Application Performance Management Guide
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<table>
<thead>
<tr>
<th>Table of Contents</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Performance Management (APM)</td>
<td>1</td>
</tr>
<tr>
<td>Application Performance Management Overview</td>
<td>1</td>
</tr>
<tr>
<td>Benefits of Application Performance Management</td>
<td>2</td>
</tr>
<tr>
<td>Installing the Application Performance Management SuiteApp</td>
<td>2</td>
</tr>
<tr>
<td>Getting Started with Application Performance Management</td>
<td>4</td>
</tr>
<tr>
<td>Accessing Application Performance Management</td>
<td>5</td>
</tr>
<tr>
<td>Getting to Know the Performance Dashboard</td>
<td>6</td>
</tr>
<tr>
<td>Configuring the Dashboard and Record Pages Portlet</td>
<td>9</td>
</tr>
<tr>
<td>Refreshing the Data on the Performance Dashboard</td>
<td>9</td>
</tr>
<tr>
<td>Setting the Date and Time Range That You Want to Monitor</td>
<td>9</td>
</tr>
<tr>
<td>Changing the Record Page Operations That You Watch</td>
<td>10</td>
</tr>
<tr>
<td>Changing Chart Preferences</td>
<td>11</td>
</tr>
<tr>
<td>Reordering the Record Tiles</td>
<td>11</td>
</tr>
<tr>
<td>Using the Application Performance Management Tools</td>
<td>12</td>
</tr>
<tr>
<td>Reviewing Information on the Performance Dashboard</td>
<td>12</td>
</tr>
<tr>
<td>Monitoring Performance with the Page Time Summary</td>
<td>14</td>
</tr>
<tr>
<td>Using Page Time Details</td>
<td>17</td>
</tr>
<tr>
<td>Analyzing Scripts</td>
<td>19</td>
</tr>
<tr>
<td>Monitoring SuiteCloud Processors Performance</td>
<td>21</td>
</tr>
<tr>
<td>Using the Script Queue Monitor Dashboard in APM</td>
<td>31</td>
</tr>
<tr>
<td>Analyzing Web Services Performance</td>
<td>37</td>
</tr>
<tr>
<td>Analyzing Search Performance</td>
<td>44</td>
</tr>
<tr>
<td>Monitoring Web Services and RESTlet Concurrency</td>
<td>49</td>
</tr>
<tr>
<td>Profiling Operations Performance</td>
<td>55</td>
</tr>
<tr>
<td>Exporting Data from Application Performance Management</td>
<td>59</td>
</tr>
<tr>
<td>Frequently Asked Questions: Application Performance Management</td>
<td>60</td>
</tr>
</tbody>
</table>
Application Performance Management (APM)

The Application Performance Management (APM) SuiteApp enables you to see and manage the performance of your NetSuite customizations and business critical operations. You can use the dashboard, data visualizations, page time summary, script analysis, and script queue monitor to review and improve the speed of the NetSuite UI.

To start, see:

- Application Performance Management Overview
- Benefits of Application Performance Management
- Installing the Application Performance Management SuiteApp
- Getting Started with Application Performance Management
- Accessing Application Performance Management

For more information, see:

- Configuring the Dashboard and Record Pages Portlet
- Using the Application Performance Management Tools
- Using the Script Queue Monitor Dashboard in APM
- Exporting Data from Application Performance Management
- Frequently Asked Questions: Application Performance Management

Application Performance Management Overview

The Application Performance Management (APM) SuiteApp compiles information into a performance dashboard that is useful for performance troubleshooting. You can use this SuiteApp to monitor and manage NetSuite performance for business critical operations.

Visual indicators on the dashboard highlight performance issues and anomalies, with more details available on portlets and quick links. Aside from the performance dashboard, this SuiteApp also includes dashboards for page time summary, SuiteScript analysis, and script queue monitor.

To install the APM SuiteApp, see Installing the Application Performance Management SuiteApp.

To learn how to navigate and set up the performance dashboard, see Getting Started with Application Performance Management and Configuring the Dashboard and Record Pages Portlet.

To work with response time details and script or workflow analysis, see Using the Application Performance Management Tools.

To work with SuiteCloud Processors jobs and scheduled queue monitoring, see Monitoring SuiteCloud Processors Performance.

To work with SOAP web services analysis, see Analyzing Web Services Performance.

To work with search performance analysis, see Analyzing Search Performance.

To work with web services and RESTlet concurrency monitoring, see Monitoring Web Services and RESTlet Concurrency.
Benefits of Application Performance Management

The Application Performance Management (APM) SuiteApp is designed to help you to:

- Identify performance opportunities or degradation. Prioritize issues based on usage and traffic.
- View performance metrics for your most important record pages and assess system health and trends.
- Drill down for greater levels of detail about specific record types, operations, and instances.
- View response times by client, server, and network.
- Monitor performance of user event scripts, workflows, RESTlets, scheduled scripts, and Suitelets.
- Check the overall health of jobs handled by SuiteCloud Processors, scheduling queues, or both.
- Export performance data captured on its various pages.

Installing the Application Performance Management SuiteApp

Prerequisites for Application Performance Management (APM) SuiteApp

To install the APM Suiteapp, complete the following prerequisites:

- If you are using a non-Administrator or custom role, verify that your role has a View or higher level of access to the Documents and Files permission. Administrators can provide access to permissions like this on the Role page. They can locate the permission on the Permissions subtab, then the Lists subtab. See the help topic Set Permissions.
- Verify that you have permission to access APM. Administrators can access APM and provide APM access to other roles and employees. See Setting Up APM Access for Roles and Employees.
- If you want to access the SuiteScript Analysis tool, verify that Server SuiteScript is enabled. Go to Setup > Company > Enable Features. Click the SuiteCloud tab. Verify that the Server SuiteScript box is checked.

Steps for Installing the APM SuiteApp

APM is available as a SuiteApp, which can be installed in your account.

**Note:** If you have installed the Script Performance Monitor SuiteApp, it will be removed during installation of the APM SuiteApp. In place of the Script Performance Monitor, you can use the Page Time Summary, SuiteScript Analysis, and Script Queue Monitor tools, which are provided with the APM SuiteApp.

To install the APM SuiteApp:

1. Go to Customization > SuiteBundler > Search & Install Bundles.
2. In the Keywords field, enter the bundle ID or name for the APM SuiteApp.
   - Bundle Name: Application Performance Management
   - Bundle ID: 67350

3. Click Search.

4. On the search results, click the link for the Application Performance Management bundle.

5. On the Bundle Details page, click Install.
   - APM is a managed bundle. After you install it, future updates are automatically pushed to your account.
   - When you see the popup window asking for your permission for these future updates, click OK to proceed with the installation.

6. On the Preview Bundle Install page, click Install Bundle.

7. On the Installed Bundles page, click Refresh to verify when the installation is finished.

8. When the installation is finished, log out and then log back in.

The APM tools are available at Customization > Performance. For more information, see Accessing Application Performance Management.

By default, account administrators can access APM. Administrators can set up APM access for other roles and employees. For more information, see Setting Up APM Access for Roles and Employees.

Setting Language Preferences for the APM SuiteApp

The APM SuiteApp lets you view select dashboards and pages in your preferred language.

You can view the following APM pages in your preferred language:

- Dashboard
- Page Time Summary
- Page Time Details
- SuiteScript Analysis
- Web Services Analysis
- Concurrency Monitor
- Search Performance Analysis
- Search Performance Details

APM supports the following languages:

- Chinese (Traditional)
- Czech
- Danish
- Dutch
- Finnish
- French (Belgium)
- French (Canada)
Installing the Application Performance Management SuiteApp

- French (France)
- German
- Indonesian
- Italian
- Japanese
- Korean
- Latin American Spanish
- Norwegian
- Portuguese (Brazil)
- Russian
- Spanish
- Swedish
- Thai
- Turkish
- Vietnamese

Before you set your language preference, you must enable the Multi-Language feature.

**To enable multiple languages:**

1. Go to Setup > Company > Setup Tasks > Enable Features.
2. On the Company subtab, go to the International feature group.
3. Check the Multi-Language box.
4. Click Save.

**To set the language preference:**

1. Go to Setup > Company > Setup Tasks > Enable Features.
2. On the General subtab, locate the Localization field group.
3. In the Language field, select the language that will be used for NetSuite pages. Refer to the list of supported languages for APM.
4. Click Save.

**Getting Started with Application Performance Management**

The Application Performance Management (APM) SuiteApp includes a powerful set of tools designed for a range of purposes. To start, do the following:

- To check prerequisites and install the APM SuiteApp, see Installing the Application Performance Management SuiteApp.
- To access this SuiteApp, see Accessing Application Performance Management.
To learn about the Dashboard and the Application Performance Management tools see the following topics:
- Getting to Know the Performance Dashboard
- Using the Application Performance Management Tools

To change what appears on the dashboard, see Configuring the Dashboard and Record Pages Portlet.

To learn more about supported graphs and data visualizations, see the following topics:
- Getting to Know the Performance Dashboard
- Reviewing Information on the Performance Dashboard
- Script and Workflow Time Breakdown Chart
- Using the Performance Chart

To know more about exporting data from the APM SuiteApp, see Exporting Data from Application Performance Management.

Accessing Application Performance Management

After installation, you can access Application Performance Management (APM) by going to Customization > Performance.

By default, account administrators can access APM. Administrators can set up APM access for other roles and employees. For more information, see Setting Up APM Access for Roles and Employees.

To access specific components of APM, see:
- Accessing the Performance Dashboard
- Accessing the Page Time Summary
- Accessing SuiteScript Analysis
- Accessing the SuiteCloud Processors Monitor Dashboard
- Accessing the SuiteCloud Processors Job Details Dashboard
- Accessing the Script Queue Monitor Dashboard
- Accessing the Web Services Performance Dashboard
- Accessing the Search Performance Analysis Dashboard
- Accessing the Search Performance Details Dashboard
- Accessing the Concurrency Monitor Dashboard
- Accessing the Concurrency Details Dashboard

Setting Up APM Access for Roles and Employees

If you are an administrator, you can set up Application Performance Management (APM) SuiteApp access for other roles and employees.

To set up APM access for other roles and employees:

1. Go to Customization > Performance > APM Setup.
   - To provide access to specific roles (CEO for example), select the Roles tab.
To provide access to an individual, select the Employees tab.

