>Note: The chart size is ignored when you export the report to PDF. In PDFs, the full page width is used to display the chart.</p>
Chart width	<p>Width of the report in pixels. The default value is 600.</p> <p>This field is available when Custom chart size is selected.</p>
Chart height	<p>Height of the report in pixels. The default value is 450.</p> <p>This field appears when Custom chart size is selected.</p>

Field	Description
Drilldown view	<p>List view to display when a user selects a segment of a report for which no drilldown report type is specified. This view is also used when the user reaches the lowest drilldown level of a report. See Configure the list layout. If you specify a Report drilldown, Drilldown view is ignored.</p> <p>Note: All users can view report visualizations, such as pie charts and column reports. However, the last level of a drill down is always a list. Platform access control lists determine user access to list information. Users who do not have rights to any part of the list data see the message "Number of rows removed from this list by Security constraints:" followed by the number. See Access control rules.</p> <p>For more information, see Define a report drilldown in the Report Designer on page 501.</p>
Title	
Show chart title	<p>When the chart title is displayed for the report.</p> <ul style="list-style-type: none"> • Never: Never displays the chart title. • Report only: Displays the chart title on reports. • Always: Displays the chart title on reports, and dashboards and homepages.
Chart title	<p>The chart title has a maximum length of 40 characters. If no title is entered, the report name is used for the title. This field appears when Report only or Always is selected from the Show chart title list.</p>
Size of the chart title	<p>Size of the chart title in pixels. This field appears when Report only or Always is selected from the Show chart title list.</p>
Chart title color	<p>Color of the chart title. This field appears when Report only or Always is selected from the Show chart title list.</p>
Custom chart title position	<p>Check box to specify X and Y coordinates for the position of the chart title. This field appears when Report only or Always is selected from the Show chart title list.</p>
Title horizontal alignment	<p>How the chart title is aligned horizontally. This field is available when Custom chart title position is cleared.</p>
Title vertical alignment	<p>How the chart title is aligned vertically. This field appears when Custom chart title position is cleared.</p>
Chart title X position	<p>Number of pixels to adjust the chart title position right or left. By default the title appears at the center top of the chart. To move the chart title to the right, enter a positive value. To move the title to the left, enter a negative value.</p> <p>This field appears only when Custom chart title position is selected.</p>
Chart title Y position	<p>Number of pixels to adjust the chart title position up or down. By default the title appears at the center top of the chart. To move up the chart title, enter a positive value. To move the chart title down, enter a negative value.</p> <p>This field appears only when Custom chart title position is selected.</p>

Create a calendar report in the Report Builder

Calendar reports

Calendar reports display date-driven events on a calendar.

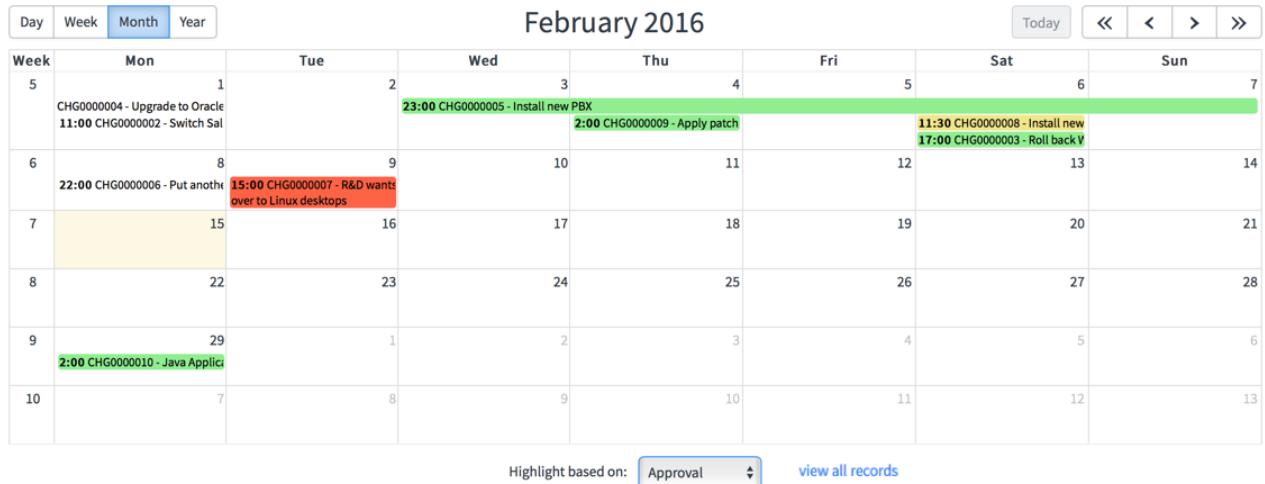


Figure 56: Calendar report

You can highlight calendar events by relevant criteria such as priority, status, or escalation. Events that have no end date have a duration of one hour.

Limitations

- Calendar reports with an updated look-and-feel are not supported in Internet Explorer 8, which displays an older version of calendars.

- Events that started more than 30 days before the first day visible on a calendar are not displayed on the calendar. For example, if you select **Year**, then the calendar includes events that start between December 1 of the previous year and December 31 of the current year.
- To view more or fewer days, edit the glide.report.calendar.max_days_back property. See [Reporting properties](#) on page 577.

Note: Performance may degrade if this value is too large.

-
- This report type cannot be run as a scheduled report.

Create a calendar report in the Report Builder

Create a calendar report to display date-driven events on a calendar.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

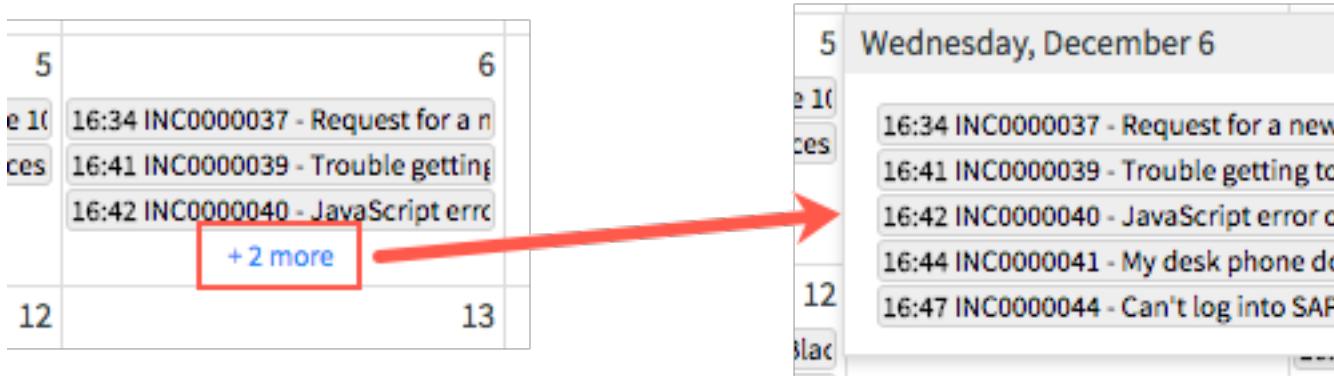
1. Navigate to **Reports > Create New**.
2. Fill in the fields, as appropriate.

Field	Description
Name	Enter a name for the report.
	Click this icon to enter a report description. This description appears when users point to the question mark icon () for the report when the report is on a dashboard in the edit mode.
Data	Select the table or report source containing the data that you want to report on.
Type	Select Calendar .
Calendar by	Select the type of date-driven event to display on the calendar. For example, select Planned end date to view events on the date that they are scheduled to end.

3. Click **Run** to view the calendar report, or click **Save** to save the report.
4. Optional: Export the calendar report to PDF.
 1. Click the arrow next to the Save button and select **Publish**.
 2. Copy the link that displays above the report and open the link in a browser.
 3. Select **Click to Print** and choose PDF output from your printer options.

The report is generated.

Note: When there are more events on a date than fit in the calendar cell, a link is shown to view the additional events.



If there are more than thirty events, the cell shows + many. Click this link to show all the events in a list view for that date.

-  Click the sharing icon () to open the **Sharing** menu. On this menu, you can add the report to a dashboard and publish the report to the web. See [Share a report – Report Builder](#) on page 199 for more information.
- [Change highlighting of calendar report events](#) on page 574.
- [Configure how calendar entries look](#) on page 569

Disable new calendar reports

To use the version of calendars from releases prior to Helsinki, disable the new calendar version. Reasons to use the old calendar include having scripts that are incompatible with the new calendar and preference for the style of the older calendar. The updated calendar is also not supported in Internet Explorer versions 7 and 8.

Role required: report_admin or admin

1. Navigate to **Reports > Administration > Properties**.
2. Add the glide.report.new_calendar system property, and set it to **false**.
See [Reporting properties](#) on page 577.

Note:

If this system property is set to true, it is supported only in the classic UI. Click **Switch to classic UI** in the report designer.

Create a column report in the Report Builder

Column reports

Column reports show how the value of one or more items changes over time by with columns.

Values along the horizontal axis of the column chart represent the time measurement (years, hours, minutes, milliseconds, and so on). Values on the vertical axis represent the changes to the items being monitored. Users with the report_admin role can define the ranges that are used in a column chart report. See [Report ranges](#) for information on creating report ranges.

For example, you can create a column chart for incident counts, to show how the number of incidents changes over time. The incident count often increases during the first few months after a product upgrade

is deployed. Over time, the number of reported incidents decreases as users become more accustomed to the changes in the product.

The figure shows resolved incidents stacked by category with a legend that indicates which category the colors represent.

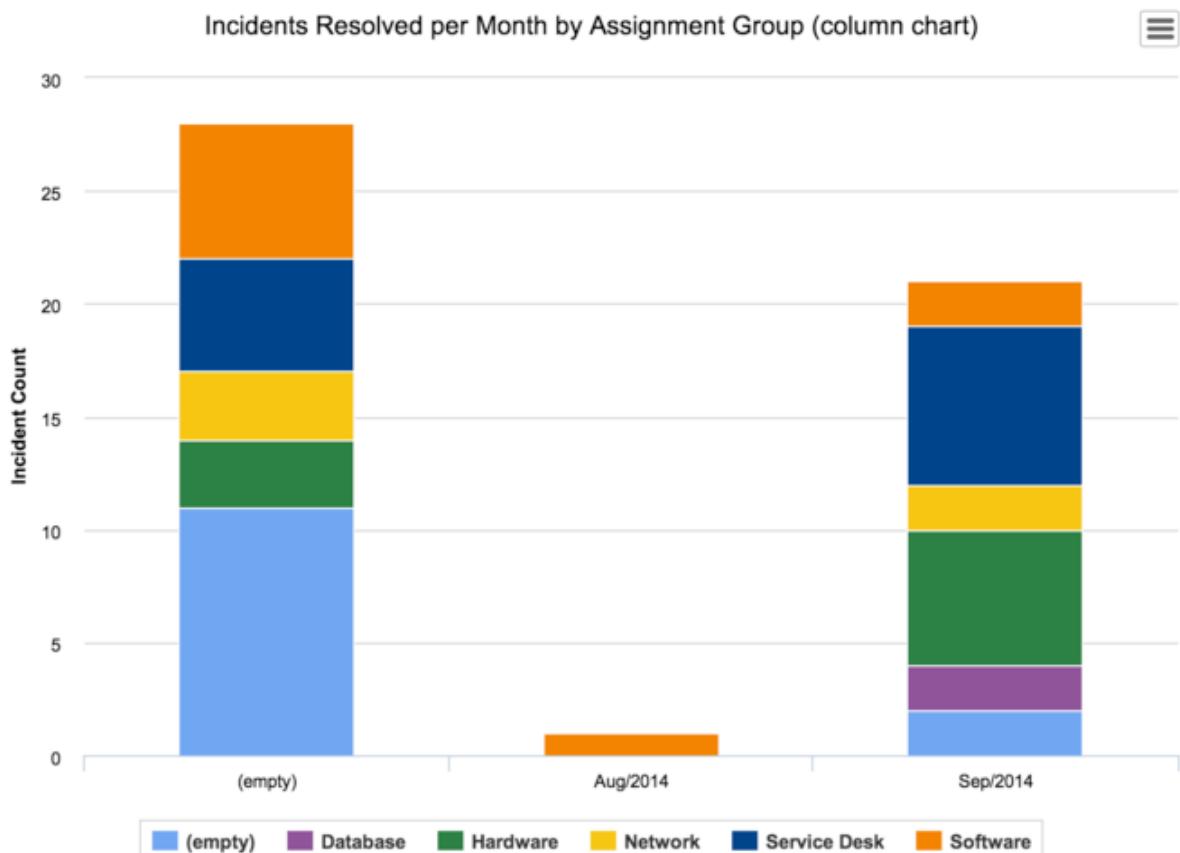


Figure 57: Stacked column chart

A grouped column chart shows the categories as individual bars, rather than stacked colors in a single bar.

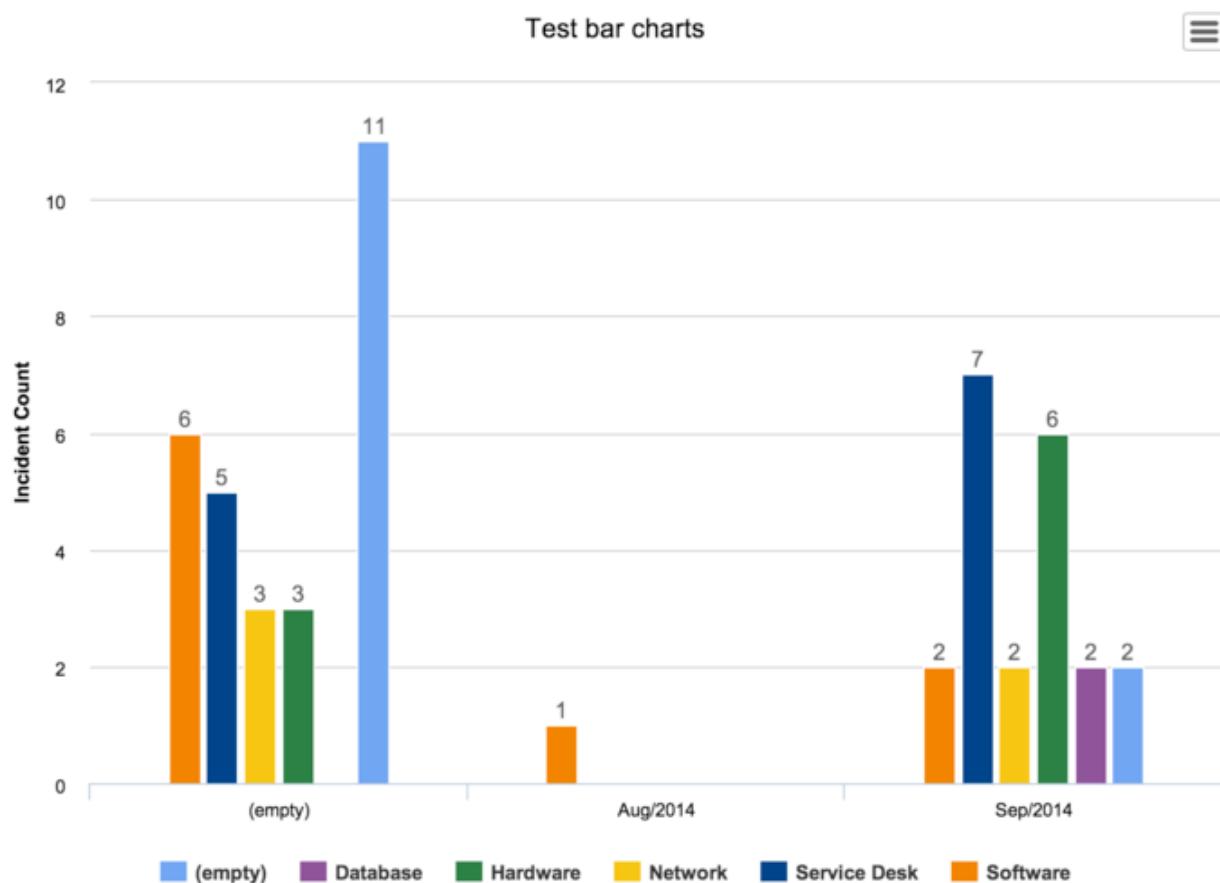


Figure 58: Grouped column chart

Create a column report in the Report Builder

Create a column report to show how the value of one or more data element changes over time using vertical columns.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

1. Navigate to **Reports > Create New**.
2. Fill in the fields, as appropriate.

Table 136: Column chart

Field	Description
Name	Enter a unique and descriptive name for your report.
Description	Click the information icon () to enter a more detailed description of what the report does and its purpose.
Data	Specify the table or report source containing the data set that you want to include in the report. From the first choice list, select Table or Report source . Then select the specific table or <i>predefined data set</i> from the second choice list.
Type	Select Column .
Style your chart	Click the gear icon () after the Type field and configure the chart style options to edit the layout and look of your chart.
Group by	<p>Select a field to organize data into groups from the selected table. In an incident report grouped by Assignment group, all incidents belonging to Software, Service Desk, Network, and so on, are placed in separate groups. Make sure that you give the report a name that reflects the field you select.</p> <p>Click  to select additional group by fields. When you select Additional group by fields, a control is added to the bottom of the report that groups the report by any one of the additional fields.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p>
Stacked / Grouped columns	<p>Choose to display the Group by field as stacked columns or grouped columns. For example, if a report groups incidents by state and the Group by field is Category, selecting Stacked shows the incidents in one column by state with different colors for each category. Selecting Grouped columns shows the incidents in separate columns for each state with different colors for each category column.</p> <p>The Stacked and Grouped columns options are not available when None is selected from the Group by list.</p>
Display Grid	<p>Select this check box to display details of the report data in a table below the chart.</p> <p>All reports that use charts, including reports that are used <i>on homepages</i>, display the table of report data details if the <code>glide.ui.section508</code> system property is set to <code>true</code>, even if the Display Grid check box is cleared.</p>
Trend by	Select the table field whose values you want to display in a time sequence.

Field	Description
per	<p>Time period to group data by. Time periods range from an hour to a year. You can also specify a date.</p> <p>Note: Reporting per Week is not supported when the report range includes more than one year. Inconsistent results are produced when a week is split between two years.</p>
Aggregation	<p>Select a computational method for aggregating report data. The default is Count, which displays the number of records selected.</p> <p>If you select Count Distinct, only unique records are counted. For example, if you want to generate a report with a distinct number of users who have one or more of the roles in a given list of roles, these users would be counted twice unless you use count distinct.</p> <p>If you select Average, Sum, or Count Distinct, a list of fields from the selected Table appears. From this list, select a field to aggregate by. For example, if you select a duration field, such as the Business duration field on the Incident table, the aggregated data is expressed in days, hours, and minutes. If you select an integer field, such as the Priority field, the data is expressed as a number.</p> <p>Note: For duration values, the unit of measurement displayed in the aggregation axis cannot be customized.</p>
Percentages	<p>Select a computational method used for calculating percentages for each element in a data set.</p> <ul style="list-style-type: none"> • Use Aggregation: default method. Computes percentages for each element using the sum of all elements in the data set. • Use Record Count: computes percentages for each element using the total number (count) of elements in the data set. <p>This field is only available when Aggregation is set to Average, Sum, or Count Distinct.</p>
Add Filter Condition	Create <i>conditions</i> for filtering data to include in the report. For example, to include only records with priorities of 2 - High and 1 - Critical , select [Priority] [less than] [3 - Moderate] .
Add "OR" Clause	Select a second condition that must be met if the first condition is invalid. For example, select [Assignment Group] [is] [Database] , to include records that are assigned to the Database group if the first condition is false.
Add Sort Field	Select fields to sort data by. For example, to sort results from lowest to highest priority, select [Priority] [z to a] .

3. Click **Save**. The report is generated.

Add reports to homepages or dashboards, publish to the internet, schedule email distribution of PDFs or URLs of published reports, and share reports with others. See [Distribute reports](#) on page 197.

Column report style options – Report Builder

Change the look of your column report.



When you create or edit a report, click the gear icon () after the Type field to open the Style your chart dialog box with options to configure the look of your report. Report options are automatically saved when you click **Close**. To see how the report looks with the saved settings, click **Save**.

Table 137: Column chart style options

Field	Description
General	
Chart color	If no group by is used, Use one color is automatically selected. Select a single predefined system color. If a group by or stack by is used, select one of the following options: <ul style="list-style-type: none">• Use color palette: Select a color palette from the predefined system color palettes.• Use several colors: Define a custom set of Colors using hex codes. You can add any number of colors.• Use chart colors: Use the colors defined in Reports > Chart Colors.
Display data labels	Select this check box to display the current score for the start and end points of the column.
Custom chart size	Select this check box to specify the chart's width and height in pixels.
Chart size	Select a chart size. This field is available when Custom chart size is cleared.
Drilldown View	Select a view that determines how detailed records are shown when a specific part of the chart is clicked. This option is available for charts with drill-down capabilities. If you select a view that has no fields in common to link to the table that the report is based on, the default view is used. See Define a report drilldown in the Report Designer on page 501.
Decimal precision	Number of decimal places to display. You can display From zero to four decimal places. Default value: 2. To change the default value, create the system property glide.chart.decimal.precision and specify the value.
Title	
Show chart title	Select when the chart title is displayed. <ul style="list-style-type: none">• Never: never displays the chart title.• Report only: displays the chart title on reports.• Always: displays the chart title on reports, dashboards, and homepages.
Chart title	Enter a title for this chart. The title has a maximum length of 40 characters. If no title is entered, the report name is used for the title. This field is available when Report only or Always is selected from the Show chart title list.
Chart title size	Enter the size of the chart title in pixels. This field is available when Report only or Always is selected from the Show chart title list.
Chart title color	Select the color for the chart title. This field is available when Report only or Always is selected from the Show chart title list.

Field	Description
Custom chart title position	Select this check box to specify X and Y coordinates for the position of the chart title. This field is available when Report only or Always is selected from the Show chart title list.
Title horizontal alignment	Select how the chart title is aligned horizontally. This field is available when Custom chart title position is cleared.
Title vertical alignment	Select how the chart title is aligned vertically. This field is available when Custom chart title position is cleared.
Legend	
Show legend	Select this check box to display a chart legend. This check box is available when a Group by field is selected in the visualization fields.
Legend horizontal alignment	Select how the legend is aligned horizontally. This field is available when Show legend is selected.
Legend vertical alignment	Select how the legend is aligned vertically. This field is available when Show legend is selected.
Left align legend text	Select to left-align the legend text. By default, legend text is centered.
Show legend border	Select this check box to display a border around the legend. This check box is available when Show legend is selected.
Axis	
Axis tab	Configure the titles, appearance, and labels of the X and Y axis. For the Y axis, you can also specify a From and To range.

Create a control report in the Report Builder

Control reports

Control reports visualize data over time using standard deviations to show statistical likelihood and identify outliers.

Control reports display data as a series of connected points. The blue line at the center of the report is drawn at the mean. Upper and lower control limits, represented by red lines, indicate the thresholds at which activity is considered statistically unlikely. If the process is in control, all points are plotted within the control limits. You may want to investigate any activity outside these limits.

Note: When accessibility is enabled, this visualization includes a report that screen readers can interpret. For more information, see [Enabling accessibility features](#)

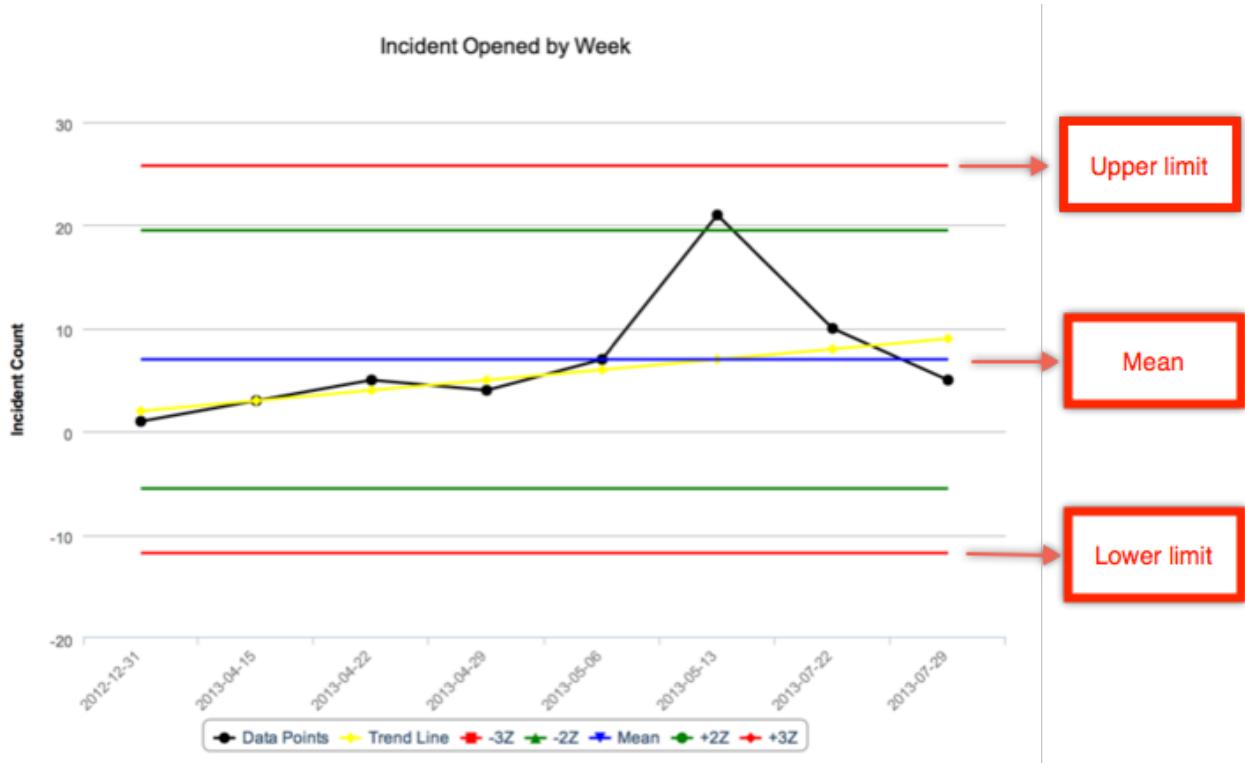


Figure 59: Control report

Note: The mean is calculated by taking a sum of the data points on the **Data Points** line and dividing by the number of points. These values depend on the aggregation (Count, Average, Sum, or Count Distinct). This mean can differ from averages in other reports based on the same data if the other reports use different aggregations. For example, the mean number of incidents (**Count**) per month over a period is different from the mean **Average** duration of those same incidents.

Create a control report in the Report Builder

Create a control report to determine whether a business process is in a state of statistical control.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

1. Navigate to **Reports > Create New**.
2. Fill in the fields, as appropriate.

Table 138: Creating Reports

Field	Description
Name	Unique and descriptive name for your report.
Description	Click the information icon () to enter a more detailed description of what the report does and its purpose.
Data	Specify the table or report source containing the data set that you want to include in the report. From the first choice list, select Table or Report source . Then select the specific table or <i>predefined data set</i> from the second choice list.
Type	Select Control .
Style your chart	Click the gear icon () after the Type field to configure chart style options for the look and layout of the chart.
Trend by	Select the table field whose values you want to display in a time sequence.
per	<p>Time period to group data by. Time periods range from an hour to a year. You can also specify a date.</p> <p>Note: Reporting per Week is not supported when the report range includes more than one year. Inconsistent results are produced when a week is split between two years.</p>
Aggregation	<p>Select a computational method for aggregating report data. The default is Count, which displays the number of records selected.</p> <p>If you select Count Distinct, only unique records are counted. For example, if you want to generate a report with a distinct number of users who have one or more of the roles in a given list of roles, these users would be counted twice unless you use count distinct.</p> <p>If you select Average, Sum, or Count Distinct, a list of fields from the selected Table appears. From this list, select a field to aggregate by. For example, if you select a duration field, such as the Business duration field on the Incident table, the aggregated data is expressed in days, hours, and minutes. If you select an integer field, such as the Priority field, the data is expressed as a number.</p> <p>Note: For duration values, it is not possible to customize the unit of measurement displayed in the aggregation axis.</p>
Add Filter Condition	Create <i>conditions</i> for filtering data to include in the report. For example, to include only records with priorities of 2 - High and 1 - Critical , select [Priority] [less than] [3 - Moderate] .
Add "OR" Clause	Select a second condition that must be met if the first condition is invalid. For example, select [Assignment Group] [is] [Database] , to include records that are assigned to the Database group if the first condition is false.

Field	Description
Add Sort Field	Select fields to sort data by. For example, to sort results from lowest to highest priority, select [Priority] [z to a] .

3. Click **Save** to generate the report.

Add reports to homepages or dashboards, publish to the internet, schedule email distribution of PDFs or URLs of published reports, and share reports with others. See [Distribute reports](#) on page 197.

Control chart style options – Report Builder

Change the look of your pie chart.



When you create or edit a report, click the gear icon () after the Type field to open the Style your chart dialog box with options to configure the look of your report. Report options are automatically saved when you click **Close**. To see how the report looks with the saved settings, click **Save**.

Table 139: Control chart style options

Field	Description
General	
Display data labels	Check box to display the value for each data point.
Custom chart size	<p>Check box to specify the width and height of the report in pixels.</p> <p>Note: The chart size is ignored when you export the report to PDF. In PDFs, the full page width is used to display the chart.</p>
Chart width	<p>Width of the report in pixels. The default value is 600.</p> <p>This field is available when Custom chart size is selected.</p>
Chart height	<p>Height of the report in pixels. The default value is 450.</p> <p>This field appears when Custom chart size is selected.</p>
Chart size	<p>Chart size. This field is available when Custom chart size is cleared. Options are Small, Medium, and Large.</p> <p>Note: The chart size is ignored when you export the report to PDF. In PDFs, the full page width is used to display the chart.</p>

Field	Description
Drilldown view	<p>List view to display when a user selects a segment of a report for which no drilldown report type is specified. This view is also used when the user reaches the lowest drilldown level of a report. See Configure the list layout. If you specify a Report drilldown, Drilldown view is ignored.</p> <hr/> <p>Note: All users can view report visualizations, such as pie charts and column reports. However, the last level of a drill down is always a list. Platform access control lists determine user access to list information. Users who do not have rights to any part of the list data see the message "Number of rows removed from this list by Security constraints:" followed by the number. See Access control rules.</p> <hr/> <p>For more information, see Define a report drilldown in the Report Designer on page 501.</p>
Decimal precision	<p>Number of decimal places to display. You can display From zero to four decimal places. Default value: 2. To change the default value, create the system property <code>glide.chart.decimal.precision</code> and specify the value.</p>
Title	
Show chart title	<p>When the chart title is displayed for the report.</p> <ul style="list-style-type: none"> • Never: Never displays the chart title. • Report only: Displays the chart title on reports. • Always: Displays the chart title on reports, and dashboards and homepages.
Chart title	<p>The chart title has a maximum length of 40 characters. If no title is entered, the report name is used for the title. This field appears when Report only or Always is selected from the Show chart title list.</p>
Size of the chart title	<p>Size of the chart title in pixels. This field appears when Report only or Always is selected from the Show chart title list.</p>
Chart title color	<p>Color of the chart title. This field appears when Report only or Always is selected from the Show chart title list.</p>

Field	Description
Custom chart title position	Check box to specify X and Y coordinates for the position of the chart title. This field appears when Report only or Always is selected from the Show chart title list.
Title horizontal alignment	How the chart title is aligned horizontally. This field is available when Custom chart title position is cleared.
Title vertical alignment	How the chart title is aligned vertically. This field appears when Custom chart title position is cleared.
Chart title X position	Number of pixels to adjust the chart title position right or left. By default the title appears at the center top of the chart. To move the chart title to the right, enter a positive value. To move the title to the left, enter a negative value. This field appears only when Custom chart title position is selected.
Chart title Y position	Number of pixels to adjust the chart title position up or down. By default the title appears at the center top of the chart. To move up the chart title, enter a positive value. To move the chart title down, enter a negative value. This field appears only when Custom chart title position is selected.
Legend	
Show legend	Check box to display a chart legend. This check box appears when a Group by field is selected on the report form.
Legend horizontal alignment	How the legend is aligned horizontally. This field appears when Show legend is selected.
Legend vertical alignment	How the legend is aligned vertically. This field appears when Show legend is selected.
Show legend border	Check box to display a border around the legend. This check box appears when Show legend is selected.
Left align legend text	Check box to left-align the legend text. By default, the legend text is centered. This check box appears when Show legend is selected.
Axis	
Y axis and X axis	Axis for which you want to configure the titles, appearance, and labels.
Title	Title for the axis.
Title size	Size of the axis title in pixels. Default value is 12.
Title color	Color of the axis title. Default value is Black .

Field	Description
Title bold	Check this box to display the axis title in a bold typeface.
Opposite	On the X axis tab, select this check box to display the X-axis title on the right side of the report instead. On the Y axis tab, select this check box to display the Y-axis title on top of the report instead of across the bottom.
Display grid	On the X axis tab, select this check box to display horizontal grid lines on the report. On the Y axis tab, select this check box to display vertical grid lines on top the report.
X axis / Y axis grid width	Width of grid lines on the report. Default value is 1 pixel.
Grid color	Color of grid lines. Default value is LightGrey .
Grid dotted	Check this box to display dotted grid lines instead of solid lines.
From	Specify a minimum Y-axis value to limit the amount of information in the report. If you select an aggregation field that is not of the type Number , the From and To fields are not available.
To	Specify a maximum Y-axis value to limit the amount of information in the report. If you select an aggregation field that is not of the type Number , the From and To fields are not available.
X axis / Y axis label size	On the X axis tab, specify the size of the labels for the rows of the report. On the Y axis tab, specify the size of the labels for the columns in the report.
Label bold	Check this box to display the labels of the report in a bold typeface.

Create a dial or speedometer report in the Report Builder

Dial and speedometer reports

Dials and speedometers provide a real-time count for an indicator. These charts cannot contain comparison or historical data. You can configure colors in these reports to display at a glance values that are within acceptable ranges.

For example, red indicates unacceptable value ranges. A low value for monthly sales is worse than a high value, but a low value for incident resolution times is better than a high value. So you would configure red for low values in the report for monthly sales and red for high values in the report for incident resolution times.

Dials and speedometers also have different appearances:

- A speedometer shows numbers in the form of a round meter with a defined range.
- A dial shows where a score falls across ranges on a half-circle dial.

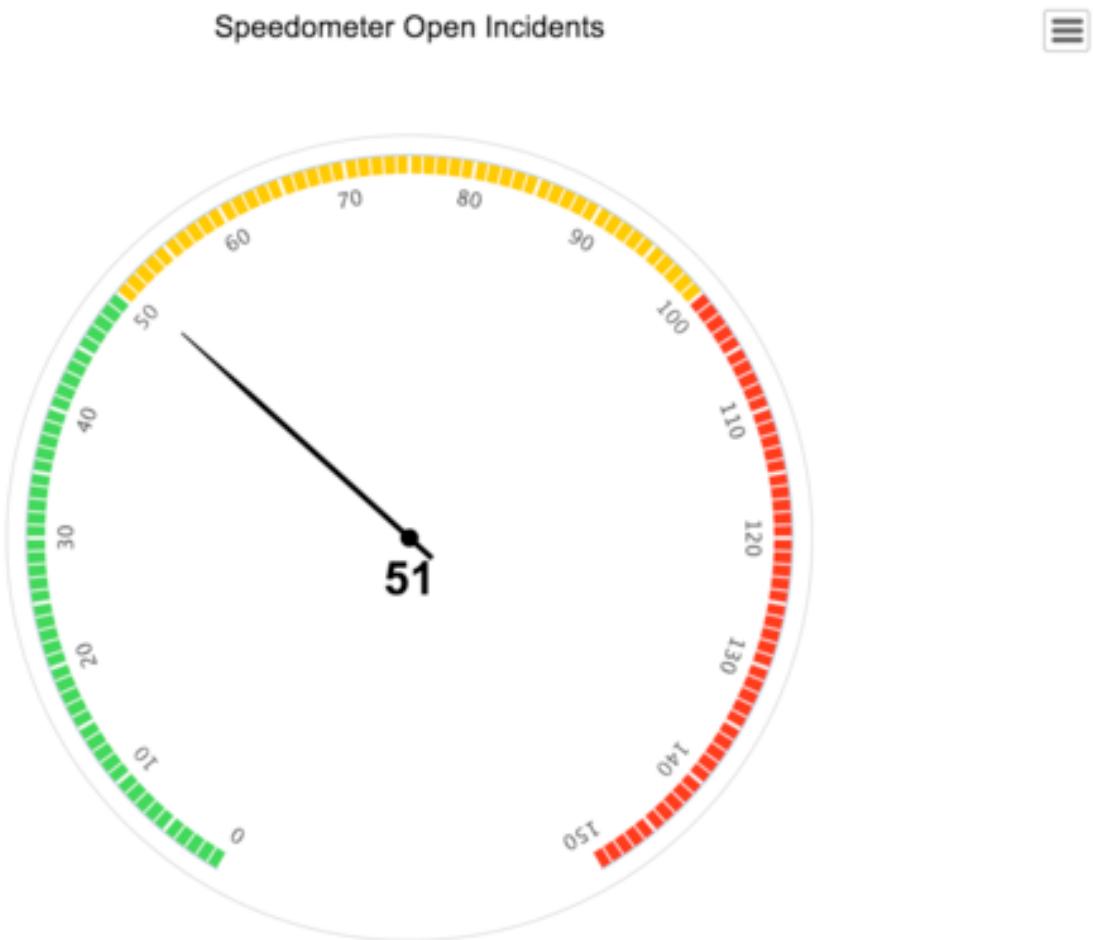


Figure 60: Angular speedometer report



Figure 61: Solid dial report

Create a dial or speedometer report in the Report Builder

Create a dial or speedometer to provide a real-time count for an indicator.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

1. Navigate to **Reports > Create New**.
2. Fill in the fields, as appropriate.

Table 140: Speedometer report fields

Field	Description
Name	Enter a unique and descriptive name for the report.
Description	Click the information icon (ⓘ) to enter a more detailed description of what the report does and its purpose.
Data	Specify the table or report source containing the data set that you want to include in the report. From the first choice list, select the Table or Report source . Then select the specific table or <i>predefined data set</i> from the second choice list.
Type	Select Speedometer or Dial .
Style your chart	Click the gear icon (⚙) after the Type field to configure the chart style options for the look and layout of the chart.

Field	Description
Aggregation	<p>Select a computational method for aggregating report data. The default is Count, which displays the number of records selected.</p> <p>If you select Count Distinct, only unique records are counted. For example, if you want to generate a report with a distinct number of users who have one or more of the roles in a given list of roles, these users would be counted twice unless you use count distinct.</p> <p>If you select Average, Sum, or Count Distinct, a list of fields from the selected Table appears. From this list, select a field to aggregate by. For example, if you select an integer field, such as the Priority field, the data is expressed as a number.</p> <p>Note: Dial and speedometer charts do not support aggregating duration field values. Duration fields do not appear in the list of available aggregation fields.</p>
Add Filter Condition	<p>Create <i>conditions</i> for filtering data to include in the report. For example, to include only records with priorities of 2 - High and 1 - Critical, select [Priority] [less than] [3 - Moderate].</p> <p>Note: Applying a string filter with other filters to donut and bar charts is not supported.</p>
Add "OR" Clause	Select a second condition that must be met if the first condition is invalid. For example, select [Assignment Group] [is] [Database] , to include records that are assigned to the Database group if the first condition is false.

- Click **Save**. The report is generated.

Add reports to homepages or dashboards, publish to the internet, schedule email distribution of PDFs or URLs of published reports, and share reports with others. See [Distribute reports](#) on page 197.

Dial and speedometer report style options – Report Builder

Change the look of your dial or speedometer report.



When you create or edit a report, click the gear icon () after the Type field to open the Style your chart dialog box with options to configure the look of your report. Report options are automatically saved when you click **Close**. To see how the report looks with the saved settings, click **Save**.

Table 141: Dial report style options

Field	Description
General	
Chart color (dial chart only)	Select a single predefined system color.
Custom chart size	Select this check box to specify the chart's width and height in pixels.
Chart size	Select a chart size. This field is available when Custom chart size is cleared.

Field	Description
Direction	Select Minimize if lower numbers in the dial are better. Select Maximize if larger numbers in the dial are better. This setting works in combination with Lower Limit and Upper Limit , as the colors for the areas in the dial are determined by it. In general, green means the figures are acceptable, orange means the figures have changed, they may have become better or worse but are still within the acceptable range, red means the figures are not acceptable.
Lower Limit	Enter the number that is still an acceptable score for this the dial.
Upper Limit	The upper threshold for color change on the dial or speedometer. If it uses only two colors, specify the same number for both lower and upper limits. For example, a dial contains a current score of 50 and Dial Autoscale is selected. The Lower Limit is set to 50 and Upper Limit is set to 100 and the direction is Minimize . The dial displays the area 0–50 in green, the area 50–100 in orange, and the area above 100 in red. If Lower Limit is set to 50, Upper Limit is set to 100 and the direction is Maximize , the colors are reversed. If no upper and lower limits have been set, no colors are used in the visualization. If you want to have only two section or colors, you can set the upper and lower limits to the same number.
Dial Autoscale	Select this check box to automatically set the start and end values for the dial scale.
From	Enter the start value for the dial scale. This field is available when Dial Autoscale is cleared.
To	Enter the end value for the dial scale. This field is available when Dial Autoscale is cleared.
Drilldown View	Select a view that determines how detailed records are shown when a specific part of the chart is clicked. This option is available for charts with drill-down capabilities. If you select a view that has no fields in common to link to the table that the report is based on, the default view is used. See Define a report drilldown in the Report Designer on page 501.
Decimal precision	Number of decimal places to display. You can display From zero to four decimal places. Default value: 2. To change the default value, create the system property glide.chart.decimal.precision and specify the value.
Title	
Show chart title	Select when the chart title is displayed. <ul style="list-style-type: none"> • Never: never displays the chart title. • Report only: displays the chart title on reports. • Always: displays the chart title on reports and homepage gauges.
Chart title	Enter a title for this chart. The title has a maximum length of 40 characters. If no title is entered, the report name is used for the title. This field is available when Report only or Always is selected from the Show chart title list.
Chart title size	Enter the size of the chart title in pixels. This field is available when Report only or Always is selected from the Show chart title list.

Field	Description
Chart title color	Select the color for the chart title. This field is available when Report only or Always is selected from the Show chart title list.
Custom chart title position	Select this check box to specify the X and Y coordinates for the position of the chart title.
Title horizontal alignment	Select how the chart title is aligned horizontally. This field is available when Custom chart title position is cleared.
Title vertical alignment	Select how the chart title is aligned vertically. This field is available when Custom chart title position is cleared.

Create a donut report in the Report Builder

Donut charts

Donut and semi-donut charts show the proportions that make up a whole.

Donut charts are similar to pie charts, but the donut chart has empty space in the middle. The difference between a donut and a semi-donut chart is that a semi-donut is a donut sliced in half. The information presented is the same. Donut and semi-donut charts can be placed on homepages where users can quickly interpret the information displayed.

For example, use a donut or semi-donut chart to show open incidents by priority. At any time, there are open incidents of different priority levels. A donut or semi-donut chart enables you to see quickly whether incident counts of different priorities are within acceptable ranges.

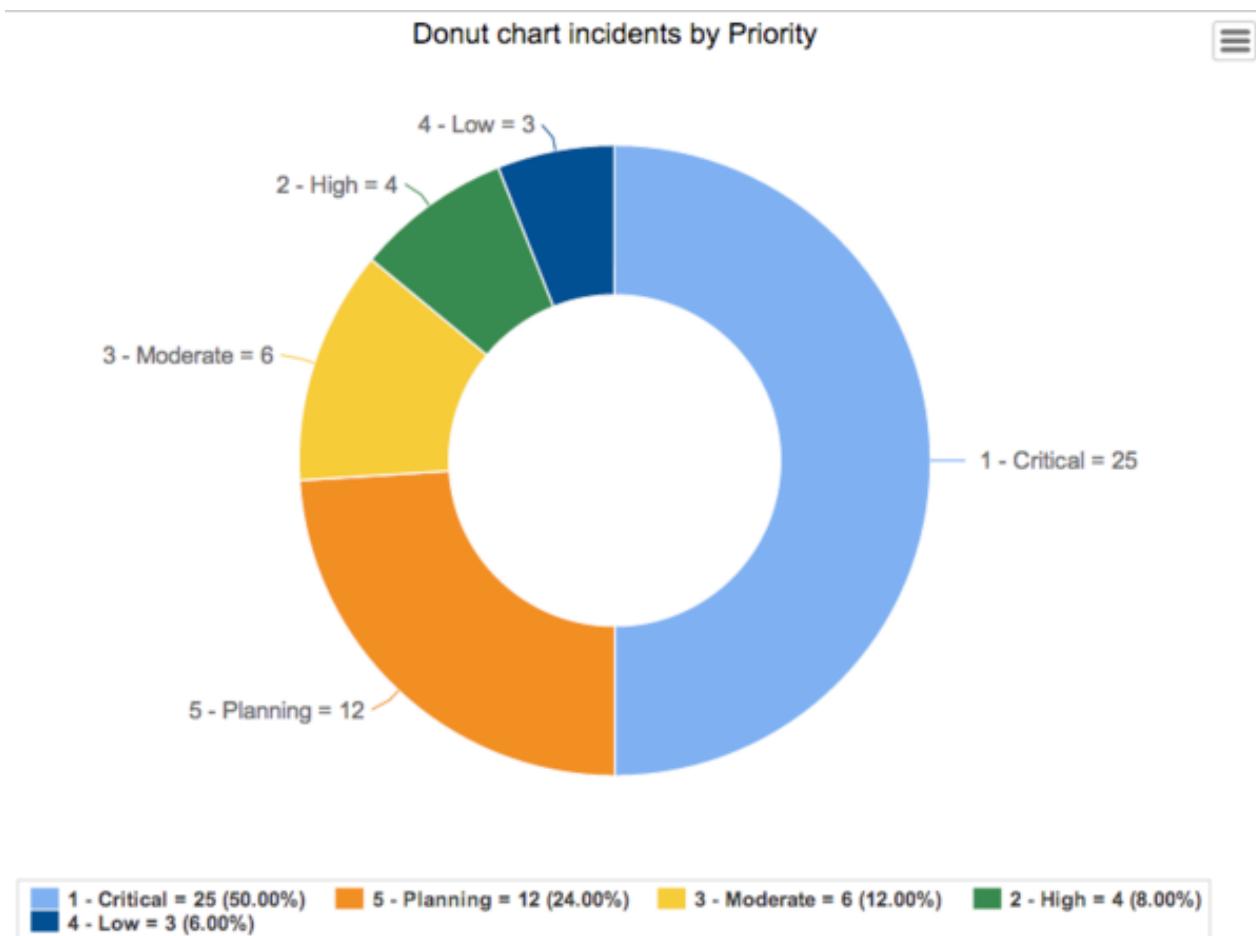


Figure 62: Donut chart of incidents by priority

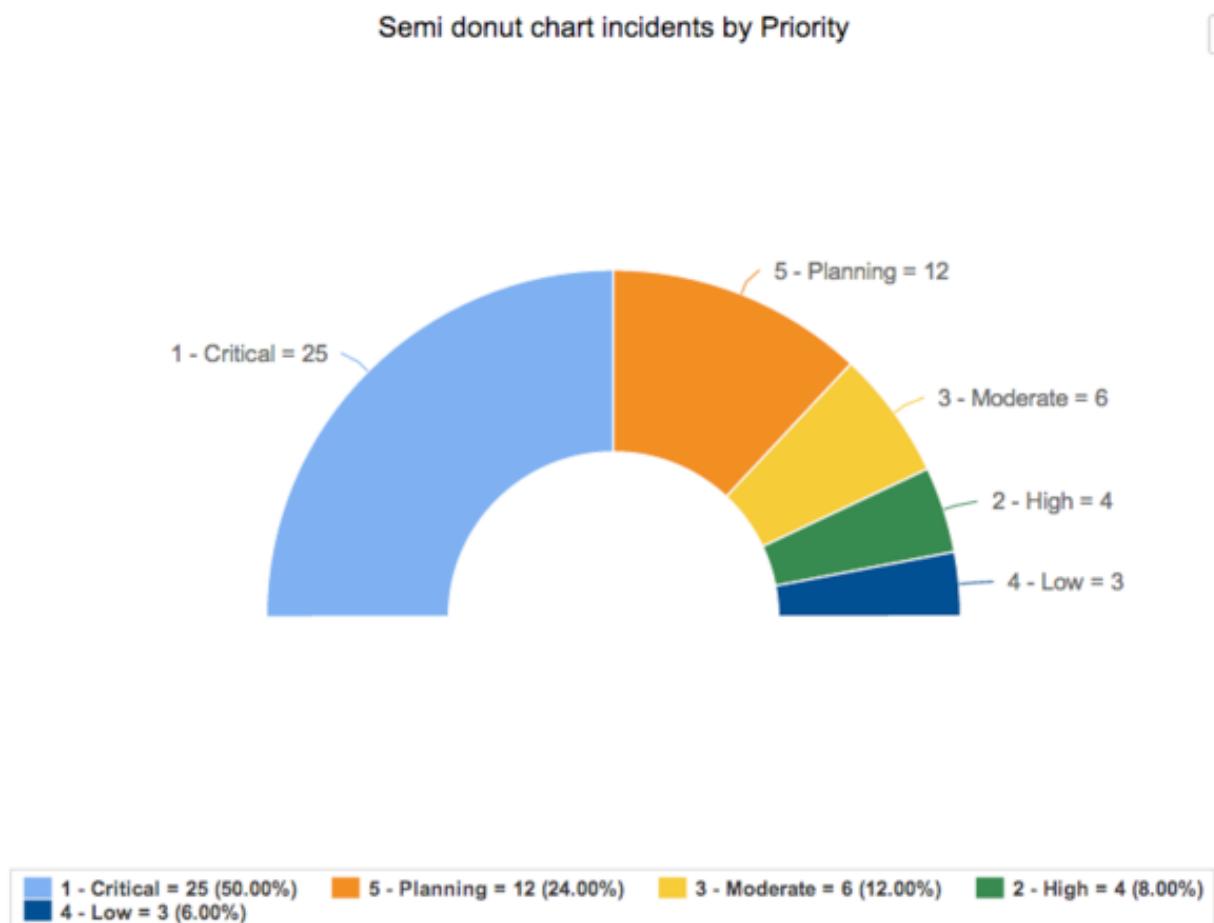


Figure 63: Semi-donut chart of incidents by priority

Create a donut report in the Report Builder

How to create a donut report.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

1. Navigate to **Reports > Create New**.
2. Fill in the fields, as appropriate.

Field	Description
Name	Enter a unique and descriptive name for the report.

Field	Description
Description	Click the information icon () to enter a more detailed description of what the report does and its purpose.
Data	Specify the table or report source containing the data set that you want to include in the report. From the first choice list, select the Table or Report source . Then select the specific table or <i>predefined data set</i> from the second choice list.
Type	Select Donut or Semi donut .
Style your chart	Click the gear icon () after the Type field to configure chart style options for the look and layout of the chart.
Group by	<p>Select a field to organize data into groups from the selected table. In an incident report grouped by Assignment group, all incidents belonging to Software, Service Desk, Network, and so on, are placed in separate groups. Make sure that you give the report a name that reflects the field you select.</p> <p>Click  to select additional group by fields. When you select Additional group by fields, a control is added to the bottom of the report that groups the report by any one of the additional fields.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p>
Display Grid	<p>Select this check box to display details of the report data in a table below the chart.</p> <p>All reports that use charts, including reports that are used <i>on homepages</i>, display a table of report data when the <code>glide.ui.section508</code> system property is set to true, even if Display Grid is cleared.</p>
Aggregation	<p>Select a computational method for aggregating report data. The default is Count, which displays the number of records selected.</p> <p>If you select Count Distinct, only unique records are counted. For example, if you want to generate a report with a distinct number of users who have one or more of the roles in a given list of roles, these users would be counted twice unless you use count distinct.</p> <p>If you select Average, Sum, or Count Distinct, a list of fields from the selected Table appears. From this list, select a field to aggregate by. For example, if you select a duration field, such as the Business duration field on the Incident table, the aggregated data is expressed in days, hours, and minutes. If you select an integer field, such as the Priority field, the data is expressed as a number.</p> <p>Note: For duration values, the unit of measurement displayed in the aggregation axis cannot be customized.</p>

Field	Description
No. groups	Select the maximum number of individual values that can be represented as slices in the chart. If the number of values from the selected data exceeds this limit, only the largest values are represented by the slices. By default, up to the 12 of the largest values from the selected data can be represented. Remaining values are grouped into an Other slice. If you select Show all , all slices up to limit of 50 slices can be displayed. The rest of the results are stacked in the Other slice. If you select Remove Other , the Other slice is hidden.
Show Other	Select this check box if you want to display the Other slice. This check box is not available when Show all or Remove Other are selected from the No. groups list.
Add Filter Condition	 Click the filter icon Note: Keywords is a special field used for text searches across all fields. It's use in a filter or condition, in combination with other conditions, may return inconsistent results.
Add "OR" Clause	Select a second condition that must be met if the first condition is invalid. For example, select [Assignment Group] [is] [Database] , to include records that are assigned to the Database group if the first condition is false.
Add Sort Field	Select fields to sort data by. For example, to sort results from lowest to highest priority, select [Priority] [z to a] .

