



## **Universal Controller 6.3.x**

### **Reporting**

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# Reporting



## Reports

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*Reportable Tables*

*All Task Instances Table (ops\_exec)*



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The information on these pages also is located in the Universal Controller 6.3.x Reporting.pdf.



## Dashboards

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## Dashboards

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### Overview

Dashboards are sets of [Widgets](#) that provide quick access to information about the Universal Controller activity and system information.

The Controller [Home Dashboard](#), which displays when you log in to the Controller, is a system-defined Dashboard.

The Controller provides a set of Widgets, each of which you can add to any Dashboard. You also can create your own Widgets and add them to any Dashboard.



**Note**

You cannot add Widgets to or remove Widgets from the Home dashboard, and you cannot delete the Home dashboard, but you can copy it.

### Accessing the Dashboards

Unless you manually [close the Dashboards](#), the Dashboards remain open throughout your Controller session, and the Dashboards tab displays at the top of every page.

To access the Dashboards, you can either:

- Click the Dashboards tab to display the currently selected Dashboard.
- Click the [Home icon](#) at the top of any page to display your Home dashboard.
- Click **Dashboards** in the [Reporting](#) navigation pane to display your [default Dashboard](#).

Tabs for every Dashboard, including the Home dashboard, display at the bottom of the Dashboards page.

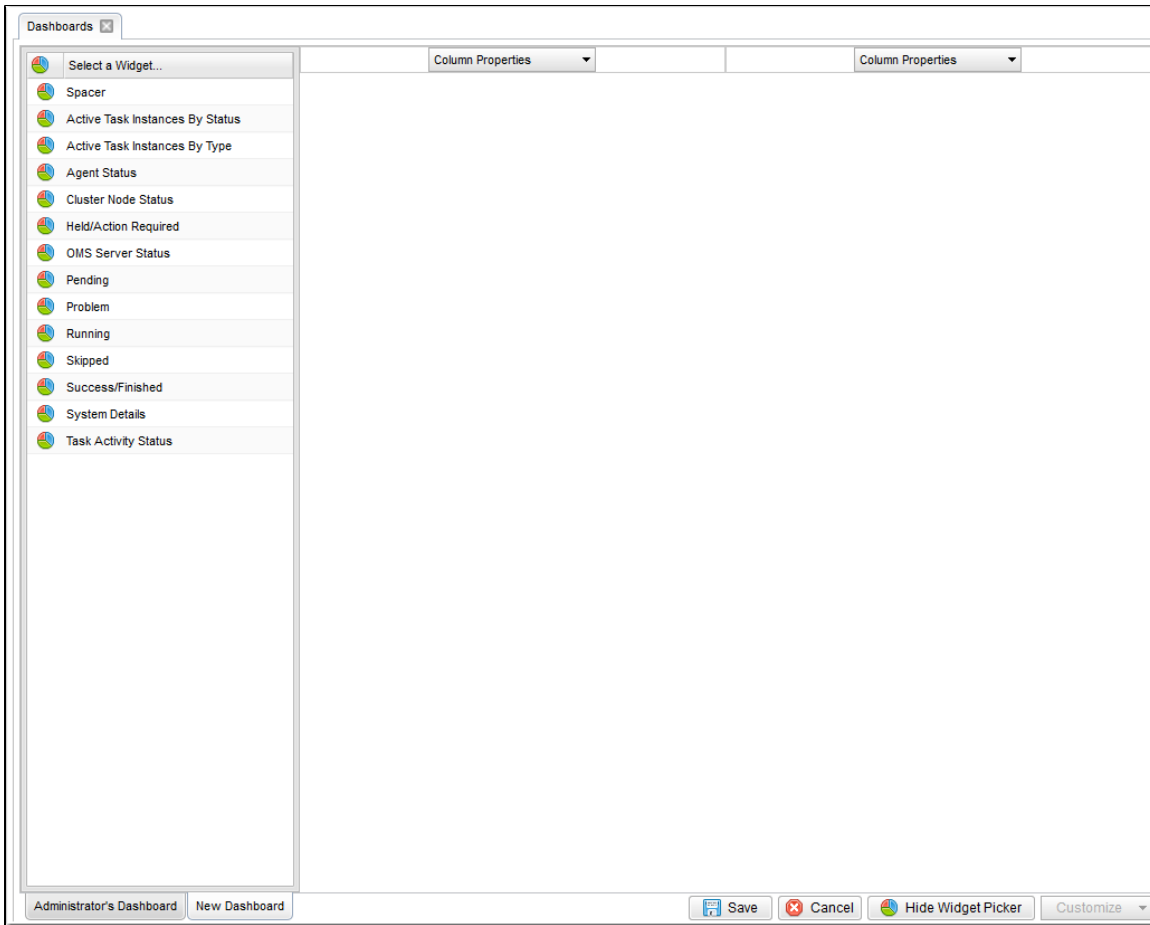
### Creating a Dashboard

To create a Dashboard:

<b>Step 1</b>	Access the Dashboards page.
<b>Step 2</b>	From the <b>Customize</b> drop-down list at the bottom of the page, click <b>New</b> . The <b>New Dashboard</b> pop-up dialog displays.

**Step 3** Enter a name for the new Dashboard and click **OK**. An empty Dashboard page displays.

To the left of the Dashboard, a **Widget Picker** list of all **Widgets** displays.

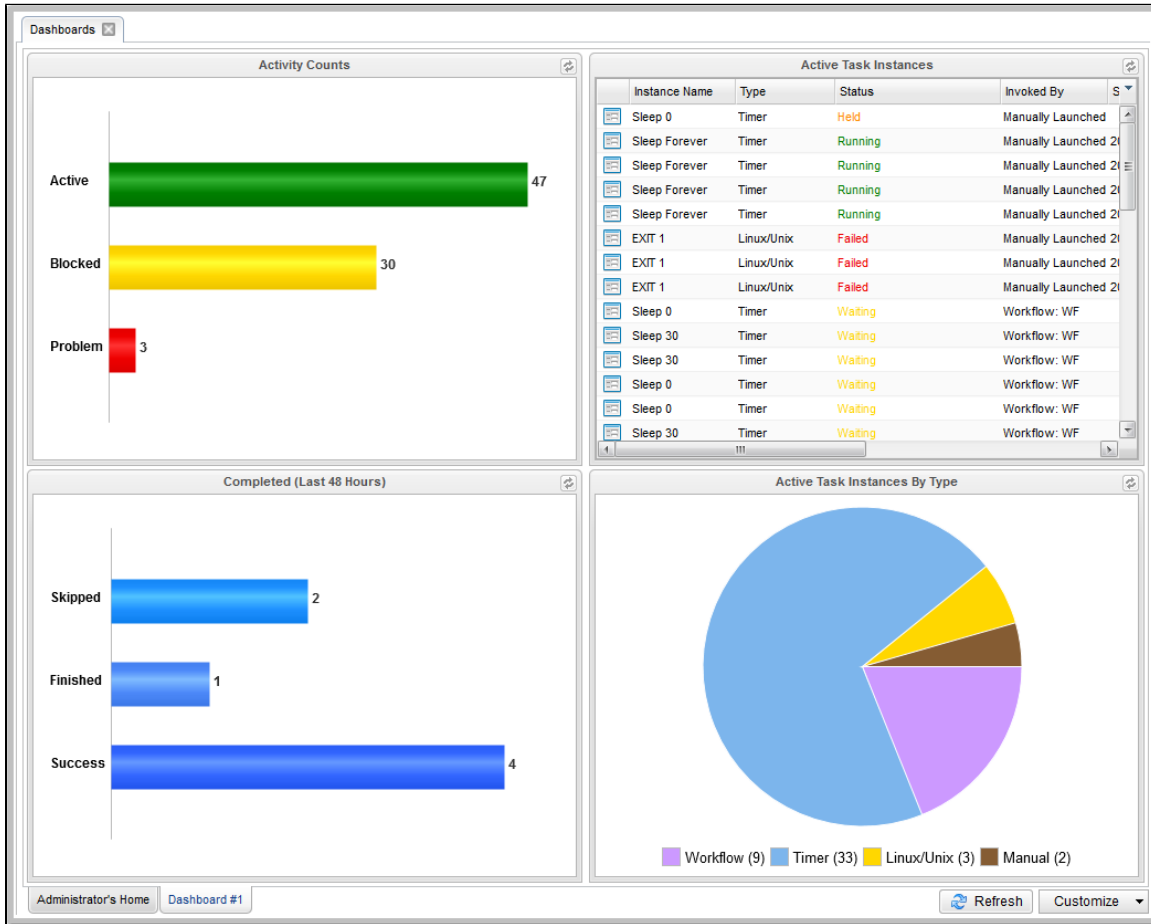


**Step 4** By default, a new Dashboard provides two columns, into which you can add any number of Widgets.

Drag and drop Widgets from the **Select a Widget...** list on the left side of the page into either column. The Widgets are arranged vertically in that column.

To see what the Dashboard will look like without the **Widget Picker**, click the **Hide Widget Picker** button at the bottom of the Dashboard. The **Hide Widget Picker** button is replaced by a **Show Widget Picker** button, which you can click to re-display the **Widget Picker**.

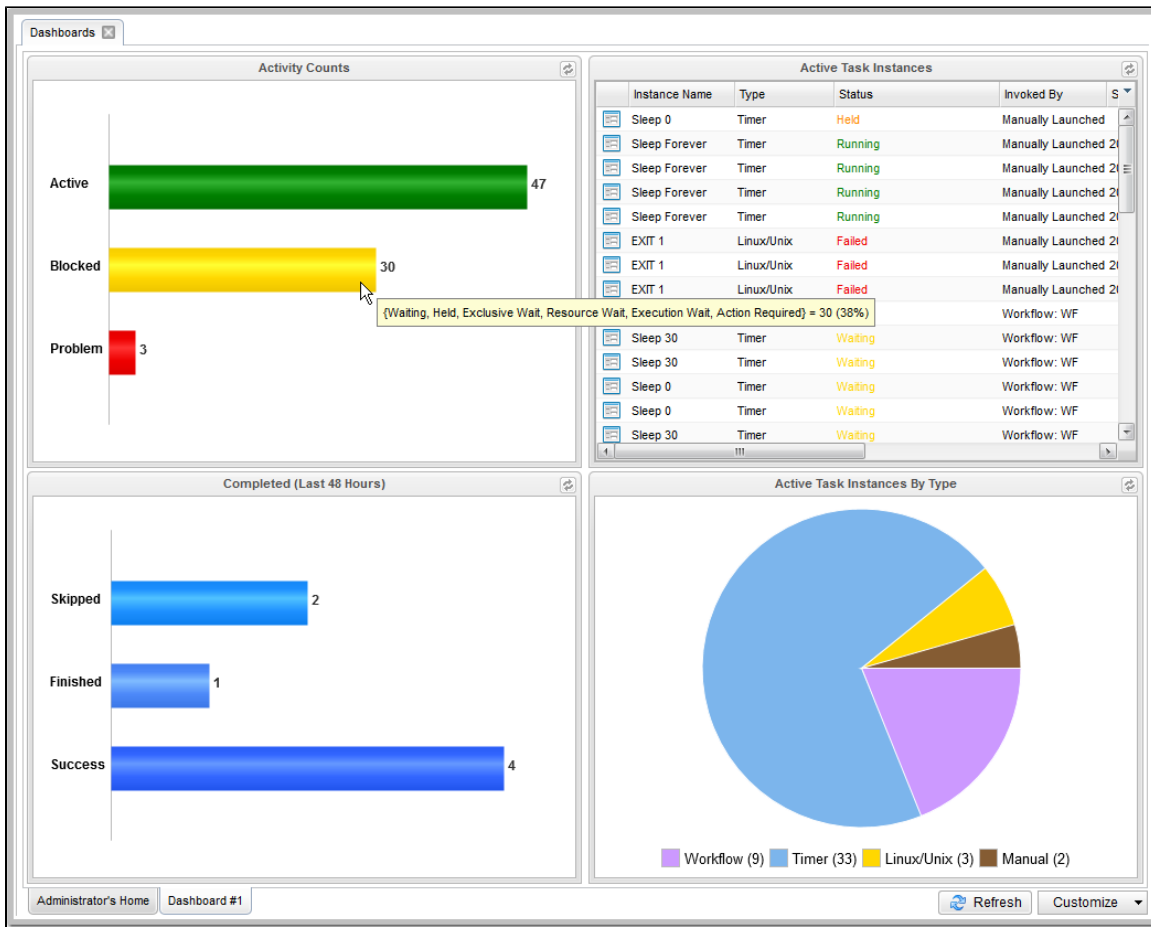
For example:



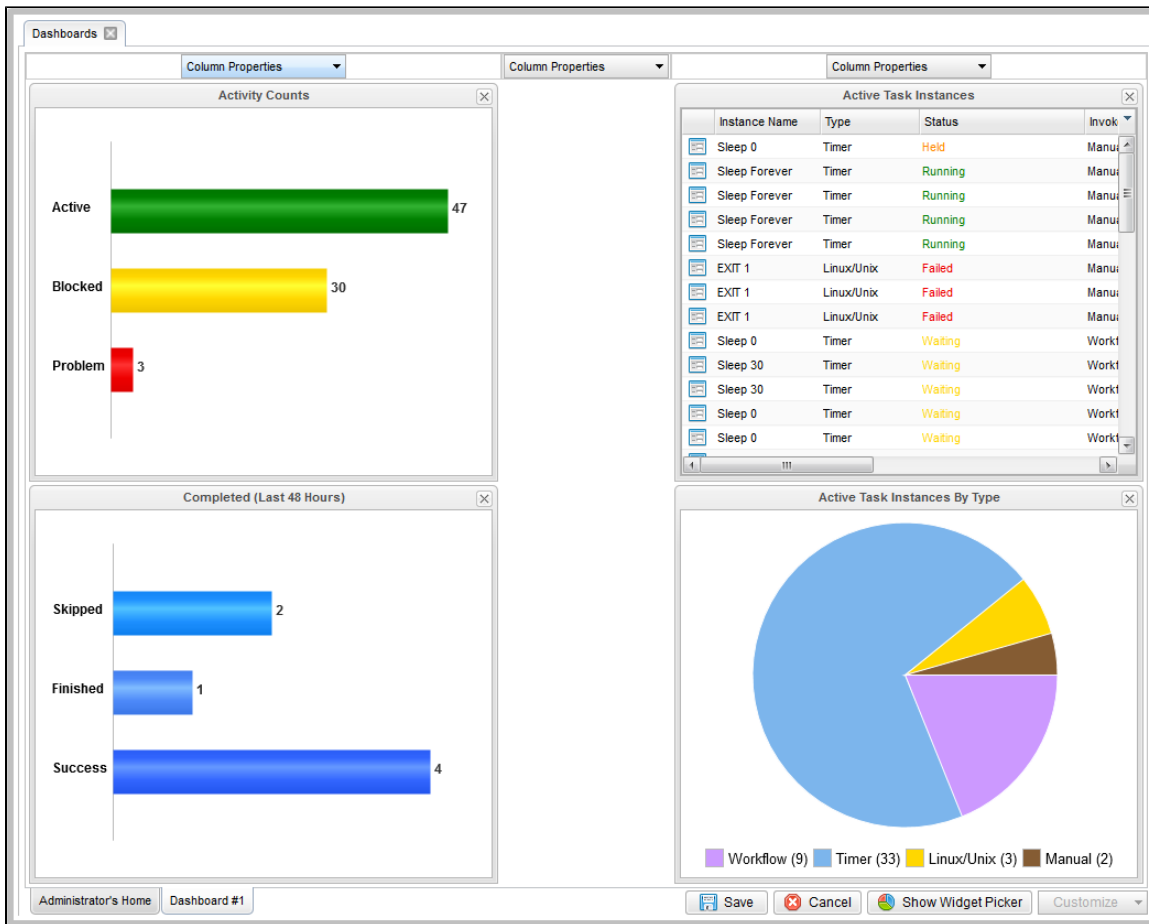
**Step 5** To display a call-out of current data for any section of a Widget, hover your cursor over that section. The call-out identifies:

- Data type represented by that section of the Widget
- Number of that data type in that section
- Percent of that data type in that section (in comparison to all sections)

For **Composite Widgets**, the call-out identifies the statuses included in each of its Activity Widgets.