2. Select the role or employee name from the dropdown list.
   1. To provide access to the Top 10 Most Utilized portlet that appears on the Performance Dashboard, check the box in the Top 10 Most Utilized column.
   2. Click Add.

3. Repeat Step 2 for each role and employee that you want to provide access to APM.

4. Click Save.

For information about APM SuiteApp prerequisites, see Prerequisites for Application Performance Management (APM) SuiteApp.

For information about NetSuite roles, see the help topic NetSuite Users & Roles.

Getting to Know the Performance Dashboard

The performance dashboard is a starting place for you to identify and troubleshoot system performance. Visual indicators alert you to performance issues and anomalies, which you can investigate by using the portlets and quick links.

For a quick orientation, see Accessing the Performance Dashboard, Navigating the Performance Dashboard, and Configuring the Performance Dashboard.

Accessing the Performance Dashboard

Go to Customization > Performance > Dashboard.

Navigating the Performance Dashboard

Metrics for record operations are shown on tiles on the Record Pages portlet. You can view performance metrics such as response time, number of users, and record instances.

Use the navigation buttons (< >) at the side of the portlet to view other tiles. Click a tile to see more details about a particular record operation. To learn more about record tiles, see About the Record Operation Tiles and Working with Data Visualizations.

Configuring the Performance Dashboard

You can configure the dashboard so that you can monitor and sort performance data for the period and record page operation that you specify. If the top 10 most utilized is enabled for your role, the
dashboard displays the data for the ten most highly used record types and operations. To enable the Top 10 Most Utilized portlet for specific roles or employees, see Setting Up APM Access for Roles and Employees.

To configure the record pages or filter the data shown on the Record Pages portlet, see Configuring the Dashboard and Record Pages Portlet.

About the Record Operation Tiles

By default, the dashboard displays the 10 most utilized record operations. You can configure the dashboard to show up to 20 record tiles. For more information see, Changing the Record Page Operations That You Watch.

The record operation tiles use a concise format, which lets you view key metrics and a miniaturized trend graph at a glance.

<table>
<thead>
<tr>
<th>Tile Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Record type</td>
</tr>
<tr>
<td>2</td>
<td>Record operation</td>
</tr>
<tr>
<td>3</td>
<td>Number of users</td>
</tr>
<tr>
<td>4</td>
<td>Number of instances</td>
</tr>
<tr>
<td>5</td>
<td>Response time trendline</td>
</tr>
</tbody>
</table>

You can export the information captured on the record tiles into an Excel file. To download the file, click the menu at the top right corner of the Record Pages portlet and select Export.

To view more details about a record page and operation, click a tile. The data visualizations associated with that record type and operation appears below the tiles. For more information, see Working with Data Visualizations and Reviewing Information on the Performance Dashboard.

Working with Data Visualizations

When you click a record tile, the following data visualizations appear on the performance dashboard:
For information about each graph on the performance dashboard, see Reviewing Information on the Performance Dashboard.

You can interact with performance data visualizations in several ways. You can show more data, hide data, and use quick links to drill down for more details. For more information, see the following topics:

- Showing or Hiding Data on the Performance Graphs
- Viewing an Individual Data Point or a Group of Data Points on the Performance Graphs
- Viewing a Page Time Summary

**Showing or Hiding Data on the Performance Graphs**

At the bottom of the graph, click an item on the legend to hide or display that segment of data.

**Viewing an Individual Data Point or a Group of Data Points on the Performance Graphs**

Do one of the following:
To view details about a specific data point, place your cursor over a data on the graph.
To zoom in, press and drag your cursor over a vertical section on the graph that you zoom in to.
To return to the original view (zoom out), on the upper right corner of the graph, click **Reset Zoom**.

### Viewing a Page Time Summary

Click a data point on a graph. A new window opens with a page time summary about that instance. For more information, see *Monitoring Performance with the Page Time Summary*.

### Configuring the Dashboard and Record Pages Portlet

You can modify, filter, and sort the record pages and performance data displayed on the dashboard.

The Record Pages portlet provides options to help you focus on different aspects of performance. You can set the time range of performance data, change how record page tiles are ordered, and monitor more record pages and operations.

For more information, see:

- Refreshing the Data on the Performance Dashboard
- Setting the Date and Time Range That You Want to Monitor
- Changing the Record Page Operations That You Watch
- Changing Chart Preferences
- Reordering the Record Tiles

### Refreshing the Data on the Performance Dashboard

To refresh the data shown on the portlet, click the refresh icon at the upper right corner of the Record Pages portlet.

### Setting the Date and Time Range That You Want to Monitor

By default, the performance dashboard shows the data for the last 24 hours. You can change the date range by selecting one of the preset filters or you can create a custom date range. To discover when an issue started, you can set the date range to a larger period.

The resolution value sets the plot point intervals on the x-axis of the data visualizations.
To change the date range, click the dropdown list at the top left corner of the Record Pages portlet. This list shows preset filters and custom date filters that you added. To add a custom date range to the list, see Adding a Custom Date and Time Range Filter.

![Dashboard](image)

**Adding a Custom Date and Time Range Filter**

If you want to review performance for time periods other than those provided by the preset date and time range filters, you can create custom filters.

**To add or remove a custom date and time range filter:**

1. Click the menu at the top right corner of the Record Pages portlet.
2. Select **Set Up**.
3. On the Setup Record Pages popup window, click **Custom Date & Time**.
   - To add a custom filter, click **Add Date & Time**. Select a start date, start time, end date, and end time. Click **Add**.
   - **Note:** A custom date and time range filter cannot span more than 30 days.
   - To remove a custom filter that you added, click the X icon for the filter.
   - To remove all custom filters that you added, click **Remove All**.
4. Click **Save**. The changes are reflected in the dropdown list for the date filter. Newly added custom filters are listed at the bottom of the list.

**Changing the Record Page Operations That You Watch**

The record page operations for which performance data is available are called watch lists. You can add up to 10 more record page operations to the default set.

**To add or remove a record page operation:**

1. Click the menu at the top right corner of the Record Pages portlet.
2. Select **Set Up**.
3. On the Setup Record Pages popup window, click **Watch List**.
■ To add a record page operation, click Add Watch List. Select a record type and operation. Click Add.
■ To remove a record operation that you added, click the X icon for the record operation.
■ To remove all record operation that you added, click Remove All.

Note: You can remove only the record page operations that you added. You cannot change the record page operations shown by default.

4. Click Save.

Changing Chart Preferences

By default, the response time histogram shows the data for all the record tiles on the portlet, with a time interval of one. You can change the chart preferences for the histogram from the portlet set up menu.

To change chart preferences:

1. Click the menu at the top right corner of the Record Pages portlet.
2. Click Set Up.
3. On the Setup Record Pages popup window, click Chart Preferences.
   ■ To change the response time interval for the bar graphs on the histogram, enter a new value in the Interval field.
   ■ To change the data shown on the histogram, select Show All Record Tiles or Show Watchlist Only in the Record Tiles dropdown list.
4. Click Save.

Reordering the Record Tiles

You can change how the record operation tiles are arranged on the performance dashboard.

Click the Sorting dropdown list and select one of the following sorting options:

■ Most Utilized – Arranges the record tiles by highest number of instances.
■ Most Users – Arranges the record tiles by highest number of users.
■ Highest Response Time – Arranges the record tiles by highest response time.
■ Record Type – Arranges the record tiles in alphabetical order according to record type.
■ Operation – Arranges the record tiles in alphabetical order according to operation.
Using the Application Performance Management Tools

The Application Performance Management (APM) SuiteApp is organized to provide varying levels of detail, depending on your needs. You can use the data aggregates, summaries, and visualizations to guide you to the individual logs and instances that contribute to poor response times.

The performance dashboard shows a broader scope of data. From there, you can navigate to the Page Time Summary page to review greater detail about scripts, workflows, and record instances.

For a deeper look at the relationship between script performance and response times, use the SuiteScript Analysis tool.

For a better understanding of the overall health of your script queues and scheduled script executions, use the Script Queue Monitor dashboard.

For more information, see:
- Reviewing Information on the Performance Dashboard
- Monitoring Performance with the Page Time Summary
- Using Page Time Details
- Analyzing Scripts
- Monitoring SuiteCloud Processors Performance
- Using the Script Queue Monitor Dashboard in APM
- Analyzing Web Services Performance
- Analyzing Search Performance
- Monitoring Web Services and RESTlet Concurrency

Reviewing Information on the Performance Dashboard

The performance dashboard shows the following graphs when you click a record operation tile:
- Response Time Graph
- Throughput Graph
- User Event and Workflow Graph
- Response Time Histogram

For information about record operation tiles, see About the Record Operation Tiles.

For information about working with the graphs on the performance dashboard, see Working with Data Visualizations.

Response Time Graph

The Response Time graph displays the median response time of record pages over time. You can use this graph to view changes in total request speed and assess its impact on end users.

Each color represents the portion of time used by the client, network, or server. From the graph, you can determine which component used the bulk of the response time.
Throughput Graph

The Throughput graph displays the number of record instances and number of users over a period. You can use this graph to identify periods of heavy usage and consider offloading traffic outside the peak times.

User Event and Workflow Graph

The User Event and Workflow graph displays the time it took to run user event scripts and workflows on a record page. This graph is designed to help you identify the impact of customizations and possible performance bottlenecks.
Response Time Histogram

The response time histogram is a bar graph, which displays record instances grouped by response time. This histogram can help you understand whether a high response time was caused only by an anomaly.

Monitoring Performance with the Page Time Summary

The Page Time Summary is a troubleshooting tool, which displays performance logs by record type. This page includes summary performance log information and a list of instances. It displays a script and workflow time breakdown chart for the actively selected instance.

**Note:** Only UI changes are logged on the Page Time Summary page.

You can use the Page Time Summary page to measure the performance of user event scripts, client scripts, and workflows and quickly identify customizations that take an unusually long time to run.

For each record instance, you can identify the overall time it took for all scripts and workflows deployed on that record type to run.

**Important:** This data is kept for a 30 day period and then purged from the system.

To modify the aggregations included on the Summary section of the Performance Logs portlet, click the menu at the top right corner of the portlet and select Set Up. Clear the box if you do not want the column to show on the Summary section.

**Note:** Performance is measured only on a per record and per script basis. Identifying the performance of individual API calls is not supported.