3. Click **Save**. The report is generated.

Add reports to homepages or dashboards, publish to the internet, schedule email distribution of PDFs or URLs of published reports, and share reports with others. See [Distribute reports](#) on page 197.

Donut chart style options – Report Builder

Change the look of your donut chart.



When you create or edit a report, click the gear icon () after the Type field to open the Style your chart dialog box with options to configure the look of your report. Report options are automatically saved when you click **Close**. To see how the report looks with the saved settings, click **Save**.

Table 142: Donut chart style options

Field	Description
General	

Field	Description
Chart color	<p>If no group by is used, Use one color is automatically selected. Select a single predefined system color.</p> <p>If a group by is used, select one of the following options:</p> <ul style="list-style-type: none"> • Use color palette: Select a color palette from the predefined system color palettes. • Use several colors: Define a custom set of Colors using hex codes. You can add any number of colors. • Use chart colors: Use the colors defined in Reports > Chart Colors.
Donut Width Percent	Enter a percentage for the width of the donut or semi-donut band, ranging between 1 and 100 percent. One hundred percent equals a pie chart. The default value is 50.
Show total	Select this check box to display the total aggregation value in the center of the donut. Selecting this option automatically hides the chart legend.
Display data labels	Select this check box to display the current value for each bar. This field is available when you select None from the Stacked by list.
Custom chart size	Select this check box to specify the chart's width and height in pixels.
Chart size	Select a chart size. This field is available when Custom report size is cleared.
Drilldown View	Select a view that determines how detailed records are shown when a specific part of the chart is clicked. This option is available for charts with drill-down capabilities. If you select a view that has no fields in common to link to the table that the report is based on, the default view is used. See Define a report drilldown in the Report Designer on page 501.
Decimal precision	Number of decimal places to display. You can display From zero to four decimal places. Default value: 2. To change the default value, create the system property glide.chart.decimal.precision and specify the value.
Title	
Show chart title	<p>Select when the chart title is displayed.</p> <ul style="list-style-type: none"> • Never: never displays the chart title. • Report only: displays the chart title on reports. • Always: displays the chart title on reports, dashboards, and homepages.
Chart title	Enter a title for this chart. The title has a maximum length of 40 characters. If no title is entered, the report name is used for the title. This field is available when Report only or Always is selected from the Show chart title list.
Chart title size	Enter the size of the chart title in pixels. This field is available when Report only or Always is selected from the Show chart title list.
Chart title color	Select the color for the chart title. This field is available when Report only or Always is selected from the Show chart title list.
Custom chart title position	Select this check box to specify the X and Y coordinates for the position of the chart title.

Field	Description
Title horizontal alignment	Select how the chart title is aligned horizontally. This field is available when Custom chart title position is cleared.
Title vertical alignment	Select how the chart title is aligned vertically. This field is available when Custom chart title position is cleared.
Legend	
Show legend	Select this check box to display the legend. This field is available when a Stacked by option is selected on the report form.
Legend horizontal alignment	Select how the legend is aligned horizontally. This field is available when Show legend is selected.
Legend vertical alignment	Select how the legend is aligned vertically. This field is available when Show legend is selected.
Left align legend text	Select to left-align the legend text. By default, legend text is centered.
Show legend border	Select this check box to display a border around the legend. This field is available when Show legend is selected.

Create a funnel or pyramid report in the Report Builder

Funnel and pyramid reports

Funnel and pyramid reports visualize the distribution of data. The size of the slices or sections represents a percentage of the total of all values.

Funnel reports are often used to represent stages in a sales process (from lead to closed deal), or to identify potential problem areas in a process. If you apply a neck in a funnel chart, all values below a certain percentage of the total value are represented as a bar. The bar indicates that their differences are of equal importance.

Funnel reports stack slices from top to bottom by decreasing percentage and pyramid charts stack slices by increasing percentage. Pyramid reports are often used to represent hierarchical levels in an organization. Funnel and pyramid reports can be placed on homepages where users can quickly interpret the information displayed.

For example, use a funnel or pyramid report to show open incidents by priority. At any time, there are open incidents of different priority levels. For example, an organization has a policy that P1 incidents can never exceed 40% of all open incidents. Funnel and pyramid charts show whether incident counts are within acceptable ranges.

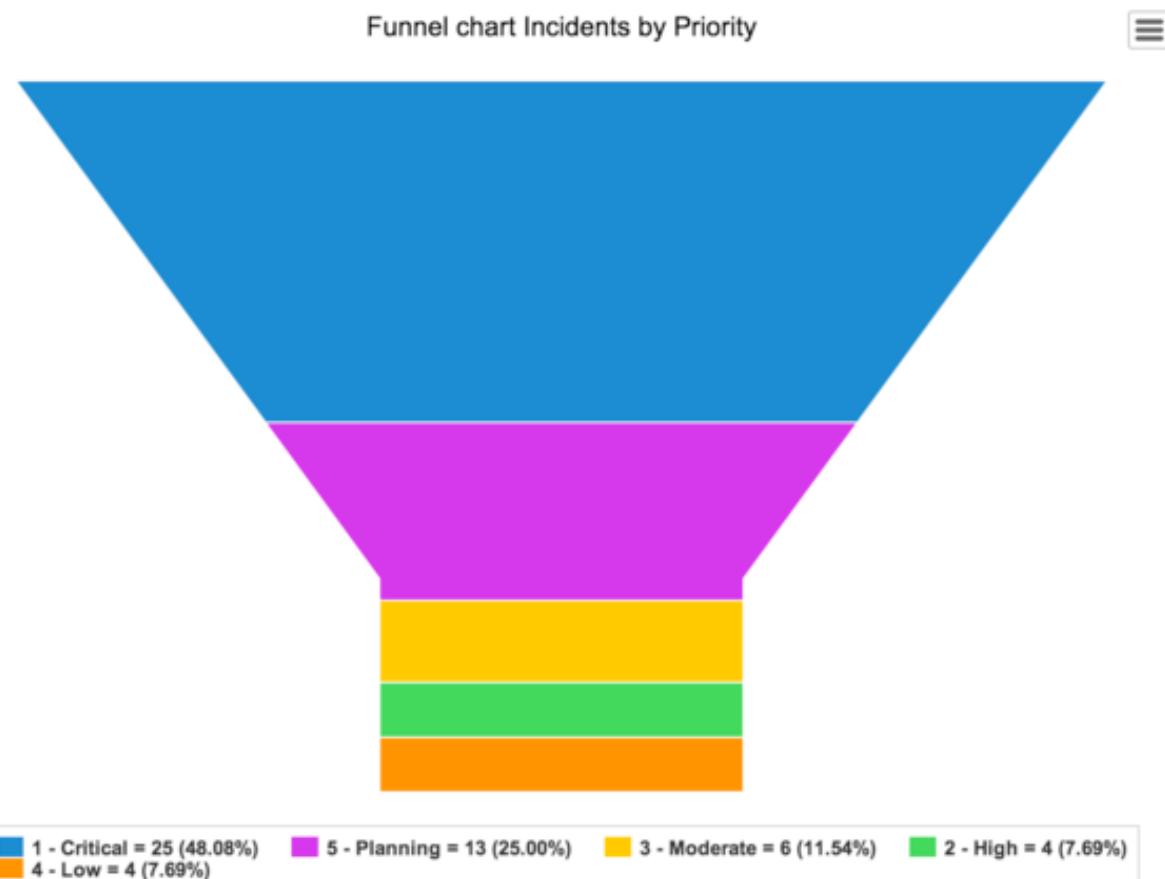


Figure 64: Funnel report of incidents by priority

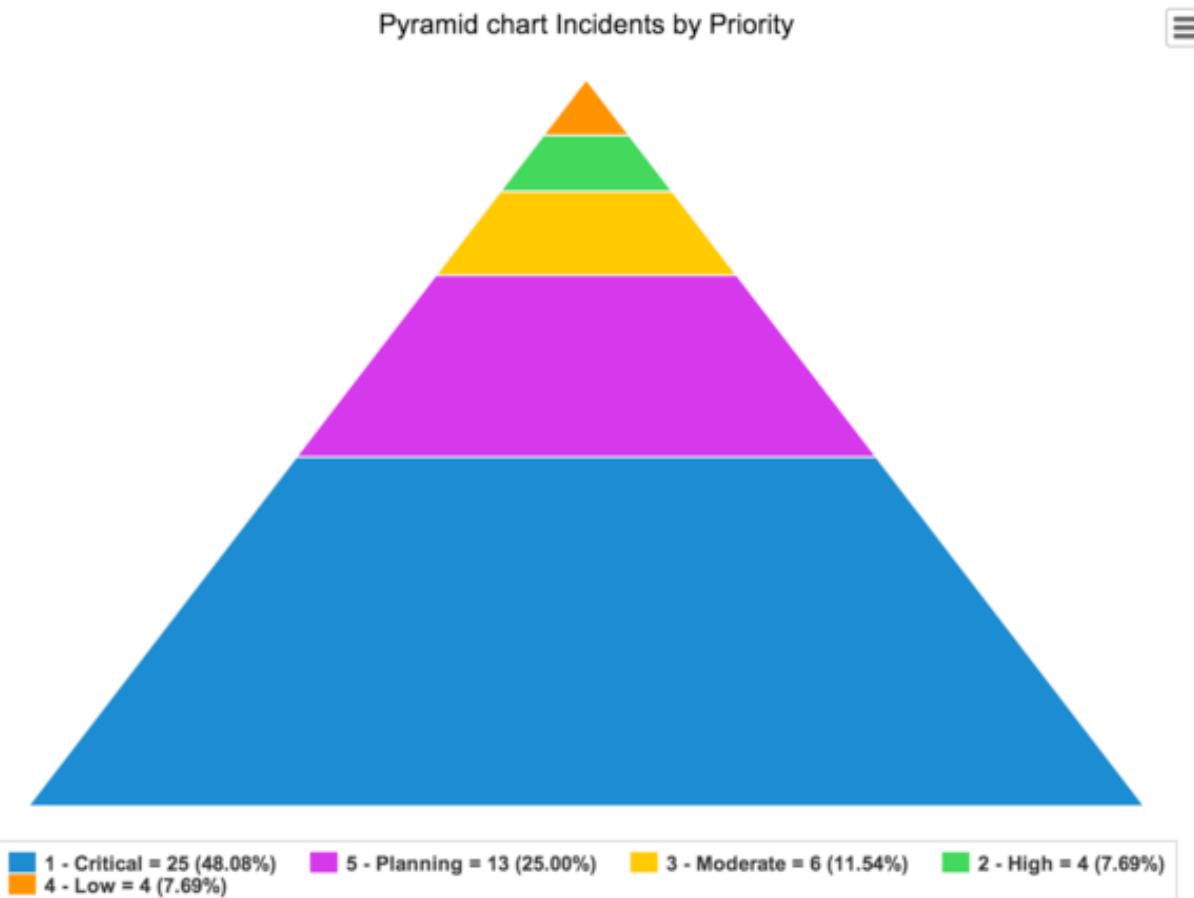


Figure 65: Pyramid report of incidents by priority

Create a funnel or pyramid report in the Report Builder

How to create a funnel report, where the size of each slices represents its percentage of the total.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

1. Navigate to **Reports > Create New**.
2. Fill in the fields, as appropriate.

Table 143: Funnel chart

Field	Description
Name	Enter a unique and descriptive name for the report.

Field	Description
Description	Click the information icon () to enter a more detailed description of what the report does and its purpose.
Data	Specify the table or report source containing the data set that you want to include in the report. From the first choice list, select Table or Report source . Then select the specific table or <i>predefined data set</i> from the second choice list.
Type	Select Funnel or Pyramid .
Style your chart	Click the gear icon () to configure the chart style options for the look of your chart.
Group by	<p>Select a field to organize data into groups from the selected table. In an incident report grouped by Assignment group, all incidents belonging to Software, Service Desk, Network, and so on, are placed in separate groups. Make sure that you give the report a name that reflects the field you select.</p> <p>Click  to select additional group by fields. When you select Additional group by fields, a control is added to the bottom of the report that groups the report by any one of the additional fields.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p>
Display Grid	<p>Select this check box to display details of the report data in a table below the chart.</p> <p>All reports that use charts, including reports that are used <i>on homepages</i>, display the table of report data when the <i>glide.ui.section508</i> system property is set to true, even if Display Grid is cleared.</p>
Aggregation	<p>Select a computational method for aggregating report data. The default is Count, which displays the number of records selected.</p> <p>If you select Count Distinct, only unique records are counted. For example, if you want to generate a report with a distinct number of users who have one or more of the roles in a given list of roles, these users would be counted twice unless you use count distinct.</p> <p>If you select Average, Sum, or Count Distinct, a list of fields from the selected Table appears. From this list, select a field to aggregate by. For example, if you select a duration field, such as the Business duration field on the Incident table, the aggregated data is expressed in days, hours, and minutes. If you select an integer field, such as the Priority field, the data is expressed as a number.</p> <p>Note: For duration values, the unit of measurement displayed in the aggregation axis cannot be customized.</p>

Field	Description
No. groups	Select the maximum number of individual values that can be represented as slices. If the number of values from the selected data exceeds this limit, only the largest values are represented by the slices. By default, funnel charts display up to 12 slices. Remaining values are grouped into an Other category. If you select Show all , all slices up to limit of 50 slices can be displayed. The rest of the results are stacked in the Other slice. If you select Remove Other , the Other slice is hidden.
Show Other	Select this check box to display the Other slice. This check box is not available when Show all or Remove Other is selected from the No. groups list.
Add Filter Condition	Create <i>conditions</i> for filtering data to include in the report. For example, to include only records with priorities of 2 - High and 1 - Critical , select [Priority] [less than] [3 - Moderate] .
Add "OR" Clause	Select a second condition that must be met if the first condition is invalid. For example, select [Assignment Group] [is] [Database] , to include records that are assigned to the Database group if the first condition is false.
Add Sort Field	Select fields to sort data by. For example, to sort results from lowest to highest priority, select [Priority] [z to a] .

3. Click **Save**. The report is generated.

Add reports to homepages or dashboards, publish to the internet, schedule email distribution of PDFs or URLs of published reports, and share reports with others. See [Distribute reports](#) on page 197.

Funnel and pyramid report style options – Report Builder

Change the look of your funnel or pyramid report.



When you create or edit a report, click the gear icon () after the Type field to open the Style your chart dialog box with options to configure the look of your report. Report options are automatically saved when you click **Close**. To see how the report looks with the saved settings, click **Save**.

Table 144: Chart style options

Field	Description
General	
Funnel Neck Percent	[Funnel charts only] Enter a percentage for the width of the funnel, ranging between 1 and 100 percent. This is the lowest percentage that can be represented above the funnel neck, and all percentages lower than this are stacked in a bar with a set width below the neck. One hundred percent equals a bar chart. The default value is 30 .

Field	Description
Chart color	If no group by is used, Use one color is automatically selected. Select a single predefined system color. If a group by is used, select one of the following options: <ul style="list-style-type: none">• Use color palette: Select a color palette from the predefined system color palettes.• Use several colors: Define a custom set of Colors using hex codes. You can add any number of colors.• Use chart colors: Use the colors defined in Reports > Chart Colors.
Custom chart size	Select this check box to specify the report's width and height in pixels.
Chart size	Select a chart size. This field is available when Custom report size is cleared.
Drilldown View	Select a <i>view</i> that determines how detailed records are shown when a specific part of the chart is clicked. This option is available for charts with drill-down capabilities. If you select a view that has no fields in common to link to the table that the report is based on, the default view is used. See <i>Define a report drilldown in the Report Designer</i> on page 501.
Decimal precision	Number of decimal places to display. You can display From zero to four decimal places. Default value: 2. To change the default value, create the system property glide.chart.decimal.precision and specify the value.
Title	
Show chart title	Select when the chart title is displayed. <ul style="list-style-type: none">• Never: never displays the chart title.• Report only: displays the chart title on reports.• Always: displays the chart title on reports, homepages, and dashboards.
Chart title	Enter a title for this chart. The title has a maximum length of 40 characters. If no title is entered, the report name is used for the title. This field is available when Report only or Always is selected from the Show report title list.
Chart title size	Enter the size of the chart title in pixels. This field is available when Report only or Always is selected from the Show chart title list.
Chart title color	Select the color for the chart title. This field is available when Report only or Always is selected from the Show chart title list.
Custom chart title position	Select this check box to specify X and Y coordinates for the position of the chart title. This field is available when Report only or Always is selected from the Show chart title list.
Title horizontal alignment	Select how the chart title is aligned horizontally. This field is available when Custom chart title position is cleared.
Title vertical alignment	Select how the chart title is aligned vertically. This field is available when Custom chart title position is cleared.
Legend	
Show legend	Select this check box to display a chart legend.

Field	Description
Legend horizontal alignment	Select how the legend is aligned horizontally. This field is available when Show legend is selected.
Legend vertical alignment	Select how the legend is aligned vertically. This field is available when Show legend is selected.
Left align legend text	Select to left-align the legend text. By default, legend text is centered.
Show legend border	Select this check box to display a border around the legend. This check box is available when Show legend is selected.

Create a heatmap report in the Report Builder

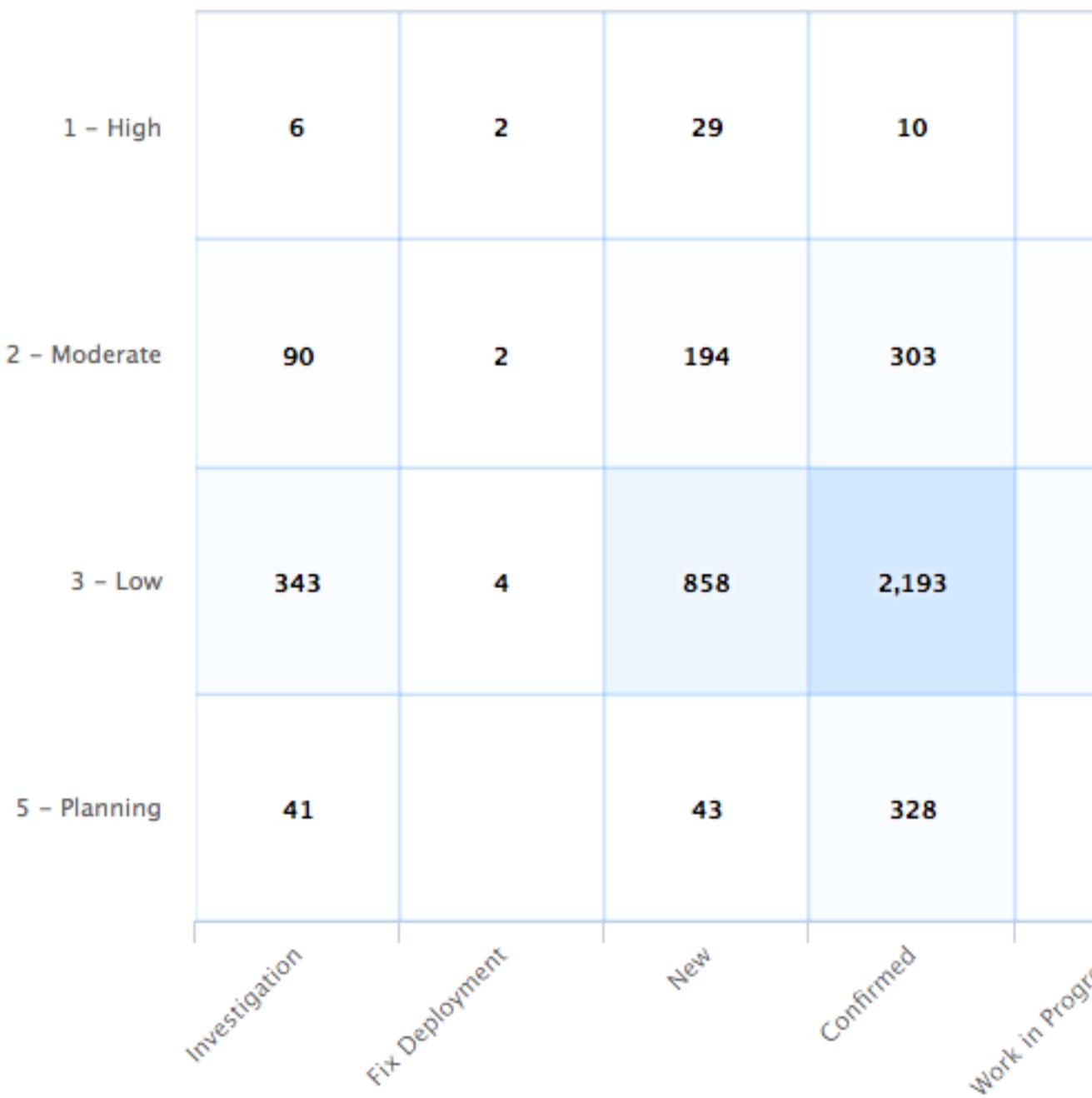
Heatmap reports

Heatmap reports show aggregate data visually using colors to represent different values on a matrix. Heatmap reports can have no more than 1000 cells.

Note: When accessibility is enabled, this visualization includes a report that screen readers can interpret. For more information, see [Enabling accessibility features](#)

In the figure, the cell for confirmed low priority problems is filled to highlight the large value.

Problems older than 30 Days by Priority and Status



Create a heatmap report in the Report Builder

Create a heatmap report to display aggregate data visually using colors to represent different values.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

1. Navigate to **Reports > Create New**
2. Fill in the fields, as appropriate (see table).

Table 145: Fields

Field	Description
Data	Specify the table or report source containing the data set that you want to include in the report. From the first choice list, select Table or Report source . Then select the specific table or <i>predefined data set</i> from the second choice list.
Type	Heatmap
Style your chart	Click the gear icon () after the Type field to configure chart style options for the look and layout of the chart.
Row	Select the field used as the source of the data for the rows in the heatmap.
Column	Select the field used as the source of the data for the columns in the heatmap
Aggregation	<p>Select a computational method for aggregating report data. The default is Count, which displays the number of records selected.</p> <p>If you select Count Distinct, only unique records are counted. For example, if you want to generate a report with a distinct number of users who have one or more of the roles in a given list of roles, these users would be counted twice unless you use count distinct.</p> <p>If you select Average, Sum, or Count Distinct, this displays an additional list of fields from the selected Table. From this list, select a field to aggregate by. For example, if you select a duration field, such as the Business duration field on the Incident table, the aggregated data is expressed in days, hours, and minutes. If you select an integer field, such as the Priority field, the data is expressed as a number. If a value in a column being aggregated has a comma, the value will be separated by the comma, and the aggregation will not be performed accurately.</p> <hr/> <p>Note: For duration values, the unit of measurement displayed in the aggregation axis cannot be customized.</p>
No. groups	Select the maximum number of individual values that can be represented as columns. By default, Pivot charts display up to 12 of the largest values from the selected data. Remaining values are grouped into an Other category. If you select Show all , all values up to a limit of 50 bars are displayed. The rest of the results are stacked on the Other column. If you select Remove Other , the Other column is hidden.
Show Other	Select this check box to display the Other column. This check box is not available when Show all or Remove Other are selected from the No. groups list.
Add Filter Condition	Create <i>conditions</i> for filtering data to include in the report. For example, to include only records with priorities of 2 - High and 1 - Critical , select [Priority] [less than] [3 - Moderate] .

Field	Description
Add "OR" Clause	Select a second condition that must be met if the first condition is invalid. For example, select [Assignment Group] [is] [Database] , to include records that are assigned to the Database group, if the first condition is false.

3. Click **Save**. The report is generated.

Add reports to homepages or dashboards, publish to the internet, schedule email distribution of PDFs or URLs of published reports, and share reports with others. See [Distribute reports](#) on page 197.

Heatmap report style options – Report Builder

Change the look of your heatmap report.



When you create or edit a report, click the gear icon () after the Type field to open the Style your chart dialog box with options to configure the look of your report. Report options are automatically saved when you click **Close**. To see how the report looks with the saved settings, click **Save**.

Table 146: Chart style options

Field	Description
General	
Drilldown view	<p>List view to display when a user selects a segment of a report for which no drilldown report type is specified. This view is also used when the user reaches the lowest drilldown level of a report. See Configure the list layout. If you specify a Report drilldown, Drilldown view is ignored.</p> <p>Note: All users can view report visualizations, such as pie charts and column reports. However, the last level of a drill down is always a list. Platform access control lists determine user access to list information. Users who do not have rights to any part of the list data see the message "Number of rows removed from this list by Security constraints:" followed by the number. See Access control rules.</p> <p>For more information, see Define a report drilldown in the Report Designer on page 501.</p>

Create a histogram report in the Report Builder

Histogram reports

Histograms group numbers in a data set into ranges. The data used in a histogram is continuous data. Continuous data is measured whereas discrete data, which is used in bar charts, is counted.

For example, a histogram can show the pattern of P1 incidents logged over a four-week period after a product release. For the first week after the product was released, P1 incidents are low because users do not really understand the product enough to use it. In the second week, more users start working with the product and P1 issues increased. In the third week, P1 issues increase even more as more users began

working with the product. In the fourth week, P1 issues stay the same as the third week. The information suggests that it is not necessary to increase support staff until the third week after a product is released.

Note: When accessibility is enabled, this visualization includes a report that screen readers can interpret. For more information, see [Enabling accessibility features](#)

Create a histogram report in the Report Builder

Histograms group numbers in a continuous data set into ranges.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

1. Navigate to **Reports > Create New**.
2. Fill in the fields, as appropriate.

Table 147: Histogram

Field	Description
Name	Enter a unique and descriptive name for your report.
Description	Click the information icon (ⓘ) to enter a more detailed description of what the report does and its purpose.
Data	Specify the table or report source containing the data set that you want to include in the report. From the first choice list, select the Table or Report source . Then select the specific table or <i>predefined data set</i> from the second choice list.
Type	Select Histogram . Alternatively, click the question mark icon (ⓘ) to use the <i>report type selector</i> .
Measured by	Select a field to report against. Make sure that you give the report a name that reflects this field. The values from this field appear on the X axis of the histogram and determine the width of the bars.
Add "OR" Clause	Select a second condition that must be met if the first condition is invalid. For example, select [Assignment Group] [is] [Database] , to include records that are assigned to the Database group if the first condition is false.
Add Sort Field	Select fields to sort data by. For example, to sort results from lowest to highest priority, select [Priority] [z to a] .

3. Click **Save**.

The report is generated.

Add reports to homepages or dashboards, publish to the internet, schedule email distribution of PDFs or URLs of published reports, and share reports with others. See [Distribute reports](#) on page 197.

Create a line report in the Report Builder

Line reports

Line reports plot individual data points to show how the value of one or more items changes over time.

The value of an item at specific dates or times is displayed as data points connected by horizontal lines. Values along the horizontal axis of the line chart represent the time measurement (years, hours, minutes, milliseconds, and so on). Values on the vertical axis represent the changes to the items being monitored. Users with the report_admin role can define the ranges that are used in a line chart report.

For example, you can create a line report for incident counts, to show how the number of incidents changes over time. The incident count often increases during the first few months after a product upgrade is deployed. Over time, the number of reported incidents decreases as users become more accustomed to the changes in the product. This figure shows the number of incidents per caller over time.

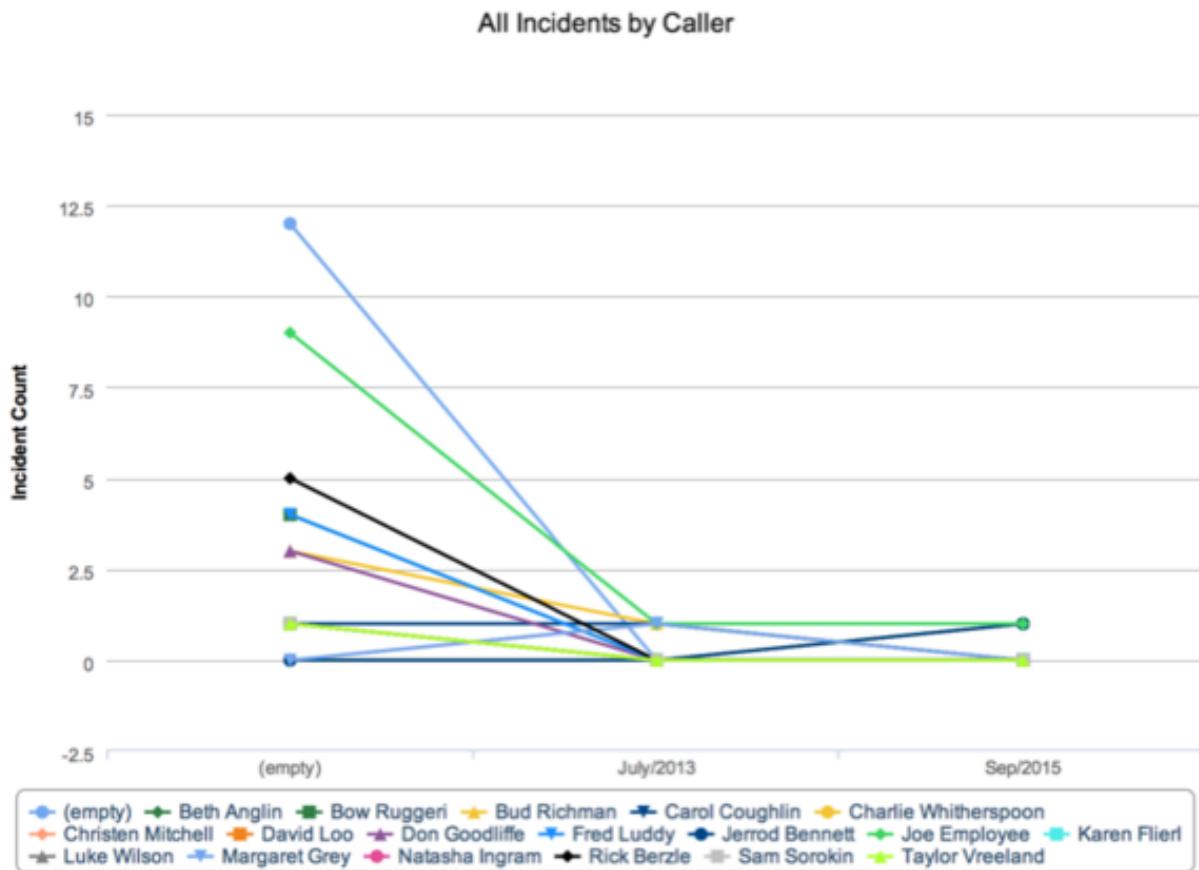


Figure 66: Line report

Create a line report in the Report Builder

Create a line report to show how the value of one or more items changes over time.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

1. Navigate to **Reports > Create New**.
2. Fill in the fields, as appropriate (see table).
3. Click **Save or Insert**.

The report is generated.

Table 148: Line report options

Field	Description
Name	Enter a unique and descriptive name for your report.
Description	Click the information icon to enter a more detailed description of what the report does and its purpose.
Data	Specify the table or report source containing the data set that you want to include in the report. From the first choice list, select Table or Report source . Then select the specific table or predefined data set from the second choice list.
Type	Select Line. Alternatively, click the question mark icon () to use the report type selector .
Style your chart	Click the gear icon after the Type field and configure the chart style options to edit the layout and look of your chart.
Group by	Select a field to organize data into groups from the selected table. In an incident report grouped by Assignment group , all incidents belonging to Software, Service Desk, Network, and so on, are placed in separate groups. Make sure that you give the report a name that reflects the field you select. Click  to select additional group by fields. When you select Additional group by fields, a control is added to the bottom of the report that groups the report by any one of the additional fields. Note: It is not possible to group or stack reports by the Tags field.
Display Grid	Select this check box to display details of the report data in a table below the chart. All reports that use charts, including reports that are used on homepages, display the table of report data details if the glide.ui.section508 system property is set to true , even if Display Grid is cleared.
Trend by	Select the table field whose values you want to display in a time sequence.

Field	Description
per	<p>Time period to group data by. Time periods range from an hour to a year. You can also specify a date.</p> <p>Note: Reporting per Week is not supported when the report range includes more than one year. Inconsistent results are produced when a week is split between two years.</p>
Aggregation	<p>Select a computational method for aggregating report data. The default is Count, which displays the number of records selected.</p> <p>If you select Count Distinct, only unique records are counted. For example, if you want to generate a report with a distinct number of users who have one or more of the roles in a given list of roles, these users would be counted twice unless you use count distinct.</p> <p>If you select Average, Sum, or Count Distinct, a list of fields from the selected Table appears. From this list, select a field to aggregate by. For example, if you select a duration field, such as the Business duration field on the Incident table, the aggregated data is expressed in days, hours, and minutes. If you select an integer field, such as the Priority field, the data is expressed as a number.</p> <p>Note: For duration values, you cannot customize the unit of measurement displayed in the aggregation axis.</p>
Percentages	<p>Select a computational method used for calculating percentages for each element (selected record) in a data set.</p> <ul style="list-style-type: none"> • Use Aggregation: default method that computes percentages for each element using the sum of all elements in the data set. • Use Record Count: computes percentages for each element using the total number (count) of elements in the data set. <p>This field is only available when Aggregation is set to Average, Sum, or Count Distinct.</p>
Add Filter Condition	Create conditions for filtering and ordering data. For example, you might create a condition that states Priority + less than + 3 — Moderate to have the report include only records with priorities of 2 — High and 1 — Critical .
Add "OR" Clause	Select a second condition that must be met if the first condition is invalid. For example, select [Assignment Group] [is] [Database] , to include records that are assigned to the Database group if the first condition is false. In Eureka, this field is only available after at least one filter condition has been created.
Add Sort Field	Select fields to sort data by. For example, to sort results from lowest to highest priority, select [Priority] [z to a] .

Add reports to homepages or dashboards, publish to the internet, schedule email distribution of PDFs or URLs of published reports, and share reports with others. See [Distribute reports](#) on page 197.

Line report style options – Report Builder

Configure the look of your line report.



When you create or edit a report, click the gear icon () after the Type field to open the Style your chart dialog box with options to configure the look of your report. Report options are automatically saved when you click **Close**. To see how the report looks with the saved settings, click **Save**.

Table 149: Table title

Field	Description
General	
Chart color	If no group by is used, Use one color is automatically selected. Select a single predefined system color. If a group by is used, select one of the following options: <ul style="list-style-type: none">• Use color palette: Select a color palette from the predefined system color palettes.• Use several colors: Define a custom set of Colors using hex codes. You can add any number of colors.• Use chart colors: Use the colors defined in Reports > Chart Colors.
Display data labels	Select this check box to display the current value for each data point.
Marker	Select this check box to display a symbol at each data point.
Custom chart size	Select this check box to specify the chart's width and height in pixels.
Chart size	Select a chart size. This field is available when Custom chart size is cleared.
Drilldown View	Select a view that determines how detailed records are shown when a specific part of the chart is clicked. This option is available for charts with drill-down capabilities. If you select a view that has no fields in common to link to the table that the report is based on, the default view is used. See Define a report drilldown in the Report Designer on page 501.
Decimal precision	Number of decimal places to display. You can display From zero to four decimal places. Default value: 2. To change the default value, create the system property glide.chart.decimal.precision and specify the value.
Title	
Show chart title	Select when the chart title is displayed. <ul style="list-style-type: none">• Never: never displays the chart title.• Report only: displays the chart title on reports.• Always: displays the chart title on reports, dashboards, and homepages.
Chart title	Enter a title for this chart. The title has a maximum length of 40 characters. If no title is entered, the report name is used for the title. This field is available when Report only or Always is selected from the Show chart title list.

Field	Description
Chart title size	Enter the size of the chart title in pixels. This field is available when Report only or Always is selected from the Show chart title list.
Chart title color	Select the color for the chart title. This field is available when Report only or Always is selected from the Show chart title list.
Custom chart title position	Select this check box to specify X and Y coordinates for the position of the chart title. This field is available when Report only or Always is selected from the Show chart title list.
Title horizontal alignment	Select how the chart title is aligned horizontally. This field is available when Custom chart title position is cleared.
Title vertical alignment	Select how the chart title is aligned vertically. This field is available when Custom chart title position is cleared.
Legend	
Show legend	Select this check box to display a chart legend. This field is available when a Group by field is selected on the report form.
Legend horizontal alignment	Select how the legend is aligned horizontally. This field is available when Show legend is selected.
Legend vertical alignment	Select how the legend is aligned vertically. This field is available when Show legend is selected.
Left align legend text	Select to left-align the legend text. By default, legend text is centered.
Show legend border	Select this check box to display a border around the legend. This check box is available when Show legend is selected.
Axis	
Axis tab	Configure the titles, appearance, and labels of the X and Y axis. For the Y axis, you can also specify a From and To range.

Create a list report in the Report Builder

List reports

List reports display data in the form of an expandable list. You can configure whether lists display expanded or collapsed. Lists are often used for enumerations such as the number of incidents or changes. They contain columns that show more detailed information, such as a short description, category, or state.

Note: List reports display in List v2, even if List v3 is enabled.

This list report displays incidents sorted by caller.

Incidents						
	Number	Short description	Category	Priority	State	Assignment group
INC0000004		Forgot email password	Request	● 1 - Critical	Closed	Service Desk
INC0000020		I need a replacement iPhone, please	Request	5 - Planning	Active	ITIL User
INC0000021		New employee hire	Inquiry / Help	5 - Planning	Closed	Beth Anglin
INC0000024		Issue with a web page	Inquiry / Help	5 - Planning	Closed	Service Desk
INC0000001		Can't read email	Network	● 1 - Critical	Closed	Service Desk
INC0000002		Unable to get to network file shares	Network	● 1 - Critical	Awaiting Problem	Network
INC6200001	Abel Tuter		Inquiry / Help	5 - Planning	Closed	
INC0000005	Alejandro Mascall	CPU load high for over 10 minutes	Hardware	● 1 - Critical	Resolved	Hardware
INC0000001	Alene Rabeck	Generating monthly report causes out of memory error	Software	● 2 - High	Closed	Software
INC0010001	Allan Schwandt	PC restart	Inquiry / Help	5 - Planning	New	
INC6200002	Beth Anglin		Inquiry / Help	5 - Planning	Closed	
INC0000049	Beth Anglin	Network storage unavailable	Network	● 2 - High	Active	Hardware
INC0000038	Bow Ruggeri	my PDF docs are all locked from editing	Software	4 - Low	Closed	Service Desk
INC0000016	Bow Ruggeri	Rain is leaking on main DNS Server	Hardware	● 1 - Critical	Active	Hardware
						ITIL User

Figure 67: List report

Create a list report in the Report Builder

Create a list report to display data in the form of an expandable list.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

Lists are often used for enumerations like the number of new incidents, problems, or changes. They contain columns that show more detailed information, such as a short description, category, state, assigned to, or created.

Note: List reports display in List v2, even if List v3 is enabled.

Incidents								
	Number	Caller	Short description	Category	Priority	State	Assignment group	Assigned to
INC00000004			Forgot email password	Request	● 1 - Critical	Closed	Service Desk	Bud Richman
INC00000020			I need a replacement iPhone, please	Request	5 - Planning	Active		ITIL User
INC00000021			New employee hire	Inquiry / Help	5 - Planning	Closed		Beth Anglin
INC00000024			Issue with a web page	Inquiry / Help	5 - Planning	Closed	Service Desk	ITIL User
INC00000001			Can't read email	Network	● 1 - Critical	Closed	Service Desk	Charlie Whitherspoon
INC00000002			Unable to get to network file shares	Network	● 1 - Critical	Awaiting Problem	Network	Howard Johnson
INC62000001	Abel Tuter			Inquiry / Help	5 - Planning	Closed		
INC00000005	Alejandro Mascall		CPU load high for over 10 minutes	Hardware	● 1 - Critical	Resolved	Hardware	Bud Richman
INC00000001	Alene Rabeck		Generating monthly report causes out of memory error	Software	● 2 - High	Closed	Software	Beth Anglin
INC0010001	Allan Schwandt		PC restart	Inquiry / Help	5 - Planning	New		
INC62000002	Beth Anglin			Inquiry / Help	5 - Planning	Closed		
INC00000049	Beth Anglin		Network storage unavailable	Network	● 2 - High	Active	Hardware	Don Goodliffe
INC00000038	Bow Ruggger		my PDF docs are all locked from editing	Software	4 - Low	Closed	Service Desk	Luke Wilson
INC00000016	Bow Ruggger		Rain is leaking on main DNS Server	Hardware	● 1 - Critical	Active	Hardware	ITIL User

Figure 68: List

1. Navigate to **Reports > Create New**.
2. Fill in the fields, as appropriate.

Field	Description
Name	Unique and descriptive name for your report.

Field	Description
Description	Click the information icon () to enter more details on what the report does and its purpose.
Data	Specify the table or report source containing the data set that you want to include in the report. From the first choice list, select Table or Report source . Then select the specific table or predined from the second choice list.
Type	Select List .
Group by	<p>Select a field whose values will group data into expandable sections.</p> <p>Click the plus sign () to add additional Group bys.</p> <p>Note: Make sure the name of the report reflects groupings.</p> <hr/> <p>Note: It is not possible to group or stack reports by the Tags field.</p>
Columns	<p>Add or remove columns from the information that appears when you expand an item in the list. Select one or more fields and use the left and right arrows to move them in or out of the table.</p> <p>Depending on system configuration, you can add fields from tables that extend the selected table. For more information, see How to access fields on extended tables in a report on page 539.</p>
Add Filter Condition	Create conditions for filtering data to include in the report. For example, to include only records with priorities of 2 — High and 1 — Critical , select [Priority] [less than] [3 — Moderate] .
Add "OR" Clause	Select a second condition that must be met if the first condition is invalid. For example, select [Assignment Group] [is] [Database] , to include records that are assigned to the Database group if the first condition is false.
Add Sort Field	Select fields to sort data by. For example, to sort results from lowest to highest priority, select [Priority] [z to a] .

3. Optional: [Customize the number of list rows per page](#).

The default number of list rows per page is 20.

4. Click **Save**.

Add reports to homepages or dashboards, publish to the internet, schedule email distribution of PDFs or URLs of published reports, and share reports with others. See [Distribute reports](#) on page 197.

Note: The default number of rows in a list report exported to PDF is 1000. To configure this value, enter `sys_properties.list` in the Filter Navigator, and edit the property `glide.pdf.max_rows`. For more information, see [Add a system property](#).

Create a list report in the Report Builder with variable columns and rows

You can create a list report with variables columns based on a data source or table that has variables associated with it. For example, if an item has a variable called **Storage**, you can create a list report that has a column for the values in this variable.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

1. Navigate to **Reports > Create New**.
2. Give the report a name that reflects the information being grouped.
3. Select a report source that has variables associated with it or any table that dot walks to such a report source. By default the Requested Item table (`sc_req_item`) is the only report source that has variables associated with it. There are two kinds of report sources:

Option	Description
Data source	A table with filters applied to provide a single source of information for all users.
Table	The raw data from a table with no filters applied.

For list reports with variables, the report source is usually the service catalog table.

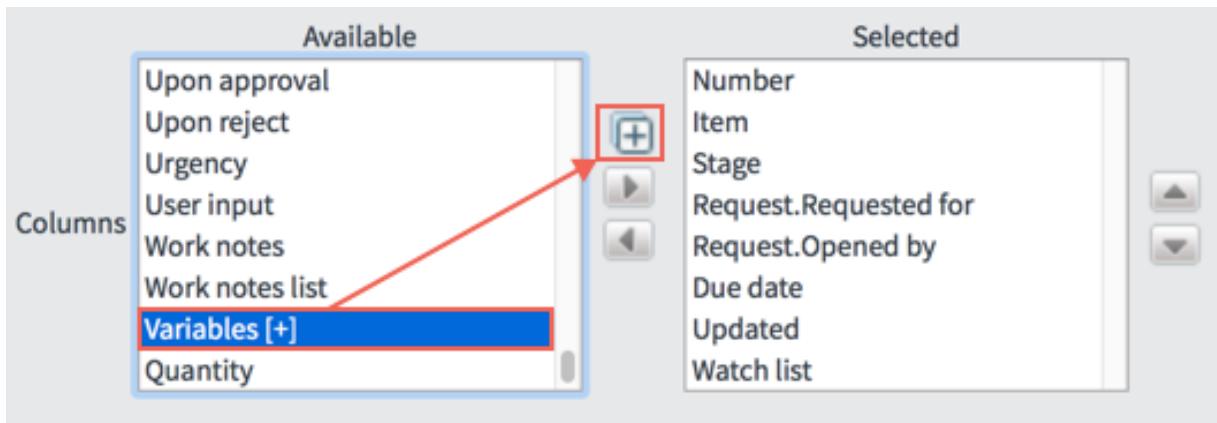
4. From the **Type** drop-down list, select **List**.
5. In the **Group by** field, specify the value by which to group the report. For example, in a request report grouped by **State**, requests are Open, Fulfilled, and Canceled are placed in separate groups. Click the plus icon to specify one or more **Additional group by** fields. When you select **Additional group by** fields, a control is added to the bottom of the report that groups the report by any one of the additional fields.



Figure 69: Additional group by icon

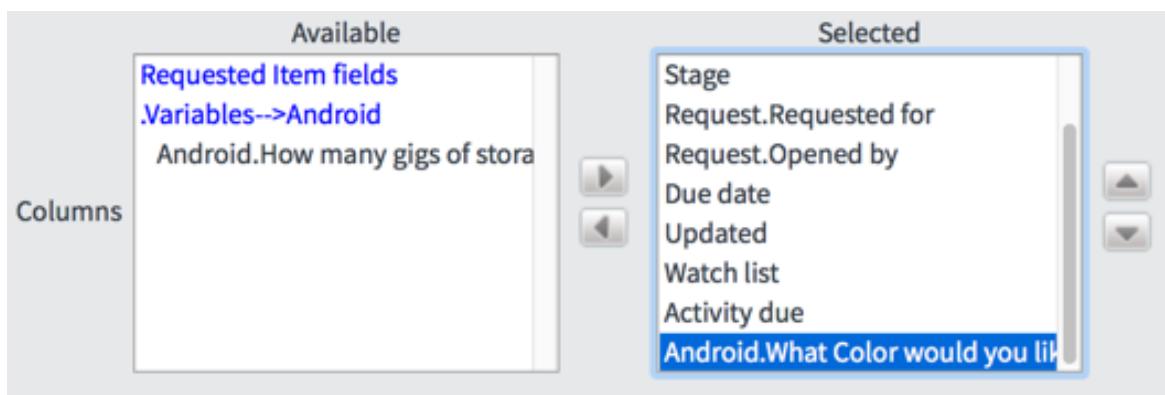
Note: It is not possible to group or stack reports by the **Tags** field.

6. From the list of available columns, select the columns you want to show in the report. **Variables [+]** is at the bottom of the list of available columns. Depending on system configuration, you can add fields from tables that extend the selected table. For more information, see [How to access fields on extended tables in a report](#) on page 539.
7. Select **Variables [+]** and click the expand icon (+) to choose an item.



- a) Select a **Catalog item** from the pop-up window.

The variables associated with the item appear in the **Available** columns list.



- b) Move the selected variables to the **Selected** column.

8. Optional: To limit the information displayed in the report, click **Add Filter Condition**, **Add "OR" Clause**, or **Add Sort Field** and select conditions to filter the report data.

For more details on how conditions are constructed, see [Condition builder](#).

9. Click **Save**.

The report is generated.

Add reports to homepages or dashboards, publish to the internet, schedule email distribution of PDFs or URLs of published reports, and share reports with others. See [Distribute reports](#) on page 197.

Note: The default number of rows in a list report exported to PDF is 1000. To configure this value, enter `sys_properties.list` in the Filter Navigator, and edit the property `glide.pdf.max_rows`. For more information, see: [Add a system property](#).

Grouping records in list reports

Grouped list reports can display only the records in each group that are configured to appear in a normal list. You can group rows of information in list reports by specific fields. You cannot group list reports by service catalog variables.

For example, a list configured to display 100 records at a time can show only the first 100 records, regardless of the number of records in that group. Paging is not available within groups, and you cannot access the remaining records without leaving the grouped list. To access all the records in a group:

- Increase the display size of the list.
- Click the group header to return to a normal list for that group with paging enabled.

List reports do not support the user preference to automatically expand grouped records.

This figure shows a list of products grouped by manufacturer. By default, the sections of the report are collapsed. In this example, the items associated with Gateway are expanded.

Computers					
	Name	Configuration automation	Node definition	Management server	Management server type
▶	Manufacturer: (empty) (2)				
▶	Manufacturer: Apple (474)				
▶	Manufacturer: Asus (36)				
▶	Manufacturer: Cyberpower (13)				
▶	Manufacturer: Dell Inc. (197)				
▼	Manufacturer: Gateway (9)				
	*CAROL3-GATEWAY				
	8400-053105				
	DIANEK				
	DX Series				
	JENREALTY				
	KIRKK				
	MEGANS				
	OLGAS				
	Product KIOSK				
▶	Manufacturer: IBM (35)				
▶	Manufacturer: iBUYPOWER (4)				
▶	Manufacturer: Iris (4)				

Figure 70: Grouped list report

Export a list report to Excel

You can export a list report to Excel from the list columns, or by scheduling it to be exported.

- You can export a list report as an Excel spreadsheet by right-clicking any column heading and selecting **Export > Excel**.

- You can [schedule](#) a saved list report to be exported as an Excel spreadsheet, by clicking **Schedule** and specifying **Type** as Excel Spreadsheet. Excel displays report duration values in milliseconds, rather than the "<x> days <y> hours" format.

Create a map report in the Report Builder

Map reports

Map reports display data on a map. You can display data as a geographical heatmap () or view

specific data points ().

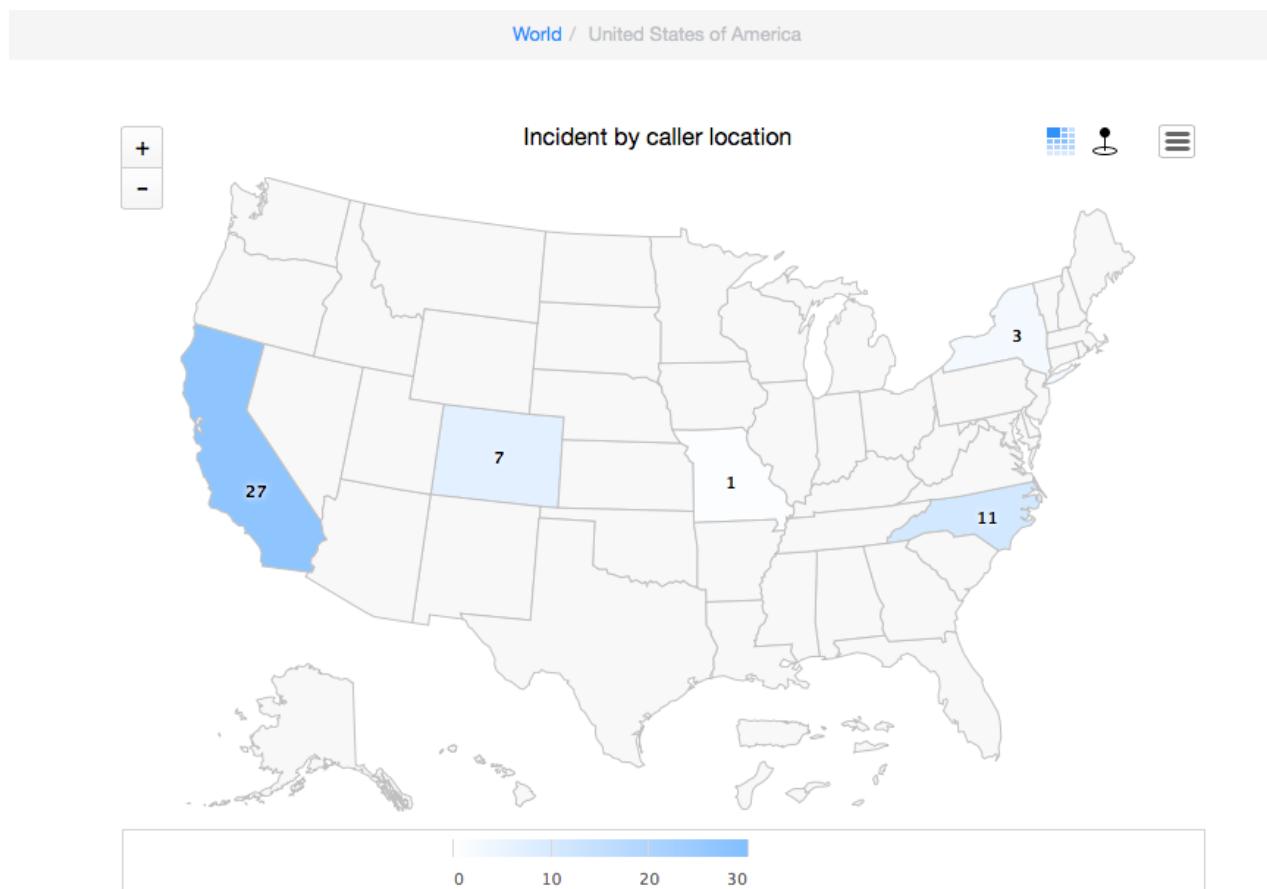
Zoom in on a map to get a more detailed view. In heatmap mode, click any region on the map that contains data to drill down into its map.

Note: Save the map report to drill down into it. You cannot drill down into unsaved reports.