**Step 6** If you want to arrange your Widgets into more columns, click the **Column Properties** drop-down list above any column and then click **Add Column**.



After you have dropped a Widget into a column, you can drag and drop it to another location in the column or to another column.

You also can drag and drop each column into a new location by clicking the column header.

**Step 7** If you decide that you do not want a selected Widget in the Dashboard, click the **x** icon in the top right corner of the Widget to remove it.

**Step 8** If you want to add some space between Widgets in a column, drag and drop the **Spacer** Widget from the list.

**Step 9** Click the **Save** button to save the Dashboard and display it on the Dashboards page.

## Editing a Dashboard

To edit a Dashboard:

- Step 1** From the Reporting navigation pane, select **Dashboards**. The Dashboards page displays.
- Step 2** At the bottom of the page, click the tab for the Dashboard that you want to edit. That Dashboard then displays.
- Step 3** From the **Customize** drop-down list in the bottom right corner of the page, click **Edit**. The **Column Properties** header displays above each column of Widgets.  
  
To display the **Widget Picker** list of Widgets that you can add to the Dashboard, click the **Show Widget Picker** button at the bottom of the page.
- Step 4** Add, relocate, or remove any columns and/or Widgets from the dashboard (see [Creating a Dashboard](#) for details.)  
  
If you remove a column from a Dashboard, all Widgets in that column also are removed; they are not relocated to another column.



<b>Step 5</b>	Click the <b>Save</b> button.
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## Copying a Dashboard

To copy a Dashboard and automatically create a tab for that Dashboard in Dashboard:

<b>Step 1</b>	Display the Dashboard that you want to copy.
<b>Step 2</b>	From the <b>Customize</b> drop-down list at the bottom right corner of the Dashboard, click <b>Copy</b> .
<b>Step 3</b>	On the <b>Copy Dashboard</b> pop-up dialog that displays, enter a name for the copy of the Dashboard and click <b>OK</b> . The new Dashboard displays, and a tab for that new Dashboard displays at the bottom of the page.

## Deleting a Dashboard

To delete a Dashboard:

<b>Step 1</b>	Display the Dashboard that you want to delete.
<b>Step 2</b>	From the <b>Customize</b> drop-down list at the bottom right corner of the Dashboard, click <b>Delete</b> .
<b>Step 3</b>	On the confirmation pop-up that displays, click <b>Yes</b> . The Dashboard is deleted.

## Setting a Default Dashboard

By default, the Home dashboard displays when you log in, click the Home icon, or open Dashboards via the **Reporting** navigation pane.

You can set a different dashboard to display by default when Dashboards is opened via the **Reporting** navigation pane.

Additionally, you can select this default dashboard to display when you log in or click the Home icon (see the [Use Default Dashboard For Home](#) user preference).

To set a Dashboard other than the Home dashboard as the default Dashboard:

<b>Step 1</b>	Display the Dashboard that you want to set as the default.
<b>Step 2</b>	From the <b>Customize</b> drop-down list at the bottom right corner of the Dashboard, click <b>Set As Default</b> .

## Refreshing Dashboard Data

### Automatic Refresh

All Widget records specify a refresh rate for when the dynamic data in the Widget is automatically refreshed.



#### Note

You also can set up an automatic refresh of all Widgets in a Dashboard when the Dashboard is re-focused (that is, the user tabs back to the Dashboard) via the [Dashboard Force Refresh On Focus](#) and [Dashboard Force Refresh On Focus Threshold](#) user preferences.

### Manual Refresh

You can manually refresh Widget data either of two ways:

- To manually refresh the data on all Widgets in a Dashboard, click the Refresh button in the bottom right corner of the Dashboard.
- To manually refresh the data for a single Widget, click the Refresh icon in the top right corner of the Widget.

## Closing the Dashboards

You can close the Dashboards at any time by clicking the **x** icon on the Dashboards tab.

To re-open the Dashboards, you can either:

- Click the [Home icon](#) at the top of any page to display your Home dashboard.
- Click **Dashboards** in the Reporting navigation pane to display your [default Dashboard](#).

## Reports

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## Overview

Reports are based on the [Reportable tables](#) in the Universal Controller database.

To create a report, you create a Report Details record and select a single Reportable table containing the data that you want to include in the report output. You can create a report as a list of table records or as a graphic.

To generate report output, you run the report either:

- Manually
- Automatically, as a [Widget](#) on any [Dashboard](#). (If you delete a report from which a Widget was created, the Widget will no longer function.)
- On [schedule](#), by attaching the report to an [Email Task](#) or [Email Notification action](#) for any task type, and then defining a trigger for that task. When the task is triggered, the report is run.



### Note

Some reports require specific [roles](#); [Reportable Tables](#) identifies these tables.

## Creating a Report

**Step 1** From the **Reporting** navigation pane, select **Reports**. The Reports list displays a list of all existing reports.

Below the list, Report Details for a new Report displays. (You also can click the **New** button to display Report Details for a new Report.)

The screenshot shows the Reporting interface. At the top, there are tabs for 'Dashboards' and 'Reports'. Below the tabs, there is a list of reports with columns: Title, Type, Table Title, Table, Visible To, Updated By, and Updated. The list contains five reports, all created by 'ops.admin' on '2014-08-21'. Below the list, there is a 'Report Details' section with a 'Save' button and a 'New' button. The 'Report Details' section has a 'Report' tab and a 'General' section with fields for Title, Description, Type (set to 'List'), and Table (set to 'Choose a value'). There is also a 'Visible To' dropdown set to 'Me'. Below the 'General' section, there is a 'List Fields and Ordering' section with two tables: 'Field(s)' and 'Sort By', both currently empty.

Title	Type	Table Title	Table	Visible To	Updated By	Updated
stonebranch-report-01	List	Task Instances	ops_exec	Me	ops.admin	2014-08-21 09:49:48 -0400
stonebranch-report-02	Pie Chart	Agent Clusters	ops_agent_cluster	Me	ops.admin	2014-08-21 09:52:05 -0400
stonebranch-report-03	List	Agents	ops_agent	Me	ops.admin	2014-08-21 09:53:34 -0400
stonebranch-report-04	List	Application Control Tasks	ops_task_application_control	Me	ops.admin	2014-08-21 09:54:04 -0400
stonebranch-report-05	Bar Chart/Horizontal Users		ops_user	Me	ops.admin	2014-08-21 09:54:45 -0400

**Step 2** Enter/select Details for a new Report, using the field descriptions below as a guide.

- Required fields display in **boldface**.
- Default values for fields, if available, display automatically.

To display more of the Details fields on the screen, you can temporarily [hide the list](#).



**Note**

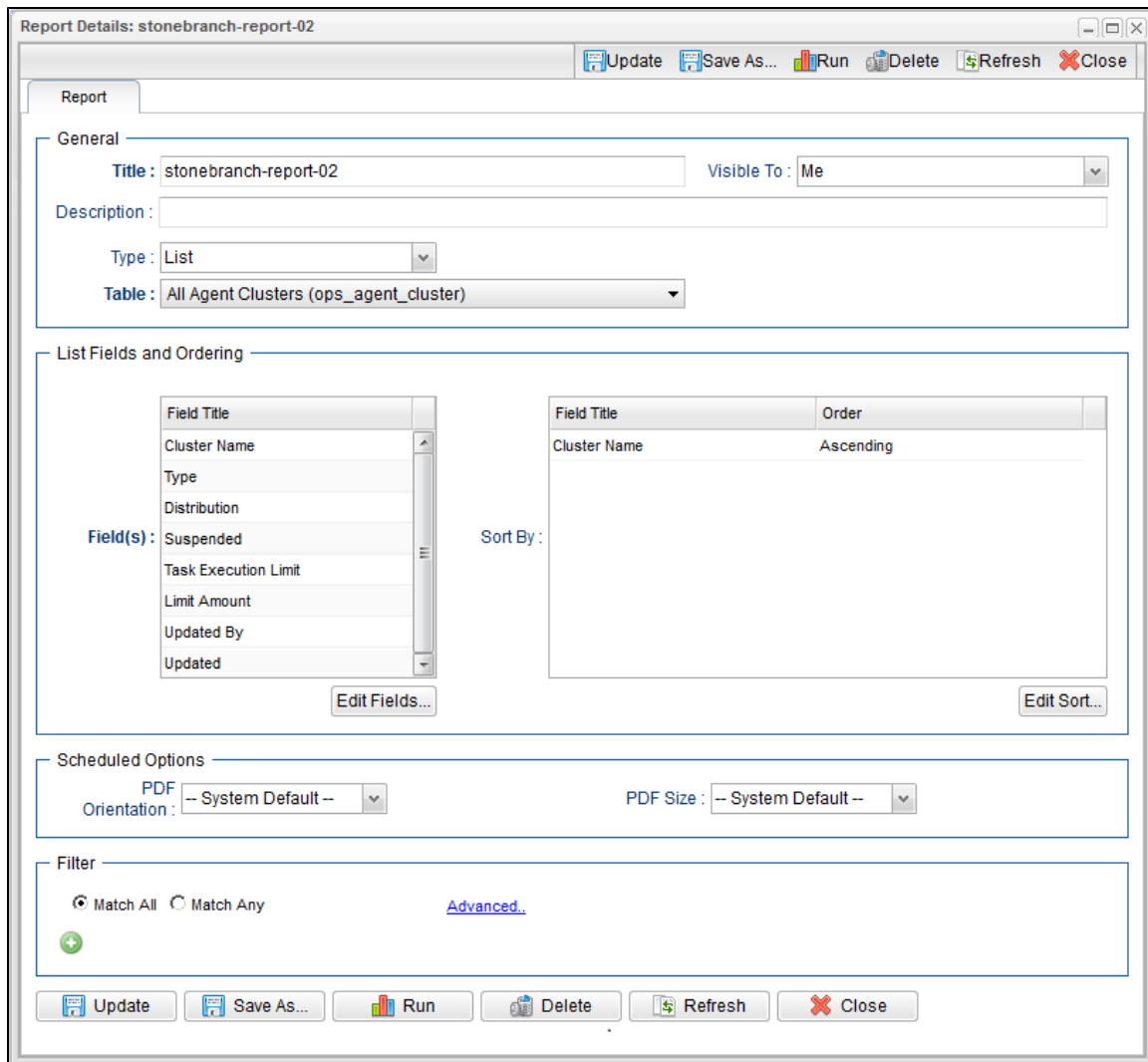
If you view [Report Details](#) for an existing Report by clicking a Report in the list, and then want to create a new Report, you must click the **New** button that displays above and below the Details.

**Step 3** Click the **Save** button. The Report is added to the database, and all buttons and tabs in the Report Details are enabled.

## Report Details

The following Report Details is for an existing Report.

Depending on the values that you enter / select for these fields, more (or less) fields may display. See the [field descriptions](#), below, for a description of all fields that may display in the Report Details.



For information on how to access additional details - such as [Metadata](#) and complete [database Details](#) - for Reports (or any type of record), see [Records](#).

## Report Details Field Descriptions

The following table describes the fields and buttons that display in the Report Details.

Field Name	Description
<b>General</b>	This section contains general information about the Report.
Title	<p>Title (name) of the Report.</p> <p>Report titles must be unique per visibility (see <a href="#">Visible To</a> field, below):</p> <ul style="list-style-type: none"> <li>Any Report that you make visible to <b>Me</b> (the logged in user) must have a unique Title among all Reports visible to <b>Me</b>.</li> <li>Any Report that you make visible to <b>Everyone</b> (all users) must have a unique Title among all Reports visible to <b>Everyone</b>.</li> <li>Any Report that you make visible to a <b>Group</b> must have a unique Title among all Reports visible to that <b>Group</b>.</li> </ul> <p>Reports visible to <b>Me</b>, <b>Everyone</b>, and any <b>Group</b> can have the same title. For example, there can be multiple Reports titled <b>Report #1</b> as long as only one is visible to <b>Me</b>, one is visible to <b>Everyone</b>, and one is visible to any specific <b>Group</b>.</p>
Description	Description for this report.