Accessing the Page Time Summary

To access the Page Time Summary page, do one of the following:

- Go to Customization > Performance > Page Time Summary.
- On the Performance Dashboard, click a data point on one of the graphs. For more information, see Working with Data Visualizations.
About Performance Logs

A performance log includes each instance of the selected operation on the selected record.

For example, the selected record type is sales order and the selected operation is save. The performance log lists an entry for each save of a sales order record.

Each entry lists the following information. Note that all time entries are shown in seconds.

<table>
<thead>
<tr>
<th>Column</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date and Time</td>
<td>Date and time of the instance.</td>
</tr>
<tr>
<td>Email</td>
<td>The email address of the user who is logged in when the operation was performed.</td>
</tr>
<tr>
<td>Client</td>
<td>The time it took for the client to format and send the data to the NetSuite server, plus the time it took to display the data when the server responded.</td>
</tr>
<tr>
<td>Network</td>
<td>The time it took for the data to move back and forth between the client and the NetSuite server.</td>
</tr>
<tr>
<td>SuiteScript</td>
<td>The total time it took for all triggered scripts to run.</td>
</tr>
<tr>
<td>Workflow</td>
<td>The total time it took for all triggered workflows to run.</td>
</tr>
<tr>
<td>Server</td>
<td>The total page load time spent on retrieving information from the NetSuite server.</td>
</tr>
<tr>
<td>Total</td>
<td>The total request speed between all triggered scripts, triggered workflows, the client, and the network.</td>
</tr>
<tr>
<td>Page Time Details</td>
<td>Click the icon in this column to open the Page Time Details for the instance. For more information, see Using Page Time Details.</td>
</tr>
<tr>
<td>Profiler Details</td>
<td>Click the icon in this column to open the Profiler Details page. For more information, see Profiling Operations Performance.</td>
</tr>
</tbody>
</table>

Filtering Performance Log Details

To set the filters for the performance log details, click the plus icon on the Filters section on the Page Time Summary page. Set the filters and click Refresh to update the values on the Page Time Summary page.

The following filters are available:

<table>
<thead>
<tr>
<th>Filter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Record Type</td>
<td>The record type where the scripts were deployed. This field shows all scriptable record types.</td>
</tr>
<tr>
<td>Operation</td>
<td>The UI operation that triggered the script.</td>
</tr>
<tr>
<td></td>
<td>- View – The script ran when the user clicked View on an existing record (beforeLoad).</td>
</tr>
<tr>
<td></td>
<td>- Edit – The script ran when the user clicked Edit on an existing record (beforeLoad).</td>
</tr>
<tr>
<td></td>
<td>- New – The script ran when the user clicked New to create a record (beforeLoad).</td>
</tr>
<tr>
<td></td>
<td>- Save – The script ran when the user clicked Save or Submit (beforeSubmit), or the script ran after the user clicked Save or Submit (afterSubmit).</td>
</tr>
<tr>
<td>Email</td>
<td>The email address of the user logged in when the script ran. If left blank, the search defaults to all email messages.</td>
</tr>
<tr>
<td>Start Date / End Date</td>
<td>The date and time ranges of the search.</td>
</tr>
</tbody>
</table>

Using the Application Performance Management Tools
Using the Application Performance Management Tools

<table>
<thead>
<tr>
<th>Filter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start Time / End Time</td>
<td>The amount of time to run a record instance. You can set the response time filter to greater than or less than a particular value, or between an upper and lower limit.</td>
</tr>
<tr>
<td>Response Time</td>
<td>The amount of time to run a record instance.</td>
</tr>
</tbody>
</table>

Script and Workflow Time Breakdown Chart

This pie chart shows each script that ran on the associated instance in the Performance Log. It also shows the percentage of time taken up by the system. All time values are displayed in seconds.

To view the Script and Workflow Time Breakdown chart:

1. Click an instance in the Performance Log list.
2. On the Script and Workflow Time Breakdown portlet:
   - Place your cursor over a section of the pie chart to view the execution time.
   - The scripts, workflows, and the NetSuite system are listed on the legend that follows the pie chart. You can click an item on the legend to hide or display that segment of data. Click the up and down arrows to view the legend for the other data.
   - On the Details section, you can view the response time for the NetSuite server, user event scripts, client scripts, and workflows. The bundle ID is also shown for scripts and workflows that are included in a bundle.
Using Page Time Details

From the Page Time Summary, you can drill down to each record instance to view the execution time of each script.

To view page time details and timeline:

1. On the Performance Logs section, place your cursor in the **Page Time Details** column. Click the view icon. This action opens the Page Time Details on a separate page.

   On the Page Time Details page, you can view a header that shows information about the page. The header also contains a **View Profiler Details** link that will take you to Profiler Details. For more information, read Profiling Operations Performance.

2. On the Page Time Details page, you can view a timeline that shows the details on how much time is spent to run a particular record page. These time segments are arranged chronologically.

   To view the execution time, place your cursor over a section of data on the timeline. In the following example, the largest segment of time was used to run the **Client : Init** function for the Calculate Discount script.

   ![Timeline Diagram](image)

   You can also track the timing of the following client components on the timeline for page details:

   - **Client : Header** – The amount of time to render the head element of the page. Most static assets, including CSS and JavaScript, are loaded during this time.

     Network delays can contribute to lengthy client header times. To know whether assets are loading slowly, review your firewall and network connection settings. You can also improve speed by adjusting browser cache settings.

   - **Client : Render** – The amount of time for the browser to render the response after the head element finished (the time taken between the **Client : Header** and **Client : Page Init** timings).

     An older browser or insufficient RAM and CPU capability can contribute to longer rendering time.

   - **Client : Init** – The amount of time used by client scripts to run pageInit functions. This function contains user-defined client scripts triggered by the pageInit client event type and standard pageInit operations. If the pageInit function triggers other client scripts as part of pageInit, the timing is recorded.

     PageInit functions that are run by client scripts are subsets of **Client : Init**. They are listed and indented under the **Client : Init** line on the Page Time Details timeline.

     To improve **Client : Init** time, investigate client script implementations for the page. A variety of factors affect client script pageInit timing, such as third party calls from client scripts or...
logic that triggers other client script validations. An outdated browser and JavaScript engine will also negatively affect performance.

**Note:** On the page details timeline, gaps between server components are part of the overall NetSuite server time. For example, on the preceding screenshot, a gap exists between Workflow Sales Order Approval and Workflow Line Item Reorder. This signifies NetSuite server time that is not associated with your NetSuite customizations.

3. You can view the SuiteScript and Workflow Details section following the timeline. For more information, see About SuiteScript and Workflow Details.

### About SuiteScript and Workflow Details

On the Page Time Details page, the SuiteScript and Workflow Details section follows the timeline.

You can click a column header to sort the list by that column's values.

![SuiteScript & Workflow Details](image)

Each entry includes the following details about each script or workflow that was run during the selected period:

- **Date and time** – Shows the date and time when the script or workflow was run.
- **Script type/workflow** – Shows the type of script or workflow that was run.
- **Name** – Shows the script or workflow name. You can click the value in this column to view the SuiteScript analysis. For more information, see Analyzing Scripts.
- **Execution context** – Shows the type of action that triggered a user event script.
- **Deployment ID** – Shows the deployment ID. You can click the value in this column to see the script deployment record.
- **Total time** – Shows the total time, measured in seconds, required for all triggered scripts and workflows to run.
- **Usage** – Shows the number of governance units that were consumed. For client scripts, this value is not available and is denoted with an en dash (–).
- **Record operations** – Shows the number of record operations that were executed. For client scripts, this value is not available and is denoted with an en dash (–).
- **URL requests** – Shows the number of URL requests. For client scripts, this value is not available and is denoted with an en dash (–).
- **Searches** – Shows the number of searches that ran. For client scripts, this value is not available and is denoted with an en dash (–).
Analyzing Scripts

You can use SuiteScript Analysis to learn about when a script was installed and how it performed in the past.

You can also view the timing of execution for locked scripts that came with a bundle.

To learn more, see:
- Accessing SuiteScript Analysis
- Finding a Script
- Using SuiteScript Details
- Using the Performance Chart

Accessing SuiteScript Analysis

To access the SuiteScript Analysis page, do one of the following:
- Go to Customization > Performance > SuiteScript Analysis.
- On the Page Time Details page, on the SuiteScript and Workflow Details section, click the name of the script in the Name column.

Finding a Script

To search for a specific script to analyze on the SuiteScript Analysis page:

1. On the SuiteScript Analysis page, click the plus icon on the Filters section to expand the filters.
2. Specify values for the filters. The following filters are available:

<table>
<thead>
<tr>
<th>Filter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start Date / End Date</td>
<td>The date and time ranges of the search.</td>
</tr>
<tr>
<td>Start Time / End Time</td>
<td></td>
</tr>
<tr>
<td>Script Type</td>
<td>The type of script. When you set the script type, the Script Name filter is automatically populated with script records corresponding to the script type.</td>
</tr>
<tr>
<td>Script Name</td>
<td>The name of the script record.</td>
</tr>
<tr>
<td>Context</td>
<td>The type of action used to trigger a user event script.</td>
</tr>
</tbody>
</table>

3. Click Refresh.

Using SuiteScript Details

The SuiteScript Details portlet provides the details of the performance chart. This portlet includes metrics collected during script execution, such as the number of logs, URL Requests, and record operations during the selected time range.

Data for some metrics are not available for client scripts. If a client script is selected, the value for usage count, URL requests, search calls, and record operations are denoted with an en dash (-).
To see the individual instances of the processed script and related summary data on SuiteScript Details, click **View Logs**.

### Using the Performance Chart

The Performance Chart displays an aggregate of SuiteScript execution over time. For precise details about the median execution time, place your cursor over a bar on the chart.

To view execution time for each instance in a particular hour, click a bar with multiple instances.
The Performance Chartrefreshes and displays the execution time values within a particular hour. On
this example, the higher response times occurred only between 1:10 p.m. and 1:15 p.m.

Click the back button on the chart to return to the default Performance Chart view.

Monitoring SuiteCloud Processors Performance

**Note:** The SuiteCloud Processor Monitor in APM does not support multiple languages at this
time. Set your language to English before you use this tool. It may display inaccurate data when
viewed in a different language. To set your language preference, go to Home > Set Preferences.