The lowest level of a map hierarchy can display only data points. Click data on this lowest level to see the data in list view, or in drill-down view if one has been configured.

Limitations

- Maps are not supported on Internet Explorer versions 7 and 8.
- Map reports cannot be saved as images on Internet Explorer versions 7 to 9, Firefox versions 31 to 37, Safari 5, or all versions of the Edge browser. For best results, use Chrome to work with map reports.
- Map reports cannot be exported as PDFs, but can be saved as images.
- This report type cannot be run as a scheduled report.



Create a map report in the Report Builder

Create a map report that plots your data on a map.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

1. Navigate to **Reports > Create New**.
2. Fill in the following fields.

Field	Description
Data	Select the report source or table containing the data that you want to map.
Type	Select Map .
Map data	Select the data that you want to plot on the map. Only data that has been prepared by a report administrator as a map source is available.
Aggregation	Select a mathematical calculation to perform on the data.
Set map	Select a starting map for the report. You can zoom in but cannot zoom out from this map.

3.

To configure the look of your chart, click the gear icon () after the **Type** field.

After you finish configuring these settings, click **Close**.

Table 150: Style your chart fields

Field	Description
General tab fields	
Use color	Select this check box to use different colors to indicate different values on the map. If you clear this check box, all geographical locations with data are displayed in the same color.
Max color	Select a color to indicate high values.
Min color	Select a color to indicate low values.
Display data labels	Select this check box to display the numbers for data values on the map.
Display geographical labels	Select this check box to display the names of geographical objects on the map, such as countries, regions, and states.
Drilldown view	Specify a view for the list that appears when you navigate to the lowest map level and view its records.
Decimal precision	Number of decimal places to display. You can display From zero to four decimal places. Default value: 2. To change the default value, create the system property glide.chart.decimal.precision and specify the value.
Title tab fields	

Field	Description
Show chart title	Specify whether the chart title is displayed. <ul style="list-style-type: none"> • Never: Hides the title. • Report only: Displays the title only on standalone reports, but not on dashboards. • Always: Displays the report title on standalone reports and dashboards.
Chart title	Enter a title for the report.
Chart title size	Enter the font size for the report title.
Chart title color	Select a text color for the report title.
Custom chart title position	Select this check box to specify a location for the report title using pixels. You can move the title only down and left from the top center. If you clear this check box, you can select from more general title positions using the Title horizontal alignment and Title vertical alignment fields.
Chart title X position	Enter the number of pixels to move the report title right from the center. You cannot move the title left. This field appears only if Custom chart title position is selected.
Chart title Y position	Enter the number of pixels to move the report title down from the center. You cannot move up the title. This field appears only if Custom chart title position is selected.
Legend tab fields (available only when colors are used on the report)	
Show legend	Select this check box to display the report legend.
Legend horizontal alignment	Select where to horizontally position the report legend.
Legend vertical alignment	Select where to vertically position the report legend.
Show legend border	Select this check box to show a border around the report legend.

4. Click **Save**.

Style options are applied, and the report is regenerated and saved.



Click the sharing icon () to open the **Sharing** menu. On this menu, you can add the report to a dashboard and publish the report to the web. See [Share a report – Report Builder](#) on page 199 for more information.

Create a multilevel pivot report in the Report Builder

Multilevel pivot tables

Multilevel pivot tables display aggregate data broken down by multiple dimensions in a single table. They display separate cells for each row and column value combination, as well as a column subtotal for each first-level row. Aggregate information is presented in the top left of the chart.

You can also create multilevel pivot tables with columns and rows containing variables. See [Use service catalog variables in a report – Report Designer](#) on page 540.

You can expand and collapse rows in the table to show the chart details, or only the subtotals. The top row of a multilevel pivot report is always visible.

Note: Some row configurations prevent the chart from displaying subtotal information, such as when a string column has the same text value but with different character cases.

Note: This report type cannot be run as a scheduled report.

Multilevel Pivot Report Example

		Active	false					true	
		State		Closed	New	In Progress	On Hold	Resolved	Co
Last name	Name								
▼ (empty)	Total			5				1	
	(empty)			5				1	
▼ Anglin	Total			1		5			
	Sales			1		5			
▼ Goodliffe	Total			4		4			
	Development			4		4			
▼ Johnson	Total			1		1			
	Sales			1		1			
▼ Loo	Total			6		1			
	Development			6		1			
► Luddy	Total					2			
► Richman	Total			1		1			
► User	Total			3		6			
► Whitherspoon	Total			1					
► Wilson	Total			3					
Count				20	5	20	6	2	

Figure 71: Multilevel pivot with subtotals and expanded rows

Create a multilevel pivot table report in the Report Builder

Create a multilevel pivot table to display aggregate data broken down by multiple metrics in a single chart.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

1. Navigate to **Reports > Create New**
2. Fill in the fields, as appropriate.

Table 151: Multilevel pivot table fields

Field	Description
Data	Specify the table or report source containing the data set that you want to include in the report. From the first choice list, select Table or Report source . Then select the specific table or <i>predefined data set</i> from the second choice list.
Type	Multilevel Pivot
Style your chart	<p>Click the gear icon () after the Type field to see the following style options:</p> <ul style="list-style-type: none"> • Display Zero: Select this check box to display the number 0 when the value of a cell is 0. Clear this check box to display an empty cell when the value of the cell is 0. Applicable when Aggregation is Count or Count Distinct. • Drilldown view: Select a <i>view</i> that determines how detailed records are shown when a specific part of the chart is clicked. This option is available for charts with drill-down capabilities. If you select a view that bears no relation to the table that the report is based on, the default view is used.
Columns	<p>Select one or more fields to use as chart columns. The chart displays data broken down by a combination of row and column values. You can select 3 columns maximum.</p> <hr/> <p>Note: It is not possible to group or stack reports by the Tags field.</p> <hr/>
Rows	<p>Select one or more fields to use as chart rows. The chart displays data broken down by a combination of row and column values. You can select 5 rows maximum.</p> <hr/> <p>Note: It is not possible to group or stack reports by the Tags field.</p> <hr/>

Field	Description
Aggregation	<p>Select a computational method for aggregating report data. The default is Count, which displays the number of records selected.</p> <p>If you select Count Distinct, only unique records are counted. For example, if you want to generate a report with a distinct number of users who have one or more of the roles in a given list of roles, these users would be counted twice unless you use count distinct.</p> <p>If you select Average, Sum, or Count Distinct, this displays an additional list of fields from the selected Table. From this list, select a field to aggregate by. For example, if you select a duration field, such as the Business duration field on the Incident table, the aggregated data is expressed in days, hours, and minutes. If you select an integer field, such as the Priority field, the data is expressed as a number. If a value in a column being aggregated has a comma, the value will be separated by the comma, and the aggregation will not be performed accurately.</p> <p>Note: For duration values, the unit of measurement displayed in the aggregation axis cannot be customized.</p>
No. groups	Select the maximum number of individual values that can be represented as columns. By default, Pivot charts display up to 12 of the largest values from the selected data. Remaining values are grouped into an Other category. If you select Show all , all values up to a limit of 50 bars are displayed. The rest of the results are stacked on the Other column. If you select Remove Other , the Other column is hidden.
Show Other	Select this check box to display the Other column. This check box is not available when Show all or Remove Other are selected from the No. groups list.
Add Filter Condition	Create <i>conditions</i> for filtering data to include in the report. For example, to include only records with priorities of 2 - High and 1 - Critical , select [Priority] [is] [Database] .
Add "OR" Clause	Select a second condition that must be met if the first condition is invalid. For example, select [Assignment Group] [is] [Database] , to include records that are assigned to the Database group, if the first condition is false.

- Click **Save**. The report is generated.

Add reports to homepages or dashboards, publish to the internet, schedule email distribution of PDFs or URLs of published reports, and share reports with others. See [Distribute reports](#) on page 197.

Create a multilevel pivot report in the Report Builder with variable columns and rows

You can create a multilevel pivot report with variables columns and rows based on a data source or table that has variables associated with it. Variables are descriptions of catalog items. For example, if a service catalog item has a variable called **Storage**, you can create a report that has a column or row for the values in this variable, such as 128 GB, 500 GB, and 1 TB.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

1. Navigate to **Reports > Create New**.
2. Give the report a name that reflects the information being grouped.
3. Select a report source that has variables associated with it. By default this is the Requested Item table (`sc_req_item`) or any table that dot walks to it. There are two kinds of report sources:

Option	Description
Data source	A table with filters applied to provide a single source of information for all users.
Table	The raw data from a table with no filters applied.

For list reports with variables, the report source is usually the service catalog table.

4. From the **Type** dropdown list, select **Multilevel Pivot** in the **Pivot** section.
5. Click the cog wheel icon next to the **Type** field to configure the appearance of the report. See [Multilevel pivot report style options – Report Builder](#) on page 471.



Figure 72: Configure appearance icon

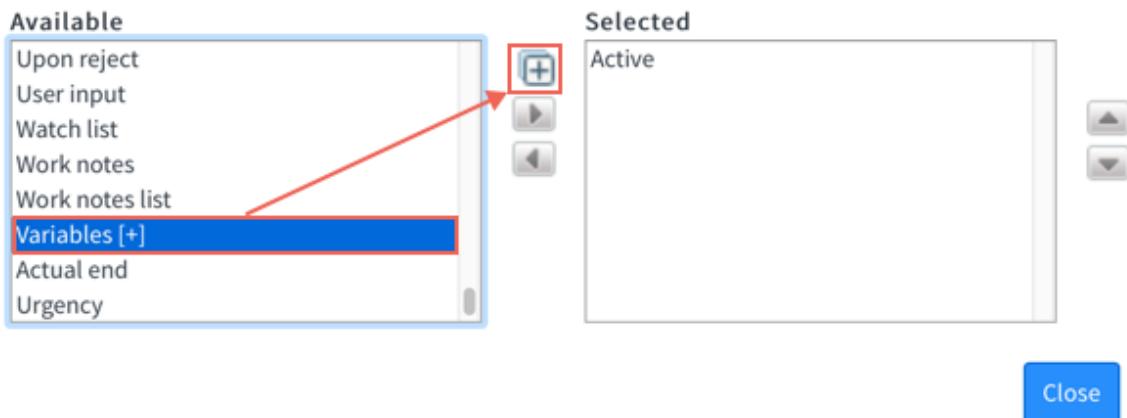
6. Click **Select Groups** next to the word Columns to open the **Multilevel Pivot Columns** slush bucket. From the **Available** list in the Multilevel Pivot Columns window, select columns that you want to use in the report and move them to the **Selected** list.

Note: It is not possible to group or stack reports by the **Tags** field.

Depending on system configuration, you can add fields from tables that extend the table selected as the report data source. For more information, see [How to access fields on extended tables in a report](#) on page 539.

7. Select variables to use as columns:
 - a) Select one or more fields to use as report columns.
The report visualization displays data broken down by a combination of row and column values. You can select up to three columns including the variables.
 - b) Select **Variables [+]** and click the expand icon (+) to choose an item.

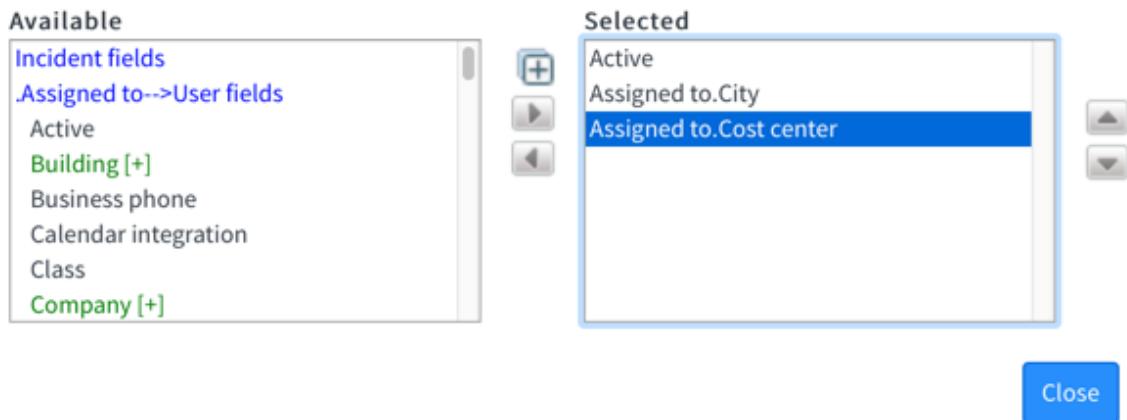
Multilevel Pivot Columns



- c) Select a **Catalog item** from the pop-up window.

The variables associated with the item appear in the **Columns** window.

Multilevel Pivot Rows



- d) Move the selected variables to the **Selected** column and click **Close**.
8. Click **Select Groups** next to the word Rows to open the **Multilevel Pivot Rows** slush bucket. Select rows the same way you select columns.
- The report visualization displays data broken down by a combination of row and column values. You can select up to five rows including the variables.
-
- Note:** It is not possible to group or stack reports by the **Tags** field.
9. Fill in the following fields and click **Next**.

Table 152: Configure tab

Field	Description
Aggregation	<p>Mathematical calculation to perform on the data. The default is Count, which displays the number of records selected.</p> <p>To display only unique records, select Count Distinct. For example, if you want a report on the distinct number of users who have one or more of the roles in a given list of roles. Users with more than one role would be counted twice unless you use Count Distinct.</p> <p>Select Average, Sum, or Count Distinct, to display a list of fields from the selected Table. Select a field to aggregate by from this list. For example, if you select a duration field, such as Business duration on the Incident table, the aggregated data is expressed in days, hours, and minutes. If you select an integer field, such as Priority, the data is expressed as a decimal value number.</p> <p>If you choose Sum or Average, select Show related fields to aggregate on dot-walked fields. See Selecting fields on related tables using dot-walking</p> <hr/> <p>Note: For duration values, the unit of measurement displayed in the aggregation axis cannot be customized.</p>
Max number of groups	<p>Maximum number of groups to display in the report. Groups with highest values are included first. Any excluded groups are combined into the single group Other.</p> <p>If you select Show all, all groups up to a limit of 50 are displayed. The rest of the results are grouped as Other. If you select Remove Other, the Other group is hidden.</p>
Show Other	<p>Check box to include the Other group in the report. The Other group contains data for all groups that exceed the number specified in Max number of groups.</p>

10. Optional: To limit the information displayed in the report, click **Add Filter Condition** or **Add "OR" Clause** and select conditions to filter the report data.
- For more details on how conditions are constructed, see [Condition builder](#).
-

Note: Keywords is a special field used for text searches across all fields. Its use in a filter or condition, in combination with other conditions, may return inconsistent results.

11. Click **Save**.

The report is generated.

Add reports to homepages or dashboards, publish to the internet, schedule email distribution of PDFs or URLs of published reports, and share reports with others. See [Distribute reports](#) on page 197.

Multilevel pivot report style options – Report Builder

Change the look of your multi-level pivot report.



When you create or edit a report, click the gear icon () after the Type field to open the Style your chart dialog box with options to configure the look of your report. Report options are automatically saved when you click **Close**. To see how the report looks with the saved settings, click **Save**.

Table 153: Chart style options

Field	Description
General	
Display Zero	Select this check box to display the number 0 when the value of a cell is 0. Clear this check box to display an empty cell when the value of the cell is 0. Applicable when Aggregation is Count or Count Distinct .
Drilldown view	<p>List view to display when a user selects a segment of a report for which no drilldown report type is specified. This view is also used when the user reaches the lowest drilldown level of a report. See Configure the list layout. If you specify a Report drilldown, Drilldown view is ignored.</p> <p>Note: All users can view report visualizations, such as pie charts and column reports. However, the last level of a drill down is always a list. Platform access control lists determine user access to list information. Users who do not have rights to any part of the list data see the message "Number of rows removed from this list by Security constraints:" followed by the number. See Access control rules.</p> <p>For more information, see Define a report drilldown in the Report Designer on page 501.</p>
Edit coloring rules	Click this hyperlink to configure how cells and cell text with numerical values are colored in the report. You can create rules to define which colors are used based on operators and values. For example, you can specify that any value greater than 5 displays in red. See Create coloring rules for multilevel pivot reports on page 472.
Decimal precision	Number of decimal places to display. You can display From zero to four decimal places. Default value: 2. To change the default value, create the system property glide.chart.decimal.precision and specify the value.
Title	
Show chart title	<p>When the chart title is displayed for the report.</p> <ul style="list-style-type: none"> Never: Never displays the chart title. Report only: Displays the chart title on reports. Always: Displays the chart title on reports, and dashboards and homepages.

Field	Description
Chart title	The chart title has a maximum length of 40 characters. If no title is entered, the report name is used for the title. This field appears when Report only or Always is selected from the Show chart title list.
Size of the chart title	Size of the chart title in pixels. This field appears when Report only or Always is selected from the Show chart title list.
Chart title color	Color of the chart title. This field appears when Report only or Always is selected from the Show chart title list.
Custom chart title position	Check box to specify X and Y coordinates for the position of the chart title. This field appears when Report only or Always is selected from the Show chart title list.
Title horizontal alignment	How the chart title is aligned horizontally. This field is available when Custom chart title position is cleared.
Title vertical alignment	How the chart title is aligned vertically. This field appears when Custom chart title position is cleared.
Chart title X position	Number of pixels to adjust the chart title position right or left. By default the title appears at the center top of the chart. To move the chart title to the right, enter a positive value. To move the title to the left, enter a negative value. This field appears only when Custom chart title position is selected.
Chart title Y position	Number of pixels to adjust the chart title position up or down. By default the title appears at the center top of the chart. To move up the chart title, enter a positive value. To move the chart title down, enter a negative value. This field appears only when Custom chart title position is selected.

Create coloring rules for multilevel pivot reports

Configure rules for how numerical values are displayed in a multilevel pivot table report, to easily highlight the more important values. The color rule is applied to the content of cells in pivot reports.

This task is part of configuring the style options of a multilevel pivot report.

1. On the **Style** tab of the report designer, click **Edit coloring rules**.
2. In the Multilevel Pivot Rules dialog box, click **New rule**.
3. In the New record dialog box, select an **Operator**.
Options are: greater than, greater than or is, lower than, lower than or is, is, and between.
4. Specify a value. If you selected the operator **between**, specify two values. The color rule is applied to the aggregated values.
5. Select a font color and a background color.
6. Optional: Specify a **Rule order**. Rules are evaluated from lowest value to highest. For example, you have one rule applies the color blue to the value 7, and a second rule that applies the color red to values between 1 and 10. If you want the 7 to appear blue, the **Rule order** value for the first rule should be higher so that the second rule does not override it.
If you do not specify a rule order, coloring rules are applied in the order in which they were created.
7. Click **Submit** to save the rule and create a new rule, or click **OK** to save the rule and return to the report designer.

Create a Pareto report in the Report Builder

Pareto reports

Pareto charts help you identify the most important dimension in a large set of dimensions. Columns show data in descending order. A line shows cumulative percentage.

Pareto charts contain both bar and line graphs. The bars display the data in descending order from left to right, and the line graph shows the cumulative totals from each category in the same order. The left Y axis is the record count, and the right Y axis is the cumulative percentage of the total number of records evaluated. The blue line at the 80% mark helps determine which data is the most influential in the process. The data to the left of the intersection of the line graph and the 80% mark have the greatest effect on the overall outcome.

The figure below shows that five callers account for 80% of the incident calls, while seven account for the other 20%.

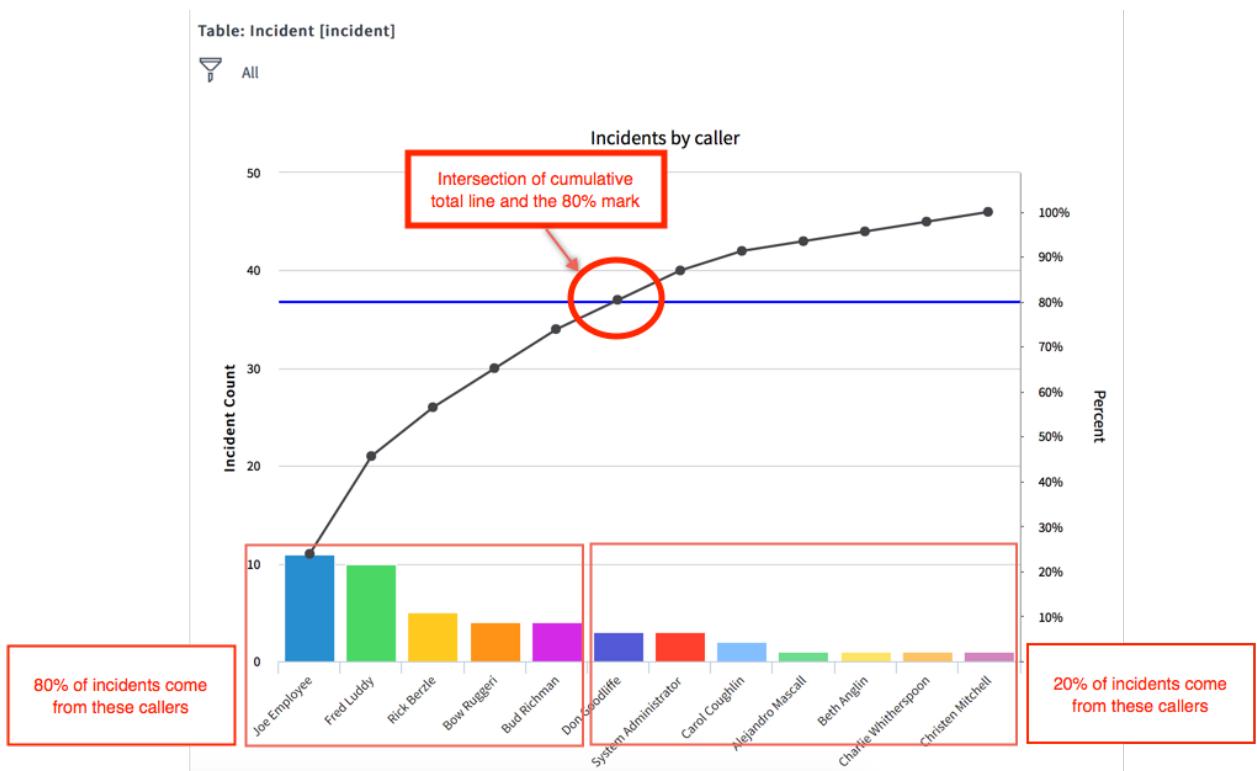


Figure 73: Pareto chart

Create a pareto report in the Report Builder

Create a pareto report to identify the most important factors in a large set of factors.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

1. Navigate to **Reports > Create New**.
2. Fill in the fields, as appropriate.

Table 154: New Pareto chart report

Field	Description
Name	Unique and descriptive name for your report.
Type	Pareto chart.
Table	ServiceNow table against which this report will be run.
Group by	<p>Select a field to organize data into groups from the selected table. In an incident report grouped by Assignment group, all incidents belonging to Software, Service Desk, Network, and so on, are placed in separate groups. Make sure that you give the report a name that reflects the field you select.</p> <p>Click  to select additional group by fields. When you select Additional group by fields, a control is added to the bottom of the report that groups the report by any one of the additional fields.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p>
Export details	Check this box to indicate whether to display (selected) or hide (cleared) the report attributes at the top of the page when exporting to PDF.
Header Footer Template	Page header and footer template to use when exporting the report to PDF.
Visible to	<p>Users to whom the report is available:</p> <ul style="list-style-type: none"> • Me allows only the report creator to view the report. • Everyone allows all users to view the report. • Groups and Users allows the report creator to specify groups and users who are authorized to see the report. <p>Groups and Users is visible to users with the report_group role.</p>
Groups	<p>Groups whose members are authorized to see the report.</p> <p>This field is visible only when Groups and Users is selected.</p>
Users	<p>Users who are authorized to see the report.</p> <p>This field is visible only when Groups and Users is selected.</p>

Field	Description
Filter and Order	<p>Conditions for filtering and ordering data. For example, you might create a condition that states Priority + less than + 3 - Moderate to have the report include only records with priorities of 2- High and 1 - Critical. To order the results from lowest to highest, specify sorting based on Priority and set the sort order to z to a.</p> <p>Note: Keywords is a special field used for text searches across all fields. Its use in a filter or condition, in combination with other conditions, may return inconsistent results.</p>
Chart size	Size of chart: large or small.
Other threshold	Maximum number of individual values represented as slices. Pie charts display 12 slices by default, showing largest values from the selected data. Remaining values are grouped into an Other category.
Display grid	<p>Check box for indicating whether to display (selected) or hide (cleared) details of the report data in a table below the chart.</p> <p>All reports that use charts, including reports that are used on homepages, display a table of report data if the system property glide.ui.section508 is set to true, regardless of the Display grid setting. The table containing the data is collapsed by default.</p>
Use color palette	<p>Check box for indicating whether to assign (selected) or not assign (cleared) a single color to all bars in pareto charts for the specific report. By default, this setting is derived from the value of the system property glide.ui.chart.use_full_color_palette.</p> <p>If chart colors are defined for specific table fields or if colors are specified for report ranges, they will be used if the check box is selected. If the check box is selected and no chart colors or report range colors are specified, the default color palette is used. If the check box is cleared, the default color will be used unless the property glide.ui.chart.color is set.</p>
Display percentages	Computational method used for calculating percentages for each element in a data set. The default method, Aggregation computes percentages for each element using the sum of all elements in the data set. Record count computes percentages for each element using the total number (count) of elements in the data set.

- Click **Save or Insert and stay** to generate the report.

Add reports to homepages or dashboards, publish to the internet, schedule email distribution of PDFs or URLs of published reports, and share reports with others. See [Distribute reports](#) on page 197.

Pareto report style options – Report Builder

Change the look of your Pareto report.



When you create or edit a report, click the gear icon () after the Type field to open the Style your chart dialog box with options to configure the look of your report. Report options are automatically saved when you click **Close**. To see how the report looks with the saved settings, click **Save**.

Table 155: Pareto chart style options

Field	Description
General	
Chart color	If no group by is used, Use one color is automatically selected. Select a single predefined system color. If a group by is used, select one of the following options: <ul style="list-style-type: none"> • Use color palette: Select a color palette from the predefined system color palettes. • Use several colors: Define a custom set of Colors using hex codes. You can add any number of colors. • Use chart colors: Use the colors defined in Reports > Chart Colors.
Display data labels	Select this check box to display the current value for each bar. This field is available when you select None from the Stacked by list.
Custom chart size	Select this check box to specify the chart's width and height in pixels.
Chart size	Select a chart size. This field is available when Custom chart size is cleared.
Drilldown View	Select a view that determines how detailed records are shown when a specific part of the chart is clicked. This option is available for charts with drill-down capabilities. If you select a view that has no fields in common to link to the table that the report is based on, the default view is used. See Define a report drilldown in the Report Designer on page 501.
Title	
Show chart title	Select when the chart title is displayed. <ul style="list-style-type: none"> • Never: never displays the chart title. • Report only: displays the chart title on reports. • Always: displays the chart title on reports, dashboards, and homepages.
Chart title	Enter a title for this chart. The title has a maximum length of 40 characters. If no title is entered, the report name is used for the title. This field is available when Report only or Always is selected from the Show chart title list.
Chart title size	Enter the size of the chart title in pixels. This field is available when Report only or Always is selected from the Show chart title list.
Chart title color	Select the color for the chart title. This field is available when Report only or Always is selected from the Show chart title list.
Custom chart title position	Select this check box to specify the X and Y coordinates for the position of the chart title.
Title horizontal alignment	Select how the chart title is aligned horizontally. This field is available when Custom chart title position is cleared.

Field	Description
Title vertical alignment	Select how the chart title is aligned vertically. This field is available when Custom chart title position is cleared.
Axis	
Axis button	Configure the titles, appearance, and labels of the X and Y axis. For the Y axis, you can also specify a From and To range. If you select an aggregation field that is not of the type number, such as an average or a sum with a business duration, the From and To fields are not available.

Create a pie report in the Report Builder

Pie charts

Pies charts show the proportions that make up a whole.

You can use a pie chart to show things like open incidents by priority. For example, suppose that an organization has a policy that critical incidents can never exceed 40% of all open incidents. Given that there are always open incidents of various priority levels, you can quickly see with a pie chart when incident counts exceed acceptable ranges. This figure shows that 14.61% of the open incidents are critical.

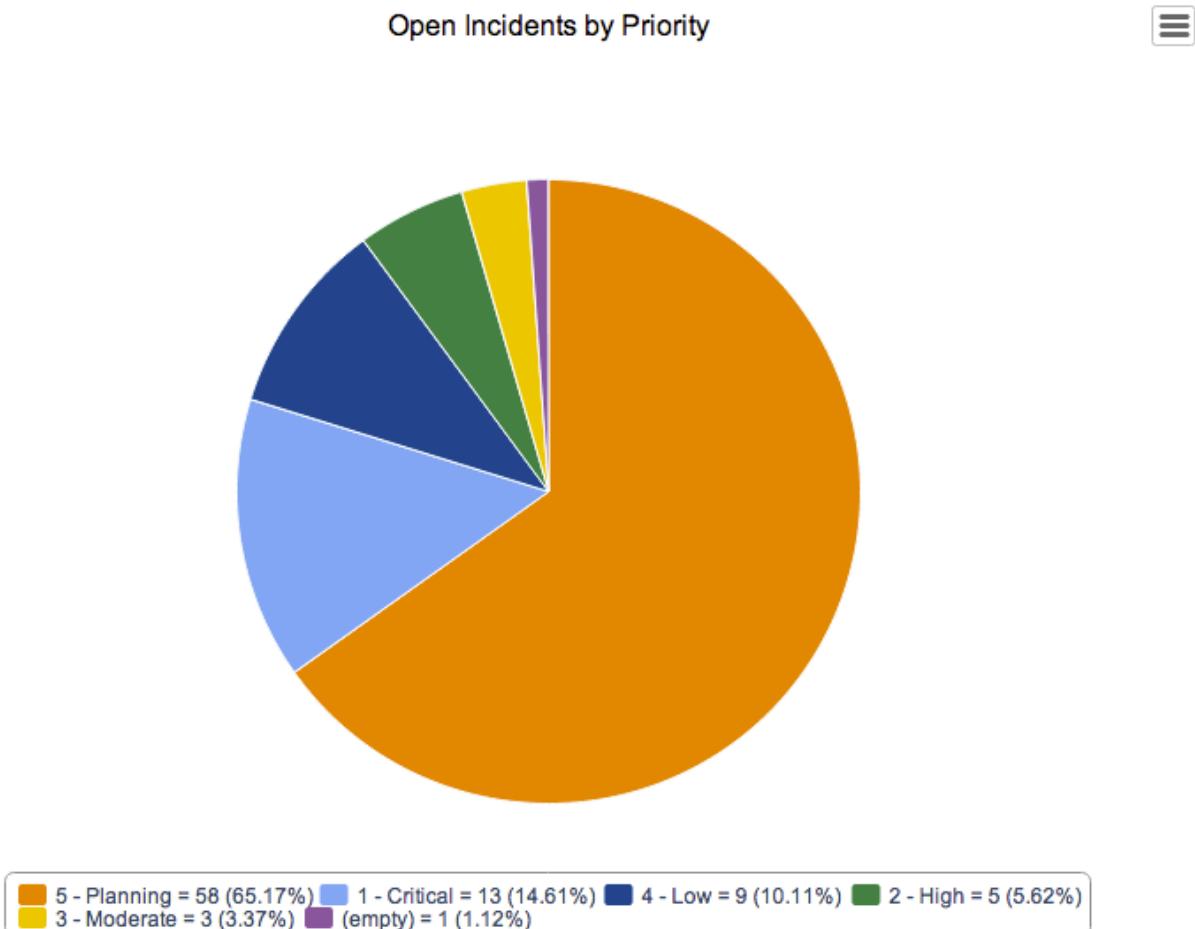


Figure 74: Pie chart

Create a pie chart in the Report Builder

Create a pie chart to compare the size of individual categories to the whole.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

1. Navigate to **Reports > Create New**.
2. Fill in the fields, as appropriate (see table).
3. Click **Save or Insert**.

Table 156: Creating Reports

Field	Description
Name	Unique and descriptive name for your report.
Description	Click the information icon to enter a more detailed description of what the report does and its purpose.
Data	Specify the table or report source containing the data set that you want to include in the report. From the first choice list, select Table or Report source . Then select the specific table or predefined data set from the second choice list.
Type	Select Pie . Alternatively, click the question mark icon to use the report type selector.
Style your chart	Click the gear icon after the Type field to configure chart style options for the look and layout of the chart.
Group by	<p>Select a field to organize data into groups from the selected table. In an incident report grouped by Assignment group, all incidents belonging to Software, Service Desk, Network, and so on, are placed in separate groups. Make sure that you give the report a name that reflects the field you select.</p> <p>Click  to select additional group by fields. When you select Additional group by fields, a control is added to the bottom of the report that groups the report by any one of the additional fields.</p> <hr/> <p>Note: It is not possible to group or stack reports by the Tags field.</p>
Display Grid	<p>Select this check box to display details of the report data in a table below the chart.</p> <p>All reports that use charts, including reports that are used on homepages, display a table of report data if the <code>glide.ui.section508system</code> property is set to true, even if Display Grid is cleared.</p>

Field	Description
Aggregation	<p>Select a computational method for aggregating report data. The default is Count, which displays the number of records selected.</p> <p>If you select Count Distinct, only unique records are counted. For example, if you want to generate a report with a distinct number of users who have one or more of the roles in a given list of roles, these users would be counted twice unless you use count distinct.</p> <p>If you select Average, Sum, or Count Distinct, a list of fields from the selected Table appears. From this list, select a field to aggregate by. For example, if you select a duration field, such as the Business duration field on the Incident table, the aggregated data is expressed in days, hours, and minutes. If you select an integer field, such as the Priority field, the data is expressed as a number.</p> <p>Note: For duration values, the unit of measurement displayed in the aggregation axis cannot be customized.</p>
No. groups	Select the maximum number of individual values that can be represented as slices. If the number of values from the selected data exceeds this limit, only the largest values are represented by the slices. By default, pie charts can display up to 12 slices. Remaining values are grouped into an Other slice. If you select Show all , all slices up to a limit of 50 slices can be displayed. The rest of the results are stacked in the Other slice. If you select Remove Other , the Other slice is hidden.
Show Other	Select this check box to display the Other slice. This check box is not available when Show all or Remove Other is selected from the No. groups list.
Add Filter Condition	<p>Create conditions for filtering data to include in the report. For example, to include only records with priorities of 2 - High and 1 - Critical, select [Priority] [less than] [3 - Moderate].</p> <p>Note: Applying a string filter with other filters to pie and bar charts is not supported.</p> <p>Note: Keywords is a special field used for text searches across all fields. Its use in a filter or condition, in combination with other conditions, may return inconsistent results.</p>
Add "OR" Clause	Select a second condition that must be met if the first condition is invalid. For example, select [Assignment Group] [is] [Database] , to include records that are assigned to the Database group if the first condition is false.
Add Sort Field	Select fields to sort data by. For example, to sort results from lowest to highest priority, select [Priority] [z to a] .

Add reports to homepages or dashboards, publish to the internet, schedule email distribution of PDFs or URLs of published reports, and share reports with others. See [Distribute reports](#) on page 197.

Pie report style options – Report Builder

Change the look of your pie chart.



When you create or edit a report, click the gear icon () after the Type field to open the Style your chart dialog box with options to configure the look of your report. Report options are automatically saved when you click **Close**. To see how the report looks with the saved settings, click **Save**.

Table 157: Chart style options

Field	Description
General	
Chart color	If no group by is used, Use one color is automatically selected. Select a single predefined system color. If a group by is used, select one of the following options: <ul style="list-style-type: none">• Use color palette: Select a color palette from the predefined system color palettes.• Use several colors: Define a custom set of Colors using hex codes. You can add any number of colors.• Use chart colors: Use the colors defined in Reports > Chart Colors.
Display data labels	Select this check box to display the value for each slice. By default, data labels can be displayed for pie charts with up to 8 slices. To change this limit, edit the <code>glide.ui.chart.pie.labels.max_items</code> system property.
Custom chart size	Select this check box to specify the chart's width and height in pixels.
Chart size	Select a chart size. This field is available when Custom chart size is cleared.
Drilldown View	Select a view that determines how detailed records are shown when a specific part of the chart is clicked. This option is available for all charts that have drill-down capabilities. If you select a view that has no fields in common to link to the table that the report is based on, the default view is used.
Decimal precision	Number of decimal places to display. You can display From zero to four decimal places. Default value: 2. To change the default value, create the system property <code>glide.chart.decimal.precision</code> and specify the value.
Title	
Show chart title	Select when the chart title is displayed. <ul style="list-style-type: none">• Never: never displays the chart title.• Report only: displays the chart title on reports.• Always: displays the chart title on reports, dashboards, and homepages.
Chart title	Enter a title for this chart. The title has a maximum length of 40 characters. If no title is entered, the report name is used for the title. This field is available when Report only or Always is selected from the Show chart title list.

Field	Description
Chart title size	Enter the size of the chart title in pixels. This field is available when Report only or Always is selected from the Show chart title list.
Chart title color	Select the color for the chart title. This field is available when Report only or Always is selected from the Show chart title list.
Custom chart title position	Select this check box to specify the X and Y coordinates for the position of the chart title. This field is available when Report only or Always is selected from the Show chart title list.
Title horizontal alignment	Select how the chart title is aligned horizontally. This field is available when Custom chart title position is cleared.
Title vertical alignment	Select how the chart title is aligned vertically. This field is available when Custom chart title position is cleared.
Legend	
Show legend	Select this check box to display the chart legend. This check box is available when the Group by field is selected in the visualization fields.
Legend horizontal alignment	Select how the legend is aligned horizontally. This field is available when Show legend is selected.
Legend vertical alignment	Select how the legend is aligned vertically. This field is available when Show legend is selected.
Left align legend text	Select to left-align the legend text. By default, legend text is centered.
Show legend border	Select this check box to display a border around the legend. This field is available when Show legend is selected.
Axis	
Axis tab	Configure the titles, appearance, and labels of the X and Y axes. For the Y axis, you can also specify a From and To range. If you select an aggregation field that is not of the type Number, the From and To fields are not available.

Create a pivot table report in the Report Builder

Note: *Multilevel pivot table reports* provide more configuration features, more style options, and are more stable.

Pivot tables

Pivot tables aggregate data from a table into columns and rows, which you define. They help you quickly investigate the source of the summarized data. Non-empty cells display hints that indicate how many records the cell represents. Click a non-empty cell to display a breakdown of those records.

You can configure a filter to further refine the data and select the aggregation values.

Note: Pivot tables are no longer supported. If you have a problem with a pivot table report, open the report and change the type to *Multilevel pivot table*. The multilevel pivot table report is more stable and has more features than the pivot table.

Incident Breakdown

Assigned to	Category							Total
	Request	Inquiry / Help	Software	Hardware	Network	Database		
(empty)	0	0	1	0	1	0		2
Beth Anglin	0	2	1	1	1	0		5
Bow Ruggeri	0	1	0	0	0	0		1
Bud Richman	1	0	1	0	0	0		2
Charlie Whitherspoon	0	0	1	0	1	0		2
David Loo	0	4	1	3	0	1		9
Don Goodliffe	0	3	2	1	0	1		7
Fred Luddy	0	0	1	0	0	0		1
Howard Johnson	0	0	2	1	0	0		3
ITIL User	0	8	5	2	0	0		15
Luke Wilson	0	2	1	0	0	0		3
Total	1	20	16	8	3	2		50

Figure 75: Pivot table

Create a pivot table in the Report Builder

Create a pivot table to aggregate data from a table into columns and rows.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

1. Navigate to **Reports > Create New**
2. Fill in the fields, as appropriate.

Field	Description
Name	Unique and descriptive name for your report
Description	Click the information icon () to enter a more detailed description of what the report does and its purpose.

Field	Description
Data	Specify the table or report source containing the data set that you want to include in the report. From the first choice list, select Table or Report source . Then select the specific table or <i>predefined data set</i> from the second choice list.
Type	Pivot Table
Style your chart	<p>Click the gear icon () to view available style options:</p> <ul style="list-style-type: none"> • Drilldown View: Select a <i>view</i> that determines how detailed records are shown when a specific part of the chart is clicked. This option is available for charts with drill-down capabilities. If you select a view that bears no relation to the table that the report is based on, the default view is used.
Row	<p>Select the field used as the source of the data for the rows in the pivot table.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p>
Column	<p>Select the field used as the source of the data for the columns in the pivot table.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p>
Aggregation	<p>Select a computational method for aggregating report data. The default is Count, which displays the number of records selected.</p> <p>If you select Count Distinct, only unique records are counted. For example, if you want to generate a report with a distinct number of users who have one or more of the roles in a given list of roles, these users would be counted twice unless you use count distinct.</p> <p>If you select Average, Sum, or Count Distinct, this displays an additional list of fields from the selected Table. From this list, select a field to aggregate by. For example, if you select a duration field, such as the Business duration field on the Incident table, the aggregated data is expressed in days, hours, and minutes. If you select an integer field, such as the Priority field, the data is expressed as a number. If a value in a column being aggregated has a comma, the value will be separated by the comma, and the aggregation will not be performed accurately.</p>

Field	Description
	Note: For duration values, the unit of measurement displayed in the aggregation axis cannot be customized.
No. groups	Select the maximum number of individual values that can be represented as columns. By default, Pivot charts display up to 12 of the largest values from the selected data. Remaining values are grouped into an Other category. If you select Show all , all values up to a limit of 50 bars are displayed. The rest of the results are stacked on the Other column. If you select Remove Other , the Other column is hidden.
Show Other	Select this check box to display the Other column. This check box is not available when Show all or Remove Other are selected from the No. groups list.
Add Filter Condition	Create <i>conditions</i> for filtering data to include in the report. For example, to include only records with priorities of 2 - High and 1 - Critical , select [Priority] [less than] [3 - Moderate] .
Add "OR" Clause	Select a second condition that must be met if the first condition is invalid. For example, select [Assignment Group] [is] [Database] , to include records that are assigned to the Database group, if the first condition is false.

3. Click **Save**. The report is generated.

Add reports to homepages or dashboards, publish to the internet, schedule email distribution of PDFs or URLs of published reports, and share reports with others. See [Distribute reports](#) on page 197.

Pivot table style options – Report Builder

Change the look of your pivot table report.



When you create or edit a report, click the gear icon () after the Type field to open the Style your chart dialog box with options to configure the look of your report. Report options are automatically saved when you click **Close**. To see how the report looks with the saved settings, click **Save**.

Table 158: Report style options

Field	Description
General	

Field	Description
Drilldown view	<p>List view to display when a user selects a segment of a report for which no drilldown report type is specified. This view is also used when the user reaches the lowest drilldown level of a report. See Configure the list layout. If you specify a Report drilldown, Drilldown view is ignored.</p> <p>Note: All users can view report visualizations, such as pie charts and column reports. However, the last level of a drill down is always a list. Platform access control lists determine user access to list information. Users who do not have rights to any part of the list data see the message "Number of rows removed from this list by Security constraints:" followed by the number. See Access control rules.</p> <p>For more information, see Define a report drilldown in the Report Designer on page 501.</p>

Create a single score report in the Report Builder

Single score report

Single score reports display a single value that is key to your business. You can add single score reports to dashboards and configure them to update in real time.



Figure 76: Single score report that has been added to a dashboard

Note: This report type cannot be run as a scheduled report.

Create a single score report in the Report Builder

Create a single score chart to display a metric or score that is key to your business.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

1. Navigate to **Reports > Create New**
2. Fill in the fields, as appropriate.

Table 159: Single score chart configuration fields

Field	Description
Data	Specify the table or report source containing the data set that you want to include in the report. From the first choice list, select Table or Report source . Then select the specific table or <i>predefined data set</i> from the second choice list.
Type	Single Score
Style your chart	Click the gear icon () after the Type field to configure the look and layout of the chart.
Aggregation	<p>Select a computational method for aggregating report data. The default is Count, which displays the number of records selected.</p> <p>Note: A single score chart displays only the aggregate value.</p> <hr/> <p>If you select Count Distinct, only unique records are counted. For example, if you want to generate a report with a distinct number of users who have one or more of the roles in a given list of roles, these users would be counted twice unless you use count distinct.</p> <p>If you select Average, Sum, or Count Distinct, this displays an additional list of fields from the selected Table. From this list, select a field to aggregate by. For example, if you select a duration field, such as the Business duration field on the Incident table, the aggregated data is expressed in days, hours, and minutes. If you select an integer field, such as the Priority field, the data is expressed as a number. If a value in a column being aggregated has a comma, the value will be separated by the comma, and the aggregation will not be performed accurately.</p> <hr/> <p>Note: For duration values, the unit of measurement displayed in the aggregation axis cannot be customized.</p>
Add Filter Condition	Create <i>conditions</i> for filtering data to include in the report. For example, to include only records with priorities of 2 - High and 1 - Critical , select [Priority] [less than] [3 - Moderate] .
Add "OR" Clause	Select a second condition that must be met if the first condition is invalid. For example, select [Assignment Group] [is] [Database] , to include records that are assigned to the Database group, if the first condition is false.

3. Click **Save**. The report is generated.



Click the sharing icon () to open the **Sharing** menu. On this menu, you can add the report to a dashboard and publish the report to the web. See *Share a report – Report Builder* on page 199 for more information.

Single score report style options – Report Builder

Change the look of your single score report.



When you create or edit a report, click the gear icon () after the Type field to open the Style your chart dialog box with options to configure the look of your report. Report options are automatically saved when you click **Close**. To see how the report looks with the saved settings, click **Save**.

Table 160: Chart style options

Field	Description
General	
Display Zero	Select this check box to display the number 0 when the value of a cell is 0. Clear this check box to display an empty cell when the value of the cell is 0. Applicable when Aggregation is Count or Count Distinct .
Score color	Select the color for the score
Drilldown view	<p>List view to display when a user selects a segment of a report for which no drilldown report type is specified. This view is also used when the user reaches the lowest drilldown level of a report. See Configure the list layout. If you specify a Report drilldown, Drilldown view is ignored.</p> <p>Note: All users can view report visualizations, such as pie charts and column reports. However, the last level of a drill down is always a list. Platform access control lists determine user access to list information. Users who do not have rights to any part of the list data see the message "Number of rows removed from this list by Security constraints." followed by the number. See Access control rules.</p> <p>For more information, see Define a report drilldown in the Report Designer on page 501.</p>
Title	
Show chart title	<p>When the chart title is displayed for the report.</p> <ul style="list-style-type: none"> • Never: Never displays the chart title. • Report only: Displays the chart title on reports. • Always: Displays the chart title on reports, and dashboards and homepages.
Chart title	The chart title has a maximum length of 40 characters. If no title is entered, the report name is used for the title. This field appears when Report only or Always is selected from the Show chart title list.
Size of the chart title	Size of the chart title in pixels. This field appears when Report only or Always is selected from the Show chart title list.
Chart title color	Color of the chart title. This field appears when Report only or Always is selected from the Show chart title list.
Custom chart title position	Check box to specify X and Y coordinates for the position of the chart title. This field appears when Report only or Always is selected from the Show chart title list.

Field	Description
Title horizontal alignment	How the chart title is aligned horizontally. This field is available when Custom chart title position is cleared.
Title vertical alignment	How the chart title is aligned vertically. This field appears when Custom chart title position is cleared.
Chart title X position	Number of pixels to adjust the chart title position right or left. By default the title appears at the center top of the chart. To move the chart title to the right, enter a positive value. To move the title to the left, enter a negative value. This field appears only when Custom chart title position is selected.
Chart title Y position	Number of pixels to adjust the chart title position up or down. By default the title appears at the center top of the chart. To move up the chart title, enter a positive value. To move the chart title down, enter a negative value. This field appears only when Custom chart title position is selected.

Create coloring rules for single score reports

Configure rules for how numerical values are displayed in single score reports, to easily highlight why a value is important.

This task is part of configuring the style options of a single score report.

1. On the **Style** tab of the report designer, click **Edit coloring rules**.
2. In the Multilevel Pivot Rules [Single Score Color Rule] dialog box, click **New rule**.
3. In the New record dialog box, select an **Operator**.
Options are: greater than, greater than or is, lower than, lower than or is, is, and between.
4. Specify a value. If you selected the operator **between**, specify two values. The color rule is applied to the aggregated values.
5. Select a font color.
6. Optional: Specify a **Rule order**. Rules are evaluated from lowest value to highest. For example, you have one rule applies the color blue to the value 7, and a second rule that applies the color red to values between 1 and 10. If you want the 7 to appear blue, the **Rule order** value for the first rule should be higher so that the second rule does not override it.
If you do not specify a rule order, coloring rules are applied in the order in which they were created.
7. Click **Submit** to save the rule and create a new rule, or click **OK** to save the rule and return to the report designer.

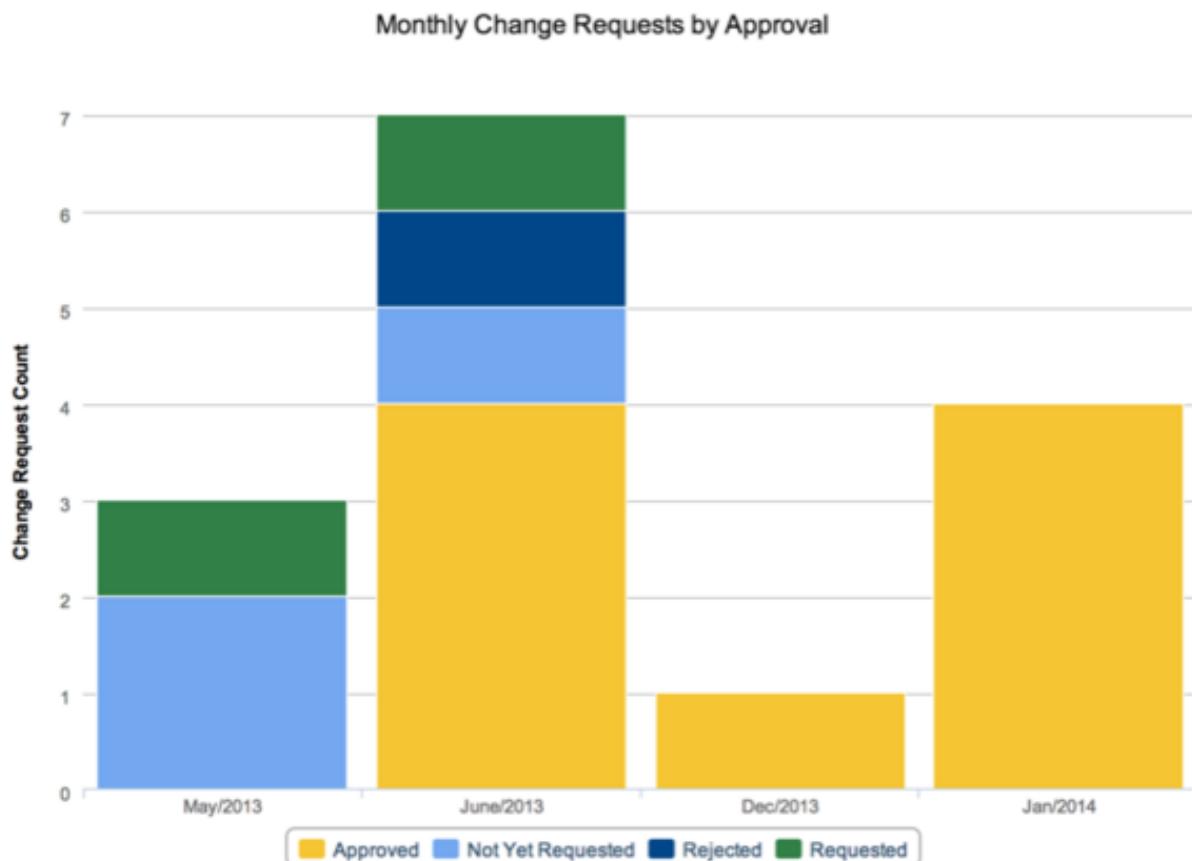
Create a trend report in the Report Builder

Trend reports

Trend reports show how the value of one or more items changes over time. Values along the horizontal axis of the trend report represent the time measurement. Values on the vertical axis represent the changes to the items being monitored.

Users with the `report_admin` role can define the ranges that are used in a trend chart report. See [Report ranges](#) on page 556 for information on creating report ranges.

An example of an item that changes over time is incident count. The incident count will likely increase during the first few months after a product upgrade is released. Over time, the number of incidents reported drops as users become more accustomed to the changes in the product.



Create a trend report in the Report Builder

Create a trend report to show how the value of one or more data element changes over time.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

1. Navigate to **Reports > Create New**.
2. Fill in the fields, as appropriate.
3. Click Save. The report is generated.

Field	Description
Name	Enter a unique and descriptive name for the report.

