Performance Analytics Guide

Overview

Note: *This article applies to Fuji and earlier releases. For more current information, see Performance Analytics* [1] *at* http://docs.servicenow.com **The ServiceNow Wiki is no longer being updated. Visit** http://docs.servicenow.com **for the latest product documentation.**

Overview

Performance management is a process by which organizations align their resources, systems, and employees to strategic objectives and priorities.

The single system of record approach within the ServiceNow platform allows you to measure and drive performance faster, easier and more engagingly 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.

Managing business performance facilitates the effective delivery of strategic and operational goals. There is a clear and immediate correlation between using performance management applications and improved business and organizational results. Performance management can yield a range of direct and indirect benefits, operational efficiency benefits, and by unlocking the latent potential in every employee's workday. That is, to help employees focus on work activities that really matter.

Benefits of using performance management 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.

Note: *For customers using releases prior to Eureka, see Performance Analytics - Versions Prior to Eureka.*

Supported Web Browsers

ServiceNow supports Performance Analytics in UI14 and UI15. All browsers supported by these interfaces are supported by Performance Analytics. See Browser Support for a detailed list of supported browsers.

Note: *Performance Analytics no longer supports UI11. Most Performance Analytics functionality works in UI11, however some visualizations may not appear properly in this UI.*

Video Tutorials

Learn how ServiceNow Performance Analytics can help you drive Service Management within your enterprise to new levels of excellence with the following video playlist.

ServiceNow Performance Analytics Tutorials

Concepts

- **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. Indicator scores 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 dashboard can have multiple tabs and each tab can hold one or more widgets. A dashboard tab is actually a homepage. Thus a dashboard can hold all kinds of content blocks, not only Performance Analytics widgets. And any homepage can hold widgets. A user can have one or more dashboards assigned for viewing. Only users with the pa_admin and pa_power_user roles can edit dashboards.
- **Widgets:** determine how data is presented on dashboards. 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, 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.

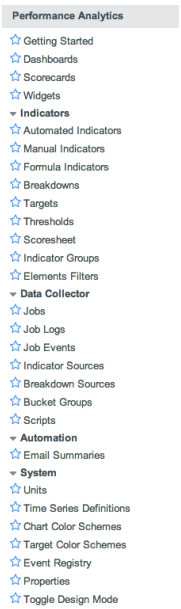
Roles

Performance Analytics uses the following roles:

Role Title [Name]	Description
Performance Analytics Administrator [pa_admin]	An administrator can create new indicators, formulas, thresholds, and targets. An administrator can also add breakdowns, apply aggregates, create and edit dashboards, and change system configuration files, such as colors and layout. The pa_admin role also includes the pa_data_collector role.
Performance Analytics Power User [pa_power_user]	A power user can do the same as an administrator, except change system configuration files and alter the data collection jobs. Typically a power user creates dashboards, rolls out new formula-based indicators, and requests modifications to the data collection layer.
Performance Analytics Contributor [pa_contributor]	A contributor can view dashboards and scorecards, and add, edit or delete scores of manual indicators for which the user, that has the contributor role, has been assigned as the contributor.
Performance Analytics Target Administrator [pa_target_admin]	A target administrator can add target values for any indicator. This role does not give access to dashboards and scorecards. So when giving a user this role, make sure to combine this with a role that gives access to dashboards and scorecards, for instance the viewer role. Available starting with the Fuji release.
Performance Analytics Threshold Administrator [pa_threshold_admin]	A threshold administrator can add thresholds for any indicator. This role does also not give access to dashboards and scorecards. So when giving a user this role, make sure to combine this with a role that gives access to dashboards and scorecards, for instance the viewer role. Available starting with the Fuji release.
Performance Analytics Viewer [pa_viewer]	A viewer has view-only access to one or more dashboards and scorecards based on the assigned rights. Viewers can be restricted to see data of their own department, team, or country only.
Performance Analytics Data Collector [pa_data_collector]	A data collector can create and edit data collection jobs and job events, and view job logs. Data collectors can also define and edit indicator sources, breakdown sources, bucket groups, and scripts. Data collectors can *not* access the **Access Control** section in the breakdown form and **Elements Security List** sections in the breakdown source form. The data collector role does not have access to dashboards and scorecards. So when giving a user the data collector role consider to give that user also the viewer role.

Menus and Modules

Performance Analytics contains the following modules:



- **Dashboards:** View dashboards, and view and maintain dashboard contents and properties.
- **Scorecards:** View the list of indicators, and add or delete columns to show in the list view. Also easily filter on importance, performance, type, breakdown, indicator and part of the indicator name.

- **Widgets:** View and maintain widgets and properties for dashboards.
- **Indicators**
  - **Automated Indicators:** Create or edit an indicator based on a template. Associate the automated indicators with an indicator source, enabling them to update scores automatically.
  - **Manual Indicators:** Create or edit manual indicators. A manual indicator is an indictor for which scores are manually collected using scoresheets.
  - **Formula Indicators:** Create or edit formula indicators for which scores are calculated based on the scores of other indicators.
  - **Breakdowns:** Link breakdowns based on indicator sources to a table on which indicators are defined. The breakdown is the definition of how to reference a breakdown source. Next, the breakdown can be related to one or more of these indicators and optionally a script can be executed.
  - **Targets:** Define targets to set quantified goals for any indicator in combination with a time series or elements of a breakdown.
  - **Thresholds:** Set thresholds for any indicator in combination with a time series or elements of a breakdown. Thresholds are used for exception reporting and alerting.
  - **Scoresheet:** View, add, edit and delete scores for an indicator and the scores for the elements of a breakdown related to the indicator.
  - **Indicator Groups:** View, edit, create, and apply indicator groups for grouping indicators. A group can be used as a filter option in the scorecard list or to base a widget of type list on.
  - **Elements Filters:** View, edit, and create elements filters for breakdown sources, for instance, in detailed scorecards to easily retrieve and group the elements and view only the scores for the elements in the filter.
- **Data Collector**
  - **Jobs:** Create and run scheduled jobs for data collection. A job collects scores for one or more indicators and their related breakdowns. A job can be scheduled to run periodically.
  - **Job Logs:** View information about the data collection jobs that have run and if there were any errors or warnings during execution.
  - **Job Events:** View the job queue and the actions triggered by the execution of a job for Performance Analytics.
  - **Indicator Sources**: Define indicator sources based on facts tables, and the conditions to gather data for indicators. An indicator source is a subset of records from a table or view and can be used as a source for multiple automated indicators.
  - **Breakdown Sources:** Define breakdown sources to show KPIs in more detail, reflecting the way a company or department is structured or being measured. A breakdown source is a subset of records from a table or view and can be used as a source for multiple breakdowns. The breakdown source is the definition of what is referenced to break down an indicator score by.
  - **Bucket Groups:** Define ranges for grouping data, and then use the bucket groups in scripts. A bucket group holds a set of manually defined buckets or elements. A bucket group can be used as a facts table for a breakdown source. Thus, a bucket group allows you to break down the scores of an indicator by classes and categories that are not available in an other table within the ServiceNow platform.
  - **Scripts:** Write scripts to extend Performance Analytics. Several sample scripts are also included. A script adds a virtual column to a record set and populates the column with a numeric value for each record in the set. This value can be used to calculate the score of an indicator, or to break down the score to a bucket group.
- **Automation**
  - **Email Summaries:** Schedule when email summaries about significant changes in indicator scores or groups of indicator scores should be sent, under which conditions, and to whom.
- **System**
  - **Units:** Define units in which indicator scores are shown.

- **Time Series Definitions:** View and edit predefined time periods for gathering a meaningful collection of data, such as a 7-day running sum or average, or a total sum of previous weeks.
- **Chart Color Schemes:** Define and maintain chart color schemes for the charts that are used in Performance Analytics. Two default chart color schemes are delivered with the system.
- **Target Color Schemes:** Define and maintain target color schemes for indicators.
- **Event Registry:** Register events you create for use in business rules and other parts of the system, such as email notifications and script actions.
- **Properties:** Configure settings that determine the behavior of Performance Analytics, including performance settings.
- **Toggle Design Mode:** Switch the design mode on or off, prepare new indicators and other elements, without making these changes visible to others. Available starting with the Eureka release.

Activating Performance Analytics

Performance Analytics for Incident Management

Performance Analytics for Incident Management is a complimentary version of Performance Analytics that is included in the base system, with some predefined indicators and breakdowns, some limited visualizations, and the ability to make some limited changes to these elements.

Performance Analytics for Incident Management is automatically enabled for new instances.

Upgrading to Performance Analytics Premium

For unlimited access to all Performance Analytics features, you can subscribe to the premium version of Performance Analytics. Performance Analytics Premium also allows you to use the predefined content packs.

To purchase a subscription, contact your ServiceNow account manager. The account manager will arrange to have the plugin activated on your organization's instance, generally within a few days.

If you do not have an account manager or want to evaluate the product on a sub-production instance without charge, request the Performance Analytics - Premium plugin from the HI Service Catalog.

1. Navigate to [HI [2]].
2. Click **Service Catalog**.
3. Click **Activate Plugin**.
   - [Required] In **Target Instance**, select the instance on which to activate the plugin.
   - [Required] In **Plugin Name**, enter **Performance Analytics - Premium**.
   - =In **Date and time would you like the plugin to be enabled?**, specify a date and time at least 48 hours in the future.

   Note: Plugins are generally activated during business hours in the Pacific time zone, but can be scheduled for a different time with advance notice.

   - [Optional] In **Reason/Comments**, add any information that would be helpful for the ServiceNow technical support engineer activating the plugin.
4. Click **Submit**.

After Performance Analytics Premium is activated, set up and configure Performance Analytics premium.

Note: *For additional content packs, refer to the ServiceNow Share Portal.* [3]

Checking if Performance Analytics Premium is Active

Because Performance Analytics Premium is available by subscription only, the Performance Analytics - Premium plugin does not appear on the System Plugins [v_plugin] table. You can check if Performance Analytics Premium is active by creating a new indicator record. If Performance Analytics Premium is not active, attempting to create an indicator will cause a warning message to appear.

Enhancements

Fuji

- Added the option Collect breakdown matrix. This enables you to collect scores for automated, manual, or formula indicators containing second level breakdowns, for example, open incidents by workgroup by priority. These are displayed on the detailed scorecard and you can dot-walk between them.
- Added the option to exclude specific breakdowns on the indicator form. Not all breakdown combinations (including second level breakdowns) give useful information. For example, the combination [Country, Region] will give the same scores as the breakdown Country. You can eliminate these combinations in a list with Breakdown matrix exclusions. These exclusions are not shown in the detailed scorecard and in the scoresheet, and cannot be selected when creating widgets.
- Ability to do a count distinct (aggregate field) on the indicator source.
- Added the option to set a default chart type (line, column, spline, area) in the indicator definition.
- Added shortcuts for setting targets and thresholds from within the detailed scorecard.
- Added the following widget configurations: speedometer, dial, donut, semi-circle donut, funnel and pyramid.
- Ability to set the Page size for list and breakdown type widgets with the visualization Scorecard.
- Bullet charts can be enabled on the scorecards view and the scorecard list, and are shown whenever there is a target associated with the indicator.
- Added option to link and share tabs across dashboards.
- Click and drag support for time charts, enabling you to quickly select a different time frame in the detailed scorecard.
- Indicator sources using database views now have choice lists to select views available for the joined tables.
- Multiple select to add breakdowns to indicators made available.
- Multiple select to add indicators to data collection jobs made available.
- Application scope field made available to most of the Performance Analytics forms, except some forms, like the Chart Color Schemes form, where it is not relevant. The application scope defaults to **Global**. Domain separation is supported in Performance Analytics, but requires a special setup.
- The system property `com.snc.pa.dc.max_breakdown_elements_level2_limit` limits the number of records for second level breakdowns in a data collection. The default value is 1000000.
- The system property `com.snc.pa.widgets.max_additional_indicators_in_a_widget` limits the number of number of additional widget indicators that can be added to a widget. The default value is 7.
- Some database fields were deprecated and new tables were added. See tables installed with Performance Analytics.
- You can export dashboards to PDF.

References

[1] https://docs.servicenow.com/bundle/jakarta-performance-analytics-and-reporting/page/use/performance-analytics/reference/r_PALandingPage.html
[2] http://hi.service-now.com
[3] https://share.servicenow.com/app.do#/home/false

Getting Started with Performance Analytics

Note: *This article applies to Fuji and earlier releases. For more current information, see Getting Started with Performance Analytics* [1] *at* http://docs.servicenow.com **The ServiceNow Wiki is no longer being updated. Visit** http://docs.servicenow.com **for the latest product documentation.**

Overview

Performance Analytics for Incident Management is a complimentary version of Performance Analytics that is included by default, starting with the Eureka release. This allows users to familiarize themselves with the functionality and, when the organization is ready for it, to upgrade to the Premium version of Performance Analytics.

- For new customers Performance Analytics for Incident Management is provided by default.
- For customers upgrading from Dublin or earlier, the plugins (`com.snc.pa` and `com.snc.pa.dc`) need to be activated.

Performance Analytics for Incident Management:

- Consists of an Incident Management dashboard with 15 indicators.
- Is locked down: indicators cannot be added or deleted, and only 180 days history of scores are visualized.

Performance Analytics for Incident Management helps get you started with using Performance Analytics. The easiest way to start is by following the Performance Analytics for Incident Management getting started steps.

Videos

This video provides an overview of getting started with Performance Analytics in the ServiceNow platform, by explaining the differences between Performance Analytics and reporting, and describing the components used in Performance Analytics.

Getting Started with Performance Analytics

This video introduces the complimentary version of Performance Analytics in the ServiceNow platform, Performance Analytics for Incident Management, and provides setup and configuration procedures.

Introducing Performance Analytics for Incident Management

Setup and Configuration

The elements for incident management are predefined, but need some configuration.

Follow the procedures in this topic to set up Performance Analytics for Incident Management.

Check Indicator Sources

Verify that the sample indicator sources match your ServiceNow configuration. To check indicator sources:

1. Navigate to **Performance Analytics > Data Collector > Indicator Sources**.
2. Open one of the sample indicator sources.
3. Go to the **Source** section.
4. Change the **Facts table**, if needed.
5. Change the **Conditions**, if needed.
6. Click **Update**.
7. Repeat this procedure for each sample indicator source.

Check Breakdown Sources

Verify that the sample breakdown sources match your ServiceNow configuration. To check breakdown sources:

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

Schedule the 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.

To configure the daily collection job:

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.

Schedule a Historical Collection for Indicators

[Optional] To configure the historical data collection job:

1. Navigate to **Performance Analytics > Data Collector > Jobs**.
2. Open the **[PA Incident] Historic 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**.

This job loads the last 60 days of scores for the indicators and breakdowns for which historic collection is possible.

Note: *The number of days can be changed, but it is best to limit the historical collection because in ServiceNow instances with a history of several years it can take a considerable time to collect the data.*

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

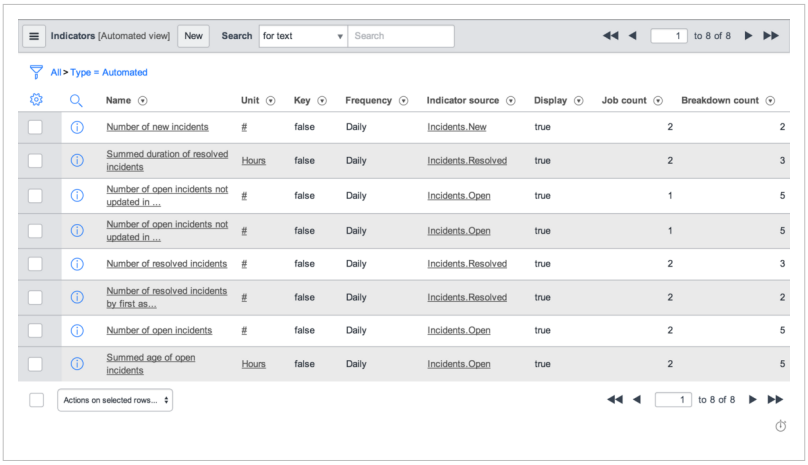
Elements Provided

Performance Analytics for Incident Management includes:

- automated indicators
- formula indicators
- dashboards
- data collection jobs

Automated Indicators

The following automated indicators are provided.

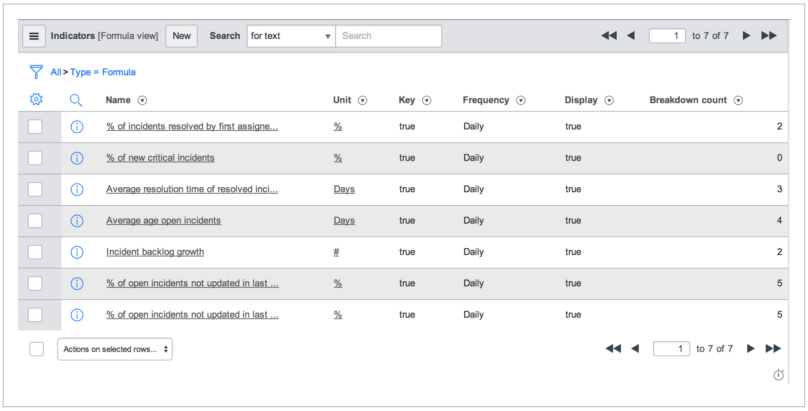


- Number of new incidents
  - by priority
  - by category
- Number of open incidents
  - by priority
  - by category
  - by assignment group
  - by state
  - by age
- Summed age of open incidents
  - by priority
  - by category
  - by assignment group
  - by state
  - by age
- Number of resolved incidents

  - by priority
  - by category
  - by assignment group
- Number of resolved incidents by first assignment group
  - by priority
  - by category
- Summed duration of resolved incidents
  - by priority
  - by category
  - by assignment group
- Number of open incidents not updated in the last 5 days
  - by priority
  - by category
  - by assignment group
  - by state
  - by age
- Number of open incidents not updated in the last 30 days
  - by priority
  - by category
  - by assignment group
  - by state
  - by age

Formula Indicators

Formula indicators are calculated based on the automated indicators. The following formula indicators are provided.



- % of incidents resolved by first assignment group
  - by priority
  - by category
- % of new critical incidents
  - no breakdowns
- % of open incidents not updated in the last 5 days
  - by age
  - by assignment group
  - by category
  - by priority
  - by state
- % of open incidents not updated in the last 30 days
  - by priority
  - by category

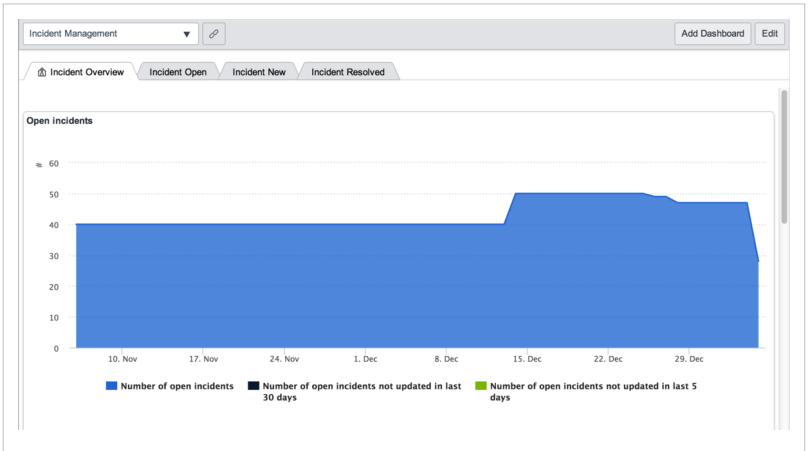
  - by assignment group
  - by state
  - by age
- Incident backlog growth
  - by priority
  - by category
- Average age open incidents
  - by priority
  - by category
  - by assignment group
  - by state
- Average resolution time of resolved incidents
  - by priority
  - by category
  - by assignment group

Dashboards

The following dashboards are provided.

The **Incident Management** dashboard contains the following tabs.

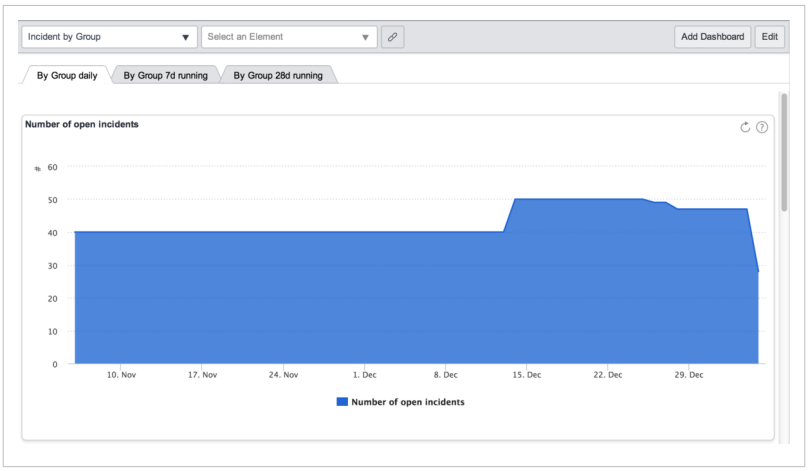
- The **Incident Overview** tab contains an area compare chart showing:
  - Number of open incidents
  - Number of open incidents not updated for 30 days
  - Number of open incidents not updated for 5 days
  - Table showing the last 7 days of data
  - Number of new incidents
  - Number of resolved incidents
  - Incident backlog growth
  - Number of open incidents
  - Number of new incidents
  - Number of new incidents by priority



- The **Incident Open** tab shows:
  - Number of open incidents
  - Average age of open incidents
  - Open incidents by priority
  - Average age of open incidents by priority
  - Open incidents by age
  - Incident backlog growth
- The **Incident New** tab shows:
  - % of new critical incidents

  - Number of new incidents by priority
  - Number of new incidents
- The **Incident Resolved** tab shows:
  - Number of resolved incidents
  - Average resolution time
  - Number of resolved incidents by priority
  - Average resolution time by priority

The **Incident by Group** dashboard is a dynamic dashboard that allows you to choose an assignment group. The dashboard contains three tabs that reflect information for the selected assignment group.