View a Related Video

You can use the SuiteCloud Processors Monitor tool to view and analyze the performance of your map/reduce and scheduled script jobs handled by SuiteCloud Processors. Guided by this tool, you can track changes in your processor usage and pinpoint causes of inefficiency. By constantly monitoring your performance, you can determine ways to maximize your processor usage and decide if you need to add SuiteCloud Plus licenses to enhance your performance.

This tool consists of the following dashboards:

- **SuiteCloud Processors Monitor** – Shows vital processor settings and statistics in several portlets, so you can compare data and improve your performance.
- **SuiteCloud Processors Job Details** – Provides in-depth information about specific deployments based on your selected filters.

See the following help topics:

- Using the SuiteCloud Processors Monitor Dashboard
- Using the SuiteCloud Processors Job Details Dashboard

Using the SuiteCloud Processors Monitor Dashboard

The SuiteCloud Processors Monitor dashboard is a visual and informative tool that lets you monitor the performance of your script jobs. You can use this dashboard to monitor both scheduled and map/reduce script jobs.

To set the date range for this dashboard, read Setting the Date Range in SuiteCloud Processors Monitor.
The dashboard consists of several portlets. To find out more, see the following help topics:

- Using the Overview Portlet in SuiteCloud Processors Monitor
- Using the Processor Settings Portlet in SuiteCloud Processors Monitor
- Using the Wait Time by Priority Portlet in SuiteCloud Processors Monitor
- Using the Elevated Priority Portlet in SuiteCloud Processors Monitor
- Using the Processor Utilization Portlet in SuiteCloud Processors Monitor
- Using the Job Status Portlet in SuiteCloud Processors Monitor
- Using the Processor Concurrency Portlet in SuiteCloud Processors Monitor
- Using the Queue and Processor Details Portlet in SuiteCloud Processors Monitor

**Accessing the SuiteCloud Processors Monitor Dashboard**

To start using the SuiteCloud Processors Monitor dashboard, go to Customization > Performance > SuiteCloud Processors Monitor.

**Important:** Administrators who are already using the Application Performance Management (APM) SuiteApp need to save access again for other roles and employees so they can use the SuiteCloud Processor Monitor Dashboard. For more information, see Setting Up APM Access for Roles and Employees.

**Setting the Date Range in SuiteCloud Processors Monitor**

To set the date range for all portlets on the SuiteCloud Processors Monitor dashboard, click the Viewing link at the upper right corner of the page.

You can select a preset or custom time frame from the dropdown list. Your chosen date range corresponds to a resolution value, which determines the intervals plotted along the x-axis of each chart.

To know the resolution assigned to your selected date range and portlet, refer to the following table:

<table>
<thead>
<tr>
<th>Date Range</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Processor Concurrency Portlet</td>
</tr>
<tr>
<td>Last 1 hour</td>
<td>1 minute</td>
</tr>
<tr>
<td>Last 3 hours</td>
<td>10 minutes</td>
</tr>
<tr>
<td>Last 6 hours</td>
<td>15 minutes</td>
</tr>
<tr>
<td>Last 12 hours</td>
<td>30 minutes</td>
</tr>
<tr>
<td>Last 24 hours (default)</td>
<td>1 hour</td>
</tr>
<tr>
<td>Last 3 days</td>
<td>1 hour</td>
</tr>
<tr>
<td>Last 7 days</td>
<td>1 hour</td>
</tr>
<tr>
<td>Last 14 days</td>
<td>1 hour</td>
</tr>
<tr>
<td>Last 30 days</td>
<td>1 hour</td>
</tr>
</tbody>
</table>
Guidelines for Setting the Date Range for the SuiteCloud Processors Monitor Dashboard

- The SuiteCloud Processors Dashboard can only display data from the last thirty days. When setting a custom date range, select dates within this limitation.
- The Processor Concurrency portlet resolutions differ from other portlets because it changes its chart from a line graph to a heat map, depending on the date range.

Using the Overview Portlet in SuiteCloud Processors Monitor

You can use the Overview portlet in SuiteCloud Processors Monitor to quickly view statistics and details about your deployments. The portlet contains a summary of vital processor statistics followed by a detailed table about your scheduled and map/reduce scripts.

The summary includes the following statistics:

- **Jobs Completed** – This number shows the total count of jobs that were completed within the time range.
- **Jobs Failed** – This number shows the total count of jobs that failed within the time range.
- **Average Wait Time** – This number shows the average wait time of all jobs completed within the time range.
- **Processor Utilization** – This number shows how much of the total processing time within the time range was used to complete jobs.

You can find the following details on the table that follows the summary:

- **Deployment name** – This column shows the user-defined names on the deployment record.
- **Script name** – This column shows the user-defined name on the script record.
- **Type** – This column shows each deployment’s supported script type, which can either be map/reduce or scheduled.
- **Completed** – This column shows the number of scripts that were completed.
- **Failed** – This column shows the number of scripts that failed.
- **Average execution time** – This column shows the average time, in seconds, it took to execute the job.
- **Average wait time** – This column shows the average wait time before scripts were executed.
- **Priority** – This column shows each deployment’s priority level to give you an idea which jobs are processed first.
- **Queue** – This column shows the assigned queue for scheduled script deployments that continue to use queues. It marks deployments that use SuiteCloud processors as None.
- **View Details** – This column shows View Details icons that open SuiteCloud Processors Job Details on a separate page.
Using the Application Performance Management Tools

Note: Deployments that are handled by SuiteCloud Processors are marked - None - in the Queue column.

Using the Processor Settings Portlet in SuiteCloud Processors Monitor

You can use the Processor Settings portlet to see your priority elevation and processor reservation settings without navigating to the SuiteCloud Processors Preferences page. This portlet makes it convenient for you to discover which processor settings yield favorable or problematic effects on your script jobs' performance.

You can see the following details on the Processor Settings portlet:

- **Total No. of Processors** – This number shows the total processors available to your account.
- **Priority Elevation** – This line shows the priority elevation option that was set for your account.
- **Elevation Interval** – This line shows the time interval based on your priority elevation selection.
- **Processor Reservation** – This line shows if the Enable Reservation box on the SuiteCloud Processors Preferences page is checked. Checking this box allows the reservation of processors for high priority jobs for your account.
- **No. of Reserved Processors** – If processor reservation is enabled, this line shows the number of processors reserved for high priority jobs.
- **Reserved Processors in Use** – This line shows the number of reserved processors that are actively being used by your jobs.
- **Reuse Idle Processors** – This line shows if the Reuse Idle Processors box on the SuiteCloud Processors Preferences page is checked. Checking this box allows reserved processors that are not in use for 24 hours to accept lower priority jobs.
Using the Wait Time by Priority Portlet in SuiteCloud Processors Monitor

You can use the Wait Time by Priority portlet to view separate charts for wait times and job counts at every priority level.

The Wait Time by Priority portlet includes the following charts:

- **Total Wait Time** – This line chart shows how long it took to complete the jobs in the selected interval and priority level.
- **Jobs** – This stacked bar chart shows the total number of jobs in the selected interval as well as their distribution by priority level.

When you point to an area on either chart, counts for that interval will simultaneously appear on both charts. This behavior lets you see the impact of the job count and priority settings on total wait time.
Using the Elevated Priority Portlet in SuiteCloud Processors Monitor

You can use the Elevated Priority portlet to compare the total number of jobs with elevated priority levels against jobs that kept their original priority levels. It uses a simple pie chart to display total job counts.

**Note:** You should monitor changes to this portlet and the Wait Time by Priority portlet whenever you tweak your processor settings. This way, you can determine ways to adjust priority elevation settings to reduce wait times.
Using the Application Performance Management Tools

You can use the Application Performance Management tools to monitor the performance of SuiteCloud Processors.

You can also view historical data within your preferred date range and investigate which settings contribute to optimal utilization.

You can view the following charts on the Processor Utilization portlet:

- **Utilization** – This bar chart shows the ratio of utilized time to available time. Utilized time counts how long the processors were used during a specific interval.

  The following table shows the formulas to calculate the available time and processor utilization:

<table>
<thead>
<tr>
<th>Field</th>
<th>Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>Available Time</td>
<td>Resolution (in seconds) × Number of SuiteCloud Processors</td>
</tr>
<tr>
<td>Processor Utilization</td>
<td>(Utilized Time / Available Time) × 100%</td>
</tr>
</tbody>
</table>

  For more information about date ranges and resolutions, read Setting the Date Range in SuiteCloud Processors Monitor.

- **Jobs** – This stacked bar chart shows the total number of jobs at every priority level.

  When you point to an area on either chart, counts for that interval will simultaneously appear on both charts. This behavior lets you see the impact of the number of jobs on processor utilization.
Using the Job Status Portlet in SuiteCloud Processors Monitor

You can use the Job Status portlet to compare the total number of jobs according to status. It uses a simple pie chart to display the distribution of job statuses.

Note: You can monitor changes on this portlet and on the Processor Utilization portlet when you modify your processor settings. This will help you know which settings lead to efficient utilization and successful job completion.

Using the Processor Concurrency Portlet in SuiteCloud Processors Monitor

You can use the Processor Concurrency portlet to identify peaks and gaps in your processing bandwidth. This portlet displays your concurrency count over time. You can identify peaks and gaps in your processing bandwidth by using this portlet.

The portlet's graph changes depending on the time range you select. It displays a line graph when the range is less than seven days and a heat map when the range is equal to or more than seven days.

Click any data point on this heat map to see a detailed line graph for that specific time.
Using the Application Performance Management Tools

Using the Queue and Processor Details Portlet in SuiteCloud Processors Monitor

You can use the Queue and Processor Details portlet to monitor the differences between jobs handled by scheduling queues and jobs handled by SuiteCloud Processors.

You can view the following charts on the Queue and Processor Details portlet:

- **Jobs** – This pie chart shows the ratio of requests handled by scheduling queues to those handled by processors.
- **Average Wait Time** – This bar chart shows the average wait time of jobs handled by scheduling queues compared to those handled by processors. The average wait time for map/reduce scripts includes data gathered only on the getInputData stage.

Using the SuiteCloud Processors Job Details Dashboard

The SuiteCloud Processors Job Details Dashboard lets you see more details about a specific deployment or processor job you need to investigate. The dashboard has one portlet, which displays a detailed table and a corresponding timeline. To find out more about the portlet, read Using the Job Details Portlet in SuiteCloud Processors Job Details.