Field	Description
Description	Click the information icon to enter a more detailed description of what the report does and its purpose.
Data	Specify the table or report source containing the data set that you want to include in the report. From the first choice list, select Table or Report source . Then select the specific table or predefined data set from the second choice list.
Type	Select Line . Alternatively, click the question mark icon to use the report type selector.
Style your chart	Click the gear icon after the Type field and configure the chart style options to edit the layout and look of your chart.
Group by	<p>Select a field to organize data into groups from the selected table. In an incident report grouped by Assignment group, all incidents belonging to Software, Service Desk, Network, and so on, are placed in separate groups. Make sure that you give the report a name that reflects the field you select.</p> <p>Click  to select additional group by fields. When you select Additional group by fields, a control is added to the bottom of the report that groups the report by any one of the additional fields.</p> <hr/> <p>Note: It is not possible to group or stack reports by the Tags field.</p>
Display Grid	<p>Select this check box to display details of the report data in a table below the chart.</p> <p>All reports that use charts, including reports that are used on homepages, display the table of report data details if the glide.ui.section508 system property is set to true, even if Display Grid is cleared.</p>
Trend by	Select the table field whose values you want to display in a time sequence.
per	<p>Time period to group data by. Time periods range from an hour to a year. You can also specify a date.</p> <hr/> <p>Note: Reporting per Week is not supported when the report range includes more than one year. Inconsistent results are produced when a week is split between two years.</p>

Field	Description
Aggregation	<p>Select a computational method for aggregating report data. The default is Count, which displays the number of records selected.</p> <p>If you select Count Distinct, only unique records are counted. For example, if you want to generate a report with a distinct number of users who have one or more of the roles in a given list of roles, these users would be counted twice unless you use count distinct.</p> <p>If you select Average, Sum, or Count Distinct, a list of fields from the selected Table appears. From this list, select a field to aggregate by. For example, if you select a duration field, such as the Business duration field on the Incident table, the aggregated data is expressed in days, hours, and minutes. If you select an integer field, such as the Priority field, the data is expressed as a number.</p> <p>Note: For duration values, you cannot customize the unit of measurement displayed in the aggregation axis.</p>
Percentages	<p>Select a computational method used for calculating percentages for each element (selected record) in a data set.</p> <ul style="list-style-type: none"> • Use Aggregation: default method that computes percentages for each element using the sum of all elements in the data set. • Use Record Count: computes percentages for each element using the total number (count) of elements in the data set. <p>This field is only available when Aggregation is set to Average, Sum, or Count Distinct.</p>
Add Filter Condition	Create conditions for filtering data to include in the report. For example, to include only records with priorities of 2 - High and 1 - Critical , select [Priority] [is] [Database] .
Add "OR" Clause	Select a second condition that must be met if the first condition is invalid. For example, select [Assignment Group] [is] [Database] , to include records that are assigned to the Database group if the first condition is false.
Add Sort Field	Select fields to sort data by. For example, to sort results from lowest to highest priority, select [Priority] [z to a] .

Add reports to homepages or dashboards, publish to the internet, schedule email distribution of PDFs or URLs of published reports, and share reports with others. See [Distribute reports](#) on page 197.

Trend report style options – Report Builder

Change the look of your trend report.



When you create or edit a report, click the gear icon () after the Type field to open the Style your chart dialog box with options to configure the look of your report. Report options are automatically saved when you click **Close**. To see how the report looks with the saved settings, click **Save**.

Table 161: Trend report style options

Field	Description
General	
Chart color	<p>If no group by is used, Use one color is automatically selected. Select a single predefined system color.</p> <p>If a group by is used, select one of the following options:</p> <ul style="list-style-type: none"> • Use color palette: Select a color palette from the predefined system color palettes. • Use several colors: Define a custom set of Colors using hex codes. You can add any number of colors. • Use chart colors: Use the colors defined in Reports > Chart Colors.
Display data labels	Select this check box to display the current value for each data point
Marker	Select this check box to display a symbol at each data point.
Custom chart size	Select this check box to specify the chart's width and height in pixels.
Chart size	Select a chart size. This field is available when Custom chart size is cleared.
Decimal precision	Number of decimal places to display. You can display From zero to four decimal places. Default value: 2. To change the default value, create the system property glide.chart.decimal.precision and specify the value.
Title	
Show chart title	<p>Select when the chart title is displayed.</p> <ul style="list-style-type: none"> • Never: never displays the chart title. • Report only: displays the chart title on reports. • Always: displays the chart title on reports, dashboards, and homepages.
Chart title	Enter a title for this chart. The title has a maximum length of 40 characters. If no title is entered, the report name is used for the title. This field is available when Report only or Always is selected from the Show chart title list.
Chart title size	Enter the size of the chart title in pixels. This field is available when Report only or Always is selected from the Show chart title list.
Chart title color	Select the color for the chart title. This field is available when Report only or Always is selected from the Show chart title list.
Custom chart title position	Select this check box to specify the X and Y coordinates for the position of the chart title. This field is available when Report only or Always is selected from the Show chart title list.
Title horizontal alignment	Select how the chart title is aligned horizontally. This field is available when Custom chart title position is cleared.
Title vertical alignment	Select how the chart title is aligned vertically. This field is available when Custom chart title position is cleared.
Legend	

Field	Description
Show legend	Select this check box to display the lchart legend. This field is available when a Group by field is selected on the report form.
Legend horizontal alignment	Select how the legend is aligned horizontally. This field is available when Show legend is selected.
Legend vertical alignment	Select how the legend is aligned vertically. This field is available when Show legend is selected.
Left align legend text	Select to left-align the legend text. By default, legend text is centered.
Show legend border	Select this check box to display a border around the legend. This field is available when Show legend is selected.
Axis	
Axis button	Configure the titles, appearance, and labels of the X and Y axis. For the Y axis, you can also specify a From and To range.

Create a trendbox report in the Report Builder

Trendbox reports

Trendbox reports visualize the distribution of data for a specific time period.

A trendbox report is similar to a box report, but it also allows you to specify a time period for the report. When defining the report, use a descriptive title that indicates the use of the time period. Use trendbox reports when you have multiple small data sets from different sources that are related to each other. Examples include incident resolution times for different product features, or incident resolution times for different priorities.

For example, a trendbox report can show incident resolution duration for high priority incidents by support employee. Suppose every support employee handles P1 incidents, but you know that the time it takes to resolve each P1 incident varies. A trendbox report would show, by employee, the longest and shortest resolution times, and a grouping with the most common or closely clustered resolution times. With this information, you can compare resolution times by employee, or you can use the information to estimate future support staffing levels.

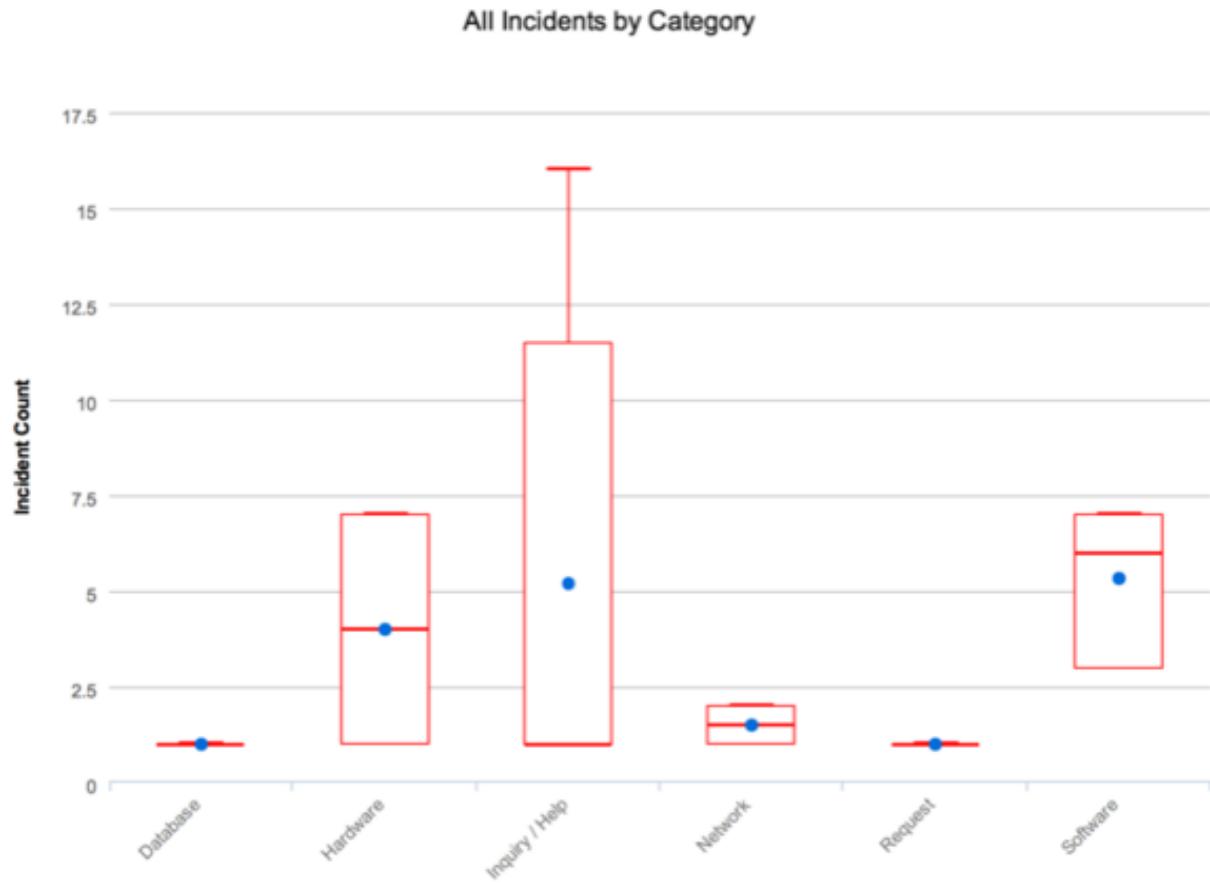


Figure 77: Trendbox report

About trendbox report

Each box in a trendbox report displays the following information for each group of data:

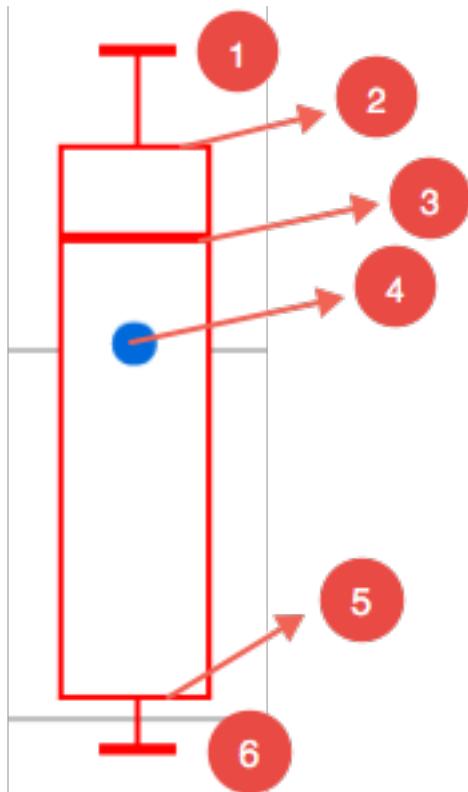


Figure 78: Box chart scale

1. Sample maximum
2. Upper quartile
3. Median
4. Mean
5. Lower quartile
6. Sample minimum

Note: When accessibility is enabled, this visualization includes a report that screen readers can interpret. For more information, see [Enabling accessibility features](#)

Create a trendbox report in the Report Builder

Create a trendbox chart to show the distribution of values in a data set, with an additional time period.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

1. Navigate to **Reports > Create New**:
2. Fill in the fields, as appropriate (see table).
3. Click **Save or Insert**.

Table 162: Trendbox report configuration options

Field	Description
Name	Enter a unique and descriptive name for your report.
Description	Click the information icon to enter a more detailed description of what the report does and its purpose.
Data	Specify the table or report source containing the data set that you want to include in the report. From the first choice list, select Table or Report source . Then select the specific table or predefined data set from the second choice list.
Type	Select Trendbox . Alternatively, click the question mark icon to use the report type selector.
Style your chart	Click the gear icon after the Type field and configure the chart style options to edit the layout and look of your chart.
Group by	<p>Select a field to organize data into groups from the selected table. In an incident report grouped by Assignment group, all incidents belonging to Software, Service Desk, Network, and so on, are placed in separate groups. Make sure that you give the report a name that reflects the field you select.</p> <p>Click  to select additional group by fields. When you select Additional group by fields, a control is added to the bottom of the report that groups the report by any one of the additional fields.</p> <p>Note: It is not possible to group or stack reports by the Tags field.</p>
Trend by	Select the table field whose values you want to display in a time sequence.
per	<p>Select a time period to display in the chart. Time periods range from a year to an hour. You can also select a specific date.</p> <p>Note that when you select, for example, Created per Hour in the trend field, the resulting trend chart based on the incidents table shows incidents created from the start of the hour (for example: 8:00:00) until the end of the hour (8:59:59) in the same bar. So an incident created at 8:14 is shown under 8, and an incident created at 9:01 is shown under 9.</p> <p>Note: Reporting per Week is not supported when the report range includes more than one year. Inconsistent results are produced when a week is split between two years.</p>

Field	Description
Aggregation	<p>Select a computational method for aggregating report data. The default is Count, which displays the number of records selected.</p> <p>If you select Count Distinct, only unique records are counted. For example, if you want to generate a report with a distinct number of users who have one or more of the roles in a given list of roles, these users would be counted twice unless you use count distinct.</p> <p>If you select Average, Sum, or Count Distinct, a list of fields from the selected Table appears. From this list, select a field to aggregate by. For example, if you select a duration field, such as the Business duration field on the Incident table, the aggregated data is expressed in days, hours, and minutes. If you select an integer field, such as the Priority field, the data is expressed as a number.</p> <p>Note: For duration values, the unit of measurement displayed in the aggregation axis cannot be customized.</p>
Add Filter Condition	<p>Create conditions for filtering data to include in the report. For example, to include only records with priorities of 2 - High and 1 - Critical, select [Priority] [less than] [3 - Moderate].</p> <p>Note: Keywords is a special field used for text searches across all fields. It's use in a filter or condition, in combination with other conditions, may return inconsistent results.</p>
Add "OR" Clause	Select a second condition that must be met if the first condition is invalid. For example, select [Assignment Group] [is] [Database] , to include records that are assigned to the Database group if the first condition is false.
Add Sort Field	Select fields to sort data by. For example, to sort results from lowest to highest priority, select [Priority] [z to a] .

Note: For duration values, it is not possible to customize the unit of measurement displayed in the aggregation axis.

Add reports to homepages or dashboards, publish to the internet, schedule email distribution of PDFs or URLs of published reports, and share reports with others. See [Distribute reports](#) on page 197.

Trendbox report style options – Report Builder

Change the look of your trendbox report.



When you create or edit a report, click the gear icon () after the Type field to open the Style your chart dialog box with options to configure the look of your report. Report options are automatically saved when you click **Close**. To see how the report looks with the saved settings, click **Save**.

Table 163: Trendbox chart style options

Field	Description
General	
Custom chart size	Select this check box to specify the chart's width and height in pixels.
Chart size	Select a chart size. This field is available when Custom chart size is cleared.
Decimal precision	Number of decimal places to display. You can display From zero to four decimal places. Default value: 2. To change the default value, create the system property glide.chart.decimal.precision and specify the value.
Title	
Show chart title	Select when the chart title is displayed. <ul style="list-style-type: none"> Never: never displays the chart title. Report only: displays the chart title on reports. Always: displays the chart title on reports, dashboards, and homepages.
Chart title	Enter a title for this chart. The title has a maximum length of 40 characters. If no title is entered, the report name is used for the title. This field is available when Report only or Always is selected from the Show chart title list.
Chart title size	Enter the size of the chart title in pixels. This field is available when Report only or Always is selected from the Show chart title list.
Chart title color	Select the color for the chart title. This field is available when Report only or Always is selected from the Show chart title list.
Custom chart title position	Select this check box to specify the X and Y coordinates for the position of the chart title. This field is available when Report only or Always is selected from the Show chart title list.
Title horizontal alignment	Select how the chart title is aligned horizontally. This field is available when Custom chart title position is cleared.
Title vertical alignment	Select how the chart title is aligned vertically. This field is available when Custom chart title position is cleared.
Axis	
Axis button	Configure the titles, appearance, and labels of the X and Y axis. For the Y axis, you can also specify a From and To range.

Advanced reporting

Learn how to further customize report visualizations and the data you report on. Topics in this section are appropriate for users who are already familiar with the basics of report creation.

Drilling down within reports

You can drill down within a report to visualize a subset of its data. For example, you can click on the critical section of a report sorted by priority to view the categories of those critical incidents.

For reports with a defined drilldown, click on a portion of the chart to display a subset of data. The subset may use a different chart type. In the example, the user clicks on the critical incidents in a bar chart to reveal the categories of critical incidents in a semi-donut chart.

Table: Incident [incident]

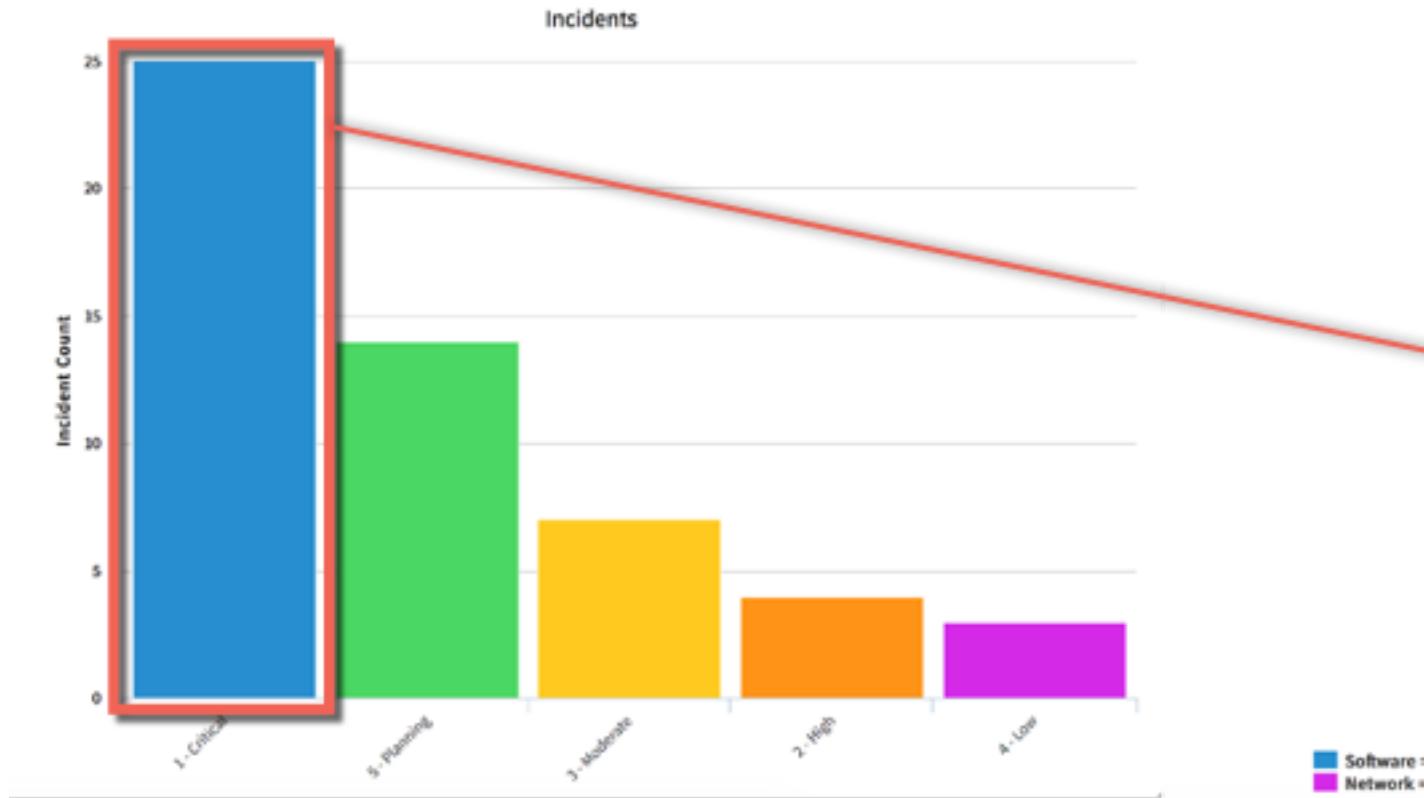


All

Table: Incident [incident]



All

**Figure 79: Drilldown example**

All chart types except for list, histogram, calendar, control, box, and trendbox charts support drilling down. Drilling down is not available on charts added to forms, and charts embedded as iframes. You can define any number of drilldown levels for a report.

Note: Drilldown reports do not export to PDF. If you select **Export to PDF** on a drilldown, a PDF of the top level report is generated.

Define a report drilldown in the Report Designer

You can define a report drilldown to allow reporting users to view subsets of the report data. When you define a report drilldown, it applies only to the report for which you define it.

The report that you want to define a drilldown for must exist.

Note: You can only drill down to data in the same table as the report. The following report types do not support the drilldown feature: list, histogram, calendar, control, box, and trendbox.

1. Navigate to **Reports > View / Run**.
2. Select the report you want to add a drilldown to.

3.

Click the **Show report structure** icon ().

A badge on the Report structure icon displays the number of defined drilldowns.

4.

Click the Add drilldown icon ().

Report structure



Figure 80: Drilldown example

5. Enter a **Title** for the drilldown and click **Next**.
6. Select the chart **Type** to display the data and click **Next**. See [Report Designer – Report types and creation details](#) on page 209.
The drilldown chart type can be different than the parent report.
7. Configure the report. Configuration options depend on the selected **Type**.
8. Click **Save drilldown**.

The user can now drill down from the top-level report to the specified drilldown report visualizations.

Note: All users can view report visualizations, such as pie charts and column reports. However, the last level of a drilldown is always a list. Platform access control lists determine user access to list information. Users who do not have rights to any part of the list data see the message "Number of rows removed from this list by Security constraints:" followed by the number. For more information, see [Access control rules](#).

Define a report drilldown in the Report Builder

You can define a report drilldown to allow reporting users to view subsets of the report data. When you define a report drilldown it applies only to the report for which you define it.

The report that you want to define a drilldown for must exist.

Note: You can only drill down to data in the same table as the report. The following report types do not support the drilldown feature: list, histogram, calendar, control, box, and trendbox.

1. Navigate to **Reports > View / Run**.
2. Select the report you want to add a drilldown to.
3. Click the report options arrow next to the **Save** button.
4. Select **Report drilldown**.

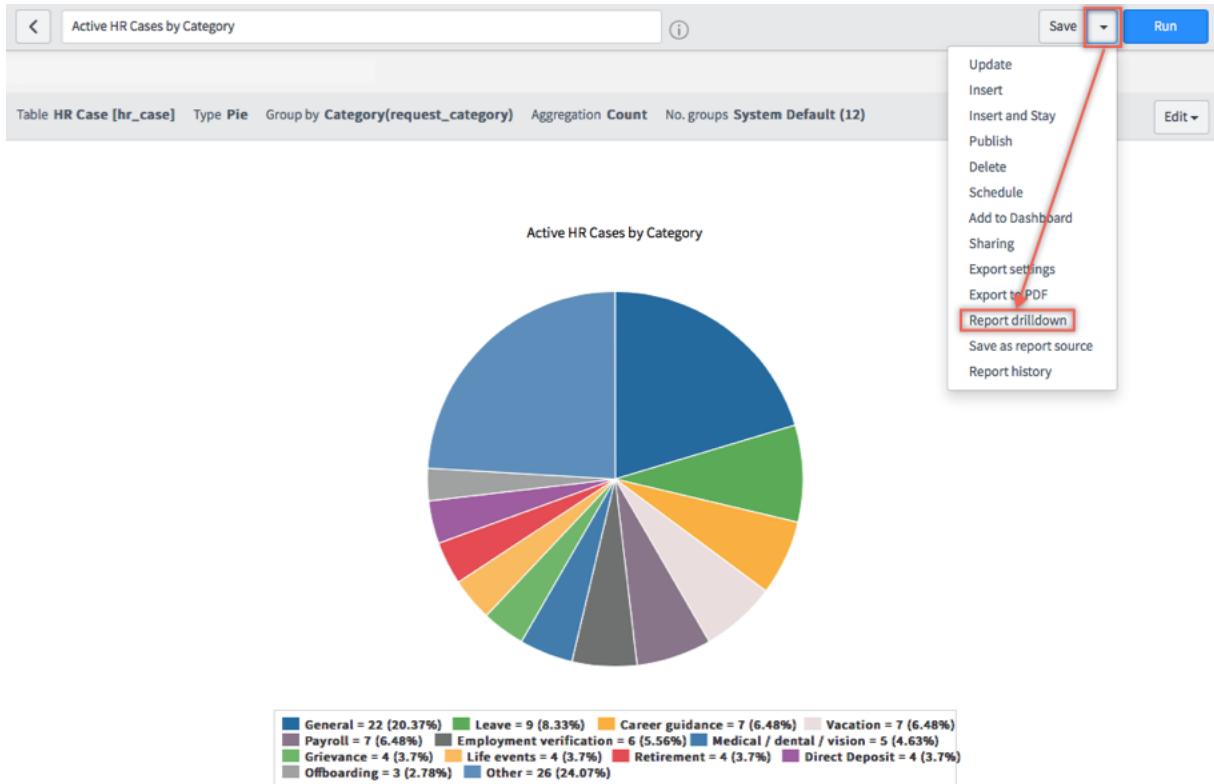


Figure 81: Save menu > Report drilldown

5. Enter a **Title** for the drilldown.
6. Select the chart **Type** to display the data.

The drilldown chart type may be different than the parent report.

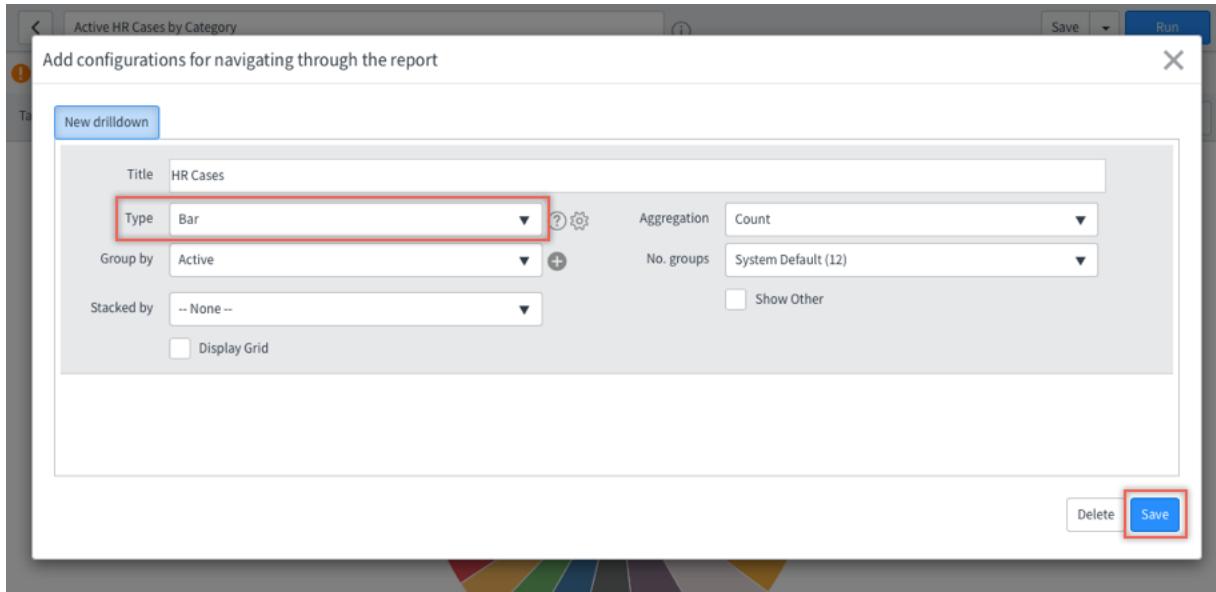


Figure 82: Report drilldown - Select type

7.

Click the cog icon () to configure the report. Configuration options depend on the selected **Type**. See [Report Designer – Report types and creation details](#) on page 209.

8. Click **Save**.

The user can now drill down from the top level report to the specified drilldown report visualizations.

Note: All users can view report visualizations, such as pie charts and column reports. However, the last level of a drilldown is always a list. Platform access control lists determine user access to list information. Users who do not have rights to any part of the list data see the message "Number of rows removed from this list by Security constraints:" followed by the number. For more information, see [Access control rules](#).

Metrics

A metric measures and evaluates the effectiveness of IT service management processes.

For example, a metric could measure the effectiveness of the incident resolution process by calculating how long it takes to resolve an incident.

Sometimes a metric can be easily obtained from the data. For example, to find the number of incidents that were created today, a report will simply count the number of incidents in the incident table with a Created date of today. Often, however, metrics need to be gathered as data is updated. For example, determining how long an incident was assigned to a certain group requires collecting information about assignment changes and calculating the duration of each assignment.

The Metric plugin provides an easy, declarative way of defining metrics. Once defined, the data for the metric will be gathered, and instances of the metric will be calculated and stored. By an instance we mean a specific occurrence. For example, the "Assigned to Duration" metric measures the duration of time an incident is assigned to an individual. The metric is defined by creating a metric definition of type "Field value duration" and selecting the "Assigned to" field from the Incident table. A metric instance is then created for each incident assignment showing its duration. Reporting on the duration of incident assignments becomes easy.

Reporting on a metric is done using the [database view](#) that links the metric to the table on which it is defined.

Create a metric

Create a metric definition for a task table.

1. Navigate to **Metrics > Definitions**.
2. Click **New**.
3. Complete the Metric definition form then click **Submit**.

Table 164: New metric definitions

Field	Description
Number	The system generates a unique record number for the metric definition.
Name	Enter a unique name to describe what metrics are collected.
Table	Select the table that you want to collect metrics for. A metric can only apply to one table. Note: The list shows only tables and database views that are in the same scope as the metric definition
Field	Select the table column you want to monitor for changes. Metrics only work on audited fields. Creating a metric for non-audited field produces unreliable metrics.

Field	Description
Type	<p>Select what values this metric generates.</p> <ul style="list-style-type: none"> Field value duration: This type of metric measures the duration of time from when the value of the specified field is set until it is changed. A Field value duration metric can optionally specify a script. The script can either return a duration value or set the answer variable to false to stop processing the metric. For example, the baseline incident metrics stop calculating duration when the Active field of an incident is set to false. The script can also carry out any other action such as closing the duration of other metrics defined on the same record. See the example script for more information. Script calculation: This type of metric creates a metric instance using a script. The script has access to the current row in the table (for example an incident) and the metric definition. The script can then perform any calculation and insert data into the metric_instance table. The calculation does not have to result in a duration. It can calculate any type of value and store it in the metric instance value.
Timeline	Check this box to display the metric on a timeline .
Active	Check this box to monitor changes for this metric.
Description	[Optional] Specify what data the metric monitors and its conditions.
Script	Enter the script you want the metric to run to either calculate a duration or perform some calculation on the metric_instance table.

Note: In the base system, metrics are configured to work on the task table only. To apply metrics to cmdb_ci tables, duplicate the metric events business rule that currently runs on the task table for the cmdb_ci table. Without the events created, no metric processing can occur.

Sample field value duration script

Review the existing Incident Open metric definition to see how you can create your own custom metric.

This script either provides a duration value or stops processing durations (sets the answer variable to false) when an incident is closed.

```
// script can set answer to false to terminate processing of the metric
```

```
// mi - MetricInstance
// answer
if (!current.active) {
    answer = false;
    mi.endDuration();
    gs.log("Closing field durations");
    closeDurations(mi.current);
}

function closeDurations(current) {
    var gr = new GlideRecord('metric_instance');
    gr.addQuery('id', current.sys_id);
    gr.addQuery('calculation_complete', false);
    gr.addQuery('definition.type', 'field_value_duration');
    gr.query();
    while (gr.next()) {
        gs.log("closing: " + gr.definition.name + " for: " + current.number);
        var definition = new GlideRecord('metric_definition');
        definition.get(gr.definition);
        var mi = new MetricInstance(definition, current);
        mi.endDuration();
    }
}
```

Metric instance

A metric instance is a record in the metric_instance table. A record holds one instance of a metric.

The screenshot shows the 'Metric Definition' configuration page. At the top, there's a header with a back arrow, a menu icon, and the title 'Metric Definition' followed by 'Assigned to Duration'. To the right are buttons for 'Update', 'Delete', and navigation arrows. Below the header, there are several input fields and dropdowns:

- Number:** MTRC0000003
- Type:** Field value duration
- Name:** Assigned to Duration
- Timeline:**
- Table:** Incident [incident]
- Active:**
- Field:** Assigned to

Description: (Empty text area)

Script: (Large text area containing script code, with icons for script editor and preview)

At the bottom left are 'Update' and 'Delete' buttons.

Figure 83: Metric plugin

Some of the notable fields in the metric_instance table are:

- **Metric definition:** the metric definition for which this metric instance was gathered.
- **Value:** For a "Field value duration" metric this is the value of the table field for which duration is calculated. For example, for the "Assigned to Duration" metric, the Value is the name of the person assigned to the incident. For other metrics, the value can be any value calculated by the metric.
- **ID:** Identifies the specific record for which the metric is gathered. For example, the specific incident.

- **Duration:** Time duration for a Field value duration metric.

Database views

A database view defines table joins for reporting purposes.

For example, a database view can join the Incident table to the Metric Definition and Metric Instance tables. This view can be used to report on incident metrics and may include fields from any of these three tables.

A number of useful database views are installed with the Database View plugin and the Database Views for Service Management plugin. These database views cover most metric reporting needs and greatly reduce the need to define new ones.

Note: In general, as the number of tables that are included in the view and the number of records that those tables contain increases, the accumulated impact on performance grows. In addition, to optimize the performance of the database view ensure that the 'where' clauses that are defined in the database view are based on indexed fields.

Limitations

Database views cannot be created on tables that participate in table rotation.

It is not possible to edit data within a database view.

ACLs and database views

You do not need to create ACLs on fields in the view. The system honors contextual ACLs (ACLs with a condition or script) that already exist on the underlying table. Non-contextual ACLs (ACLs with only role checks) are still honored just as with previous releases.

You can revert this functionality to legacy behavior and require explicit read ACLs to be added to the database views. Set the `glide.security.expander.view.legacy` property to **true**. For upgraded instances, add this property to the system, and set it to **true** for the same legacy behavior in pre-Istanbul releases, or set to **false** to use the new behavior.

You can still create additional ACLs on the database views. These ACLs are evaluated last and are always honored.

Database view reserved words

Using the terms may cause unintended or undesirable performance. For more information, see the [MySQL reserved words document](#).

Creating a database view

Create a database view to join tables. You can then create a report based on the database view.

Create a database view

Create the database view.

1. Navigate to **System Definition > Database Views**.

2. Click **New**.

The Database View form appears.

3. Name the view as you would name a new table.

The application converts capital letters to lower case and spaces to underscores.

4. Provide a label and a plural.

The **Label** and **Plural** fields define how the database view is labeled in lists and forms.

The screenshot shows a 'Database View' configuration page. At the top, there are navigation icons for back, forward, and search, followed by the title 'Database View' and 'New record'. On the right side, there are icons for edit, delete, and a three-dot menu, along with a blue 'Submit' button. The main area contains several input fields:

- Name:** A text input field containing 'u_inc_metr'.
- Label:** A text input field containing 'Incident metric'.
- Plural:** A text input field containing 'Incident metrics'.
- Description:** A text area containing the following text: 'Join incident to metric definition to metric instance creating a view that can be reported on. For example, Incidents that were resolved on the first call sorted by category.'

At the bottom left, there is another blue 'Submit' button.

Figure 84: Database view configuration

5. Optional: Provide a description of the database view so that other users know its purpose.
6. Click **Submit**.

The database view is added to the **Database Views** table.

Add a table to the database view

Specify the table to join to the database view.

The **Table** field in the View Table form names the table to join to the database view. A **Variable prefix** can be assigned and used later when specifying a **Where clause** to define the conditions for the join. These conditions can refer to any field, but typically define the join by matching a field in the table to a field in another table that is part of the database view. When writing the **Where clause**, add the field name to the **Variable prefix** of its table with an underscore. For example, in the following screenshot, in the **Where clause** field, **mi_id** refers to the **id** field in the Metric Instance [metric_instance] table (mi) and the **inc_sys_id** refers to the **sys_id** field in the Incident [incident] table (inc). Database views can not be created on tables that participate in Table Rotation.

The screenshot shows the 'View Table' configuration page for the 'Incident [incident]' table. A red circle highlights the 'mi_id = inc_sys_id' entry in the 'Where clause' field. A large red arrow points from this field to the text 'This field must be returned' located below the 'Update' and 'Delete' buttons. Another red circle highlights the 'sys_id' field in the 'View Fields' list.

Table:	Incident [incident]
Variable prefix:	inc
Order:	300
Where clause:	mi_id = inc_sys_id

This field must be returned

View Fields [New](#) [+ □](#) [View table = incident](#)

- Field**
- caller_id**
- sys_id**

[Actions on selected rows...](#) ▾

Figure 85: Database View Table form

The **Where clause** supports these JavaScript conditional operators:

=, !=, <, <=, >, >=, &&, ||

- From the Database View form, click **New** on the View Tables related list.
- Configure the form layout* and add the **Left join** field (a check box) to the form.
- Click **Save**.
- Complete the form and select the **Left join** check box.
 - Selecting **Left join** causes the left-hand table in the database view to display all records, even if the join condition does not find a matching record on the right-hand table. Select this check box for view tables that specify a **Where clause**. Selecting **Left join** for view tables without a **Where clause** does not affect the query.
 - Joined tables are ordered left to right from lowest to highest **Order** values.
- Click **Submit**.

6. Personalize the **View Tables** related list to show the **Left join** column.

The **Left join** field shows a value of **true**.

7. Click a record to view a table.

The View Table form appears.

8. To add an OR to your where clause use **||**.

For example, to query all incidents related to RFCs OR all incidents that are the parent of a change request, use the following syntax:

```
inc_rfc = chg_sys_id || chg_parent = inc_sys_id
```

The screenshot shows the 'View Table' configuration screen. At the top, there are fields for 'Table' (set to 'Incident [incident]'), 'Variable prefix' (set to 'inc'), 'Order' (set to '100'), and 'Left join' (checkbox checked). Below these, the 'Where clause' field contains the query 'inc_rfc = chg_sys_id || chg_parent = inc_sys_id'. At the bottom of the screen are 'Update' and 'Delete' buttons.

Figure 86: Database view where clause

Specify a field to return

Use the View Field form to restrict or specify a field that you want returned by the joined table.

If no fields are defined in the View Fields list, all fields are returned. If any fields are defined, then only those fields are returned.

The screenshot shows the 'View Field' configuration screen. It has three dropdown fields: 'Field' (set to 'Caller'), 'Table' (set to 'incident'), and 'View table' (set to 'incident'). At the bottom are 'Update' and 'Delete' buttons.

Figure 87: View Fields list

When you restrict the fields returned by creating View Field records, you must create a record for the join field from the Where clause in the parent record. If you omit a record for this field, it cannot be returned, and the join fails. In the previous example, the Where clause uses the sys_id field from the Incident table to establish the join. For the join to succeed with a restricted field list, you must include a record for the sys_id field.

Relabel a column

In some cases, two different tables may have fields of the same name that are both important (such as two tables with a sys_updated_on field). You must rename one of these fields.

To create clear reports, relabel the fields on the Database View [sys_db_view] table without changing the names of the fields.

1. Navigate to **System Definition > Language File**.
2. Click **New**.
3. Fill in the form as follows:

Table 165: New language file fields

Name	Description
Table	Name of the database view
Label	Display label
Plural	Plural form of the display label
Element	Name of the field on the database view

Specify the number of records to return

Specify the number of records to return for a database view.

A property called glide.db.max_view_records controls the maximum number of rows returned when running a GlideRecord query in a script. The default value for this property is 10,000. To change this value, [add the property](#) to the System Property [sys_properties] table and edit the number of rows to return.

This property only applies when querying a database view table in a script. When displaying the database view table in a list or report, this property does not apply.

Test the database view

Verify that the database view works correctly.

After the new view is defined, test it by clicking **Try It** under Related Links on the Database View form.

If you do not see the Try It link, the tables necessary for the view do not exist. If this occurs, it is possible that you did not activate the necessary plugins to create the supporting tables. When tables are not present to support the view, the form looks like this:

The screenshot shows the 'Database View' interface. At the top, there is a blue header bar with a back arrow icon and the text 'Database View'. Below the header, the 'Name:' field contains 'pm_project_sla'. A yellow highlight box surrounds the 'pm_project_sla' text. Underneath, the 'Description:' field contains the text: 'Join pm_project to sla(task_sla) to report on things like project names by sla.' Below the description are two buttons: 'Update' and 'Delete'.

View Tables **New** [View = pm_project_sla](#)

	Table	Order	Variable prefix
<input type="checkbox"/>	task_sla	100	taskslatable
<input type="checkbox"/>	pm_project	100	pmp

Actions on selected rows...

Figure 88: Database View

Note: Database views tables are not included in FTP exports.

Use disjunctions in complex queries

ServiceNow performs conjunction statements before disjunction statements in a query.

When you create a complex query, you must use parenthesis around disjunctions where appropriate to ensure proper grouping of query elements. For example, you must use parenthesis in the query `(md_table = 'incident' || md_table = 'task') && mi_definition = md_sys_id && mi_id = inc_sys_id`. Removing the parenthesis from this query returns all records where the md_table value is incident.

Database views in the base system

Certain views are included in the base system with the Database Views and Database Views for Service Management plugins.

Table 166: Database views

Name	Description	Label
change_request_metric	Join change to metric definition to metric instance, creating a view that can be reported on for things like: Changes that were closed by category.	Change Metric
change_request_sla	Join change_request to sla (task_sla), creating a view that can be reported on for things like change request resolved by sla per change category.	Change Request SLA
change_task_metric	Join change task to metric definition to metric instance, creating a view that can be reported on for things like: Change tasks that were closed by change state	Change Task Metric
change_task_sla	Join change_task to sla(task_sla), creating a view that can be reported on for things like change tasks resolved by sla.	Change Task SLA
change_task_time_worked	Join change task to task time worked to pull time worked entries associated with incidents.	Change Task Time Worked
incident_metric	Join incident to metric definition to metric instance creating a view that can be reported on for things like: Incidents that were resolved on the first call by category	Incident Metric
incident_sla	Join incident to sla(task_sla) to report on things like incidents resolved by sla per incident category.	Incident SLA
incident_time_worked		Incident Time Worked
pm_project_metric	Join pm_project to metric definition to metric instance creating a view that can be reported on for things like: Projects that were closed by name or date	Project Metric
pm_project_sla	Join pm_project to sla(task_sla) to report on things like project names by sla.	Project SLA

Name	Description	Label
pm_project_task_metric	Join pm_project_task to metric definition to metric instance creating a view that can be reported on for things like: Project tasks that were closed by name or date	Project Task Metric
pm_project_task_sla		Project Task SLA
pm_project_task_time_worked	Join pm_project_task to task time worked to pull time worked entries associated with project tasks.	Project Task Time Worked
problem_metric	Join problem to metric definition to metric instance creating a view that can be reported on for things like: Problems that were resolved on the first call by category	Problem Metric
problem_sla	Join problem to sla(task_sla) to report on things like problems resolved by sla per problem state.	Problem SLA
release_feature_metric	Join release_feature to metric definition to metric instance creating a view that can be reported on for things like: Release Features that were closed by product	Release Feature Metric
release_project_metric	Join release_project to metric definition to metric instance creating a view that can be reported on for things like: Releases that were closed by category	Release Metric
release_task_metric	Join release_task to metric definition to metric instance creating a view that can be reported on for things like: Release Features that were closed by feature	Release Task Metric
release_task_sla	Join release_task to sla(task_sla) to report on things like release tasks by sla.	Release Task SLA
sc_request_metric	Join sc_request to metric definition to metric instance creating a view that can be reported on for things like: Requests that were closed by category	Catalog Request Metric

Name	Description	Label
sc_request_sla	Join sc_request to sla(task_sla) to report on things like requests by sla.	Catalog Request SLA
sc_req_item_metric	Join sc_request_item to metric definition to metric instance creating a view that can be reported on for things like: Request Items that were closed by item	Catalog Request Item Metric
sc_req_item_sla	Join sc_req_item to sla(task_sla) to report on things like request items by sla.	Catalog Request Item SLA
sc_task_metric	Join sc_task to metric definition to metric instance creating a view that can be reported on for things like: Catalog tasks that were closed by item	Catalog Task Metric
sc_task_sla	Join sc_task to sla(task_sla) to report on things like tasks by sla.	Catalog Task SLA

Database view reserved words

Certain words have special functionality when used as table identifiers.

Using the terms may cause unintended or undesirable performance. For more information, see the [MySQL reserved words document](#).

Using multiple datasets in a report

You can create reports that use datasets from multiple tables in a single report.

The following report types support multiple datasets: bar, horizontal bar, line, column, area, spline.

Multiple **Group bys** are not supported on multiple datasets. When using multiple datasets, the report legend is always displayed.

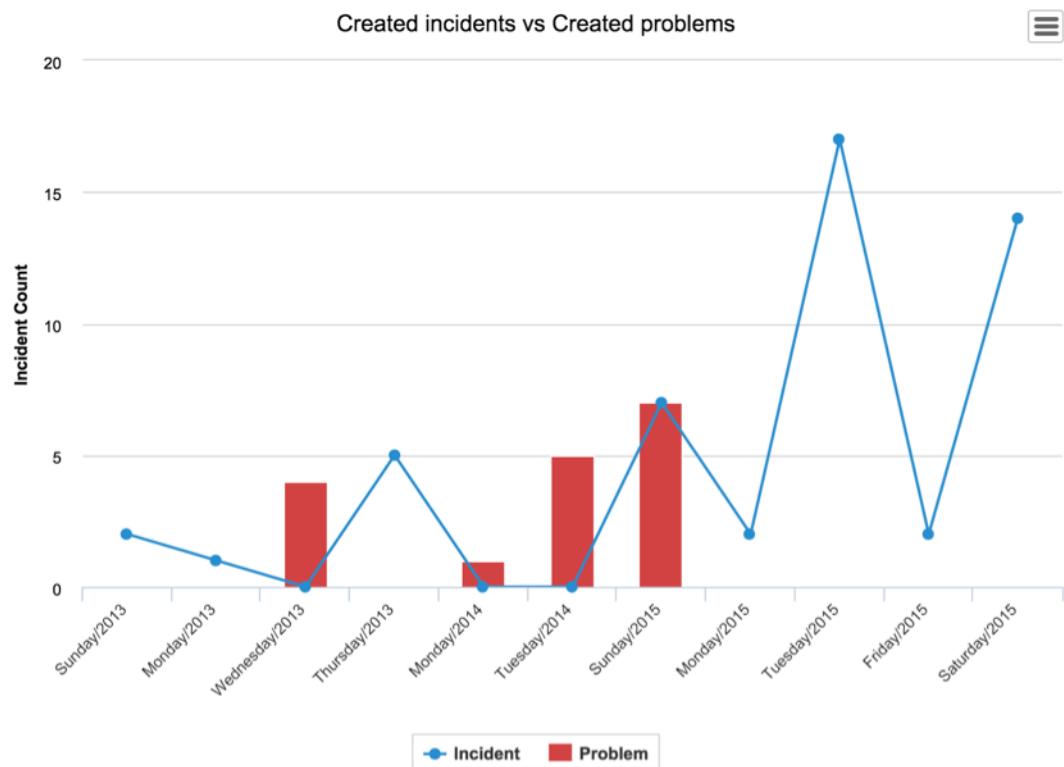


Figure 89: Incident and Problem data in one report

Add an additional dataset to a report — Report Designer

Add an extra dataset to a report to visualize data from multiple sources in a single report.

Role required: itil. The property glide.uidoctype must be enabled.

The following limitations apply to specific report types.

- All datasets must be the same type. For example, if the base report uses a time series chart, other datasets added to the report must also use a time series chart.
- If using time series charts, all datasets must have the same **Per** field value to ensure that the frequency interval is the same for all data.
- If using bar or horizontal bar charts, all data must have the same **Group by** value. For example, the data must have the same reference table or the same column name.
- Legends are always visible on reports with multiple datasets, even if the **Show legend** option is disabled in the Style Options of the primary report.

1. Navigate to **Reports > View / Run**.
2. Select a report with a type that supports multiple datasets.
You can add additional sets to bar, horizontal bar, line, column, area, and spline reports.
3. Click the **Show report structure** icon ().
4. Click **Add dataset**.
5. On the **Data** tab, provide a custom name for the additional data set to appear in the legend of the report, select a data source, and click **Next**.

6. On the **Configure** tab, specify the following fields the same way that you would configure a standalone report.

Field	Value
Group by	For bar and horizontal bar reports, the Group by value must have the same reference table or the same column name as specified in the base report.
Show as a right Y axis	Add an extra Y axis on the right side of the report for this data.
Title	Specify the Y-axis label in the Title field.
From and To fields	Specify custom start and end values for the additional Y axis.  Warning: When using multiple datasets with separate Y axes, the Y axes may show a greater range than specified in the From and To fields. This greater range depends on the actual Y values for all datasets. The From and To field values from the parent report may also be overridden. This behavior ensures that all data can be accurately displayed on the chart.

7. Click **Save dataset**.

The report is generated with the information from the additional dataset.

Add an additional dataset to a report — Report Builder

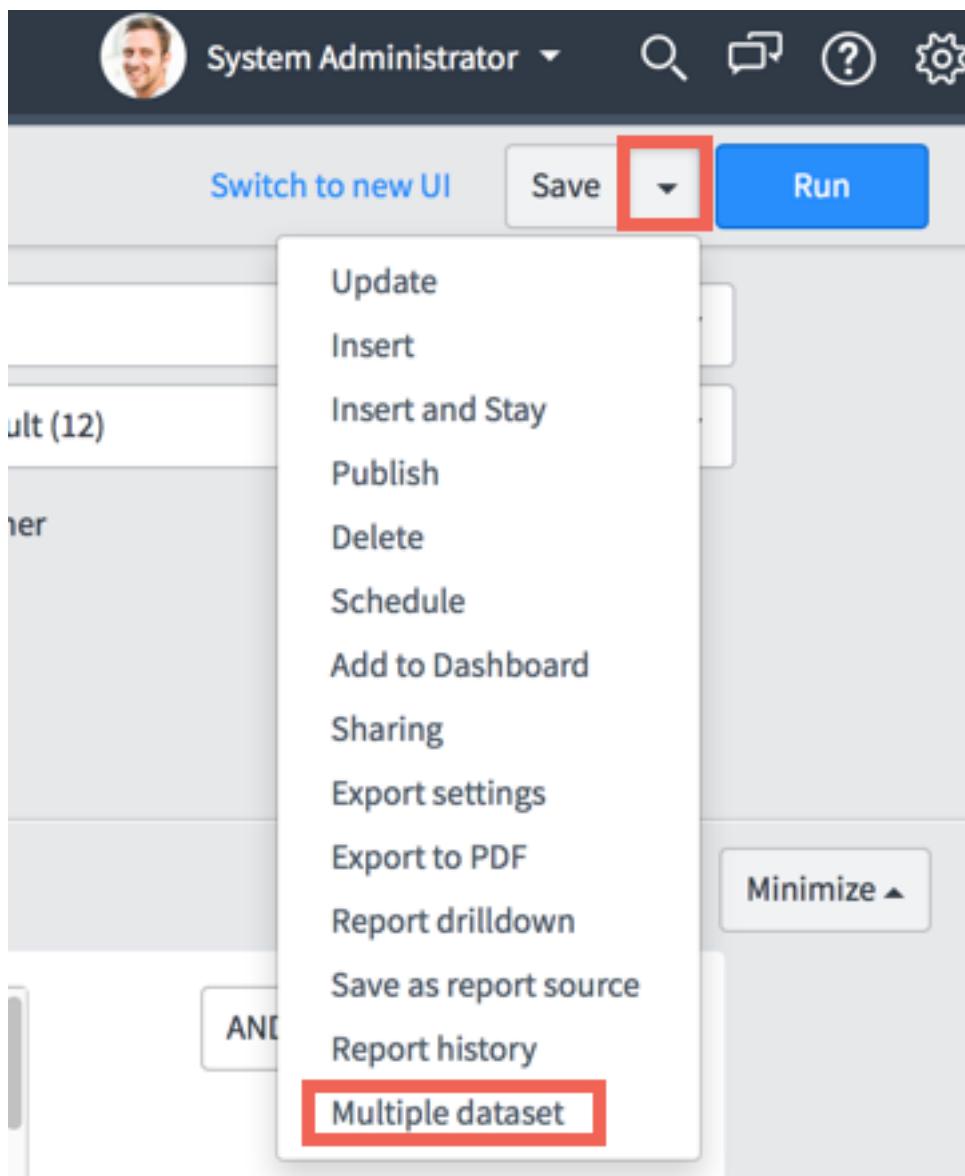
Add an extra dataset to a report to visualize data from multiple sources in a single report.

Role required: itil. The property glide.uidoctype must be enabled.

The following limitations apply to specific report types.

- All datasets must be the same type. For example, if the base report uses a time series chart, other datasets added to the report must also use a time series chart.
- If using time series charts, all datasets must have the same **Per** field value to ensure that the frequency interval is the same for all data.
- If using bar or horizontal bar charts, all data must have the same **Group by** value. For example, the data must have the same reference table or the same column name.
- Legends are always visible on reports with multiple datasets, even if the **Show legend** option is disabled in the Style Options of the primary report.

