



stonebranch

Universal Controller 7.3.x

General Information

© 2022 by Stonebranch, Inc. All Rights Reserved.

1. General Information	4
1.1 Universal Controller - Overview	5
1.2 Universal Controller - Directory Structure	7
1.3 Setting up Universal Controller	8
1.4 Licensing	10
1.4.1 Agent-Only Licensing	23
1.5 Logging In	27
1.6 User Interface	44
1.6.1 Services	57
1.6.2 Records	67
1.6.3 Record Lists	97
1.6.4 Action Menus	114
1.6.5 Action URLs	160
1.6.6 User Preferences	164
1.6.7 Wildcards and Regular Expressions	169
1.6.8 Access Keys	172
1.7 Troubleshooting	173
1.7.1 Problem Resolution	174
1.7.1.1 Error in your SQL syntax	175
1.7.1.2 Maximum open cursors have been exceeded	176
1.7.1.3 Out-of-Range Value during Database Initialization	177
1.7.1.4 JDBC Connections Time Out	178
1.7.1.5 DB2 JDBC License Error	179
1.7.1.6 Processes Will Not Start Automatically (Debian Linux)	180
1.7.1.7 Error when Starting Controller	181
1.7.1.8 Tomcat Post Limit - STATUS_MAX_POST_SIZE_EXCEEDED	182
1.7.1.9 Special Characters not Displayed Correctly	183
1.7.1.10 Open JRE Dependency not Installed	184
1.7.1.11 Cannot launch a task	185
1.7.1.12 VBScript stuck in "Running" state	186
1.7.1.13 My Universal Controller License has Expired	187
1.7.1.14 Packet for query is too large	189
1.7.1.15 Error when refreshing target agents	190
1.7.1.16 Invalid Call Error	191
1.7.1.17 Permanent Generation (PermGen) space removed in Java 8	192
1.7.2 Error Messages	193
1.8 Tutorials	196
1.8.1 Tutorial - Creating and Manually Launching a Task	199
1.8.2 Tutorial - Creating and Manually Launching a Universal Task	201
1.8.3 Tutorial - Running a Windows Task	212
1.8.4 Tutorial - Launching a Task Automatically Using a Simple Time Trigger	217
1.8.5 Tutorial - Launching a Task Every Monday Except Holidays	220
1.8.6 Tutorial - Launching a Task Every Two Hours During Workday	228
1.8.7 Tutorial - Launching Tasks at a Future Time	232
1.8.8 Tutorial - Launching an Email Task Based on a File Monitor	234
1.8.9 Tutorial - Launching an Email Task Based on a Task Monitor	241
1.8.10 Tutorial - Launching Tasks Using a Cron Trigger	250
1.8.11 Tutorial - Aborting a Process Launched by a Task	252
1.8.12 Tutorial - Force Finishing, Force Finish-Cancelling, and Cancelling a Task	255
1.8.13 Tutorial - Accessing Task Instance Details	258
1.8.14 Tutorial - Monitoring Task Activity	263
1.8.15 Tutorial - Creating a Simple Workflow	266
1.8.16 Tutorial - Running a Workflow with a Conditional Path	276
1.8.17 Tutorial - Running a Workflow with Multiple Conditional Paths	290
1.8.18 Tutorial - Running a Workflow with Skipped Criteria	294
1.8.19 Tutorial - Finding and Inserting Tasks in an Active Workflow	299
1.8.20 Tutorial - Skipping, Unskipping, and Showing-Hiding Skipped Task Instances	309
1.8.21 Tutorial - Using Variables in a Simple Task	314
1.8.22 Tutorial - Using Variables in a Workflow	320

1.8.23 Tutorial - Creating Custom Days and Periods	322
1.8.24 Tutorial - Generating Forecast Data	332
1.8.25 Tutorial - Setting Up a Virtual Resource	336
1.8.26 Tutorial - Creating a Widget	339
1.8.27 Tutorial - Creating a Dashboard and Adding Widgets	340
1.8.28 Tutorial - Creating Business Services	343
1.8.29 Tutorial - Assigning Records to Business Services	344
1.8.30 Tutorial - Viewing Activity by Business Service	345
1.8.31 Tutorial - Creating a Report	346
1.8.32 Tutorial - Creating a Report Based on Business Services	350
1.8.33 Tutorial - Scheduling a Report	352
1.8.34 Tutorial - Creating Users and Assigning Roles and Permissions	356
1.8.35 Tutorial - Creating User Groups and Assigning Permissions	360
1.8.36 Tutorial - Creating and Promoting a Bundle	362
1.8.37 Tutorial - Scheduling the Promotion of a Bundle	369

General Information



Universal Controller

[Overview](#)

[Directory Structure](#)

[Setting up Universal Controller](#)

[Licensing](#)

[Logging In](#)



Help

[Troubleshooting](#)

[Tutorials for Universal Controller](#)



User Interface

[Overview](#)

[Home Dashboard](#)

[Services](#)

[Records](#)

[Record Lists](#)

[Filters](#)

[Action Menus](#)

[Action URLs](#)

[User Preferences](#)

[Wildcards and Regular Expressions](#)

[Access Keys](#)



The information on these pages also is located in the [Universal Controller 7.2.x General Information.pdf](#) and the [Universal Controller 7.2.x Troubleshooting and Tutorials.pdf](#).

Universal Controller - Overview

- [Introduction](#)
- [Application Container](#)
- [Database](#)
- [Universal Message Service \(OMS\)](#)
- [Command Line Interface \(CLI\)](#)

Introduction

Universal Controller, a Java web application running in a Tomcat web container, is the enterprise job scheduler and workload automation broker solution of [Universal Automation Center](#). The Controller presents a user interface for creating, monitoring, and configuring Controller information; handles the scheduling logic; processes all messages to and from [Universal Agents](#); and synchronizes much of the [High Availability](#) operation of Universal Automation Center.

Each instance of a Controller in a Universal Automation Center environment is referred to as a [cluster node](#). A High Availability (redundant system) environment contains two or more cluster nodes.

Application Container

The application container is third-party software that serves as a container for the Controller. Universal Controller uses [Apache Tomcat](#) as the application container.

Database

The database management component supports SQL queries to a set of tables in the Controller database.