Accessing the SuiteCloud Processors Job Details Dashboard

You can go to the SuiteCloud Processors Job Details dashboard by choosing one of the following paths:

- Go to Customization > Performance > SuiteCloud Processors Job Details.
- Go to Customization > Performance > SuiteCloud Processors Monitor. Navigate to the Overview portlet. Point to the row of the deployment or script you want to verify. Click the view icon that appears under the View Details column.

Filtering Data on the SuiteCloud Processors Job Details Dashboard

You can filter data on the SuiteCloud Processors Job Details dashboard according to the following:

- **Start Date/Time and End Date/Time** – You can specify the start and end dates by clicking the corresponding calendar icons and selecting the correct dates. You can change the start and end times by using the corresponding dropdown lists.
- **Task Type** – You can choose to show data for all supported task types or for a specific task type by using the dropdown list.

- **Deployment** – You can choose to show data for all deployments or for a specific deployment using the dropdown list.

Using the Job Details Portlet in SuiteCloud Processors Job Details

You can use the Job Details portlet on the SuiteCloud Processors Job Details dashboard to view details about specific deployments. It consists of a table of performance statistics and a timeline.

**Note:** Deployments that are handled by SuiteCloud Processors are marked - None - in the Queue column.

The timeline shows you the duration of wait times and execution times for your scheduled and map/reduce script jobs. You can point to any value on the timeline charts to see the corresponding statistics.
Using the Application Performance Management Tools

Using the Script Queue Monitor Dashboard in APM

**Note:** This help topic is about the Script Queue Monitor dashboard that is integrated in the Application Performance Management SuiteApp (Bundle ID: 67350). This dashboard is substantially improved upon the existing Script Queue Monitor (Beta) SuiteApp (Bundle ID: 56125).

You can continue to use the Script Queue Monitor dashboard in APM to monitor the performance of your jobs if it is installed in your account. NetSuite, however, strongly recommends that you use the SuiteCloud Processors Monitor tool to view the performance of jobs handled by SuiteCloud Processors, scheduling queues, or both. SuiteCloud Processors Monitor lets you track the performance of both scheduled and map/reduce jobs better than the Script Queue Monitor dashboard in APM. For more information, see Monitoring SuiteCloud Processors Performance.

**Note:** The Script Queue Monitor Dashboard in APM does not support multiple languages. Set your language to English before you use this tool. To set your language preference, go to Home > Set Preferences.

Scheduled scripts are used in many critical business processes. You can greatly enhance the performance and efficiency of scheduled script execution by running them on multiple queues or multiple SuiteCloud processors. You can purchase one or more SuiteCloud Plus licenses to gain access to a greater number of SuiteCloud Processors. For more details, see the help topics SuiteCloud Processors and SuiteCloud Plus Settings.

**Note:** The Script Queue Monitor dashboard in APM offers limited support for map/reduce scripts. To monitor the performance of scheduled and map/reduce jobs, use SuiteCloud Processors Monitor.

The Script Queue Monitor dashboard in APM is designed to help NetSuite administrators identify gaps in their script queue usage and to properly plan their scheduled script deployments to different queues. It also supports script deployments which run on SuiteCloud Processors and are not assigned to any queue.

This dashboard provides charts and status details for scheduled script instances running on multiple queues and SuiteCloud Processors. Account administrators can use the visuals provided by the dashboard portlets to review and manage script queue and processor usage. This information can inform the retargeting of scheduled script deployments to different queues and SuiteCloud Processors, to maximize the benefit obtained from SuiteCloud Plus.

The Script Queue Monitor dashboard can also help you to:

- Understand your queue availability and efficiency at a glance
- Understand SuiteCloud Processors script efficiency at a glance
- Isolate possible causes of congestion and identify impacted scripts
- Analyze patterns of script executions

**Accessing the Script Queue Monitor Dashboard**

To access the Script Queue Monitor dashboard, go to Customization > Performance > Script Queue Monitor. To set the time frame for the data on the dashboard, see Setting the Date Range for APM Script Queue Monitor.

For information about the portlets on the Script Queue Monitor dashboard, read the following topics:
Using the Application Performance Management Tools

- Using the Overview Portlet on APM Script Queue Monitor
- Using the Queue Utilization Portlet on APM Script Queue Monitor
- Using the Queue Status Portlet on APM Script Queue Monitor
- Using the Script Instance Heat Map Portlet on APM Script Queue Monitor

For information about scheduled scripts and SuiteCloud Plus, read the following topics:

- SuiteScript 2.0 Scheduled Script Type
- SuiteCloud Plus Settings
- Scheduled Scripts on Accounts with Multiple Processors (SuiteCloud Plus)

Setting the Date Range for APM Script Queue Monitor

By default, the Script Queue Monitor dashboard shows the data for the last 24 hours. This time frame applies to all dashboard portlets.

To change the date range, click the Viewing link at the top right corner of the dashboard. Click the Date Range dropdown list to select a preset time frame or set a custom date range. Click Done to apply your selection.

The following table shows the available date range options. The resolution value is used to set the plot point intervals on the x-axis of the data visualization on the Script Instance Heat Map portlet.

<table>
<thead>
<tr>
<th>Date Range</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last 1 hour</td>
<td>3 minutes</td>
</tr>
<tr>
<td>Last 3 hours</td>
<td>10 minutes</td>
</tr>
<tr>
<td>Last 6 hours</td>
<td>15 minutes</td>
</tr>
<tr>
<td>Last 12 hours</td>
<td>30 minutes</td>
</tr>
<tr>
<td>Last 24 hours (default)</td>
<td>1 hour</td>
</tr>
<tr>
<td>Last 3 days</td>
<td>3 hours</td>
</tr>
<tr>
<td>Last 7 days</td>
<td>8 hours</td>
</tr>
<tr>
<td>Last 14 days</td>
<td>12 hours</td>
</tr>
<tr>
<td>Last 30 days</td>
<td>1 day</td>
</tr>
<tr>
<td>Custom</td>
<td>7 days (for 31 to 90 days custom date range)</td>
</tr>
<tr>
<td></td>
<td>14 days (for 91 to 180 days custom date range)</td>
</tr>
<tr>
<td></td>
<td>30 days (for 181 to 390 days custom date range)</td>
</tr>
</tbody>
</table>
Using the Application Performance Management Tools

Date Range | Resolution
---|---
90 days (for more than 390 days custom date range)

Using the Overview Portlet on APM Script Queue Monitor

The Overview portlet on the Script Queue Monitor dashboard provides information about the overall health of your script queues. This portlet shows KPIs that can help you to discover script queue congestion and inefficiency.

A summary shows the number of scripts completed, scripts failed, average queue wait time, and average queue utilization. Note that scheduled scripts running on SuiteCloud Processors are not included in this summary.

Average queue wait time is the sum of wait times per queue divided by the number of queues in the date range. Average queue utilization is the sum of utilization per queue divided by the total number of queues. Utilization here refers to the sum of the processing times per queue divided by the total processing time in the date range.

<table>
<thead>
<tr>
<th>Field</th>
<th>Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Queue Wait Time</td>
<td>(\frac{(Q_1 \text{ total wait time} + Q_2 \text{ total wait time} + ... + Q_n \text{ total wait time}) + \text{total number of queues}}{\text{total number of queues}})</td>
</tr>
<tr>
<td>Utilization</td>
<td>(\frac{\text{script 1 processing time} + \text{script 2 processing time} + ... + Q_n \text{ processing time}}{\text{total processing time in date range}})</td>
</tr>
<tr>
<td>Average Queue Utilization</td>
<td>(\frac{(Q_1 \text{ utilization} + Q_2 \text{ utilization} + ... + Q_n \text{ utilization})}{\text{total number of queues}})</td>
</tr>
</tbody>
</table>

A table shows relevant information about script instances aggregated by deployment name, script name, average queue duration, and average queue wait time. Click the column name to sort the table contents.

SuiteCloud Processors script instances are labeled `-None-` under the Queue column.

Click the link in the Deployment Name column to go to the script deployment record. Click the link in the Script Name column to go to the scheduled script record.

Using the Queue Utilization Portlet on APM Script Queue Monitor

The Queue Utilization portlet on the Script Queue Monitor dashboard shows the following charts:
- **Percentage** – Shows the percentage utilization of a script queue.
- **Instance Count** – Shows the number of script instances based on status.

Place your cursor over a bar to get additional details for a specific queue.

To view data on SuiteCloud Processors scheduled scripts, point to or click the values labeled *-None-*. Click a bar on the percentage utilization chart to see more details.

Click a bar on the instance count chart to see details about the script instances for the queue. You can click the link in the Deployment Name column to go to the script deployment record, or click the link in the Script Name column to go to the scheduled script record.
Using the Queue Status Portlet on APM Script Queue Monitor

The Queue Status portlet shows the real-time status of your script queues. From this portlet, you can identify busy and available queues, and view pending scripts.

To view the status of SuiteCloud Processors scheduled scripts, refer to the row labeled with a hyphen (-).

Click the ellipsis (…) to load other pending scripts in the queue.

- **Blue (Busy)** – Indicates that a scheduled script is currently running in this queue. Shows the name of the scheduled script instance that is currently running in bold, and shows the name of upcoming scheduled script instances in regular font. If available, click the ellipsis icon at the bottom of the row to expand or collapse the list.

  - **Note:** If none of the script names are set in bold, this means that none of the scripts are running. The scripts are in the portlet because they are in the queue to run.

- **Green (Available)** – Indicates that no script is currently running in this queue. Shows the date and time when the last run was completed.

You can use this information for retargeting of scheduled script deployments to different queues or SuiteCloud Processors.
Using the Script Instance Heat Map Portlet on APM Script Queue Monitor

This portlet includes a heat map chart that shows script executions over a timeline. The script instance heat map chart can help you to analyze script execution patterns and identify peak and off-peak time periods for a specific queue.

To view instances of SuiteCloud Processors scheduled scripts, refer to the row labeled "None."

Place your cursor over a cell on the heat map chart to see additional details for a specific queue.
Click a cell on the heat map chart to see details about the script instances at a particular time for a specific queue. You can click the link in the Deployment Name column to go to the script deployment record, or click the link in the Script Name column to go to the scheduled script record.

Analyzing Web Services Performance

Businesses rely on web services to extend their applications’ functions across multiple platforms, programming languages, and locations. Web services positively impact real-world operations, so it is vital that they run smoothly. With the Web Services Analysis dashboard, you can monitor the performance of your SOAP web services in real time.