Type	Type of Report (see <a href="#">Report Output</a> ).  Options: <ul style="list-style-type: none"> <li>List</li> <li>Bar Chart/Horizontal</li> <li>Bar Chart/Vertical</li> <li>Pie Chart</li> </ul>
Table	Universal Controller <a href="#">Reportable table</a> in the Controller database on which the Report is based.
Visible To	Users that will be able to view this report.  Options: <ul style="list-style-type: none"> <li>Me User creating this Report.</li> <li>Everyone Any logged in user.</li> <li>&lt;group name&gt; Any user in the specified group, selected from a list of groups that the user creating this Report is a member of.</li> </ul>
<b>List Fields and Ordering</b>	For List reports; this section allows you to select and arrange fields for the report based on the selected Universal Controller table.
Field(s)	Fields in the selected Universal Controller table that you want displayed on the report.
Sort By:	Specifications for how you want fields in the Report to be sorted (see <a href="#">Sorting</a> ).
<b>Chart Options</b>	For Chart reports; this section allows you design the chart for the report based on the selected Universal Controller table.
Chart Size	Size of the displayed report.  Options: <ul style="list-style-type: none"> <li>Small</li> <li>Medium</li> <li>Large</li> <li>100% (full screen)</li> </ul>
Group By	Field in the selected Universal Controller table by which you want to group the fields in the report.
Group Threshold	Maximum number of groups to display on the chart, specified by the <a href="#">System Default Report Group Threshold</a> Universal Controller system property. All groups above the threshold will be displayed in one group named <b>Other</b> .
Group Order	Sequence of the groups shown in the key below the chart graphic.  Options: <ul style="list-style-type: none"> <li>Label Ascending alphanumeric order by Label (for example, Name)</li> <li>Label/Descending Descending alphanumeric order by Label (for example, Name)</li> <li>Count Ascending alphanumeric order by number of records in the group</li> <li>Count/Descending Descending alphanumeric order by number of records in the group</li> </ul>
Stack By	For Bar Charts; Field in the selected Universal Controller table by which you want to sort records within each <a href="#">Group</a> .
Sum Field	For Bar Charts; Sum of the integers in the field in the selected Universal Controller table by which you want to group the fields in the report.
Bar Thickness	For Bar Charts; Thickness of the bars on the chart.
<b>Scheduled Options</b>	This section allows you to override the values of <a href="#">Universal Controller System Properties</a> for scheduled reports.

PDF Orientation	If <b>Type</b> is List; Orientation of the scheduled report PDF. Options: <ul style="list-style-type: none"> <li>• - - System Default - - (value of <a href="#">Scheduled Report PDF Orientation</a> system property)</li> <li>• Portrait</li> <li>• Landscape</li> </ul>
PDF Size	If <b>Type</b> is List; Size of the scheduled report PDF. Options: <ul style="list-style-type: none"> <li>• - - System Default - - (value of <a href="#">Scheduled Report PDF Size</a> system property)</li> <li>• Letter</li> <li>• Legal</li> <li>• A4</li> </ul>
Image Width	If <b>Type</b> is Bar Chart/Horizontal, Bar Chart/Vertical, Pie Chart; Width (in pixels) of the scheduled chart report (overrides <a href="#">Scheduled Report Image Width</a> system property).
Image Height	If <b>Type</b> is Bar Chart/Horizontal, Bar Chart/Vertical, Pie Chart; Height (in pixels) of the scheduled chart report (overrides <a href="#">Scheduled Report Image Height</a> system property).
<b>Filter</b>	This section allows you filter entries displayed in the Report (see <a href="#">Filtering</a> ).
<b>Buttons</b>	This section identifies the buttons displayed above and below the Report Details that let you perform various actions.
<b>Save button</b>	Saves a new Report record in the Controller database.
<b>New</b>	Displays empty (except for default values) Details for creating a new Report.
<b>Save As...</b>	Saves the Report under a different Title and/or as being <a href="#">visible to</a> different users.
<b>Update</b>	Saves updates to the record.
<b>Run</b>	Generates the report and displays it on a new tab. (Clicking <b>Run</b> does not save any new data entered for the report.)
<b>Delete</b>	Deletes the current record.
<b>Refresh</b>	Refreshes any dynamic data displayed in the Details.

## Report Output

Report output can be created in either of four types, as specified by the **Type** field in the Report Details:

- List
- Pie Chart
- Bar Chart/Horizontal
- Bar Chart/Vertical

The following sample report outputs for each type were created from the same Universal Controller [Reportable Database table](#): All tasks (ops\_task).

### List Report Output

List reports are output under a new tab.

By default, entries in List reports are not sorted; you must specify a sort method in the [Sort By](#) field in the Report Details.

### Chart Report Output

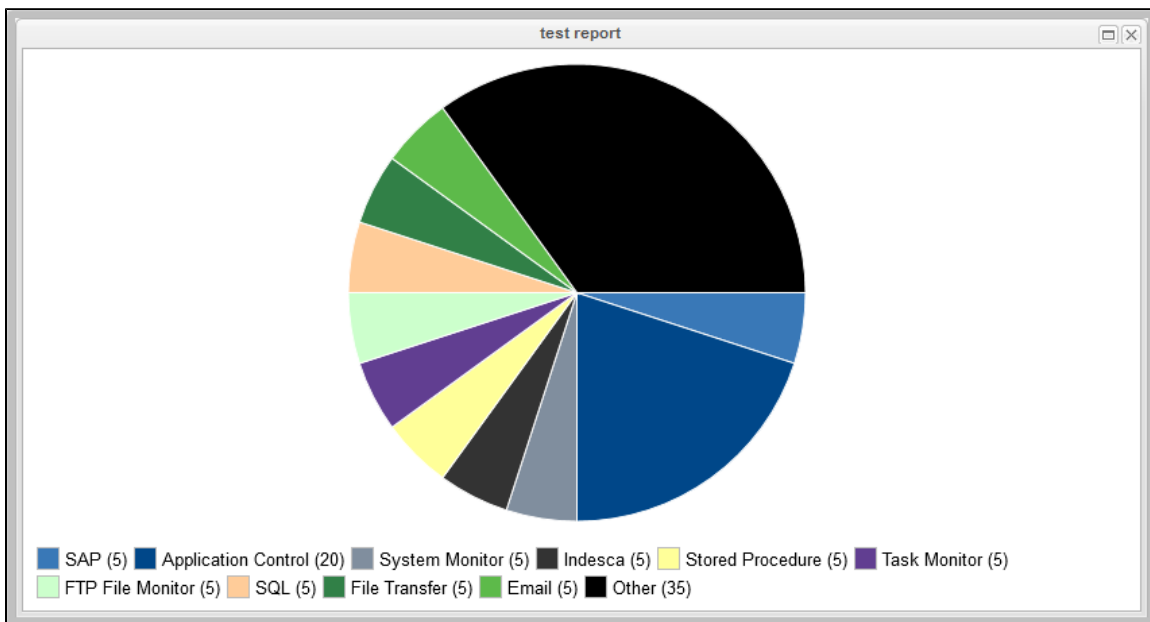
Chart reports are output as pop-up graphics.

Chart reports entries are grouped by **Type**. You can see what percent of report entries are in each type by hovering your cursor over the graphic for that type.

## List Report

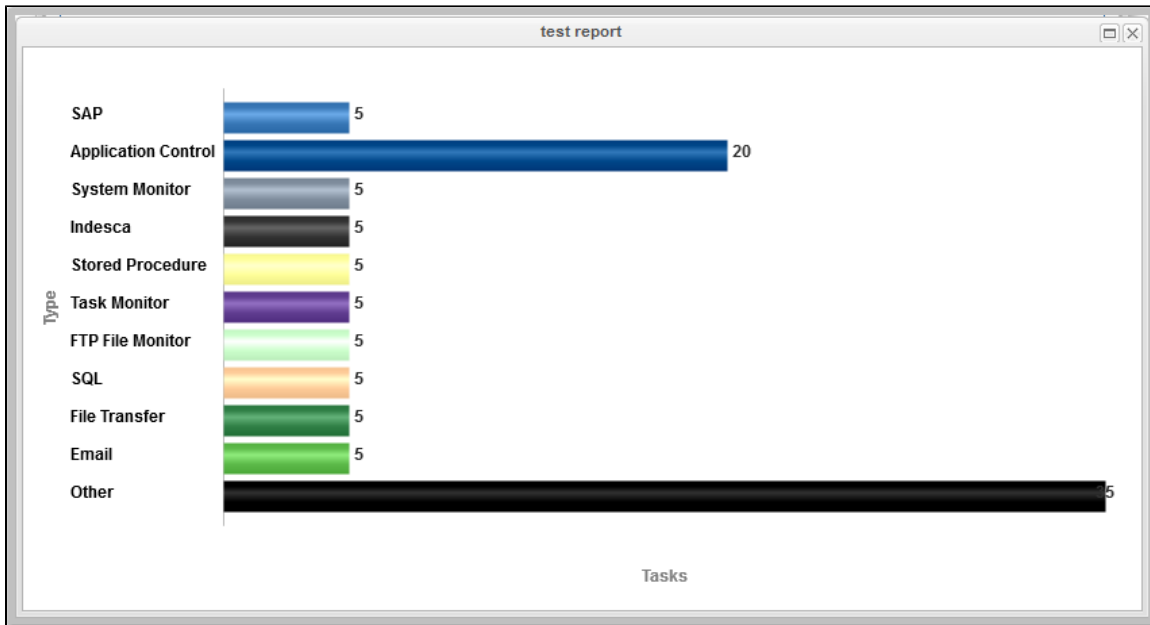
Type	Task Name	Task Description	Updated By	Updated
Application Control	stonebranch-application-01 #QUERY#		ops.admin	2014-06-13 15:36:36 -0400
Application Control	stonebranch-application-01 #START#		ops.admin	2014-06-13 15:36:36 -0400
Application Control	stonebranch-application-01 #STOP#		ops.admin	2014-06-13 15:36:36 -0400
Application Control	stonebranch-application-02 #QUERY#		ops.admin	2014-06-13 15:36:42 -0400
Application Control	stonebranch-application-02 #START#		ops.admin	2014-06-13 15:36:42 -0400
Application Control	stonebranch-application-02 #STOP#		ops.admin	2014-06-13 15:36:42 -0400
Application Control	stonebranch-application-03 #QUERY#		ops.admin	2014-06-13 15:36:46 -0400
Application Control	stonebranch-application-03 #START#		ops.admin	2014-06-13 15:36:46 -0400
Application Control	stonebranch-application-03 #STOP#		ops.admin	2014-06-13 15:36:46 -0400
Application Control	stonebranch-application-04 #QUERY#		ops.admin	2014-06-13 15:36:51 -0400
Application Control	stonebranch-application-04 #START#		ops.admin	2014-06-13 15:36:51 -0400
Application Control	stonebranch-application-04 #STOP#		ops.admin	2014-06-13 15:36:51 -0400
Application Control	stonebranch-application-05 #QUERY#		ops.admin	2014-06-13 15:36:55 -0400
Application Control	stonebranch-application-05 #START#		ops.admin	2014-06-13 15:36:55 -0400
Application Control	stonebranch-application-05 #STOP#		ops.admin	2014-06-13 15:36:55 -0400
Application Control	stonebranch-applicationcontrolltask-01		ops.admin	2014-06-13 14:23:55 -0400
Application Control	stonebranch-applicationcontrolltask-02		ops.admin	2014-06-13 14:24:02 -0400
Application Control	stonebranch-applicationcontrolltask-03		ops.admin	2014-06-13 14:24:07 -0400
Application Control	stonebranch-applicationcontrolltask-04		ops.admin	2014-06-13 14:24:11 -0400
Application Control	stonebranch-applicationcontrolltask-05		ops.admin	2014-06-13 14:24:16 -0400
Email	stonebranch-emailltask-01	Send Email When File Appears	ops.admin	2014-07-25 16:34:22 -0400
Email	stonebranch-emailltask-02	Send an email addressed to a non-existent user on server	keith.miller	2014-07-31 11:33:41 -0400
Email	stonebranch-emailltask-03		ops.admin	2014-06-13 14:17:24 -0400
Email	stonebranch-emailltask-04		ops.admin	2014-06-13 14:17:27 -0400
Email	stonebranch-emailltask-05		keith.miller	2014-07-31 13:12:24 -0400
File Monitor	stonebranch-filemonitor-01		ops.admin	2014-06-30 11:36:05 -0400
File Monitor	stonebranch-filemonitor-02		ops.admin	2014-06-13 14:20:04 -0400
File Monitor	stonebranch-filemonitor-03		ops.admin	2014-06-13 14:20:09 -0400
File Monitor	stonebranch-filemonitor-04		ops.admin	2014-06-13 14:20:13 -0400
File Monitor	stonebranch-filemonitor-05		ops.admin	2014-06-13 14:20:18 -0400
File Transfer	stonebranch-filetransfertask-01		ops.admin	2014-06-13 14:09:39 -0400
File Transfer	stonebranch-filetransfertask-02		ops.admin	2014-06-26 16:31:16 -0400
File Transfer	stonebranch-filetransfertask-03		ops.admin	2014-06-13 14:10:03 -0400
File Transfer	stonebranch-filetransfertask-04		ops.admin	2014-06-13 14:10:09 -0400

## Pie Chart Report

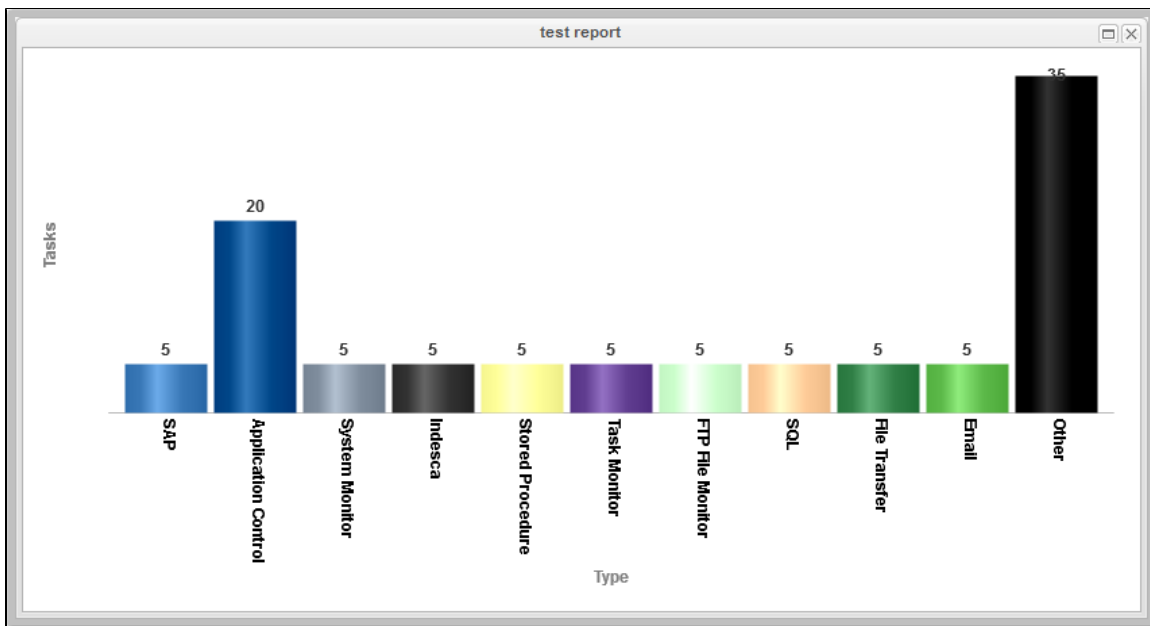




## Bar Chart/Horizontal Report



## Bar Chart/Vertical Report



## Built-In Reports

The Controller provides a series of built-in reports that are base on various [Reportable Tables](#).