The following [databases](#) are supported:

- Oracle 12c (Release 2), 18c, 19c, and 21c
- MS SQL Server 2012, 2014, 2016, 2017, 2019
- MySQL 5.7.x, 8.0.x

Universal Message Service (OMS)

[Universal Message Service \(OMS\)](#) is the network communications provider between the Controller and Agent(s).

Note



OMS replaces the Message Hub and Transporter components of pre-5.2.0 releases of the Universal Automation Center.

OMS is installed as a component of [Universal Agent](#) for Windows and UNIX.

Command Line Interface (CLI)

The Universal Controller [Command Line Interface \(CLI\)](#) is implemented as a set of commands that perform specific actions in a Controller. The CLI commands can execute on any system that has TCP/IP connectivity to OMS. The results of the action are printed to the CLI commands standard output.

The CLI is installed as a component of [Universal Agent](#) for z/OS, Windows, and UNIX.

Universal Controller - Directory Structure

Directory Structure

Shown below is the directory structure of Universal Controller.

UNIX

```
$CATALINA_HOME/  
$CATALINA_HOME/bin  
$CATALINA_HOME/conf  
$CATALINA_HOME/lib  
$CATALINA_HOME/logs  
$CATALINA_HOME/uc_backup/System_Backups  
$CATALINA_HOME/uc_backup/System_Backups/Activity  
$CATALINA_HOME/uc_backup/System_Backups/Audit  
$CATALINA_HOME/uc_backup/System_Backups/History  
$CATALINA_HOME/uc_export  
$CATALINA_HOME/uc_images  
$CATALINA_HOME/uc_logs  
$CATALINA_HOME/webapps  
$CATALINA_HOME/webapps/uc
```

Windows

```
$CATALINA_HOME\  
$CATALINA_HOME\bin  
$CATALINA_HOME\conf  
$CATALINA_HOME\lib  
$CATALINA_HOME\logs  
$CATALINA_HOME\uc_backup\System_Backups  
$CATALINA_HOME\uc_backup\System_Backups\Activity  
$CATALINA_HOME\uc_backup\System_Backups\Audit  
$CATALINA_HOME\uc_backup\System_Backups\History  
$CATALINA_HOME\uc_export  
$CATALINA_HOME\uc_images  
$CATALINA_HOME\uc_logs  
$CATALINA_HOME\webapps  
$CATALINA_HOME\webapps\uc
```

Setting up Universal Controller

The following table provides a guideline for setting up Universal Controller. It is a checklist of features and functions, including links to the detailed information and instructions on this website.

Perform Pre-installation Procedure	Perform the pre-installation procedure that is required before installing the Controller.
Download Universal Controller Distribution File	Download the appropriate Universal Controller distribution file from the Stonebranch Customer Portal .
Install Universal Controller	Install the Controller package from the downloaded Controller distribution file. See Universal Controller Installation for help in getting the Controller installed and verified.
Configure Universal Controller	After installation, check the Universal Controller properties . If you will be running the Controller in a High Availability environment, you must configure the Controller for High Availability.
Log in to Universal Controller	Once the Controller is installed and configured, we recommend that you log in and familiarize yourself with the basic features of the user interface . All Controller functions are accessed from the Services . Within the user interface, you will create all your records (for example: users, tasks, and triggers) by entering information into record Details. (See Naming Tips for information on organizing your records.) The records are then displayed in lists of each type, which you can sort and filter and perform a wide variety of other functions.
Configure Password Settings	Before you create users for Universal Controller, configure the settings for all user passwords .
Set up Security	Use the Controller Security feature to create users and user groups and assign them roles and permissions . You can also define credentials that are used by the Controller to log in to remote machines. You can create Business Services that represent your organization and assign Controller records to them, and assign permission only to users and/or user groups that belong to a specific Business Services. A complete audit history of all Controller activity also is available for regulatory compliance.
LDAP and SAML	Specify LDAP Settings , which allow you to enable the LDAP bridge for both UNIX and Windows operating systems, and Single Sign-On Settings , which allow you to pre-authenticate users to a third-party identity provider.
Define Resources	Define the types of resources that you will need in your operational database. If you have installed Universal Agent on any machines, records for each of them are automatically created when they connect to the Controller. You also may need to define one or more resources, such as email , data base , PeopleSoft , and SAP connections, as well as SNMP Managers . You also can create status-based notifications for Agent , Cluster Node , and OM S Server resources. You can set up a throttling scheme for your machines using Virtual Resources and create scripts that you can execute on remote machines.
Create Tasks and Workflows	Once you have your resources in place, you can begin creating tasks . Supported task types are Workflows , Linux/Unix , Windows , z/OS , Universal Command , SAP , PeopleSoft , File Transfer , Manual , Timer , SQL , Stored Procedure , Email , Web Service , Recurring , Task Monitor , Agent File Monitor , Remote File Monitor , FTP File Monitor , System Monitor , Variable Monitor , Email Monitor , Application Control , and Universal .
Create Universal Templates and Universal Tasks	In order to design your own Integrations , you first must create the Universal Templates on which the Universal Tasks are based.
Create Task Triggers	To run your tasks outside of workflows, you can create task triggers , which define events, conditions, or dates/times that the tasks will run. Trigger types include Cron , Time , Temporary , Manual , File Monitor , Task Monitor , Variable Monitor , Email Monitor , Application Monitor , and Composite . You may also need to set up one or more customized calendars that reflect your fiscal year and holiday schedules, and custom days for those calendars.
Manually Run and Control Tasks	You also may need to manually run and control tasks, either from the user interface , the command line , or the API .
Create and Run Reports	The Report Details feature lets you create reports from a variety of Universal Controller database tables. You can use a report to create a Widget .
Monitor Operations	You will monitor your automated operations from the Activity Monitor , which you can customize using Filters .