1. Navigate to **Reports > View / Run**.
2. Select a report with a type that supports multiple datasets.
You can add additional sets to bar, horizontal bar, line, column, area, and spline reports.
3. Click the arrow next to the **Save** button and select **Multiple dataset**.



4. In the **Add extra data series to the chart** dialog box, specify the following fields the same way that you would configure a standalone report.

Field	Value
Series name	A custom name for the additional dataset.
Data	Specify Table or Report source and the name of the data source.
Type	Select the report type.
Group by	For bar and horizontal bar reports, the Group by value must have the same reference table or the same column name as specified in the base report.

Field	Value
Stacked by	For bar and horizontal bar reports, the Stacked by value must have the same reference table or the same column name as specified in the base report.
List view	Click the magnifier icon to select a list view. For more information, see View Management .
Chart color	<p>Colors used in the report.</p> <p>If you do not group or stack the report, Use one color is automatically selected. Select a single predefined system color.</p> <p>If you group or stack the report, select one of the following options:</p> <ul style="list-style-type: none"> • Use color palette: Select a color palette from the predefined system color palettes. • Use several colors: Define a custom set of Colors using hex codes. You can add any number of colors. • Use chart colors: Use the colors defined in Reports > Chart Colors.
Set color	<p>Color used in the report. This field shows when you select Use one color from the Chart color list. Click the search icon () to choose from the Chart color schemes or Color Definitions list.</p>

Field	Value
Aggregation	<p>Mathematical calculation to perform on the data. The default is Count, which shows the number of records selected.</p> <p>To show only unique records, select Count Distinct. For example, if you want a report on the distinct number of users who have one or more of the roles in a given list of roles. Users with more than one role would be counted twice unless you use Count Distinct.</p> <p>Select Average, Sum, or Count Distinct, to show a list of fields from the selected Table. Select a field to aggregate by from this list. For example, if you select a duration field, such as Business duration on the Incident table, the aggregated data is expressed in days, hours, and minutes. If you select an integer field, such as Priority, the data is expressed as a number.</p> <hr/> <p>Note: For duration values, the unit of measurement displayed in the aggregation axis cannot be customized.</p>
Display data labels	Check this box to show the value for each data point.
Show in Y axis	[Optional] Add an extra Y axis on the right side of the report for this data.

5. Click **Save**.

The report is generated with the information from the additional dataset.

Add an additional group by or stack by – Report Designer

You can configure a report to let users adjust its grouping and stacking.

Role required: itil

Configure alternative **Group by** and **Stack by** choices that users can select when viewing the chart. Additional group bys can be added to any report that supports group bys (such as bar or pie) and to list reports as columns. When you configure an additional group by to a bar or horizontal bar, it is also added as an additional stack by. You can add variables and variable groups as additional group bys.

Note: Available **Stack by** fields are limited to catalog variables, reference fields, choice lists, and boolean values. Date/time, integer, long, string, and text fields cannot be used as stacked fields.

1. Navigate to **Reports > View / Run**.
2. Select a report.
3. On the Configure tab, click **Additional group by**.
4. Move one or more fields to the **Selected** list.

5. Optional: Select a **Stack by** field used to show the relationship of individual items from the selected field to the whole. For example, group a bar chart of incidents by **Category** and stack by **Priority**. The viewer can then determine at a glance the proportion of high, medium, and low priority issues for each category.

Users viewing the report can select one of these fields to group or stack the report data. The report **Group by** and **Stack by** field values are the default choices.

Note: Only bar and horizontal bar reports use stacked data. Other report types allow only grouping.

6. Arrange the fields in the **Selected** column in the order you want them to appear to users.
7. Click **Close**.
8. In the report builder, click **Save**.

Add an additional group by or stack by – Report Builder

You can configure a report to let users adjust its grouping and stacking.

Role required: itil

Configure alternative **Group by** and **Stacked by** choices that users can select when viewing the chart. Additional group bys can be added to any report that supports group bys (such as bar or pie) and to list reports as columns. When you configure an additional group by to a bar or horizontal bar, it is also added as an additional stack by. You can add variables and variable groups as additional group bys.

Note: Available **Stacked by** fields are limited to catalog variables, reference fields, choice lists, and boolean values. Date/time, integer, long, string, and text fields cannot be used as stacked fields.

1. Navigate to **Reports > View / Run**.
2. Select a report.
3. Click the plus icon next to the **Group by** field.
4. Move one or more fields to the **Selected** list.
5. Optional: Select a **Stack by** field used to show the relationship of individual items from the selected field to the whole. For example, group a bar chart of incidents by **Category** and stack by **Priority**. The viewer can then determine at a glance the proportion of high, medium, and low priority issues for each category.

Users viewing the report can select one of these fields to group or stack the report data. The report **Group by** and **Stack by** field values are the default choices.

Note: Only bar and horizontal bar reports use stacked data. Other report types allow only grouping.

6. Arrange the fields in the **Selected** column in the order you want them to appear to users.
7. Click **Close**.
8. In the report builder, click **Save**.

Create a report from an imported Microsoft Excel document

In addition to creating reports from tables and data sources maintained on your instance, you can import Excel spreadsheets (.xlsx files) of data maintained outside of your instance and create reports from those files.

Role required: admin, sys_admin, report_admin, pa_admin, or pa_power_user

You must have Performance Analytics to create reports with imported data. See [Activate Performance Analytics Premium](#).

Note: The following restrictions apply to imported data:

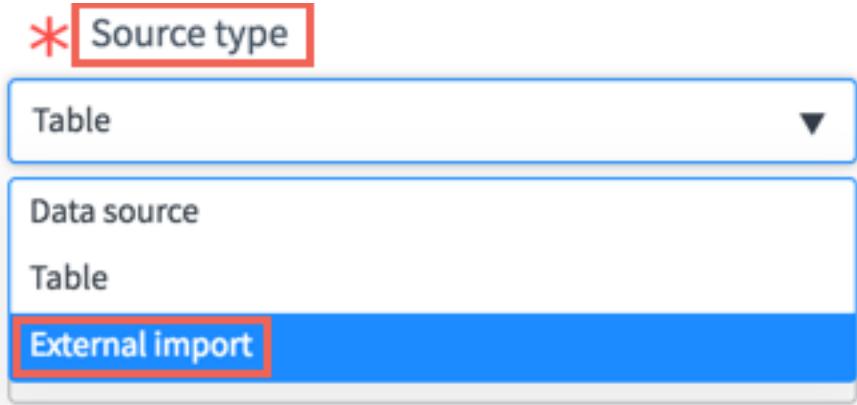
- The maximum file size is 2 MB.
- The maximum number of rows is 10,000; the maximum number of columns is 25.

Note: You can import .xlsx files of up to 50,000 rows, but only the first 10,000 rows appear in your data set.

- Only the first sheet of an .xlsx file with multiple sheets is imported.
- The first row and first column of the imported file must not be empty. The first row is used to identify the column names.
- It is not possible to join columns, calculate fields, or make other changes to the table after import. These changes must be made before import.
- The imported .xlsx file must have a specified expiration date.
- If the owner deletes the table after import, reports based on the imported table are also deleted.

Note: Importing report data in this way is useful when you have information that is maintained outside of your instance, for example, recurring third-party data. To import an external data set into your instance permanently, see [Data import using import sets](#).

1. Navigate to **Reports > Create New**.
2. On the **Data** tab, give the report a name that reflects the information being grouped.
3. In the **Source type** list, select **External**



import.

Note: The **External import** menu option is only available if Performance Analytics Premium is enabled.

4. Choose an existing imported report source, or click the **Upload** icon () icon to import a new file.
 1. Click and drag the file onto the drop zone or click **Browse files** to choose it from your file system.
 2. Enter a name for the uploaded file.
 3. Set the expiration of the file. After this date, the imported file is deleted and reports based on it are no longer available.
 4. Select the visibility for the uploaded file: Only you, all users, or a specified group of users, groups, or roles.

5. Click **Upload**.
6. Click **Done**.

5. Click **Next**.
6. On the **Type** tab, select the type of report you want to create and click **Next**. For information on specific reports, see [Report Designer – Report types and creation details](#) on page 209.

A preliminary version of the report is displayed. To view the updated report at any time, click **Run**.

7. On the **Configure** tab, fill in the fields as appropriate for the report type.
8. Optional: To limit the information displayed in the report, click the filter icon () and select conditions to filter the report data.
For more details on how conditions are constructed, see [Condition builder](#).

Note: Keywords is a special field used for text searches across all fields. It's use in a filter or condition, in combination with other conditions, may return inconsistent results.

9. On the **Style** tab, fill in the fields as appropriate to configure the appearance of the report.
10. Click **Save**.

The report is generated.

The report is created from the external source. Reports on a dashboard or a homepage show an icon to show that the report is temporary and expires when the external data source expires.

-  Click the Report info icon () and add a description of the report.
-  Click the sharing icon () to open the **Sharing** menu. On this menu, you can add the report to a dashboard, export the report to PDF, publish the report to the web, and set visibility and schedules. For more information, see [Share a report – Report Designer](#) on page 197.

Configure charts on forms

You can add reports to forms such as change requests, and configure the report visualizations to display information relevant to the user of the form. The configuration is specific to the current view.

Role required: admin

The following report types are not supported on forms: List, Pivot, Multilevel Pivot, Calendar, and Single Score.

1. Select the table on which you want to configure a form with a report in the **Filter navigator** and select a record. For example, select a record from task.list.
2. From the context menu, select **Configure > Form Layout**.
3. From the **Available** list, add *Chart to the **Selected** column.
Use the up and down arrows to position the report on the form.
4. Optional: Specify a label for the chart.
The label appears next to the report in the form. If you do not specify a label, the label New Chart is used.
5. Click **Save**.

A grey box with the text **Configure chart** appears on the form in the specified position.

6. Click **Configure chart**.

7. Click the search icon (🔍) to select a report.

8. Optional: Specify the height of the chart. The default value is 300 pixels.

9. Optional: You can filter the data in the report based on selected fields or based on a scripted filter or an encoded query.

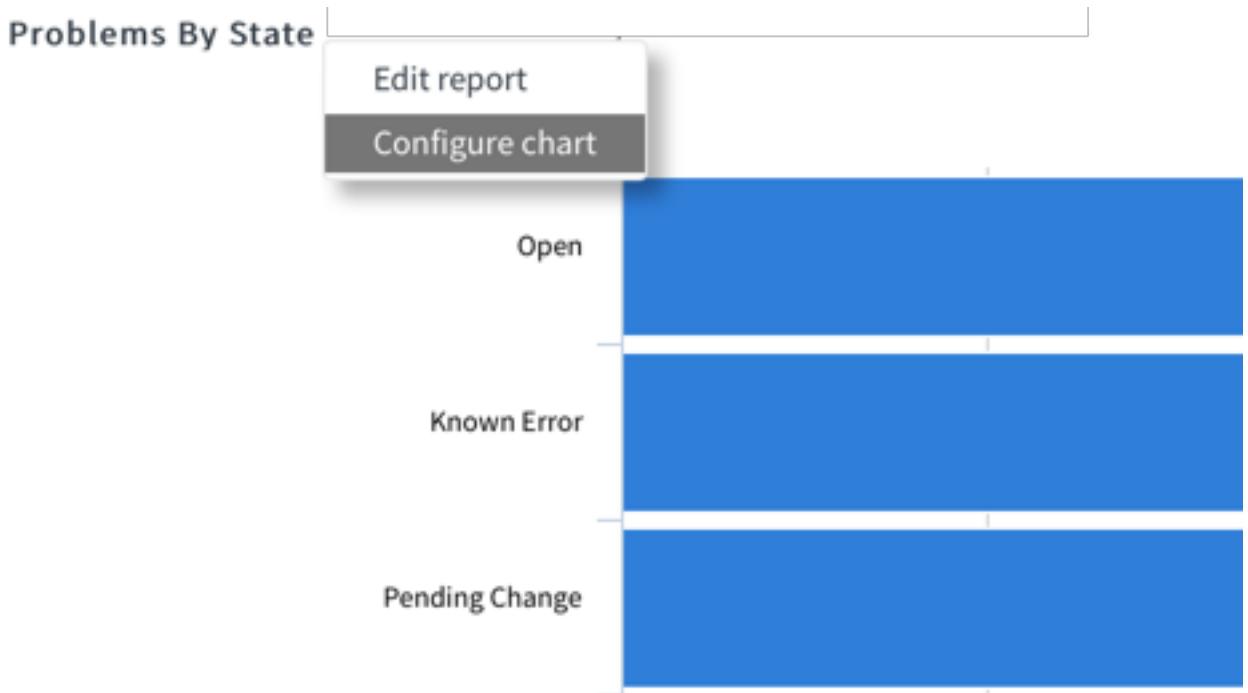
The first field must be visible on the form. To add fields to the form, select **Configure > Form Layout** and use the **Available Fields** slush bucket.

On the **Report condition extension** tab, select the form field on which the report is updated and the field on the report source table to which the form field is compared.

To specify a scripted filter or an encoded query, select **Advanced Condition Extentions** and paste the script in the **Report Qual** text box. Advanced condition extensions, if present, override report condition extensions.

10. Click **Update**.

11. To change the configuration, right click on the label and select **Configure chart**.



The selected report appears on all forms which are of the same type as the one selected. These reports are filtered based on the report condition extensions.

Embedding reports in Jelly

You can embed reports in any Jelly-based element, such as a UI page.

Enabling embedding

To enable embedding reports in Jelly, add the following element to your Jelly code.

```
<g:inline template="reporting_includes.xml" />
```

After adding this code, you can embed an existing report, or generate a report within the Jelly code.

Embedding an existing report

You can embed an existing report by calling the `embedReportById(targetSpan, reportId)` function.

For example:

```
<xml version="1.0" encoding="utf-8">
    <j:jelly trim="false" xmlns:j="jelly:core" xmlns:g="glide"
    xmlns:j2="null" xmlns:g2="null">
        <g:inline template="reporting_includes.xml" />
        <div id="report_stuff" />
    </j:jelly?>

var div = $j("#report_stuff");
embedReportById(div, <report sys_id>);
```

Alternatively, you can embed the JavaScript in the jelly code:

```
<xml version="1.0" encoding="utf-8">
    <j:jelly trim="false" xmlns:j="jelly:core" xmlns:g="glide"
    xmlns:j2="null" xmlns:g2="null">
        <g:inline template="reporting_includes.xml" />
        <div id="report_stuff" />
        <script>
            var div = $j("#report_stuff");
            embedReportById(div, <report sys_id>);
        </script>
    </j:jelly>
```

Table 167: Parameters

Parameter	Description
<code>targetSpan</code>	The jQuery element to embed the chart in. The chart uses the size of this element.
<code>reportId</code>	The <code>sys_id</code> of the report you want to embed.

Generate and embed a report

You can embed a report within the UI by calling the `embedReportByParams(targetSpan, parms)` function. When embedding a report in this way, you can generate a new report using parameters, or specify a report `sys_id` to display that report.

For example:

```
<xml version="1.0" encoding="utf-8">
    <j:jelly trim="false" xmlns:j="jelly:core" xmlns:g="glide"
    xmlns:j2="null" xmlns:g2="null">
        <g:inline template="reporting_includes.xml" />
        <div id="report_stuff" />
    </j:jelly?>

var params = {sysparm_title: "Average for all ratings", sysparm_field:
    "category", sysparm_type: "bar", sysparm_table: "asmt_category_result",
    sysparm_aggregate: "AVG", sysparm_sumfield: "rating"};
var div = $j("#report_stuff");
```

```
embedReportByParams(div, params);
```

Alternatively, you can embed the JavaScript inside the jelly code:

```
<xml version="1.0" encoding="utf-8">
    <j:jelly trim="false" xmlns:j="jelly:core" xmlns:g="glide"
    xmlns:j2="null" xmlns:g2="null">
        <g:inline template="reporting_includes.xml" />
        <div id="report_stuff" />
        <script>
            var params = {sysparm_title: "Average for all ratings",
            sysparm_field: "category", sysparm_type: "bar", sysparm_table:
            "asmt_category_result", sysparm_aggregate: "AVG", sysparm_sumfield:
            "rating"};
            var div = $j("#report_stuff");
            embedReportByParams(div, params);
        </script>
    </j:jelly>
```

Table 168: Parameters

Parameter	Description
targetSpan	The jQuery element to embed the chart in.
parms	A JSON object defining the report. Available parameters depend on the report type.

Embedded report parameters

When embedding a report in a Jelly element, you can define a report at any time by passing parameters.

Common parameters

Certain parameters are used by multiple report types.

Table 169: Common parameters

Parameter	Description	Default value
jvar_report_id	The sys_id of a report record. If you pass this parameter, do not specify any other parameters. All values are taken from the report record.	
sysparm_title	The title of the report.	
sysparm_table	The table to report on. Specify this value or sysparm_report_source_id, but not both.	

Parameter	Description	Default value
sysparm_report_source_id	The sys_id of a report source. Specify this value or sysparm_table, but not both. This value is used instead of sysparm_table if you pass both.	
sysparm_type	The type of report to create. Possible values are: list, line, line_bar, area, spline, bar, horizontal_bar, pareto, hist, pie, donut, semi_donut, angular_gauge, solid_gauge, pivot, pivot_v2, funnel, calendar, pyramid, box, trend, control, tbox, and heat map.	line
sysparm_field	The field from the specified table to group data by. This value is required for time series, column, bar, pie, donut, funnel, pyramid, box, trend, and trend box reports. This value is optional for list reports.	
sysparm_query	The filter to apply to the data before generating the report. Specify a query string for this value. To sort your query results by a specific field, add ^ORDERBY<field_name> or ^ORDERBYDES<field_name> to the end of the query string. ORDERBY sorts the query by ascending order; ORDERBYDES sorts the query by descending order.	
sysparm_aggregate	The aggregation type. Possible values are: AVG, COUNT, SUM, and COUNT_DISTINCT	COUNT
sysparm_sumfield	The field to aggregate data on. This parameter does not apply when using a COUNT aggregation type.	
sysparm_display_grid	A boolean value that controls whether the report displays a data grid.	false

Parameter	Description	Default value
sysparm_show_other	A boolean value that controls whether the Other group appears on the report. This group appears only if the number of groups exceeds the number specified in the sysparm_others parameter. This parameter applies to bar, pie, funnel, pyramid, pivot, and heat map reports.	true
sysparm_others	The maximum number of individual groups of data to display. Any additional data groups are combined into the Other group. This parameter applies to bar, pie, funnel, pyramid, pivot, and heat map reports.	
sysparm_show_empty	A boolean value that controls if records with empty grouping or trend values appear on the report.	false
sysparm_stack_field	The field used to control stacking on bar and column reports.	
sysparm_bar_unstack	A boolean value that controls if stacked data is presented as a single bar or column, or as multiple bars.	false
sysparm_box_field	The numeric field used to measure the data. This parameter is required for box and histogram reports.	
sysparm_trend_field	The date-time field used to organize trend data. This parameter is required for time series, trend, and box reports.	
sysparm_trend_interval	The interval to measure trend values by. Possible values are: year, quarter, month, week, dayofweek, hour, and date.	year

Parameter	Description	Default value
sysparm_compute_percent	The value to use when displaying report percentages. You can display percentages based on the total record count, or by the specified aggregate. Possible values are: aggregate and count	count
sysparm_use_color_palette	A boolean value that controls if a full color palette is used to render the report.	The value of the property glide.ui.report.use_full_color_palette or false if this property is undefined.
sysparm_funnel_neck_percent	A number 1–100 that defines the percentage of a funnel report that is the neck of the funnel.	30
sysparm_show_report_data_label	A boolean value that controls if data labels appear on the report.	false
sysparm_show_zero	A boolean value that controls if zeroes appear on multipivot and heat map reports.	
sysparm_ct_row	The field used to define the rows in heat map and bubble reports.	
sysparm_ct_column	The field used to define the columns in heat map and bubble reports.	
sysparm_y_axis_category_fields	The field used to define the rows in multipivot reports. Specify up to five comma-separated field names.	
sysparm_x_axis_category_fields	The field used to define the columns in multipivot reports. Specify up to three comma-separated field names.	
sysparm_list_ui_view	The sys_id of a list view to use when a user drills into the report.	
sysparm_show_marker	A boolean value that controls if markers appear at every plotted point on a report.	true

Service catalog parameters

Certain parameters apply only to reports created on service catalog tables, such as the Requested Item [sc_req_item] table. These parameters are not available on list or calendar type reports.

Table 170: Service catalog report parameters

sysparm_sc_groupby_item_id	The sys_id of a catalog item. Use this parameter with the sysparm_sc_groupby_variable_id parameter to group a service catalog report based on a catalog variable value. These parameters replace the sysparm_field parameter when grouping on service catalog variables.	
sysparm_sc_groupby_variable_id	The sys_id of the catalog item variable used to determine how data is grouped on the report. This variable must belong to the catalog item specified in the sysparm_sc_groupby_item_id parameter.	
sysparm_sc_stackby_item_id	The sys_id of a catalog item. Use this parameter with the sysparm_sc_stackby_variable_id parameter to stack a service catalog report based on a catalog variable value. These parameters replace the sysparm_stack_field parameter when grouping on service catalog variables. Only reports that support stacking, such as bar reports, support these parameters.	
sysparm_sc_stackby_variable_id	The sys_id of the catalog item variable used to determine how data is grouped on the report. This variable must belong to the catalog item specified in the sysparm_sc_stackby_item_id parameter.	

Chart-specific parameters

Certain parameters are available only for specific report types.

Table 171: Donut report parameters

Parameter	Description	Default value
sysparm_show_report_total	A boolean value that controls if the total score of the grouped donut appears in the center of the report.	false
sysparm_donut_width_percent	A number 1–100 that controls the thickness of the donut report.	50

Table 172: Heatmap parameters

Parameter	Description	Default value
sysparm_use_color_heatmap	A boolean value that controls if the heatmap uses a gradient to color the report. When true, the sysparm_axis_max_color and sysparm_axis_min_color values are used.	true
sysparm_axis_max_color	The color used in the heatmap gradient to indicate a high value. This value must be the sys_id of a Color Definition [sys_report_color] record.	UI14 blue
sysparm_axis_min_color	The color used in the heatmap gradient to indicate a low value. This value must be the sys_id of a Color Definition [sys_report_color] record.	white

Table 173: Dial parameters

Parameter	Description	Default value
sysparm_gauge_yscale	A boolean value that controls if the dial automatically calculates the minimum and maximum scale on the report. If you set this value to false, you must specify a sysparm_from and sysparm_to value.	true
sysparm_from	A number that defines the minimum value for the axis scale.	
sysparm_to	A number that defines the maximum value for the axis scale.	

Parameter	Description	Default value
sysparm_upper_limit	A number that defines the upper threshold for the dial. If you do not specify a value, the dial has no upper threshold.	
sysparm_lower_limit	A number that defines the lower threshold for the dial. If you do not specify a value, the dial has no lower threshold.	
sysparm_direction	A value that controls which values are considered positive on the report, lower values or higher values. Possible values are: minimize and maximize.	minimize

Chart size parameters

Certain parameters control the width and height of the report.

Table 174: Size parameters

Parameter	Description	Default value
sysparm_report_size	The size of the report. Valid values are small, medium, and large.	large
sysparm_custom_report_size	Set this parameter to <code>true</code> to specify custom report height and width values instead of using one of the size options from the <code>sysparm_report_size</code> parameter.	false
sysparm_custom_report_height	The height of the report, in pixels.	
sysparm_custom_report_width	The width of the report, in pixels.	

Chart title parameters

Certain parameters are available only for reports that display a title. These report types include time series, bar, column, pie, donut, dials, trend, box, trend box, histogram, pyramid, heat map, funnel, and control reports.

Table 175: Title parameters

Parameter	Description	Default value
sysparm_report_title_size	A number that defines the font size of the title.	16
sysparm_report_title_color	The title text color. This value must be the sys_id of a Color Definition [sys_report_color] record.	black
sysparm_title_horizontal_alignment	Where the title is placed horizontally relative to the report. This value is used only if sysparm_custom_report_title_position is false. Possible values are: left, center, and right.	center
sysparm_title_vertical_alignment	Where the title is placed vertically relative to the report. This value is used only if sysparm_custom_report_title_position is false. Possible values are: top, middle, and bottom.	top
sysparm_custom_report_title_position	A boolean value that controls if the report title position is defined by x and y coordinates instead of relative alignment.	false
sysparm_report_title_x_position	A number that defines the x position of the title on the report. This value is used only if sysparm_custom_report_title_position is true.	0
sysparm_report_title_y_position	A number that defines the y position of the title on the report. This value is used only if sysparm_custom_report_title_position is true.	0

Chart border parameters

Certain parameters are available only for reports that display a border. These report types include time series, bar, column, pies, donuts, dials, trend, box, trend box, histogram, pyramid, heat map, funnel, and control reports.

Table 176: Border parameters

Parameter	Description	Default value
sysparm_show_report_border	A boolean value that controls whether the report displays a border.	false
sysparm_report_border_width	A number that defines the width of the border, in pixels.	1
sysparm_report_border_radius	A number that defines the radius size of the corners of the border, in pixels.	0

Legend parameters

Certain parameters are available only for reports that display a legend. These report types include pie, donut, stacked bar, stacked column, time series, trend, box, histogram, pyramid, control, and heat map reports.

Table 177: Legend parameters

Parameter	Description	Default value
sysparm_show_legend	A boolean value that controls whether the report displays a legend.	true
sysparm_legend_horizontal_align	Where the legend is placed horizontally relative to the report. Possible values are: left, center, and right.	center
sysparm_legend_vertical_align	Where the legend is placed vertically relative to the report. Possible values are: top, middle, and bottom.	bottom
sysparm_show_legend_border	A boolean value that controls whether the legend displays a border.	true
sysparm_legend_border_width	A number that defines the width of the legend border, in pixels.	1
sysparm_legend_border_radius	A number that defines the radius size of the corners of the legend border, in pixels.	0

X-axis parameters

Certain parameters are available only for reports that use an X axis. These report types include bar, horizontal bar, pareto, column, line area, spline, box, trendbox, control, and trend reports.

Table 178: X-axis parameters

Parameter	Description	Default value
sysparm_x_axis_title	The name to display on the x axis.	
sysparm_x_axis_title_size	A number that defines the font size of the x-axis title.	
sysparm_x_axis_title_bold	A boolean value that controls whether the x-axis title text is bold.	true
sysparm_x_axis_opposite	A boolean value that controls if the x axis appears at the top of the report.	false
sysparm_x_axis_display_grid	A boolean value that controls if vertical grid lines appear from the x axis.	false
sysparm_x_axis_grid_dotted	A boolean value that controls whether the vertical grid lines are dotted.	false
sysparm_x_axis_label_size	A number that defines the font size for increment labels on the x axis.	11
sysparm_x_axis_label_bold	A boolean value that controls whether the x-axis increment labels are bold.	false

Y-axis parameters

Certain parameters are available only for reports that use a Y axis. These report types include bar, horizontal bar, pareto, column, line area, spline, box, trendbox, control, and trend reports.

Table 179: Y-axis parameters

Parameter	Description	Default value
sysparm_y_axis_title	The name to display on the y axis.	An automatically generated description of the report aggregation
sysparm_y_axis_title_size	A number that defines the font size of the y-axis title.	

Parameter	Description	Default value
sysparm_y_axis_title_bold	A boolean value that controls whether the y-axis title text is bold.	true
sysparm_y_axis_opposite	A boolean value that controls if the y axis appears on the left of the report.	false
sysparm_y_axis_display_grid	A boolean value that controls if horizontal grid lines appear from the y axis.	true
sysparm_y_axis_grid_dotted	A boolean value that controls whether the horizontal grid lines are dotted.	false
sysparm_y_axis_label_size	A number that defines the font size for increment labels on the y axis.	12
sysparm_y_axis_label_bold	A boolean value that controls whether the y-axis increment labels are bold.	false
sysparm_y_axis_from	A number defining the lowest value displayed on the y axis.	
sysparm_y_axis_to	A number defining the highest value displayed on the y axis.	

How to access fields on extended tables in a report

Learn how to include fields from tables that extend the Task table in a single report. For example, you could include both incidents and problems in a single report.

role required: report_admin

Use data from fields in related tables in a report

Watch video to learn how to use dot walking, dynamic filters, and database views to access data on related tables.

Report on service catalog variables

Create reports grouped by a variable on a selected service catalog item. In addition you can create filters on the same variable. For example, if a specific mobile phone item has a storage variable, you can create a report that only shows those phones with 32 GB of storage.

- To group by variables, see [Group a report by service catalog variables - Report Designer](#) on page 543.
- To group a report on a field and additionally group by a variable, see [Add additional group by variables to a service catalog report](#) on page 545.

- To add a variable field to a list report, see [Create a list report in the Report Designer with variable columns](#) on page 314.

Use service catalog variables in a report – Report Designer

For reports on service catalog data, you can stack and group data by variables, use variables as columns in line reports, and use variables as columns and rows in multilevel pivot tables.

Role required: itil, report_admin, report_global for global reports, or report_group for group reports

Note: The report for which you want to use the variable must report on the Requested Items table [sc_req_item] or Catalog Task table [sc_task]. Using other types of variables causes an error when generating the report.

For primary **Group by** and **Stack by** these steps are intuitive.

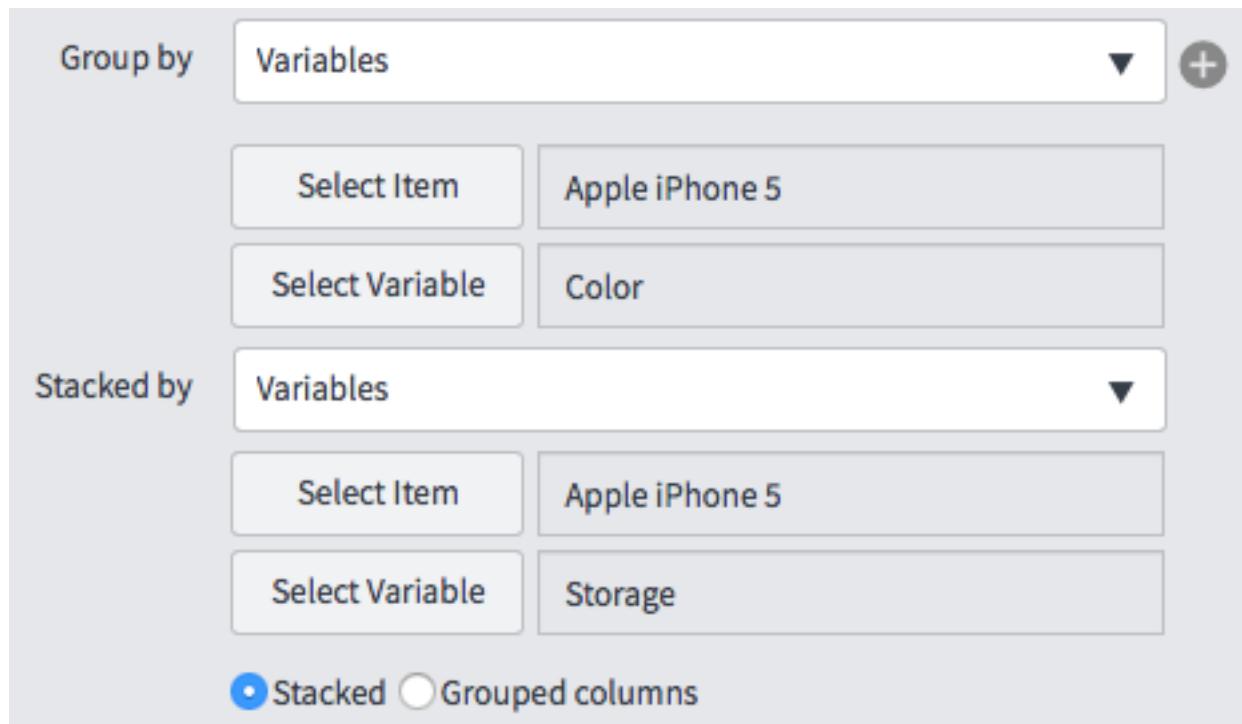


Figure 90: Variable use in Group by and Stack by fields.

Note: List, Box, Trendbox, and Pivot reports cannot use service catalog variables as a primary or secondary **Group by**. Single Score, Calendar, Control, and Map reports do not support **Group by** on any fields. List reports can use service catalog variables as columns.

Follow these steps below to use a variable as an additional **Group by**, as a column in a list report, or as a column or row in a multilevel pivot table.

1. Navigate to **Reports > View / Create** and open the report to add the variable to.
2. Do one of the following:

Option	Description
Add as a column in a list report	On the Configure tab, select Variables+ at the bottom of the Available slushbucket.

Option	Description
Add as an additional Group by	On the Configure tab, click Additional group by , then select Variables+ at the bottom of the Available column in the Additional group by slushbucket.
As as a column or row in a multilevel pivot table	Click Select columns or Select rows , then select Variables+ at the bottom of the slushbucket that appears.

3.



Click the structure icon () the plus sign that appears.

A list of service catalog items appears.

4. Select a catalog item where the variable has been added.

The variables for that item appear in the **Available** slushbucket.

5. Move the variable that you want to use to the **Selected** column.6. **Save** the report.

Use service catalog variables in a report – Report Builder

For reports on service catalog data, you can stack and group data by variables, use variables as columns in line reports, and use variables as columns and rows in multilevel pivot tables.

Role required: itil, report_admin, report_global for global reports, or report_group for group reports

Note: The report for which you want to use the variable must report on the Requested Items table [sc_req_item] or Catalog Task table [sc_task]. Using other types of variables causes an error when generating the report.

For primary **Group by** and **Stack by** these steps are intuitive.

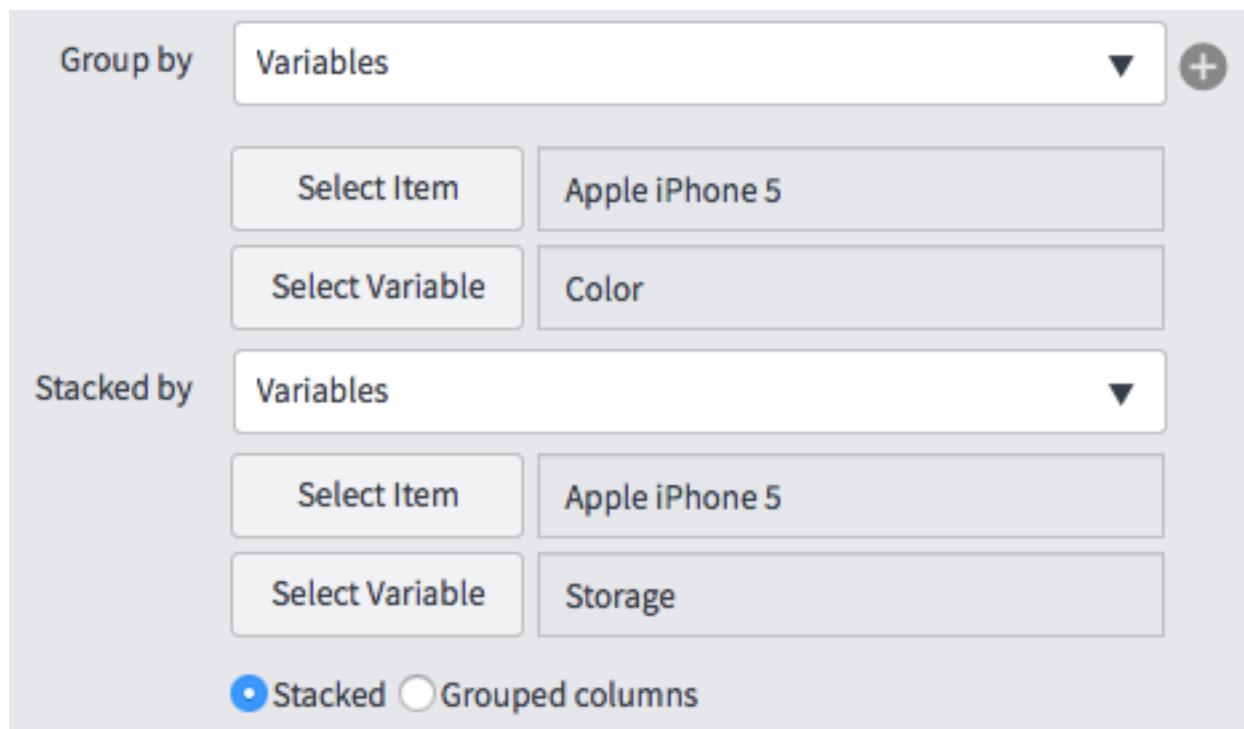


Figure 91: Variable use in Group by and Stack by fields.

Note: List, Box, Trendbox, and Pivot reports cannot use service catalog variables as a primary or secondary **Group by**. Single Score, Calendar, Control, and Map reports do not support **Group by** on any fields. List reports can use service catalog variables as columns.

Follow these steps below to use a variable as an additional **Group by**, as a column in a list report, or as a column or row in a multilevel pivot table.

1. Navigate to **Reports > View / Create** and open the report to add the variable to.
2. Do one of the following:

Option	Description
Add as a column in a list report	Select Variables+ at the bottom of the Available slushbucket.
Add as an additional Group by	Click the plus sign (+) next to Group by , then select Variables+ at the bottom of the Available slushbucket that appears.
As as a column or row in a multilevel pivot table	Click Select Groups , then select Variables+ at the bottom of the Available slushbucket that appears.

3. Click the plus sign that appears.
A list of service catalog items appears.
4. Select a catalog item where the variable has been added.
The variables for that item appear in the **Available** slushbucket.
5. Move the variable that you want to use to the **Selected** column.
6. **Save** the report.

Group a report by service catalog variables - Report Designer

You can create reports grouped by variable on a selected service catalog item. In addition you can create filters on the same variable. For example, if a specific mobile phone item has a storage variable, you can create a report that only shows those phones with 32 GB of storage.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

You can apply these steps to any report type as long as the report source has variables associated with it. If the report source does not have variables, the **Variables** option does not display in the **Group by** and **Stack by** fields.

1. Navigate to **Reports > Create New**.
2. On the **Data** tab, give the report a name that reflects the information being grouped.
3. Select a report source that has variables associated with it. There are two kinds of report sources:

Option	Description
Data source	A table with filters applied to provide a single source of information for all users.
Table	The raw data from a table with no filters applied.

4. Click **Next**.
5. On the **Type** tab, select the report type and click **Next**.
6. On the **Configure** tab, select **Variables** from the **Group by** or **Stack by** filters.

Data > Type > Configure > Style

The screenshot shows the 'Configure' tab of the ServiceNow Report Builder. At the top, there are tabs for Data, Type, Configure (which is selected), and Style. Below the tabs, there are two main sections: 'Group by' and 'Stack by'. Both sections have a dropdown menu labeled 'Variables' with a downward arrow icon. Under 'Group by', there are buttons for 'Select Item' (highlighted in blue) and 'Access'. Under 'Stack by', there are buttons for 'Select Item' (highlighted in blue) and 'New LDAP Server'. Below these sections are buttons for 'Select Variable' and 'Additional group by'. At the bottom, there are two radio buttons: 'Stacked bars' (selected) and 'Grouped bars'.

7. Click **Select item** to choose the item the variable is associated with.
8. Click **Select variable** to choose the variable to group or stack by.
9.
In the **Variables** window, click the filter icon () to choose the variable.
10. Continue to configure and style the report according to its report type. See [Report Designer – Report types and creation details](#) on page 209.

Group a report by service catalog variables - Report Builder

You can create reports grouped by variable on a selected service catalog item. In addition you can create filters on the same variable. For example, if a specific mobile phone item has a storage variable, you can create a report that only shows those phones with 32 GB of storage.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

You can apply these steps to any report type as long as the report source has variables associated with it. If the report source does not have variables, the **Variables** option does not display in the **Group by** and **Stack by** fields.

1. Navigate to **Reports > Create New**.
2. Give the report a title that reflects the information being grouped.
3. Select a report source that has variables associated with it. There are two kinds of report sources:

Option	Description
Data source	A table with filters applied to provide a single source of information for all users.
Table	The raw data from a table with no filters applied.

4. From the **Type** list, select the report type.
5. Select **Variables** from the **Group by** or **Stack by** filters.
6. Click **Select item** to choose the item the variable is associated with.
7. Click **Select variable** to choose the variable to group or stack by.
8.  In the **Variables** window, click the filter icon () to choose the variable.
9. Continue to configure and style the report according to its report type. See [Report Designer – Report types and creation details](#) on page 209.

Add additional group by variables to a service catalog report

You can create reports grouped by any field with an additional group by variable on a selected service catalog item. In addition you can create filters on the same variable. For example, if a specific mobile phone item has a storage variable, you can create a report that only shows those phones with 32 GB of storage.

Role required: itil, report_group, report_global, report_admin, or admin. To create a meaningful report, you must have the right to access the data you want to report on.

You can apply these steps to any report type as long as the report source has variables associated with it. If the report source does not have variables, the **Variables** option does not display in the **Additional group by** filter.

1. Navigate to **Reports > Create New**.
2. On the **Data** tab, give the report a name that reflects the information being grouped.
3. Select a report source that has variables associated with it. There are two kinds of report sources:

Option	Description
Data source	A table with filters applied to provide a single source of information for all users.
Table	The raw data from a table with no filters applied.

4. Click **Next**.
5. On the **Type** tab, select the report type and click **Next**.
6. On the **Configure** tab, select a **Group by** filter.
7. Click **Additional group by**.
8.  Select **Variables [+]** and click the structure icon () to choose an item.

Additional group by

Available	Selected
State	--None--
Tags	
Task type	
Time worked	
Updated	
Updated by	
Updates	
Upon approval	
Upon reject	
Urgency	
User input	
Watch list	
Work notes	
Work notes list	
Variables [+]	

A red arrow points from the 'Variables [+]' button in the Available list to the right-hand side of the interface, indicating the action required to move it to the Selected list.

9. Select a **Catalog item**.

The variables associated with the item appear in the **Additional group by**

The screenshot shows a dialog box titled "Additional group by". On the left, under "Available", there is a list of variables: "Requested Item fields (.Variables-->Apple iPhone 5)", "Apple iPhone 5.Allocated carrier", "Apple iPhone 5.Monthly data allc", "Apple iPhone 5.Contract duration", "Apple iPhone 5.Color", and "Apple iPhone 5.Storage". The last item, "Apple iPhone 5.Storage", is highlighted with a gray background. On the right, under "Selected", there is an empty list. Between the two columns is a vertical bar with a right-pointing arrow button.

window.

10. Add the variables desired variables to the **Selected** column and click **OK**.
11. Continue to configure and style the report according to its report type. See [Report Designer – Report types and creation details](#) on page 209.

Chart colors

Report administrators can change the look of charts by specifying colors used to represent specific report data categories.

You can configure the system to use the same color for all bars on a bar or column chart. You can also define new system colors that can be used in charts. The following reports use the color palette specified on the **Style** tab of the Report designer:

- Pie charts
- Bar and column charts that have a **Stack by** or **Group by** value

- Line and trend reports that have a **Stack by** or **Group by** value

Bar and column charts and line and trend reports that do not have a **Stack by** or **Group by** value use one color.

Using chart colors

Newly generated bar or pie chart reports update the Chart Colors list to show each data category for the report and the color associated with the category. The colors used in bar and pie charts for a particular data category are consistently used across all bar and pie charts created. For example, priority 1 incidents in a chart always have the same color and do not change color based on their relative position within the chart.

Colors from the following list are automatically assigned to each category the first time the category is used in a chart. If there are more than 15 possible categories, the colors repeat.

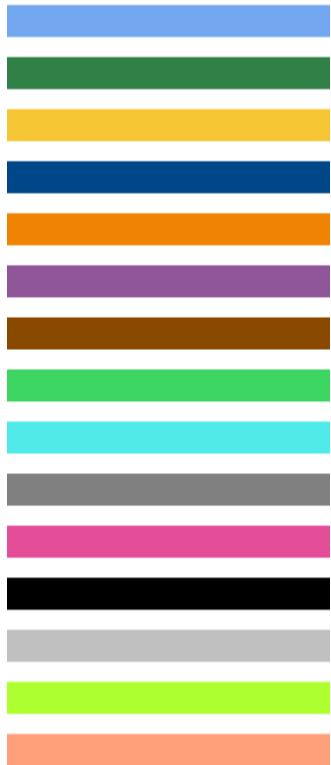


Figure 92: Chart colors

Define colors for report data categories

You can define colors for a specific value for a data category.

Role required: report_admin

1. Navigate to **Reports > Administration > Chart Colors**.
2. Click **New**.

The screenshot shows a 'New Chart Colors' form in a ServiceNow application. The top bar includes a back arrow, a menu icon, and the title 'Chart Colors' with 'New record'. On the right are edit and delete icons. The main area contains several input fields: 'Name' dropdown set to 'Access Roles [sys_security_acl_role]', 'Application' dropdown set to 'Global', 'Element' dropdown with placeholder 'Click to select...', 'Color name' text input, 'Value' text input, and 'Color' color picker. A blue 'Submit' button is at the bottom left.

Figure 93: New Chart Colors form

3. Fill in the fields, as appropriate.

Table 180: New Chart Colors form

Name	Description
Name	Table used for the report. Note: The list shows only tables and database views that are <i>in the same scope</i> as the chart colors record.
Element	Column name specific to the selected table.
Value	Value for which the specified color should be displayed.
Color name	Color name, as defined in the Color Definition module. When a report is generated, this color is used to represent the specified Value.
Color	Hexadecimal value used to specify a color that is not already defined in the Color Definition module. Note: If the Color name field contains a value, the Color field is ignored.

4. Click **Submit**.

The value selected in the **Element** field for the table in the **Name** field is displayed with the specified color.

Define system colors for reports

You can define colors that the system uses in reports.

1. Navigate to **Reports > Administration > Color Definition**.
2. Click **New**.
3. Fill in these fields.

Table 181: New color definition form

Name	Description
Name	Enter a unique name for the new color.
Color	Enter a hexadecimal value, for example #003366.

4. Click **Submit**.

The default color scheme glide.ui.chart.default.colors contains the following 20 colors:

1		#278ECF	\$chart-series-color-1	11		#FFC266
2		#4BD762	\$chart-series-color-2	12		#D284BD
3		#FFCA1F	\$chart-series-color-3	13		#8784DB
4		#FF9416	\$chart-series-color-4	14		#FF7B65
5		#D42AE8	\$chart-series-color-7	15		#CAEEFC
6		#535AD7	\$chart-series-color-6	16		#9ADBAD
7		#FF402C	\$chart-series-color-5	17		#FFF1B2
8		#83BFFF	\$chart-series-color-8	18		#FFE0B2
9		#6EDB8F	\$chart-series-color-9	19		#FFBEB2
10		#FFE366	\$chart-series-color-10	20		#B1AFDB

Figure 94: Default colors

Custom charts

In previous releases, you could configure custom reports. Custom chart creation is now deprecated.

Multiple data set functionality is now found in the report designer. See [Using multiple datasets in a report](#) on page 518.

Data collection based on scripts or formulas is now a function of Performance Analytics. See [Performance Analytics data collection and cleanup](#) on page 73.

Scoped reports

When editing a report from a different application scope than the current scope, actions modifying the original report are unavailable.

To modify the original report, change the current application scope to the report's scope and make any changes.

The following actions are available from the **Save** menu after opening a report from a different application scope in the report builder. Other actions, such as **Update** are not available.

- Insert
- Insert and Stay
- Schedule
- Add to Dashboard
- Export to PDF
- Report History

You can create a new report based on an existing report, but within the current application scope using the **Insert** or **Insert and Stay** options.

Administering reports

Learn about the tasks report administrators typically perform, the objects that they work with, and the roles and rules that apply.

To administer reports, reporting roles, and report sources, navigate to **Reports > Administration** and select the area to administer.

Reporting roles

Note:

- Users must have the itil role to see the **Reports** module on the application navigator (left navigation pane).
 - Users with any reporting role or the itil role can access the following report options for all reports that are visible to them: **Insert**, **Insert and Stay**, **Add to Dashboard** and **Export to PDF**.
 - In the table below, the term *manage* indicates access to the following report options: **Update**, **Delete**, **Sharing**, and **Export settings**.
-

Table 182: Report roles

Role title[name]	Description
No role	Can view reports that are shared with them.

Role title[name]	Description
itil [itil]	Can create reports and view reports that have been shared with them. Cannot share reports, edit, or delete reports that have been shared with them.
report publisher [report_publisher]	Can Publish reports that they can manage. Publishing a report creates public a link to that report. Users with this role must also have another role that grants permission to create and edit reports.
report scheduler [report_scheduler]	Can Schedule emailing of all reports that they can see, including reports they cannot manage. Users with this role must also have another role that grants permission to create and edit reports.
group report user [report_group]	Can manage reports that are shared with them (listed in Group).
global report user [report_global]	Can manage reports that are shared with everyone (listed in Global).
report administrator [report_admin]	Can manage, publish, and schedule all reports. Can access Reports > Administration and manage all report-related objects. The report_admin role inherits all other report roles.

Reporting roles

Learn about the different reporting roles and the default abilities of each.

Note:

- Users must have the itil role to see the **Reports** module on the application navigator (left navigation pane).
- Users with any reporting role or the itil role can access the following report options for all reports that are visible to them: **Insert**, **Insert and Stay**, **Add to Dashboard** and **Export to PDF**.
- In the table below, the term manage indicates access to the following report options: **Update**, **Delete**, **Sharing**, and **Export settings**.

Navigate to **User Administration > Roles** to manage roles.

Table 183: Report roles

Role title[name]	Description
No role	Can view reports that are shared with them.
itil [itil]	Can access Reports on the application navigator. Can manage reports listed in My reports .

Role title[name]	Description
report publisher [report_publisher]	Can Publish reports that they can manage. Publishing a report creates public a link to that report. Users with this role must also have another role that grants permission to create and edit reports.
report scheduler [report_scheduler]	Can Schedule emailing of all reports that they can see, including reports they cannot manage. Users with this role must also have another role that grants permission to create and edit reports.
group report user [report_group]	Can manage reports that are shared with groups the user belongs to (listed in Group).
global report user [report_global]	Can manage reports that are shared with everyone (listed in Global).
report administrator [report_admin]	Can manage, publish, and schedule all reports. Can access Reports > Administration and manage all report-related objects. The report_admin role inherits all other report roles.

Restrict report creation with an ACL rule

Create an access control list rule to restrict who can create a report on a table, data source, or database view.

Requires role: security_admin

In addition to [report_on ACLs](#) for specific tables, a write ACL on the [sys_report] table controls write access for all reports. If this ACL prevents you from saving the current report, the **Save** button in the report builder or report designer is disabled. For example, when you view a report that another user shared with you. If you have the correct security settings, click **Save > Insert** to save an editable copy of the report.

For more information on ACLs, see [Access control rules](#).

1. Navigate to **System Security > Access Control (ACL)**.
2. Add an access control record with the following information:

Option	Description
Type	record
Operation	report_on
Name (table)	<select the table name>

3. Define the rules that determine whether a user can create a report against the table.

If a user does not have `report_on` access for a table, the table does not appear in the **Table** field when the user creates a report. Data sources based on tables for which a user does not pass the `report_on` ACL do not appear in the Data Source choice list in the Report Builder and Report Designer. To restrict one or more users from seeing a data source in the **Report Source** choice list, create a new read ACL on the [sys_report_source] table that excludes those users.

Note:

- Users can view and run reports on tables even if they cannot create reports due to `report_on` ACL restrictions.

- System tables are not reportable by default. To allow reporting against system tables, administrators can configure the glide.ui.permitted_tables property. To learn more, see [Reporting on system tables](#) on page 561.
 - The ACL report_on operation grants the right to report on the target table.
 - Database views have their own ACLs. If a user has report_on rights to all the tables in a database view, they still require report_on rights on the view to create reports on it. See [Database views](#) on page 510.
-

Enforce the classic report builder UI

The new report designer for creating and editing reports is the default. Report administrators can restrict users to the classic UI. If the classic UI is not restricted, users can switch between the UIs by clicking the **Switch to classic UI / Switch to new UI** hyperlinks in the upper right corner.

Role required: report_admin

The new report designer has a clearer work flow, is easier to navigate, and is generally easier to use. There are no functional differences between the new UI and the classic UI.

1. Navigate to **Reports > Administration > Properties**.
2. Clear the **Use new report designer** check box.
This check box is enabled by default.
3. Click **Save**.

Report statistics

The **Report Stats** list enables you to view how often each of your reports is run and how long it takes for the reports to run.

Role required: admin or report_admin

To view report statistics, navigate to **Reports > Administration > Report Statistics**. By default, the Report Statistics list displays all reports that have been run. To view all reports, click the context menu icon  and select **Add Unused Reports**.

Note: Adding unused reports to this list takes some time, especially if your instance contains many reports.

The **Report Stats** list has the following columns:

Column	Description
Report	The name of the report. Click the hyperlink to view the report properties.
Last run	The date and time the report was last run.
Runs	The number of times the report has been run.
Runs on page	The number of times the report has been run on dashboard or homepage.

Column	Description
Recent run time	The average execution time of the report in milliseconds based on the 25 most recent runs. Edit the glide.report.recent_executions_number property to change the number of runs used to calculate this value.
Run time	The average execution time in milliseconds of all runs of the report.

- To view the reports that take the most time to run, sort **Recent run time** from z-a.
- To view used reports, filter out the value 0 from the **Runs** column.
- To view the most used reports, sort the **Runs** column from z-a.

Report sources

Report sources are predefined data sets for creating reports.