Title	Type	Table Title	Table	Visible To	Updated By	Updated
UAC - Activity Active Task Instance Operational Memo	List	Task Instances	ops_exec	Everyone	ops.system	2015-12-14 10:07:09 -0500
UAC - Activity Monthly Completed Task Counts	Bar Chart/Horizontal	Task Instances	ops_exec	Everyone	ops.system	2016-01-06 09:03:13 -0500
UAC - Activity Task Instance Problems/Action Chart	Bar Chart/Horizontal	Task Instances	ops_exec	Everyone	ops.system	2015-12-14 10:04:03 -0500
UAC - Activity Task Instances Late/Problems	List	Task Instances	ops_exec	Everyone	ops.system	2015-12-14 11:10:11 -0500
UAC - Activity Today's Task Instance By Business Service Status	Bar Chart/Horizontal	Task Instances	ops_exec	Everyone	ops.system	2015-12-14 09:59:46 -0500
UAC - Activity Today's Workflow Instance By Business Service Status	Bar Chart/Horizontal	Task Instances	ops_exec	Everyone	ops.system	2015-12-14 09:59:35 -0500
UAC - Agent Task Execution Limit vs Task Execution Count	List	Agents	ops_agent	Everyone	ops.system	2015-12-14 10:16:05 -0500
UAC - Application Status	Pie Chart	Applications	ops_application	Everyone	ops.system	2015-12-14 10:11:56 -0500
UAC - Audit Change Summary	List	Audits	ops_audit	Everyone	ops.system	2015-12-14 10:52:28 -0500
UAC - Audit Command Summary	List	Audits	ops_audit	Everyone	ops.system	2015-12-14 10:51:51 -0500
UAC - Audit Failed Logins	List	Audits	ops_audit	Everyone	ops.system	2015-12-14 10:43:01 -0500
UAC - Audit Number Of Commands By User	Bar Chart/Horizontal	Audits	ops_audit	Everyone	ops.system	2015-12-14 11:42:49 -0500
UAC - Composite Trigger Components	List	Components	ops_trigger_component	Everyone	ops.system	2015-12-14 11:21:40 -0500
UAC - Critical Task Instance Problems	List	Task Instances	ops_exec	Everyone	ops.system	2015-12-14 09:00:30 -0500
UAC - Critical Task Instance Status	Bar Chart/Horizontal	Task Instances	ops_exec	Everyone	ops.system	2015-12-14 08:51:33 -0500
UAC - Critical Task Instances Late	List	Task Instances	ops_exec	Everyone	ops.system	2015-12-14 08:57:31 -0500
UAC - Critical Workflow Instance Projected End Times	List	Workflow Task Instances	ops_exec_workflow	Everyone	ops.system	2015-12-14 06:42:44 -0500
UAC - Critical Workflow Instance Status	Bar Chart/Horizontal	Workflow Task Instances	ops_exec_workflow	Everyone	ops.system	2015-12-14 08:52:17 -0500
UAC - File Monitor Trigger Status	List	File Monitor Triggers	ops_trigger_fm	Everyone	ops.system	2015-12-14 10:10:18 -0500
UAC - History Weekly Status Summary	Bar Chart/Vertical	History	ops_history	Everyone	ops.system	2015-12-14 10:34:38 -0500
UAC - SLA Today's Late Finish Task Instances By Status	Bar Chart/Horizontal	Task Instances	ops_exec	Everyone	ops.system	2015-12-14 10:30:03 -0500
UAC - SLA Today's Late Finish Task Instances vs Scheduled	Bar Chart/Horizontal	Task Instances	ops_exec	Everyone	ops.system	2015-12-14 10:29:47 -0500
UAC - SLA Today's Late Start Task Instances By Status	Bar Chart/Horizontal	Task Instances	ops_exec	Everyone	ops.system	2015-12-14 10:30:15 -0500
UAC - SLA Today's Late Task Instances	List	Task Instances	ops_exec	Everyone	ops.system	2015-12-14 10:30:34 -0500
UAC - Task List Credential By Task	List	Tasks	ops_task	Everyone	ops.system	2015-12-14 11:46:25 -0500
UAC - Virtual Resource Outstanding Requests	List	Outstanding Requests	ops_resource_order	Everyone	ops.system	2015-12-14 11:28:11 -0500
UAC - Workflow List Of Tasks By Workflow	List	Workflow Task Vertices	ops_task_workflow_vertex	Everyone	ops.system	2015-12-14 11:34:06 -0500

The title of each built-in report is preceded by **UAC -**.

Built-in reports are not editable, but you can use **Save As** to create a renamed copy of a built-in report, and then edit that report.

## Exporting and Importing Reports

If you want to maintain the same reports across several environments (for example: Development, Staging, and Production), you can **export** Reports from any Controller cluster node and **import** those same Reports into any Controller cluster node.

Since every Report is **visible to** a specific user, a specific group, or Everyone (all users and groups), make sure that for every Report being exported which is visible to a specific user or group, that same user or group also exists on the cluster node(s) to which the Report will be imported.

### Exporting Reports

From the Reports list, you can export one Report, multiple Reports, or all Reports. To select specific Reports to be exported, apply a **filter** prior to exporting.

Each report is exported as an individual XML file to the cluster node location specified in the **Export Path** Universal Controller system property.



**Note**

You cannot select Reports on a list to indicate which are to be exported; you must filter the list.

To run the export:

<b>Step 1</b>	Display the Reports list.
<b>Step 2</b>	If you do not want to export all Reports, apply a <b>filter</b> .
<b>Step 3</b>	Right-click in any column header of the list to display an <b>Action</b> menu.
<b>Step 4</b>	Select <b>Export &gt; XML</b> .
<b>Step 5</b>	When the export is complete, an <b>Exported</b> message displays above the list, indicating that the export is complete.

## Importing Reports

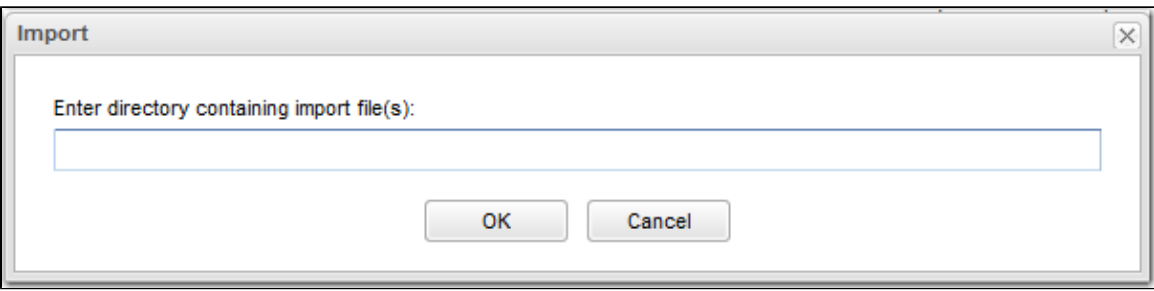
You can import Reports, using the XML files created via a Reports list [export](#), by using the [Import](#) action that is available from the Reports list (and from any list where the record type can be imported).



### Note

Reports from Controller 5.x and earlier are not supported in Controller 6.x.

To run the import:

<b>Step 1</b>	Display the Reports list.
<b>Step 2</b>	Right-click in any column header of the list to display an <a href="#">Action</a> menu.
<b>Step 3</b>	Select <b>Import</b> . An <b>Import</b> pop-up displays.
	
<b>Step 4</b>	Enter the directory containing the Report XML file(s) to be imported and click <b>OK</b> .
<b>Step 5</b>	Refresh the Reports list to view the imported reports.

The import performs a pre-validation on the XML files; if any files are found to be invalid, a warning displays on the Universal Automation Center [Console](#) and the import operation is aborted. Any invalid XML files should be fixed or removed from that location.

## Scheduling a Report

To schedule a Report:

1. Select a Report or Report Variable in an [Email Task](#) or an [Email Notification action](#) for any task type.
2. Select a method of running the task.

When the task is run and the task instance has been created, an email is sent with the Report output attached.

## Report Specifications

The Controller provides [system properties](#) that let you specify the layout and content of schedule reports.

You can override some of these system properties in the [Scheduled Options](#) section of the [Report Details](#).

## Methods

To run a task that generates an email with an attached report, you can:

- Create a stand-alone trigger that will send the email according to a schedule defined in the trigger.
- Create an Email Task / Email Notification within a workflow that will send the email based on some dependencies in that workflow.
- Create an Email Notification for a task that will send the email based on [events](#) associated with the task instance.

You also can trigger or launch, on demand, an [Email Task](#) (or any Task with an [Email Notification](#)) to generate an email with an attached report.

## Security

All scheduled Reports run under the security context of the task instance [Execution User](#).

An [Email Task](#) Instance that attempts to run a report that the Execution User does not have permission to view will terminate with a [Start Failure](#) status and the following status description:

```
Report with name <report-name> and id <report-id> not visible to execution user <execution-user>.
```

An [Email Notification](#) task instance that attempts to run a report that the Execution User does not have permission to view will include the following statement in the body of the email:

```
Report with name <report-name> and id <report-id> not visible to execution user <execution-user>.
```

## Bundling and Promotion

Universal Controller does not support the bundling and promotion of reports. Any report required by a promoted task must already be available on the target system.

For details on how the Controller resolves tasks that include scheduled Reports, see [Preparing Bundles for Promotion / Reports](#).

## List Import / Export

Since an Email Task or Email Notification Task can include a report, these reports must be included as output in a [List Export](#) if the export is following references: [XML \(Export References\)](#).

When records are being imported by a [List Import](#), the import queries the database for a record with the same (unique) display name to allow for performing UUID mapping where necessary. However, Reports are not unique by display name ([Title](#)), so the import must use both the Title and visibility information to perform such a query to facilitate UUID mapping when necessary. If a report with the same UUID already exists in the database, or a report by the same Title/visibility does not exist in the database, then no such UUID mapping will be performed.

## Reportable Tables

The following table provides the name, table ID, and description of the [Universal Controller database tables](#) that are available for creating reports.


 **Note**  
Any user can create reports based on any of these tables. However, some reports - as identified below - can be run only if the user has been assigned a specific [role](#).

Table	Table Name	Category	Description
Abort Actions	ops_abort_action	Actions	Contains details about <a href="#">Abort actions</a> .
All Actions	ops_notification	Actions	Contains details about all task actions: <a href="#">Abort Action</a> , <a href="#">Email Notifications</a> , <a href="#">Set Variable</a> , <a href="#">SNMP Notification</a> , and <a href="#">System Operation</a> .
All Agent Clusters	ops_agent_cluster	Agent Clusters	Contains details about <a href="#">Agent Clusters</a> .
All Agents	ops_agent	Agents	Displays a list of <a href="#">Agents</a> .
All Components	ops_trigger_component	Triggers	Contains details about all <a href="#">Composite trigger</a> components.
All Step Actions	ops_zos_step_action	Step Actions	Contains details about z/OS <a href="#">step actions</a> .
<a href="#">All Task Instances</a>	ops_exec	All Task Instances	<a href="#">Task instance activity</a> (running tasks).

All Tasks	ops_task	Tasks	Contains details about <a href="#">tasks</a> of every type, along with associated Task Instance information.
All Triggers	ops_trigger	All Triggers	Contains details about <a href="#">triggers</a> of every type.
Application Control Tasks	ops_task_application_control	Tasks	Contains details about <a href="#">Application Control</a> tasks.
Application Control Task Instances	ops_exec_application_control	All Task Instances	Contains details about <a href="#">Application Control task instances</a> .
Application Monitor Triggers	ops_trigger_appl_monitor	All Triggers	Contains details about <a href="#">Application Monitor triggers</a> .
Applications	ops_application		Shows a list of <a href="#">Application</a> resources.
Audits	ops_audit	Security	Contains details of events being written to the <a href="#">Audit history</a> . (Requires <code>ops_admin</code> role to run this report.)
Business Services	ops_generic_group	Security	Contains details about <a href="#">Business Services</a> .
Calendar Custom Days	ops_cal_cust_join	Calendars	Contains details about which <a href="#">Custom Days</a> are associated with which <a href="#">Calendar records</a> .
Calendars	ops_calendar	Calendars	Contains details about <a href="#">Calendar records</a> .
Cluster Nodes	ops_cluster_node		Provides details about <a href="#">cluster nodes</a> .
Composite Triggers	ops_trigger_composite	Triggers	Contains details about <a href="#">Composite trigger records</a> .
Credentials	ops_credentials		<a href="#">Login credentials</a> used by the Controller to access remote machines.
Cron Triggers	ops_trigger_cron	All Triggers	Contains details about <a href="#">Cron trigger records</a> .
Currently In Use By	ops_resource_usage	Virtual Resources	Contains details about <a href="#">Virtual resource usage</a> , as displayed in the <a href="#">Currently In Use By</a> tab.
Custom Days	ops_custom_day	Calendars	Contains details about defined <a href="#">Custom Days</a> .
Database Connections	ops_database_connection	Connections	Contains details about <a href="#">Database Connections</a> defined in the Controller database.
Email Connections	ops_email_connection	Connections	Contains details about <a href="#">Email Connections</a> resources.
Email Notifications	ops_email_notification	Actions	Contains details about <a href="#">Email Notifications</a> associated with <a href="#">tasks</a> .
Email Task Instances	ops_exec_email	All Task Instances	Contains details about <a href="#">Email task instances</a> .
Email Tasks	ops_task_email	Tasks	Contains details about <a href="#">Email tasks</a> .
Email Templates	ops_email_template		Contains details about <a href="#">Email templates</a> .
Exclusive Requests	ops_exclusive_order	Mutually Exclusive	Contains any requests to run exclusively by a task instance.
File Monitor Components	ops_trigger_component_fm	Triggers	Contains details about <a href="#">File Monitor components</a> of Composite Triggers.
File Monitor Instances	ops_exec_file_monitor	All Task Instances	Contains details about <a href="#">File Monitor task instances</a> .
File Monitor Triggers	ops_trigger_fm	All Triggers	Contains details about <a href="#">File Monitor triggers</a> .
File Monitors	ops_task_file_monitor	Tasks	Contains details about <a href="#">File Monitor tasks</a> .