<p>Dashboards</p>	<p>The Home Dashboard, a system-defined Dashboard that displays when you log in to the Controller, provides details about the Controller system and status information on active task instances, Agents Overview, Cluster Nodes, and OMS Servers]. You also can create your own Dashboard Details that display information about the Controller, its environment, and the jobs it is running as defined in system-provided and user-defined Widgets.</p>
<p>Monitor and Control Applications</p>	<p>The Controller lets you to monitor and control all of the applications that you may have running in your entire network.</p>
<p>Command Line Interface (CLI) and API</p>	<p>In addition allowing you to manually run and control tasks, you also can monitor and control your operations and perform basic administrative functions from the command line or the API.</p>
<p>Manage Data and Audit Records</p>	<p>Comprehensive utilities are provided that allow you to manage your Controller records. You can view, restore, and purge old versions of Controller records, bundle and promote records from one Controller server to another, and export and import records when performing a Controller upgrade. You also can configure the automatic backup and purge of Controller data.</p>
<p>Help and Support</p>	<p>This documentation website provides information to help you install, configure, and use the Controller; see Documentation Help for information on documentation layout and usage. Step-by-step tutorials are available for many of the features and functions described here. Troubleshooting provides a description of error messages that you could encounter, as well as potential problems and solutions. Technical Support for critical and non-critical problems is always available.</p>

Licensing

- [System Details Widget](#)
 - [System Details Widget Categories](#)
 - [Flagged Categories](#)
- [Expiry Date](#)
- [Distributed Agents and z/OS Agents](#)
- [Tasks](#)
- [Number of Monthly Executions](#)
- [High Availability Licensed Cluster Nodes](#)
 - [Number of Nodes within the Licensed Amount \(No Violation\)](#)
 - [Number of Nodes exceeds or will exceed the Licensed Amount \(Violation\)](#)
 - [Unlicensed Node Processing](#)
 - [Unlicensed Node UI](#)
- [Universal Connector for PeopleSoft](#)
 - [PeopleSoft Connections](#)
 - [PeopleSoft Task Instances](#)
- [Universal Connector for SAP](#)
 - [SAP Connections](#)
 - [SAP Task Instances](#)
- [Reports](#)

System Details Widget

The System Details widget displays Universal Controller system information in the following categories:

- [Cluster Node](#)
- [Release](#)
- [Memory](#)
- [License](#)
- [Database](#)

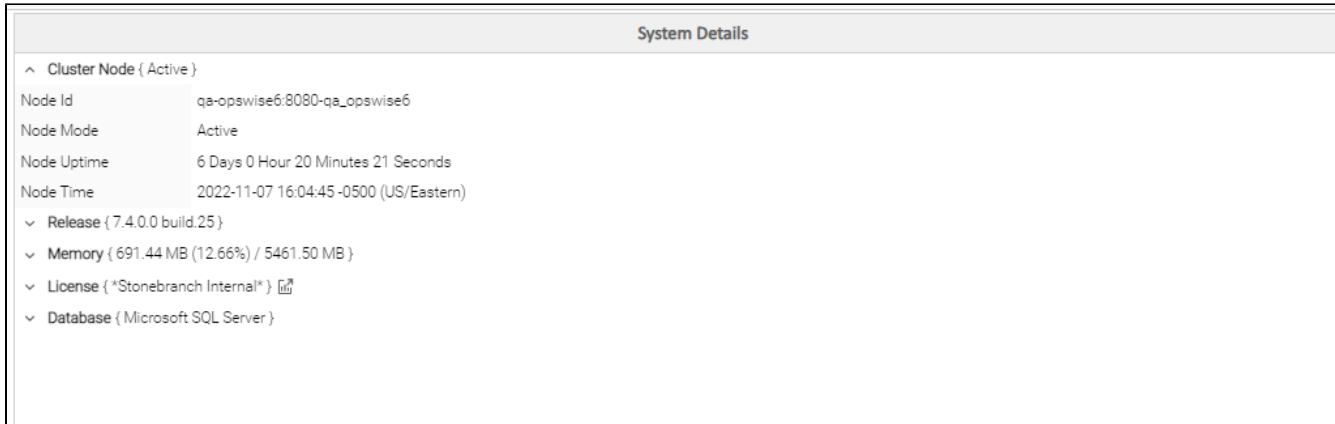
The License category has been enhanced to display:

- [Universal Agent-defined limits for the number of:](#)
 - [Universal Connector for PeopleSoft \(UPPS\) connections.](#)
 - [Universal Connector for SAP \(USAP\) connections.](#)
- [Universal Agent for SOA protocols](#) that are licensed for use.

Note



For details on all Universal Agent license information, see [Universal Agent Licensing](#).



System Details Widget Categories

This new design has the following categories, along with their respective attributes, defined within the widget.

- **Cluster Node** { *Node Mode* }
 - Node Id
 - Node Mode
 - Node Uptime
 - Node Time
- **Release** { *ReleaseBuild* }
 - Release
 - Build
 - Build Date
- **Memory** { *Memory Used / Memory Maximum* }
 - Memory Maximum
 - Memory Used
 - Memory Free
- **License** { *Customer* }
 - Expiry Date
 - Cluster Nodes
 - Distributed Agents
 - z/OS Agents
 - Tasks
 - Monthly Executions
 - UPPS
 - USAP
 - Exclude Source Recurring
 - UPPS Connections
 - USAP Connections
 - JMS
 - IBM WebSphere MQ
 - SOAP
 - XD SOAP
 - HTTP
 - Customer
- **Database** { *Database Type* }
 - Database Type

- Database Name
- Database URL
- Database Connections

By default, all categories will be collapsed with the exception of the **Cluster Node** category.

While the dashboard remains open, any change to the expanded categories will be preserved between widget/dashboard refreshes.

To change the category expansion default, see the [System Details Expanded Categories](#) Universal Controller system property.

Note



Clicking the License category bar chart icon runs the [UAC - Licensed Monthly Task Instance Executions](#) built-in system report.

Flagged Categories

If an attribute under a category is flagged, the category will be expanded automatically and appear in **red**. Likewise, the flagged attribute will also appear in **red**.

For example:

System Details ✕

▲ **Cluster Node { Active }**

Node Id SBUS26:7080-opswise

Node Mode Active

Node Uptime 11 Seconds

Node Time 2020-06-12 12:59:37 -0400 (America/New_York)

▶ **Release { 6.8.0.0 build.development }**

▶ **Memory { 554.45 MB (30.46%) / 1820.50 MB }**

▲ **License { **Unlicensed Trial** }**

Expiry Date 2020-03-28 [Days: 45]

Distributed Agents 0/4

z/OS Agents 0/1

Tasks Unlimited

Monthly Executions Unlimited

Cluster Nodes 1/2

UPPS true

USAP true

The following attributes can be flagged.