Use report sources for reports containing the same conditions, so you do not have to define the conditions more than once. You can also use report sources to implement the same definitions across your organization.

A report source always consists of a table and a number of conditions. When you create a new report, you can either use a report source or select a table. Some examples of report sources are open incidents, closed problems, and so on.

Create a report source

Create a custom set of data that you can use to create reports. Create a report source when the data you need does not exist in a single table. In the Report Designer and Report Builder, report sources are called Data Sources.

Role required: report_admin

If you update the conditions in a report source, these conditions are automatically propagated to all reports based on that report source.

1. Navigate to **Reports > Administration > Report Sources**.
2. Click **New**.
3. Fill in the fields on the form, as appropriate.

Table 184: Report Source New record

Field	Description
Name	The name of the report source. For example, Open incidents
Table	The table on which the report source is based. For example, Incident [incident] .
Description	A more detailed description of what the report source does and its purpose.

Field	Description
Filter	<p>Conditions for the specific table records to include in the report source. For example, to include open incidents, select [State] [is] [Active] for the Incident table.</p> <p>Note: If the report source is used for a report that also includes OR conditions, records are only included in the report if they match the conditions in both the report source and the report.</p>

4. To view reports based on a report source, click the **Reports using this report source** related link in the report source record.
5. Click **Submit**.

Use the report source to create a report.

Note: While a report source is used by active reports, you cannot delete it.

Report ranges

Use a report range to define data intervals that are used in bar and pie charts.

Note: Reports only show historical data. It is not possible to set report ranges for dates in the future.

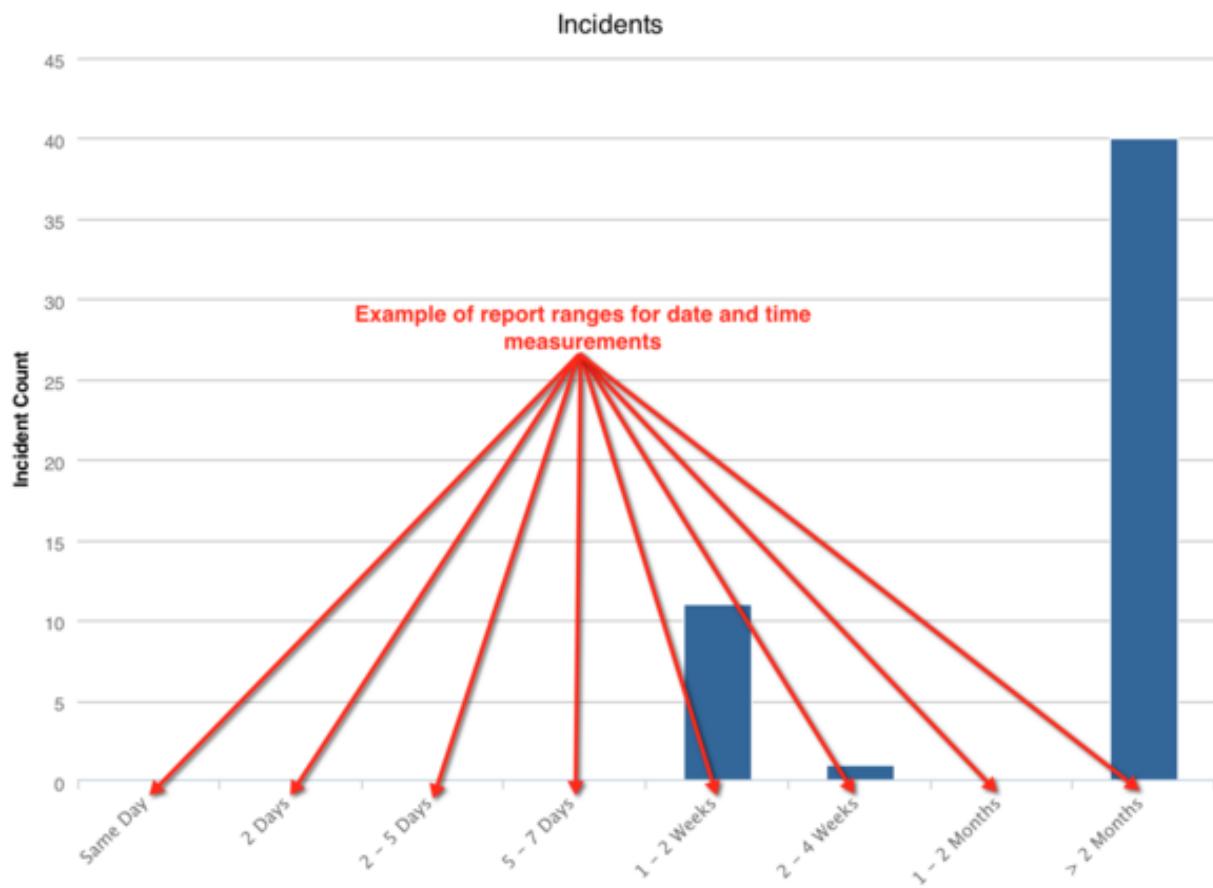


Figure 95: Incidents created date with ranges

Note: The module for report ranges is hidden by default. You may need to enable the module before use. For more information, see [Enable or disable an application menu or module](#).

How report ranges work

Report ranges work with elements that hold only dates, lists, or integers.

Table 185: Report range elements list

Type	Examples
Dates	Using the Created field in the Incidents table: Same Day, 2 Days, 2–5 Days, 5–7 Days, 1–2 Weeks, 2–4 Weeks, 1–2 Months, > 2 Months

Type	Examples
Lists	Using the Priority field in the Incidents table: Low, Moderate, High, Critical, Planning
Integers	Using the Count field in the Incidents table: Overloaded, Optimized, Under Utilized

Report ranges can be globally applied to all date type fields (date, due date, duration, date/time, date time), or you can limit report ranges to a specific table.

View all report ranges

To view all currently configured report ranges, navigate to **Reports > Administration > Report Ranges**.

Ranges		New	Go to	Order							
		Name	Color	Color name	Display	Element	Label	Order	Upper value duration	Upper value int	Value list
	global						Same Day		23 Hours 59 Minutes		
	global						2 Days		1 Day 23 Hours 59 Minutes		
	global						2 - 5 Days		4 Days 23 Hours 59 Minutes		
	global						5 - 7 Days		6 Days 23 Hours 59 Minutes		
	global						1 - 2 Weeks		13 Days 23 Hours 59 Minutes		
	global						2 - 4 Weeks		27 Days 23 Hours 59 Minutes		
	global						1 - 2 Months		59 Days 23 Hours 59 Minutes		
	global						> 2 Months		9999 Days 23 Hours 59 Minutes		

Actions on selected rows...

Figure 96: Report ranges list

The following are important columns and their associated data types:

Table 186: Report range list field

Field	Corresponding data type
Upper value duration	Date - works with elements that store dates.
Upper value int	Integer - works with elements that store numbers.

Field	Corresponding data type
Value list	List - works with elements that store a list item.

Create a report range

Create a report range to define data intervals that are used in bar and pie charts.

1. Navigate to **Reports > Administration > Report Ranges**.
2. Select **New**.
3. Fill in the form (see table):

Range		Edit		?	Settings	Submit
Label	<input type="text"/>	Application	Global	<i>i</i>		
Color	<input type="text"/>	Color name	<input type="text"/> <input type="button" value="Search"/>			
		Display	<input type="text"/>			
Element	<input type="text"/>			<input type="button" value="▼"/>		
Name	<input type="text" value="-- None --"/>			<input type="button" value="▼"/>		
Order	<input type="text" value="100"/>	Upper value int	<input type="text"/>			
Upper value duration	Days <input type="text" value="00"/>	Hours <input type="text" value="00"/>	<input type="text" value="00"/>	<input type="text" value="00"/>		
Value list	<input type="button" value="List"/>					
<input type="button" value="Submit"/>						

Use the following fields to refine the data displayed in the report and to design the appearance of your line chart:

Table 187: Report range form fields

Field	Description
Name	<p>The name of the table to draw the values from.</p> <p>Note: This field is required before you can select from the Element choice list.</p>
Element	The table field to draw the values from.
Label	The name for the report range that is displayed in reports.
Value list	For choice list elements, this field defines which values are within the range. After the range is saved, the value list is populated with the choices of the element.
Color name	The color to display this report range in. The color appears in the Display field. If you enter a color name, you do not need to enter a color value.
Color	The hexadecimal value for the color to report this report range in. The color appears in the Display field. If you enter a value for color, you do not need to enter a color name.
Upper value int	<p>For integer-type elements, this field defines the upper limit of the range. The upper value of the report range with nearest lower Order defines the lower limit of this range. If no range with a lower Order exists, the lower limit is zero.</p> <p>Example: One report range has an upper limit of 10 and an Order of 20. A second report range has an upper limit of 5 and the Order of 19. Values from 5 to 10 display the formatting specified by this range.</p>
Upper value duration	<p>For duration-type elements, this field defines the upper limit of the range. The upper value of the report range with nearest lower Order defines the lower limit of this range. If no range with a lower Order exists, the lower limit is zero.</p> <p>Example: One report range has an upper limit of 10 and an Order of 20. A second report range has an upper limit of 5 and the Order of 19. Values from 5 to 10 display the formatting specified by this range.</p>

Field	Description
Display	Read-only. Shows the color that is used for the specific report range.
Order	The order in which the report ranges are used. If a value is defined within more than one label, it is reported under the report range with the lowest order.

Reporting on system tables

System tables are, by default, restricted from the Reporting module.

These tables include, but are not limited to:

- Sys audit [sys_audit]
- Log [syslog]
- Transaction Log [syslog_transaction]
- Attachment [sys_attachment]
- Email [sys_email]

The reason for this is because `sys_audit` is typically the largest table in any instance. It is not unusual for the audit table, in even a mid-sized instance, to be several gigabytes. In a large installation, this table can be 50GB or more.

When we access the `sys_audit` table programmatically, we know what our query pattern is going to look like, so we have added appropriate data indexes to match our queries. This means that when you bring up, for example, the history of an incident, the database can use an index to efficiently pull back the few dozen rows it needs for that query.

With freeform reporting, however, we cannot predict what your query pattern is going to look like. Maybe you want to group by `fieldname`, or sort by `oldvalue`. So it is possible your queries are not going to be indexed queries. The net result is you will be asking the database to table scan a multiple gigabyte file, which is bad for these reasons:

- It is slow, so your report will take an unacceptably long time to run.
- While the database is scanning your table, your instance will slow down or even become unavailable because other queries cannot get the resources they need.

If you must report on a system table, you can add it to the `glide.ui.permitted_tables` property. Navigate to **System Properties > UI Properties** and locate the property labeled **List of system tables (beginning with "sys_", comma separated), that are reportable. By default, system tables are not reportable.** Proceed with caution.

Map report administration

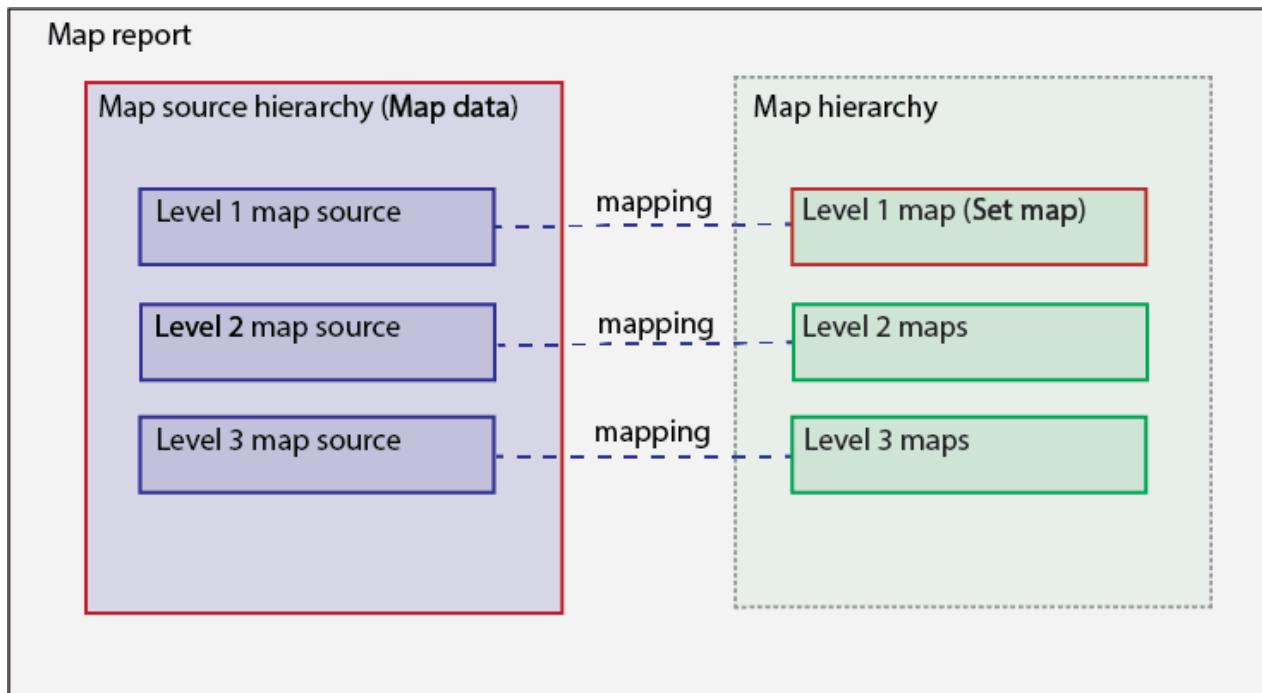
Learn how about the different objects that are used in map reports, and how to create and modify them.

Map report objects

Map objects define the different levels that users can drill down into on a map report and the data displayed on these levels. Admins can create and manage these objects.

Each map report contains a map source hierarchy, which configures the data for a map level. The report also contains a map hierarchy, which defines the map drill levels. The **Level** field connects levels for these hierarchies. For example, the data in the Level 1 map is displayed on the Level 1 map object.

Note: A set of predefined map sources and maps are available by default. Use these predefined objects whenever possible. If you need a map source that does not exist, generate it automatically using **Generate map source levels** link on the map source form, then customize it. You can automatically generate map source levels only for map sources that reference the location table. These map sources have a field that ends in `.location`.



- Selected when you create a map report, fields on the report form listed in **bold**
- Map source hierarchy
- Map hierarchy

Table 188: Map objects

Object	Description
Map source	<p>Defines a set of data to display on a map report.</p> <p>The map source that a user selects in the Map data field when creating a map report is actually a map source hierarchy. There is one map source level for each drill level on the map. The top map source in the hierarchy is not a level, but rather a wrapper for other hierarchy levels. Each map source contains the data for a single map hierarchy drill level, with both having the same Level.</p> <p>Because they both specify the data that is used for a report, a map source is similar to a report source. However, in a map source you select a field to report on instead of a table.</p>
Map	<p>The map that data is displayed on. Maps are set up in a hierarchy defined by parent-child relationships. Each hierarchy level is a drill level on the map report. A JSON definition (geoJSON definition for geographical maps) defines the actual map layout.</p> <p>Select an existing map or create a new one. You can optionally define conditions for a map, which further filters the data it displays.</p>
Mappings	<p>Transform the data in a map source to a value that can be displayed on a map.</p> <p>Mappings are organized into the Countries and State / Province mapping groups. During map source configuration, you select the mapping group to transform the data in that source. The mapping group that you select must match the Field that you have selected.</p> <p>For example, a map source that has a Field value of Locations Country would use the Country mappings group. A map source that has a Field value of Locations State / Province would use the Region and state mappings mapping group.</p>

Automatically generate a map source hierarchy

A map source hierarchy is a data source that is used to create a map report. Except for the top-level wrapper, each map source level in the hierarchy defines the data for one map drill level.

Role required: report_admin or admin

Note: A set of predefined map sources and maps are available by default. Use these predefined objects whenever possible. If you need a map source that does not exist, generate it automatically using **Generate map source levels** link on the map source form, then customize it. You can automatically generate map source levels only for map sources that reference the location table. These map sources have a field that ends in `.location`.

1. Navigate to **Reports > Administration > Map Sources**.
2. Click **New**.
3. Fill in these fields.

Table 189: Map Source fields

Field	Description
Name	Enter a descriptive name. For example, Incident by location. Users select the map source by this name in the Map data field when they create a map report.
Table	Select the table that contains the field that you want to map. All map source levels in the hierarchy use this table.
Field	Select the field with the data that you want to display on the map report. This field must reference the location table. For example, incident.caller.location or incident.location . You can dot walk to this field.
Active	Select this check box to make the map source available when creating map reports.

4. Right-click the form header and select **Save**.
5. Click **Generate map source levels**.

Three map source levels are created. Only the level 1 map source is visible in the **Map Sources** related list.

Note: A map source can have up to four levels, but only three are automatically generated. If the map hierarchy you are using requires an extra drill level, you can create a fourth level map source.

The map source is ready to use in a map report.

Customize a map source level

A map source configures data to be displayed in a map report. Customize existing map sources according to your needs.

Role required: report_admin or admin

Note: A set of predefined map sources and maps are available by default. Use these predefined objects whenever possible. If you need a map source that does not exist, generate it automatically using **Generate map source levels** link on the map source form, then customize it. You can automatically generate map source levels only for map sources that reference the location table. These map sources have a field that ends in `.location`.

1. Navigate to **Reports > Administration > Map Sources**.
2. Open the map source whose level you want to customize, then navigate to down to the appropriate level using the **Map Sources** related lists.
For example, click the level 1 map source name to reopen the Map Source form with the level 2 map source in the related list, and so on.
3. Modify these fields as appropriate.

Table 190: Map source fields

Field	Description
Name	Enter a name for the map source. Include the level in the names of map source levels. For example, Incident by location - level 2.
Table	The same table is used throughout a map source hierarchy, and is specified in the top-level map source.
Field	<p>Select the field whose data you want display on the map. You can dot walk to other fields. Select a field that is one level more granular than the map you want to display the data on.</p> <p>For example, imagine you are configuring data for a level 1 map source that is displayed on the world map. Because the data for countries are displayed on the world map, select Location Country. Similarly, if you are configuring data to display on a map of Germany or the United States, select Location State / Province.</p> <p>Most map sources use a field on the Location table.</p>
Level	Select a hierarchy level for this map source. You can have a maximum of four levels. Each map source level corresponds to a drill level on the map hierarchy, and these levels must match. Each level must exist in a hierarchy only once.
Active	Clear this check box to make this map source unavailable when creating map reports.

4. In the **Data transformation** section, modify these fields as appropriate.

Field	Description
Data	<p>Select how to use data in this map source.</p> <ul style="list-style-type: none"> • Use data on table: Use the data in the ServiceNow platform without transforming it. Select this option when the data already matches the JSON key values that you are mapping to. • Use mapping: Transform that data so it matches the JSON key values that you are mapping to. For geographical map sources that use the hc-key geoJSON key, always select this option. • Use longitude and latitude: Use latitude and longitude coordinates to plot your data. Always select this option for the bottom map level, such as level 3. Ensure that your data has latitude and longitude values. <p> Warning: Because the Use longitude and latitude option disables heatmap and drilling for maps using this map source, select this option only on map source levels that are the bottom level in a hierarchy.</p>

Field	Description
Use these mappings	If you selected Use mapping , select a mapping group to use. A mapping group is a collection of key-value pair mappings that transform data. To review the mappings in a mapping group, go to the Locations Mappings [sys_report_map_source_mapping] table. For example, if you are transforming field value USA to hc-key value us , select Country mappings , which contains the relevant key-value pair mapping.

5. In the **JSON key** section, select a JSON key to connect the map source data to maps.

Geographical maps typically use hc-key.

Every report map has a JSON definition. Select one JSON key-value pair to map the data to. The data to appear on the map must match the JSON key values. So the key that you select determines whether you must transform your data with the settings in the **How to use data** section. All default platform maps and mappings use the [geoJSON](#) hc-key and [ISO 3166 standard](#) values. For custom maps, you can enter a different JSON key.

6. Click **Update**.

Create a key-value pair mapping

Key-value pair mappings transform data in the ServiceNow platform to a value that can be plotted on a map. Mappings are used during map source configuration when data requires transformation. Each mapping exists in a mapping group.

Role required: report_admin or admin

Default system key-value pairs map data to geoJSON hc-key values. All hc-key values follow [ISO 3166 standards](#). Default mappings exist for the most commonly used data values. If your data uses a different value, you must create a key-value pair mapping.

For example, the default mapping for United States of America maps key **USA** to ISO value **us**. If your data has value of United States instead of USA, you must make a new key-value pair to map **United States** to ISO value **us**.

1. Navigate to the Locations Mappings [sys_report_map_source_mapping] table.

2. Open the mapping group to add the mapping to.

Select the mapping group that corresponds to type of object that you want to create a mapping for. For example, if you are creating a mapping for field value United States, select the **Country mappings** group.

3. Click **New**.

4. Fill in these fields.

Table 191: Locations Mappings form

Field	Description
Key	The field value to transform. For example, USA.
Value	The value to transform the key to. For example, us. This value is typically an ISO 3166 standard value. Each value can be used only once per map.
Map	The map to associate with this mapping. If you do not fill in this field, this mapping can be used with any map.

5. Click **Submit** to save your changes.

Add the mapping to a report source, so it can be used to map data from that source to a map.

Create a map

Create a map that can be used in a map hierarchy.

Role required: report_admin or admin

1. Navigate to **Reports > Administration > Maps**, and click **New**.
2. Fill in the following fields as appropriate.

Table 192: Report Maps form

Field	Description
Key	Specify a unique key that links this map to other maps. For default maps, the key is the hc-key value. The key must be included in the geoJSON of the parent map.
Name	Enter a name for the map.
Level	Specify the level for this map in the map hierarchy.
JSON definition	Define the geoJSON for the map. You can download predefined maps from Highcharts , or use any map that follows geoJSON standards. For more information, see the GeoJSON site .
Parent	Select a parent map for this map. The parent-child relationships define drill levels in a map hierarchy.
Active	Clear this check box to make the map unavailable when creating map reports.
Geographical map	If your map is not geographical, clear this check box. For example, clear this check box for a floor map.

3. Right-click the form header and select **Save**.
4. To add conditions that filter the data in the map:
 - a) Click **New** in the **Map conditions** related list.
 - b) Fill in these fields.

Table 193: Map condition form

Field	Description
Active	Select this check box to apply this condition.
Table	Specify the table that these conditions apply to. Conditions cannot be shared across tables.
Map source	Select the map source that the condition applies to.
Conditions	Add filter conditions to apply to this map.

- c) Click **Submit**.
5. Optional: In the **Report Maps** related list, create a child map to extend the map hierarchy.

6. Click **Update** to save the map.

Set the default map for map reports

You can change the map that appears by default in the **Set map** field when you create a map report.

Role required: admin or report_admin

1. Navigate to **Reports > Administration > Properties**.
2. In the **Set the default map for reports of type 'Map'** field, type the key of the map that you want to set as default.
You can find a list of maps under **Reports > Administration > Maps**.
3. Click **Save**.

Create a coloring rule for a multilevel pivot table

Create coloring rules to change the color of a table cell of a multilevel pivot table based on its value.

Role required: report_admin or admin

1. Navigate to **Reports > View / Run**.
2. Click a report with a **Type** value of Multilevel Pivot to open it.
3. Click the Style your chart icon ().
4. Click **Edit coloring rules**.
If you see the error message 'Security constraints prevent access to requested page,' an ACL is preventing access. If necessary, a user with the security_admin role should create new read and write ACLs on the Multilevel Pivot Rule [sys_report_mpivot_rule] table.
5. Click **New rule**.
6. Fill in the fields on the form.

Table 194: Multilevel pivot rule fields

Field	Description
Operator	The operator used when evaluating values in cells, such as greater than or between . For example, to style cells with a value less than 5, select lower than and specify a Value 1 value of 5.
Value 1	The number to evaluate cell values against. When the Operator value is between , enter the lower value in the Value 1 field. Note: When creating rules based on a duration value, specify the duration in seconds.
Value 2	The maximum value a cell can contain to match this rule. This field only appears when the Operator value is between .
Font color	The font color to apply to cells that match this rule.

Field	Description
Background color	The background color to apply to cells that match this rule.
Rule order	A numerical value that determines the order in which rules apply. Rules with a higher rule order apply later and override lower-order rules. For example, one rule matches cells with a value greater than 140, and another rule matches cells with a value less than 150. The rule with the higher order applies to cells with values from 141 through 149.

7. Click **Submit**.
8. Click **Close**.
9. Click **Run** to generate the report using the rules.

Ensure domain separation on a report

To ensure domain separation on reports is not installed, add a domain field to the table for reports and set the domain field as a reference field.

Requires role: security_admin

By default, the Domain Support plugin separates data on certain tables by domain. It does not, however, separate reports by domain unless the MSP Extensions plugin is installed. The report displays data only from the user's domain, but the user is able to see all the reports.

Follow these steps to ensure domain separation on reports if the MSP Extensions plugin is not installed.

1. Navigate to **Reports > Administration** and select a report to separate by domain.
If necessary, enable this module.
2. [Configure the form layout](#) and add a new field named `sys_domain`.
3. Configure the dictionary on the `sys_domain` field and fill in the **Reference** field with the domain for this report. If left blank, the report is global.
Domain fields appear on reports, and the field references a table. After a domain field exists on a form, all records within the table will have the domain field enabled. By default, all these records are global.

Customize calendar reports

You can specify the fields that are displayed in calendar tasks.

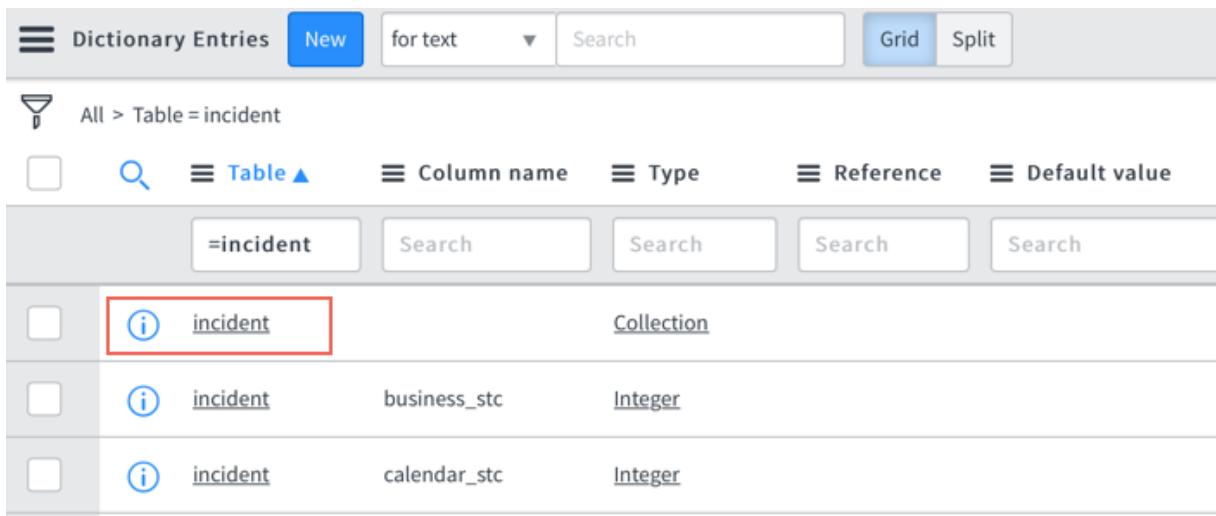
By default, the **number** and **short_description** fields are displayed, but this behavior is configurable. Radio buttons on reports can be configured for various fields to highlight calendar entries by properties such as priority level and approval status. You can select a unique highlight color for each task property.

Configure how calendar entries look

To configure how calendar entries appear for a table, add `calendar_elements` attributes to the System Dictionary entry for that table.

1. Open a form for any record in that table.

2. Right-click the form header and select **Configure > Dictionary**.
3. In the record list that appears, select the first record that does not have a value in the **Column name** field.

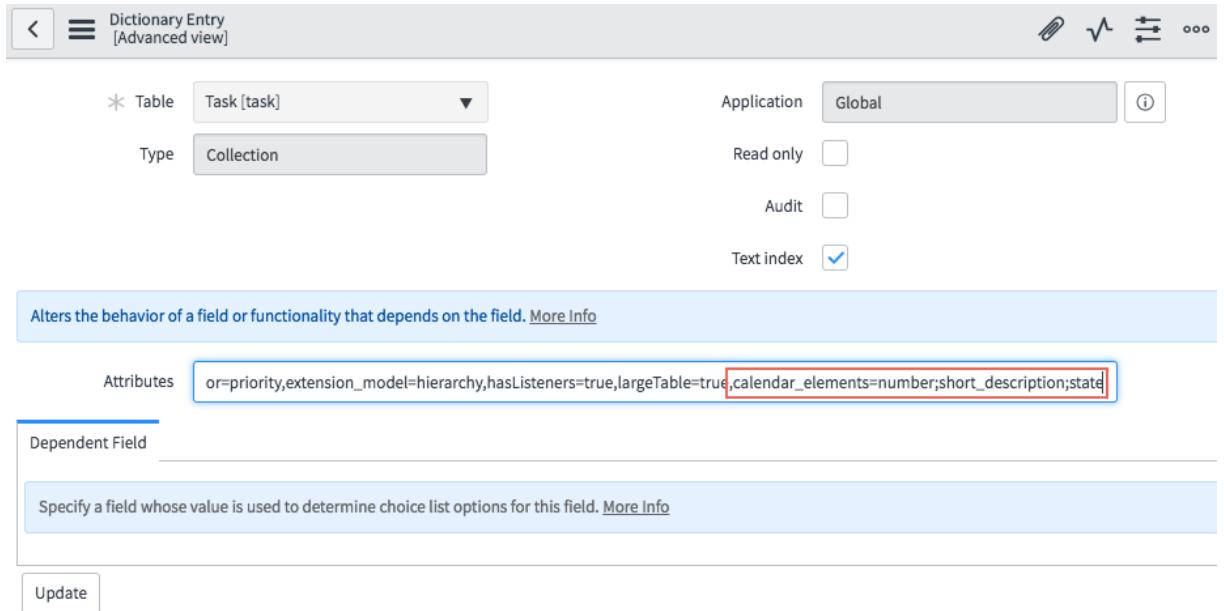


	<input type="checkbox"/>	Column name	Type	Reference	Default value
	<input type="checkbox"/>	=incident	Search	Search	Search
	<input type="checkbox"/>	incident	Collection		
	<input type="checkbox"/>	incident	business_stc	Integer	
	<input type="checkbox"/>	incident	calendar_stc	Integer	

4. Switch the **Dictionary Entry** form to the **Advanced** view. See [View management](#).
5. In the **Attributes** field, add calendar_elements=<field name>;<field name>, listing the fields you want to appear in each entry of your calendar report separated by semi-colons.

Note: When you define attributes for calendar elements, you replace the default display elements of **number** and **short_description** with the attributes that you list in this field. To add any additional attributes to the calendar entry and retain the number and short description of the change, include the **number** and **short_description** fields in your attributes. For example, to add state information to your task calendar, add the following attribute to the Task table:

```
calendar_elements=number;short_description;state
```



6. If the table already has an attribute, separate it from the attribute you are adding with a comma, for example:

```
email_client=true,all_tables.query_hints=true,query_hints=true,hasWorkflow=true,live
```

7. Click **Update**.

The calendar entries display the attributes you have added for the selected

Table: Task [task]



Day	Week	Month	Year
-----	------	-------	------

June 2017

W	Mon	Tue	Wed	Thu	Fri
22		29	30	31	1
23		5	6	7	8
24		12	13	14	15
25		19	20	21	22
26		26	27	28	29
27		3	4	5	6

Highlight based on:

-- None --

[View all results](#)

table.

Modify or add calendar report system properties

Specify system property values to override Task table highlighting in calendar events, limit the number of events in a calendar cell, or change the day the calendar week starts.

Override Task table field styles for highlighting calendar events

Highlighting for calendar report events is configured with field styles, which are defined for a particular table. You can configure whether calendar reports use field styles from the tables or report sources that they are based on.

Role required: admin

By default, field styles in the Task [task] table are applied to calendar reports. If calendar reports are configured to use field styles from their tables or report sources, these field styles override the Task table styles.

1. In the filter navigator, enter: `sys_properties.list`
2. Select the `glide.ui.report.extend_calendar_choices` property to specify which field styles are used during calendar highlighting.
 - To use field styles in only the Task table, set the property to `false`.
 - To use field styles from the table that the calendar report is based on, set the property to `true`.
3. Click **Update**.

Limit the number of events displayed on calendar days

For calendar reports, the maximum number of events that appear in some calendar views is configurable. When this maximum is exceeded a `+ <number>` link appears, which opens a pop-up window with additional events. You can also configure the maximum number of events that appear in this pop-up window. When this maximum is exceeded, a `+ many` link appears, which opens a list of events instead of a pop-up window.

Role required: `report_admin`, `admin`

You can configure these settings for the following calendar views:

- A calendar day when calendar is in month or year view
- The top 'full day' section of a calendar day when a calendar is in day or week view

1. In the navigation filter, enter `sys_properties.list`.
2. Configure the `glide.report.calendar.max_events_displayed_per_cell` and `glide.report.calendar.max_more_events_per_day` properties.
For more information, see [Available system properties](#) for information about these properties.
3. Click **Update**.

Change the day that calendar weeks start on

By default, weeks for calendar reports start on Monday. You can add a system property to start weeks on Sunday instead. Weeks use ISO numbering regardless of what day they start on.

Role required: `admin`

The `glide.ui.filter.first_day_of_week` system property modifies the generated date/time value used in the query and sets the start day of the week in the rendered calendar.

1. Add the `glide.ui.filter.first_day_of_week` system property.
For more information, see [Add a system property](#).
2. Set one of the following integer values:

Option	Description
Start weeks on Monday	Set Value to 2
Start weeks on Sunday	Set Value to 1

3. Click **Submit**.

Set calendar record limit

By default, calendar reports save up to 10,000 records. Change this limit by setting the `glide.ui.max_calendar_records` system property. If the number of records fetched exceeds this limit, you are prompted to filter the data and run the report again.

Role required: admin

1. Add the glide.ui.max_calendar_records system property.

For more information, see [Add a system property](#).

2. Complete the form with the following values.

Option	Description
Name	glide.ui.max_calendar_records
Description	Enter a phrase that describes the function of the property, such as Maximum number of calendar records saved.
Type	Integer
Value	Enter the desired value for the number of records retained by the platform. The default value if this property is not configured is 10,000.

3. Click **Submit**.

Change highlighting of calendar report events

Field styles control the highlighting of events in calendar reports. Manage field styles to change how highlighting works.

Role required: admin

You can apply field styles for the table that a calendar is based on or field styles for the Task [task] table to a calendar. The field styles that are applied for calendar highlighting depends on the glide.ui.report.extend_calendar_choices system property. See [Modify or add calendar report system properties](#) on page 572 for more information.

You can change only the background color of calendar events. All other CSS is ignored. Events without a defined field style display a white background when highlighting is applied to a calendar report.

[Define field styles](#) for the appropriate table.

- To define field styles for all calendar reports, define the style on the Task [task] table.
- To define field styles that apply only to calendars that are based on a specific table or report source, define the field styles on that table.

If calendar reports are configured to use field styles from their tables or report sources, these field styles override the Task [task] table styles.

Customize a start and end date

You can configure calendar reports to support the spanning of multi-day events across calendar cells.

Role required: dictionary admin or admin

A change request with a **Work Start** date on Monday and a **Work End** date on Tuesday is displayed on both days when viewed in a **Calendar** field. However, when two custom fields named **First Date** and **Last Date** are used, the same behavior does not occur.

The code looks for an ending field with the same name as the start date field, except using the word end instead of start. If the custom fields are **My Start Date** and **My End Date**, the system correctly interprets the meaning of these fields because their names are the same except for the words start and end.

1. Follow the steps in [Add and customize a field in a table](#).
2. Enter the following values in the form to create the start date span field.

Field	Value
Name	Calendar start date span
Database column name	u_first_date → u_my_start_date
Type	Date
3.	Add another field using the following values for the end date span field.
Field	Value
Name	Calendar end date span
Database column name	u_last_date → u_my_end_date
Type	Date

Report Administration module

Learn how to administer reports on the ServiceNow platform using the **Reports > Administration** module.

This module is not enabled by default, and must be activated. For a list of the reporting roles delivered with the ServiceNow platform, see [Base system roles](#).

Note: Restricting a report by role restricts who can view a report. Users without the admin role cannot edit global reports. If a non-admin user edits a global report, saving that report creates a personalized version belonging to that user

Use the record list view to filter, view, or modify reports using any of the standard record list controls. Click **New** to create reports or select any of the records to display the report as a form. All the standard ServiceNow form controls apply.

You can select the table and field on which to report and the characteristics of the report format. Create a condition in the **Filter** field to further restrict the data that is presented in the report and select a role that can use the report.

Report Security

The Report Security enforce access control checks plugin allows administrators to use access control list (ACL) rules to restrict report access. This functionality prevents unauthorized users from editing, updating, or deleting reports either through the UI or through a URL construct. See [Access control list rules](#) for more information.

Available Report Fields

The following fields can be manipulated:

Field	Input Value
Title	A unique and descriptive name for the report.
Table	The ServiceNow table against which this report is run.
Field Name	The name of the group-by field.
Type	The report type for this report.

Field	Input Value
Chart Size	Large, medium, or small.
Visible to	Select a group whose members are authorized to see the report. Select Everyone to give all your users access.
User	The user who can view the chart. Enter GLOBAL to make the report accessible to all.
Filter	The filter applied to the report data.
Roles	The roles required to view the report.
If added to the form, the following fields are available	
Aggregate	<p>Determine how you want the data in the report aggregated. The default is Count, which displays the number of records selected. When you select Average, Sum or Count Distinct, you can select from a list of additional fields whose values you want to use to aggregate the data. Typical values to use as an average or a sum are the time measurements, such as Business duration (expressed in days, hours, and minutes) and Resolve time (expressed in seconds). Other fields, such as Priority, have numerical values associated with their levels and can be used as aggregators.</p> <p>Note: Averages are calculated by dividing the sum of all fields by the number of those fields that contain a value. Fields that are empty or that contain a light gray zero are not included in the field count that is used when dividing the sum.</p>
Content	An HTML field for describing the content of the report. Not processed in the generation of the report.
Display grid	Select to display a table under the chart that contains a breakdown of the requested data. The aggregation units are Count , Average , Sum , or Count Distinct . The percentage of the total data represented by each discrete piece is displayed.
Group	Select a group whose members are authorized to see the report. select Everyone to give all your users access.
Interval	For Trend or Trendbox charts, the interval of time to measure along.

Field	Input Value
No Groups	Use the values in this list to limit the number of bars that appear in the chart. The platform displays 12 bars by default, from high values to low values and puts the remaining data into an Other category. You can select to display 10, 12, 15, 20, or all bars.
Others	Check box to include the Other group in the report.
Select fields for list	The fields that display in a list report.
Select fields for orderBy	The order of fields that display in the report.
Show Empty	Whether to display empty categories.
Sumfield	The field to perform a sum on for <i>Trend</i> or <i>Trendbox</i> Charts.
Trend Field	The field to track over time for <i>Trend</i> or <i>Trendbox</i> Charts.

Reporting properties

Use properties to fine-tune report behavior and appearance.

Introduction

Navigate to **Reports > Administration > Properties** to configure the main reporting properties. In the Filter navigator, enter `sys_properties.list` to configure other reporting properties.

Reporting properties

Property	Description
<code>glide.ui.report.new_report_designer</code>	<p>Enable the use of the report designer.</p> <ul style="list-style-type: none"> • Type: true false • Default value: true • Location: Reports > Administration > Properties <p>Category: Global</p>
<code>glide.chart.truncate.x_axis_labels</code>	<ul style="list-style-type: none"> • Type: true false • Default value: true • Location: Reports > Administration > Properties <p>Category: Global</p>

Property	Description
glide.ui.chart.bar.horiz.max_col_slant_labels	<p>Sets the maximum number of columns in a horizontal bar chart before slanting (angling) the labels.</p> <ul style="list-style-type: none"> • Type: integer • Default value: 5 • Location: add to the System Property [sys_properties] table
Toggle animations on and off for charts generated with the charting v2 plugin glide.chart.animation	<p>Enables animations for reports and Performance Analytics visualizations that support animations.</p> <p>Note: Map reports do not support animations and therefore do not follow this property.</p> <ul style="list-style-type: none"> • Type: true false • Default value: true • Location: Reports > Administration > Properties <p>Category: Global</p>
Truncates data labels from the front of the label. glide.chart.data_labels.remove_leading	<p>This property is applicable only if glide.chart.truncate.data_labels is set.</p> <ul style="list-style-type: none"> • Type: string • Default value: false • Location: Reports > Administration > Properties <p>Category: Global</p>
Number of bins in a histogram chart (minimum 1, maximum 20) glide.chart.histogram.bins	<p>Determines the number of sections that appear on the Y axis of the histogram.</p> <ul style="list-style-type: none"> • Type: integer • Default value: 10 (Allowed range of values 1–20) • Location: Reports > Administration > Properties <p>Category: Histogram</p>
Color of the mean value dot in box and trendbox charts. glide.chart.box.mean.color	<p>Sets the color of the 'mean' value dot in a box or trendbox report.</p> <ul style="list-style-type: none"> • Type: string • Default value: #2f7ed8 • Location: Reports > Administration > Properties <p>Category: Box, Trendbox</p>

Property	Description
<p>Opens drill down information or a list in a new window or tab when user clicks a chart item glide.chart.drill.open_new_win</p>	<p>When enabled:</p> <ul style="list-style-type: none"> For reports that have a drill down defined, each clicked drill down report opens in a new window or tab. For reports that do not have a drill down defined, when a chart item is clicked, this opens a list in a new window or tab. <p>When set to false, opens a new page.</p> <ul style="list-style-type: none"> Type: true false Default value: false Location: Reports > Administration > Properties <p>Category: Global</p>
<p>Color of the box and whisker in box charts glide.chart.box.color</p>	<p>Sets the color of the box report.</p> <ul style="list-style-type: none"> Type: string Default value: #FF0000 Location: Reports > Administration > Properties <p>Category: Box</p>
<p>Default Color list name for each dataset glide.ui.report.datasets.default_colors</p>	<p>Sets the default colors to use when adding multiple data sets to a single chart. These values are used when the Chart color value is Use one color.</p> <p>Enter a comma-separated list of chart color Color name values. You can view available colors and define new colors on the Chart Colors [sys_report_chart_color] table.</p> <p>Each color is used in order as the default chart color when adding a data set to a chart. If there are more data sets than default colors, the colors repeat.</p> <ul style="list-style-type: none"> Type: string Default value: Default Color Location: Reports > Administration > Properties <p>Category: Global</p>

Property	Description
List of color palette names that are used as a default color palette for each dataset glide.ui.report.datasets.default_palettes	<p>Sets the default palette to use when adding multiple data sets to a single chart. These values are used when the Chart color value is Use color palette.</p> <p>Enter a comma-separated list of chart color scheme Name values. You can view available palettes and define new palettes on the Chart Color Schemes [pa_chart_color_schemes] table.</p> <p>Each palette is used in order as the default chart palette when adding a data set to a chart. If there are more data sets than default palettes, the palettes repeat.</p> <ul style="list-style-type: none"> • Type: string • Default value: Default UI14 • Location: Reports > Administration > Properties <p>Category: Pie, Bar, Horizontal bar, Donut, Semi-donut</p>
Set the default map for reports of type 'Map' glide.ui.report.map.default_map	<p>Specifies the default map to use when creating Map-type reports.</p> <ul style="list-style-type: none"> • Type: string • Default value: world • Location: Reports > Administration > Properties <p>Category: Map</p>
glide.ui.chart.color	<p>Specify the chart color.</p> <ul style="list-style-type: none"> • Type: string • Default value: #006DDA • Location: Add a system property to the System Property [sys_properties] table <p>Category: Global</p>
glide.ui.chart.use_full_color_palette	<p>Enable to generate bars in bar and Pareto charts with different colors for each bar.</p> <ul style="list-style-type: none"> • Type: true false • Default value: #false • Location: Reports > Administration > Properties <p>Category: Bar, Horizontal bar, Pareto</p>

Property	Description
glide.chart.label.legend.truncate_to	<p>Truncates legend labels for left or right legend alignment for all chart sizes except large charts. Prevents shrinking of charts when labels are too long.</p> <ul style="list-style-type: none"> • Type: integer • Default value: 14 • Location: System Property [sys_properties] table <p>Category: Global</p>
glide.chart.label.legend.truncate_to.large	<p>Truncates legend labels for left or right legend alignment for large charts. Prevents shrinking of charts when labels are too long.</p> <ul style="list-style-type: none"> • Type: integer • Default value: 20 • Location: System Property [sys_properties] table <p>Category: Global</p>
glide.report.new_calendar	<p>Enables (true) or disables (false) new calendar reports. Internet Explorer 7 and 8 do not support new calendars. If you open a calendar report in one of these browsers the old version of calendar reports is always used.</p> <ul style="list-style-type: none"> • Type: true false • Default value: true • Location: add to the system Property [sys_properties] table
glide.report.calendar.max_days_back	<p>Enables you to specify the number of days with events that are returned when you browse backward and forward in a calendar report. Evaluated on the Calendar by field in the report creator.</p> <ul style="list-style-type: none"> • Type: integer • Default value: 30 • Location: Add a system property to the System Property [sys_properties] table <p>Category: Calendar</p>

Property	Description
glide.report.calendar.default_event_duration	<p>The default duration for an event without a specified end date.</p> <ul style="list-style-type: none"> • Type: string • Default value: 01:00:00 (One hour, zero minutes, zero seconds) • Location: System Property [sys_properties] table <p>Category: Calendar</p>
glide.report.calendar.max_events_displayed_per_cell	<p>Defines the maximum number of events that can appear in calendar report for:</p> <ul style="list-style-type: none"> • A calendar day when calendar is in month or year view • The top 'full day' section of a calendar day when a calendar is in day or week view <p>Events that exceed this value are visible via a link in the calendar cell. See glide.report.calendar.max_more_events_per_day for more information.</p> <ul style="list-style-type: none"> • Type: integer • Default value: 3 • Location: add to the System Property [sys_properties] table
glide.report.calendar.max_more_events_per_day	<p>Defines that maximum number of calendar events that can appear in the + <number> popup for:</p> <ul style="list-style-type: none"> • A calendar day when calendar is in month or year view • The top 'full day' section of a calendar day when a calendar is in day or week view <p>When this number is exceeded, a + many link appears, which opens a list of events instead of a popup. For more information about the maximum number of events that can be displayed in a calendar day, see system property glide.report.calendar.max_events_displayed_per_cell.</p> <ul style="list-style-type: none"> • Type: integer • Default value: 30 • Location: add to the System Property [sys_properties] table

Property	Description
glide.ui.report.extend_calendar_choices	<p>Controls which field styles are applied during calendar highlighting. If this property is set to false, field styles in only the Task table are used. If this property is set to true, the calendar first uses field styles from the table the report is based on. If no applicable styles exist in that table, the calendar uses field styles from the Task table.</p> <ul style="list-style-type: none"> • Type: true false • Default value: true • Location: System Property [sys_properties] table
glide.ui.chart.bar.horiz.max_col_slant_labels	<p>Sets the maximum number of columns in a horizontal bar chart before slanting (angling) the labels.</p> <ul style="list-style-type: none"> • Type: integer • Default value: 5 • Location: Add a system property to the System Property [sys_properties] table <p>Category: Horizontal bar</p>
glide.ui.chart.pie.labels	<p>Enables (true) or disables (false) labels on pie chart slices.</p> <ul style="list-style-type: none"> • Type: true false • Default value: true • Location: add to the System Property [sys_properties] table
glide.ui.chart.pie.labels.max_items	<p>Sets the maximum number of pie chart slices on which to display labels.</p> <ul style="list-style-type: none"> • Type: integer • Default value: 8 • Location: add to the System Property [sys_properties] table
glide.chart.data.label.truncate_to	<p>Sets the maximum length of a data label for a chart. If longer, the label is truncated and an ellipsis (...) appended.</p> <ul style="list-style-type: none"> • Type: integer • Default value: 13 • Location: System Property [sys_properties] table <p>Category: Global</p>

Property	Description
glide.report.pivot.fixed_headers	<p>When disabled, the header row of a multiple level pivot table is unfrozen and scrolls out of frame when the user scrolls through the table.</p> <ul style="list-style-type: none"> • Type: true false • Default value: true • Location: Add a system property to the System Property [sys_properties] table <p>Category: Multilevel pivot tables</p>

Interactive Filters

Interactive Filters allow you to filter report widgets directly from a homepage or dashboard without modifying the reports.

You can create an interactive filter and add it to a homepage or dashboard as a widget. Selecting a value in the Interactive Filter widget filters the data in report widgets on the homepage or dashboard. Selected filters are saved for each user and applied automatically next time that user views the dashboard.

Note: Creating Interactive Filters requires Performance Analytics.

Available Interactive Filter types

You can create Interactive Filters for multiple field types.

Table 195: Interactive filter types

Type	Description
Choice list	Allows you to filter data based on the value of a specific choice list. You must select the table and choice list field. The filter affects reports on the specified table.
Reference	Allows you to filter data based on the value of one or more reference fields. You must select the referenced table, as well as reference fields from other tables. The filter affects reports on tables that have the specified reference fields.
Date	Allows you to filter data based on the value of one or more date fields. You must select the tables and date fields. The filter affects reports on the specified tables.
Boolean	Allows you to filter data based on the value in a specific true/false field. You must select the table and the true/false field. The filter affects reports on the specified table.

Type	Description
Group	Allows you to display multiple interactive filters in a single widget on a homepage. Users viewing the homepage can select which grouped filters to apply.
Empty/non-empty	Filter based on whether a field contains a value.

Create a choice list interactive filter

A choice list interactive filter allows users to filter report widgets based on the value of a choice list.

You must have Performance Analytics Premium to create new interactive filters.

Role required: hp_publisher_admin and report_admin

Note: If the interactive filter has a default value or specifies the last selected value, this value is not applied automatically on non-responsive dashboards. This feature is only available on [Responsive dashboards](#).

1. Navigate to **Homepage Admin > Interactive Filters**.
2. Click **New**.
3. In the **Filter based on** choice list, select **Choice list**.
4. Set the following fields.

Name	Description
Name	Enter a name for the filter. This name appears on the homepage widget for the filter.
Look up name	Enter a lookup name for the filter. This name appears in the Add content menu for users adding a filter to a homepage or dashboard. Use this name to help organize your filters. If you do not specify a lookup name, the Name value is used instead.
Description	Enter a description of the filter.
UI control type	Select how the available filtering options for this filter appear on the homepage widget. See Available interactive filter UI control types on page 593.

5. Optional: Exclude specific elements from appearing on the filter using the **Exclusion list**. However, data for excluded choices is included when you select **All** on the interactive filter.
6. In the **Table** choice list, select the table that contains the choice list to filter on.
7. In the **Field** choice list, select the choice list field to filter on.
8. Optional: Add any choice list elements you want to exclude from the filter to the **Exclusion list** field.
9. Optional: Select a **Default value** for the filter. This default is applied automatically for all users. If a user selects a different value, that value is saved as the user's default and overrides the global default. You can specify more than one default value when using a UI control type that allows multiple selections, such as **Select Multiple Input**.
10. Click **Submit**.

After you create the filter, add it to a homepage or dashboard.

Create a reference field interactive filter

A reference field interactive filter allows users to filter report widgets based on the value of a reference field.

You must have Performance Analytics Premium to create new interactive filters.

Role required: hp_publisher_admin and report_admin

Note: If the interactive filter has a default value or specifies the last selected value, this value is not applied automatically on non-responsive dashboards. This feature is only available on [Responsive dashboards](#).

1. Navigate to **Homepage Admin > Interactive filters**.
2. Click **New**.
3. In the **Filter based on** choice list, select **Reference**.
4. In the **Reference table** choice list, select the table that stores the referenced records you want to filter on.
5. Optional: Select a **Default value** for the filter.

This default is applied automatically for all users. If a user selects a different value, that value is saved as the user's default and overrides the global default. You can specify more than one default value when using a UI control type that allows multiple selections, such as **Select Multiple Input**.

6. Set the following fields.

Name	Description
Name	Enter a name for the filter. This name appears on the homepage widget for the filter.
Look up name	Enter a lookup name for the filter. This name appears in the Add content menu for users adding a filter to a homepage or dashboard. Use this name to help organize your filters. If you do not specify a lookup name, the Name value is used instead.
Description	Enter a description of the filter.
UI control type	Select how the available filtering options for this filter appear on the homepage widget. See Available interactive filter UI control types on page 593.

7. Right-click on the form header and select **Save**.
8. In the **Interactive filter references** related list, click **New**.
9. In the **Reference table** field, select a table that has reports you want to filter.
10. Select the **Reference field** to filter on.

The field must reference the table specified in the parent filter **Reference table** field.

You can dot-walk from fields that reference other tables. For example, if the parent filter **Reference table** is Department [cmn_department], you can select Incident as the reference **Reference table**, then select **Caller Department** as the **Reference field**.

11. Click **Submit**.

Repeat steps 7-10 as needed for each reference field you want to filter on. After you create the filter, add it to a homepage or dashboard.