The Web Services Analysis dashboard aggregates data on web services operations and record processing without the need for you to set up several saved searches. You can view charts and
summary lists of statistics in one clean UI. The dashboard gives you a quick view of your web services integrations, so you are equipped with data for efficient error-handling, implementation, and maintenance.

**Note:** Only synchronous operations and requests are supported in the Web Services Analysis dashboard. To know more about the difference between synchronous and asynchronous request processing, read the help topic [Synchronous Versus Asynchronous Request Processing](#).

### Accessing the Web Services Performance Dashboard

To start using the Web Services Analysis dashboard, go to Customization > Performance > Web Services Analysis.

**Important:** Administrators who are already using the Application Performance Management (APM) SuiteApp need to save access again for other roles and employees so they can use the Web Services Analysis dashboard. For more information, see [Setting Up APM Access for Roles and Employees](#).

Find out more about each portlet when you read the following topics:

- Filtering Data in Web Services Analysis
- Monitoring Top Web Services Operations
- Monitoring Top Web Services Record Processing
- Monitoring the Status of Web Services
- Monitoring the API Version Usage of Web Services

### Filtering Data in Web Services Analysis

To filter data for all portlets on the Web Services Analysis dashboard, click the Viewing link at the upper right corner of the page.

You can set the data according to the following filters:

- **Date Range** — Select a preset or custom time frame from the dropdown list. Similar to the Script Queue Monitor dashboard, the resolution value is used to set the plot point intervals on the x-axis of data visualizations. The following table shows the available date range options:

<table>
<thead>
<tr>
<th>Date Range</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last 1 hour</td>
<td>3 minutes</td>
</tr>
</tbody>
</table>
Using the Application Performance Management Tools

<table>
<thead>
<tr>
<th>Date Range</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last 3 hours</td>
<td>10 minutes</td>
</tr>
<tr>
<td>Last 6 hours</td>
<td>15 minutes</td>
</tr>
<tr>
<td>Last 12 hours</td>
<td>30 minutes</td>
</tr>
<tr>
<td>Last 24 hours (default)</td>
<td>1 hour</td>
</tr>
<tr>
<td>Last 3 days</td>
<td>3 hours</td>
</tr>
<tr>
<td>Last 7 days</td>
<td>8 hours</td>
</tr>
<tr>
<td>Last 14 days</td>
<td>12 hours</td>
</tr>
<tr>
<td>Last 30 days</td>
<td>1 day</td>
</tr>
<tr>
<td>Custom</td>
<td>7 days (for 31 to 90 days custom date range)</td>
</tr>
<tr>
<td></td>
<td>14 days (for 91 to 180 days custom date range)</td>
</tr>
<tr>
<td></td>
<td>30 days (for 181 to 390 days custom date range)</td>
</tr>
<tr>
<td></td>
<td>90 days (for more than 390 days custom date range)</td>
</tr>
</tbody>
</table>

- **Integration** — Select the web service integration you want to see.

Click **Done** to apply your selection. To apply changes in data filters, click **Refresh** on the upper left corner of the page.

**Monitoring Top Web Services Operations**

The Top Web Services Operations portlet on the Web Services Analysis dashboard displays operations performance statistics. You can use this portlet to establish operations-related trends in web services, detect inconsistencies, and make informed decisions when modifying or adding web services operations.

The Top Web Services Operations portlet shows the number of users, total requests, failed requests, error rate, and total records. It also displays the following charts:

- **Execution Time** - This chart shows the average time it takes for each web service operation to execute, in seconds.
- **Requests** – This chart shows the total number of requests for each operation, stacked to show the finished and failed counts.
- **Error Rate** – This chart shows the percentage of error for each operation.
- **Records** – This combination chart overlays total records per operation with total records per minute.

Each chart can display up to 10 operations at a time.
Viewing the Web Services Operation Details

The Top Web Services Operations portlet displays a summary of operation-related data when you point your cursor over specific instances in the graphs.

To see more details about each operation, click a data point. The Web Services Operation Details page appears with the following information:

- **Web Services Operation Details** – This is a summary of data specific to the web service operation, including total records and request counts, error rate, and execution time.

- **Performance Details** – These four charts map the web service operation’s execution time, error rate, requests, and records at specific points in time.

<table>
<thead>
<tr>
<th>Web Services Operation Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPERATION</td>
</tr>
<tr>
<td>addAlt</td>
</tr>
<tr>
<td>addAlt</td>
</tr>
</tbody>
</table>
- **Top Records Performance** – This line graph compares the execution time of each record type at specific points in time. It can display up to five record types at a time.

### Monitoring Top Web Services Record Processing

The Top Web Services Record Processing portlet on the Web Services Analysis dashboard clusters a series of operations-related data points according to record type. You can use this portlet to pinpoint and address areas of concern in record processing.

To change the data points in the series, click the dropdown arrow at the upper left corner of the portlet. You can select between Execution Time and Instance Count. Each chart can display up to 10 record types at a time.
You can also click any operation from the legend to exclude it from the chart.

To find more information about each record type, click its name or data point. A pop-up combination chart appears, showing data about a web service operation for the specific record type at specific points in time. Select an operation from the dropdown arrow at the upper left corner of the popup window.
Monitoring the Status of Web Services

The Status Breakdown portlet on the Web Services Analysis dashboard displays the status of web services operations and record processing using pie charts. You can use this portlet to monitor the health of web services operations and record processing and respond to failures or errors as they happen. You can see the percentage and number of requests or records when you point to a section in the pie chart.

You can also click any status from the legend to exclude it from the chart.
Monitoring the API Version Usage of Web Services

The API Version Usage portlet on the Web Services Analysis dashboard displays the total SOAP web service requests for each API version. These versions are color-coded according to their level of support. This portlet lets you monitor and predict the impact of API changes on your web services.

The API versions are color-coded and classified according to the following levels of support:

- **Retired** – The SOAP web services API is no longer in the system. These versions are no longer supported.
- **Not Supported** – The SOAP web services API is still in the system. But these versions are no longer supported.
- **Supported** – The SOAP web services API exists and can be used. These versions are supported.
- **Not Released** – The SOAP web services API exists and can be used. These versions are not yet released.
Saved searches empower businesses with up-to-date and precise business intelligence for strategic decision-making. You can catch potential issues related to saved search performance by monitoring them in real time. In the Application Performance Management (APM) SuiteApp, NetSuite provides several tools for you to view and analyze the performance of your saved searches.

**Important:** Administrators who are already using the Application Performance Management (APM) SuiteApp need to save access again for other roles and employees so they can use the search performance tools. For more information, see Setting Up APM Access for Roles and Employees.

To know more about each tool, read the following topics:

- Using the Search Performance Analysis Dashboard
- Using the Search Performance Details Dashboard

### Using the Search Performance Analysis Dashboard

The Search Performance Analysis dashboard is a visual tool for monitoring multiple saved searches on one page. The dashboard presents saved searches in the form of tiles, which contains helpful metrics updated in real time. You can use this tool to quickly identify saved search performance issues and anomalies. Looking at the dashboard also lets you promptly compare statistics between various saved searches.

To start, read Using the Saved Searches Portlet.

### Accessing the Search Performance Analysis Dashboard

To start using the Search Performance Analysis dashboard, go to Customization > Performance > Search Performance Analysis.

### Using the Saved Searches Portlet

Saved searches are presented in the form of tiles. The portlet displays the top ten saved searches based on your filters. Each tile contains the following information:

- **Execution Time** – Shows the median number of seconds it took for the saved search to execute within the specified period. This time includes only the retrieval of the saved search and excludes the retrieval of other page elements, such as filters, fields, or the UI.

- **Timeout Rate** – Shows the percentage of timeouts during saved search executions relative to the total requests within the specified period.

- **Number of Users** – Shows the total number of users who accessed the saved search within the specified period.

- **Number of Requests** – Shows the total number of requests for the saved search within the specified period.

- **Execution Time Line Graph** – Shows a line graph of the median execution time within the specified period.
You can update the duration of data presented using the dropdown list on the upper left corner of the page. You can select between the following:

If you need to access information within a custom time frame, click the saved search tile. This action takes you to the Search Performance Details Dashboard, where you can filter data according to start date/time and end date/time. To know more, read Filtering Data on the Search Performance Details Dashboard.

You can also sort the data according to the most requested, most timeouts, most users, or highest execution time. To sort, select from the dropdown list on the upper right corner of the page.

**Using the Search Performance Details Dashboard**

The Search Performance Details Dashboard provides you with more in-depth statistics about the performance of each saved search. The dashboard consists of two portlets and provides summary lists, charts, and logs about a specific saved search. It can be used for gathering data during performance reviews and critical investigations.

To start, read the following topics:

- Accessing the Search Performance Details Dashboard
- Filtering Data on the Search Performance Details Dashboard

To know more about the available portlets on the dashboard, see:

- Viewing Saved Search Details
- Viewing Saved Searches by Context
Accessing the Search Performance Details Dashboard

You can go to the Search Performance Analysis dashboard by choosing one of the following paths:

- Go to Customization > Performance > Search Performance Details.
- Go to Customization > Performance > Search Performance Analysis and click a saved search tile.

Filtering Data on the Search Performance Details Dashboard

You can filter data on the Search Performance Details dashboard according to the following:

- **Start Date/Time and End Date/Time** – You can specify the start and end dates by clicking the corresponding calendar icons and selecting the correct dates. You can change the start and end times by using the corresponding dropdown lists.
- **Saved Search** – You can choose to show data for all saved searches or for a specific saved search using the saved search dropdown list.

To apply changes in data filters, click **Refresh** on the upper left corner of the page.

Viewing Saved Search Details

The Saved Search Details portlet displays summary lists and four charts, which show performance statistics in detail. You can find the following charts on the portlet:

- **Execution Time** – Shows a line graph comparing the median execution time of saved searches over a specific period. This time includes only the retrieval of the saved search and excludes the retrieval of other page elements, such as filters, fields, or the UI.
- **Requests** – Shows a combination bar and line chart, which overlaps timeout counts with successful or failed status data over a specific period.
- **Context** – Shows a pie graph to display the proportion of contexts that used the saved search within the specified duration.
- **Histogram** – Shows a histogram comparing the total number of saved searches in various execution time intervals.