Cluster Node	Node Mode	Flagged when this cluster node is Unlicensed.
Memory	Memory Used	Flagged when percentage of memory used is greater than or equal to 90%.
License	Expiry Date	Flagged when current date is past the expiry date.
License	Distributed Agents	Flagged when number of registered distributed agents (Windows/Linux) exceeds licensed distributed agents.
License	z/OS Agents	Flagged when number of registered z/OS agents exceeds licensed z/OS distributed agents.
License	Tasks	Flagged when number of task definitions exceeds licensed number of tasks.
License	Monthly Executions	Flagged when number of monthly task instance executions exceeds licensed number of monthly executions.

License	Cluster Nodes	Flagged when number of registered cluster nodes exceeds licensed number of cluster nodes.
---------	-------------------------------	---

Expiry Date

The license has an explicit expiry date, regardless of when the license is applied.

In prior releases, the expiry date was always based on the number of days relative from the date the license was applied.

Distributed Agents and z/OS Agents

Distributed Agents (Windows, Linux/Unix) and z/OS Agents are licensed separately.

A z/OS agent with [secondary Agents](#) requires a license for the primary Agent and one license for each secondary Agent.

In prior releases, agents were licensed under a single Agents component.

For information on how licenses are migrated from a prior release, see [Product Licensing](#) in the Universal Controller 6.8.0.0 Release Notes.

Tasks

The Controller license can enforce a fixed number of Task definitions or allow an Unlimited number of Task definitions.

Number of Monthly Executions

The Controller is licensed by the number of monthly executions; specifically, the number of task instances that run to Success or Finished over a period of one month.

The following task types are excluded from the monthly execution count.

- Workflow
- Timer
- Agent File Monitor
- Manual
- Remote File Monitor
- Task Monitor
- System Monitor
- Application Control
- Variable Monitor
- Email Monitor

Note



Universal Monitors also are excluded from Monthly Executions.

The Type filter for the following built-in reports were updated.

- UAC - Licensed Monthly Task Instance Executions
- UAC - Completed Task Counts : Grouped by Month
- UAC - Completed Task Counts : Grouped by Month / Stacked by Type

Extension-based Universal Tasks that are Launched by a Universal Monitor as a configured Universal Task Publisher will be excluded from license instance history collection using the Launch Source. These instances will have a Launch Source of Universal Monitor or Universal Monitor Trigger.

Additionally, task instances with Launch Source = Recurring are excluded from monthly execution count if their Exclude Source Recurring licensing attribute is enabled.

The Controller will capture execution statistics on a daily basis, commencing immediately after midnight in the server timezone, and store those statistics in the **License Instance History (ops_license_exec_history)** table.

If you are licensed for an **Unlimited** number of monthly executions, then there is no limit on the number of task instances you can run.

High Availability Licensed Cluster Nodes

When a Universal Controller has restrictions on the Cluster Nodes within its License, the following behavior may be experienced when a new or existing Cluster Node is started up:

Number of Nodes within the Licensed Amount (No Violation)

If a new Cluster Node starts up and adding this new Cluster Node will not violate the License:

- The usual process occurs where the Cluster Node is created and starts up as Passive.

If an existing Cluster Node starts up and the License is not in violation with respect to Cluster Nodes:

- The usual process takes place with the Cluster Node starting up as Passive.

Number of Nodes exceeds or will exceed the Licensed Amount (Violation)

If a new Cluster Node starts up and adding this new Cluster Node will violate the License, or the License is already in violation for Cluster Nodes:

- The new Cluster Node will be added but it will run as a new status of "Unlicensed".

If an existing Cluster Node starts up and there are more Cluster Nodes than the License allows; that is, the License already is in violation for Cluster Nodes:

- A count of running Cluster Nodes is taken:
 - If the number of running Cluster Nodes is less than the licensed amount, the Cluster Node starts up normally as Passive.
 - If the number of running Cluster Nodes exceeds the licensed amount, the Cluster Node starts up as Unlicensed.

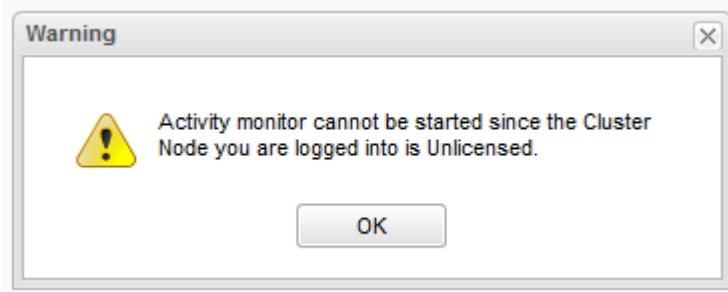
Unlicensed Node Processing

When a Cluster Node starts up as Unlicensed, it can only transition out of this mode for the following conditions:

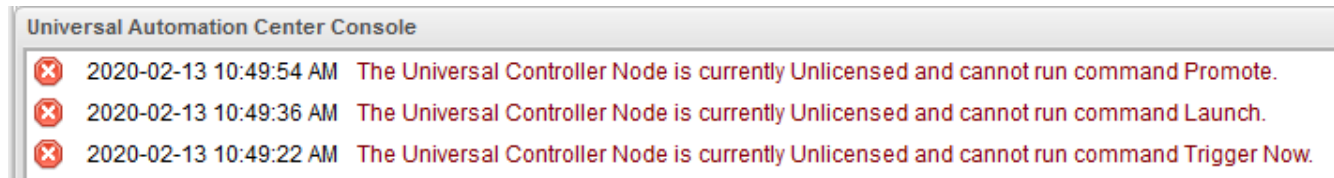
- A new License is applied to the system that no longer makes the amount of Cluster Nodes in violation of the License.
- Deletion of Cluster Node(s) occurs, thereby removing the Cluster Node violation of the License.

A user can connect to an Unlicensed Cluster Node from the User Interface; however, limited interaction is allowed:

- Activity Monitoring is not allowed.