- The **By Group daily** tab shows:
  - Number of open incidents
  - Number of new incidents
  - Number of resolved incidents
  - Average time to resolve
  - Number of open incidents not updated for 7 days
  - Number of open incidents not updated for 30 days
- The **By Group 7d running** tab shows:
  - Number of open incidents 7d running AVG
  - Number of new incidents - 7d running SUM
  - Number of resolved incidents - 7d running SUM
  - Average time to resolve - 7d running AVG
  - Number of open incidents not updated for 7d - 7d running AVG
  - Number of open incidents not updated for 30d - 7d running AVG
- The **By Group 28d running** tab shows:
  - Number of open incidents - 28d running AVG
  - Number of new incidents - 28d running SUM
  - Number of resolved incidents - 28d running SUM
  - Average time to resolve - 28d running SUM
  - Number of open incidents not updated for 7d - 28d running AVG
  - Number of open incidents not updated for 30d - 28d running AVG

From the detailed scorecard, all daily measurements can be rolled up and analyzed with the following time series filters:

- 7 - 28 - 30 days running SUM & AVG
- Weekly - monthly - quarterly SUM/AVG

Data Collection Jobs

The following data collection jobs are included:

- The **[PA Incident] Daily Data Collection** job collects daily snapshot data for all indicators and breakdowns.
- The **[PA Incident] Historic Data Collection** job collects 60 days of data for all indicators except for these, for which historical collection is not possible:
  - Number of open incidents not updated in last 30 days
  - Number of open incidents not updated in last 5 days

Warning: All breakdown scores will represent the values on the collection date and not the reported date. For example, if the priority status has changed between the reporting date and the collection date, this change is not represented.

Using Performance Analytics Premium

Performance Analytics Premium is an application you must subscribe to. It unlocks the restrictions, and preserves any configuration of the complimentary version. For information on requesting and activating Performance Analytics Premium, see Upgrading to Performance Analytics Premium.

Setup and Configuration

Once activated, step through the following features for further personalization and configuration of Performance Analytics Premium:

1. Define indicator sources, which form the basis for the data that is collected and can be reused for multiple indicators.
2. Create automated indicators, the most commonly used indicators. They are collected frequently and automatically from the ServiceNow instance, for example, the number of open incidents.
3. Define breakdown sources, which are needed to be able to create breakdown charts for further analysis of breakdown elements.
4. Define breakdowns, listing the elements the breakdowns consist of. Breakdowns are sometimes also called dimensions, because they divide data up by making a cross-section in a different way, for example, incidents can be broken up by priority or by assignment group.
5. Define bucket groups, which are used to group data in user-defined ranges.
6. Create scripts and link them to bucket groups, to quickly place data in user-defined bucket groups. Bucket groups are also often used when defining scripts.
7. Create and schedule the jobs that collect data for scorecards and dashboards.
8. Check the job logs to see if the data collection jobs have run successfully.
9. View the job events queue for Performance Analytics and the actions that have been triggered in your ServiceNow instance, such as notifications and business rules.

To do more advanced configuration of Performance Analytics, you can:

- apply time series (analytical functions)
- define additional and multi-level breakdowns (also called dimensions or drill-downs)
- use indicator groups for easy retrieval and search
- set up improvement programs with targets and thresholds or create new, calculated indicators for existing indicators with formulas

When scores and data for these indicators have been collected, start visualizing your indicators by defining widgets and applying them in dashboards.

Warning: Skipping any of the setup steps, such as not creating jobs for data collection, can result in scorecards and dashboards not being populated with any data.

References

[1] https://docs.servicenow.com/bundle/jakarta-performance-analytics-and-reporting/page/use/performance-analytics/concept/c_GetStartedwithPA.html

Collecting Data for Performance Analytics

Note: *This article applies to Fuji and earlier releases. For more current information, see Performance Analytics Data Collection and Cleanup* [1] *at* http://docs.servicenow.com **The ServiceNow Wiki is no longer being updated. Visit** http://docs.servicenow.com **for the latest product documentation.**'

Overview

Indicators are statistics that businesses track to measure current conditions and to forecast business trends. Choosing the right collection method depends on the frequency and integrity of your data. There are multiple ways to collect the scores for your indicators.

If you need to measure an indicator once a month, quarter, or year, using the manual interface or an MS-Excel upload is the preferred method.

If you need to measure indicators on a daily basis, or you want to eliminate any human involvement, using the data collector is the preferred method. The data collector enables you to define a set of jobs and uses indicator definitions to collect scores. The data collector is activated with Performance Analytics and needs to be configured.

Configuring the Data Collector

The data collector is a secure software agent that is installed automatically when Performance Analytics is activated. The data collector connects to the ServiceNow database to send your data to Performance Analytics daily on a fully automated basis. The data collector enables the configuration of data collection from your ServiceNow instance, and automatically sends the data as indicator and indicator breakdown scores to Performance Analytics.

Note: *Before defining jobs, make sure that indicator sources, breakdown sources, and indicators have been defined. Otherwise, jobs cannot return any results. If you are using the complementary version of Performance Analytics, see the section on Performance Analytics for Incident Management.*

Perform these procedures to configure the data collector:

1. [Optional] Set the data collection properties.
2. Define jobs to collect data at a particular time or on a recurring schedule.
3. Check the job logs to view the results for the jobs that have run.

Creating Jobs

Users with the pa_admin and pa_data_collector roles can create, edit, and delete data collection jobs. A number of sample jobs are included in the demo data of Performance Analytics:

- [PA Incident] Daily Data Collection
- [PA Incident] Historic Data Collection

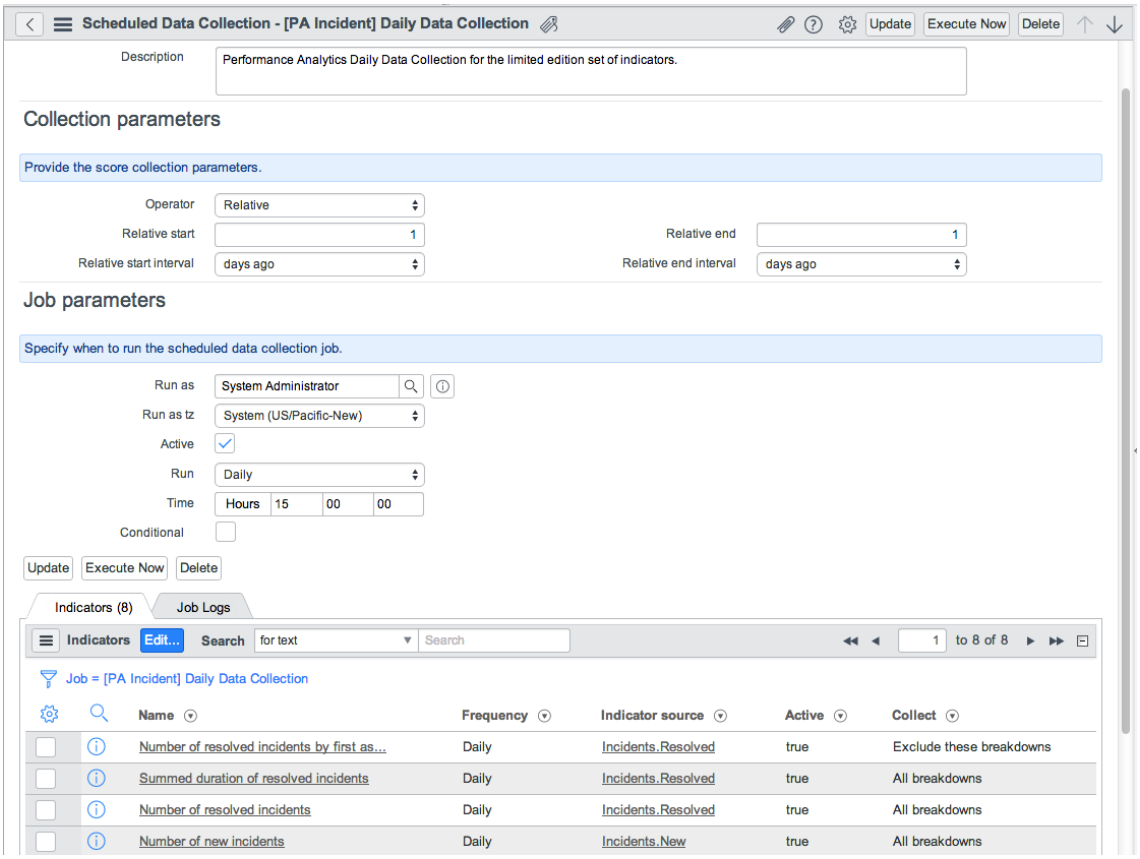
To use these jobs, check the **Active** field in the job definition.

To create a scheduled data collection job:

1. Navigate to **Performance Analytics > Data Collector > Jobs**.
2. Click **New**.
3. Fill in the fields, as appropriate (see table).
4. Click **Submit**.

Field	Description
Name	Enter a name to identify this scheduled job.
Description	Enter a description to identify this scheduled job.
Operator	Can be **Relative** or **Fixed**. Use **Fixed start** to collect data for an absolute time period. Use **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. This determines for how far back, scores will be retrieved. The current date is used as the starting point. Available only when the **Operator** field is set to **Relative**.
Relative start interval	Determines the unit used for 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. This determines for how far back, scores will be retrieved. The current date is used as the starting point. Available only when the **Operator** field is set to **Relative**.
Relative end interval	Determines the unit used for 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 usually done when setting up the system, set the **Run** field to **Once** or **On Demand**.
Run as	[Optional] Select the user that runs this scheduled job. For optimal 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: • Daily • Weekly • Monthly • Periodically • Once • On demand
Day	• If **Run** is **Weekly**, the day of the week. • If **Run** is **Monthly**, the day of the month.

Repeat Interval	If **Run** is **Periodically**, the amount of time between scheduled data collections, in days and hours.
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.



Selecting Indicators to Collect

Reopen the scheduled job that you just created:

1. In the **Jobs** related list, click **Edit** to select one or more indicators from the choice list that this job should collect. You can use filters to narrow down the choices in the indicator list. You can also select multiple indicators at the same time to add to the job.
2. Click **Save**.

Note: *Make sure that at least one indicator is included for the job. Otherwise, the job cannot return any results.*

Changing Job Indicator Settings

To change job indicator settings:

1. Reopen the job you want to change.
2. Select the indicator you want to change from the **Jobs** related list.
3. Make the changes (see table for the field descriptions).
4. Click **Update**.

Field	Description
Job	Is automatically copied from the job name.
Indicator	Select the indicator that must be collected for this job.
Collect	Choose to collect **All breakdowns**, **No breakdowns**, or **Exclude these breakdowns**. If you select **Exclude these breakdowns**, specify the breakdowns you want to exclude in the **Exclude breakdowns** related list.
Collect indicator	Data for the indicator itself is collected by default. Depending on the setting in **Collect**, data is collected for all breakdowns, no breakdowns, or all breakdowns minus the excluded ones.

Viewing Job Information

Viewing Job Logs

Users with the pa_admin role can view job logs, create new events, and view and edit the event registry.

Job logs display information about the data collection jobs that have run. The list view displays all log entries, unless filtered. To view job logs, navigate to **Performance Analytics > Data Collector > Job Logs**.

The log provides the following information for all occurrences.

Field	Description
Created	Date and time the data collection job started.
State	Can be one of the following: **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.

Click **Created** to view the details of a specific job. Additional information on the job settings and sequence steps is displayed. Optionally, if notifications are enabled you can send emails about the data collection results to users.

Viewing Job Events

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.

To view job events:

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

Setting Data Collection Properties

Navigate to **Performance Analytics > System > Properties** to the **Performance Analytics Data Collector** section to configure these properties that safeguard the data collection process.

Property	Description
com.snc.pa.dc.script_timeout	Maximum time in seconds a script is allowed to run during a data collection cycle. • **Type:** integer • **Default value:** 30 • **Installed with:** com.snc.pa.dc
com.snc.pa.dc.max_row_count_indicator_source	Maximum number of rows that are allowed to be fetched from an Indicator Source. • **Type:** integer • **Default value:** 50000 • **Installed with:** com.snc.pa.dc
com.snc.pa.dc.max_breakdown_elements_limit	Maximum number of breakdown elements for a breakdown to be included in data collection. • **Type:** integer • **Default value:** 10000 • **Installed with:** com.snc.pa.dc
com.snc.pa.dc.max_error_count	Maximum errors that may occur before data collection is stopped. • **Type:** integer • **Default value:** 500 • **Installed with:** com.snc.pa.dc
com.snc.pa.dc.max_breakdown_elements_level2_limit	Maximum number of breakdown elements resulting from the combination of two breakdowns for a data collection. Available starting with the Fuji release. • **Type:** integer • **Default value:** 1,000,000 • **Installed with:** com.snc.pa.dc
com.snc.pa.dc.max_records	Maximum number of records that are stored during a data collection. • **Type:** integer • **Default value:** 5000 • **Installed with:** com.snc.pa.dc

Setting data collection properties is an optional step. In practice, the default values should work fine. Any overruns of the limits are recorded in the job logs, either as errors or warnings. You can change the default values for these safeguarding settings using **Performance Analytics > System > Properties** or by adding a system property.

References

[1] https://docs.servicenow.com/bundle/jakarta-performance-analytics-and-reporting/page/use/performance-analytics/concept/c_ClctData.html

Adding Indicator Scores Manually

Overview

You can manually add the data for indicators, called *scores*. This is useful for:

- Indicators that only require an update once a month or less.
- Data that cannot be collected automatically for some entities because it is not in the system, such as certain customer data.

Users with the pa_admin or pa_power_user roles can add scores manually.

Using the Scoresheet

1. Navigate to **Performance Analytics > Indicators > Scoresheet**.
2. Select the indicator to enter manual scores for, or edit scores that have already been entered or collected for this period.

   Alternatively, navigate to **Performance Analytics > Indicators > Automated indicators** or **Performance Analytics > Indicators > Manual Indicators**, open the record and click the **Scores for this indicator** related link. It is not possible to enter scores for formula indicators. Users with the pa_admin, pa_power_user role, or pa_contributor can edit scores from the detailed scorecard for the indicator they are viewing, starting with the Fuji release.

	Sep 20	Sep 21	Sep 22	Sep 23	Sep 24	Sep 25	Sep 26
Indicator Scores	47	47	47	47	47	47	
Priority	100%	100%	100%	100%	100%	100%	0%
1 - Critical	22	22	22	22	22	22	
2 - High	4	4	4	4	4	4	
3 - Moderate	6	6	6	6	6	6	
4 - Low	3	3	3	3	3	3	
5 - Planning	12	12	12	12	12	12	
Category	100%	100%	100%	100%	100%	100%	0%
Request	5	5	5	5	5	5	
Inquiry / Help	15	15	15	15	15	15	
Software	10	10	10	10	10	10	
Hardware	6	6	6	6	6	6	
Network	5	5	5	5	5	5	
Database	2	2	2	2	2	2	
Assignment Group	26%	26%	26%	26%	26%	26%	0%
CAB Approval							
Capacity Mgmt							
Catalog Request Approvers > $1…							
Catalog Request Approvers for S…							
Database	2	2	2	2	2	2	
Database Atlanta							
Database San Diego							
eCAB Approval							
Field Services							
Hardware	8	8	8	8	8	8	
IT Finance CAB							
IT Securities							
ITSM Engineering							
LDAP Admins							
Network	5	5	5	5	5	5	
NY DB							
Procurement							
Project Mgmt							
RMA Approvers							
Service Desk	12	12	12	12	12	12	
Software	8	8	8	8	8	8	
Team Development Code Review…							
Unassigned	12	12	12	12	12	12	

Input scores

3. 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.
4. If you filled in the indicator scores per breakdown instance:
    1. Click **Aggregate scores** at the top right of the score table.
    2. Choose whether you want to use the **Total** or the **Average** of a specific breakdown to calculate the main scores for the indicator.
    3. Select the breakdown to which you want to apply the aggregation, for example, **Priority** and click **Apply**. All scores for that breakdown are totaled or the average is calculated for them.

        It is possible to calculate a new aggregation based on a different breakdown later on. For automated and manual indicators that have **Collect breakdown matrix** enabled and that 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. Second level breakdowns are available starting with Fuji.
5. To enter data for a different period, click the down arrow ( ) above the score table after the date selection and select a new date from the calendar that appears. Alternatively, click the right arrow ( ) or left arrow ( ) to move one period forward or back.

    All changes are saved automatically.

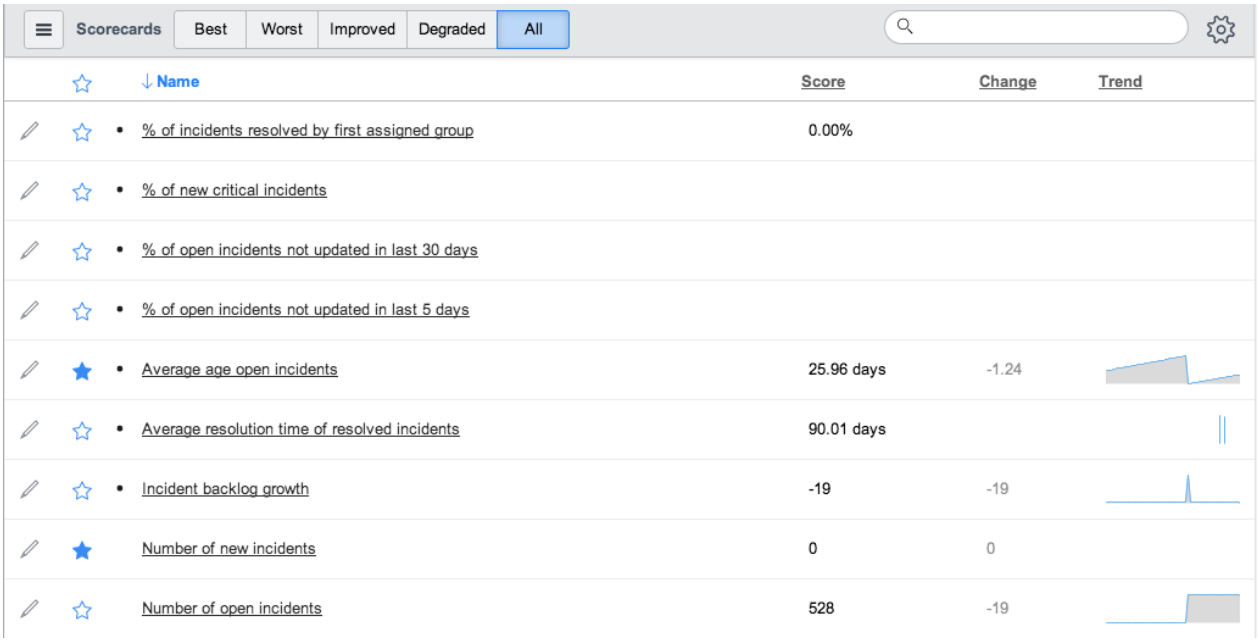
Using Scorecards

Overview

Scorecards are used to access indicators directly, without the formatting options that are available when you use widgets on a dashboard.

Using the Indicator Overview

Navigate to **Performance Analytics > Scorecards** to show an overview of indicators, showing **Name**, **Score**, **Change**, and **Trend** columns. To show additional columns, click the list settings icon ( ) on the top right side of the list header next to the search box and choose one of the **Column** options.



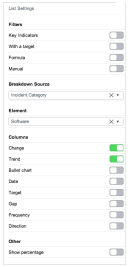
The following options are available in the indicator scorecards overview:

- Click the context menu icon ( ) on the top left side to set the number of rows that are displayed in the scorecard list per page. This can be 10 - 15 - 20 - 50 or 100.
- Display indicators based on performance:
  - **Best:** Shows all indicators with a target that are outperforming their target (green) ordered by Gap %. (Best performers on top)
  - **Worst:** Shows all indicators with a target that are under performing their target (red) ordered by Gap %. (Worst performers on top)
  - **Improved:** Shows all indicators with a direction that have improved compared to the previous data collection (moving in the right direction).
  - **Degraded:** Shows all indicators with a direction that have degraded compared to the previous data collection (moving in the wrong direction).

    For example, if an indicator has a score of 150, a previous score of 200, a target of 100, and a “maximize” direction, that indicator will show up in two lists:

    - Best performer: 50% over target.
    - Degraded: 25% degraded.

- You can search for an indicator or indicator group from the **Scorecards** search bar. The results are ordered by name and then by indicator group.
- A solid blue star beside an indicator name indicates that it is a *favorite*. Click the star beside the scorecard to toggle between selecting and deselecting it as 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.
- If the column **Trend** is selected, a miniature version of the chart is shown in the scorecards list and on the breakdowns tab. By pointing at the chart, a red bar appears and the actual scores are shown.