You can point to any value on the portlet's charts to see a summary of data relevant to the chart.
Using the Application Performance Management Tools

Viewing Saved Search Logs

You can view logs for each saved search when you click a value on any of the charts. The logs record the date, user, context, execution time, success, and timeout. You can click the corresponding icons in the Profiler Details column to go to Profiler Details.

Viewing Saved Searches by Context

The Saved Searches by Context portlet lets you analyze changes in execution time among several contexts over a specific period. This portlet can help you find trends in running saved searches depending on which context is used and when they were run.
You can also click an item on the legend to hide or display that segment of data.

Monitoring Web Services and RESTlet Concurrency

View a Related Video

You can use the Concurrency Monitor tool to monitor web services and RESTlet integrations with respect to your account concurrency limits. This dashboard enables you to view and optimize the scheduling of your integrations so that you can optimize your SuiteCloud plus license efficiency. The dashboard also shows you your exceeded concurrency data to help you decide if you need to add SuiteCloud Plus licenses to enhance your performance.

Important: Data shown on the Concurrency Monitor excludes requests from internal applications. These internal applications are excluded because they do not count toward your concurrency limit. For more information, read the help topic Concurrency Governance for Internal Applications.

Concurrency Monitor consists of the following dashboards:
Using the Application Performance Management Tools

- **Concurrency Monitor** – Shows concurrency statistics and concurrency counts by hour for requests within the limit and requests exceeding the limit.
- **Concurrency Details** – Shows concurrency counts by minute for requests within the limit and requests exceeding the limit.

See the following help topics:

- Using the Concurrency Monitor Dashboard
- Using the Concurrency Details Dashboard

**Using the Concurrency Monitor Dashboard**

The Concurrency Monitor dashboard is a visual and informative tool that shows you concurrency statistics as well as general concurrency counts for each hour. You can use this dashboard to filter concurrency data of web service and RESTlet integrations within the maximum range of thirty days.

To set the date range for this dashboard, read Filtering Data on the Concurrency Monitor Dashboard.

The dashboard consists of several portlets. To find out more, see the following help topics:

- Using the Overview Portlet in the Concurrency Monitor Dashboard
- Using the General Concurrency Portlet in the Concurrency Monitor Dashboard

**Accessing the Concurrency Monitor Dashboard**

To start using the Concurrency Monitor dashboard, go to Customization > Performance > Concurrency Monitor.

**Important:** Administrators who are already using the Application Performance Management (APM) SuiteApp need to save access again for other roles and employees so they can use the concurrency Monitor. For more information, see Setting Up APM Access for Roles and Employees.

**Filtering Data on the Concurrency Monitor Dashboard**

You can change the date range of data shown on all portlets data on the Concurrency Monitor dashboard by using the date range dropdown list.

Click **Done** after you select the date range. Click **Refresh** on the upper left side of the dashboard for the changes to reflect on all portlets.
Using the Overview Portlet in the Concurrency Monitor Dashboard

To use the Overview portlet, go to the Concurrency Monitor dashboard. Go to Customization > Performance > Concurrency Monitor.

You can use the Overview portlet in the Concurrency Monitor dashboard to view the following information:

- **Peak Concurrency** – This number shows the highest concurrency count from data based on your filters.
- **Total Exceeded Concurrency** – This number shows the total of all concurrency counts that exceeded the limit from data based on your filters.
- **Highest Exceeded Concurrency** – This number shows the highest concurrency count that exceeded the limit from data based on your filters.
- **Concurrency Limit** – This number shows the limit of concurrent web services and RESTlet requests you can run. It is based on the service level and SuiteCloud Plus licenses available for your production, sandbox, and release preview accounts. Web services and RESTlet integrations are rejected when you exceed your concurrency limit.

<table>
<thead>
<tr>
<th>Overview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peak Concurrency</td>
</tr>
<tr>
<td>15</td>
</tr>
</tbody>
</table>

Using the General Concurrency Portlet in the Concurrency Monitor Dashboard

To use the General Concurrency portlet, go to the Concurrency Monitor dashboard. Go to Customization > Performance > Concurrency Monitor.

You can use the General Concurrency portlet in the Concurrency Monitor dashboard to view peak concurrency requests for each hour.

The portlet uses two charts to separate peak concurrency requests within the limit and peak concurrency requests exceeding the limit. To switch from viewing requests within the limit to viewing requests exceeding the limit, click the dropdown list on the upper left part of the portlet.

The Requests Within Limit (%) chart displays the approximate percent values for each hour within your selected date range. With this chart, you can pinpoint congested hours and reschedule your overlapping integrations to different times.
**Note:** The Request Within Limit (%) chart displays approximate percent values. Values that are at 101% and above can mean that the requests during the period either exceeded the limit or almost exceeded it. To determine the actual value, click the data point to access the Concurrency Details dashboard. This dashboard displays concurrency data by the minute. To find out more, read Using the Concurrency Details Dashboard.

The Requests Exceeding Limit chart displays the exact values for each hour within your selected date range. This chart helps you know if you must add more SuiteCloud licenses to increase your concurrency limit. By adding licenses, you can prevent requests from getting rejected because you have exceeded the limit. When you avoid rejected requests, you ensure that your integration requests and RESTlets are successful.
You can click any data on the charts to access the Concurrency Details dashboard, which displays concurrency data by the minute. To find out more about the dashboard, read Using the Concurrency Details Dashboard.

Using the Concurrency Details Dashboard

The Concurrency Details dashboard lets you view exact concurrency counts for each minute within the hour you clicked on the Concurrency Monitor dashboard.

The dashboard consists of the Detailed Concurrency portlet. This portlet displays synchronized bar charts for concurrency requests that are within the limit and requests that exceed the limit.

To find out more about the portlet, read Using the Detailed Concurrency Portlet in the Concurrency Details Dashboard.

To go to the Concurrency Details dashboard, view the following instructions.

Accessing the Concurrency Details Dashboard

To go to the Concurrency Details Dashboard:

1. Go to Customization > Performance > Concurrency Monitor.
2. Filter the data according to date range. To know more, read Filtering Data on the Concurrency Monitor Dashboard.
3. On the General Concurrency portlet, choose the cell of the hour you want to explore.
4. Click the cell to access the Concurrency Details dashboard.
Using the Detailed Concurrency Portlet in the Concurrency Details Dashboard

You can use the Detailed Concurrency portlet on the Concurrency Details dashboard to view the exact concurrency counts for each minute within the hour you selected. To go to the Concurrency Details dashboard, read Accessing the Concurrency Details Dashboard.

This portlet consists of two synchronized charts, Detailed Concurrency and Exceeded Concurrency. When you point to a bar on any chart, tooltips that show the date, minute, and concurrency counts simultaneously display on both charts. Click the bar on any chart to show concurrency data per second.

Click the View Requests link on the tooltip to see details about instances during a particular time. To navigate through the list of instances, use the paging toolbar on the upper right corner of the popup window. Click the arrows until you see the desired page or select a page from the dropdown list.
Profiling Operations Performance

You can use Profiler Details to see the timing breakdown and context of an operation then locate and correct performance bottlenecks. This tool is conveniently linked to various Application Performance Management (APM) tools, so you can immediately jump to the page to analyze the root cause of a performance issue.

For more information about Profiler Details, see the following help topics:

- Profiler Details Overview
- Using Profiler Details

Profiler Details Overview

Profiler Details is a tool that lets you gather performance data about the timing and context of an operation, action, or request. You can use this tool to determine which operations cause delays.

Profiler Details show contextual data from the following Application Performance Management (APM) tools:

- Page Time Summary
- Page Time Details
- SuiteScript Analysis
- Web Services Analysis
- Search Performance Details

Profiler Details Limitations

Data shown on the Profiler Details page are limited by the following:

- Profiler Details logs only the scripts that have run for more than 100 milliseconds.
Using the Application Performance Management Tools

- Profiler Details logs only the operations that have customizations.
- Profiler Details cannot display information about client scripts.

Using Profiler Details

To open Profiler Details, you need to click one of the links or icons located on specific Application Performance Management (APM) pages. Profiler Details uses data from the APM page to provide context about the operation that you want to investigate.

The Profiler Details page consists of the following areas:

- **Header** – This area contains basic information about the operation, such its ID and start time and date. For more information, read
- **Timeline** – This area shows a timeline of how long and when each child record ran during the execution of the operation. For more information, read
- **Timing Details** – This area displays more granular information about each child record, including their context and types. For more information

Accessing Profiler Details

Follow these procedures to access Profiler Details from different Application Performance Management (APM) tools.

Accessing Profiler Details from Page Time Summary

**To go to Profiler Details from Page Time Summary:**

1. On the Page Time Summary page, go to the Performance Logs section.
2. In the Profiler Details column, click the view icon that corresponds to the operation you want to investigate.

Accessing Profiler Details from Page Time Details

**To go to Profiler Details from the Timeline of Page Time Details:**

1. On the Page Time Details page, go to the timeline section.
2. Point to the data segment that you want to investigate. Click **View Profiler Details** on the tooltip.

**Note:** The **View Profiler Details** link will not appear when you point to client scripts or network data segments.

**To go to Profiler Details from SuiteScript and Workflow Details in Page Time Details:**

1. On the Page Time Details page, go to the SuiteScript and Workflow Details section.
2. In the **Profiler Details** column, click the view icon that corresponds to the operation that you want to investigate.
Accessing Profiler Details from SuiteScript Analysis

To go to Profiler Details from SuiteScript Analysis:

1. On the SuiteScript Analysis page, go to the SuiteScript Details section.
2. Click View Logs to open the SuiteScript Details log page.
3. On the SuiteScript Details logs page, locate the Profiler Details column.
4. Click the view icon that corresponds to the operation that you want to investigate.

Accessing Profiler Details from Web Services Analysis

To go to Profiler Details from Web Services Analysis

1. On the Web Services Analysis page, locate the Top Web Services Operations portlet.
2. On the chart, click a data segment you want to explore.
3. On the Web Services Operation Details page, choose between two portlets to explore data.
   □ Using the Performance Details portlet
     □ Click a data point on the chart.
     □ On the Web Services Operation Logs page, locate the Profiler Details column.
     □ Click the view icon that corresponds to the operation that you want to investigate.
   □ Using the Top Records Performance portlet
     □ Click a data point on the chart.
     □ On the Web Services Record Processing Logs page, locate the Profiler Details column.
     □ Click the view icon that corresponds to the operation that you want to investigate.