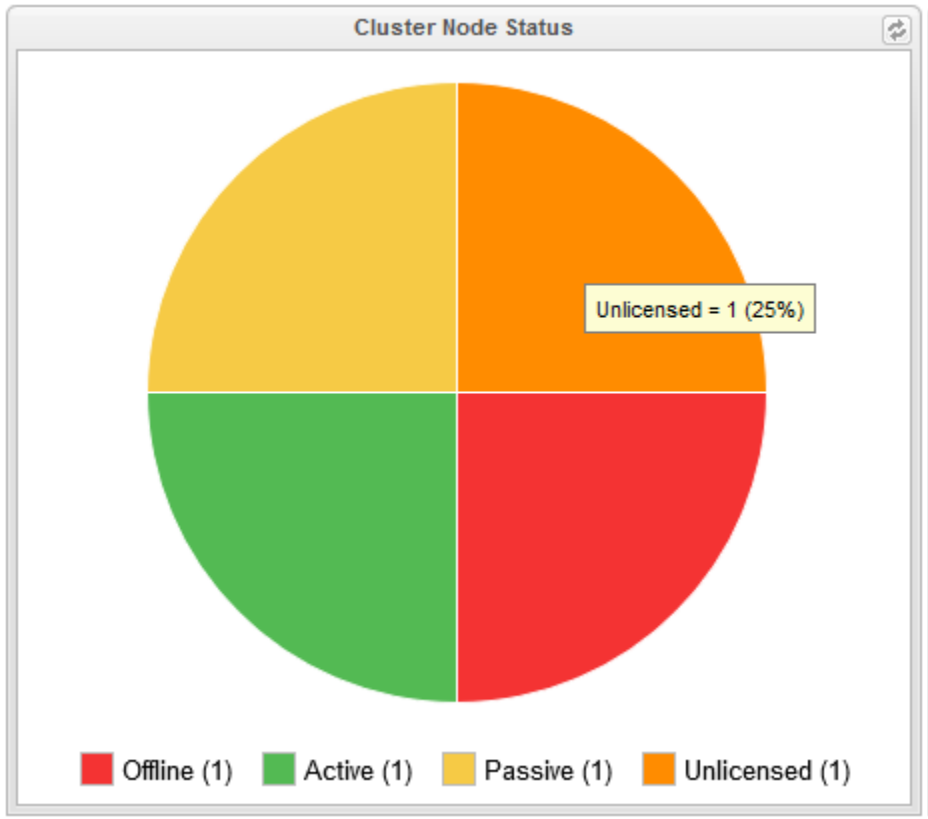
- Commands are not allowed to be executed.



- Create/Update/Delete are NOT allowed of Tasks/Triggers/Calendars/Custom Days/.....
- Cluster Nodes can be deleted (as long as they are marked offline, as usual).
- Properties can be updated, in order to allow a new license to be applied.

Unlicensed Node UI

The Cluster Node Status widget will show Unlicensed Cluster Nodes as seen below:



Cluster Node List:

4 Cluster Nodes	
Node Id	Mode
WorkLaptop:7080-opswise	Unlicensed
XXX:1-opswise	Passive
YYY:2-opswise	Offline
ZZZ:3-opswise	Active

When connected to an Unlicensed Cluster Node, The License under the System Details will recognize it as:

System Details

▲ **Cluster Node { Unlicensed }**

Node Id	WorkLaptop:7080-opswise
Node Mode	Unlicensed
Node Uptime	1 Hour 14 Minutes 0 Seconds
Node Time	2020-02-13 11:59:27 -0500 (America/New_York)

▶ **Release { 6.8.0.0 build.development }**

▶ **Memory { 204.89 MB (5.63%) / 3641.00 MB }**

Universal Connector for PeopleSoft

The License will have a new boolean (True/False) attribute for Universal Connector for PeopleSoft (UPPS) to control whether or not UPPS is allowed.

The following will be prohibited if not licensed for UPPS:

1. Creating PeopleSoft Connections.
2. Executing PeopleSoft Task Instances.

PeopleSoft Connections

Creating a new PeopleSoft Connection will only be allowed if licensed for UPPS.

The following error message will be logged if not licensed for UPPS.

```
PeopleSoft Connection cannot be created because of License restriction.
```

If system notifications are enabled, a license notification email also will be sent with the following message in the email body.

```
Universal Controller node 'localhost:8080-uc' is not licensed for UPPS.
User 'ops.admin' was prohibited from creating PeopleSoft Connection 'PPSC1'.
Please contact Stonebranch customer support.
...
```

Note



- PeopleSoft Connections will not be hidden in the UI if not licensed for UPPS.
- Creating PeopleSoft Connections will not be prohibited by Promotion, List Import, or Bulk Import.

PeopleSoft Task Instances


Creating new PeopleSoft Tasks will not be prohibited if not licensed for UPPS. Likewise, launching a PeopleSoft Task will not be prohibited; however, PeopleSoft Task Instances will transition to a *Start Failure* **Status** with the following **Status Description**:

```
Execution prohibited due to License restriction.
```

If system notifications are enabled, a license notification email also will be sent with the following message in the email body.

```
Universal Controller node 'localhost:8888-uc' is not licensed for UPPS.  
  
Execution of PeopleSoft task instance 'PPST1' was prohibited.  
  
Please contact Stonebranch customer support.  
...
```

Note

 PeopleSoft Tasks/Task Instances will not be hidden in the UI if not licensed for UPPS.

Universal Connector for SAP

The License will have a new boolean (True/False) attribute for Universal Connector for SAP (USAP) to control whether or not USAP is allowed.

The following will be prohibited if not licensed for USAP:

1. Creating SAP Connections.
2. Executing SAP Task Instances.

SAP Connections

Creating a new SAP Connection will only be allowed if licensed for USAP.


The following error message will be logged if not licensed for USAP.

```
SAP Connection cannot be created because of License restriction.
```

If system notifications are enabled, a license notification email also will be sent with the following message in the email body.

```
Universal Controller node 'localhost:8080-uc' is not licensed for USAP.  
  
User 'ops.admin' was prohibited from creating SAP Connection 'SAPC1'.  
  
Please contact Stonebranch customer support.  
...
```

Note

- 
- SAP Connections will not be hidden in the UI if not licensed for USAP.
 - Creating SAP Connections will not be prohibited by Promotion, List Import, or Bulk Import.