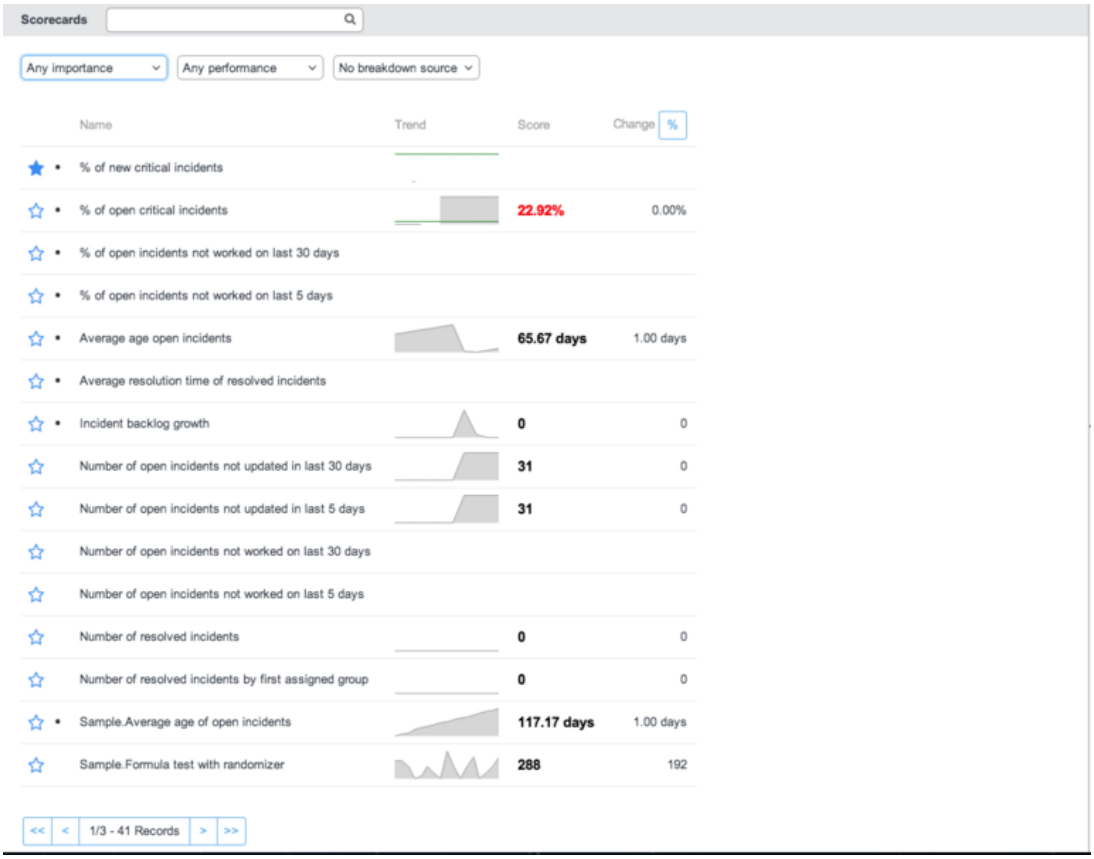


- Clicking the list settings icon ( ) on the top right side of the list header next to the search box gives you the following options:
  - **Filters:** filter which indicators are shown by selecting **Key Indicators**, indicators **With a target**, indicators based on a **Formula**, or **Manual** indicators. If an indicator has been marked as **Favorite**, both the criterium in the filter and the favorite criterium have to be met.
  - **Breakdown Source:** select indicators that are based on a specific breakdown source (for example **Groups.Active**).

    Element: select indicators that contain a specific element (for example, **CAB Approval**) from the breakdown source you selected. Only available if a breakdown source is selected.
  - **Columns:** choose the columns you want to display in the scorecards list: **Change**, **Trend**, **Bullet chart**, **Date**, **Target**, **Gap**, **Frequency** (for example, daily or weekly), or **Direction** (minimize, or maximize).
  - **Other:** select **Show percentages** to display the change column as a percentage instead of as a value.

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 changing the system property* `com.snc.pa.show_welcome_page`.

In versions prior to Fuji, navigate to **Performance Analytics > Scorecards** to show an overview of indicators, showing **Name**, **Trend**, **Score**, and **Change** columns.

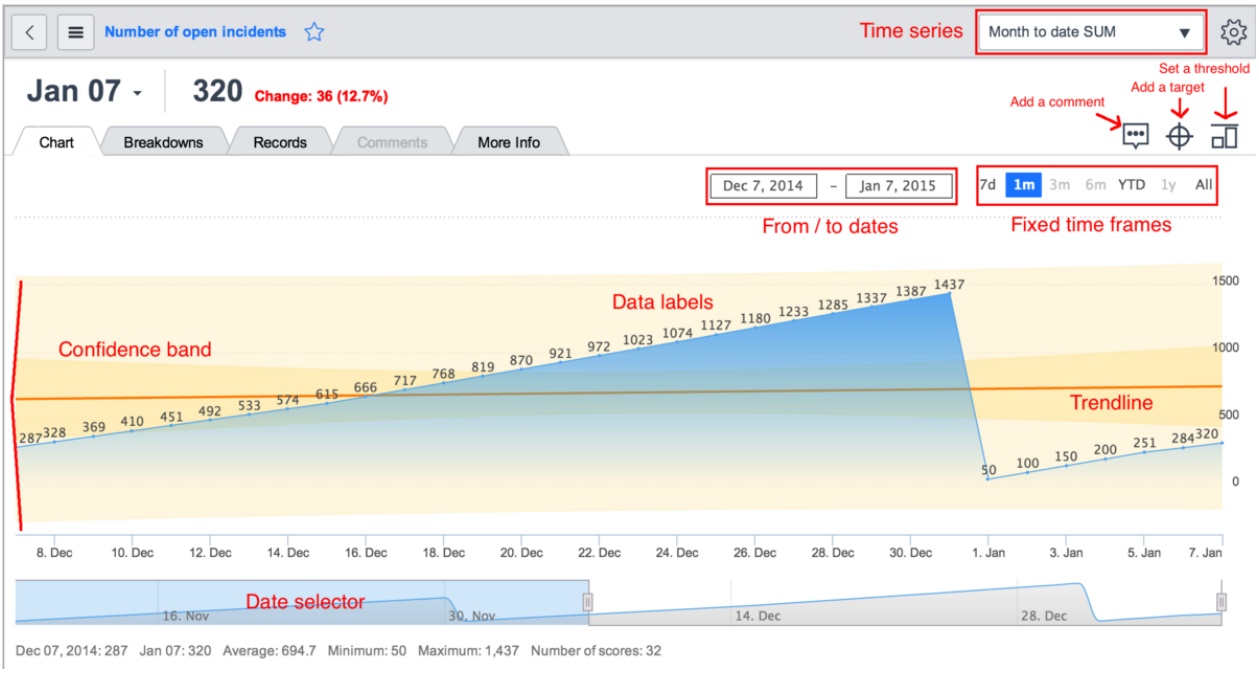


The following options are available in the indicator overview:

- In the **Change** column, click the **%** icon to toggle between showing the change as a percentage or a value.
- You can search for an indicator from the **Scorecards** search bar or filter which indicators are shown by selecting predefined importance, performance, and breakdown source criteria. If you select **Favorites** as the importance criteria, the other criteria choice lists are disabled.

Detailed Scorecard

Click an indicator **Name** on the indicator overview list to open a chart of the Indicator. By default, this is the **Default chart type** (line, column, spline, or area) that was set in the indicator configuration. The chart shows the values based on the frequency defined for the indicator.

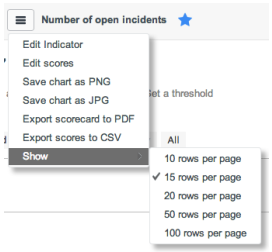


The following options are available in the detailed scorecard:

- To display an available time series instead of a line chart, use the choice list at the top right of the scorecard.
- To show the actual value for the indicator on a certain collection date, point to that date on the chart. If a comment or a target is available for this date, this is shown.
- To change the period for which the chart is drawn, you can either choose to use one of the fixed time frames (**7d**, **1m**, **3m**, **6m**, **YTD**, **1y**, **All**) or select specific *from* and *to* dates.
- Alternatively, use the date selector at the bottom of the chart to expand or narrow down the time frame, or to move to a different time frame. The chart data and the from / to selections are adjusted accordingly.

Other options are:

- **Add a comment** for that day, for example to explain a sudden change.
- **Add a target** starting from that day. Requires pa_admin, pa_power_user, or pa_target_admin role. Available starting with the Fuji release.
- **Set a threshold**. Indicate when you want to be notified: if the indicator hits an all time high, an all time low, or when it is less than or more than a specified number. Requires pa_admin, pa_power_user, or pa_threshold_admin role. Available starting with the Fuji release.



- Click the context menu icon ( ) at the top left before the indicator title to:
  - Edit the indicator you are viewing. This brings you to the create indicator form. Only available for users with the pa_admin and pa_power_user roles starting with Fuji.
  - Edit scores for the indicator you are viewing. Only available for users with the pa_admin and pa_power_user roles starting with Fuji.
  - Save the detailed scorecard as PNG or JPG.
  - Export the detailed scorecard to PDF and CSV format.
  - Set the number of rows shown in the detailed scorecard. Click **Show** and select 10 - 15 - 20 - 50 or 100.

- Click the chart settings menu icon ( ) at the top right of the scorecard to:
  - Change the chart settings for this indicator.

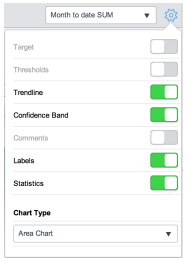
    For versions prior to Fuji, click the **Compare** button at the bottom right below the chart to view targets, thresholds or trendlines.

  - Change the chart type.

    For versions prior to Fuji, click the **Line Chart** button at the bottom right below the chart to change the chart type. The choices are the same as in the Fuji release.

Note: *When very large numbers have to be visualized in for example, scorecards, widgets or breakdowns, these will be rendered with the appropriate abbreviation. For example,* K *for thousands and* M *for millions.*

Chart Settings



Use chart settings to compare the indicator with:

- the Target set for this indicator. The option can only be selected if a target is set for the indicator.
- the 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 grey lines in the detailed scorecard. The option can only be selected if an active threshold is set for the indicator.
- a **Trendline** that is generated by the system based on the indicator scores for the period you have selected.
- a **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 taken into account for the calculation. Confidence bands are available starting with Eureka Patch 3 Hotfix 1.
- **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.*

Change Chart type

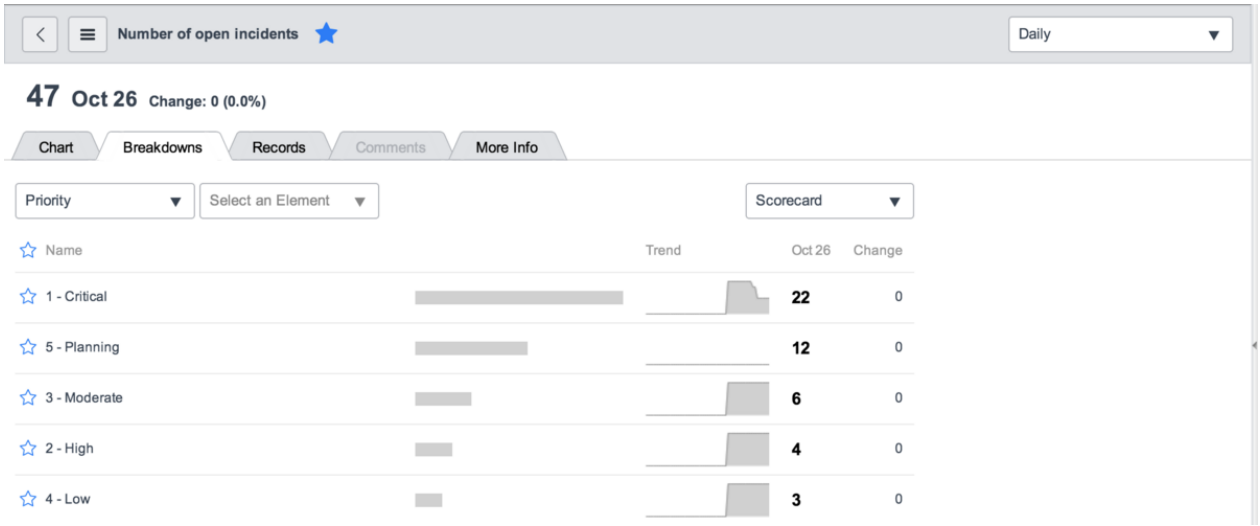
To change the **Type** of chart to display for the scorecard:

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.

No matter which chart type you choose, the trend is always shown as a line.

Drill down into details

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 (breakdown instance) for which a chart is drawn. Choose one of the following chart types from the choice list above the chart:

- **Scorecard** (default)
- **Column**
- **Pareto**
- **Line**
- **Columns & total**
- **Stacked bar**
- **Relative compare**
- **Breakdown matrix**, starting with the Fuji release.

If the option Collect breakdown matrix 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, all incidents can by listed 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. Available starting with the Fuji release.

To mark favorites in the breakdown list, click the star icon (☆) before the breakdown element. If favorites have been marked in the breakdown list, these 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 single 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's description, update frequency, last updated, direction, and formula (if applicable). Available starting with the Fuji release.

All preferences you set since the last visit to the detailed scorecard are automatically saved, such as, the time frame selected (for example, last 3 months), the chart type and chart settings (for example confidence bands, target, trendline, and so on). Available starting with the Fuji release.

Save the Chart

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

Using Dashboards

Note: *This article applies to Fuji and earlier releases. For more current information, see Dashboards* [1] *at* http://docs.servicenow.com **The ServiceNow Wiki is no longer being updated. Visit** http://docs.servicenow.com **for the latest product documentation.**'

Overview

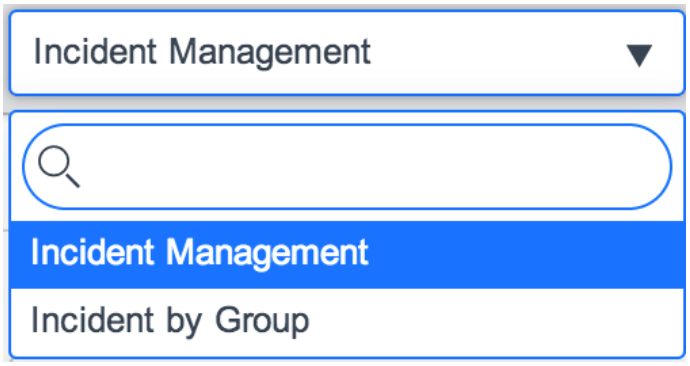
A Performance Analytics dashboard shows the most relevant indicators for specific users or groups. This section contains the basic principles of navigating dashboards that are assigned to users with the pa role.

Basic Principles

- **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 can 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.

Working with Dashboards

Users can access one or more dashboards depending on their roles. Users can select a dashboard from the drop-down list.



On a dashboard, users can view one or more tabs. The selected tab is highlighted. Click the chart context menu for a drop-down menu with the options:

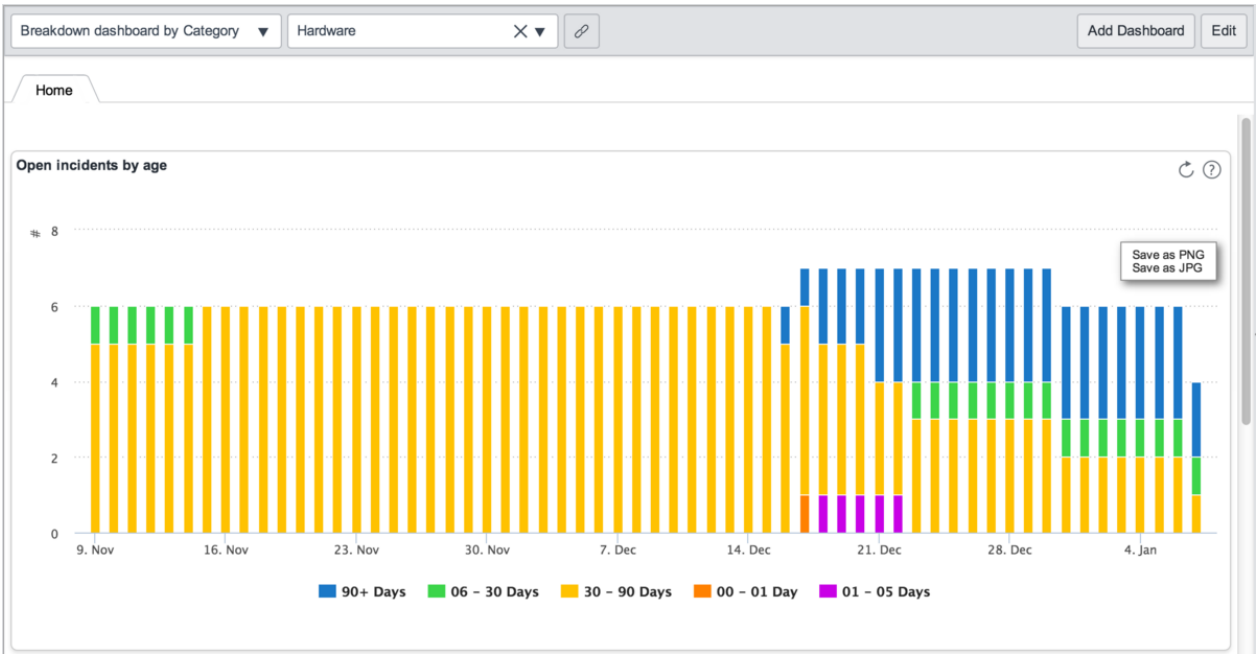
- Save dashboard tab as PNG: the dashboard is rendered as a printer friendly document.
- Save dashboard tab as JPG.

On each tab, multiple widgets can be listed. Click on a widget to open the detailed scorecard for further analysis.

Breakdown Dashboards

The breakdown dashboard is a dynamic dashboard that allows users to pre-select a breakdown instance.

For example, a breakdown dashboard for 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.



Moving Dashboards with Update Sets

Dashboards tabs are not automatically transferred in Update Sets. You must manually add the dashboard tab content to the update set.

1. In the source instance, navigate to **Performance Analytics > Dashboards**.
2. Inspect the HTML element for one of the dashboard tabs.
3. Find the element containing **sysparm_view=pa_**

   Record the value following **sysparm_view=**, such as pa_incident_overview. This is the **View** of the dashboard portal page record.
4. Navigate to **Homepage Admin > Pages**.
5. Find the portal page record with the **View** value you previously recorded.
6. Right-click the record and select **Unload Portal Page**.

   The page is added to the current update set.

After loading the update set in the target instance, create a new dashboard tab to display the portal page.

1. In the target instance, navigate to **Performance Analytics > Dashboards**.
2. Select the dashboard you want to add the tab to.
3. Add a new tab to the dashboard.
4. Navigate to **Performance Analytics > Dashboard Administration**.
5. Select the dashboard that you added the tab to.
6. In the **Dashboard Tabs** related list, select the new tab.

   You may need to configure the form to add the **Dashboard Tabs->Dashboard** related list.
7. Open the **Tab** record.
8. Change the **Page** value to the portal page that you moved in the update set.

9. Save the tab record.

References

[1] https://docs.servicenow.com/bundle/jakarta-performance-analytics-and-reporting/page/use/dashboards/reference/dashboards-landing-page.html

Email Summaries

Overview

For Performance Analytics, you can configure email summaries to inform people about what happened with an indicator or a group of indicators matching certain conditions. Before you can use email summaries, email notifications have to be enabled and configured in the system.

Creating Email Summaries

To create a new email summary:

1. Navigate to **Performance Analytics > Automation > Email Summaries**.
2. Click **New**.
3. Add 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**. Choices are **Daily**, **Weekly**, **Monthly**, **Periodically**, **Once**, and **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. Do one of the following:
   - To select indicators dynamically, select the **By Condition** check box and then 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]**.
   - To select indicators manually, clear the **By Condition** check box. Be sure to specify the conditions you want to apply on the indicator records.
8. Click **Submit**.

   The email summary job runs according to the schedule that you configured.

Updating Email Summaries

After you submit an email summary record:

1. Navigate to **Performance Analytics > Automation > Email Summaries**.
2. Open an existing email summary record.
3. Click a related link or add records to the **Indicators** or **Users** related list.
4. Click **Update** to save the changes, or click **Execute Now** to run the email summary job immediately.

Related Links

The following related links are available on the Scheduled Email Summary form:

- **Show Fired Events:** view information about times when the email summary job has executed, including the duration.
- **Show Email Notifications:** view or modify the **Indicator Notifications** email template, which defines the formatting for the email summary. For more information, see Email Notifications.

Indicators

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

To add existing indicators to the email summary:

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 Premium version of Performance Analytics, you can add new indicators from the Scheduled Email Summary form:

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

Users

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

1. Click **Edit** in the **Users** related list.
2. [Optional] 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.
3. Add the users to be notified to the **Users List**.
4. Click **Save**.

Using Mobile Apps

Note: *This article applies to Fuji and earlier releases. For more current information, see Performance Analytics for Mobile Devices* [1] *at* http://docs.servicenow.com **The ServiceNow Wiki is no longer being updated. Visit** http://docs.servicenow.com **for the latest product documentation.**

Overview

The Performance Analytics mobile app allows you to connect to a ServiceNow instance and retrieve scores for the defined and collected indicators (KPI's).

You can set up Performance Analytics on mobile devices running iOS and Android, for end users to use the app.

The Performance Analytics mobile app is available starting with the Eureka release.

Note: *Performance Analytics mobile app can only be used in portrait mode.*

Supported Platforms

Access to Performance Analytics is available on the following mobile devices with native apps:

- iPhone iOS 7 and higher
- Android 4.2 and higher

Performance Analytics can also be accessed on tablets via a web browser.

Limitations for Native Apps

- The main functionality of the native apps for iOS and Android provides access to scorecards.
- The native apps do not give access to dashboards as screen sizes are not optimized for dashboards.
- Single sign-on is not supported with the mobile app.

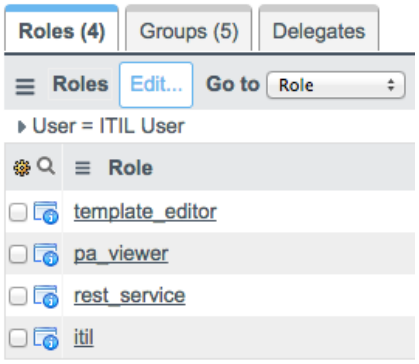
Tablets

The full functionality is available on tablets via a web browser.