File Transfer Task Instances	ops_exec_ftp	All Task Instances	Contains details about <a href="#">File Transfer task instances</a> .
File Transfer Tasks	ops_task_ftp	Tasks	Contains details about <a href="#">File Transfer tasks</a> .
Forecasts	ops_trigger_forecast		Contains details about <a href="#">trigger forecasts</a> .
FTP File Monitor Instances	ops_exec_ftp_file_monitor	All Task Instances	Contains details about <a href="#">FTP File Monitor task instances</a> .
FTP File Monitors	ops_task_ftp_file_monitor	Tasks	Contains details about <a href="#">FTP File Monitor tasks</a> .
Group Members	ops_user_grmember	Security	Contains relationship information between Universal Controller <a href="#">User Groups</a> and <a href="#">Users</a> ; that is, which <a href="#">Users</a> belong to which <a href="#">Groups</a> . (Requires <a href="#">ops_admin</a> or <a href="#">ops_user_admin</a> role to run this report.)
Group Roles	ops_group_has_role	Security	Contains relationship information between Universal Controller <a href="#">User Groups</a> and <a href="#">Roles</a> ; that is, which <a href="#">Groups</a> have been assigned which <a href="#">Roles</a> . (Requires <a href="#">ops_admin</a> or <a href="#">ops_user_admin</a> role to run this report.)
Groups	ops_user_group	Security	Contains details about Universal Controller <a href="#">User Groups</a> . (Requires <a href="#">ops_admin</a> or <a href="#">ops_user_admin</a> role to run this report.)
History	ops_history		Contains a <a href="#">history of task activity</a> .
Linux/Unix Agent Clusters	ops_unix_agent_cluster	Agent Clusters	Contains details about <a href="#">Linux/Unix agent clusters</a> .
Linux/Unix Agents	ops_unix_agent	Agents	Contains details about <a href="#">Linux/Unix agent resources</a> .
Linux/Unix Agents In Cluster	ops_unix_agent_cluster_join	Agent Clusters	Shows relationship information between <a href="#">Unix agents</a> and <a href="#">Unix agent clusters</a> ; that is, which <a href="#">agents</a> belong to which <a href="#">clusters</a> .
Linux/Unix Task Instances	ops_exec_unix	All Task Instances	Contains details about <a href="#">Linux/Unix task instances</a> .
Linux/Unix Tasks	ops_task_unix	Tasks	Contains details about <a href="#">Linux/Unix tasks</a> .
Local Variables	ops_local_variable	Variables	Contains details about <a href="#">task and trigger variables</a> (also called local variables), entered into the <a href="#">Variables</a> tab on a <a href="#">task</a> or <a href="#">trigger</a> record.
Manual Task Instances	ops_exec_manual	All Task Instances	Contains details about <a href="#">Manual task instances</a> .
Manual Tasks	ops_task_manual	Tasks	Contains details about <a href="#">Manual tasks</a> .
Manual Triggers	ops_trigger_manual	All Triggers	Contains <a href="#">Manual trigger</a> records.
Mutually Exclusive	ops_task_to_exclusive	Mutually Exclusive	Contains relationship information between <a href="#">tasks</a> and <a href="#">mutually exclusive tasks</a> ; that is, which <a href="#">tasks</a> are mutually exclusive with each other.
Notes	ops_note		Contains details about <a href="#">Notes</a> attached to <a href="#">Controller</a> records.
OMS Servers	ops_oms_server	Connections	Provides details about <a href="#">OMS Servers</a> .
Output	ops_exec_output	Task Instances > Other	Contains any <a href="#">output</a> (such as <a href="#">STDOUT</a> ) attached to <a href="#">task instances</a> .
Outstanding Requests	ops_resource_order	Virtual Resources	Contains any outstanding requests for a <a href="#">resource</a> by a <a href="#">task instance</a> .

Permissions	ops_permission	Security	Contains details about Universal Controller <a href="#">Permissions</a> assigned to Universal Controller Users and Groups. (Requires <a href="#">ops_admin</a> or <a href="#">ops_user_admin</a> role to run this report.)
Restartable Job Steps	ops_exec_zos_jobstepsui	Task Instances > Other	Contains details about <a href="#">restartable job steps</a> in a z/OS task.
Restart Criteria	ops_exec_zos_rstrt_criteria	Task Instances > Other	Contain information about z/OS task <a href="#">restart criteria</a> .
Restart Criteria	ops_task_zos_rstrt_criteria	Tasks > Other	Contain information about z/OS task <a href="#">restart criteria</a> .
SAP Connections	ops_sap_connection	Connections	Contains <a href="#">SAP Connections</a> records.
SAP Task Instances	ops_exec_sap	All Task Instances	Contains details about <a href="#">SAP task instances</a> .
SAP Tasks	ops_task_sap	Tasks	Contains details about <a href="#">SAP tasks</a> .
Scripts	ops_script		Contains <a href="#">Script</a> records.
Set Variables	ops_variable_action	Actions	Contains details about <a href="#">Set Variable actions</a> .
SNMP Managers	ops_snmp_connection	Connections	Contains <a href="#">SNMP Managers</a> records.
SNMP Notifications	ops_snmp_notification	Actions	Contains <a href="#">SNMP notifications</a> defined for <a href="#">Tasks</a> .
SQL Task Instances	ops_exec_sql	All Task Instances	Contains details about <a href="#">SQL task instances</a> .
SQL Tasks	ops_task_sql	Tasks	Contains details about <a href="#">SQL tasks</a> .
Step Conditions	ops_exec_zos_stepcond	Task Instances > Other	Contains details about z/OS task instance <a href="#">step conditions</a> .
Step Conditions	ops_task_zos_stepcond	Tasks > Other	Contains details about z/OS task <a href="#">step conditions</a> .
Stored Procedure Parameters	ops_exec_stored_proc_param	Task Instances > Other	Contains <a href="#">Parameter</a> records associated with <a href="#">Stored Procedure task instances</a> .
Stored Procedure Parameters	ops_stored_proc_param	Tasks > Other	Contains <a href="#">Parameter</a> records associated with <a href="#">Stored Procedure tasks</a> .
Stored Procedure Task Instances	ops_exec_stored_proc	All Task Instances	Contains details about <a href="#">Stored Procedure task instances</a> .
Stored Procedure Tasks	ops_task_stored_proc	Tasks	Contains details about <a href="#">Stored Procedure tasks</a> .
System Monitor Task Instances	ops_exec_system_monitor	All Task Instances	Contains details about <a href="#">System Monitor task instances</a> .
System Monitors	ops_task_system_monitor	Tasks	Contains details about <a href="#">System Monitor tasks</a> .
System Operations	ops_zos_step_action_sysop	Step Actions	Contains details about z/OS <a href="#">System Operation step actions</a> .
System Operations	ops_system_operation	Actions	Contains details about <a href="#">System Operation actions</a> .
Task Instance Run Criteria	ops_exec_run_criteria	Task Instances > Other	Contains <a href="#">run criteria</a> information for task instances within <a href="#">Workflows</a> .
Task Instance Virtual Resources	ops_exec_to_resource	Virtual Resources	Contains relationship information between <a href="#">Virtual resources</a> and task instances; that is, which task instances are assigned to which Virtual Resources.
Task Monitor Components	ops_trigger_component_tm	Triggers	Contains details about <a href="#">Task Monitor components</a> of Composite Triggers.

Task Monitor Instances	ops_exec_monitor	All Task Instances	Contains details about <a href="#">Task Monitor task instances</a> .
Task Monitors	ops_task_monitor	Tasks	Contains details about <a href="#">Task Monitor tasks</a> .
Task Monitor Triggers	ops_trigger_tm	All Triggers	Contains details about <a href="#">Task Monitor triggers</a> .
Task Run Criteria	ops_task_run_criteria	Tasks > Other	Contains <a href="#">run criteria</a> information for tasks within <a href="#">Workflows</a> .
Task Virtual Resources	ops_task_to_resource	Virtual Resources	Contains relationship information between <a href="#">Virtual resources</a> and tasks; that is, which tasks are assigned to which Virtual Resources.
Temporary Triggers	ops_trigger_temp	All Triggers	Contains details about <a href="#">Temporary triggers</a> .
Time Components	ops_trigger_component_time	Triggers	Contains details about <a href="#">Time components</a> of Composite Triggers.
Time Triggers	ops_trigger_time	All Triggers	Contains details about <a href="#">Time triggers</a> .
Timer Task Instances	ops_exec_sleep	All Task Instances	Contains details about <a href="#">Timer task instances</a> .
Timer Tasks	ops_task_sleep	Tasks	Contains details about <a href="#">Timer tasks</a> .
Universal Command Task Instances	ops_exec_indesca	All Task Instances	Contains details about <a href="#">Universal Command task instances</a> .
Universal Command Tasks	ops_task_indesca	Tasks	Contains details about <a href="#">Universal Command tasks</a> .
User Roles	ops_user_has_role	Security	Contains details about Users and Roles, including which Users have which Roles. (Requires <a href="#">ops_admin</a> or <a href="#">ops_user_admin</a> role to run this report.)
Users	ops_user	Security	Contains details about <a href="#">User records</a> . (Requires <a href="#">ops_admin</a> or <a href="#">ops_user_admin</a> role to run this report.)
Variables	ops_variable	Variables	Contains details about <a href="#">Global variables</a> , entered by selecting Variables from the Navigator.
Virtual Resources	ops_virtual_resource	Virtual Resources	Contains details about <a href="#">Virtual resource records</a> .
Widgets	ops_widget		Contains details about <a href="#">Widgets</a> .
Windows Agent Clusters	ops_windows_agent_cluster	Agent Clusters	Contains details about <a href="#">Windows agent clusters</a> .
Windows Agents	ops_windows_agent	Agents	Contains details about <a href="#">Windows agents</a> .
Windows Agents In Cluster	ops_win_agent_cluster_join	Agent Clusters	Shows relationship information between <a href="#">Windows agents</a> and <a href="#">Windows agent clusters</a> ; that is, which agents belong to which clusters.
Windows Task Instances	ops_exec_windows	All Task Instances	Contains details about <a href="#">Windows task instances</a> .
Windows Tasks	ops_task_windows	Tasks	Contains details about <a href="#">Windows tasks</a> .
Workflow Task Dependencies	ops_task_workflow_edge	Tasks > Other	Contains information about the <a href="#">conditions</a> specified between tasks within <a href="#">workflows</a> .
Workflow Task Instance Dependencies	ops_exec_workflow_edge	Task Instances > Other	Contains information about the <a href="#">conditions</a> specified between task instances within <a href="#">workflows</a> .
Workflow Task Instances	ops_exec_workflow	All Task Instances	Contains details about <a href="#">Workflow task instances</a> .






Workflow Task Instance Vertices	ops_exec_workflow_vertex	Task Instances > Other	Contains relationship information between workflows instances and task instances; that is, which tasks are running in which <a href="#">workflows</a> .
Workflow Task Vertices	ops_task_workflow_vertex	Tasks > Other	Contains relationship information between tasks and workflows; that is, which tasks are in which <a href="#">workflows</a> .
Workflow Tasks	ops_task_workflow	Tasks	Contains details about <a href="#">Workflow tasks</a> .
z/OS Agents	ops_zos_agent	Agents	Contains details about <a href="#">z/OS agents</a> .
z/OS Task Instances	ops_exec_zos	All Task Instances	Contains details about <a href="#">z/OS task instances</a> .
z/OS Tasks	ops_task_zos	Tasks	Contains details about <a href="#">z/OS tasks</a> .

## All Task Instances Table (ops\_exec)

The Universal Controller All Task Instances table (`ops_exec`) contains all available data about executed task instances.