Note: A filter may be converted from the **Check boxes** to the **Select Multiple Input** control type for performance reasons.

Create a date interactive filter

A date interactive filter allows users to filter report widgets based on the value in a date field.

You must have Performance Analytics Premium to create new interactive filters.

Role required: hp_publisher_admin and report_admin

Note: If the interactive filter has a default value or specifies the last selected value, this value is not applied automatically on non-responsive dashboards. This feature is only available on [Responsive dashboards](#).

1. Navigate to **Homepage Admin > Interactive filters**.
2. Click **New**.
3. In the **Filter based on** choice list, select **Date**.
4. Set the following fields.

Name	Description
Name	Enter a name for the filter. This name appears on the homepage widget for the filter.
Look up name	Enter a lookup name for the filter. This name appears in the Add content menu for users adding a filter to a homepage or dashboard. Use this name to help organize your filters. If you do not specify a lookup name, the Name value is used instead.
Description	Enter a description of the filter.
UI control type	Select how the available filtering options for this filter appear on the homepage widget. See Available interactive filter UI control types on page 593.

5. In the **Date** section, use the slushbucket to select one or more date ranges that users can filter on. Available date filters are defined in the Get Date Filter options for Date Filters business rule. Customize this business rule to add or remove filter options.
6. Optional: Select a **Default value** for the filter. This default is applied automatically for all users. If a user selects a different value, that value is saved as the user's default and overrides the global default. You can specify more than one default value when using a UI control type that allows multiple selections, such as **Select Multiple Input**.
7. Right-click on the form header and select **Save**.
8. In the **Interactive filter Dates** related list, click **New**.
9. In the **Table** field, select a table that has reports you want to filter.
10. In the **Field** field, select a date field to filter on.
11. Click **Submit**.

Repeat steps 7-10 as needed for each date field you want to filter on. After you create the filter, add it to a dashboard or homepage.

Create a boolean interactive filter

A boolean interactive filter allows users to filter report widgets based on the value of a true/false field.

Role required: hp_publisher_admin and report_admin

You must have Performance Analytics Premium to create new interactive filters.

Note: If the interactive filter has a default value or specifies the last selected value, this value is not applied automatically on non-responsive dashboards. This feature is only available on [Responsive dashboards](#).

1. Navigate to **Homepage Admin > Interactive filters**.
2. Click **New**.
3. In the **Filter based on** choice list, select **Boolean**.
4. Set the following fields.

Name	Description
Name	Enter a name for the filter. This name appears on the homepage widget for the filter.
Look up name	Enter a lookup name for the filter. This name appears in the Add content menu for users adding a filter to a homepage or dashboard. Use this name to help organize your filters. If you do not specify a lookup name, the Name value is used instead.
Description	Enter a description of the filter.
UI control type	Select how the available filtering options for this filter appear on the homepage widget. See Available interactive filter UI control types on page 593.

5. In the **Table** choice list, select the table that contains the true/false field to filter on.
6. In the **Field** choice list, select the true/false field to filter on.
7. Optional: Select a **Default value** for the filter.
This default is applied automatically for all users. If a user selects a different value, that value is saved as the user's default and overrides the global default.
8. Click **Submit**.

After you create the filter, add it to a homepage or dashboard.

Create a group interactive filter

A group interactive filter allows users to select multiple interactive filters to apply to reports on a homepage.

Role required: hp_publisher_admin and report_admin

You must have Performance Analytics Premium to create new interactive filters.

Note: If the interactive filter has a default value or specifies the last selected value, this value is not applied automatically on non-responsive dashboards. This feature is only available on [Responsive dashboards](#).

Before starting this procedure, create several choice list, reference field, boolean, or date filters to group.

Note: Default values selected for child filters are not applied when using a group filter. Selected values in a group filter are not saved when you reload the dashboard.

1. Navigate to **Homepage Admin > Interactive filters**.
2. Click **New**.
3. In the **Filter based on** choice list, select **Group**.
4. Set the following fields.

Table 196: Filter fields

Name	Description
Name	Enter a name for the filter. This name appears on the homepage widget for the filter.
Look up name	Enter a lookup name for the filter. This name appears in the Add content menu when adding a filter to a homepage or dashboard. Use this name to help organize your filters. If you do not specify a lookup name, the Name value is used instead.
Description	Enter a description of the filter.

5. In the **Group** section, click **Insert a new row....**
6. Select an interactive filter to add to this group.
You cannot add a group filter to another group filter.
7. Repeat steps 5 and 6 as needed for each filter you want to group.
8. Click **Submit**.

After you create the filter, add it to a dashboard or homepage.

Create an interactive filter for whether a field is empty or populated

You can create a Boolean interactive filter that lets users filter report widgets based on whether a specific field is empty or populated.

You must have Performance Analytics Premium to create interactive filters.

Role required: hp_publisher_admin, report_admin, or admin

Note: If the interactive filter has a default value or specifies the last selected value, this value is not applied automatically on non-responsive dashboards. This feature is only available on [Responsive dashboards](#).

Create this filter for a field where **Yes** filters for records where the specified field is populated and **No** filters for records where the field is empty. Name the filter to represent this logical relationship. For example, you

can use the name "Incident generated problem" for a filter based on the Incident table and the Problem field.

1. Navigate to **Reports > Interactive filters**.
2. Click **New**.
3. In the **Filter based on** list, select **Boolean**.
4. Set the following fields.

Name	Description
Name	Enter a name for the filter. This name appears on the homepage widget for the filter.
Look up name	Enter a lookup name for the filter. This name appears in the Add content menu for users adding a filter to a homepage or dashboard. Use this name to help organize your filters. If you do not specify a lookup name, the Name value is used instead.
Description	Enter a description of the filter.
UI control type	Select how the available filtering options for this filter appear on the homepage widget. See Available interactive filter UI control types on page 593.

5. In the **Table** choice list, select the table that contains the field to filter on.
6. In the **Field** choice list, select the field to filter on.
7. Click **Submit**.

After you create the filter, add it to a homepage or dashboard.

Cascading filters

Cascading filters allow you to filter based on multiple values in a hierarchy, such as by region, country, and city.

Lower level choices are filtered by the values selected at higher levels. For example, you can create a cascading filter that allows users to select from a list of managers, then select from user groups that are managed by the selected manager. Report data is then filtered to show only records assigned to that group.

Alternatively, you can leave lower levels of the filter unselected, such as by selecting only a manager but no user group. Report data is then filtered to show records assigned to any group managed by that manager.

Create a cascading filter

To create a cascading filter, define each level of the filter, the relationship between levels, and how a selection at each level filters the report data.

Role required: hp_publisher_admin and report_admin

You must have Performance Analytics Premium to create new interactive filters.

Ensure that the structure of the data that you use to create the filter is consistent. For example, in a cascading filter based on location, ensure that the top level choices are all regions, and the second-level choices are all countries. You can define filter conditions to ensure that only appropriate choices for each level are available.

This procedure includes examples based on a cascading interactive filter using managers and groups. In this example, the top-level choice allows users to select a manager and the second-level choice allows users to select a user group managed by that manager.

Only groups managed by the selected manager appear

Figure 97: Example cascading filter

Note: You can filter reports based on the values in reference fields only. Cascading filters support only the **Single Select UI control type**.

1. **Homepage Admin > Interactive filters.**
2. Click **New**.
3. In the **Filter based on** choice list, select **Cascading Filters**.
4. Right-click the form header and select **Save**.
5. Define the first level of the cascading filter.
 - a) In the **Cascading Filter** related list, click **New**.
 - b) Select the **Table** and the **Display field** from the table that contains the values you want to use as the top-level filter choices.
For example, to define the top level of a hierarchy based on managers and the groups they manage, select **Group [sys_user_group]** as the **Table** and **Manager** as the **Display field**.
 - c) Optional: Use the **Filters** field to limit which choices are available to users.

Filter conditions are especially useful when you create a cascading filter based on a self-referencing table, such as Location [cmn_location]. Filter the data to ensure each level of the cascading filter has only options appropriate for that level.

- d) Right-click the form header and select **Save**.
6. Define the next level of the hierarchy.

Cascading filters use a one-to-many relationship between higher-level filters and lower-level filters. One higher-level filter can affect the choices available in any number of lower-level filters.

 - a) From the manager filter, in the **Cascading Filter** related list, click **New**.
 - b) Select the **Table** and the **Display field** from the table that contains the values you want to use as the second-level filter choices.

In the managers and groups example, select **Group [sys_user_group]** as the **Table** and **Name** as the **Display field**.
 - c) In the **Parent Reference Field** field, select the field that contains the value selected from the higher-level filter.

For example, when you create the Group filter, the **Parent Reference Field** value is **Manager**. In this example, the manager selected in the first filter is used to filter the list of available groups based on the **Manager** field value of each group.
- d) Right-click the form header and select **Save**.
- e) Repeat these substeps for each additional filter you want to add. To add another level to the filter hierarchy, add a new record in the **Cascading Filter** related list of the lowest-level filter such as the Group filter, instead of the top-level filter such as the Manager filter.

7. Define how each filter level applies the filter to reports on a dashboard.
 - a) In the **Target Tables** related list, click **New**.
 - b) Select the **Target table** that contains the data you want to filter, such as **Incident**.
 - c) Select the **Field** to filter on.

The field must reference the table specified in the filter. For example when filtering incident data, the **Field** for the top-level manager filter is **Assignment group.Manager**. In this example, the **Field** for the second-level group filter is **Assignment group**.
 - d) Click **Submit**.
 - e) Repeat these substeps to add targets for each level of the filter.

You can define multiple targets for each filter level, such as to filter incident data by assignment group or to filter CMDB CIs by support group using the same Groups [sys_user_group] filter.

Note: A cascading filter hierarchy must specify at least one target. You can define a cascading filter that skips levels in a hierarchy, or a cascading filter that only specifies targets for certain levels in a hierarchy. For example you can define a target only for the Group-level filter and not the Manager-level filter. In this example, reports are filtered only when a user selects a specific group and not just a manager.

The following images demonstrate the completed configuration for the example cascading filter. The **Cascading Filter** related list (not shown) in the top-level filter contains the second-level filter.

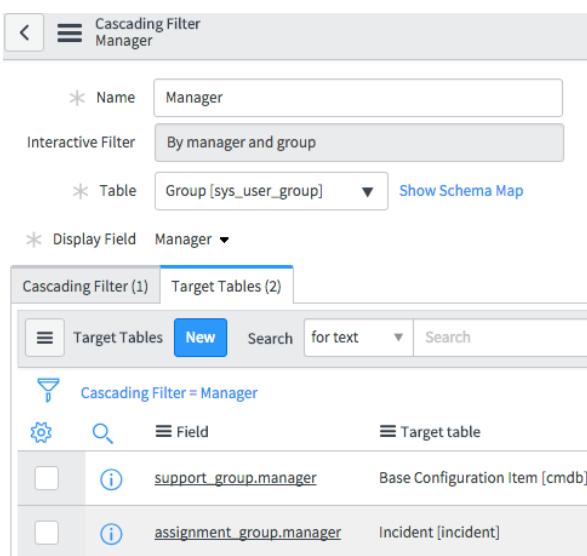


Figure 98: Top-level filter

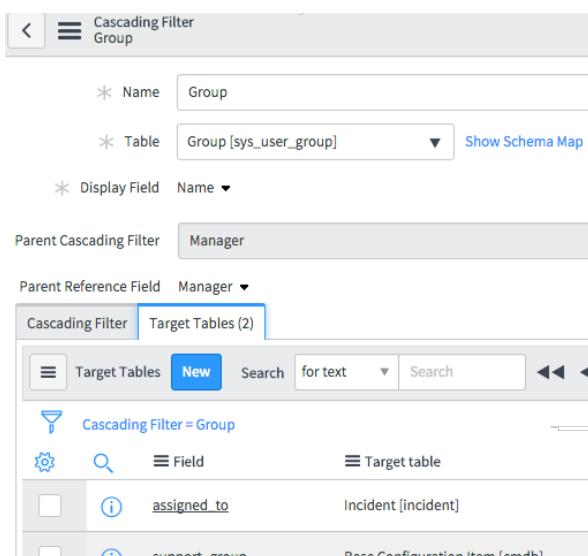


Figure 99: Second-level filter

After you create all levels of the filter, add it to a homepage or dashboard.

Available interactive filter UI control types

The interactive filter **UI control type** field provides several options for displaying the filter.

Table 197: Available UI control types

UI control type	Description
Radio Buttons	Displays each filtering option as a radio button. Users can select only one radio button at a time.
Check boxes	Displays each filtering option as a check box. Users can select any number of check boxes at a time.
Select Single Input	Displays the filtering options as a choice list. Users can select only one choice at a time.
Select Multiple Input	Displays the filtering options as a choice list. Users can select any number of choices at a time. Click the X next to a selected choice to deselect that choice.

Note: Filtering behavior depends on the filter type when selecting multiple values using the **Check boxes** or **Select Multiple Input** control types. Choice and reference filters use an AND query, meaning records must match all conditions. Date filters use an OR query, meaning records must match at least one of the specified conditions.

Note: A filter may be converted from the **Check boxes** to the **Select Multiple Input** control type for performance reasons.

Interactive Filters on homepages and dashboards

You can make an Interactive Filter available to users by adding the filter to a homepage or dashboard.

Note: Add interactive filters only to homepages and dashboards. Interactive filters are not supported on CMS pages.

Add an interactive filter widget to a homepage

You can use an interactive filter by adding the filter widget to a homepage.

Role required: itil. You must have edit rights to the homepage you want to add the filter to.

Add an interactive filter to a homepage to filter content on that homepage.

1. Navigate to a homepage.

2.



Click the add content icon ().

3. In the Add content menu, select **Interactive filters** from the left column.
4. Select the type of filter to add, such as **Choice list** or **Reference**.
5. Select the filter you want to add to the homepage.
6. Click **Add here** in the section you want the filter to appear.

Add an interactive filter widget to a responsive dashboard

Add an interactive filter to a dashboard to filter the content on that dashboard.

Role required: pa_power_user. You must have edit access to the dashboard you want to add the widget to.

1. Navigate to a dashboard.
2.  Click the add content icon ().
3. Select **Interactive filters**.
4. Select the type of filter to add, such as **Choice list** or **Reference**.
5. Select the filter you want to add.
6. Click **Add** or drag the filter onto the dashboard.

Add an interactive filter widget to a non-responsive dashboard

Add an interactive filter to a dashboard to filter the content on that dashboard.

Role required: pa_power_user

Note: If the interactive filter has a default value or specifies the last selected value, this value is not applied automatically on non-responsive dashboards. This feature is only available on [Responsive dashboards](#).

1. Navigate to a dashboard.
2. Click **Edit**.
3.  Click the add content icon ().
4. In the Add content menu, select **Interactive filters** from the left column.
5. Select the type of filter to add, such as **Choice list** or **Reference**.
6. Select the filter you want to add.
7. Click **Add here** in the section you want the filter to appear.

Make a breakdown act as an interactive filter

You can configure a breakdown on a dashboard to act as an interactive filter for reports on the dashboard.

There must be a dashboard configured with one or more reports and breakdowns, and an interactive filter based on the same table as the breakdown source.

Role required: pa_power_user, pa_admin, or admin

When you select a breakdown and breakdown element on a dashboard, that element can be used to filter reports on the dashboard based on the filtering rules defined in an interactive filter.

1. Navigate to **Performance Analytics > Dashboards**.
2. Select a dashboard with one or more breakdowns.
3. Click **Edit** to modify the dashboard.
4. Click the dashboard settings icon () and select **Modify**.
5. In the **Breakdown sources** related list, click the reference icon () next to the breakdown source you want to make into an interactive filter.

Note: You cannot use a breakdown source that is based on a bucket group as an interactive filter.

6. In the **Act as filter** field, select the interactive filter you want this breakdown source to act as. The breakdown source **Facts table** must match the table that the interactive filter is based on. For example, for the breakdown source HR.Groups.Active, use a reference field interactive filter for the Groups [sys_user_group] table. Breakdown elements from the HR.Groups.Active breakdown source are not valid selections for interactive filters on other tables, such as interactive filters based on a choice or date field.
7. Click **Update**.

Make a report follow interactive filters

You can configure a report widget to accept filters from interactive filters.

Role required: itil

1. Navigate to a homepage or dashboard.
2. Put the dashboard or homepage in edit mode.
3. In the report widget, click the Edit widget icon ().
4. Select **Follow interactive filter**.
5.  To display a filter icon () on the top left corner of the report when it is following an interactive filter, select **Show when following**.
6. Click **Done**.
7. Refresh the current browser page to apply the change.

Add one or more interactive filters to the homepage or dashboard.

Make a report act as an interactive filter

You can configure an existing report widget to filter other report widgets on the same homepage or dashboard.

Role required: itil

1. Navigate to a homepage or dashboard.
2. If editing a dashboard, click **Edit Widget**.
3. In the report widget, click the Edit widget icon ().
4. Select **Act as interactive filter**. This field appears only for reports that can be filters. Only reports with a **Type** value of pie, donut, semi donut, funnel, or pyramid may be filters.
5. Click **Done**.
6. Refresh the current browser page to apply the change.

Click on a subset of data in the report, such as a slice of pie in a pie chart, to filter all subscriber reports for the same table. All subscriber reports on the homepage or dashboard for the same table show information about that subset of data only.

Reset all interactive filters on a dashboard tab

Reset all applied filters on a dashboard tab to view the unfiltered data.

Role required: none. You must have access to the dashboard.

1. Navigate to **Self-Service > Dashboards**.

2. Select the dashboard and tab that you want to reset.
3. Click the context menu () and select **Reset Filters**.

Custom interactive filters

As an administrator, you can create scripted interactive filter widgets to provide advanced filtering options on dashboard reports.

By creating a custom interactive filter, you control all aspects of the filter interface and filtering logic. By defining these elements you can create filters that fit your specific needs, such as filters that perform multiple, common filtering operations with a single click.

Custom filters are scripted widgets (**System UI > Widgets**) that use the `DashboardMessageHandler` JavaScript class to define and publish report filters.

You must define the appearance of the widget, such as available buttons, using Jelly.

You must have Performance Analytics to create new interactive filters.

Custom interactive filter example

As an administrator, you can create custom interactive filter widgets to provide advanced filtering options on dashboards.

Use case

This example details how to create a custom filter that filters reports on the Task table, or child tables, to show only records where the current user is the caller. The filter exposes two buttons to the user, one button to add the filter and one to remove the filter.

Create the widget

To create a custom filter, you must create a new dynamic content record and define the user interface for the filter.

Add any buttons or other interface elements to the dynamic content.

```
<?xml version="1.0" encoding="utf-8" ?>
<j:jelly trim="false" xmlns:j="jelly:core" xmlns:g="glide"
  xmlns:j2="null" xmlns:g2="null">
  Example of a filter, that generates a static filter on 'task'
  table reports, or remove it <br/>
  <input id="allTasks" type="button" value="All tasks" />
  <input id="onlyMine" type="button" value="Only mine" />
</j:jelly>
```

Define the filtering logic

After defining the buttons or other elements visible to users, define how each option filters reports on the dashboard.

Filters use the `DashboardMessageHandler` class to manage active filters. Instantiate `DashboardMessageHandler` with a unique value.

Note: No two custom or interactive filters should have the same unique ID or else the filtering logic will not work properly.

The **Only mine** button publishes a filter on Task table reports using the encoded query `caller_id=DYNAMIC90d1921e5f510100a9ad2572f2b477fe`. The **All tasks** button removes the filter.

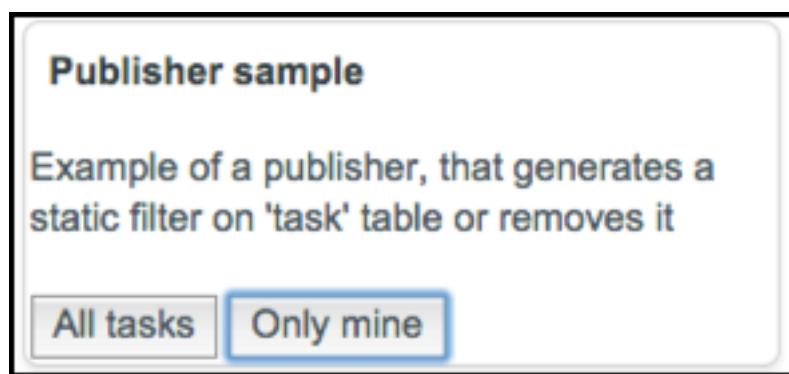
```
<?xml version="1.0" encoding="utf-8" ?>
<j:jelly trim="false" xmlns:j="jelly:core" xmlns:g="glide"
  xmlns:j2="null" xmlns:g2="null">
<script>
  var my_dashboardMessageHandler = new
    DashboardMessageHandler("my_unique_id");
</script>
Example of a filter, that generates a static filter on 'task'
  table reports, or remove it <br/>
<input id="allTasks" type="button" value="All tasks"
  onclick="my_dashboardMessageHandler.removeFilter();" />
<input id="onlyMine" type="button" value="Only mine"
  onclick="my_dashboardMessageHandler.publishFilter('task','caller_id=DYNAMIC90d1921e5f510100a9ad2572f2b477fe')" />
</j:jelly>
```

Add the filter to a dashboard

After creating the filter, add it to a dashboard that contains reports on the Task table or child tables.

Clicking the **Only mine** button on the filter filters reports on the dashboard to only show tasks where the current user is the caller.

Figure 100: The custom filter



Debug filter

The debug interactive filter facilitates the creation of custom filters by displaying a JSON array representation of all active filters on a dashboard.

To use the debug filter, add it to a homepage. The debug filter is read-only and intended to aid in the design and implementation of custom interactive filters.

The screenshot shows a user interface for managing filters. On the left, there are two sections: 'Subscriber Sample' and 'Debug homepage filters'. The 'Subscriber Sample' section contains a message about a subscriber updating its content based on publishers, showing tasks of priority 2. The 'Debug homepage filters' section displays a JSON array of filters: [{"id": "8ab9e3b3c3023100eb79506adfb8fc4", "table": "task", "filter": "priority=2"}, {"id": "my_unique_id", "table": "task", "filter": "caller_id=DYNAMICC90d1921e5f510100a9ad2572f2b477fe"}]. To the right, there is a 'Priority' section with a list of options: All, -- None --, 1 - Critical, 2 - High (selected), 3 - Moderate, 4 - Low, and 5 - Planning. Below this is a 'Publisher sample' section with a message about a publisher generating a static filter on the 'task' table or removing it. It includes buttons for 'All tasks' and 'Only mine'.

Figure 101: Debug filter with filters

DashboardMessageHandler

The `DashboardMessageHandler` class allows you to define custom filtering logic for interactive publishers.

`DashboardMessageHandler - DashboardMessageHandler(String id)`

Instantiates a `DashboardMessageHandler` object with a given unique ID.

Table 198: Parameters

Name	Type	Description
Id	String	A unique ID for the filter. This ID allows report widgets to track which filter applied each filter. The ID does not need to be unique across all dashboards, but each dashboard cannot have multiple filters with the same ID.

```
var my_dashboardMessageHandler = new
DashboardMessageHandler("my_unique_id");
```

DashboardMessageHandler - publishFilter(String table, String encodedQuery)

Each DashboardMessageHandler object can publish a single filter.

Publishing a new filter from the same object overwrites the original filter. Use multiple DashboardMessageHandler objects to publish multiple filters.

Table 199: Parameters

Name	Type	Description
table	String	The table to filter, such as task.
encodedQuery	String	An encoded query that specifies the filter to publish.

Table 200: Returns

Type	Description
void	

```
var my_dashboardMessageHandler = new
DashboardMessageHandler("my_unique_id");
<input id="onlyMine" type="button" value="Only mine"
      onclick="my_dashboardMessageHandler.publishFilter('task','caller_idDYNAMIC90d1921">
```

DashboardMessageHandler - removeFilter()

Removes the current filter published by this DashboardMessageHandler object from all reports on the homepage or dashboard.

Table 201: Parameters

Name	Type	Description
None		

Table 202: Returns

Type	Description
void	

```
var my_dashboardMessageHandler = new
  DashboardMessageHandler("my_unique_id");
<input id="removeFilter" type="button" value="Remove filter"
  onclick="my_dashboardMessageHandler.removeFilter();"/>
```

Interactive Analysis

Interactive Analysis enables you to quickly explore data using visualizations.

Note: This functionality requires [Get started with Performance Analytics Premium](#) on page 7.

From any list of records you can access an interactive set of reports on the list data, as well as manipulate the data by grouping, stacking, and applying interactive filters. You can click a visualization to drill down into the data.

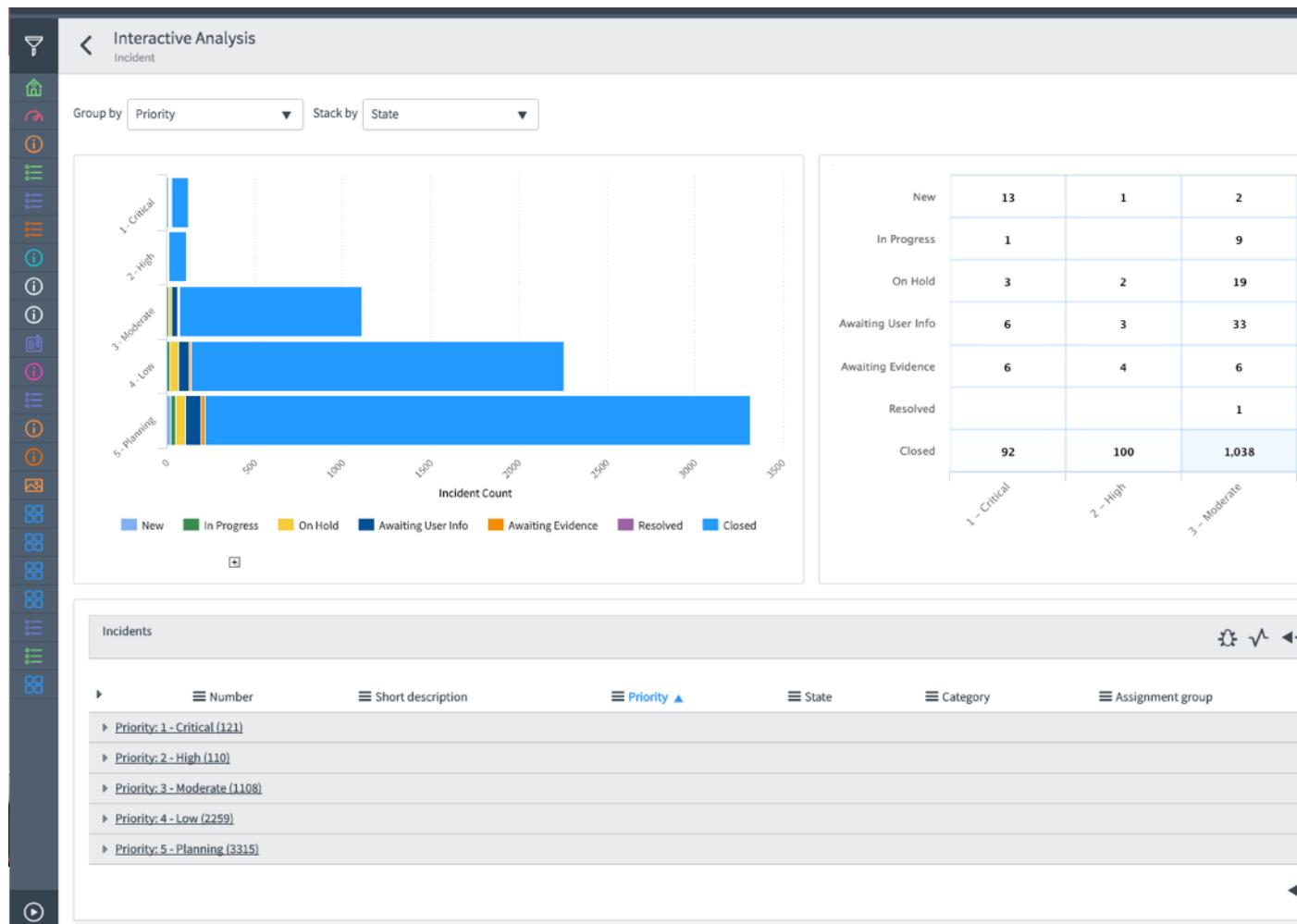


Figure 102: Interactive Analysis on Incident data

Launch Interactive Analysis

Launch Interactive Analysis from a list.

Role required: none

You must have access to the list of records that you want to analyze.

1. Navigate to any list.

2. Optional: Configure the columns that are displayed on the list.

The columns that appear on the list when you launch Interactive Analysis determine which fields are included in the analysis. The included fields determine which **Group by** and **Stack by** options are available, and which interactive filters appear by default.

3. Right-click the column header for a reference, choice, date/time, or boolean field and select **Launch Interactive Analysis**.

The column that you launch Interactive Analysis from is used as the default **Group by** value.

4. Optional: Change how data is aggregated by selecting different values in the **Group by** and **Stack by** choice lists, or filter the data by applying one or more interactive filters.

5. Optional: Drill down into a subset of the data by clicking a visualization, such as a bar in the bar chart or a cell in the heatmap.

Request Interactive Analysis

The Interactive Analysis plugin (com.glideapp.interactive_analysis) requires Performance Analytics Premium and must be activated by ServiceNow personnel.

Role required: none

1. In the HI Service Portal, click **Service Catalog > Activate Plugin**.
2. Fill out the form.

Target Instance	Instance on which to activate the plugin.
Plugin Name	Name of the plugin to activate.
Specify the date and time you would like this plugin to be enabled	Date and time must be at least 2 business days from the current time. Note: Plugins are activated in two batches each business day in the Pacific timezone, once in the morning and once in the evening. If the plugin must be activated at a specific time, enter the request in the Reason/Comments.
Reason/Comments	Any information that would be helpful for the ServiceNow personnel activating the plugin such as if you need the plugin activated at a specific time instead of during one of the default activation windows.

3. Click **Submit**.

Dashboards

Dashboards enable you to display multiple Performance Analytics, reporting, and other widgets on a single screen. Use dashboards to create a story with data you can share with multiple users.

Explore	Administer	Use
<ul style="list-style-type: none"> • Dashboards upgrade information 	<ul style="list-style-type: none"> • Enable responsive dashboards on page 635 • Group dashboards on page 628 • Troubleshoot permissions on a responsive dashboard on page 632 • Move a dashboard with an update set on page 629 	<ul style="list-style-type: none"> • Working with responsive dashboards on page 604 • Working with non-responsive dashboards on page 617 • Determine whether a dashboard is responsive on page 625

Troubleshoot and get help Training

- [Ask or answer questions in the Performance Analytics and Reporting community](#)
 - [Search the HI knowledge base](#)
 - [Contact ServiceNow Support](#)
- [Performance Analytics training](#)

Create and use dashboards

Learn about different types of dashboards and how to use them.

Working with responsive dashboards

Responsive dashboards enable you to share widgets such as reports and Performance Analytics visualizations. Use an easy-to-use drag and drop canvas to create, edit, and arrange content, then share with colleagues.

Use dashboards to:

- Create and edit Performance Analytics reports and other widgets directly from the dashboard.
- Use the Add Widget pane to quickly find and preview widgets, then add them to the dashboard.
- Easily share dashboards with other users from the integrated Sharing pane.
- Use quick layouts to snap widgets into a predefined layout, then adjust the layout as desired.
- Set dashboards as your **Home** so you can quickly access information that you use frequently.

For more information, see [Dashboards release notes](#).

Benefits

- Optimize performance with configurable widget loading. For more information, see [Optimize widget rendering time on responsive dashboards](#) on page 634.

Limitations

- Responsive dashboards are not supported on Internet Explorer versions 7 and 8.

Create or configure a responsive dashboard

Create a dashboard where you can add widgets that you frequently use. You can then share the dashboard with other users.

Users with any role can create dashboards.

1. Navigate to **Self-Service > Dashboards**.
2. Click the context menu () and select **New Dashboard**.
3. Fill in the following fields.

Field	Description
Name	Name the dashboard.
Order	Enter an Order number to indicate the order the dashboard is to appear on the dashboards picker. Dashboards with lower numbers are listed first.
Active	Clear this field to make the dashboard marked (inactive) to you in the dashboard picker. Inactive dashboards are visible to users with the admin, pa_power_user, and pa_admin roles only if those dashboards have been shared with them.
Owner	The dashboard owner. Only a user with the administrator role can change this value.
No tabs	This field does not do anything.

4. Users with admin, pa_admin, and pa_power user roles can configure these additional fields.

Field	Description
Group	Add the dashboard to a Group . Groups organize dashboards in the dashboard picker choice list. Groups are listed at the top of the list. Ungrouped dashboards are listed at the bottom of the list, under Other .
Breakdown	Select one or more breakdown sources in the Breakdown Source related list. Breakdowns enable users to filter the data in Performance Analytics on the dashboard.

5. Click **Submit**.

Create a dashboard version of a homepage

To take advantage of responsive dashboard functionality, you can migrate your existing homepage to a dashboard.

Users with any role can copy their own homepage to a dashboard. Users with the admin role can create dashboard versions of any homepage.

Advantages of dashboards include:

- Responsive design – The widgets on a dashboard are optimized for the screen you are using: desktop, tablet, or mobile phone.
- Drag-and-drop widgets – You can add dashboard widgets precisely where you want them and rearrange the dashboard with easy to use tools.
- Shareability – You can share dashboards easily with users, roles, and groups.

When you create a dashboard version of a homepage, the content is added to the new dashboard, but permissions associated with the homepage are not retained. To apply permissions to the dashboard, specify the permissions again. Users with whom you share a dashboard may or may not be able to edit the dashboard or share it with others. The ability to edit or share a dashboard is based on the user's role and the permissions granted to them.

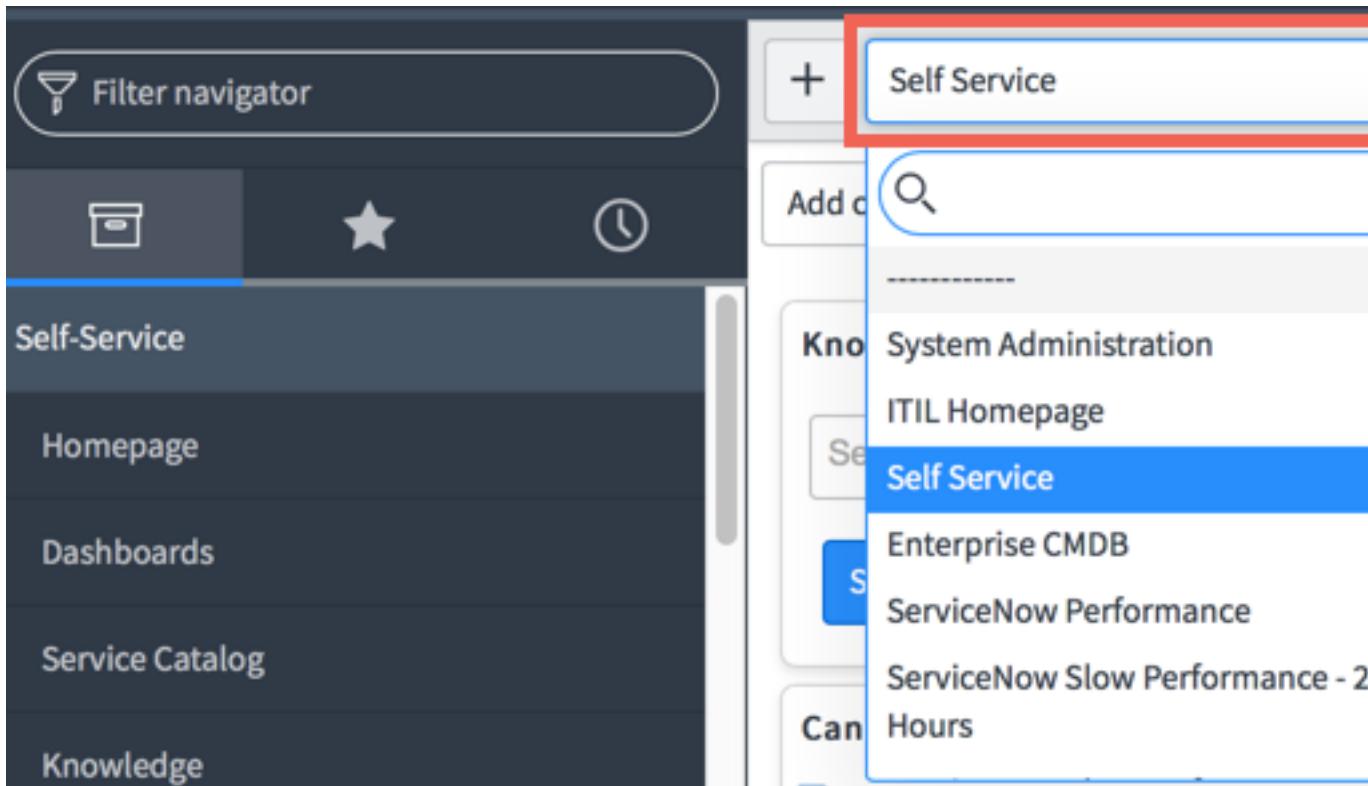
Note:

Only pages that are accessible through **home.do** can be converted. Manually coded UI pages that utilize the homepage layout system, but are not accessible through **home.do** cannot be converted.

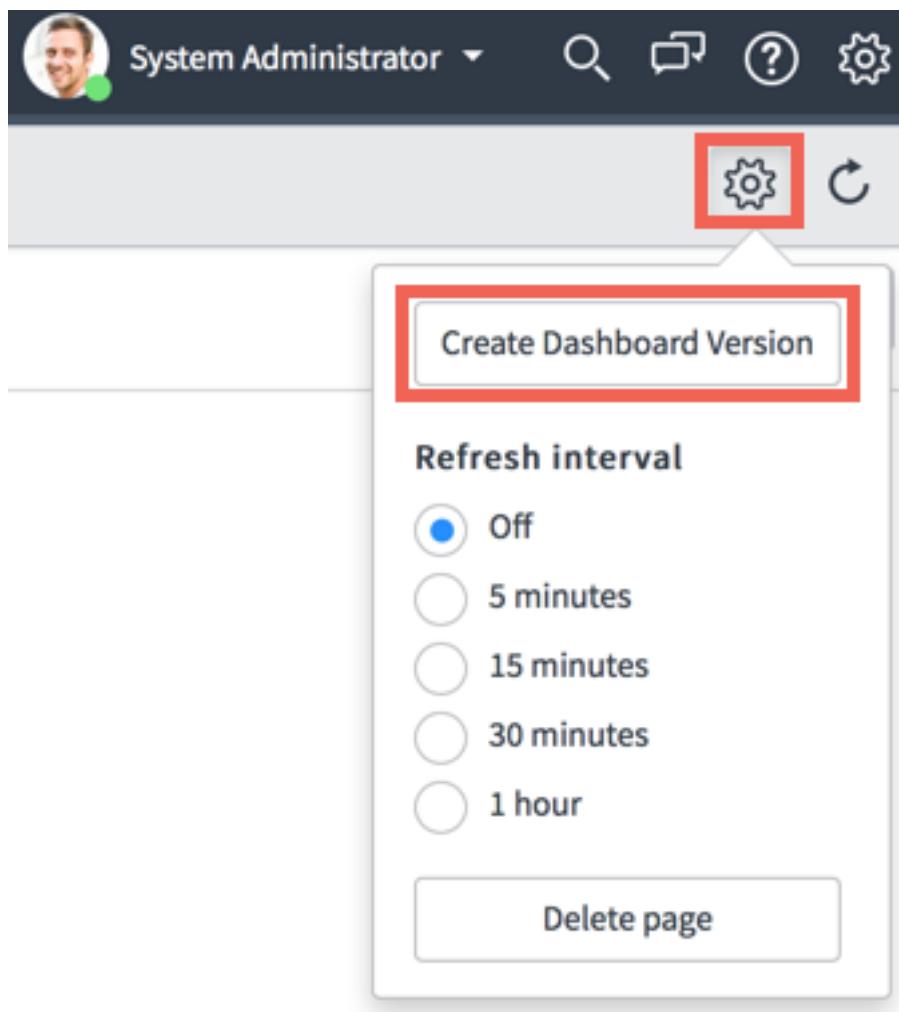
Homepages with layouts that include scripts or style sheets might not work or might not look as expected after conversion. This discrepancy is because jelly code is not evaluated during conversion.

When you convert a homepage to a dashboard, the dashboard is independent of the homepage. Changes you make to the dashboard do not migrate to the source homepage. In addition, changes that you make to the homepage after conversion do not migrate to the dashboard.

1. Enable responsive dashboards. For more information, see [Enable responsive dashboards](#) on page 635.
2. Navigate to **Self-Service > Homepage**.
3. From the list, select the homepage you want to copy.



4. Click the Homepage settings icon and choose **Create Dashboard Version**.



5. Select **Create new dashboard** or **Add to existing dashboard** and click **Create**.

The **Add to existing dashboard** list contains only the dashboards you own.

When successful, the dashboard version opens as a new dashboard or as a tab on the selected dashboard.

Note: The layout of the dashboard version is similar to the homepage layout but may not be precisely the same.

Note: Homepages with dashboard versions show a button with the text **Open Dashboard Version**. This button takes the user to the most recently created dashboard version of the homepage.

You can share the dashboard version of your homepage with other users. See [Share a responsive dashboard](#) on page 610.

Edit a responsive dashboard

You can edit the contents of a dashboard, including tabs and widgets. Because dashboards are shared, any modifications you make are applied globally.

Users can edit dashboards that they own, or ones to which they have been given editing rights.

Note: Responsive dashboards do not support the Sticky Notes widget.

1. Navigate to **Self-Service > Dashboards**.
2. From the dashboard picker on the upper left, select the dashboard that you want to edit.
3. Perform any of the following actions.

Action	Steps
Add a widget	<ol style="list-style-type: none"> 1.  Click the plus sign () to put the dashboard in edit mode. 2. Search or navigate to the widget that you want to add. 3. Click Add. 4. Drag to move or resize the widget on the dashboard.
Remove a widget	<ol style="list-style-type: none"> 1.  Click the plus sign () to put the dashboard in edit mode. 2. Point to the top of the widget, then click the X icon () that appears.
Edit a widget	<ol style="list-style-type: none"> 1.  Click the plus sign () to put the dashboard in edit mode. 2. Point to the widget, then click the pencil icon () that appears.
<hr/>	
Note: You must have access rights to the widget to edit it. Edit rights to a dashboard do not give you edit rights to the widgets on that dashboard.	
Change the appearance of a widget	<ol style="list-style-type: none"> 1.  Click the plus sign () to put the dashboard in edit mode. 2. Point to the widget, then click the gear icon () that appears.

Action	Steps
Resize or change the layout of widgets	<p>1. Click the plus sign (+) to put the dashboard in edit mode.</p> <p>2. Drag to move and resize widgets.</p> <ul style="list-style-type: none"> To make a widget larger, point to it and then click the resize icon () that appears. To make a widget smaller, point to it then press SHIFT as you click the resize icon.
Apply a quick layout to a dashboard	 <p>Click the configuration icon () to open the configuration pane, then click a layout to snap the widgets against. Modify the layout as desired.</p>
Add a tab to a dashboard	 <p>Click the configuration icon () to open the configuration pane, then click Create Tab.</p> <p>Note: You cannot link an existing tab into a dashboard.</p>
Reorder a dashboard tab	<p>1. Click the context menu () and select Dashboard Properties.</p> <p>2. On the Dashboard Tabs related list, enter numbers in the Order column to specify the tab order. Tabs are listed from left to right with lower numbers appearing first.</p>
Delete a dashboard tab	<p>Click the tab to make it active. Point to the tab name and click the trashcan that appears.</p> <p>Note: The dashboard tab is deleted from all dashboards where it exists. Dashboards may have tabs that are used in multiple dashboards.</p>
Rename a tab	<p>1. Click the tab to make it active.</p> <p>2. Point to the tab name and click the pencil icon that appears.</p> <p>3. Type the new name then press ENTER.</p>

Action	Steps
Enable filtering of data for report widgets	<p>Interactive filters let users filter data for all report widgets on a dashboard that are configured to follow interactive filters.</p> <ol style="list-style-type: none"> 1.  Click the plus sign () that appears. 2. In the Edit Widget window, select the Follow interactive filter check box. 3.  To display a filter icon () on the report when it is following an interactive filter, select the Show when following check box.
<p>Note: Performance Analytics widgets cannot follow interactive filters.</p>	
Enable filtering of data for Performance Analytics widgets	<p>Add a breakdown to a dashboard so that users can filter data for all Performance Analytics widgets on that dashboard. The pa_admin or pa_power user role is required to work with breakdowns.</p> <p>See Add a breakdown to a dashboard on page 46.</p>
View the description of a widget	 Point to the widget, then click the question mark () that appears. If the widget does not have a description, the question mark icon does not appear.

Share a responsive dashboard

Share a dashboard with other users to create a shared view of data that you can use to collaborate. You can give other users viewing rights or editing rights.

- Users can share dashboards that they own with other groups and users.
- Only users with the admin, pa_admin, or pa_power_user role can share dashboards with other roles.
- Users with the pa_admin or pa_power_user role can share dashboards that they can edit.
- Users with the admin role can share any dashboard they can access.

Sharing a dashboard does not grant permission to most widgets on that dashboard. The exceptions are the Performance Analytics widgets, which inherit view ACLs from the dashboards where they have been added. Users who can view a dashboard can see all Performance Analytics widgets on that dashboard.

1. Navigate to **Self-Service > Dashboards**.
2. Select the dashboard that you want to share from the dashboard picker on the top left.
3.  Click Sharing () to open the sharing panel.
4.  Click **Add groups and users** (). Users who have the admin, pa_admin, or pa_power_user roles can also share the dashboard with other roles.
5. Start typing the name in the **To** field.
6. Select a user, group, or role from the list that displays.
7. From the **Recipients** list, select **Can read** or **Can edit** to specify the permissions the user, group, or role has on the dashboard.
8. Click **Invite**.

Invite



To: Aileen Mottern X

kn

5



Bridget Knightly
bridget.knightly@example.com

6



Clarice Knower
clarice.knower@example.com



Tiffany Knust
tiffany.knust@example.com



knowledge



knowledge_admin



knowledge_manager

Recipients

Can view



7

Cancel

Invite

8

The dashboard is shared and an invitation is sent out to the invited users.

Note: It is not possible to disable the email notification.

Dashboard permissions

Dashboards have special granular view and edit permissions that are managed from the Sharing pane. ACLs apply to most widgets that are added to dashboards.

- Users with any role can create dashboards, share dashboards that they own with users and groups, and edit dashboards if they have been given edit permissions.
- Users without a role can view dashboards that have been shared with them, but cannot create or edit dashboards.
- Users with pa_admin and pa_power_user roles can manage users, groups, and roles on any dashboard that they can edit. They can also assign an owner to a dashboard that has no owner.
- Users with the admin role can edit and manage users, groups, and roles for any dashboards they can access. Admin users can also change a dashboard owner at any time.
- Only a dashboard owner and users with the admin role can delete that dashboard.

Note: The columns Visible to, Groups, Users, and Requires Roles only apply to non-responsive dashboards. The values in these columns do not apply to responsive dashboards.

Widget ACLs apply when that widget is added to dashboards (except for Performance Analytics widgets). If a user can view a dashboard but does not have ACLs to view one of its widgets, an empty widget placeholder is displayed. ACLs do not apply to data visualizations that aggregate data, such as pie or bar reports. ACLs always apply to list data that is displayed in widgets. Rows in a list that a user does not have access to are not displayed.

Note: ACLs are not applied to Performance Analytics widgets that are added to dashboards. Any user who can view a dashboard can view all its Performance Analytics widgets. Performance Analytics widgets can only be added to dashboards by users with the pa_power_user, pa_admin, and admin roles.

Dashboard permissions may be impacted by the **Restrict to role** field on the dashboard properties form (can be changed by the dashboard owner, and users with pa_power_user, pa_admin, or admin roles), and by dashboard group permissions (can be changed by users with the pa_power_user, pa_admin, and admin roles).

For example, when you add a pie report widget that includes 36 records to a dashboard, any user with access to that dashboard and that report can view the pie visualization of all 36 records. However, if a user drills down into the list view for that widget, only the records for which the user has access are visible.

Restrict responsive dashboard access to specific roles

After you share a dashboard with specified users, groups, and roles, you can specify additional roles required to access the dashboard. To access the dashboard, it must be shared with the user and the user must have one of the specified roles. For example, if you share a dashboard with the itil role, and **Restrict to Roles** is populated with pa_viewer, only users with both the itil and pa_viewer roles can see the dashboard.

Role required: pa_admin, pa_power_user, admin, or be the dashboard owner. Other users who edit the dashboard can see this field but cannot modify it.

Note: Restricting access to a dashboard to specific roles is not the same as sharing the dashboard with those roles. You must first share the dashboard before you can restrict access to specified

roles. The best practice, however, is to share with users, groups, and roles only in the **Sharing** panel. Restrict to roles is not recommended.

The **Restrict to roles** field is available only after responsive dashboards have been enabled. If responsive dashboards have been enabled and then disabled, the **Restrict to roles** field remains available but does not affect dashboard access.

When dashboards are migrated between releases, this field is automatically populated with the pa_viewer and pa_contributor roles. This provides extra security and ensures that only users who could access the dashboard before migration can access it after migration.

1. Navigate to the dashboard to restrict to specific roles.
 2. Click the context menu () and select **Dashboard properties**.
 3. In the **Restrict to roles** field, specify the additional roles required to access the dashboard.
- Users with any of the specified roles can access the dashboard only if it has been shared with them first from the sharing panel. For more information, see [Share a responsive dashboard](#) on page 610.

Only users with the restricted role are able to view the dashboard.

Manage responsive dashboards

Depending upon their role, users can delete or duplicate responsive dashboards, and remove a user from a dashboard. All users can mark a dashboard as a favorite.

Delete a responsive dashboard

Delete dashboards that are no longer used. Deleted dashboards cannot be restored.

Role required: admin, or be the owner of the dashboard.

1. Navigate to **Performance Analytics > Dashboards**.
2. Click the context menu () and choose **Delete Dashboard**.

Duplicate a responsive dashboard

When you duplicate a dashboard, its widget layout is preserved. However, sharing permissions are not preserved. Changes you make to the duplicated dashboard do not affect the original dashboard.

Any user who can share a dashboard can duplicate it.

1. Navigate to the dashboard that you want to duplicate.
2. Click the context menu () and select **Duplicate Dashboard**.

A copy of the dashboard is created with you as the owner.

Modify the dashboard and then share it with other users.

Remove a user from a dashboard

When you no longer want to share a dashboard with a specific user, group, or role, you can remove them.

Role required: Any dashboard owner can remove users or groups from dashboards they own.

Users with the admin role can remove users, groups, or roles from any dashboard.

Users with the pa_admin or pa_power_user role can remove users, groups, or roles from any dashboard that they can edit. These dashboards include dashboards that a user owns, and dashboards to which they have been granted edit rights.

See [Dashboard permissions](#) on page 613.

1. Navigate to **Self-Service > Dashboards**.

2. Select the dashboard you want to modify.
3.  Click the sharing icon ().
4. Select the user, group, or role that you want to remove.
5. On the information panel of the user, group, or role, click **Remove From Dashboard**.

The removed users no longer have the right to view the shared dashboard.

Mark a responsive dashboard as a favorite

You can mark a dashboard as a favorite to easily access it from the navigation pane.

Anyone who can access a dashboard can make it a favorite.

1. Navigate to **Self-Service > Dashboards**.
2. From the dashboard picker in the upper left, select the dashboard that you want to mark as a favorite.
3.  Click the context menu () and select **Favorite Dashboard**.

Export a responsive dashboard to PDF

Export a dashboard as a PDF so you can archive or print it.

Roles required: pa_viewer role is required to export dashboards to PDF.

You must activate the WebKit HTML To PDF plugin before you can export homepages, dashboards, and some reports as PDF documents. Activating this plugin also activates the OAuth 2.0 plugin if it is not already active. For more information, see [Activate a plugin](#).

Interactive filters that are applied to the dashboard are also applied to the PDF. However, applied breakdowns are not included in the export.

Limitations:

- Dashboards that are exported to PDF do not include the dashboard layout. Widgets are stacked on top of each other and take up the full page width.
- Widgets are exported to a fixed height. Large widgets, such as workbench or list widgets, are truncated.
- Breakdowns applied to a dashboard are not included in the PDF.
- Widgets may appear in a different order than on the dashboard.
- Widget legends may not appear.
- Coloring on the delta text for single score report widgets is not preserved.
- The selected time frame at the widget level (for example, 3 minutes) is not reflected in the PDF file when the **Show date range selector** is selected at the widget level.

Note: PDFs that are sent as emails may not be generated immediately.

1. Navigate to **Self-Service > Dashboards**.
2. From the dashboard picker in the upper left, select the dashboard that you want to export.
3.  Click the context menu () and select **Export to PDF**.
4. Configure your print and delivery options.
5. Click **Export**.

Copy a responsive dashboard URL

You can create a URL that opens the current view of the dashboard, including tabs and breakdown elements. The ServiceNow platform frame around the dashboards is not included in the link. You cannot copy a dashboard URL from the browser.

You must be able to access the dashboard.

1. Navigate to the dashboard whose URL you want to copy.
2. Optional: Select a specific tab, breakdown, and breakdown element.
3. Click the context menu (≡) and select **Copy Dashboard URL**.