SAP Task Instances

Creating new SAP Tasks will not be prohibited if not licensed for USAP. Likewise, launching an SAP Task will not be prohibited; however, SAP Task Instances will transition to a *Start Failure* **Status** with the following **Status Description**:

```
Execution prohibited due to License restriction.
```

If system notifications are enabled, a license notification email also will be sent with the following message in the email body.

```
Universal Controller node 'localhost:8080-uc' is not licensed for USAP.  
  
Execution of SAP task instance 'SAPT1' was prohibited.  
  
Please contact Stonebranch customer support.  
...
```

Note



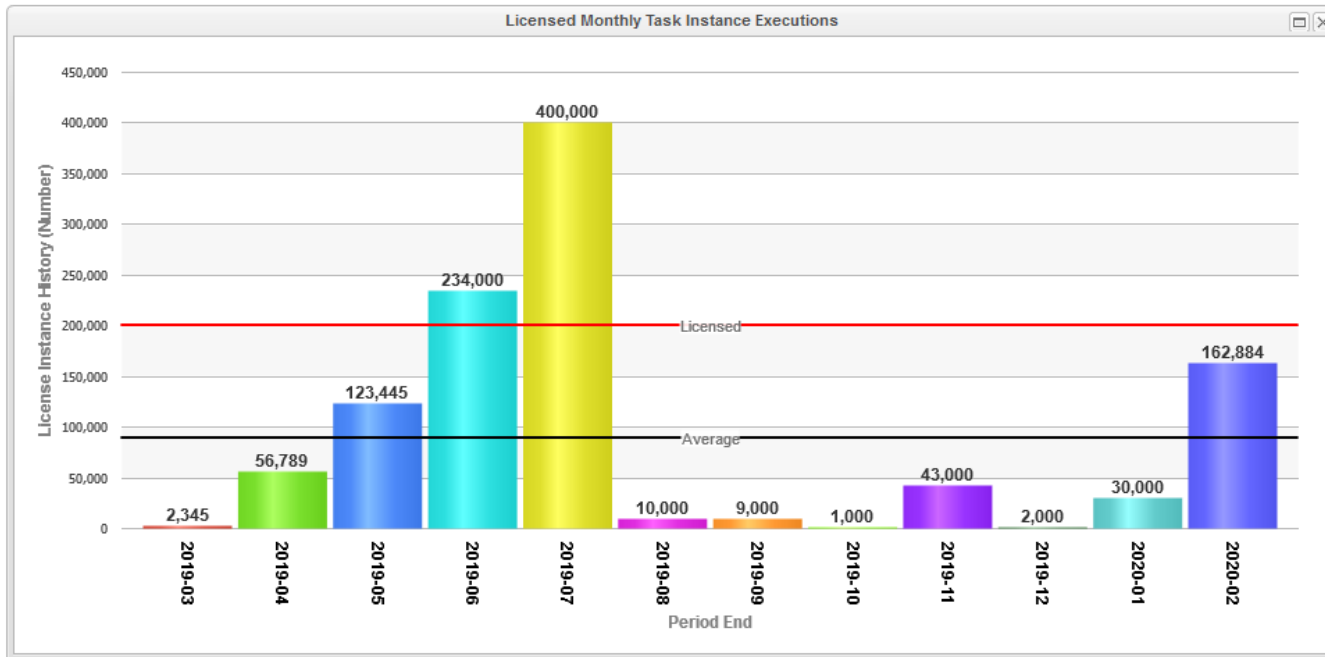
SAP Tasks/Task Instances will not be hidden in the UI if not licensed for USAP.

Reports

A new [built-in report](#), **UAC - Licensed Monthly Task Instance Executions**, visually display the number of monthly executions.

The report is driven by data in the **License Instance History (ops_license_exec_history)** table, which also is available as a **Table** for selection for custom-built reports.

The report shows the average number of monthly executions, and the licensed number of monthly executions if not **Unlimited**, as shown in the following example.



Furthermore, when viewing the report definition, the **Show Threshold**, **Threshold Color**, **Threshold Value**, and **Threshold Label** will be dynamically populated with values in-line with the applied license.

Chart Options

Chart Size : Large	Bar Thickness : 150
Group By : Period End	Group Threshold : Unlimited
Stack By :	Group Order : Label
Sum Field : Number	Group Date/Time Format : yyyy-mm
Show Average : <input checked="" type="checkbox"/>	Average Color : #000000
Show Threshold : <input checked="" type="checkbox"/>	Threshold Color : #FF0000
Threshold Value : 500	Threshold Label : Licensed

Agent-Only Licensing

- [Overview](#)
- [User Interface](#)
 - [Automation Center Navigation](#)
 - [Bundles and Promotion](#)
 - [Reporting Navigation](#)
 - [Agents and Connections Navigation](#)
 - [Administration Navigation](#)
- [System Details Widget](#)

Overview

With the introduction of the Universal Agent 6.9.0.0, Universal Controller became the central location for the management of all licensing.

If you do not use Universal Controller as your enterprise job scheduler and workload automation broker solution, the Controller has an [Agent-only license mode](#) that allows you to manage licensing for Universal Agent 7.2.x deployments.

User Interface

If an Agent-only license is applied to the Controller, logging into the Controller user interface presents restricted navigation.

Automation Center Navigation

The [Automation Center navigation pane](#) which normally is the default navigation pane in the Controller [user interface](#), is not relevant in the context of an Agent-only license, and is hidden from view.

Bundles and Promotion

The [Bundles & Promotion navigation pane](#) is not relevant in the context of an Agent-only license and is hidden from view; the Bundles & Promotion icon is not available for selection.


Reporting Navigation

Under the [Reporting navigation pane](#), the following menu options are available:

- [Dashboards](#)
- [Reports](#)
- [Widgets](#)

The Colors menu option is hidden.