Field Name	Description
Agent	For Agent-based tasks, the name of the Agent.
Agent Acquired	System-supplied; For internal processing only.
Agent Cluster Acquired	System-supplied; For internal processing only.
All Dependencies Cleared	
Attempt	A counter that keeps track of the number of times this task instance was attempted.
Average Estimated End Time	System-supplied.
Calendar	<p>Calendar that defines the business days, holidays, and other special days that determine the run dates for the task(s) specified in the trigger.</p> <p>Select a Calendar from the drop-down list of all existing Calendars. To display detailed information about a selected calendar, click the <a href="#">Details icon</a> next to the Calendar field.</p>
Class	Type of task instance, such as Timer task instance or Workflow task instance.
CP Duration	Optional; Allows you to override the estimated Critical Path Duration of the task when running in a Workflow; used in conjunction with the <a href="#">CP Duration Unit</a> field. In most cases, this field should be left blank, which implies that the Controller will estimate the Critical Path Duration based on historical executions. Valid values are any integer equal to or greater than 0. Variables and Functions are supported.
CP Duration Unit	<p>Type of CP Duration; used in conjunction with the <a href="#">CP Duration</a> field. For example, for a CP Duration of two minutes, specify 2 in the <a href="#">CP Duration</a> field and select <b>Minutes</b> in this field.</p> <p>Options:</p> <ul style="list-style-type: none"> <li>• Seconds</li> <li>• Minutes</li> <li>• Hours</li> </ul> <p>Default is Minutes.</p>

CPU Time	System-supplied; Amount of CPU time the task took to run.
Created	Date and time when the task instance was created.
Created by	User ID of the user who created the task.
Credentials(credentials)	<a href="#">Credentials</a> under which an Agent runs this task. These credentials override any credentials provided in the Agent resource definition for any Agent running this task.
Credentials(credentials_var)	The variable specified in the login credentials field, if enabled.
Credentials Variable	<p>Indication of whether the <a href="#">Credentials</a> field is a reference field for selecting a specific <a href="#">Credential</a> (unchecked) or a text field for specifying the <a href="#">Credential</a> as a variable (checked). Use the format: \${variable name}. The variable must be a supported type as described in <a href="#">Variables and Functions</a>.</p> <div style="background-color: #ffffcc; padding: 10px; border: 1px solid #ccc;"> <p> <b>Note</b> When <a href="#">updating multiple Tasks</a>, to change from using a <a href="#">Credentials</a> reference to using a <a href="#">Credentials</a> variable, you must change the <b>Credentials Variable</b> field to <b>Yes</b> and specify the <a href="#">Credentials</a> variable in the <b>Credentials Unresolved</b> field. Conversely, to change from using a <a href="#">Credentials</a> variable to using a <a href="#">Credentials</a> reference, you must change the <b>Credentials Variable</b> field to <b>No</b> and specify the <a href="#">Credentials</a> reference in the <b>Credentials</b> field.</p> </div>
Critical	<p>If enabled (checked), the Controller calculates the Critical Path of this Workflow and, by default, displays it in the Workflow Monitor. You can toggle between the normal view and the Critical Path view by using the <a href="#">Toggle Critical Path View</a> icon on the <a href="#">Workflow Monitor toolbar</a>.</p> <p>If disabled (unchecked), the Controller does not calculate the Critical Path of this Workflow and display it in the Workflow Monitor, and the <a href="#">Toggle Critical Path View</a> icon on the <a href="#">Workflow Monitor toolbar</a> is disabled.</p> <div style="background-color: #ffffcc; padding: 10px; border: 1px solid #ccc;"> <p> <b>Note</b> This field displays only if the <a href="#">Critical Path Calculations Permitted</a> Universal Controller system property is set to <b>true</b>.</p> </div> <div style="background-color: #ffe6e6; padding: 10px; border: 1px solid #ccc; margin-top: 10px;"> <p> <b>Important</b></p> <ul style="list-style-type: none"> <li>When restoring a Workflow Details <a href="#">Version</a>, the Calculate Critical Path setting (enabled or disabled) will be preserved.</li> <li>When <a href="#">promoting</a> a Workflow record or importing (list or bulk) Workflow Details: <ul style="list-style-type: none"> <li><a href="#">Critical Path Calculations Permitted</a> setting will not change.</li> <li><b>Calculate Critical Path</b>, if enabled, will be disabled.</li> </ul> </li> <li>If the database is "dropped" for any reason: <ul style="list-style-type: none"> <li><a href="#">Critical Path Calculations Permitted</a> will be set to <b>false</b>.</li> <li><b>Calculate Critical Path</b>, if enabled, will be disabled.</li> </ul> </li> </ul> </div>
Current Retry Count	System-supplied; Displays, only for a running task instance, the current number of times that the Controller has retried the task after it first went to failure status.
Delay Duration	Number of days, hours, minutes, and seconds to delay after starting the task.
Delay Duration In Seconds	Number of seconds to delay after starting the task.

Delay On Start	Amount of time to delay the start of a task, after it has been launched, from the time that it is eligible to start; that is, all dependencies have been met.
Duration	System-supplied; Amount of time the task took to run.
Duration in Seconds	The amount of time, in seconds, the task instance took to run.
Early Finish	If enabled, and if the task instance finishes before the time or period specified, the task instance is flagged as early. You can specify a time or duration to determine an early finish (see <a href="#">Early Finish Type</a> ). To determine whether a task instance finished early, <a href="#">open the task instance</a> and locate the <a href="#">Finished Early</a> field; the field is checked if the instance finished before the specified time or did not last as long as expected. This field only appears on the task instance if the user added Early Finish specifications to the task definition.
Early Finish Duration	If <a href="#">Early Finish Type</a> = Duration; Shortest amount of time this task instance should take to run. You can specify any combination of hours, minutes, and seconds.
Early Finish Time	If <a href="#">Early Finish Type</a> = Time; Time before which the task finish time is considered early. That is, enter a time at which the task should still be running. Use HH:MM, 24-hour time.
Early Finish Type	Required if <a href="#">Early Finish</a> is enabled.  Options: <ul style="list-style-type: none"> <li>• Time - Flag the task if it finishes before the specified time (see <a href="#">Early Finish Time</a>).</li> <li>• Duration - Flag the task if it finishes a certain amount of time before the programmed finish time (see <a href="#">Early Finish Duration</a>). The task must have a specific finish time.</li> </ul>
End Time	System-supplied; Date and time the task instance completed
Exclusive State	Current status of the mutually exclusive request being used by a task instance.  The Controller uses the same process each time it launches a task with mutually exclusive requirements and goes through the same series of states: <ul style="list-style-type: none"> <li>• INITIAL The initial state. This is the default value at launch time.</li> <li>• REQUESTED When the task requests its mutually exclusive requirements, the exclusive state becomes Requested.</li> <li>• ACQUIRED When all of the requested mutually exclusive requirements are met and acquired by the server, the Exclusive state becomes Acquired.</li> <li>• RETURNED When the task completes, the server returns the acquired mutually exclusive requirements and the Exclusive state becomes Returned.</li> <li>• CLEARED When the Clear Exclusive command is run, the server cancels or returns the mutually exclusive requirements and the Exclusive state becomes Cleared.</li> </ul>
Execution User	System-supplied; If the task was launched manually, the ID of the user who launched it.
Exit Code	The exit code, if any, returned by the process.
Finished Early	System-supplied; This field is flagged if the task finished earlier than the time specified in the Early Finish fields.
Finished Late	System-supplied; This field is flagged if the task finished later than the time or duration specified in the Late Finish fields.
Forced Finished	True or False. Indicates whether the task instance was force-finished.

Hold Reason	Information about why the task will be put on hold when it starts.
Hold Resources On Failure	If enabled, the task instance will continue to hold Renewable resources if the task instance fails.
Hold on Start	If enabled, when the task is launched it appears in the Activity Monitor with a status of <b>Held</b> . The task runs when the user <a href="#">releases</a> it.
IO Other	Total input/output operations for this task.
IO Reads	Total input/output reads for this task.
IO Writes	Total input/output writes for this task.
Instance Name	Name of the task instance.
Instance Reference Id	System-supplied; the Controller increments this number each time the task is run.
Invoked by	System-supplied; How the task instance was launched. One of the following: <ul style="list-style-type: none"> <li>• Trigger: (Trigger Name) Instance was launched by the named trigger.</li> <li>• Workflow: (Workflow Name) Instance was launched by the named workflow.</li> <li>• Manually Launched Instance was launched by a user. To determine the name of the user:                         <ul style="list-style-type: none"> <li>• From the Activity Monitor or Task Instances list, click the task instance name to open the record.</li> <li>• The <a href="#">Execution User</a> field identifies the user who launched the task instance.</li> </ul> </li> </ul>
Late Finish	If enabled, and if the task instance finishes after the time or period specified, the task instance is flagged as late. You can specify a time or duration to determine a late finish (see <a href="#">Late Finish Type</a> ). To determine whether a task instance finished late, <a href="#">open the task instance</a> and locate the <a href="#">Finished Late</a> field; the field is checked if the instance finished after the specified time or lasted longer than expected. This field only appears on the task instance if the user specified a Late Finish in the task definition.
Late Finish Duration	If <a href="#">Late Finish Type</a> = Duration; Longest amount of time this task instance should take to run. You can specify any combination of hours, minutes, and seconds.
Late Finish Time	If <a href="#">Late Finish Type</a> = Time; Time after which the task finish time is considered late. Use HH:MM, 24-hour time.
Late Finish Type	Required if <a href="#">Late Finish</a> is enabled.  Options: <ul style="list-style-type: none"> <li>• Time - Flag the task if it finishes after the specified time (see <a href="#">Late Finish Time</a>).</li> <li>• Duration - Flag the task if it finishes a certain amount of time after the programmed finish time (see <a href="#">Late Finish Duration</a>). The task must have a specific finish time.</li> </ul>
Late Start	If enabled, and if the task instance starts after the time or period specified, the task instance is flagged as late. You can specify a time or duration to determine a late start (see <a href="#">Late Start Type</a> ). To determine whether a task instance started late, <a href="#">open the task instance</a> and locate the <a href="#">Started Late</a> field; the field is checked if the instance started after the specified time. The <a href="#">Started Late</a> field displays in the task instance Details only if the user specified a Late Start in the task Details.
Late Start Duration	If <a href="#">Late Start Type</a> is Duration, use this to specify the longest amount of time this task instance can wait before starting. You can specify any combination of hours, minutes, and seconds.

Late Start Time	If <a href="#">Late Start Type</a> = Time; Time after which the task <a href="#">start time</a> is considered late. Use HH:MM, 24-hour time.
Late Start Type	Required if <a href="#">Late Start</a> is enabled.  Options: <ul style="list-style-type: none"> <li>• Time - Flag the task if it starts after the specified time.</li> <li>• Duration - Flag the task if it starts a certain amount of time after the programmed start time. The task must have a specific <a href="#">start time</a>.</li> </ul>
Longest Estimated End Time	System-supplied.
Maximum Retries	User-defined; maximum number of times that the Controller should retry this task after it has started and gone to a failed state.
Member of Business Services	User-defined; allows you to select one or more <a href="#">Business Services</a> that this record belongs to.
Memory Peak	The peak amount of memory used during the execution of this task instance.
Memory Used	The amount of memory used during the execution of this task instance.
Operational Memo	User-defined operational memo.
Predecessors Satisfied Time	The time in which all predecessor dependencies have been satisfied for the task instance.
Progress	Indicates the workflow progress in terms of completed tasks: success, finished, or skipped. (A sub-workflow within a workflow counts as one task.) For example, 5/10 indicates that 5 of 10 tasks within the workflow have completed.
Projected End Time	System-supplied; projected end time of the task instance.
Queued Time	System-supplied; the time that the task was queued for processing.
Resources Consumed	System-supplied; For internal processing only.
Resources State	The current status of the resource being used by a task instance. The Controller uses the same process each time it launches a task on a resource and the resource goes through the same series of states: <ol style="list-style-type: none"> <li>1. INITIAL - The initial state. This is the default value at launch time.</li> <li>2. REQUESTED - When the task requests the resources it needs, the resource state becomes Requested.</li> <li>3. ACQUIRED - When all of the requested resources are available and acquired by the server, the resource state becomes Acquired.</li> <li>4. RETURNED - When the task completes, the server returns the resources it was using, and the resource state becomes Returned.</li> </ol>
Retry Indefinitely	User-defined; indicates whether the Controller should continue trying indefinitely to run this task. If you enable this field, it overrides any value placed in the <a href="#">Maximum Retries</a> field.
Retry Interval (Seconds)	User-defined; number of seconds between each retry.
Run Called	(Internal property.)
Run Criteria Run Time	Indicates that run-time run criteria was specified for the task.
Run Criteria Trigger Time	Indicates that trigger-time run criteria was specified for the task.
Security Name	The task name.

Shortest Estimated End Time	System-supplied.
Start Time	System-supplied; the date and time that the task started.
Started Late	System-supplied; This field is flagged if the task started later than the time specified in the Late Start fields.
State Changed Time	The last time the task instance changed status.
Status	System-supplied; Provides additional information, if any, about the status of the task.
Status Description	System-supplied; Provides additional information, if any, about the status of the task.
Sys id	Unique system identifier associated with a task instance.
Task	User-defined name of this task, containing a maximum 40 alphanumeric characters; <a href="#">variables</a> supported. It is the responsibility of the user to develop a workable <a href="#">naming scheme</a> for tasks.
Task Description	User-supplied description of this record.
Task Priority	Priority of this task instance, as set by the user via the <a href="#">Set Priority command</a> . Options are: HIGH, MEDIUM, LOW.
Time Wait State	
Trigger	Name used within the Controller to identify this trigger. It can contain a maximum of 255 alphanumerics. It is the responsibility of the user to develop a workable <a href="#">naming scheme</a> for triggers.
Trigger Time	Date and time (current or user-selected) when the trigger launches its tasks.
Type	Type of task instance.
Updated	Date and time this record was last updated.
Updated by	User who last updated this record.
Updates	Number of updates that have been made to the task record.
User Estimated End Time	System-supplied; If the user entered information into the User Estimated Duration field in the task definition, the Controller uses this information to calculate an end time for the task instance, based on the date/time the task instance started.
UUID	Universally Unique Identifier of this task instance.
Vertex Id	Each task within a workflow has a unique vertex ID, which distinguishes it from other tasks of the same name, if any.
Virtual Resource Priority	Priority for acquiring a resource for this task instance.
Wait Day Constraint	Specification for whether or not to advance the wait time to another day.
Wait Duration	Number of days, hours, minutes, and seconds to wait before starting the task.
Wait Duration In Seconds	Number of seconds to wait before starting the task.
Waited for Exclusive	Indicates that the task instance could not run exclusively immediately and went into an Exclusive Wait state.
Waited for Resources	Indicates that the task instance could not get resources immediately and went into a resource wait state.
Wait Time (HH:MM)	Number of hours and minutes to wait before starting the task.
Wait To Start	Amount of time to wait before starting a task from the time that it was launched.

Wait Until Time	Amount of time calculated to wait before the task was started.
Workflow	Name of the workflow, if appropriate.
Workflow Definition	Name of the parent workflow task definition.
Workflow Only	Specification for whether or not to apply the Wait To Start and Delay On Start specifications only if the task is in a Workflow.
Workflow Start Time	Start time of the parent workflow task instance.
Show Related Files	Not supported for reports.

## Widgets

- Overview
- Types of Widgets
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  - Report Widget Preview
- Additional Details

### Overview

Widgets are graphic and/or alphanumeric displays of real-time, dynamic information about Universal Controller, the jobs it is running, and the environment in which it is operating.

Some Widgets are provided by the Controller, and you can create as many other Widgets as desired. You can add any Widget to any [dashboard](#) except the [Home Dashboard](#).