Setting Up the Mobile App

Give the following roles to each user that needs access to the contents of Performance Analytics:

- pa_viewer (for read-only access to Performance Analytics dashboards and scorecards).
- rest_service (for read-only access to indicator scores).



To install the Performance Analytics mobile app:

1. Download the app for iPhone or Android and follow the installation instructions.
   - Download for iPhone [2]
   - Download for Android [3]
2. Open the app and fill in the details for your instance:

- URL
- Username
- Password

Using the Mobile App

You have the following options in the mobile app:

- Starred
- Scorecards
- Breakdowns
- Star (Favorite)
- Settings
- About

Starred

Lists all indicators that you marked as favorite.

Note: *You can only mark indicators favorite within the mobile app, your favorites are not synchronized with the Performance Analytics platform application.*

Scorecards

Shows a list of all indicators that you are allowed to see and their latest score. Select an indicator to drill into the detailed scorecard for that indicator.

From within the detailed scorecard you have access to (if applicable):

- Time series – Time series aggregates are standard analytical functions to analyze trends and get a different perspective. Available time series are:
  - 28d running AVG
  - 30d running AVG
  - 7d running AVG
  - By fiscal quarter AVG
  - By month AVG
  - By quarter AVG
  - By week AVG
  - Fiscal quarter to date AVG
  - Month to date AVG
  - Quarter to date AVG
  - Week to date AVG

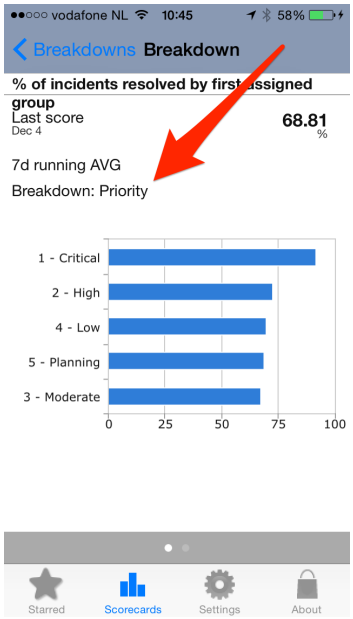
Breakdowns

Breakdowns allow an end user to break down an indicator into separate parts. Breakdowns are also known as *dimensions* or *drill-downs*.

Multiple breakdowns can be defined for an indicator, such as by priority, by category or by assignment group. Any breakdowns defined on the indicator appear here. You can select an element from a first level breakdown or a second level breakdown.

Second level breakdowns are supported starting with the Fuji release.

Note: *After selecting a time series you can also drill down into a breakdown.*



Star (Favorite)

Tap the star icon to mark an indicator as favorite, saving your choice.

Note: *You can also do this with a selected time series.*

Settings

Select to change language or font size.

- Change language. The following languages are available:
  - English
  - Nederlands (Dutch)
  - Francois (French)
  - Deutsch (German)
- Font size. The selected font is indicated with an asterisk (*). The following font sizes are available:
  - Normal
  - +
  - ++
  - +++

Note: *You must restart the mobile app for font size changes to take effect.*

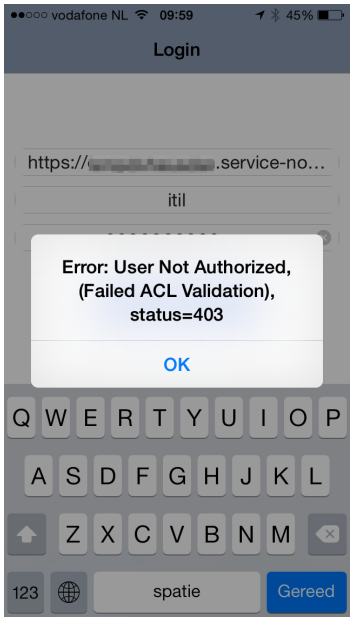
About

Shows the version of the mobile app. It shows you, for example, whether you are connected to a Eureka or a Fuji instance.

Troubleshooting

Login Errors

If you see the login error message **Error: User Not Authorized, (Failed ACL Validation), status=403**:



Then:

1. Verify that your user has the required roles.
2. Ensure you close the mobile app before re-trying, as caching may cause the error to repeat.

If you see the error message **Incorrect URL, username or password. Please try again**

1. Verify the URL of the ServiceNow instance (for example, *https://<instancename>.service-now.com*).
2. Verify your username (for example, login to the ServiceNow instance with your username and password).
3. Verify your password (for example, login to the ServiceNow instance with your username and password).

References

[1] https://docs.servicenow.com/bundle/jakarta-performance-analytics-and-reporting/page/use/performance-analytics/concept/c_UseMobileApps.html
[2] https://itunes.apple.com/us/app/servicenow-pa/id944903093?mt=8
[3] https://play.google.com/store/apps/details?id=com.servicenow.servicenowpa

Creating Widgets

Note: *This article applies to Fuji. For more current information, see Performance Analytics Widgets* [1] *at* http://docs.servicenow.com The ServiceNow Wiki is no longer being updated. Please refer to http://docs.servicenow.com for the latest product documentation.

Overview

Widget configurations are used to view, set up, edit, and manage properties for dashboards and visualization types: time series, score, lists, and breakdowns. A widget determines how data is presented on dashboards. For example, as 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

Useful hints:

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

Creating Widgets

To create a new widget:

1. Navigate to **Performance Analytics > Widgets**.
2. Click **New**.
3. Enter a **Name** by which you can easily identify what the widget does. For example, **Last score number of open incidents**.
4. [Optional] Enter a more detailed **Description**, for example, **Widget to represent the last score of open incidents**.
5. Select the **Type** of widget you want to create. Choices are Time Series, Score, List, and Breakdown.
6. Fill in the rest of the form according to the **Type** and **Visualization** you select. For more information about filling out the fields for a specific type, see the linked section.

Note: *In Eureka, use the toggle switch ( ) to display subsections, for example, date and chart settings, as separate sections or as tabs. Starting with the Fuji release, only separate sections are available.*

Creating a Time Series Widget

To create a time series widget:

1. In the **Type** field of the Widget Configuration form, select **Time Series**.
2. In the **Visualization** field, select the appropriate option. Choices are:
   - **Line Chart**
   - **Column Chart**
   - **Spline Chart**
   - **Area Chart**
   - **Step Chart**
   - **Stacked Column Chart**
3. Select an **Indicator**. For example, **Number of open incidents**.
4. [Optional] Select **Previous period chart** if you want to compare data from previous periods side-by-side. This can be used, for example, to 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. Available starting with the Eureka release.
5. In the Previous Period Settings section, enter the **Range of periods**. Choices are: **Years**, **Quarters**, **Months**, or **Weeks**. This field is only shown if you selected the **Previous period chart** field. Available starting with the Eureka release.
6. Enter the **Number of periods**. This field is only shown if you selected the **Previous period chart** field. Available starting with the Eureka release.
7. [Optional] Select the **Breakdown** to show a chart for a specific breakdown element, for example, **Category**.
8. [Optional] Select which **Element** to show, for example, **Software**. If you do not select an **Element**, "null" is returned, meaning that the unmatched breakdown element is displayed.
9. [Optional] Select the **2nd Breakdown** if you want to show a chart for a second level breakdown element, for example, **Priority**. Available starting with the Fuji release.
10. [Optional] Select which **Element** to show for the second breakdown, for example, **1 - Critical**. If you do not select an **Element**, the unmatched level 2 breakdown element is displayed. Available starting with the Fuji release.
11. [Optional] Select a **Time series** (**Indicator time series** in Eureka). For example, a running sum, an average, or a total sum for a specific period. The period you choose must be in accordance with the **Frequency** of the indicator. If, for example, the indicator's frequency is **Daily**, the time series must also have the interval **Day**, and so on.
12. [Optional] Select **Follow element** to show a selected breakdown rather than the general scores for the indicator. Available starting with the Fuji release.
13. [Optional] If **Follow element** is selected, select a breakdown to follow in the Followed breakdown field. The parent breakdown and excluded breakdowns are not shown in the selection. Available starting with the Fuji release.
14. Enter a **Label** for the main series label (**Main series label** in Eureka). The main series label can be used to easily search for similar widgets to be added to a dashboard. Only shown if you did *not* select **Previous period chart**.
15. Select the **Color** (**Chart color** in Eureka) from one of the default color definitions or create your own color definition. If no chart color scheme is selected, the default color scheme from the properties is used to render charts.
16. In the Date Settings section, set the **Period**. 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 for which scores are shown. Date settings are only available if you selected a **Time series** (**Indicator time series** in Eureka).
17. [Optional] In the Date Settings section, select **Show date range selector** if you want to show a date selector on the resulting chart. This allows you to select a 7d, 1m, 3m, 6m, YTD, 1y or all range for the scores displayed in

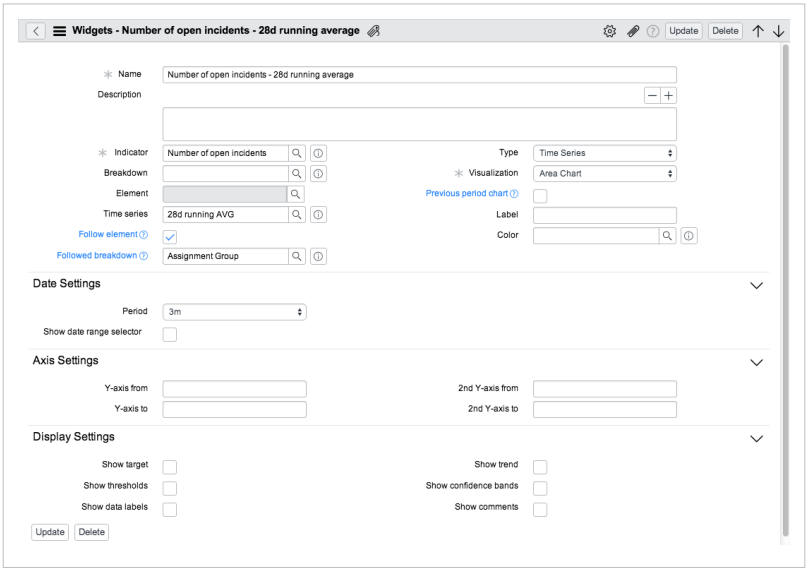
the chart. This also enables you to click and drag a selection on the chart to zoom into that selection. Available starting with the Fuji release.

18. In the Axis Settings section, in the **Y-axis from** and **Y-axis to** fields, specify a range of values for the scores on the vertical axis on the left side of the chart. For example, **1** to **100**.
19. In the **2nd Y-axis from** and **2nd Y-axis to** fields, specify a second range of values for the scores on the vertical axis on the right side of the chart. For example, 1 to 1000.

    The 2nd Y-axis can be used if scores normally move between a limited bandwidth, but you have some exceptions that would otherwise distort the chart. For example: a bandwidth of 40 to 60, with an exception of 1000.
20. In the Display Settings section, select **Show target** (**Include target** in Eureka) if you want to compare the scores of this chart with the target scores (if defined). Only shown if you did *not* select **Previous period chart**.
21. Select **Show thresholds** if you want to show thresholds, like an all time high, or an all time low. Only available if thresholds have been defined for this indicator. Available starting with the Fuji release.
22. Select **Show data labels** if you want to show the scores for the data points in the chart. Available starting with the Fuji release.
23. Select **Show trend** (**Include trend** in Eureka) if you want to include the trend line in this chart. Only shown if you did *not* select **Previous period chart**.
24. Select **Show confidence bands** if you want to include confidence bands in this chart. Available starting with Eureka Patch 3 Hotfix 1.
25. Select **Show comments** to display comments for data points in the chart. Only available if comments have been added. Available starting with the Fuji release.

    Targets, thresholds, trends, confidence bands, and labels can be toggled with the Chart settings in the scorecard.
26. Click **Submit**.

After submitting the widget, you can reopen the Widget Configuration form and use the **Widget Indicators** related list to add more indicators for this widget. You could for example have an area chart displaying the indicator **Number of open incidents** and then add the widgets to display a second or even a third indicator, for example, **Number of open incidents not worked on in the last 30 days** and **Number of open incidents not updated in the last 5 days**. For these additional widget indicators, similar configuration options are available as for the main indicator widget. You could have them displayed as an area chart, or as lines within the area chart for **Number of open incidents**.



Creating a Score Widget

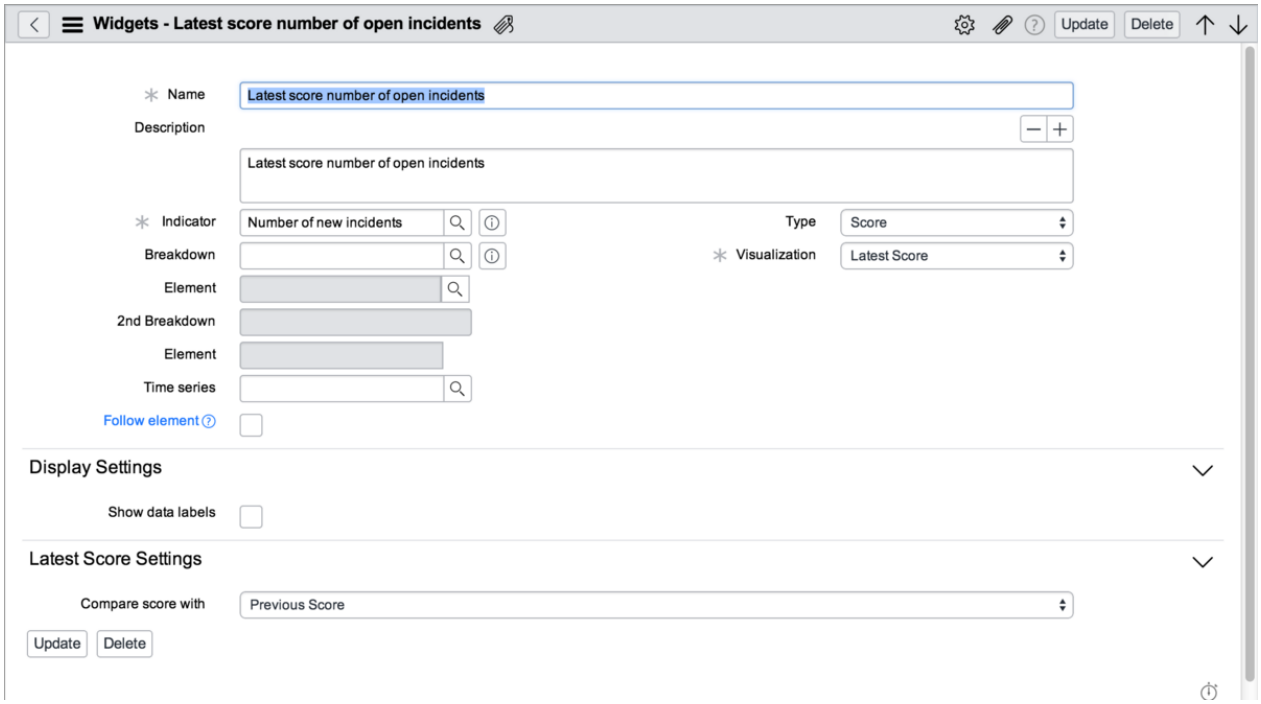
To create a score widget:

1. In the **Type** field of the Widget Configuration form, select **Score**.
2. In the **Visualization** field, select the appropriate option.

   Choices are:

   - **Latest Score:** shows latest score of an indicator as a dial.
   - **Speedometer:** measures the performance of a single indicator in the form of a meter.
   - **Dial:** shows a dial for an indicator. This is similar to a regular speedometer, but it shows a round meter where the part in which scores are shown is filled out with a color. Available starting with the Fuji release.
3. Select an **Indicator**, for example, **Resolved incidents**.
4. [Optional] Select the **Breakdown** to show a chart for a specific breakdown element, for example, **Category**.
5. [Optional] Select the **Element** to shown if **Breakdown** is selected, for example, **Software**. If you do not select an **Element**, "null" is returned, meaning that all breakdown elements are displayed.
6. [Optional] Select the **2nd Breakdown** to show a chart for a second level breakdown element, for example, **Priority**. Available starting with the Fuji release.
7. [Optional] Select the **Element** to show for the second breakdown. For example, **1 - Critical**. If you do not select an **Element**, the widget uses the unmatched breakdown element. Available starting with the Fuji release.
8. Select a **Time series** (**Indicator time series** in Eureka) if you want to use, for example, a running sum, an average, or a total sum for a specific period.
9. [Optional] Select **Follow element** to show a selected breakdown rather than the general scores for the indicator. Available starting with the Fuji release.
10. [Optional] If **Follow element** is selected, select a breakdown to follow in the Followed breakdown field. The parent breakdown and excluded breakdowns are not shown in the selection. Available starting with the Fuji release.
11. If you selected **Latest Score** in the **Visualization** field, select a **Compare score with** option. Choices are:
    - **Previous Score:** compares the score with the score from the previous data collection.
    - **Periods Back:** compares the score with the **Number of periods back** entered. For example, if you enter **3** the score is compared with the score that was retrieved three months ago.
12. If you selected **Speedometer** or **Dial** in the **Visualization** field, select the **Auto scale** check box if you want to autoscale the dial. The start and end values for the dial are automatically determined, depending on the data. For example, if four P1 incidents are collected, the scale runs from zero to six. If **Auto scale** is not selected, you have to enter the start value in **From** and the end value in **To**.

After submitting the widget, you can reopen the Widget Configuration form and use the **Widget Indicators** related list to add more indicators for this widget.



Creating a List Widget

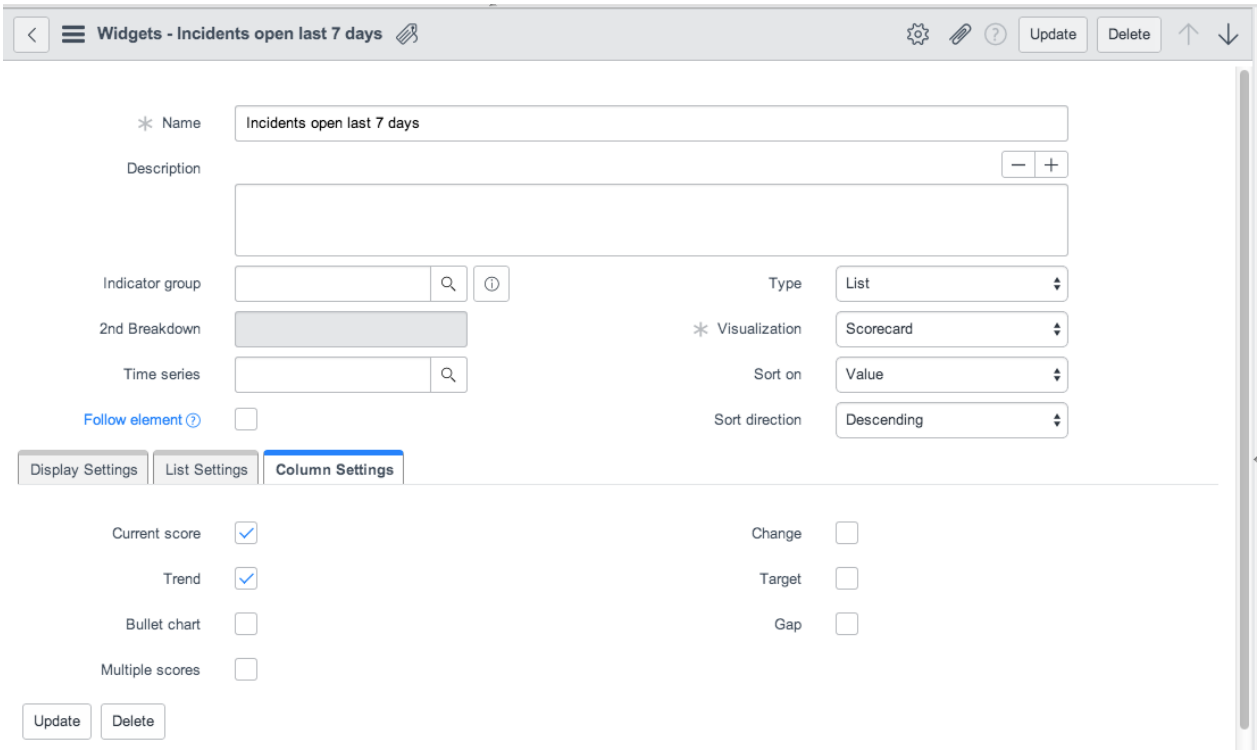
To create a list widget:

1. In the **Type** field of the Widget Configuration form, select **List**.
2. In the **Visualization** field, select the appropriate option. Choices are:
   - **Scorecard:** shows the data for one or more indicators in *card* layout for a certain time span, with an optional mini graph for each indicator showing the trend in which it moves.
   - **Spider:** shows the values of each category along a separate axis that starts in the center and ends on the outer ring. This option is also known as a radar or star chart.
3. In the **Sort on** field, select either by **Value**, **Name** or **Custom order** as the sort sequence for scorecards.
4. In the **Sort direction** field, select **Ascending** or **Descending**.
5. Select a **Time series** (**Indicator time series** in Eureka). If you want to use a running sum, an average or a total sum for a specific period, select for example, **28 days running SUM**.
6. Select an **Indicator group**, for example, **incident open**. All indicators with this indicator group will be included in the list. In the Widget Configurations search, you can search for **Indicator group**.
7. [Optional] Select **Follow element** if the chart should show the selected breakdown, rather than the general scores for the indicator. Available starting with the Fuji release.
8. [Optional] Select the **Followed breakdown**. Only shown if you selected **Follow element**. The parent breakdown and excluded breakdowns are not shown in the selection. Available starting with the Fuji release.
9. In the **List Settings** section, select what the list should look like on the dashboard. Choices are:
   - **Scorecard options:** Select **All** scorecards, scorecards marked **Key**, or **Favorite** scorecards to show the selected scorecards on the dashboard.
   - **Page size:** Select the number of rows shown on the list scorecard: 5, 10, 15 or 20. Available starting with the Fuji release.
   - **Filter:** Filter the scorecard list for **Best Performing**, **Worst Performing**, **Improved**, or **Deteriorated**. Only indicator scores that match the filter are shown.