The dashboard URL is copied to your clipboard. Some browsers prompt you to manually copy the URL to your clipboard.

Share the URL with other users.

Dashboard URL format

You can link to a Performance Analytics dashboard from your instance.

All dashboard URLs follow this format:`https://<instance>.service-now.com/$pa_dashboard.do?`

This base URL is followed by several optional query parameters.

Table 203: URL parameters

Parameter	Description
<code>sysparm_dashboard=<sys_id></code>	The sys_id of the dashboard to display.
<code>sysparm_tab=<sys_id></code>	The sys_id of the dashboard tab to display. If you do not specify a tab, the leftmost tab is displayed. This parameter applies only if <code>sysparm_dashboard</code> exists.
<code>sysparm_breakdown_source=<sys_id></code>	The sys_id of the dashboard breakdown to display.
<code>sysparm_element=<value></code>	The sys_id or value of breakdown element to display. This parameter applies only if <code>sysparm_breakdown_source</code> also exists. Values are case-sensitive.
<code>sysparm_element_value=<value></code>	The selected element value. This value may be the sys_id of a referenced record, or the database value for a choice list choice. Database values are case-sensitive. This parameter applies only if <code>sysparm_element</code> and <code>sysparm_breakdown_source</code> also exist.
<code>embedded=<true false></code>	Controls if the dashboard picker and context menu are displayed.
<code>header=<true false></code>	Controls if the dashboard header appears. This parameter overrides the embedded parameter.

When linking to your instance from an outside source such as a text document or presentation, use `nav_to.do` instead. For instructions on constructing this URL, see [URL schema](#).

Enable real-time updating for single score report widgets on a responsive dashboard

Real-time updates ensure that users viewing the dashboard always see the most up-to-date information.

You must have edit rights to the dashboard where the widget has been added.

Four types of aggregation are available for single-score reports: Count, Average, Sum, and Count Distinct. Real-time updating is available only for single score widgets that use the **Count** aggregation.

Note: You can select **Show real-time updates** for single score widgets that use the **Average**, **Sum**, and **Count Distinct** aggregations, but they do not update in real time.

You can enable real-time updating for single score widgets on homepages and all dashboards.

1. Navigate to the dashboard where the single score widget has been added.

2.



Click the plus sign () to put the dashboard in edit mode.

3.



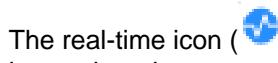
Point to the widget, then click the gear icon () that appears.

4. Select **Show real-time updates** then click **Done**.

5.



Click the plus sign () to exit edit mode for the dashboard.



The real-time icon () appears on the widget. This icon is permanently visible, even when the score is not changing.

Change the owner of a responsive dashboard

The owner of a dashboard can edit it, and share it with other users.

Role required: Only admins can change a dashboard owner.

1. Navigate to **Self service > Dashboards**.
2. Open the dashboard whose owner you want to change.
- 3.



Click the context menu () and select **Dashboard Properties**.

4. Select a new owner in the **Owner** field.
5. Click **Update**.

Working with non-responsive dashboards

Only users with the pa_viewer role can view non-responsive dashboards. Only users with the admin, pa_admin, or pa_power_user roles can create and edit them. Non-responsive dashboards use layouts with predefined dropzones.

Table 204: Basic principles, non-responsive dashboards

Principle	Description
Dashboards	Users with any pa role can have one or more dashboards assigned for viewing. Users with the pa_admin and pa_power_user role can set up and edit dashboards.
Tabs	Each dashboard may contain one or more dashboard tabs.
Rows	A tab can have multiple rows. For each row, you can specify the number of "placeholders" or columns. Each placeholder can hold a widget.
Widgets	Widgets contain information about one or multiple indicators.

Create or configure a non-responsive dashboard

Create a dashboard to show the most relevant indicators for specific users or groups.

Roles required: pa_admin or pa_power_user

You can create separate dashboards according to topic, such as for incident management, problem management, or request management. The **Owner** field is automatically populated and can only be changed by a user with the admin role.

1. Navigate to **Performance Analytics > Dashboards**.
2. Click the lock icon in the top-right.
3. Click the plus icon in the top left.
4. Enter a **Name** that indicates what the dashboard shows. For example, `Incidents Dashboard`.
5. Enter an **Order** number to indicate the order the dashboard should appear on the dashboards choice list.

Dashboards with lower numbers are listed before dashboards with higher numbers.

6. Select **Active** to make the dashboard available in the dashboards choice list.
 7. Select a dashboard **Group** to add the dashboard to. Dashboard groups determine how dashboards appear on the dashboard picker.
 8. Optional: Select **No tabs** to disable the tab header.
- Dashboards with the tab header disabled can display only one tab. You cannot add additional tabs to the dashboard if you select this option.
9. In the **Visible to** field, select one of the following options.

Option	Description
Everyone	Make the dashboard available to all users with the pa_viewer role.
Requires Roles	Select any roles that are required to access the dashboard, in addition to the pa_viewer role.
Users and Groups	Select specific users or groups that can access the dashboard. Users must have the pa_viewer role.

10. Optional: Select one or more breakdown sources in the **Breakdown Source** related list. Breakdown dashboards have extra options in the dashboard header to select a breakdown and an element.

Create a tab on a non-responsive dashboard

By default, a dashboard is created with a **Home** tab. You can create and manage additional tabs to group information in a logical order.

Role required: pa_admin, pa_power_user, or admin

For example, the tabs **Daily Indicators**, **Weekly Indicators**, and **Home** could display the key indicators for incident management.

1.



From a dashboard, click the unlock icon ().

2. Click the plus (+) icon beside the existing tabs.
3. In the pop-up window, enter a name for the new tab.
4. Do one of the following

Option	Description
Enter a name for the new tab and click Create tab.	Adds a new empty tab to the dashboard.
Select an existing tab from a different dashboard and click Link this tab	Adds the tab to the dashboard. You can share a tab across multiple dashboards.
Select an existing homepage and click Link this homepage	Adds the homepage to the dashboard. You can display a homepage within the dashboard.

To add or change content for a tab, click the plus (+) icon at the top left of the tab area.

To change the appearance of a tab, click **Change Layout**.

Modify a tab on a non-responsive dashboard

An existing tab can be renamed, reordered, or deleted.

Role required: pa_admin, pa_power_user, or admin

Note: The information on this page applies only to non-responsive dashboards. For information on how to use responsive dashboards, see [Working with responsive dashboards](#) on page 604.

1. Navigate to the dashboard that you want to modify.
2. In edit mode, click the down arrow beside the name of the active tab to access options for modifying tabs.

Option	Description
Rename	Change the name of the tab.
Delete this tab	Delete the tab completely. When deleting the tab, it is also removed from all other dashboards.
Set as homepage	Make this tab the homepage for the dashboard. When a user selects the dashboard, this tab appears as the first page. The homepage icon is added before the title of the tab.

Option	Description
Change tab order	Change the order of the tabs by giving them a number. The tab with the lowest number starts on the left and the tab with the highest number appears on the right.

Change the layout of a tab on a non-responsive dashboard

You can change the layout of a tab the same way you change the layout of homepages.

1. In edit mode, click **Change Layout**.
2. In the pop-up window, select one of the available layouts.
 - three columns with two wide columns and a narrow right column.
 - narrow left column, large right column, with a header.
 - Minimalist approach to the CMS layout.
 - two columns with wide right column, header and footer.
 - three columns of equal size only.
 - a single cell centered on screen.
3. Click **Change Layout** to apply the new layout to the tab.

Manage non-responsive dashboards

Depending upon their role, users can modify, delete, or duplicate non-responsive dashboards.

Administrators can control access to a dashboard and add a Performance Analytics widget to a dashboard.

Modify, delete, or copy a non-responsive dashboard

You can change dashboard properties while the dashboard is in Edit mode.

Role required: pa_admin, pa_power_user, or admin

1. Navigate to the dashboard that you want to modify, delete, or copy.
2. Click **Edit** to put the dashboard in edit mode.
3. Click the gear icon at the top right and select one of the following options.

Option	Description
Modify	Change the basic dashboard settings, as described in Create or configure a non-responsive dashboard on page 618.
Delete	Permanently delete the dashboard.
Duplicate	Create a copy of the dashboard, with the name Copy of <name> . The copy contains all tabs and their content. Widgets are not copied, only widget links are copied.

You can add, delete, rename, and change the layout of tabs in a copy without affecting the original dashboard. However, changing the configuration of a widget on the copied dashboard also affects the original dashboard, since they share widgets. Use the **Modify** option to change the name and update the look and contents of the dashboard copy.

Control access to a non-responsive dashboard

You can control which users, groups, or user roles can access a dashboard.

Role required: pa_admin

If users can access a dashboard, they can see all widgets on that dashboard.

1. Navigate to **Performance Analytics > Dashboards**.
2. Select the dashboard you want to give access to.
3. Click **Edit**.
4.  Click the properties icon ().
5. Select **Modify**.
6. Limit access using one of these options:
 - To limit access to users with certain roles, select the roles in the **Required Roles** field.
 - To limit access to certain users and groups, select **Users and Groups** in the **Visible to** choice list and specify which users and groups get access.

Add a Performance Analytics widget to a non-responsive dashboard

You can add a widget to a non-responsive dashboard.

The dashboard must be in edit mode. To enable edit mode, click **Edit**.

Role required: pa_admin, pa_power_user, or admin

Note: The information on this page applies only to non-responsive dashboards. For information on how to use responsive dashboards, see [Working with responsive dashboards](#) on page 604.

Click the plus (+) icon at the top of the tab area to add widgets. A pop-up window appears for choosing which content you want to add to the tab. Content is not limited to Performance Analytics content, but may be from any area.

1. Select **Performance Analytics** in the category list.
2. Select the type of content to use.
 - Breakdown
 - List
 - Score
 - Time Series
 - Relative Compare
3. Select an existing widget, or select the option to create a new one.
4. Select the desired tab location by clicking the corresponding **Add here** button.
5. You can either add another widget or close the pop-up window. The widget is saved automatically.

Copy the URL of a non-responsive dashboard

You can create a URL for a dashboard.

Role required: pa_viewer

1. Navigate to **Performance Analytics > Dashboards**
2. Select a dashboard.
3. Optional: Select a specific tab, breakdown, and breakdown element.
4.  Click the Copy URL icon ().

Distribute the URL to share the dashboard.

Dashboard URL format

You can link to a Performance Analytics dashboard from your instance.

All dashboard URLs follow this format:`https://<instance>.service-now.com/$pa_dashboard.do?`.

This base URL is followed by several optional query parameters.

Table 205: URL parameters

Parameter	Description
<code>sysparm_dashboard=<sys_id></code>	The sys_id of the dashboard to display.
<code>sysparm_tab=<sys_id></code>	The sys_id of the dashboard tab to display. If you do not specify a tab, the leftmost tab is displayed. This parameter applies only if <code>sysparm_dashboard</code> exists.
<code>sysparm_breakdown_source=<sys_id></code>	The sys_id of the dashboard breakdown to display.
<code>sysparm_element=<value></code>	The sys_id or value of breakdown element to display. This parameter applies only if <code>sysparm_breakdown_source</code> also exists. Values are case-sensitive.
<code>sysparm_element_value=<value></code>	The selected element value. This value may be the sys_id of a referenced record, or the database value for a choice list choice. Database values are case-sensitive. This parameter applies only if <code>sysparm_element</code> and <code>sysparm_breakdown_source</code> also exist.
<code>embedded=<true false></code>	Controls if the dashboard picker and context menu are displayed.
<code>header=<true false></code>	Controls if the dashboard header appears. This parameter overrides the embedded parameter.

When linking to your instance from an outside source such as a text document or presentation, use `nav_to.do` instead. For instructions on constructing this URL, see [URL schema](#).

Export a homepage or non-responsive dashboard to PDF

You can generate a PDF file for any homepage or dashboard.

Roles required: `pa_viewer` role is required to export dashboards to PDF.

You must activate the WebKit HTML To PDF plugin before you can export homepages, dashboards, and some reports as PDF documents. Activating this plugin also activates the OAuth 2.0 plugin if it is not already active. For more information, see [Activate a plugin](#).

Some widgets may be truncated on PDF exports.

1. Navigate to a homepage or dashboard.

- 2.



Click the export to PDF icon () on a homepage or the **Export to PDF** button on a dashboard.

3. In the Export to PDF dialog box, select formatting options.

Option	Description
Orientation	Page orientation of the exported PDF, either portrait or landscape.
Paper size	Paper size for the PDF. Available sizes match common paper sizes such as Letter and A4.
Zoom factor	Scaling percentage for the displayed widgets. This value must be a positive number.
Avoid page break inside widget	Prevents widgets from being printed across multiple pages. Widgets that would span multiple pages are moved to the top of the following page.
Smart shrink	Automatically selects the necessary zoom factor for all content to fit into the width of the selected paper size.
Note: This option may cause incorrect page formatting when used with Avoid page break inside widget or a zoom factor greater than 100.	
Delivery	PDF delivery method. <ul style="list-style-type: none"> • Generate now generates the PDF immediately and displays a button for downloading. • Send as an email displays a field for entering an email address. After you click Export, the PDF file is generated and sent to the email address.

-
4. Click **Export**.
 5. If you selected the **Generate now** option, wait for the rendering to complete and then click **Download**.

Enable real-time updating for single-score-report widgets on a non-responsive dashboard

Enable single score report widgets on a dashboard to update in real time. Real-time updates ensure that users see the most up-to-date information.

You must have edit rights to the dashboard where the widget has been added.

Real-time updating is available only for single score widgets that use the **Count** aggregation.

Note: You can select **Show real-time updates** for single score widgets that use the **Average** aggregation, but they do not update in real time.

You can enable real-time updating for single score widgets on homepages and all dashboards.

1. Navigate to the dashboard where the single score widget has been added.
2. Click **Edit** to put the dashboard in edit mode.
3. Point to the widget, then click the gear icon () that appears.
4. In the Edit Widget window, select the **Show real-time updates** check box and then click **Done**.

Note: You can select **Show real-time updates** on single score widgets that use the **Average** aggregation, but they do not update in real time. Only single score widgets that use the Count aggregation can update in real time.

5. Click **Done** to exit the edit mode for the dashboard.

The real-time icon () appears on the widget. This icon is permanently visible, even when the score is not changing.

Differences between homepages and responsive and non-responsive dashboards

Any user with a role can create and share responsive dashboards. You can drag to move and resize widgets on responsive dashboards. Non-responsive dashboards use less flexible drop zone layouts, and require Performance Analytics roles to view, create, and edit. Homepages have more restrictive layouts and permission structures.

Table 206: Compare dashboard types

	Responsive dashboards	Non-responsive dashboards	Homepages
Move and resize widgets	Drag to move and resize widgets.	Layouts with drop zones, no custom resizing of widgets.	Layouts with drop zones, no custom resizing of widgets.
Lazy loading	Only visible widgets load. More widgets load as the user scrolls down. For more information, see <i>Optimize widget rendering time on responsive dashboards</i> on page 634.	All widgets load when the dashboard is opened. This results in slower performance.	All widgets load when the homepage is opened. This results in slower performance.
Preconfigured layouts	Not required. On responsive dashboards, you can resize each widget individually, or apply a quick layout.	Required	Required
View dashboards / homepages	All users	Only users with pa_viewer role.	All users
Create dashboards / homepages	Any user with any role.	Only users with pa_admin and pa_power_user roles.	Any user with any role can create, but only admins can share.

	Responsive dashboards	Non-responsive dashboards	Homepages
Share permissions	Dashboard owners can share with users, groups, and roles.	<p>Users with pa_admin and pa_power_user roles can share.</p> <p>Users with pa_admin and pa_power_user roles can edit and view.</p> <p>Users with pa_viewer role can view dashboards that have been shared with them.</p>	Only admins can assign read and write roles.

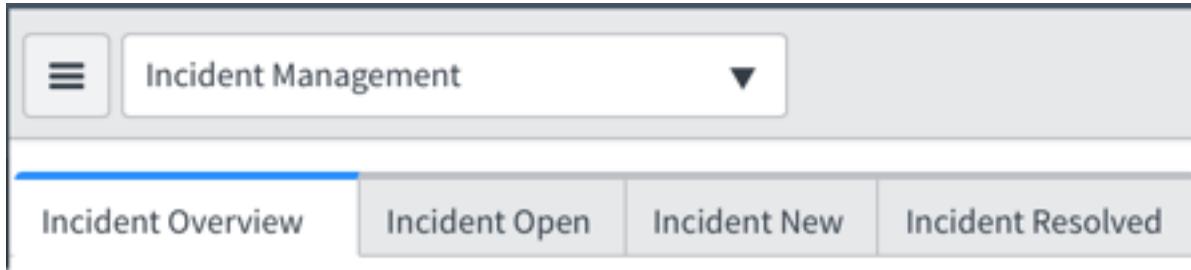
Determine whether a dashboard is responsive

Dashboards on an instance are responsive or non-responsive depending on how an administrator has configured your instance. These different dashboard types have different headers.

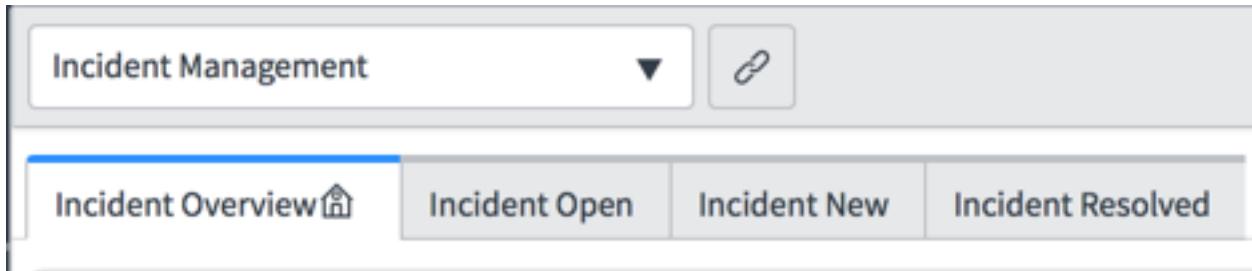
Look at the dashboard header to determine the type:

Note: Some of the buttons are shown only if you have edit rights to the dashboard.

1. Responsive dashboards:



2. Non-responsive dashboards:



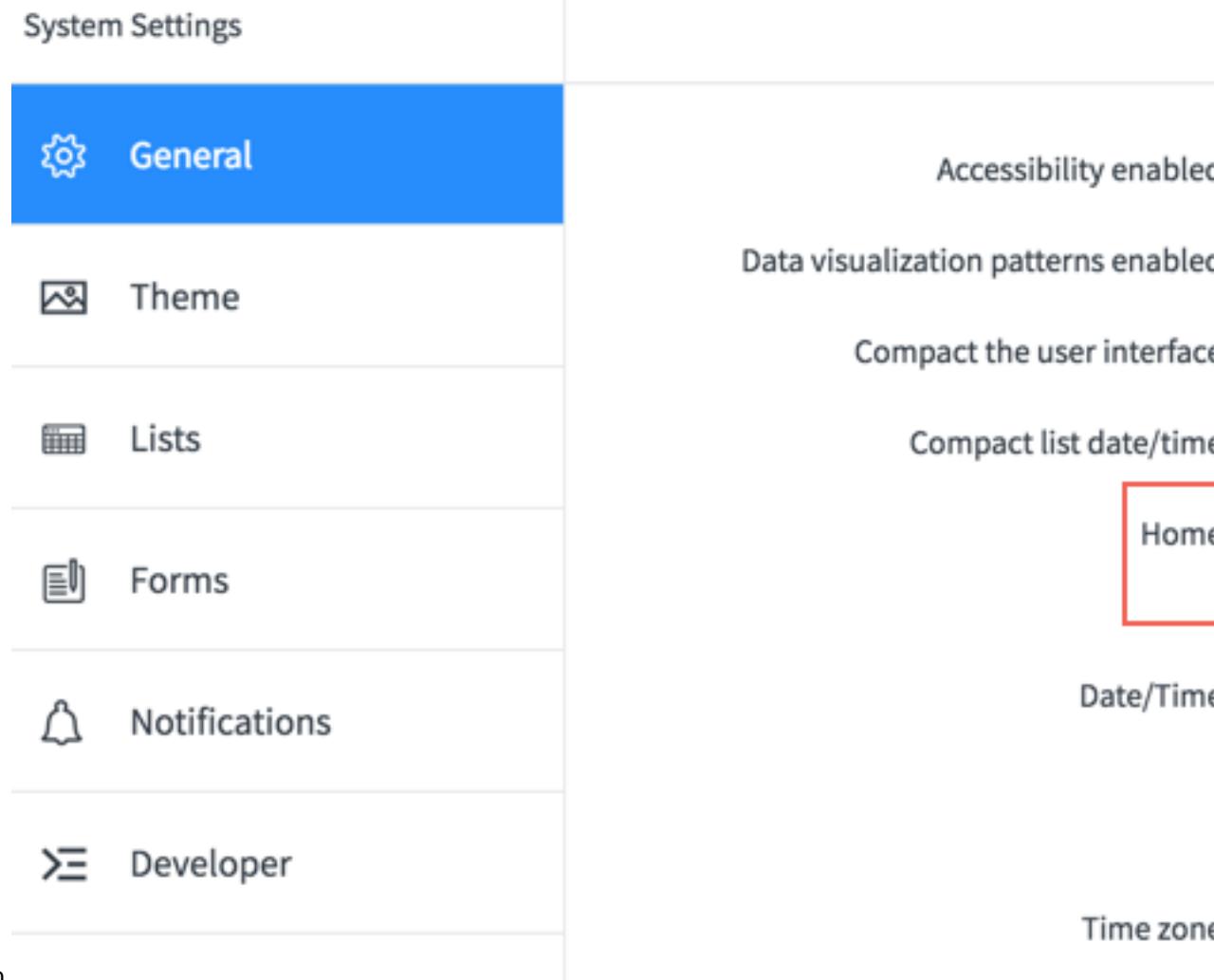
Set dashboards as your Home

You can set dashboards instead of homepages as your **Home**. With this setting, the last dashboard you selected appears when you navigate to **Self-Service > Homepage**, or click the logo on the upper left corner of the platform.

When dashboards are set as your **Home**, you can no longer navigate to homepages under **Self-Service > Homepage** or the company logo. The most recently selected dashboard is always loaded. You cannot

specify a specific dashboard as your **Home**. Mark a dashboard as a favorite to easily navigate to the dashboard.

1. Click the gear icon () to access System Settings.
2. On the General tab, select **Dashboards** in the **Home**



The screenshot shows the 'System Settings' page with the 'General' tab selected. To the right of the tabs, there are several status indicators:

- Accessibility enabled**
- Data visualization patterns enabled**
- Compact the user interface**
- Compact list date/time**
- Home** (highlighted with a red box)
- Date/Time**
- Time zone**

Below the tabs, there are other settings listed:

- Theme**
- Lists**
- Forms**
- Notifications**
- Developer**

section.

When you navigate to **Self-Service > Homepage**, **Self-Service > Dashboards**, or click your company logo, the last dashboard you selected appears.

Request an analytics service

Request services associated with dashboards, such as to request a new dashboard or access to an existing dashboard.

Role required: none

1. Navigate to either **Self-Service > Service Catalog** or **Service Portal > Service Portal Home**.
2. If you navigated to the Service Portal, select **Order Something**.
3. Select the **Can We Help You?** category.
4. Select **Analytics Request**.

5. Select the **Request type**, such as **Request dashboard access**, **Edit a dashboard**, or **Report an issue**.
6. Optional: If you are submitting the request for another user, select the **Request on behalf of another user** check box and select **User** you are making the request for.
7. Provide additional details about your request, such as the name of the dashboard and a description of the changes you want made. Available fields depend on the request type.
A notification is automatically sent to the requesting user.

After you submit the request, the Analytics team is responsible for reviewing and implementing your requested changes.

Fulfill an analytics request

Analytics service requests are assigned to the Analytics group who can review and fulfill the requests.

At least one user must be a member of the Analytics group.

Role required:

- Fulfiller - itil and pa_admin. The fulfilling user must be a member of the Analytics group which automatically grants these roles.
- Approver - itil and approver_user

1. Navigate to **Service Desk > My Groups Work**.
2. Select a request.
3. If the request is to grant access to a dashboard, select the **Dashboard** that this request applies to.
4. Select one or more users as the **Request Approver**.

This approver should not be a member of the Analytics group.

Note: No approval is required when the request type is **Report an issue**.

5. The approver can then approve the request.
 - a) Navigate to **Self-Service > My Approvals**.
 - b) Select the request approval.
 - c) Click **Approve**.

If the approver rejects the approval, the request is closed automatically. If the approver selects an option other than approved or rejected, the fulfiller user can close the request by setting the **State** to **Closed Skipped** or **Closed Incomplete**.

After the request is approved, or if no approval was required, a task is automatically created for the Analytics team that is accessible from the **Tasks** related list on the request record. An email notification is sent to the Analytics team.

6. After the approver approves the request, perform the requested changes to fulfill the request. Refer to the dashboards documentation for instructions on how to modify dashboards and dashboard permissions.
7. Update the task **State** to **Closed Complete**.
The request **State** is updated automatically when the task is closed. An email notification is sent to the requesting user to inform the user that the requested changes are complete.

Activate the Self-Service Portal for Analytics plugin

You can activate the Self-Service Portal for Analytics plugin (com.snc.pa.bi_service) if you have the admin role. This plugin activates related plugins if they are not already active.

Role required: admin

Self-Service Portal for Analytics activates these related plugins if they are not already active.

Table 207: Plugins for Self-Service Portal for Analytics

Plugin	Description
Performance Analytics [com.snc.pa]	Core Performance Analytics functionality

1. Navigate to **System Definition > Plugins**.
2. Find and click the plugin name.
3. On the System Plugin form, review the plugin details and then click the **Activate/Upgrade** related link.
If the plugin depends on other plugins, these plugins are listed along with their activation status.
If the plugin has optional features that depend on other plugins, those plugins are listed under **Some files will not be loaded because these plugins are inactive**. The optional features are not installed until the listed plugins are installed (before or after the installation of the current plugin).
4. Optional: If available, select the **Load demo data** check box.
Some plugins include demo data—Sample records that are designed to illustrate plugin features for common use cases. Loading demo data is a good practice when you first activate the plugin on a development or test instance.
You can also load demo data after the plugin is activated by clicking the **Load Demo Data Only** related link on the System Plugin form.
5. Click **Activate**.

Administering dashboards

Learn about administering dashboards.

Group dashboards

Organize dashboards into groups so users can easily find them. Dashboard groups determine how dashboards appear in the dashboard picker when you navigate to **Dashboards**. You can add view permissions to dashboard groups.

Role required: admin, pa_admin, or pa_power_user

Permissions on dashboard groups apply to all the dashboards in that group. Note that:

- View permissions set on an individual dashboard override permissions set at the dashboard group level.
- Edit permissions on a dashboard do not affect group permissions.
- Dashboard group permissions do not appear in the dashboard Sharing panel.

To display single groups in the dashboard picker, add the parameter `sysparm_group=` followed by the group name to the dashboard URL. For example, to display only a dashboard group named incident, use the URL `https://<instance>/pa_dashboard.do?sysparm_group=incident`.

1. Navigate to **Performance Analytics > System > Dashboard Administration**.
Review current dashboards groupings using the **Groups** column.

2. Click the dashboard that you want to add to a group to open its form.
3. In the **Group** field, select a group to add the dashboard to, or click **New** to add a group.
4. Optional: Open the dashboard group's form to modify its permissions. Only view permissions can be set on dashboard groups.
Dashboard groups use standard platform permission. For more information, see [Access control list rules](#).
5. Click **Update**.

How dashboard and dashboard group permissions interact on responsive dashboards

Dashboard group and dashboard permissions are not additive. Depending on how permissions are defined on an dashboard, dashboard group permissions may not apply.

If a dashboard belongs to a dashboard group, any view permissions defined on the dashboard override all view permissions on the dashboard group. Permissions on the dashboard group level are not visible from a dashboard's Share panel. When changing the view permissions for a dashboard that is part of a group, always review the permissions for the dashboard group to ensure users do not lose access. For more information, see [Dashboard permissions scenarios](#) on page 632.

For example: The dashboard group Support Dashboards contains the dashboards Open Incidents and Incident Metrics. The dashboard group has view permissions for the group Support. When you give view permissions to user John Dee for the dashboard Incident Metrics, the group Support can no longer see that dashboard because view permissions on the dashboard override all view permissions on the dashboard group.

Move a dashboard with an update set

Dashboard tabs are not automatically transferred in update sets. You must manually add the tab content to the update set and associate that content with a new tab on the target instance.

Role required: admin

1. In the source instance, navigate to **Performance Analytics > Dashboards**.
2. Select the tab you want to copy.
3. Click the context menu icon (≡) and select **Copy Dashboard URL**.
4. Paste the URL into a text editor.
5. Copy the sys_id value following the sysparm_tab parameter.

For example, if the URL of the tab is `https://my_instance.sn.com/$pa_dashboard.do?sysparm_dashboard=abc123&sysparm_tab=def456&sysparm_cancelable=true&sysparm_editable=` then the sys_id of the sysparm_tab parameter is def456.

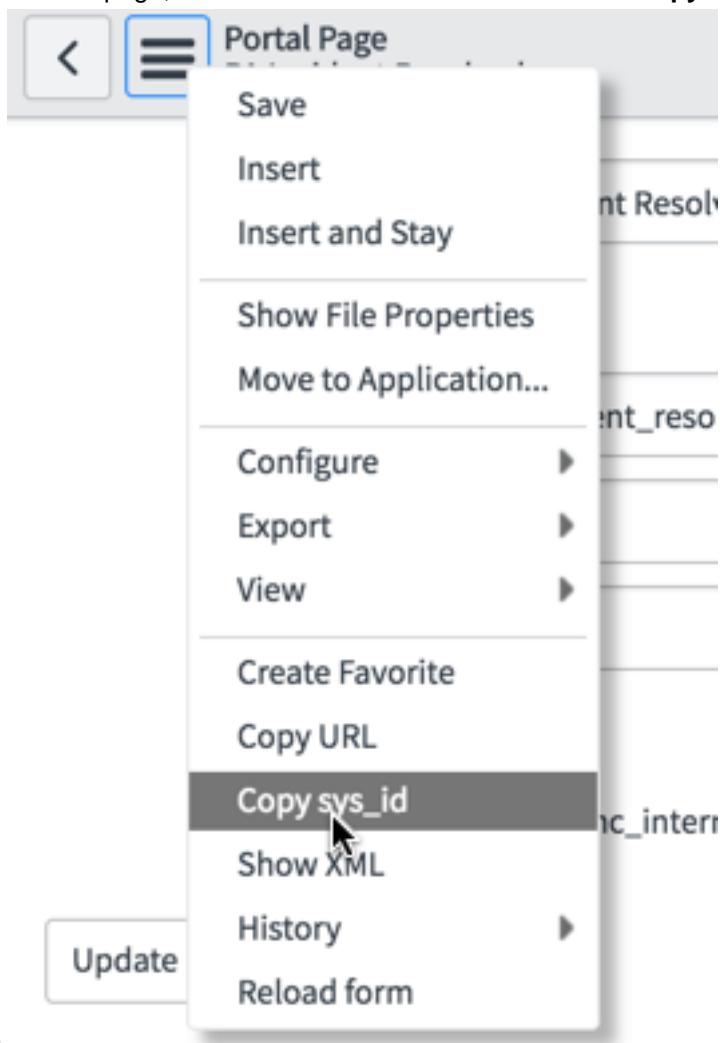
6. In the navigation filter, enter `pa_tabs.list`.

7. Filter the list to show only the tab with the sys_id you

A screenshot of a search interface. At the top, there is a red-bordered filter icon labeled 'All'. Below it are buttons for 'Run', 'Save...', 'AND', 'OR', 'Add Sort', and a delete icon. A search bar contains the text 'Sys ID' followed by a dropdown arrow, then 'is', and finally 'def456' which is highlighted with a blue border.

copied.

8. click the **Page** value for that tab.
9. On the **Portal** page, click the context menu icon and select **Copy sys_id**. Paste this value into a text



editor.

This value is the sys_id for the portal page. It is different than the sys_id for the tab that you have already used.

10. Navigate to **Homepage Admin > Pages**.
11. Filter the list to show only the portal page with the sys_id you copied.

12. Right-click the record and select **Unload Portal**

The screenshot shows the 'Portal Pages' list view in ServiceNow. A context menu is open over a record titled 'PA Incident Resol'. The menu options include:

- Show Matching
- Filter Out
- Copy URL to Clipboard
- Copy sys_id
- Assign Tag
- Show Gantt View
- Timeline Visualization
- Unload Portal Page** (highlighted with a cursor)
- View Homepage
- Edit Homepage
- Revert to Store App
- Show Latest Update

Page.

The page is added to the current update set.

13. Optional: To move a responsive dashboard, you must also unload its Grid Canvas, which contains the relationships between the responsive canvas and other dashboard objects. If you skip this step, the dashboard imports with empty tabs.

- Navigate to **sys_grid_canvas.list** and find the page with the **PortalPage.Sys_ID** value that you previously recorded.
- Right-click the record and select **Unload Canvas Page**.

The page is added to the current update set.

14. Move the update set to another instance using standard update set functionality. For more information, see [Retrieve an update set](#)
15. In the target instance, navigate to **Performance Analytics > Dashboards**.

16. Select the dashboard you want to add the tab to.
 17. Add a tab to the dashboard.
 - a) Click the context menu icon and select **Create tab**.
 - b) Double-click the default name of the new tab and give it a name.
 18. Click the context menu icon and select **Dashboard properties**.
 19. In the **Dashboard Tabs** related list, select the new tab.
-
- Note:** You may need to configure the form to add the **Dashboard Tabs->Dashboard** related list.
-
20. Open the **Tab** record.
 21. Change the value of **Page** to the name of the portal page that you moved in the update set.
 22. Change the value of **Canvas page** to the name of the canvas page that you moved in the update set.
 - a) To show the **Canvas page** field if it is not visible, click the context menu and select **Configure > Form Layout**
 - b) Move Canvas page [+] to the **Selected** column and click **Save**.
 23. Click **Update**.

Troubleshoot permissions on a responsive dashboard

Dashboard permissions can be set in several different locations.

When troubleshooting permissions on responsive dashboards, check these locations.

- Check the permissions on the Dashboard Sharing pane.
This step can be performed by the dashboard owner, users with the admin role, and users with the pa_power_user or pa_admin role who can edit the dashboard.
- Review permissions of the group to which the dashboard belongs. Dashboard group permissions do not show up in the dashboard Sharing panel.
This step can be performed by users with the admin, pa_power_user, or pa_admin role.
- Compare the dashboard and dashboard group permissions. If permissions are specified on a dashboard, the permissions on the dashboard group are overridden and no do not apply.
This step can be performed by users with the admin, pa_power_user, or pa_admin role.
- On the dashboard properties form, review the roles specified in the **Restrict to roles** field. Only users with one of the roles specified in this field can view the dashboard.
This step can be performed by the dashboard owner, users with the admin role, and users with pa_power_user or pa_admin roles who can edit the dashboard. Other users who can edit the dashboard can view this field but cannot edit it.

Dashboard permissions scenarios

Permissions on ServiceNow dashboards can be complicated. If you set a permission on a dashboard group, for example, permissions set on a dashboard within that group override it. This matrix shows what is visible based on various combinations of permissions.

The Dashboard permissions scenarios table uses these abbreviations:

- DB = Dashboard
- DG = Dashboard Group

- RTR = Restrict to Roles (For more information, see [Restrict responsive dashboard access to specific roles](#) on page 613.)
- X = Unspecified

Table 208: Dashboard permissions scenarios

Scenario	DG	DG permission	DB view permission	DB edit permission	RTR	Who can view the DB?
No DG, no DB permissions	X	X	X	X	X	Only the owner
Only RTR	X	X	X	X	asset	Only the owner
Only DB permissions	X	X	itil	X	X	Users with the itil role
DB permissions and RTR	X	X	itil	X	asset	Users with both the itil AND asset roles
Only DG without permissions	Exists	X	X	X	X	Users with either the pa_admin role OR the pa_power_user role
DG without permissions and RTR	Exists	X	X	X	asset	Users with both the asset role AND either the pa_admin role OR the pa_power_user role
Only DG and DG permissions	Exists	itil	X	X	X	Users with either the itil role OR the pa_admin role OR the pa_power_user role

Scenario	DG	DG permission	DB view permission	DB edit permission	RTR	Who can view the DB?
DG, DG permissions, and RTR	Exists	itil	X	X	asset	Users with both the asset role AND either the itil role OR the pa_admin role OR the pa_power_user role
DG, DG permissions, and DB permissions	Exists	itil	itil_admin	X	asset	Users with both the itil_admin role AND the asset role
DG, DG permissions, DB permissions, and RTR	Exists	itil	itil_admin	X	X	Users with the itil_admin role

The default permissions for a dashboard group are pa_admin and pa_power_user. If a permission, such as itil, is specified on the dashboard group, this permission is added to the default permission. Permissions on individual dashboards override the dashboard group permission.

Optimize widget rendering time on responsive dashboards

You can use system properties to optimize how widgets load.

You can optimize widget rendering only for responsive dashboards.

Role required: admin

1. Enter sys_properties.list in the Navigation filter.
2. Use the following system properties to optimize rendering of dashboard widgets:

Name	Description
<code>glide.canvas.grid.widget_performance_threshold</code>	Defines the maximum number of seconds for a widget to render on a dashboard. Widgets that exceed this time are not rendered and a warning message is shown. Users can click to restart rendering. Stopping widgets that render slowly enables faster widgets to load, and increases the speed of dashboard loading.
	<p>Note: This system property applies to responsive dashboards only.</p> <ul style="list-style-type: none"> • Type: integer • Default value: none • Location: Add to the System Property [sys_properties] table.
<code>glide.canvas.grid.widget_render_concurrent_max</code>	Defines the maximum number of widgets that render simultaneously on a dashboard. With smaller values, more requests are made to the server. With larger values, fewer requests are made to the server.
	<p>Note: This property reduces load on the server. It does not necessarily improve performance of individual dashboards.</p> <p>Widgets that are outside of the screen do not load at all until you scroll past them.</p> <p>For values of 1 or lower, all widgets load simultaneously.</p> <ul style="list-style-type: none"> • Type: integer • Default value: 3 if the property is not manually set. The minimum value is 2 if the property is manually set. • Location: Add to the System Property [sys_properties] table.

The values to use for these properties depend on the performance of your instance and the contents of its dashboards.

Enable responsive dashboards

A system administrator can enable responsive canvas for dashboards for an entire instance. The best practice is to enable responsive canvas immediately after upgrade Istanbul to avoid problems with dashboard permissions and layouts.

Role required: admin

Permissions that were added to dashboards created after upgrade to Istanbul but before enablement of responsive dashboards and any dashboards that have the **Owner** field populated are not preserved. These permissions must be manually readded after you enable responsive dashboards.

During conversion to responsive canvas, the layout of dashboards may slightly change. Highly customized dashboards may have significant changes, such as different widget layouts or missing widgets. Review each dashboard for changes and adjust its layout as necessary on the drag-and-drop canvas.

Set the `glide.cms.enable.responsive_grid_layout` system property to **true**. If this property does not exist, you can create it. For more information, see [Add a system property](#).

All new dashboards are responsive, and existing dashboards become responsive. Review the layout of all existing dashboards. See [Dashboards upgrade information](#).

Disable responsive dashboards

If you disable responsive canvas for an instance, all dashboards become non-responsive dashboards and revert to non-responsive functionality. Disabling responsive canvas after it has been enabled is strongly discouraged.

Role required: admin

When you disable responsive dashboards:

- Sharing permissions that were made while responsive canvas was enabled are lost and must be manually re-added to dashboards. Only dashboard owners will be able to see dashboards that were created after responsive dashboards was enabled. For dashboards that existed before responsive dashboards was enabled, dashboard permissions revert to their pre-conversion state.
- The layouts of dashboards that were made after responsive dashboards was enabled will be lost, and use the default drop zone layout. Dashboards that were created before responsive canvas was enabled will revert to their pre-conversion layout. Any widgets that were added or removed while the dashboard was responsive will be preserved.
- the **Restrict to roles** and **Owner** fields remains available in the dashboard properties form. However, the **Restrict to role** field does not do anything.

Set the `glide.cms.enable.responsive_grid_layout` system property to **false**. If this system property does not exist, you can create it.

Content packs and in-form analytics

Content packs contain preconfigured best practice dashboards. These dashboards contain data visualizations that help you improve your business processes and practices. With in-form analytics, you can access preconfigured dashboards directly from a form.

Note: Content packs and in-form analytics provide all the configuration records required to analyze default applications. You must have Performance Analytics Premium to collect scores for content pack indicators.

Content packs

Content packs contain pre-configured dashboards that track and analyze key processes and metrics.

The Performance Analytics widgets on the dashboard visualize data over time, which allows you to analyze your business processes and identify areas of improvement. With content packs, you can get value from Performance Analytics for your application with minimal setup.

Note: Content packs include some dashboards that are inactive by default. You can activate these dashboards to make them visible to end users according to your business needs.

Content packs provide all the configuration records required to analyze default applications.

For additional, unofficial, content packs on various applications, see the [ServiceNow Share Portal](#).

In-form analytics

In-form analytics integrate performance insights into forms so that users can access important metrics in context, and make better decisions.

A dashboard with relevant visualizations appears as a pop-up window when a user clicks the Analytics



icon () next to a field. For example, in-form analytics on an incident form show the expected time to close that incident based on historical data, enabling support engineers to set appropriate customer expectations.

If an application has a content pack that is inactive, that content pack is activated when you activate in-form analytics.

Available content packs

Content packs with preconfigured dashboards, indicators, and other configuration records are available for multiple applications.

Content packs are available for the following applications. The ID for each content pack plugin is listed in parentheses.

- Application Portfolio Management (com.snc.pa.apm)
- Change Management (com.snc.pa.change)
- Cloud Management (com.snc.pa.cmp)
- Configuration Management (CMDB) (com.snc.pa.cmdb)
- Customer Service (New) (com.snc.pa.customer_service)

Note: Always activate the Customer Service (New) plugin, which includes the dashboards in the older Customer Service (com.snc.customerservice_pa) plugin.

-
- Discovery (com.snc.pa.discovery)
 - Event Management (com.snc.pa.em)
 - Field Service Management (com.snc.work_management_pa)
 - Financial Management (com.snc.pa.fm)
 - Human Resources (com.snc.pa.hr_core)

Note: The content pack for the unscoped version of Human Resources, com.snc.pa.hr_core, is deprecated. If you are using the unscoped version of Human Resources and want to activate its content pack, contact customer support.

-
- Incident Management (com.snc.pa)

Note: Incident management content is available by default with Performance Analytics in a *limited version*.

-
- Incident SLA (com.snc.pa.sla)
 - Incident Spotlight (com.snc.pa.spotlight.incident)
 - Knowledge Management (com.snc.pa.knowledge)
 - Problem Management (com.snc.pa.problem)
 - Project Portfolio Suite (com.snc.pa.ppm)

- Request Management (Requested Item) (com.snc.pa.request)
- Request Management (Requests) (com.snc.pa.request2)
- Service Desk Chat (com.snc.pa.chat)
- Security Incident Analytics (com.snc.security_incident.analytics)
- Software Asset Management (com.snc.pa.samp)

Available in-form analytics

In-form analytics, which integrate data visualizations into forms, are available for multiple applications.

In-form analytics are available for the following applications. The ID for each content pack plugin is listed in parentheses.

- Content Sensitive Analytics for Change Management (com.snc.pa.change.context_sensitive_analytics)
- Content Sensitive Analytics for Chat (com.snc.pa.chat.context_sensitive_analytic)
- Content Sensitive Analytics for Customer Service (com.snc.pa.cs.context_sensitive_analytic)
- Content Sensitive Analytics for Incident (com.snc.pa.incident.context_sensitive_analytic)
- Content Sensitive Analytics for Problem Management (com.snc.pa.problem.context_sensitive_analytic)

Activate a content pack using guided setup

You can activate and set up Performance Analytics content packs quickly and consistently using guided setup.

Role required: admin

Guided setup simplifies the process of activating content packs and configuring the provided records to meet your needs. After you complete guided setup, Performance Analytics will be configured for an application. You can then view collected scores on scorecards and dashboards.

Note: You can activate Performance Analytics content packs on instances that do not have Performance Analytics to evaluate the functionality. However, to collect scores for content pack indicators you must license Performance Analytics.

1. Navigate to **Performance Analytics > Guided Setup**.
2. Click **Get Started**.
3. Scroll to the application you want to set up a content pack for, such as Incident or Customer Service.
4. If the plugin is not yet active, guided setup is locked until you activate the content pack plugin.

Note: A user must have the admin role to complete these steps.

- a) Click **View plugins**.
 - b) Click the **Activate/Upgrade** related link.
 - c) Click **Activate**.
Activating a Performance Analytics content pack plugin also activates any plugins for the associated application if they are not already active. For example, activating the Performance Analytics - Content Pack - Customer Service plugin also activates the Customer Service plugin, if it is not already active.
 - d) After the plugin is activated, close the plugin window to return to guided setup.
5. Click **Get Started** for the application you are setting up.

6. Follow the guided setup instructions to review the provided records such as indicators, breakdowns, widgets, and dashboards and to begin collecting Performance Analytics scores.
As you perform each step, additional information appears in the right-side **Help** menu.

Performance Analytics Solution Library

The Solution Library enables you to easily install and update dashboards and visualizations for Performance Analytics content packs.

Using the Solution Library, you can install and update dashboards, widgets, reports, interactive filters, and other configuration records without impacting your indicators or indicator sources. The Solutions Library ensures that your data remains consistent. The Solution Library also enables you to update existing visualizations when you want, either individually or for an entire dashboard, instead of automatically updating the visualizations when you upgrade the instance.

The Solution Library provides a description and preview of each dashboard that you can use to identify which dashboards you want to install.

Solution Library dashboards are available for the following applications:

- Incident
- Problem
- Change
- SLA
- Knowledge
- Service Catalog Request

You must enable responsive dashboards to use the Solution Library.

Install a dashboard

Use the Solution Library to install a dashboard and all associated visualizations such as widgets and reports.

Role required: pa_admin

You can install a dashboard for the first time, or reinstall a dashboard to restore it to the default state.

Note: Reinstalling a dashboard overrides all customizations made to the dashboard or its associated records such as widgets.

To reinstall a single record from a dashboard, such a widget, without impacting other records used by the same dashboard, see [Reinstall a single record](#) on page 640.

1. Navigate to **PA Solution Library > Solutions**.
2. Select the dashboard you want to install or upgrade.
The dashboards provided in the Solution Library may depend on indicators, indicator sources, or other configuration records associated with data collection that are not installed by the Solution Library. To install these records, activate the plugin for the associated content pack that appears in the **Plugin** field.
3. Click **Install**.
4. In the confirmation window, click **Install**.

The installation may take up to 30 seconds to complete after you confirm. Clicking **Cancel** during this time closes the confirmation window but does not stop the in-progress installation.

After the installation completes, the confirmation window disappears and the **Installed Metadata** related list is populated with the records that were installed.

Navigate to the newly-installed dashboard to begin analyzing your data.

Upgrade a dashboard

Upgrading a dashboard installs new versions of any record used by that dashboard that have been updated. Records without new versions are not affected.

Role required: pa_admin

Note: Any customizations you have made to records with available updates are overwritten when you upgrade.

1. Navigate to **PA Solution Library > Solutions**.
2. Select the dashboard you want to upgrade.
3. Review the **Solution Metadata** related list.
Records where the **Update Available** field is **true** will be upgraded.
4. Click **Upgrade**.
The **Upgrade** button appears only if updates are available for the current dashboard.
5. In the confirmation window, click **Upgrade**.
The upgrade may take up to 30 seconds to complete after you confirm. Clicking **Cancel** during this time closes the confirmation window but does not stop the in-progress upgrade.

Reinstall a single record

Reinstall a single record used by a dashboard, such as a widget, to restore that record to the default state without impacting other records used by the same dashboard.

Role required: pa_admin

To reinstall the entire dashboard and all associated records, see [Install a dashboard](#) on page 639.

Note: Reinstalling a record overwrites any customizations you have made to that record.

1. Navigate to **PA Solution Library > Solutions**.
2. Select the dashboard that uses the record you want to reinstall.
3. In the **Solution Metadata** related list, select the record you want to reinstall.
4. Click **Install**.
5. In the confirmation window, click **Install**.

Duplicate a dashboard

Duplicate a dashboard and preserve the layout, including tabs and displayed widgets.

Role required: pa_admin

By duplicating a dashboard you can modify or upgrade one copy without affecting the duplicate.

Note: Duplicating a dashboard does not duplicate the widgets displayed on the dashboard. You can rearrange or remove widgets from one copy of the dashboard without affecting the other. However, modifying a widget record will affect both the original dashboard and the duplicate.

1. Navigate to **PA Solution Library > Solutions**.
2. Select the dashboard you want to duplicate.
3. Click **Duplicate Dashboard**.

Activate the Solution Library plugin

You can activate the Performance Analytics - PA Solution Library plugin (com.snc.pa.solution.library) if you have the admin role. This plugin includes demo data and activates related plugins if they are not already active.

Role required: admin

The Performance Analytics - PA Solution Library plugin activates these related plugins if they are not already active.

Table 209: Plugins for

Plugin	Description
Performance Analytics [com.snc.pa]	Contains the core Performance Analytics functionality.

1. Navigate to **System Definition > Plugins**.
2. Find and click the plugin name.
3. On the System Plugin form, review the plugin details and then click the **Activate/Upgrade** related link. If the plugin depends on other plugins, these plugins are listed along with their activation status. If the plugin has optional features that depend on other plugins, those plugins are listed under **Some files will not be loaded because these plugins are inactive**. The optional features are not installed until the listed plugins are installed (before or after the installation of the current plugin).
4. Optional: If available, select the **Load demo data** check box. Some plugins include demo data—Sample records that are designed to illustrate plugin features for common use cases. Loading demo data is a good practice when you first activate the plugin on a development or test instance. You can also load demo data after the plugin is activated by clicking the **Load Demo Data Only** related link on the System Plugin form.
5. Click **Activate**.

Widgets

Objects that have been added to dashboards are called widgets. You can create and manage widgets. Many applications have their own widgets. See an application's documentation for information about the widgets included with the application.

Create a widget that displays a ServiceNow UI page

You can create ServiceNow UI page that displays a web page, then make the UI page into a widget that can be added to dashboards and homepages.

Role required: admin

A UI page is a ServiceNow page that is not a list or a form. Certain UI pages, such as external site widgets or gadgets, do not display properly when placed in a dashboard.

Note: This functionality requires a knowledge of JavaScript.

1. Create or find a ServiceNow UI page that you want to display as a widget. Note the name of this UI page, to use in Step 4.

For example, this HTML displays the ServiceNow landing page in an iframe.

```
<iframe id="myframe" src="http://www.service-now.com" scrolling="yes"
style="height:100%; width:100%"></iframe>
```

2. Navigate to **System UI > Widgets** and click **New**.

Widgets records are widget category records, not records for individual widgets. When adding a widget to the dashboard, first select the category and then the widget. The javascript you specify in step 4 contains the list of widgets to include in that category.

3. Fill in the following fields.

Field	Description
Name	The name of this widget category. The user selects this category when adding its widgets to a dashboard.
Renderer Type	Select Javascript .
Active	Clear to make the widget unavailable to add to dashboards.
Roles	Select roles that can see this category when adding widgets to dashboards. If no roles are selected, all roles can see the category.

4. Add the following javascript in the **Script** field, making replacements as specified. The return statement contains the widgets that are listed in this widget category.

widget_name	The name of the widget, which the user selects in the widget picker when adding the widget to a dashboard. This string also appears on the widget header.
UI_page_name	The name of the UI page from Step 1 to display in the widget.

```
function sections() {
    return [
        'widget_name': { 'uiPageName' : 'UI_page_name' },
        'widget_name2': { 'uiPageName': 'UI_page_name' }
    ];
}

function render() {
    var uiPageName = renderer.getPreferences().get("uiPageName");
```

```
        return renderer.getRenderedPage(uiPageName) ;  
    }  
  
function getEditLink() {  
    return "sys_ui_page.do?sysparm_query=name=" +  
    renderer.getPreferences().get("uiPageName");  
}
```

5. Click Submit.

To learn how to make a UI page without using a framework page template, see the [Making a UI page without using the framework page template](#) blog posting by a developer in the ServiceNow Community.

Linking to a scorecard from a custom widget

You can create a custom widget to link to a Performance Analytics scorecard.

Use the function `paDetailedHelper.open('<scorecard sys_id>')` in a widget link to open a scorecard when clicking that link.

The following example demonstrates how to create a dynamic content block including links to Performance Analytics scorecards.

```
<?xml version="1.0" encoding="utf-8" ?> <j:jelly trim="false"  
xmlns:j="jelly:core" xmlns:g="glide" xmlns:j2="null"  
    xmlns:g2="null"> <script src="scripts/pa/pa_detailed_helper.js" />  
<a href="#"  
onclick="paDetailedHelper.open('31efe602d7130100b96d45a3ce610300')">New  
    Incidents</a><br /> <a href="#"  
onclick="paDetailedHelper.open('7dafaf602d7130100b96d45a3ce6103c8')">Resolved  
    Incidents</a><br /> </j:jelly>
```

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