Accessing Profiler Details from Search Performance Details

To go to Profiler Details from Search Performance Details

1. On the Saved Search Logs page, locate the Profiler Details column.
2. Click the view icon that corresponds to the operation that you want to investigate.

Viewing the Details of an Operation

When you go to the Profiler Details page, the first thing you will see is the navigation path on top of the page. This path exposes the levels of hierarchy available for the operation you are viewing. It allows you to drill forward or backward between child and parent records.

You can see the header section following the navigation path. This section shows the following information:

□ Profiler Operation ID – This figure identifies the operation that is profiled on the page. This ID remains constant across parent and child records of the same operation.
□ Start Time and Date – This data shows the time and date when the operation began processing.
□ Scripts – This figure is the count of scripts that ran during the operation.
□ Searches – This figure is the count of searches that ran during the operation.
□ Workflows – This figure is the count of workflows that ran during the operation.
□ Records from Scripts/Workflows – This figure is the count of records triggered by scripts and workflows that ran during the operation.
Using the Application Performance Management Tools

■ **Request URLs** – This figure is the count of URL requests that ran during the operation.

**Note:** The count of data found on the header section may not match the data on the Timeline and Timing Details sections.

### Viewing the Timing Breakdown of an Operation

You can view the timing breakdown of an operation on the Timeline and Timing Details sections of Profiler Details.

### Viewing Data on the Timeline Section of Profiler Details

The Timeline section maps how long each type of information ran during the operation. It covers the following types of information:

■ Request URL
■ Record
■ Script
■ Workflow
■ Search
■ Web Service

**Note:** Profiler Details in APM cannot display information about client scripts.

In the Timeline section, you can point to a segment of data to view more details like execution time and type of information. These details provide context about the data. By knowing the execution time, for instance, you can determine if the value is equal to your expected time for that segment.

When you view the labels of the x-axis in the timeline, you may see the following icons:

■ **Hierarchy icon** – You can click this icon to drill down to the child of a record. After you click this icon, all sections in Profiler Details refresh to show the timing details and context of the child record.
■ **Note icon** – You can click this icon to view the API calls for a script you want to explore.

**Note:** On the Profiler Details timeline, gaps may exist between lines. This signifies NetSuite server time that is not associated with your NetSuite customizations.

### Viewing Data on the Timing Details Section of Profiler Details

The Timing Details section shows the context and timing information in a table format. It includes the following information for each time entry:

■ **Date & Time** – Shows when the operation started to process.
■ **Type** – Shows which type of information is being processed.
■ **Name** – Shows the name assigned to the operation.
■ **Execution Time** – Shows the total duration that the operation took to process.
■ **Operation** – For records, this specifies the operation that was applied on the record.
■ **Searches** – Shows the number of scripts that ran during the operation.
■ **Workflows** – Shows the number of workflows that ran during the operation.
■ **Records from Scripts/Workflows** – Shows the number of records triggered by scripts and workflows that ran during the operation.
- **Request URLs** – Shows the number of URL requests that ran during the operation.
- **Record Type** – Shows the record type assigned to the operation.
- **Context** – Shows the context for the type of information, such as script, that ran.
- **Script Type** – Shows the type of script associated with a script that ran. This column remains blank if the type is not a script.
- **Deployment** – Shows the name of the script deployment and links to the deployment record. This column is blank if the type is not a script.
- **Entry Point** – Shows the user-defined name of the function that was invoked for the operation to run.
- **Trigger Type** – Shows the type of operation that was used to trigger an event. This column is blank if the type is not a script.
- **Bundle** – Shows the bundle ID associated with the operation that ran.
- **Method** – For Request URLs, this specifies the http method used.
- **Web Service Operation** – Shows the web service operation that is associated with the type of information that ran.
- **API Version** – Shows the version of the API when the operation ran.

## Exporting Data from Application Performance Management

The Application Performance Management (APM) SuiteApp lets you export performance data from various tools. Refer to the following table to determine how to extract data from each tool.

<table>
<thead>
<tr>
<th>APM Tool</th>
<th>Page or Window Name</th>
<th>To Export Data</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2. On the Record Pages portlet, point to the upper right corner to show the menu icon.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Click the menu icon, and then select Export.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Click the CSV export icon.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. On the SuiteScript Details portlet, click View Logs.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. On the SuiteScript Details page, click the CSV export icon.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. On the Overview portlet, click the CSV export icon.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. On the Job Details portlet, click the CSV export icon.</td>
</tr>
<tr>
<td>APM Tool</td>
<td>Page or Window Name</td>
<td>To Export Data</td>
</tr>
<tr>
<td>------------------------------</td>
<td>--------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Search Performance Details   | Saved Search Logs popup window             | 1. Go to Customization > Performance > Search Performance Details.  
2. On the Saved Search Details portlet, click any data point.  
3. On the Saved Search Logs popup window, click the CSV export icon. |
| Concurrency Details          | Instance Details popup window              | 1. Go to Customization > Performance > Concurrency Monitor.  
2. Filter the data according to date range. To know more, read Filtering Data on the Concurrency Monitor Dashboard.  
3. On the General Concurrency portlet, choose the cell of the hour you want to explore.  
4. Click the cell to access the Concurrency Details dashboard.  
5. On the Detailed Concurrency portlet, click the View Requests link on the tooltip to go to open the Instance Details popup window.  
6. Click the CSV export icon. |
2. Click a data point to open Web Services Operation Details page.  
3. On the Performance Details portlet, click any data point.  
4. On the Web Services Operation Logs popup window, click the CSV export icon. |
2. Click a data point to open Web Services Operation Details page.  
3. On the Top Records Performance portlet, click any data point.  
4. On the Web Services Record Processing Logs popup window, click the CSV export icon. |

**Frequently Asked Questions: Application Performance Management**

See the following questions and answers for more information about the Application Performance Management SuiteApp (APM).

**Is there a cost associated with the APM?**

No. This SuiteApp is available for installation at no cost. See Installing the Application Performance Management SuiteApp for instructions.
Will installation of the APM cause slower performance in my NetSuite account?

No. The SuiteApp reads from data stored in the back end. It does not create any additional overhead for your existing customizations aside from the scripts used to display the dashboard.

Can the layout of the APM be customized?

This feature is not available at this time.

Can the displayed content in each pane of the APM be restricted?

This feature is not available at this time.

How many record tiles can the Performance Dashboard show?

The Performance Dashboard can show up to 20 record tiles. By default, the dashboard displays the 10 most used record operations and can be configured to show an additional 10. For more details, see About the Record Operation Tiles.

Can the APM get data from a date prior to the date this SuiteApp was installed?

Yes.

What is the time range of past data that the APM can retrieve?

The APM's Performance Dashboard can display data from up to 30 days in the past. This time range is the maximum preset option in the time interval dropdown list, and custom date and time ranges cannot exceed this span.

The Page Time Summary search can retrieve data from up to 2 days less than the past month. An “Error encountered in search” message appears when this limit is reached.

The SuiteScript Analysis search can retrieve data from up to 2 days less than the past month. An “Error encountered in search” message appears when this limit is reached.

What time zone is used in the APM?

All time values shown in APM follow the Pacific time zone (GMT -08:00).

Is the raw data used by the APM available for access?

No. This data is not available in its raw form. It is represented by the aggregations and visualizations that APM provides.

Can the data shown in the APM be exported as a Microsoft Excel, CSV, or PDF file?

You can export the data from various APM pages into a CSV file. The maximum number of data rows that can be exported is 10,000. For more information, read Exporting Data from Application Performance Management.

Does the APM show the number of records affected and the median length of time required to process one record?

Yes, this information is shown in the record tiles on the Performance Dashboard.
In the time interval dropdown on the Performance Dashboard, what does (resolution x min/hour) mean?

Resolution means the time interval used for the aggregation. For example, a resolution of 5 minutes means that each point in the trend graph represents an aggregate of 5 minutes. The resolution value sets the plot point intervals on the x-axis of the data visualizations. For more information about the time interval dropdown list, see Setting the Date and Time Range That You Want to Monitor.

What value is captured by the response time shown in the record tiles?

This value is the median of each response time in the total time for the specified combination of record, operation, and time.

Is there any legend in the APM or associated email alert indicating when performance is not normal?

This feature is not available at this time.

On the Page Time Details page, what are Client: Header, Client: Render, and Client: Init?

Client: Header is the amount of time to render the head element of the page. Client: Render is the amount of time for the browser to render the response after the head element finished rendering. Client: Init is the amount of time used by the Page Init function. For more information, see Using Page Time Details.

Does the APM make it possible to determine which script or workflow is causing a high SuiteScript or workflow time?

This information can be determined through analysis of the Page Time Summary and Page Time Details.

Can the APM tell if a script is slow due to a slow search?

This feature is not available at this time.

Does the APM include performance data from scripts associated with other SuiteApps?

Yes.

Does the APM provide a way to determine if a script is currently running?

Script performance log data is only captured after scripts have been executed successfully. If data for a script is shown in the APM, the script has stopped running.

Does the APM provide a way to determine which part of a script execution is causing slower performance?

This feature is not available at this time.

Does the SuiteScript Analysis tool also reflect the run time of workflows?

No.

Is there an analysis tool for workflows similar to the SuiteScript Analysis tool?

Workflow times are included in the Page Time Summary. A dedicated analysis tool for workflows is not available at this time.
What is the relationship between the execution time and instance count numbers shown when you place your cursor over the SuiteScript Analysis Performance Chart?

The time it took for each instance to execute is based on the execution time. The execution time is represented as an aggregation.

How long does it take for the APM to reflect script optimizations made after reviewing APM data?

The change in performance should take effect very quickly. You should be able to observe the impact on performance in APM data almost in real time.

Why does a script run much more slowly in my NetSuite account than the same script runs in my friend's NetSuite account?

Each NetSuite instance is different. Many factors other than configuration can impact performance.

What should I do if I think that the number of seconds averaged per operation is not fast enough?

If you require investigation of performance data from the APM, please file a case with NetSuite Customer Support.

Does the APM provide information about web services performance?

Yes, this information is available on the Web Services Analysis dashboard. For more information, see Analyzing Web Services Performance.

Does the APM provide information about web store performance?

This feature is not available at this time.

Does the APM provide information about performance of scheduled scripts using multiple queues?

Yes, this information is available on the Script Queue Monitor dashboard. For more information, see Using the Script Queue Monitor Dashboard in APM.