     The **Filter** field is only shown if you selected **Scorecard** in the **Visualization** field.
10. Select the check box for each column to display for the list scorecard (see table).

The Column Settings section is shown only if you selected **Scorecard** in the **Visualization** field.

Field	Description
Current score	The score from the latest data collection.
Trend	Displays a column with the direction the indicator is moving in. The trend is shown in a mini-chart on the dashboard.
Bullet chart	This option is only visible if the widget has a **Visualization** of **Scorecard** and has a defined target. The grey tones of the bullet are the boundaries of the traffic colors. For *less is better* indicators the color coding moves from light to dark. A light color is acceptable, a dark color is unacceptable. For *more is better* indicators the color coding moves from dark to light. The target is always represented by a red horizontal line. Bullet charts for scorecards are available starting with the Fuji release.
Multiple scores	Adds additonal 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 in value from the previous score.
Target	Displays a column with 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).



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Creating a Breakdown Widget

Breakdown widgets are typically used to zoom in on a particular instance of an indicator. For example, a visualization based on the **Priority** breakdown for open incidents.

Visualizations based on breakdowns allow showing a percentage of the total/selected scores. Element filtering in a breakdown widget configuration allows users to display only elements that match a pre-defined breakdown source filter.

To create a breakdown widget:

1. Select an **Indicator**, for example, **Number of open incidents**.

2. Select a **Breakdown**, for example, **Priority**. Selecting a **Breakdown** is mandatory when configuring a breakdown widget.
3. Select which **Element** must be shown, for example, **1 - Critical**. If you do not select an **Element**, "null" is returned, meaning that all breakdown elements are displayed.
4. [Optional] Select the **2nd Breakdown** if you want to show a chart for a second level breakdown element, for example, **Age**. Available starting with the Fuji release.
5. Select which **Element** must be shown for the second breakdown, for example, time bucket **01 - 05 Days**. If you do not select a second level **Element**, the widget uses the unmatched breakdown element. Available starting with the Fuji release.
6. Select an **Time series** (**Indicator time series** in Eureka) if you want to use a running sum, an average, or a total sum for a specific period. For example, **28 days running SUM**.
7. [Optional] Select **Follow element** if the chart should show the selected breakdown, rather than the general scores for the indicator. Available starting with the Fuji release.
8. [Optional] Select the **Followed breakdown**. Only shown if you selected **Follow element**. The parent breakdown and excluded breakdowns are not shown in the selection. Available starting with the Fuji release.
9. In the **Type** field of the Widget Configuration form, select **Breakdown**.
10. In the **Visualization** field, select the appropriate option. Choices are:
    - **Scorecard**
    - **Pie**
    - **Donut:** Available starting with the Fuji release.
    - **Semi Circle Donut:** Available starting with the Fuji release.
    - **Funnel:** Available starting with the Fuji release.
    - **Pyramid:** Available starting with the Fuji release.
    - **Column**
    - **Pareto**
    - **Line**
    - **Column and Total**
    - **Stacked Column**
    - **Relative Compare:** Available starting with the Fuji release.
    - **Pivot Scorecard:** Available starting with the Fuji release.

    The fields you have to enter in the settings vary according to the visualization you selected.
11. Select an option in the **Sort on** field, either by **Value**, **Name**, or **Default**.
12. Select the **Sort direction**, either **Ascending** or **Descending**.
13. In the Display Settings section, select **Show data labels** if you want to show the scores for the data points in the chart. Available starting with the Fuji release.
14. In the Date Settings section, set the **Period**. 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 for which scores are shown.

    The **Period** field is only shown if you select **Column**, **Line**, **Column and Total**, or **Stacked Column** as the **Visualization**.
15. [Optional] In the Date Settings section, select **Show date range selector** if you want to show a date selector on the resulting chart. This allows you to select a 7d, 1m, 3m, 6m, YTD, 1y or all range for the scores displayed in the chart. This also enables you to click and drag a selection on the chart to zoom into that selection. Available starting with the Fuji release.
16. In the Breakdown settings section, select what the breakdown should look like on the dashboard. Choices vary according to the selected **Visualization**, and include:

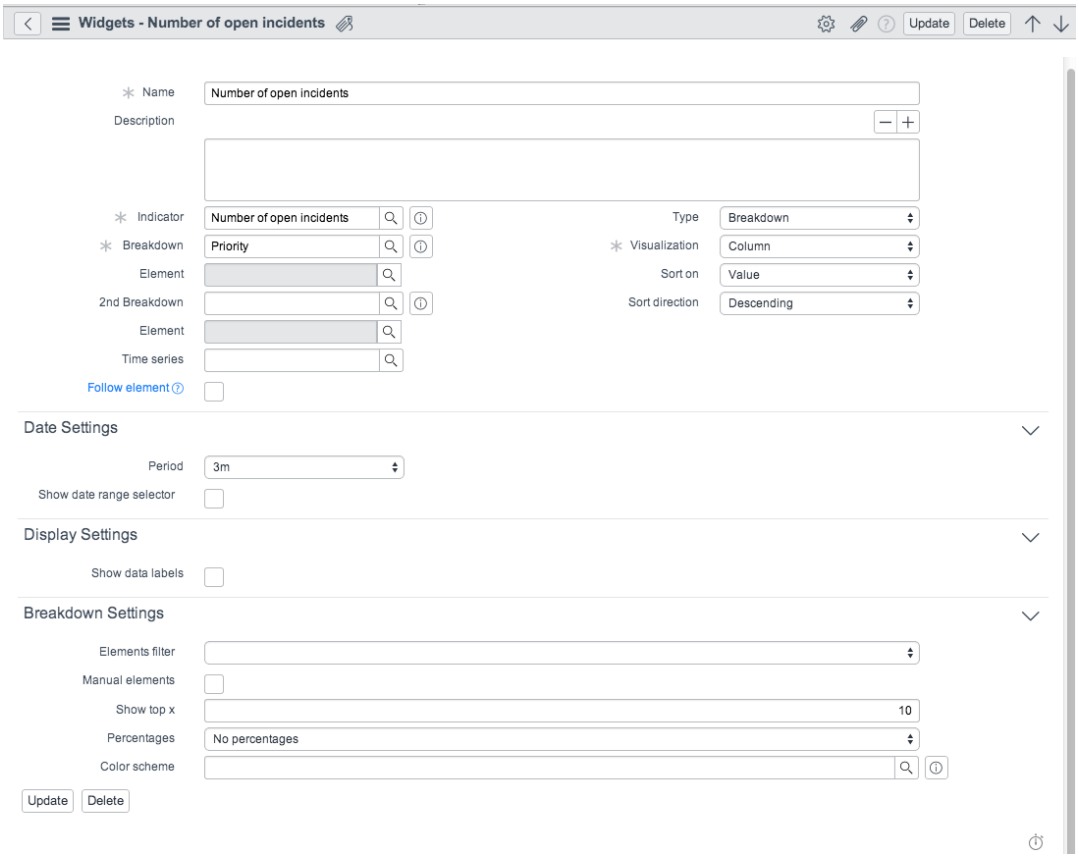
- **Elements filter:** Defaults to *Any element*. An element is an instance of the breakdown. For example, instances of the breakdown **Priority** can be: **Critical**, **High**, **Moderate**, **Low** or **Planning**.
- **Manual elements:** Breakdown elements can be selected automatically or manually. 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.
- **Page size:** Select the number of rows shown on the breakdown scorecard: 5, 10, 15 or 20. Only available if **Scorecard** is selected in the field **Visualization**, starting with the Fuji release.
- **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 cannot be larger than the number entered there.
- **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 indicator:** If you selected **Scorecard** in the **Visualization** field, an extra row can be included in the breakdown chart showing the totals for the indicator.
- **Show bar:** The score for each instance is represented by a bar.
- **Color scheme:** select a color scheme from one of the default color definitions, or create your own color definition. If no chart color scheme is selected, the default color scheme from the properties is used to render charts.

The Color scheme field is shown for all visualizations except **Scorecard**, and **Pivot scorecard**.

17. Select which columns to display for the breakdown scorecard (see table).

The Column Settings section is only shown if you selected **Scorecard** in the **Visualization** field.

Field	Description
Current score	The score from the latest data collection.
Trend	Displays a column with the direction the indicator is moving in. The trend is shown in a mini-graph on the dashboard.
Bullet chart	This option is only visible if the widget has a **Visualization** of **Scorecard** and has a defined target. The grey tones of the bullet are the boundaries of the traffic colors. For *less is better* indicators the color coding moves from light to dark. A light color is acceptable, a dark color is unacceptable. For *more is better* indicators the color coding moves from dark to light. The target is always represented by a red horizontal line. Bullet charts for scorecards are available starting with the Fuji release.
Multiple scores	Adds additonal 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 in value from the previous score.
Target	Displays a column with 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).



After creating widgets, navigate to **Performance Analytics > Dashboards** to add the widget to a dashboard. You can check if the widget definition works and looks like you intended.

References

[1] https://docs.servicenow.com/bundle/jakarta-performance-analytics-and-reporting/page/use/performance-analytics/concept/c_Widgets.html

Creating Dashboards

Note: *This article applies to Fuji. For more current information, see Dashboards* [1] *at* http://docs.servicenow.com The ServiceNow Wiki is no longer being updated. Please refer to http://docs.servicenow.com for the latest product documentation.

Overview

Dashboards form the entry point for Performance Analytics users. A dashboard shows widgets for the most relevant indicators for specific users or groups. Information can be presented using several visualizations, such as charts, scorecards, lists, or dials.

Dashboards are divided into tabs to logically group widgets that belong together. You can create separate dashboards according to topic, for example, for incident management, problem management, or request management.

Users must have the pa_viewer role to access dashboards. Users with the pa_admin and pa_power_user can set up and edit dashboards.

Creating a Dashboard

To create a new dashboard:

1. Navigate to **Performance Analytics > Dashboards**.
2. Click **Add Dashboard**.
3. Enter a **Name** that indicates what the dashboard shows. For example, **Incidents Dashboard**.
4. 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.
5. Select **Breakdown Source dashboard** if the information on the dashboard is related to a breakdown. Breakdown source dashboards have an extra option in the dashboard header to select an element.
6. Select the **Breakdown Source** to use if you selected the **Breakdown Source dashboard** check box.
7. Select **Active** to make the dashboard available in the dashboards choice list.
8. Select **Everyone** in **Visible to** to make the dashboard available to all users with the pa_viewer role. Select roles in **Requires Roles** if you want to limit access to users with certain additional roles. Select **Users and Groups** in **Visible to** to limit access to certain users and groups.

Note: *The pa_viewer role is always required to view dashboards.*

Adding Content to a Dashboard

Content on a dashboard can be organized with tabs and widgets. To change the content on a dashboard, click **Edit**.

Creating Tabs

By default a dashboard is created with a **Home** tab. You can create additional tabs for each dashboard to group information in a logical order. For example, the tabs **Daily Indicators**, **Weekly Indicators**, and **Home** could display the key indicators for incident management.

To create a new tab:

1. Click **Edit**.
2. Click the blue "+" icon beside the existing tabs.
3. In the pop-up window, enter a name for the new tab.
4. Click **Create tab**.

To add or change content for the tab you just created, click "+" icon at the top left of the tab area.

To change the appearance of the tab you just created, click **Change Layout**.

Linking Tabs

Linking an existing tab to the dashboard allows you to share tabs across multiple dashboards. Available starting with Eureka patch 3.

To link an existing tab:

1. Click **Edit**.
2. Click the blue "+" icon beside the existing tabs.
3. In the pop-up window, click the down arrow under **Or link an existing tab** to access the choice list of tabs that can be linked. Only tabs that are not linked to this dashboard are displayed. Select the tab you want to add. Tabs can be linked to more than one dashboard.
4. Click **Link this tab**.

Editing Tabs

In edit mode, click the down arrow beside the name of the active tab to access options for manipulating tabs:

- **Rename:** change the name of the tab.
- **Unlink tab:** remove the tab from this dashboard. If a tab is unlinked, it is removed from the current dashboard only, not from all dashboards. Available starting with Eureka patch 3.
- **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.
- **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.

Adding Widgets

Click the "+" icon at the top left of the tab area to add widgets to the tab. This functionality is similar to adding content to homepages. A pop-up window appears for choosing which content you want to add to the tab. This can be any content, not only content related to Performance Analytics.

1. Select **Performance Analytics** in the category list.
2. Select the type of content to use:
   - Breakdown
   - List
   - Score
   - Time Series
3. Select an existing widget or select the option to create a new one.
4. Select the on the tab location by clicking the **Add here** button that indicates the desired location.
5. You can either add another widget or close the pop-up window. The tab you created is saved automatically.

Changing Layout

Changing the layout of a dashboard is similar to changing the layout of home pages. To change the layout of a tab:

1. In edit mode, click the **Change Layout** link within the tab.
2. In the pop-up window, select one of the available layouts, including:
   - 3 columns with 2 wide columns and a narrow right column.
   - narrow left column, large right column, with a header.
   - Minimalistic approach to the CMS layout.
   - 2 columns with wide right column, header and footer.
   - 3 columns of equal size only.
   - a single cell centered on screen.
3. Click **Change Layout** to apply the new layout to the tab.

Setting Up Indicators

Note: *This article applies to Fuji. For more current information, see Setting up Indicators* [1] *at* http://docs.servicenow.com The ServiceNow Wiki is no longer being updated. Please refer to http://docs.servicenow.com for the latest product documentation.

Overview

Indicators are at the heart of Performance Analytics. They provide you with the key information on how your business is doing. You can present them in your scorecards and in user-friendly dashboards. Before you can create indicators, you need to define the sources from which the data is retrieved.

Users with the pa_admin, pa_power_user and pa_data_collector roles can set up and edit indicators.

Video Tutorial

The following video tutorial explains the different types of indicators that you can create for Performance Analytics in the ServiceNow platform, and demonstrates the process for creating a manual indicator, then converting it to an automated indicator.

Performance Analytics: Create Your First Indicator

Defining Indicator Sources

An indicator source is a source record that identifies a table or view of interest and a set of conditions for which to gather data. Indicator sources are based on a facts table, for example, Incident [incident] and the conditions to gather data for indicators. If you want to use the indicator source to create a snapshot of the situation on a certain date, the conditions should include a date related filter, so you can schedule a historic data collection for it.

One indicator source can be shared by multiple indicators (1:n relationship). It is important to pick your indicator sources carefully. Since an indicator is linked to an indicator source, it is not easy to change the indicator source after you created it. Changing the indicator source, could involve having to go through a lot of indicator records to adjust the source. A possible approach is to create, for example, an indicator source based on the *state* of the incident. Thus, you can have the following indicator sources: **Incidents.New**, **Incidents.Open**, and **Incidents.Resolved**. Then, you can create indicators based on these incidents' states. If you want to take it a step further, you can define an incident dashboard with tabs grouping the incidents by state, and put the appropriate indicators on that. This in fact is how the demo data of Performance Analytics for Incident Management is set up.

Users with the pa_data_collector role can define indicator sources.

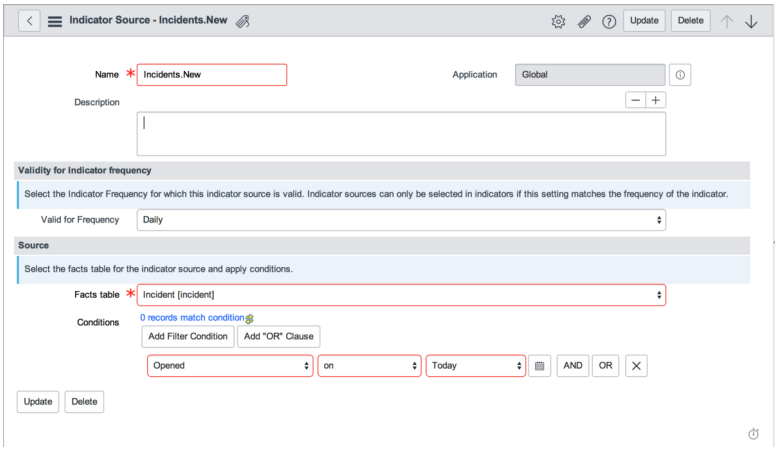
Note: *Indicator sources must be created before an indicator can be created. Also, in the indicator definition an aggregation needs to be applied (count, sum, average, max, min) to the record set of the indicator source and, if needed, additional conditions.*

1. Navigate to **Performance Analytics > Data Collector > 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. [Optionally] Enter a more detailed **Description**. For example, **Daily collection open incidents**.
5. Select the preferred value at **Valid for Frequency**.

The frequency determines the interval at which the data for the indicator source must be collected, such as daily, weekly, or bi-weekly.

6. Select the **Facts table** the indicator source is based on. 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, as this is meant to extract a large record set. Then, use the indicator advanced filters to delve deeper into the data.
8. Click **Submit**.



Define indicator source form

For example, 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]*

For example, consider job collection parameters that include these settings:

- **Operator:** *Relative*
- **Relative start:** *60*
- **Relative start interval:** *days ago*

In this case, the job collects scores up to 60 days from today's date, even though the indicator source is set to *Today*.

Using Database Views

Database views allow 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.

1. **View Table**: select the table to collect records from, for example, **incident**.
2. **List View**: select the list view used to display collected record sets. **Default view** is suggested, but you can select any defined view, for example, **Self Service**, or **Mobile**.

Creating Indicators

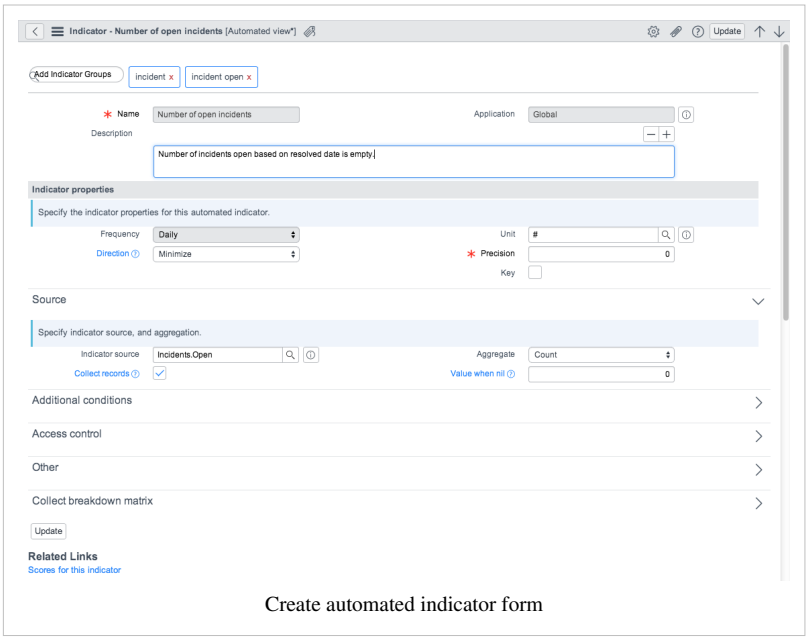
Creating Automated Indicators

Automated indicators are used to automatically collect scores on a regular basis. Each indicator is linked to an indicator source. Several properties (such as, frequency, direction, and a default time series) can be defined for the indicator to influence the way the data is processed. You can define extra properties in the **Source** section, such as aggregates or a script that needs to be executed. The **Additional conditions** section enables you to define extra conditions that must be met for the data collected.

Note: *You can add indicator groups for the indicator by entering them in the bar below the indicator title. More than one indicator group can be assigned to one indicator and they can be removed by clicking (x). Indicator groups can be used to search for indicators that belong together when creating a widget.*

To create an automated indicator:

1. Navigate to **Performance Analytics > Indicators > Automated Indicators**.
2. Fill in the fields, as appropriate (see table below).
3. Click **Submit**.

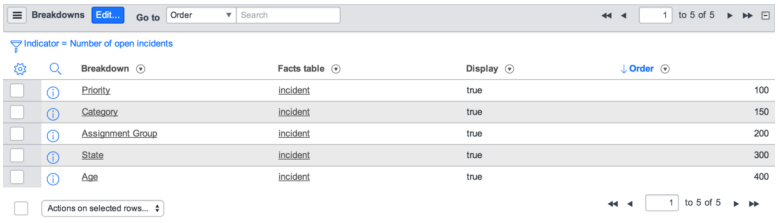


Create automated indicator form

Field	Description
Name	Descriptive name of the indicator.
Description	A more detailed description of what the indicator does and its purpose.
Frequency	The frequency used for displaying this indicator on scorecards and widgets, such as **Daily**, **Weekly**, **Bi-weekly**, **4-Weeks**, **Monthly**. The frequency of the indicators are independent from the job frequency. For example, you could set an indicator's display frequency as monthly, while the job collection runs daily. This ensures that when the indicator is shown, it displays recent data. However, when creating a new indicator, you must select indicator sources that *match the frequency of the indicator*.
Direction	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	Number of digits behind the decimal separator (0 = none).