### Types of Widgets

There are three type of Widgets:

- [System Widgets](#)
- [Activity Widgets](#)
- [Report Widgets](#)

### Creating a Widget



#### Note

You can create Widgets ([Activity Widgets](#) and [Report Widgets](#) only; [System Widgets](#) cannot be created) only if you have been assigned the `ops_admin`, `ops_report_admin`, or `ops_widget_admin` role; otherwise, the **New** button does not display at the top of the Widgets list.



**Step 1** From the Reporting navigation pane, select **Widgets**. The Widgets list displays.

Name	Widget Type	Description	Updated By	Updated
Agent Status	System	Pie chart for agent statuses.	ops.system	2014-06-24 20:00:00 -0400
Cluster Node Status	System	Pie chart for cluster node statuses.	ops.system	2014-06-24 20:00:00 -0400
OMS Server Status	System	Pie chart for OMS server statuses.	ops.system	2014-06-24 20:00:00 -0400
System Details	System	Displays a number of system details including version, database, and memory information.	ops.system	2014-06-24 20:00:00 -0400
Active Task Instances By Status	System	Bar chart for active task instances grouped by task instance status.	ops.system	2014-06-24 20:00:00 -0400
Active Task Instances By Type	System	Bar chart for active task instances grouped by task instance type.	ops.system	2014-06-24 20:00:00 -0400
Skipped	Activity	Activity - Skipped	ops.admin	2014-07-17 11:57:26 -0400
Problem	Activity	Activity - Problem	ops.admin	2014-08-12 15:54:55 -0400
Success/Finished	Activity	Activity - Success/Finished	ops.admin	2014-08-07 17:13:39 -0400
Task Activity Status	Activity	Task Activity by status	ops.admin	2014-08-18 23:28:05 -0400
Failed	Activity	Activity - Failed	ops.admin	2014-08-11 13:43:50 -0400
Held/Action Required	Activity	Activity - Held/Action Required	ops.admin	2014-07-17 11:41:46 -0400
Pending	Activity	Activity - Pending	ops.admin	2014-07-17 11:56:46 -0400
Running	Activity	Activity - Running	ops.admin	2014-07-17 11:38:20 -0400

**Step 2** From the **New** drop-down list at the top of the list, select the type of Widget you want to create:

- Activity Widget
- Report Widget

The Widget Details for that Widget type displays.



**Note**

The General section of Widget Details is the same for System, Activity, and Report Widgets, but the Details section is different for all three types of Widgets.

**Step 3** Enter / select Details for a new Widget, using the field descriptions as a guide.

- Required fields display in **boldface**.
- Default values for fields, if available, display automatically.

To display more of the Details fields on the screen, you can either:

- Use the scroll bar.
- Temporarily **hide the list** above the Details.
- Click the **New** button above the list to display a pop-up version of the Details.

**Step 4** Click the **Save** button. The Widget record is added to the database, and all buttons in the Widget Details are enabled.

**Step 5** To see how the Widget will display, click the **Preview** button.

Graphic Widgets identify the entries that comprise the graphic with color, and an alphanumeric key identifies the number of each entry type represented by the color. You also can see what percent of Widget entries are in each type by hovering your cursor over that portion of the graphic.

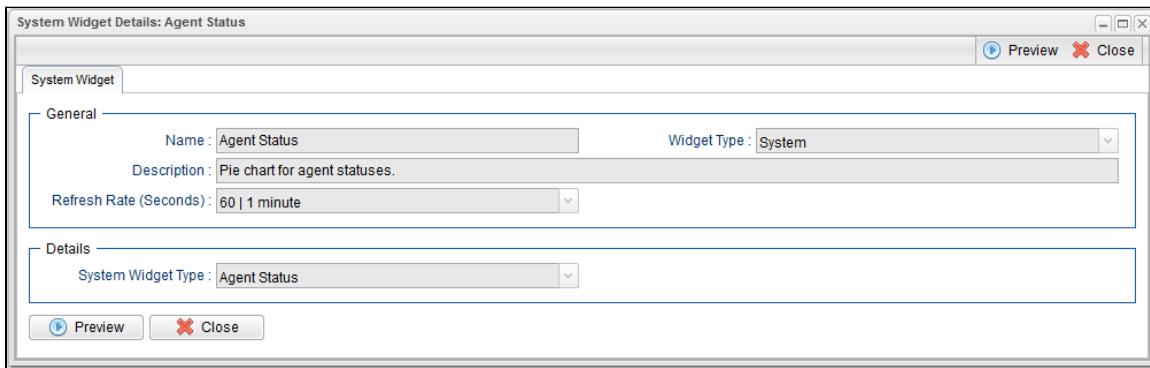
## System Widgets

System Widgets contain information about the Controller; Agent, Cluster Node, and OMS Server status; and task instance status and type.

All System Widgets are provided by the Controller. You cannot modify or delete a System Widget, but you can add or remove it from any Dashboard.

## System Widget Details

The following System Widget Details is for the Agent Status System Widget. See the [field descriptions](#) below for a description of all fields that display in the System Widget Details.



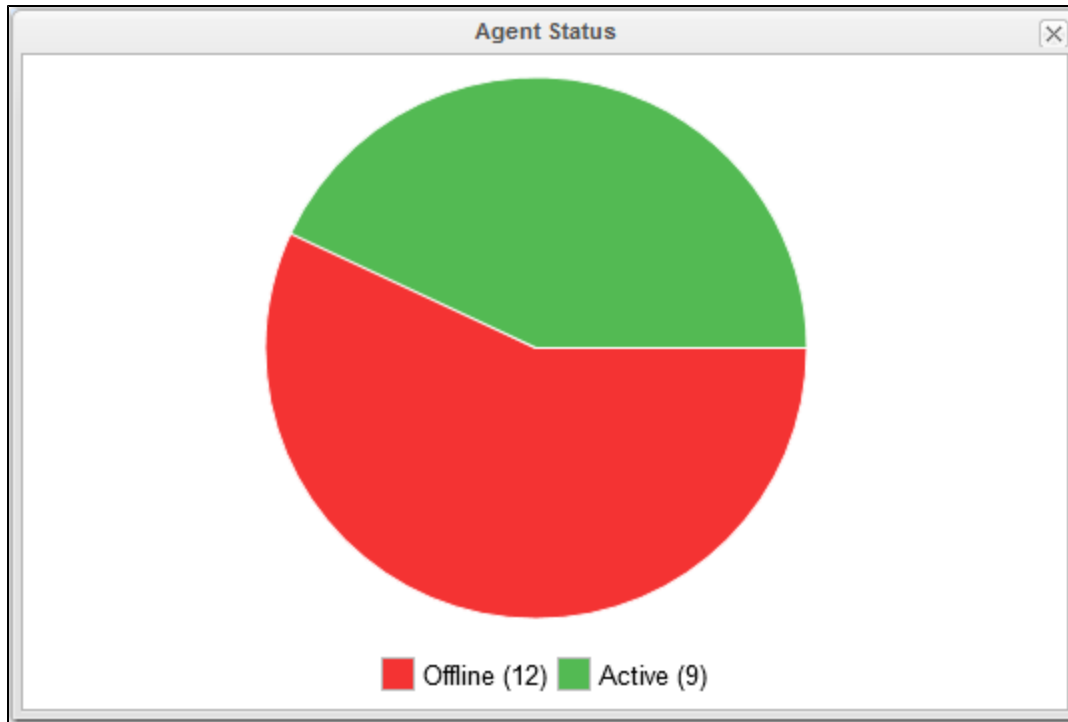
## System Widget Details Field Descriptions

The following table describes the fields, buttons, and tabs that display in the Agent Status Widget Details, above.

Field Name	Description
<b>General</b>	This section contains general information about the Widget.
Name	Name of the Widget
Widget Type	Type of this Widget: System.
Description	Description of this Widget.
Refresh Rate (Seconds)	Time interval (in seconds) when the dynamic data in this Widget is refreshed.
<b>Details</b>	This section contains detailed information about the Widget.
System Widget Type	Type of this System Widget.
<b>Buttons</b>	This section identifies the buttons displayed above and below the Widget Details that let you perform various actions.
<b>Preview</b>	Provides a <a href="#">preview</a> of how this Widget will display on a Dashboard.
<b>Close</b>	For pop-up view only; closes the pop-up view of this Widget.

## System Widget Preview

The following preview shows how the Agent Status System Widget [above](#) will display on a Dashboard.



## Activity Widgets

Activity Widgets contain information about Controller activity; that is, task instance statuses.

The Controller provides a set of Activity Widgets, which you can modify and delete, and you can create your own Activity Widgets.

You also can create an Activity Widget that is a [composite](#) of other Activity Widgets

All Activity Widgets display as horizontal bar charts.

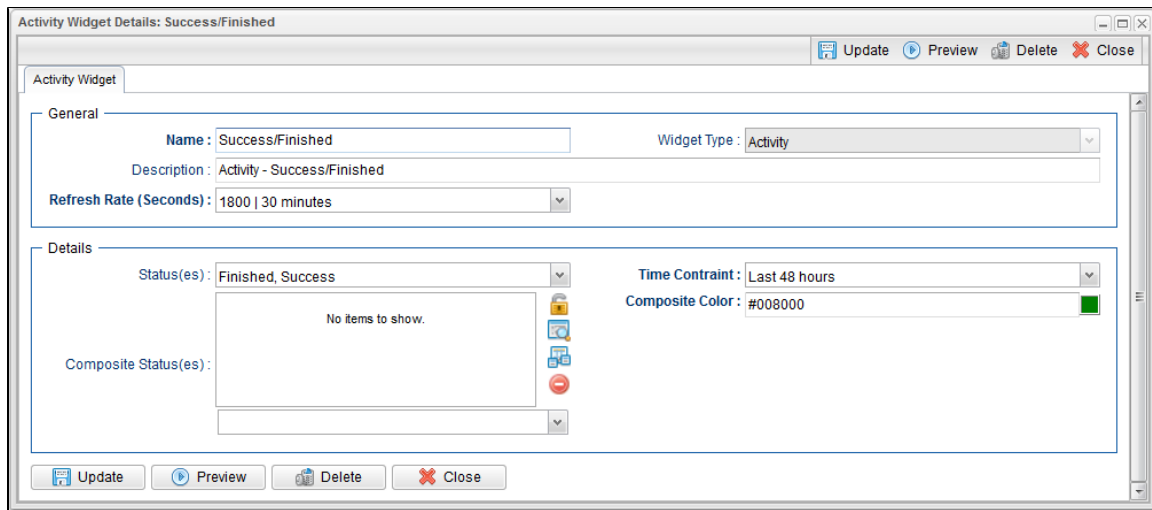
## Composite Widgets

Composite Widgets are [Activity Widgets](#) composed of other Activity Widgets. Composite Widgets can contain any Activity Widgets except other composite Widgets.

To create a Composite Widget, you select task instance statuses for the Widget in the [Composite Status\(es\)](#) field in the Activity Widget Details.

## Activity Widget Details

The following Activity Widget Details is for a Success/Finished Activity Widget: a widget based on Success and Finished task instance statuses. See the [field descriptions](#) below for a description of all fields that display in the Activity Widget Details.



## Activity Widget Details Field Descriptions

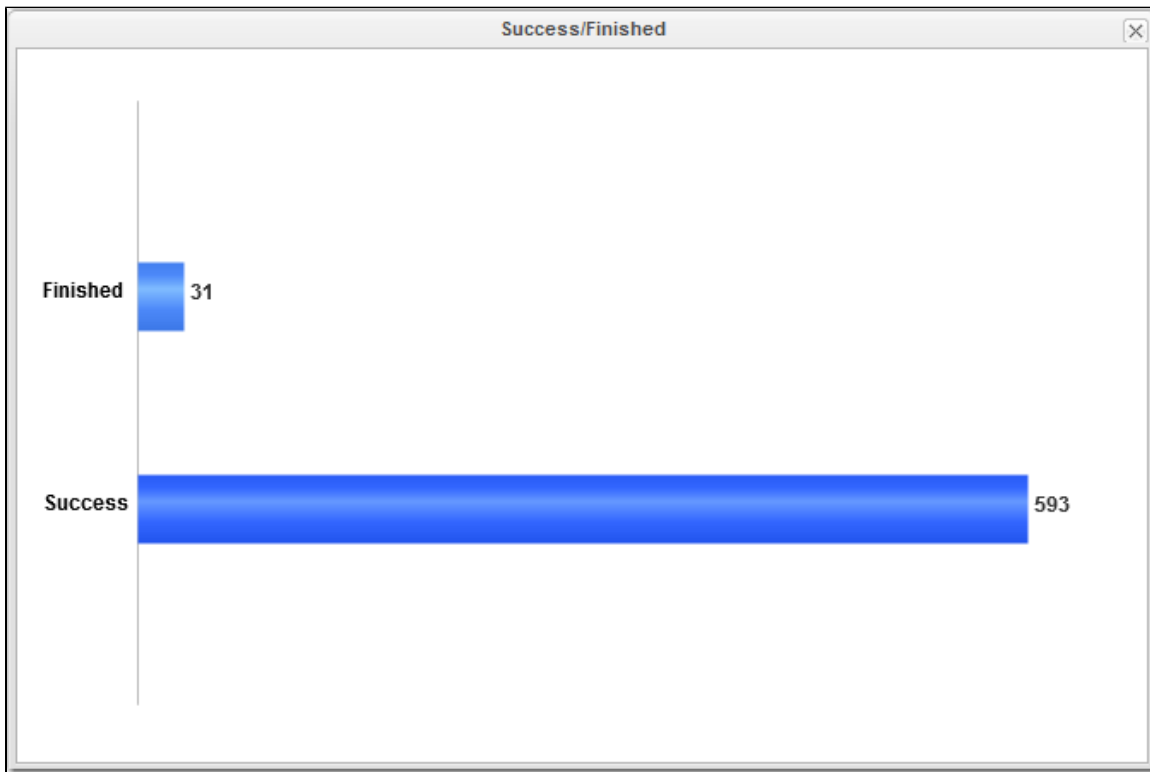
The following table describes the fields, buttons, and tabs that display in the Success/Finished Activity Widget Details, above.