Restrictions

Reports	<p>You can create reports only on Report tables that are permitted in Agent-Only licensing mode:</p> <ul style="list-style-type: none"> • Agents • Cluster Nodes • Connections <ul style="list-style-type: none"> • Email Connections • OMS Servers • SNMP Managers • Security • Widgets
Widgets	<p>You cannot create Activity Widgets in Agent-Only licensing mode.</p> <p>You cannot create Report Widgets for Reports that are not permitted in Agent-Only licensing mode.</p> <p>Note </p> <p>You can create Report Widgets for all Built-In Reports in Agent-Only licensing mode.</p>

Agents and Connections Navigation

Under the [Agents & Connections navigation pane](#), the following menu options are available:

- Agents
 - Linux/Unix Agents
 - Windows Agents
 - z/OS Agents
- System
 - OMS Servers
 - Cluster Nodes
 - Email Connections
 - SMNP Managers

Administration Navigation

Under the [Administration navigation pane](#), the following menu options are available:

- Configuration
 - Properties
 - Password Settings
 - LDAP Settings
 - Single Sign-On Settings
 - Server Operations
 - Filters
- Security
 - Users
 - Groups
 - Business Services
 - Audits
- Support
 - Support Portal
 - Video Classroom

Note





In the Agent-only license mode, the Administration navigation pane is the default navigation pane.

System Details Widget

If the License is for a normal Universal Controller system (that is, not Agent-Only), no changes to the License Information are displayed; no mention of Agent-Only will be presented if the -AGENTONLY attribute is set to False.

License { Junit }	
Expiry Date	2029-10-13
Distributed Agents	5/5
z/OS Agents	0/1
Cluster Nodes	2/3
Tasks	166/500
Monthly Executions	0/5000
UPPS	true
USAP	true
UPPS Connections	3
USAP Connections	0
JMS	true
IBM WebSphere MQ	true
SOAP	true
XD SOAP	true
HTTP	true
Customer	Junit
Environment	Test

If the License is for Agent Only set-up, the icon to display Licensed Monthly Task Instance Executions will not be displayed, nor will any information about Tasks or Monthly Executions.

 License { Mark } 	
Expiry Date	2021-10-13
Distributed Agents	5/5
z/OS Agents	0/1
Cluster Nodes	2/3
Agent Only	true
UPPS Connections	2
USAP Connections	0
JMS	true
IBM WebSphere MQ	true
SOAP	true
XD SOAP	true
HTTP	true
Customer	Mark
Environment	Test

Logging In

- [Login Methods](#)
- [Standard Login](#)
 - [Changing Your Password](#)
 - [Password Expiration](#)
- [Single Sign-On Login](#)
- [User Lockout](#)
- [User Restriction](#)
- [License Expiration](#)
- [Login Disclaimer](#)
- [Login Notification](#)
- [Logging Out](#)
 - [Exiting without Logging Out](#)
 - [SAML Single Logout](#)
- [Log File and Audits](#)
 - [Log File Messages](#)
 - [Audit Messages](#)
- [User Sessions](#)
 - [Send an Email to Logged In Users](#)
 - [Expire User Sessions](#)

Login Methods

Universal Controller provides a [Login Method](#) option at the user account level that allows you to select the following login methods:


- [Standard](#)
- [Single Sign-On](#)
- Both Standard and Single Sign-On

The default login method for a user depends on the user account type.

Account Type	Login Method
Local User Account	<p>Local user accounts, by default, are designated with the Standard login method.</p> <p>Any user account created prior to Universal Controller 6.4.6.0 is, by default, designated with the Standard login method; for example, after an upgrade, or after importing users from an earlier release.</p> <p>Any attempt by a user to use the Standard login for an account that is not designated to use Standard login method will receive the following error:</p> <div style="border: 1px solid #ccc; padding: 10px; margin-top: 10px;"> <p>Username and/or password invalid.</p> </div>
LDAP-Provisioned User Account	<p>Any user provisioned through LDAP synchronization will be designated, by default, with the login method(s) configured in the LDAP Settings.</p> <p>The designation of the login method only applies at user creation time.</p>

Single Sign-On-Provisioned User Account	Any user provisioned through SAML Single Sign-On will be designated, by default, with the Single Sign-On login method only. The designation of the login method only applies at user creation time.
---	--

Note

 The local administrator account, ops.admin, is configured to allow only the Standard login method. Modification of the ops.admin account Login Method is not permitted.

For additional details on login method enforcement, see [Single Sign-On Troubleshooting](#).