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**.
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 to drill down to those details in the scorecard and widgets.
Aggregate	The aggregate function to apply when calculating the indicator on the indicator source. Possible values are **Count**, **Sum**, **Average**, **Minimum**, **Maximum**, or **Count distinct**. Count distinct counts the number of *unique* records rather than the total number of records. So, for example, if the name of a user appears more than once in a list, the user is only counted once. Available starting with the Fuji Release.
Scripted	A check box to indicate if the value should be aggregated based on a script. This option is available only if **Aggregate** is set to **Sum**, **Average**, **Minimum**, **Maximum**, or **Count Distinct**. Clear the **Scripted** check box to aggregate the value by a field.
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 will add a virtual column and adds an element value to each record. Several sample scripts are available, for example Incident.Age.Days. This is a script that 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.
Field	The field that contains the values to be aggregated. This option is available only if the **Scripted** check box is cleared.
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.*
Facts table	Table for the indicator. This field automatically displays the table associated with the selected **Indicator source**.
Conditions	[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. 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: **[Reassignment count] [is] [0] [or]** **[Reassignment count] [is] [empty]**.
Display	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 by all roles	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.
Default time series	A predefined analytical function, like a 7-days running average, to display the indicator instead of showing the actual values of the indicator.
Live group profile	Live group profile that indicates the live group to which indicator's scores are published.
Order	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*.

Default chart type	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. Available starting with the Fuji release.
Collect breakdown matrix	If the indicator contains multiple breakdowns, select this option to collect a breakdown matrix. An example of a scorecard with two breakdown layers is: problems by priority and by assignment group. The option is enabled by default for new indicators, which means scores are collected for multiple breakdowns. If the option is selected for existing indicators, the scores for the breakdown matrix are collected on running the first new collection job. Note that enabling this option multiplies the amount of data Performance Analytics collects. If a second level breakdown is only required for a single score, using a 'group by' report on the record set is preferable. Available starting with Fuji Release. Users with the data_collector role can enable this option.

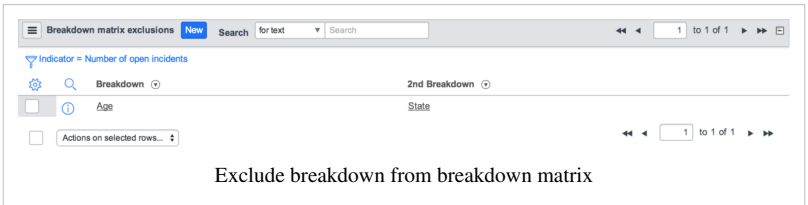


Add or remove breakdown

To add or remove breakdowns to an automated indicator:

1. Open an existing automated indicator.
2. Click **Edit** in the **Breakdowns** related list.
3. [Optionally] Use **Add Filter** and **Run Filter** to make a limited selection of breakdowns.
4. Select one or more breakdowns from the choice list with the breakdowns in the Collection.
5. Click **Add** to move the breakdowns to the Breakdowns List. If you want to remove breakdowns from the Breakdowns List, select these breakdowns and click **Remove**.
6. Click **Save**.

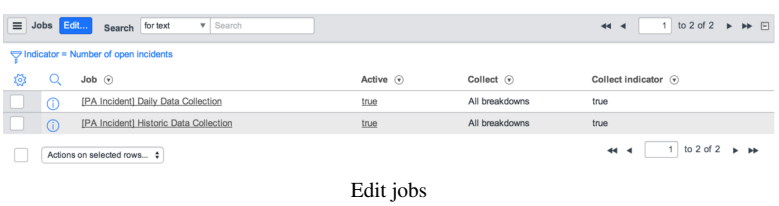
Sometimes, not all breakdown combinations (including second level breakdowns) give useful information. For example, the combination [Country, Region] will give the same scores as the breakdown Country. You can eliminate these combinations in a list with **Breakdown matrix exclusions**. These exclusions are not shown in the detailed scorecard and in the scoresheet, and cannot be selected when creating widgets. Available starting with the Fuji Release.



Exclude breakdown from breakdown matrix

To exclude breakdowns from the breakdown matrix:

1. Open an existing automated indicator.
2. Click **New** in the **Breakdown matrix exclusions** related list.
3. In the **Breakdown** field, select the breakdown you want to exclude.
4. In the **2nd Breakdown** field, select the second level breakdown you want to exclude. Both fields are mandatory.
5. Click **Submit**.



Edit jobs

To edit jobs for the indicator:

1. Open an existing automated indicator.
2. Click **Edit** in the **Jobs** related list.
3. [Optionally] Use **Add Filter** and **Run Filter** to make a limited selection of jobs.
4. Select one or more jobs from the choice list with the jobs in the Collection.
5. Click **Add** to move the jobs to the Jobs List. If you want to remove jobs from the Jobs List, select these jobs and click **Remove**.

6. Click **Save**.

Creating Manual Indicators

Manual indicators are created in the same way as automated indicators. The difference with manual indicators is that they do not have an indicator source associated with them. This means they are not generated automatically by a data collection job. Instead, you must populate these indicators by adding scores manually or by importing data. Manual indicators are typically used for data that cannot be retrieved from your ServiceNow instance because it comes from an outside system. One example could be customer data from a third-party sales system. To create a manual indicator, navigate to **Performance Analytics > Indicators > Manual Indicators**.

You can assign data contributors for each manual indicator. A data contributor can be a single person or a group. Users with the pa_admin, pa_power_user or pa_contributor role can view the scoresheet entry menu and select the indicators they are allowed to provide and add manual data to.

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, this also affects the scoresheet, so it determines whether you can enter daily or monthly values.*

Creating Formula Indicators

Use formulas to create new indicators based on the historic data of other indicators or based on analytical functions. Formulas are often used to:

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

To create a formula indicator, navigate to **Performance Analytics > Indicators > Formula Indicators**.

The properties 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.

In the Formula section of the Indicators form:

1. Click the **Browse for an indicator** link at the bottom and select an indicator, time series, or breakdown to use in the formula.

   Use the **+** and **-** to expand or collapse the list.
2. 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 this formula:

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

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. Available starting with the Fuji release.

Rounding in Formula Indicators

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

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

Note: *Rounding applies only to the formula result. Values within the formula are not rounded.*

Editing an Indicator from a Scorecard

Users with the pa_admin and pa_power_user roles can access and edit the indicator for a scorecard from that scorecard starting with the Fuji release. To edit an indicator from a scorecard, click the context menu icon () and select **Edit Indicator**.

References

[1] https://docs.servicenow.com/bundle/jakarta-performance-analytics-and-reporting/page/use/performance-analytics/concept/c_SetUpIndicators.html

Creating Breakdowns

Note: *This article applies to Fuji. For more current information, see Create and Apply a Simple Breakdown* [1] *at* http://docs.servicenow.com The ServiceNow Wiki is no longer being updated. Please refer to http://docs.servicenow.com for the latest product documentation.

Overview

Create *breakdowns*, also known as *dimensions*, to show KPIs on a more detailed level, reflecting the way a company or department is structured or being measured, such as by region or country. Other examples of breakdowns include dividing incidents by priority or by assignment group.

Breakdowns are available to navigate on scorecards and dashboards. Breakdowns can also be based on bucket groups, which are custom groups for categorizing data.

Users with the pa_admin and pa_power_user roles can create, edit and delete breakdowns.

Defining Breakdown Sources

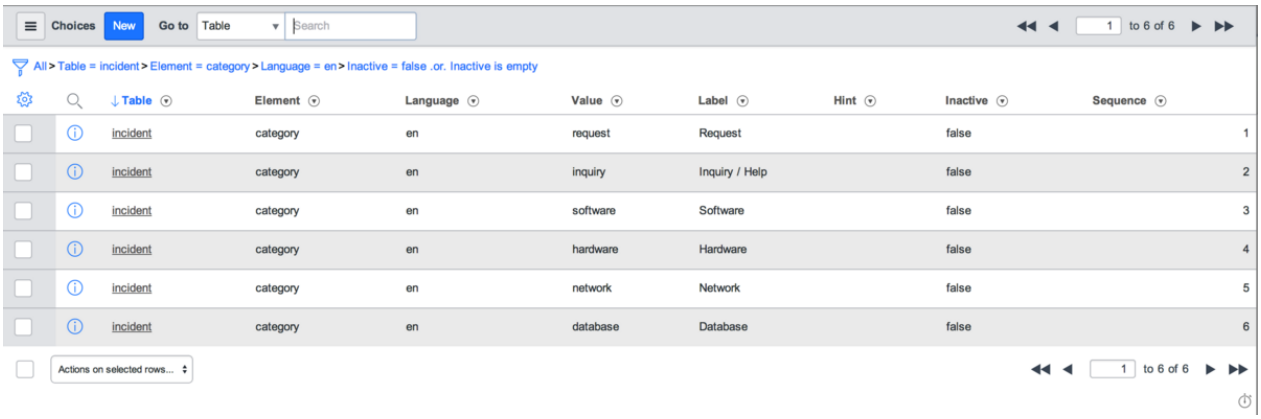
A breakdown source describes what elements the breakdown should contain. Breakdown sources are based on a facts table that provides breakdown elements, the individual instances of the breakdown. For example, a breakdown source might be a choice list or a number of conditions to further optimize the element list. One breakdown source can be shared by multiple indicators (1:n relationship).

To define a breakdown source:

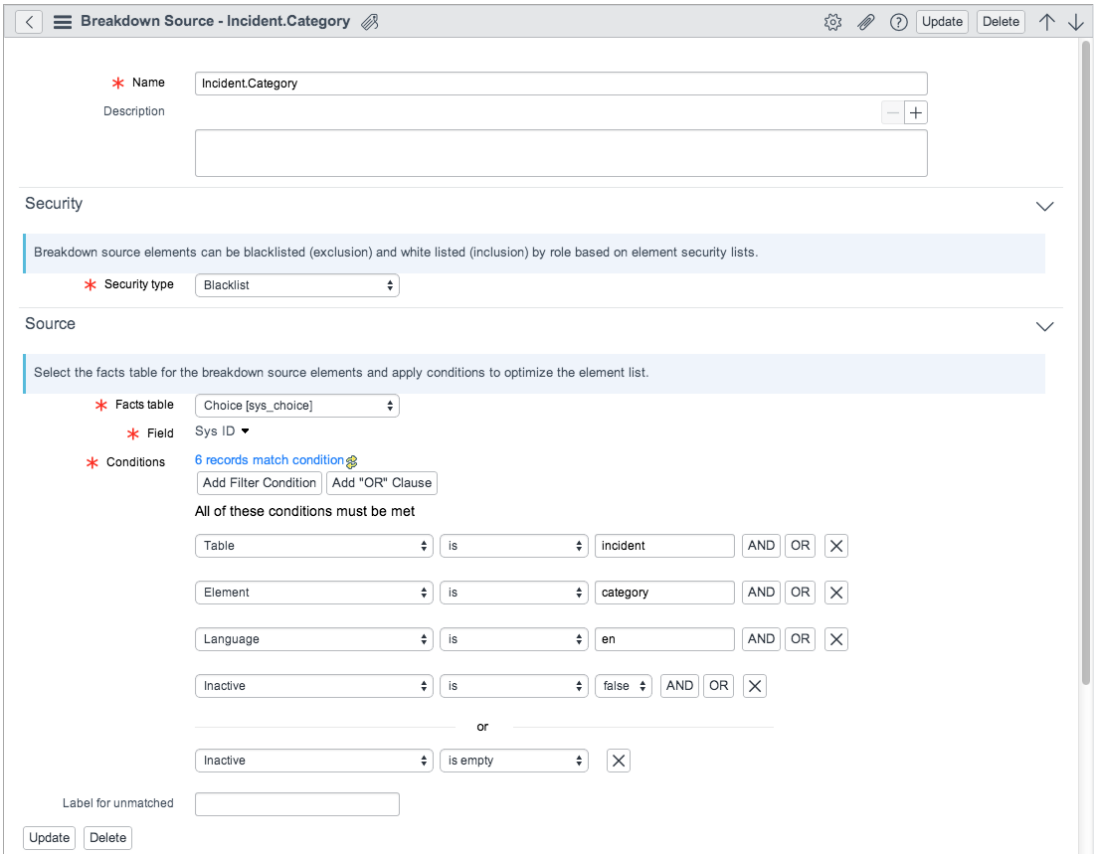
1. Navigate to **Performance Analytics > Data Collector > Breakdown Sources**.
2. Click **New**.
3. Fill in the fields, as appropriate (see table).
4. Click **Submit**.

Field	Description
Name	Descriptive name of the breakdown source. For example, **Incidents by Category**.
Description	A more detailed description of what the breakdown source does and its purpose.
Security type	Whether to exclude (**Blacklist**) or include (**WhiteList**) breakdown source elements by role based on element security lists. The roles on the blacklist cannot view the selected elements, all other roles can view all the elements. On the white list, only the roles on the list can view the selected elements, all other roles cannot view any element.
Facts table	The facts table the breakdown source is based on. For example, if it is based on a choice list, select **Choice [sys_choice]**.
Field	Select a reference field for the facts table. Usually the **Sys ID**.
Conditions	Conditions for optimizing the element list. For example: **[Table] [is] [Incident]** and **[Element] [is] [Category]** and **[Language] [is] [en]** and **[Inactive] [is] [false]** or **[Inactive] [is] [empty]**
Label for unmatched	The label to use if an empty value is detected during data collection. The default label is **Unmatched**.

Any records that match the conditions are shown immediately after submitting the form. If you click a matching record, the result should look like this:



Example of a breakdown source:



Defining an Elements Security List

An elements security list is used to prevent unauthorized access to breakdown elements.

To define an elements security list:

1. Open an existing breakdown source record.
2. In the **Elements Security List** related list, click **New**.
3. Fill in the fields, as appropriate (see table).
4. Click **Submit**.

Field	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.

Show blank option	Controls if users can select a blank breakdown element from the breakdown dashboard element selector. This field is available starting with Fuji Patch 8 and Eureka Patch 13 [2]. The following conditions affect if a user can select the blank option: • 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.

Creating Breakdowns for Indicators

After creating breakdown sources, create breakdowns to connect them to indicators.

To create a breakdown:

1. Navigate to **Performance Analytics > Indicators > Breakdowns**.
2. Click **New**.
3. Select a **Type**:
   - **Manual** lets you add manual values for a breakdown.
   - **Automated** populates the values for the breakdown from a breakdown source.
4. Enter a **Name** for the breakdown.
5. Enter a **Description** of the breakdown.
6. In the **Access control** section, clear the **Display** check box to disable the display of the breakdown on scorecards and dashboards. Select this check box to enable this display.

Different configuration fields become available depending on the **Type** selected.

Creating a Breakdown for a Manual Indicator

To create a breakdown for a manual indicator:

1. Double-click **Insert a new row** to add a new breakdown value.
2. Press **Enter** or click the green check mark to save the entry.
3. Select the **Order** for this breakdown. The default is 100.

   The order is used to sort the breakdown values on widgets or scorecards.
4. Repeat these steps until all values have been added.
5. Click **Submit**.

Creating a Breakdown with Breakdown Mappings for an Automated Indicator

Breakdown mappings allow you to define relationships between the indicator source table and the breakdown source table. This behavior allows 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 record **Assignment group** values. You can use the same breakdown to create additional relationships between the Group sys_ids and fields on other tables that reference Group records.

Breakdown mappings are available starting with Fuji Patch 2. For earlier releases, see Creating a Breakdown for an Automated Indicator.

To create a breakdown for an automated breakdown:

1. Select the **Breakdown source** for the breakdown.
2. [Optional] Select or create a **Default elements filter** for selecting the correct breakdown values. For example, if you created a default filter with assignment group **Service Desk** based on the `sys_user_group` table, this filter is automatically applied when you select assignment group on the scorecard breakdown tab. The filter needs to be based on the same table the breakdown is based on. You can also create an **Elements filter** by navigating to **Performance Analytics > Indicators > Elements Filters**.
3. Right-click the form header and select **Save**.
4. In the **Breakdown Mapping** related list, click **New**.
5. Select the **Facts table** used to collect relevant values for the breakdown. Usually this is the indicator source table.
6. Select the **Scripted** check box to use a script for the breakdown values. Clear this check box to use a fixed field for the breakdown values.
7. Select the **Script** or **Field** to use to determine how the breakdown groups data.
8. Click **Submit**.
9. Repeat steps 4-8 as needed to define additional mappings.

Creating a Breakdown for an Automated Indicator

Note: *Starting with Fuji Patch 2, automated breakdowns use breakdown mappings to define the relationship between indicator source table and the breakdown source table. See Creating a Breakdown with Breakdown Mappings for the current procedure.*

To create a breakdown for an automated breakdown:

1. Select the **Breakdown source** for the breakdown.
2. Select the **Facts table** used to collect relevant values for the breakdown. Usually this is the indicator source table.
3. Select the **Scripted** check box to use a script for the breakdown values. Clear this check box to use a fixed field for the breakdown values.
4. Select the **Script** or **Field** to use to determine how the breakdown groups data.
5. [Optional] Select or create a **Default elements filter** for selecting the correct breakdown values. For example, if you created a default filter with assignment group **Service Desk** based on the `sys_user_group` table, this filter is automatically applied when you select assignment group on the scorecard breakdown tab. The filter needs to be based on the same table the breakdown is based on. You can also create an **Elements filter** by navigating to **Performance Analytics > Indicators > Elements Filters**.
6. Click **Submit**.

Assigning Breakdowns to Indicators

The last step for creating breakdowns is assigning them to one or more indicators. It is important to understand that the facts table for the breakdown needs to be the same as the facts table for the indicator:

1. Open an existing breakdown record.
2. In the **Indicator Breakdowns** related list, click **New**.
3. Select the indicator you want to assign to this breakdown. It must use the same facts table as the breakdown.
4. Select the **Display** check box, default, to display the breakdown on the scorecard and dashboard widgets. If the **Display** check box is cleared, scores are populated during data collection, but the breakdown is not shown on the scorecard and dashboard widgets.
5. Click **Submit** to add the indicator to the breakdown.

Scripts for Automated Breakdowns

As mentioned above, you can choose to use a script to create a virtual grouping. The following specific functions can be added to the standard script functionality for Performance Analytics:

- `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)
```

References

[1] https://docs.servicenow.com/bundle/jakarta-performance-analytics-and-reporting/page/use/performance-analytics/task/t_CreateBreakdownFromWizard.html

[2] http://hi.service-now.com/kb_view.do?sysparm_article=KB0552946

Creating Bucket Groups

Overview

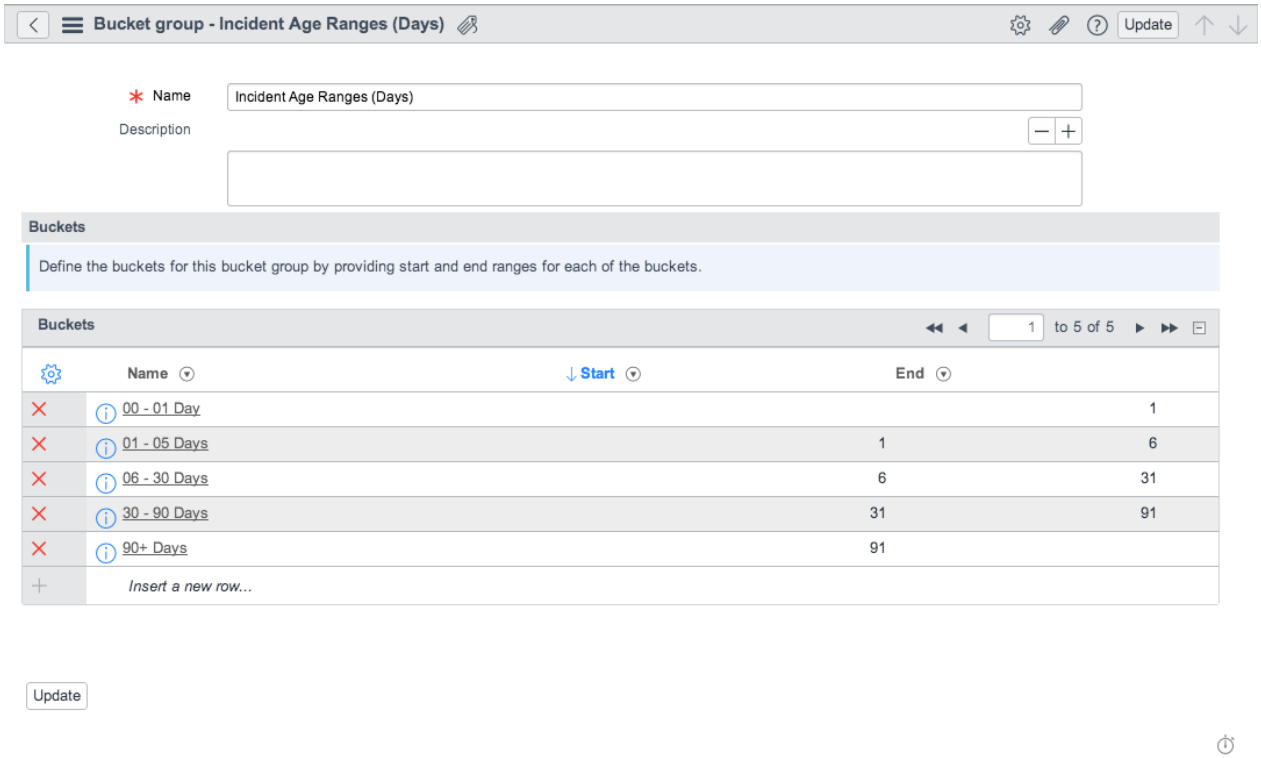
Bucket groups are custom groups that can be used when you define a breakdown source that uses Bucket [pa_buckets] as the facts table.

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**.

Creating Bucket Groups

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 on 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.



Adding and Deleting Indicator Groups

Overview

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

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

You can also search the widget configurations list for widgets associated with a specific indicator group.

Users with the pa_admin and pa_power_user roles can create and edit indicator groups.

Creating Indicator Groups

To create an indicator group:

1. Navigate to **Performance Analytics > Indicators > Indicator Groups**.
2. Click **New**.
3. Enter the **Label** for the indicator group.
4. Click **Submit**.

To add indicators to an indicator group:

1. Navigate to **Performance Analytics > Indicators > Indicator Groups**.
2. Open the indicator group record.
3. Click **Edit** in the **Indicators** related list.

   If you have many indicators, use a filter to limit the number of indicators.
4. Select one or more indicators using the slushbucket.
5. Click the right arrow () to add the indicators to the indicators list.
6. Click **Save**.

Assigning Indicators to Groups

To assign an indicator to a group:

1. Navigate to **Performance Analytics > Indicators** and open one of these modules: **Automated**, **Manual**, or **Formula Indicators**.
2. Open an indicator record.
3. Enter the indicator group in the **Add Indicator Groups** text box at the top. When you start typing, existing labels are recognized and shown, so you can avoid duplicate labels. Each indicator can have multiple labels.
4. Select the indicator group and press the **Enter** key to link the indicator group to the indicator. The indicator group is saved automatically.

To assign a group to a new indicator:

1. Navigate to **Performance Analytics > Indicators** and open one of these modules: **Automated**, **Manual**, or **Formula Indicators**.
2. Click **New**.

   This option is available only on ServiceNow instances running the full version of Performance Analytics.
3. Enter the indicator group in the text box at the top. When you start typing, existing labels are recognized and shown, so you can avoid duplicate labels. Each indicator can have multiple labels. Select the indicator group and

press the **Enter** key to link the indicator group to the indicator. The indicator group is saved automatically.

Any indicator groups added to existing or new indicators are available in the Indicator Groups module.

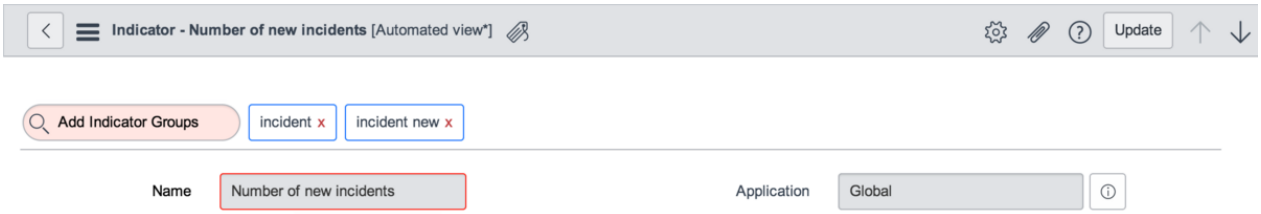
Deleting Indicator Groups

You can delete indicator groups from individual indicators or from the system.

To delete an indicator group from an indicator:

1. Navigate to **Performance Analytics > Indicators** and open any of these modules: **Automated**, **Manual**, or **Formula Indicators**.
2. Open an indicator.

   The following screen appears.



3. Click the delete icon (X) beside the indicator group.

Deleting an indicator group from the system automatically deletes it from all indicator records, as well.

1. Navigate to **Performance Analytics > Indicators > Indicator Groups**.
2. Select the check box for one or more indicator groups to be deleted.
3. Go to the **Actions** choice list below the list and select **Delete**.

Creating Targets

Overview

Targets are goals your organization wants to achieve, and can be set for indicators, breakdowns, and time series. They can be shown in charts and scorecard widgets to visualize the difference from the actual value of the indicator.

Combining targets with time series can provide useful information. The sum of indicator scores over a period of 28 days, for example, can provide a clearer view on the direction the indicator is moving, closer to the target or further away from it, than the same data for a specific day.

Users with the pa_admin and pa_power_user roles can create, edit, and delete targets and target color schemes.

Creating Targets

To create a new target:

1. Navigate to **Performance Analytics > Indicators > Targets**.
2. Click **New**.
3. Select the **Indicator** you want to set the target for.
4. [Optional] Select a **Breakdown**. This enables you, for example, to set targets per region or assignment group.

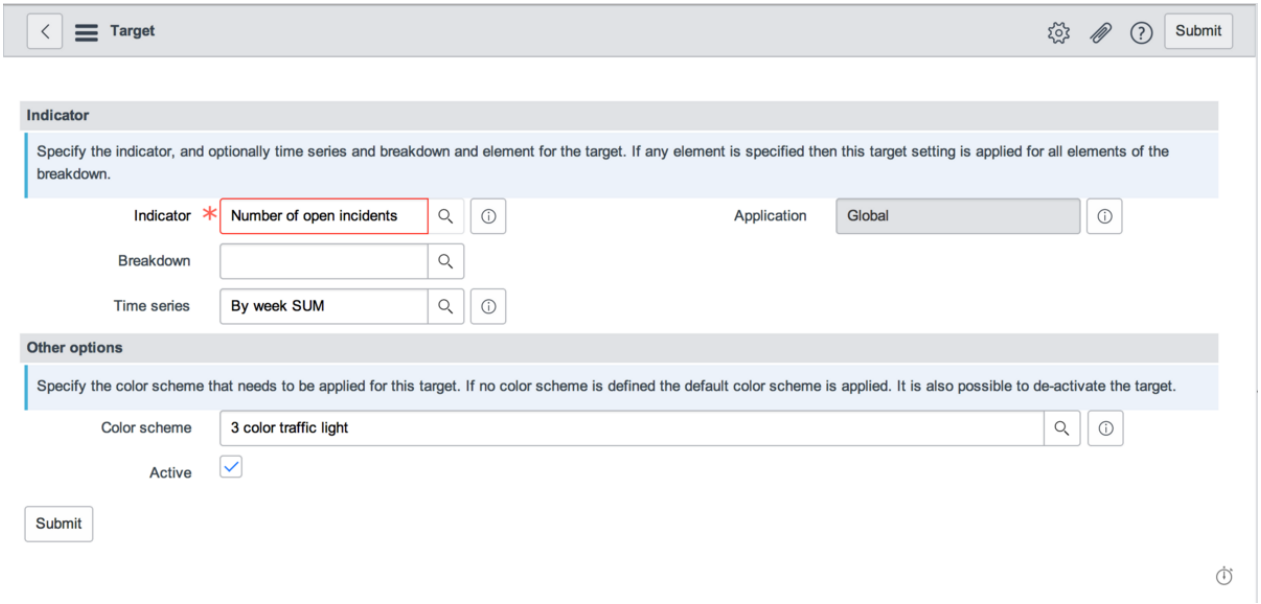
   When selecting a breakdown, you can set a target for one of its breakdown elements. To set the same target for all breakdown elements, select a breakdown element and leave **Any element** selected.
5. [Optional] Select a **Time series**.

An example of how you can use targets for time series is to measure closed incidents daily and to have monthly targets for closed incidents.

6. [Optional] Select a **Color scheme**.

   You can use one of the default color schemes or create your own from the color schemes lookup list.

7. Select the **Active** check box to activate the target. This check box is selected by default.
8. Click **Submit**.



Setting Target Values

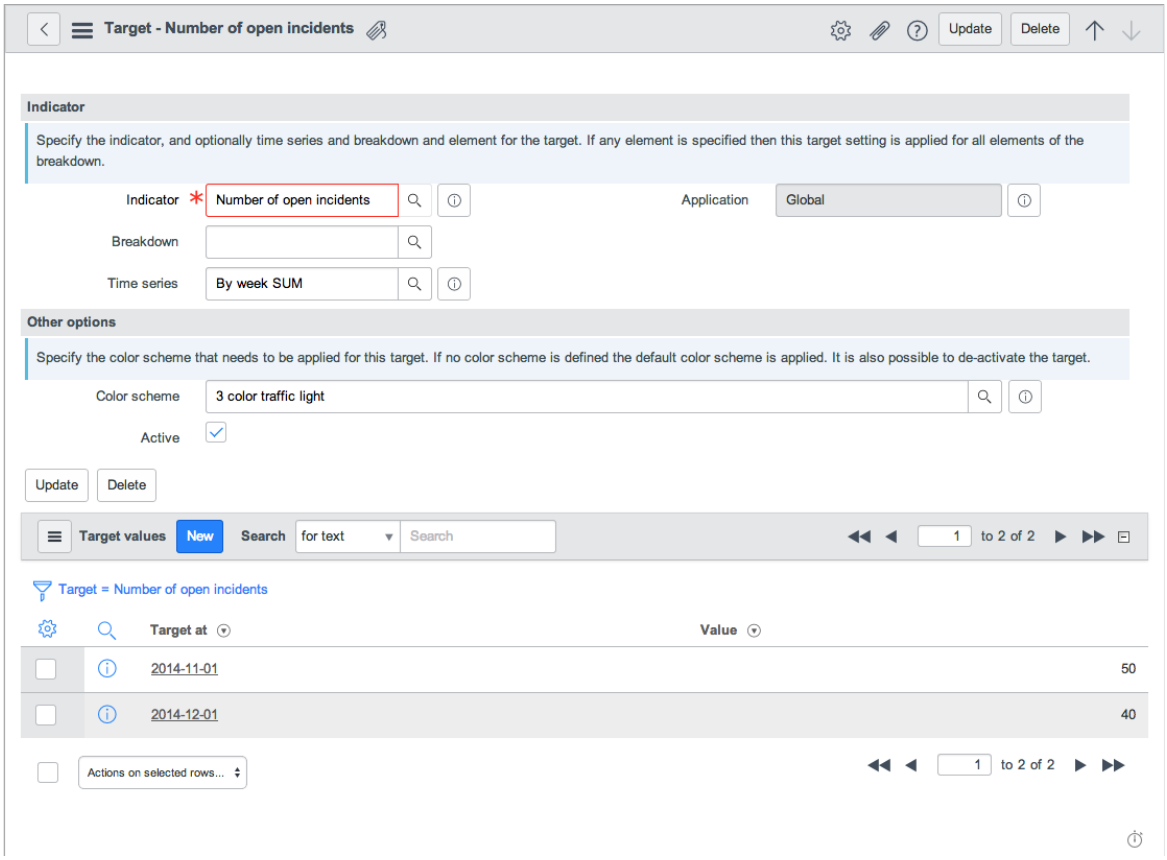
After submitting the target, you can set the target values:

1. Click the information icon (ⓘ) beside the indicator name in the **Targets** list.
2. Click **New**.
3. Select a start date from the **Target at** calendar.

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

4. Enter the target **Value**.
5. Click **Submit**.

   The new target appears in the **Target values** related list on the Target form.



Creating Target Color Schemes

A target color scheme can be used to visualize the position of the indicator score with regard to its target. 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 created in Performance Analytics by default: the 3-color traffic light and the 5-color traffic light.

The target color scheme is based on percentages relative to the target. The score falls within a certain range and the appropriate range color is applied.

Example:

Target = 50 (%)

Score = 40 (%)

Using the default 3-color traffic light:

The score gets a red color. When compared to the target, the score is off by 20% which falls in between range limit 1 (-25) and range limit 2 (-10). When the subsequent score changes to 48 (%), it gets a dark orange color. When compared to the target, the score is off by 4% which falls in between range limit 2 (-10) and range limit 3 (0).

To create a new target color scheme:

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 several 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.

Creating Thresholds

Overview

Thresholds are used to implement exception reporting for indicators, breakdowns, and time series. You can set boundaries that guard normal behavior so you get a warning when something abnormal occurs. Thresholds can be set for any indicator in combination with a time series and/or elements of a breakdown. After a threshold is activated, the system generates a message and posts it to email. This message is associated to the indicator and the message is directly available via the detailed scorecard.

Users with the pa_admin and pa_power_user roles can create, edit, and delete thresholds.

Creating Thresholds

To set a threshold for an indicator:

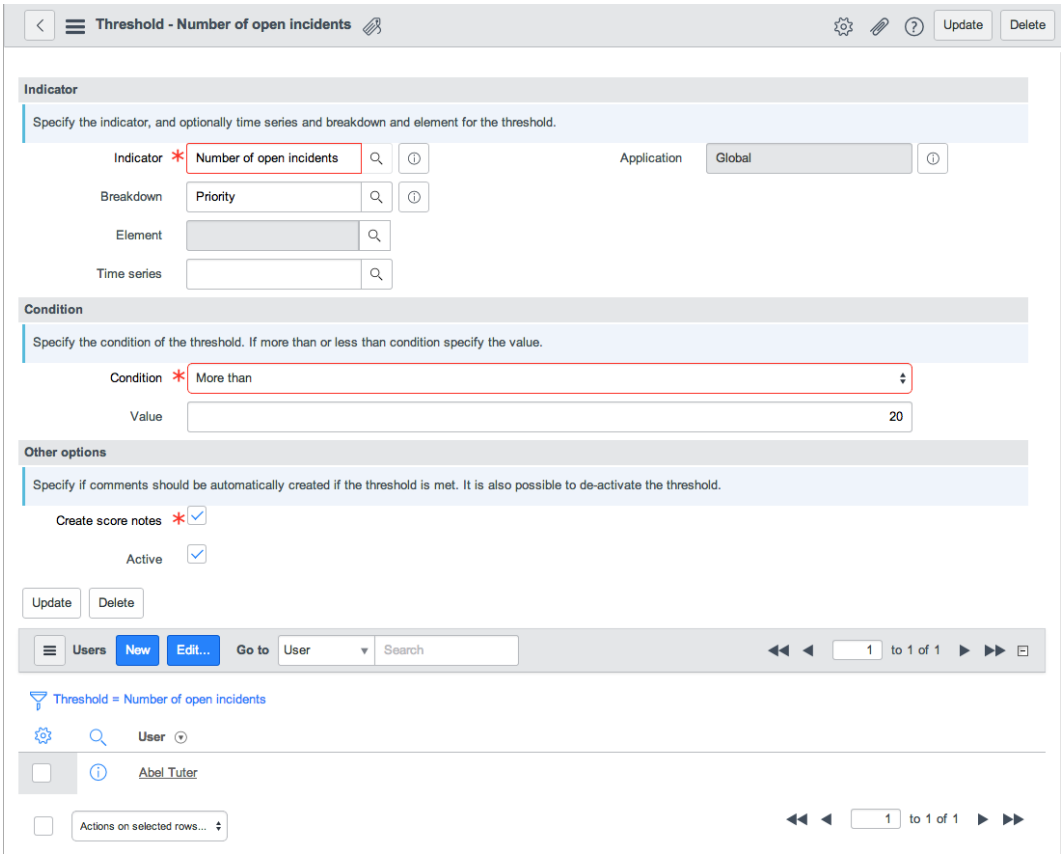
1. Navigate to **Performance Analytics > Indicators > Thresholds**.
2. Click **New**.
3. Select the **Indicator** you want to set the threshold for.
4. [Optional] Select a **Breakdown**.

   Use this if the threshold should apply to a specific breakdown element. For example, when the number of Priority 1 incidents rises above a predefined value. First select the breakdown, then select the element you want to apply the threshold to. To set the same threshold for all breakdown elements, leave the element field blank.
5. [Optional] Select a **Time Series**.

   Use this, for example, if you want to get a warning when the sum of Priority 1 incidents in a specific time period rises above a predefined value.
6. Define a **Condition**.

   A condition can be more than a specific value, less than a specific value, an all time high, or an all time low.
7. Enter a **Value** if the **Condition** is **More than** or **Less than**.

   When the threshold is met, a message is generated.
8. Select the **Create score notes** check box if you want the message to be added as a note for the score.
9. Select the **Active** check box to activate the threshold. This check box is selected by default.
10. Click **Submit** to save the new threshold.



Notifications

When thresholds are configured, the system generates messages that the receiver can respond to. The messages can be sent to the log file, notes, or email if notifications are enabled.

The **Check PA Thresholds** job checks the configured thresholds and generates events when needed to trigger other events.

Configuring User Notification

Users with the pa_admin role can configure which users should receive an email when the threshold is matched. The **PA Threshold Reached** email notification generates the message.

To add a user to a threshold:

1. Navigate to **Performance Analytics > Indicators > Thresholds**.
2. Open a threshold.
3. In the **Users** related list, click **New**.
4. Create the new user, and click **Submit**.

To add existing users to a threshold:

1. Navigate to **Performance Analytics > Indicators > Thresholds**.
2. Open a threshold.
3. In the **Users** related list, click **Edit**.

   The **Edit Members** screen appears.
4. 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.

To enable the overview notifications:

1. Navigate to **System Policy > Email > Notifications**.
2. Select **PA Thresholds Notification**.
3. Add users or groups to the **Who will receive** section by clicking the lock icon for either **Users** or **Groups**.
4. Select the users or groups you want to add.
5. Click **Update**.

Configuring Comments

The *PA threshold reached comment* script action is one of the events triggered by the **Check PA Thresholds** job. It adds a comment for the indicator that has reached the threshold. The comment is displayed when you open the detailed scorecard for the indicator.

Administrators can change the format of the note:

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

Creating Units

Overview

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.

All Performance Analytics users, except users with the pa_viewer role, can create and edit units.

Creating Units

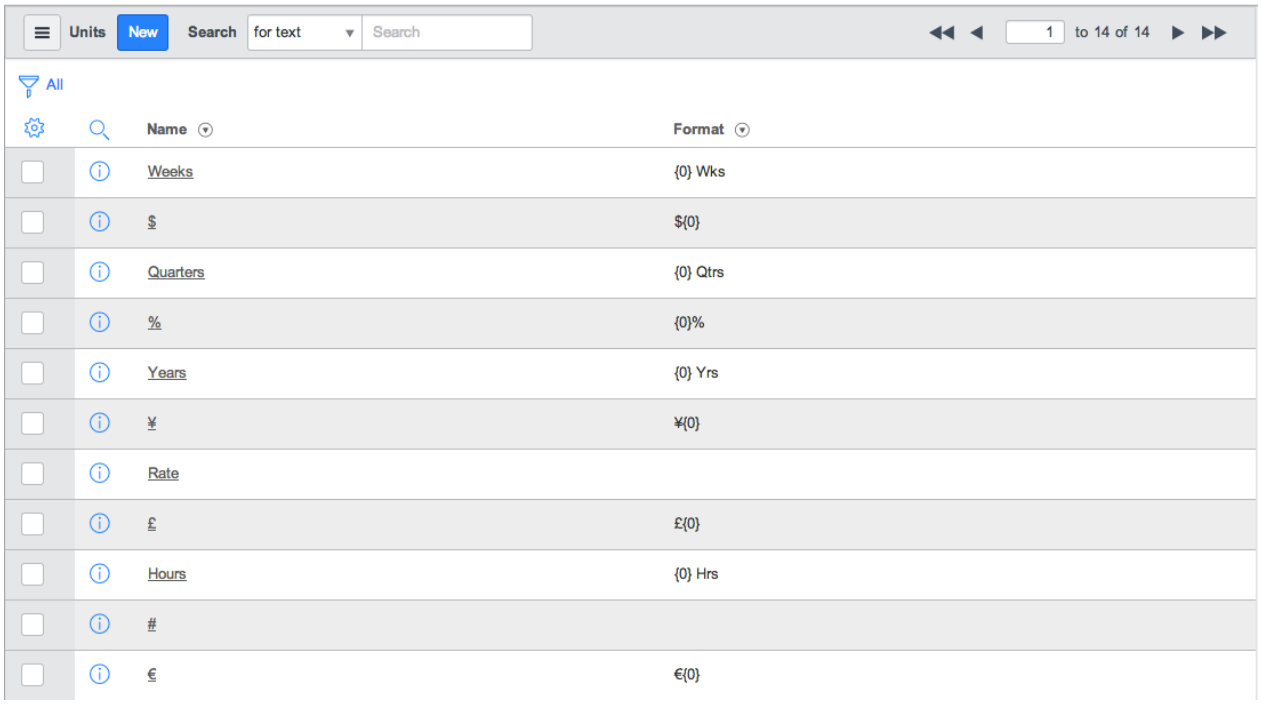
To create a new unit:

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, for example, **${0}**.
5. Click **Submit**.

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



Troubleshooting

Overview

This topic addresses common questions that users and administrators may have when using Performance Analytics. It also discusses tasks you can do to keep the performance of the generation of scores up to speed.

No data shown for a particular indicator?

Question: I don't see any data on the scorecard / dashboard for a particular indicator, though I'm sure there is data in the system.

Answer: The most likely causes are:

- The indicator is not included in any job.
  1. Navigate to **Performance Analytics > Data Collector > Jobs**. You need the pa_admin or pa_data_collector role for this.
  2. Scroll down to the bottom of the form and check if the indicator is included in the Indicators related list.
  3. If not, click **Edit** and add the indicator.
  4. Click **Save**.
  5. You can also view the Job Logs and see if there are any errors or warnings for this indicator.
- One of the restraints in the Performance Analytics Data Collector properties may have prevented the data for the indicator to be collected.
  1. Navigate to **Performance Analytics > System > Properties**
  2. Check the settings in the **Performance Analytics Data Collector** section.

No data shown for a particular breakdown?

Question: I don't see any data on the scorecard / dashboard for a particular breakdown, though I'm sure there is data in the system.

Answer: The most likely causes are:

- The indicator the breakdown is part of, is not included in any job. See previous question.
- There are too many breakdown elements to be included in a data collection, or the maximum number of elements produced by combining two breakdowns to be included in data collection has been exceeded. Check **Performance Analytics > System > Properties**.
- The breakdown is excluded in the **Breakdown matrix exclusions** list.
  1. Navigate to **Performance Analytics > Indicators > Automated Indicators**.
  2. Open the indicator that does not show any scores.
  3. Scroll down to the bottom of the indicator form.
  4. Click the **Breakdown matrix exclusions** tab.
  5. Check if the breakdown is in the exclusions list.
  6. Remove the breakdown from the exclusions list.
  7. Click **Update**.

Setting access control to dashboards, indicators, and breakdowns

Users with the pa_admin role can give a specific group of users access to specific dashboards, indicators, and breakdowns.

Access to a dashboard is regulated in the dashboard properties.

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 certain users and groups, select **Users and Groups** in the **Visible to** choice list and specify which **Users** and **Groups** have access.
   - To limit access to users with certain roles, select the roles in **Requires Roles** field.

Access to an indicator is regulated in the indicator record.

1. Navigate to **Performance Analytics > Indicators > 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 are allowed to access the indicator.
5. Click **Update**.

For breakdowns, there are no visibility options in Performance Analytics. Instead, access to breakdowns is regulated by ACLs in the breakdown sources.

1. Navigate to **Performance Analytics > Data Collector > Breakdown Sources**.
2. Open the breakdown sources record for the breakdown you want to set access to.
3. Use the field **Security type** to exclude (**Blacklist**) or include (**WhiteList**) breakdown source elements by role based on element security lists.

4. Define an **Elements Security List** and either select the elements to be included/excluded, or use conditions to to define which elements should be included. Specify the **Roles** that have access to the elements security list.

   See also Defining Breakdown Sources and Defining an Elements Security List.

Cleaning Performance Analytics Collections

Performance Analytics scores and snapshots may grow over the course of time, so a scheduled job cleans these tables up daily. Users with the admin role can view and update this scheduled job.

1. Navigate to **System Scheduler > Scheduled Jobs > Scheduled Jobs**.
2. Click **Clean PA collections** to see its contents.
3. Make any necessary changes. For example, change the **Run time** when the job needs to be executed.
4. Click **Update** to save your changes.

The scheduled job is activated by default. The table cleaner carries out deletion according to ServiceNow best practices, so there is no impact on performance. By default, the job runs daily so it only has to delete a relatively small amount of data.

These system properties determine how long data is kept:

- **Maximum number of days the scores will be kept before being deleted** defaults to 1826 (5 years).
- **Maximum number of days the lists of records related to a score will be kept before being deleted** defaults to 365.

Importing and Exporting Scores

Overview

You can import and export Performance Analytics score data, to use in external applications.

Importing Excel or CSV Records

Users with the pa_admin role can import score data from Microsoft Excel or CSV files.

To import score data for an indicator from an 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.

To use import sets for Performance Analytics, take these points into account.

- **Transform Map:** select the **Run Business Rules** check box to ensure that all the defined rules are applied when inserting scores.
- **Field Maps:**
  - 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 the corresponding date format is specified in **Date Format**. 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 target field **Element** to get the sys_id into the target field.

Exporting Records to CSV

To export data from the detailed scorecard:

1. Click the context menu icon ( ) at the top left before the indicator title.
2. Select **Export scores to CSV**.
3. Click **Download**.

This creates a CSV file, `pa_scores`, that you can open, for example, in Excel.

Installed Components

Note: *This article applies to Fuji and earlier releases. For more current information, see Performance Analytics* [1] *at* http://docs.servicenow.com **The ServiceNow Wiki is no longer being updated. Visit** http://docs.servicenow.com **for the latest product documentation.**

Overview

Activating Performance Analytics adds or modifies tables, plugins and dependencies, user roles, script includes, and other components.

Tables

Performance Analytics adds or modifies the following tables.

Display Name [Table Name]	Description
Aggregate [pa_aggregates]	Definitions of time series.
Breakdown [pa_breakdowns]	Breakdown definitions.
Bucket [pa_buckets]	Definition of buckets belonging to bucket group.
Bucket group [pa_bucket groups]	Bucket group definition.
Indicator Source [pa_cubes]	Configuration of source (table) and conditions (filter) for the indicator.
Dashboard [pa_dashboards]	List of dashboards.
Breakdown Source [pa_dimensions]	Configuration of source (table) and conditions (filter) for the breakdown.
Elements Security List [pa_dimensions_acl]	Element security list for breakdown source.
Elements List [pa_dimensions_acl_elements]	Individual elements belonging to a security list.
Pa Favorites [pa_favorites]	List of Indicators that are marked as favorite.
Indicator [pa_indicators]	List of indicators configured. **Note:** *the fields* ***distinct*** *and* ***distinct_field*** *are deprecated starting with the Fuji release.*
Indicator Breakdown [pa_indicator breakdowns]	List of breakdowns that are configured for an indicator.
Job Indicator [pa_job indicators]	Indicators belonging to a data collection job. **Note:** *the field* ***breakdown*** *is deprecated starting with the Fuji release.*
Job Log [pa_job_logs]	Logs belonging to a data collection job.
Job Log Row [pa_job_log_rows]	Log entries for a job log.
Dashboard Tab [pa_m2m_dashboard_tabs]	List of tabs that are configured for a dashboard.

Indicator Notification User [pa_m2m_indicator_notification_users]	List of users who will receive notifications when an indicator has changed significantly.