Field Name	Description
<b>General</b>	This section contains general information about the Widget.
Name	Name of the Widget.  <div style="background-color: #ffffcc; padding: 10px; border: 1px solid #ccc;"> <p><b>Note</b>                      The name of an Activity Widget should reference - either directly or indirectly - the task instance <b>Status(es)</b> for which it is created. For Example, if you create a Widget for a specific status and simply name it <b>Widget A</b>, and <b>Widget A</b> then is included in a <b>Composite Widget</b>, that Composite Widget will display on a Dashboard with an entry for <b>Widget A</b>, which provides no indication of the status for which it was created.</p> </div>
Widget Type	Type of this Widget: Activity.
Description	Description of this Widget.
Refresh Rate (Seconds)	Time interval (in seconds) when the dynamic data in this Widget is refreshed.
<b>Details</b>	This section contains detailed information about the Widget.
Status(es)	<b>Task instance status(es)</b> to include in this Widget.
Time Constraint	Time frame for which you want task instances in the selected status(es) to be included in this Widget.  The Time Constraint defined for a <b>Composite Widget</b> overrides the Time Constraints defined in each of its individual Activity Widgets.
Composite Status(es)	Activity Widget(s) to include in this Widget. Each Activity Widget represents one or more task instance statuses. Selecting one or more Activity Widgets in this field, rather than selecting status(es) in the <b>Status(es)</b> field, makes this Widget a composite Activity Widget.
Composite Color	Color used on a Dashboard for this Widget if it is part of a composite Activity Widget.
<b>Buttons</b>	This section identifies the buttons displayed above and below the Widget Details that let you perform various actions.
<b>Save</b>	Saves a new Widget record in the Controller database.

<b>Update</b>	Saves updates to the record.
<b>Preview</b>	Provides a <a href="#">preview</a> of how this Widget will display on a Dashboard.
<b>Delete</b>	Deletes the current record.
<b>Close</b>	For pop-up view only; closes the pop-up view of this Widget.

## Activity Widget Preview

The following preview shows how the Success/Finished Activity Widget [above](#) - provided by Universal Controller - will display on a Dashboard.



## Report Widgets

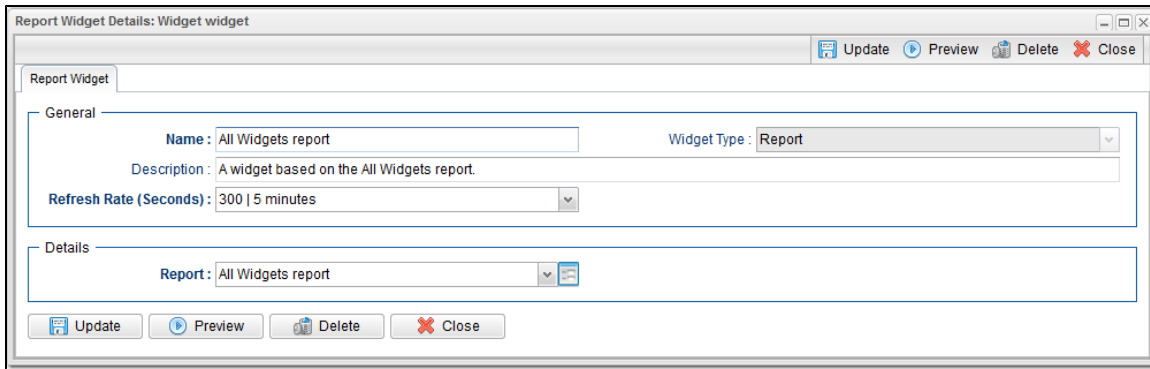
Report Widgets are based on any [Report](#).

A Report Widget displays in the format selected for the report:

- List
- Bar Chart/Horizontal
- Bar Chart/Vertical
- Pie Chart

## Report Widget Details

The following Report Widget Details is for an All Widgets Report Widget: it is based on a report using the Widgets (`ops_widget`) Universal Controller [Reportable table](#). See the [field descriptions](#) below for a description of all fields that display in the Report Widget Details.



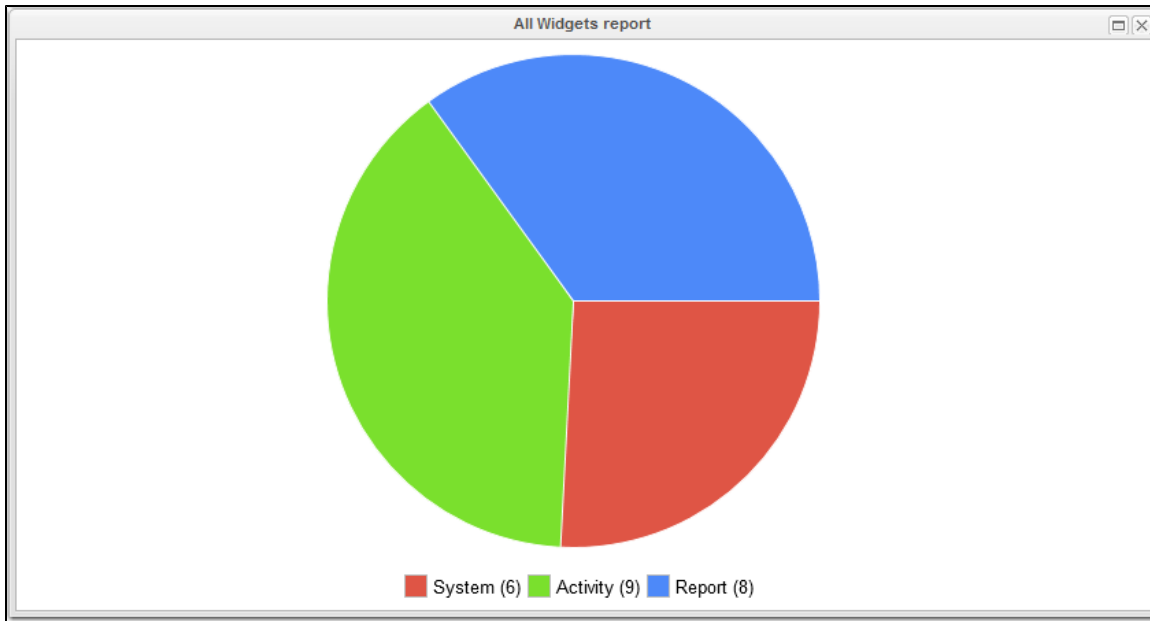
## Report Widget Details Field Descriptions

The following table describes the fields, buttons, and tabs that display in the All Widgets Report Widget Details.

Field Name	Description
<b>General</b>	This section contains general information about the Widget.
Name	Name of the Widget
Widget Type	Type of this Widget: Report.
Description	Description of this Widget.
Refresh Rate (Seconds)	Time interval (in seconds) when the dynamic data in this Widget is refreshed.
<b>Details</b>	This section contains detailed information about the Widget.
Report	Report on which this Widget is based.
<b>Buttons</b>	This section identifies the buttons displayed above and below the Widget Details that let you perform various actions.
<b>Save</b>	Saves a new Widget record in the Controller database.
<b>Update</b>	Saves updates to the record.
<b>Preview</b>	Provides a <a href="#">preview</a> of how this Widget will display on a Dashboard.
<b>Delete</b>	Deletes the current record.
<b>Close</b>	For pop-up view only; closes the pop-up view of this Widget.

## Report Widget Preview

The following preview shows how the All Widgets Report Widget [above](#) will display on a Dashboard.



## Additional Details

For information on how to access additional details - such as [Metadata](#) and complete [database Details](#) - for a Widget (or any type of record), see [Records](#).

# Colors

- Overview
- Changing a Task Instance Status Color

## Overview

The Controller assigns a default color for each of the 25 possible statuses for a task instance.

A status is identified for every task instance in a [Workflow Monitor](#) and on every list that contains a Status column for task instances, such as the [Activity Monitor](#) and the [Task Instances list](#).

You can change the default color for any task instance status.

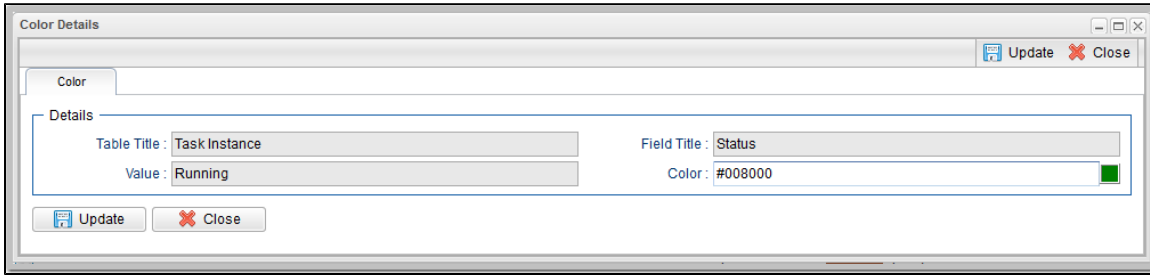
## Changing a Task Instance Status Color

**Step 1** From the [Reporting](#) navigation pane, select **Colors**. The Colors list displays a list of all 25 task instance statuses and the hexadecimal values of their RGB colors.

Table Title ^	Field Title	Value	Color	Updated By	Updated
Task Instance	Status	Confirmation Required	#FF00FF	ops_system	2014-08-19 20:00:00 -0400
Task Instance	Status	Exclusive Requested	#FFC125	ops_system	2014-08-19 20:00:00 -0400
Task Instance	Status	Exclusive Wait	#FF6699	ops_system	2014-08-19 20:00:00 -0400
Task Instance	Status	In Doubt	#FF4500	ops_system	2014-08-19 20:00:00 -0400
Task Instance	Status	Finished	#4D89F9	ops_system	2014-08-19 20:00:00 -0400
Task Instance	Status	Cancel Pending	#BA55D3	ops_system	2014-08-19 20:00:00 -0400
Task Instance	Status	Running/Problems	#EE0000	ops_system	2014-08-19 20:00:00 -0400
Task Instance	Status	Resource Requested	#FFC125	ops_system	2014-08-19 20:00:00 -0400
Task Instance	Status	Defined	#808080	ops_system	2014-08-19 20:00:00 -0400
Task Instance	Status	Started	#9ACD32	ops_system	2014-08-19 20:00:00 -0400
Task Instance	Status	Running	#008000	ops_system	2014-08-19 20:00:00 -0400
Task Instance	Status	Failed	#EE0000	ops_system	2014-08-19 20:00:00 -0400
Task Instance	Status	Cancelled	#9A32CD	ops_system	2014-08-19 20:00:00 -0400
Task Instance	Status	Held	#FF8C00	ops_system	2014-08-19 20:00:00 -0400
Task Instance	Status	Waiting	#FFD700	ops_system	2014-08-19 20:00:00 -0400
Task Instance	Status	Resource Wait	#FF69B4	ops_system	2014-08-19 20:00:00 -0400
Task Instance	Status	Start Failure	#CD0000	ops_system	2014-08-19 20:00:00 -0400
Task Instance	Status	Queued	#FF7F50	ops_system	2014-08-19 20:00:00 -0400
Task Instance	Status	Step Restarted	#A0522D	ops_system	2014-08-19 20:00:00 -0400
Task Instance	Status	Success	#3386FF	ops_system	2014-08-19 20:00:00 -0400
Task Instance	Status	Skipped	#1E90FF	ops_system	2014-08-19 20:00:00 -0400
Task Instance	Status	Undeliverable	#FF0000	ops_system	2014-08-19 20:00:00 -0400
Task Instance	Status	Action Required	#FF6600	ops_system	2014-08-19 20:00:00 -0400
Task Instance	Status	Execution Wait	#FF6347	ops_system	2014-08-19 20:00:00 -0400
Task Instance	Status	Submitted	#458B00	ops_system	2014-08-19 20:00:00 -0400

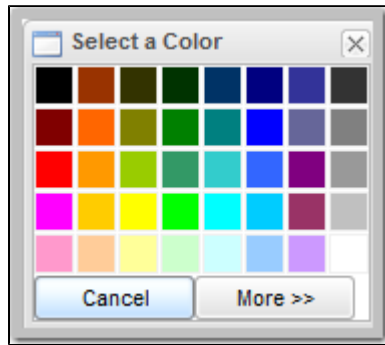


**Step 2** Open a record on the list for the color you want to change. Color Details for that task instance displays.

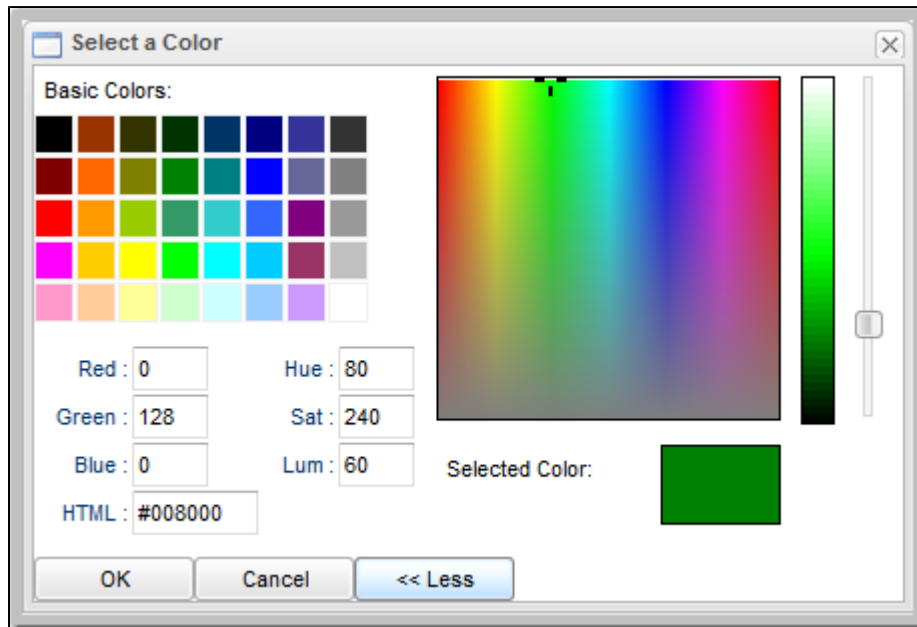


**Step 3** Change the color either of two ways:

1. Enter the hexadecimal value for a different RGB color in the **Color** field.
2. Select a color from a color chart:
  - a. Click the icon next to the **Color** field to display a **Select a Color** pop-up.



- b. Either click a color on the chart or click the **More >>** button to display a more detailed version of the **Select a Color** pop-up, which lets you select any RGB color.



**Step 4** Click the **Update** button in the Color Details to update the color for that task instance status.