Indicator Tag [pa_m2m_indicator_tags]	List of indicators that are grouped via a tag.
Manual Breakdown User [pa_manual_breakdowns]	Definition of manual breakdown.
Notification Indicator [pa_m2m_indicator_notifications]	List of indicators for which notifications are enabled.
Score [pa_scores]	List of scores for indicators and breakdown instances.
Score note [pa_score_notes]	Notes created for indicator scores.
Script [pa_scripts]	Scripts used in data collection.
Snapshot [pa_snapshots]	List of underlying records for indicator scores.
Tab [pa_tabs]	List of dashboard tabs.
Tag [pa_tags]	List of tags
Target [pa_targets]	List of targets for an indicator.
Target color scheme [pa_target_color_schemes]	List of target color schemes used in targets for indicators. **Note:** *The fields* ***range_limit_1***, ***range_limit_2***, ***range_limit_3***, *and* ***range_limit_4*** *have been deprecated starting with Fuji. These fields have been replaced by* ***range_from_1***, ***range_from_2***, ***range_from_3***, *and* ***range_from_4***.
Target value [pa_target_values]	List of target values belonging to a target.
Threshold [pa_thresholds]	List of thresholds.
Unit [pa_units]	List of units that can be used for an indicator definition.
Widget Configuration [pa_widgets]	List of widgets for dashboard tabs.
Widget Element [pa_widget_elements]	List of elements belonging to a widget.
Widget Indicator [pa_widget_indicators]	List of indicators belonging to a widget.
Chart color scheme [pa_chart_color_schemes]	List of chart color schemes holding the color definitions for breakdown widgets. Available starting with the Fuji release.
Filter [pa_filters]	List of filters that can be applied to a selected breakdown in scorecards and in a detailed scorecard. Available starting with the Fuji release.
Filter roles [pa_filtersroles]	List of user roles that have access to a filter. Available starting with the Fuji release.
Breakdown matrix exclusions [pa_indicator_breakdown_excl]	List of excluded breakdown combinations. Available starting with the Fuji release.
Job Indicator Breakdown exclusions [pa_job_indicator_breakdown_ex]	List of indicator breakdown exclusions that are excluded during data collection. Available starting with the Fuji release.
Indicator User [pa_m2m_indicator_n10n_users]	List of users that have access to an indicator. Available starting with the Fuji release.
Breakdown Widget Indicator [pa_m2m_widget_indicators]	List of breakdown widget indicators. Available starting with the Fuji release.

Plugins

Performance Analytics activates the following additional plugins and has the following dependencies:

Plugin Name	Plugin ID	Description
Data Collector	com.snc.pa.dc	Component that collects indicator scores automatically using a data collection agent called the data collector.

With the Premium Performance Analytics version, you have the following choices:

- **Performance Analytics - Premium:** only removes the restrictions of the out-of-box version of Performance Analytics, but does not install content.
- **Performance Analytics - Premium and all content packs:** removes the restrictions and installs the following content packs:

Plugin Name	Plugin ID	Description
Content Pack for Change Management	com.snc.pa.change	Predefined indicators, dashboards, and sources for change management.
Content Pack for Incident SLA Management	com.snc.pa.sla	Predefined indicators, dashboards, and sources for incident SLA management.
Content Pack for Problem Management	com.snc.pa.problem	Predefined indicators, dashboards, and sources for problem management.
Content Pack for Request Management	com.snc.pa.request	Predefined indicators, dashboards, and sources for request management.

Note: *the content that is installed with these plugins is not yet active. The user with the pa_admin role can view and edit dashboards before they are published. Once the dashboard is set to* ***Active****, all users with the appropriate ACLs can access the dashboard.*

Properties

Performance Analytics adds the following system properties.

Property	Description
Performance Analytics	**General properties**
com.snc.pa.fy_start	Start of the company's fiscal year. • **Type:** month • **Default value:** January • **Installed with:** com.snc.pa.dc
com.snc.pa.dc.keep_scores_for	Maximum number of days the scores will be kept before being deleted.  **Note:** *Increasing this value will cause the pa_scores table to store records longer, which may result in decreased performance when retrieving data from this table.* • **Type:** integer • **Default value:** 1826 • **Installed with:** com.snc.pa.dc

com.snc.pa.dc.keep_snapshots_for

Maximum number of days the lists of records related to a score will be kept before being deleted.

Note: *Increasing this value will cause the pa_snapshots table to store records longer, which may result in decreased performance when retrieving data from this table, such as when a user opens the* ***Records*** *tab on a detailed scorecard.*

- **Type:** integer
- **Default value:** 365
- **Installed with:** com.snc.pa.dc

com.snc.pa.indicator_target_default_color_schema

Default indicator target color scheme.

- **Default value:** 3 color traffic light
- **Installed with:** com.snc.pa

com.snc.pa.chart_default_color_schema

Default chart color scheme.

- **Default value: Default**, a predefined Performance Analytics chart color scheme. The default chart color scheme is only used for **Breakdown** type widgets. For new ServiceNow instances starting with the Fuji release, the default value is **Default UI14**. For upgraded ServiceNow instances, the default value remains **Default**.
- **Installed with:** com.snc.pa

com.snc.pa.scoresheet.max_elements

Maximum number of elements of a breakdown in a scoresheet.

- **Type:** integer
- **Default value:** 500
- **Installed with:** com.snc.pa

com.snc.pa.breakdown_element_cutoff

Breakdown element cutoff point in visualizations.

- **Type:** integer
- **Default value:** 50
- **Installed with:** com.snc.pa

com.snc.pa.scorecards.max_breakdown_elements

Maximum number of breakdown elements in scorecard lists.

- **Type:** integer
- **Default value:** 1000
- **Installed with:** com.snc.pa

com.snc.pa.scorecard.breakdown.chart.max_rows

Number of elements in the breakdowns charts.

- **Type:** integer
- **Default value:** 10
- **Installed with:** com.snc.pa

com.snc.pa.thresholds.frequency_intervals_in_the_past_limit

Maximum number of frequency intervals in the past that a threshold check job will analyze.

- **Type:** integer
- **Default value:** 2
- **Installed with:** com.snc.pa

com.snc.pa.widgets.max_additional_indicators_in_a_widget

Maximum number of additional widget indicators that can be added to a widget. Available starting with the Fuji release.

- **Type:** integer
- **Default value:** 7
- **Installed with:** com.snc.pa

com.snc.pa.show_welcome_page

Show the welcome page - this will be automatically turned off if any score is stored in the system.

- **Type:** YeslNo
- **Default value:** Yes
- **Installed with:** com.snc.pa

com.snc.pa.show_welcome_page_href	The URL the **Get Started** button on the Performance Analytics welcome page refers to. • **Default value:** [1] • **Installed with:** com.snc.pa
com.snc.pa.indicator_tags.log	The logging level for the tagging UI. • **Possible values:** Trace=trace, Debug=debug, Info=info, Warning=warning, Error=err, Fatal=fatal • **Default value:** err • **Installed with:** com.snc.pa
glide.ui.filter.first_day_of_week	First day of the calendar week for the company. By default, the start of the week is **Monday**, meaning that the calendar week begins with Monday and ends with Sunday. To change this behavior, add the property `glide.ui.filter.first_day_of_week` to the instance as an integer property. Set the value to the integer corresponding with the day of the week that the calendar will begin on, where 1 is Sunday, 2 is Monday, and so on. The function impacts all charts and calculations where the day of the week is used as a parameter. • **Type:** integer • **Default value:** 2 • **Installed with:** glide.ui.filter
com.snc.pa.breakdown_element_ui_max_records	Maximum number of records allowed in breakdown elements lists. This allows the application to retrieve the specified number of breakdown records in the **Element select2** lists in scorecards, detailed scorecards and breakdown dashboards. • **Type:** integer • **Default value:** 100 • **Installed with:** com.snc.pa
Performance Analytics	**Chart Settings**
com.snc.pa.default_chart_line_color	Color of the line in a graph. • **Format:** RGBA • **Default values:** 106,183,239,1 • **Installed with:** com.snc.pa
com.snc.pa.default_chart_area_color0	Color of first gradient area in a graph. • **Format:** RGBA • **Default values:** 106,183,239,1 • **Installed with:** com.snc.pa
com.snc.pa.default_chart_area_color1	Color of second gradient area in a graph. • **Format:** RGBA • **Default values:** 106,183,239,0 • **Installed with:** com.snc.pa
com.snc.pa.navigator_line_color	Color of the line in the graph navigator. • **Format:** RGBA • **Default values:** 106,183,239,1 • **Installed with:** com.snc.pa
com.snc.pa.navigator_area_color0	Color of first gradient area in the graph navigator. • **Format:** RGBA • **Default values:** 106,183,239,1 • **Installed with:** com.snc.pa
com.snc.pa.navigator_area_color1	Color of second gradient area in the graph navigator. • **Format:** RGBA • **Default values:** 106,183,239,0 • **Installed with:** com.snc.pa

com.snc.pa.navigator_mask_fill_color

Mask fill color of the graph navigator.

- **Format:** RGBA
- **Default values:** 106,183,239,0.1
- **Installed with:** com.snc.pa

Performance Analytics — **Range Selector Settings**

com.snc.pa.rangeselector_button_color

Text color of buttons.

- **Format:** hexadecimal
- **Default value:** #000000
- **Installed with:** com.snc.pa

com.snc.pa.rangeselector_button_fill_color

Background color of buttons.

- **Format:** hexadecimal
- **Default value:** #F6F6F6
- **Installed with:** com.snc.pa

com.snc.pa.rangeselector_button_select_color

Text color of selected button.

- **Format:** hexadecimal
- **Default value:** #000000
- **Installed with:** com.snc.pa

com.snc.pa.rangeselector_button_select_fill_color

Background color of selected button.

- **Format:** hexadecimal
- **Default value:** #E3EEF9
- **Installed with:** com.snc.pa

com.snc.pa.rangeselector_input_color

Text color of input fields.

- **Format:** hexadecimal
- **Default value:** #000000
- **Installed with:** com.snc.pa

com.snc.pa.rangeselector_input_box_border_color

Background color of input fields.

- **Format:** hexadecimal
- **Default value:** #D7D7D7
- **Installed with:** com.snc.pa

Performance Analytics Data Collector — **DC properties**

com.snc.pa.dc.script_timeout

Maximum time in seconds a script is allowed to run during a data collection cycle.

- **Type:** integer
- **Default value:** 30
- **Installed with:** com.snc.pa.dc

com.snc.pa.dc.max_row_count_indicator_source

Maximum number of rows that are allowed to be fetched from an Indicator Source.

Note: *Increasing this value may cause data collection jobs to consume more system memory.*

- **Type:** integer
- **Default value:** 50000
- **Installed with:** com.snc.pa.dc

com.snc.pa.dc.max_breakdown_elements_limit

Maximum number of breakdown elements for a breakdown to be included in data collection. When the maximum number is exceeded on executing a data collection, an error message is displayed and the breakdown source, or sources, is disabled and excluded from the collection. Administrators can solve the issue by increasing the default value of the system property or by filtering the breakdown source further to get the number of elements below the property limit.

- **Type:** integer
- **Default value:** 10000
- **Installed with:** com.snc.pa.dc

com.snc.pa.dc.max_error_count

Maximum errors that may occur before data collection is stopped.

- **Type:** integer
- **Default value:** 500
- **Installed with:** com.snc.pa.dc

com.snc.pa.dc.max_breakdown_elements_level2_limit

Maximum number of breakdown elements resulting from the combination of two breakdowns for a data collection. Available starting with the Fuji release.

- **Type:** integer
- **Default value:** 1000000
- **Installed with:** com.snc.pa.dc

com.snc.pa.dc.max_records

Maximum number of records that are stored during a data collection.

Note: *Increasing this value may lead to decreased performance when collecting historical data.*

- **Type:** integer
- **Default value:** 5000
- **Installed with:** com.snc.pa.dc

If the main indicator exceeds the maximum number of records set by this property, breakdowns can still show the collected records. The property validates the limit on every level: Main, Breakdown level 1, and Breakdown level 2, and skips where it exceeds the limit.

Example:

Property: Max: 5.000

Open Incidents: 8.500 records (skipped)

Breakdown: By Priority

P1= 500 (shown)

P2= 1500 (shown)

P3= 500 (shown)

P4= 6500 (skipped)

Warning: Although the values for `com.snc.pa.dc.keep_scores_for` and `com.snc.pa.dc.keep_snapshots_for` can be adjusted by navigating to **Performance Analytics > System > Properties** if you have the appropriate rights, entering very low values, such as 60 days may lead to data loss. Table values are deleted permanently and this cannot be reverted.

User Roles

Performance Analytics adds the following user roles.

Role	Contains Roles	Description
pa_admin	None	A Performance Analytics administrator can create new indicators, formulas, thresholds, and targets. These users can also add breakdowns, apply aggregates, create and edit dashboards, and change system configuration files, such as colors and layout. The pa_admin role also includes the pa_data_collector role.
pa_power_user	None	A power user can do the same as an administrator, *except* change system configuration files and alter the data collection jobs. Typically a power user creates dashboards, rolls out new formula-based indicators, and requests modifications to the data collection layer.
pa_contributor	None	A contributor can add and edit scores of indicators. Contributors are often assigned to maintain manual indicators.
pa_viewer	None	A viewer has view-only access to one or more dashboards and scorecards based on the assigned rights. Viewers can also be restricted to see data of their own department, team, or country only.
pa_data_collector	None	A data collector can create and edit data collection jobs and job events, and view job logs. Data collectors can also define and edit indicator sources, breakdown sources, bucket groups, and scripts.

UI Actions

Performance Analytics adds the following UI actions.

UI Action	Description
New	Used for complementary and Premium version installation. The complementary version (Performance Analytics for Incident Management) offers a limited number of indicators and predefined breakdowns, and you can visualize 180 days of data. It is not possible to create or delete indicators or breakdowns, but you can make some changes to the ones provided. The Premium version does not have these limitations. • **Table:** pa_breakdowns • **Installed with:** com.snc.pa
New	Used for complementary and Premium version installation. See the previous UI action. • **Table:** pa_indicators • **Installed with:** com.snc.pa
Show Fired Events	Shows fired events for Performance Analytics email summaries. • **Table:** sysauto_indicator_notifications • **Installed with:** com.snc.pa
Create Source on a new Bucket Group	Allows users to create a new breakdown source on a new bucket group. • **Table:** pa_dimensions • **Installed with:** com.snc.pa.dc
Scores for this indicator	Opens scoresheet in the context of the selected indicator. • **Table:** pa_indicators • **Installed with:** com.snc.pa.dc

Script Includes

Performance Analytics adds the following script includes.

Name	Description
PAUtils	Utility functions for Performance Analytics. • **Installed with:** com.snc.pa.dc
PAAjax	Provides AJAX methods for Performance Analytics. • **Installed with:** com.snc.pa.dc
IndicatorNotificationSubscriber	Supports Email summary notifications in Performance Analytics. • **Installed with:** com.snc.pa
IndicatorTags	Supports tagging of indicators in Performance Analytics. • **Installed with:** com.snc.pa
PASearchAjax	Provides AJAX methods for search in Performance Analytics. • **Installed with:** com.snc.pa.dc
IndicatorTagsAjax	Supports tagging of indicators in Performance Analytics. • **Installed with:** com.snc.pa.dc

Business Rules

Performance Analytics adds the following business rules.

Business Rule Name	Description
PA Validate Default time series	Checks that only an available time series based on the chosen frequency can be selected in the field **Default time series** when a new indicator is created. • **Table:** Indicator [pa_indicators]
PA Validate Frequency and Source	Checks that users can change the **Frequency** or the indicator source only if the indicator has no scores and the values in the fields indicator **Frequency** and indicator source **Frequency** are the same. • **Table:** Indicator [pa_indicators]
PA Validate Indicator Script	Checks that when a script is updated for an indicator, the indicator source facts table must be the same as the script facts table. • **Table:** Indicator [pa_indicators]
PA Validate Facts Table and Source	Checks that users can only change the breakdown source and facts table if the breakdown has no scores. • **Table:** Breakdown [pa_breakdowns]
PA Validate Breakdown Script facts table	Checks that when a script is updated for a breakdown, the breakdown facts table must be the same as script facts table. • **Table:** Breakdown [pa_breakdowns]
PA Validate Facts Table and Valid Freq.	Checks that users can only change the indicator source field **Frequency** or the facts table if there are no linked indicators that have scores and there are no linked indicators that contain a **Frequency** that differs from the **Frequency** field in the source. • **Table:** Indicator Source [pa_cubes]
PA Validate Breakdown Source Facts table	Checks that users can only change the breakdown source facts table if there is no linked breakdown that contains scores. • **Table:** Breakdown Source [pa_dimensions]
PA Validate facts table	Checks that when a script is updated and the facts table is changed, there are no breakdowns already associated to the script. • **Table:** Script [pa_scripts]

PA Validate Widget - time series	Checks that only an available time series based on the chosen frequency can be selected in the field **Default time series** when a new widget is created. • **Table:** Widget Configuration [pa_widgets]
Add Business Rules introduced with Fuji	• **Table:**

Note: *if any of the configuration restraints governed by these business rules are violated, users get a warning and cannot save the incorrect values.*

References

[1] http://servicenow.s3-website-us-east-1.amazonaws.com/

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