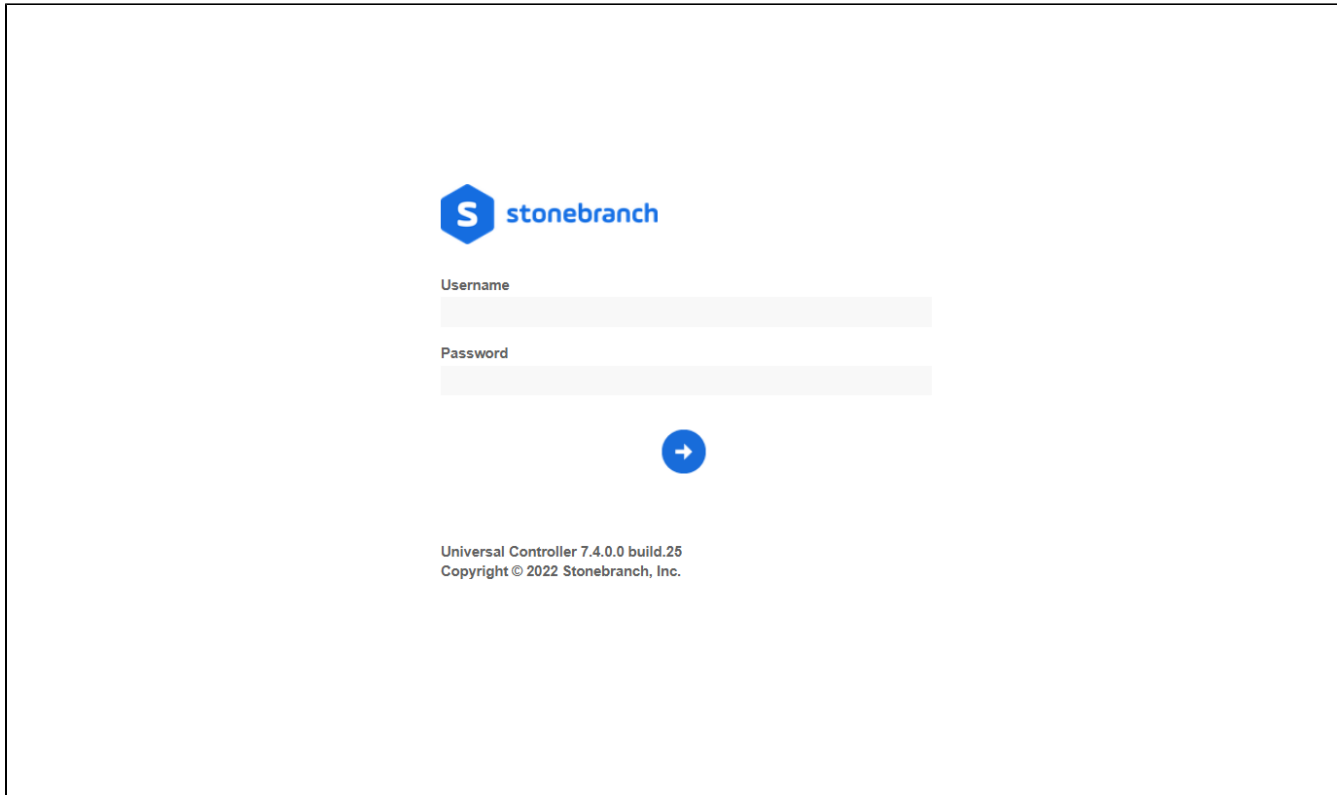
Standard Login

The **Universal Automation Center Login** page displays automatically when you bring up the Universal Controller system and browse to its URL.

The Standard login URL is:

`http(s)://<server:port>/uc/login.jsp` (or simply, `http(s)://<server:port>/uc/`).


All Local account and AD/LDAP-authenticated accounts authenticate through this standard login URL.



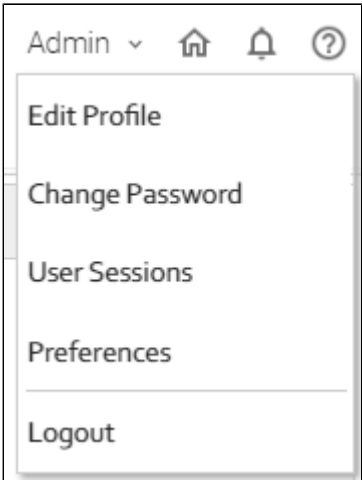
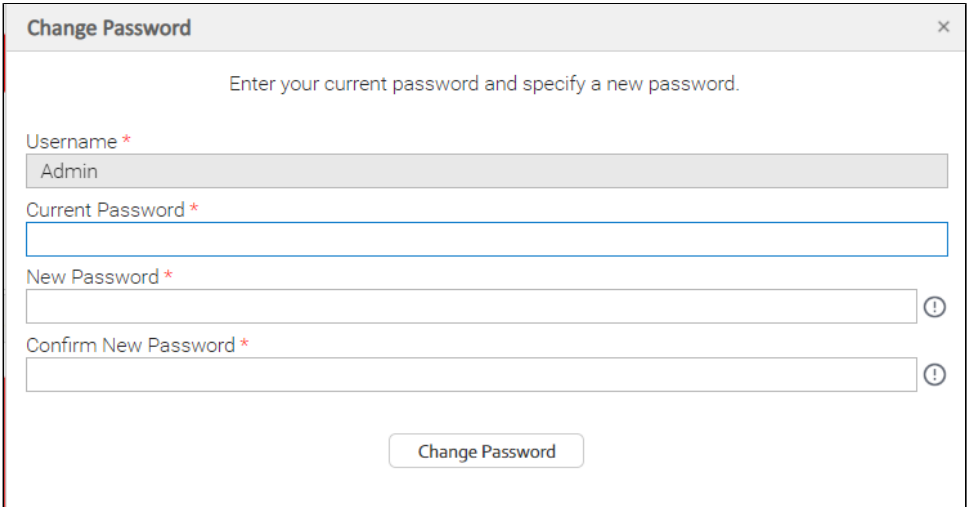
User Name	The default login User name is ops.admin .
Password	For your initial login to the Controller, no password is required; the Controller prompts you to create a password.

Changing Your Password


Note

 Changing your password is not applicable to users that log in using LDAP authentication.

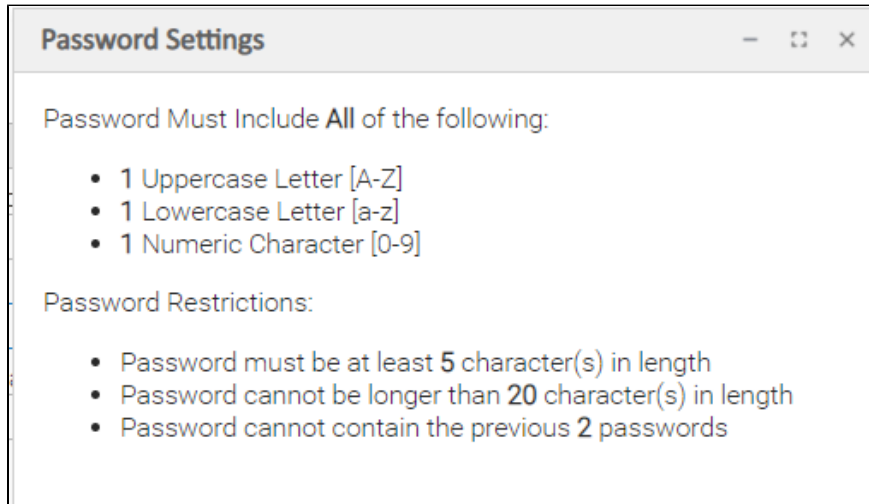
To change your password at any time after you have logged in:

<p>Step 1</p>	<p>On the User task bar, click the User Actions drop-down list arrow to display a menu of user actions.</p> 
<p>Step 2</p>	<p>Click Change Password. The Change Password dialog pops up.</p> 
<p>Step 3</p>	<p>Enter your Current Password and a New Password, and reenter your new password in Confirm New Password.</p>
<p>Step 4</p>	<p>Click the Change Password button.</p>

Note


 If any [Password Settings](#) have been defined for user passwords, the hint for the New Password and Confirm New Password fields, as well as the information icon pop-up for either field, will display those settings.

For example:

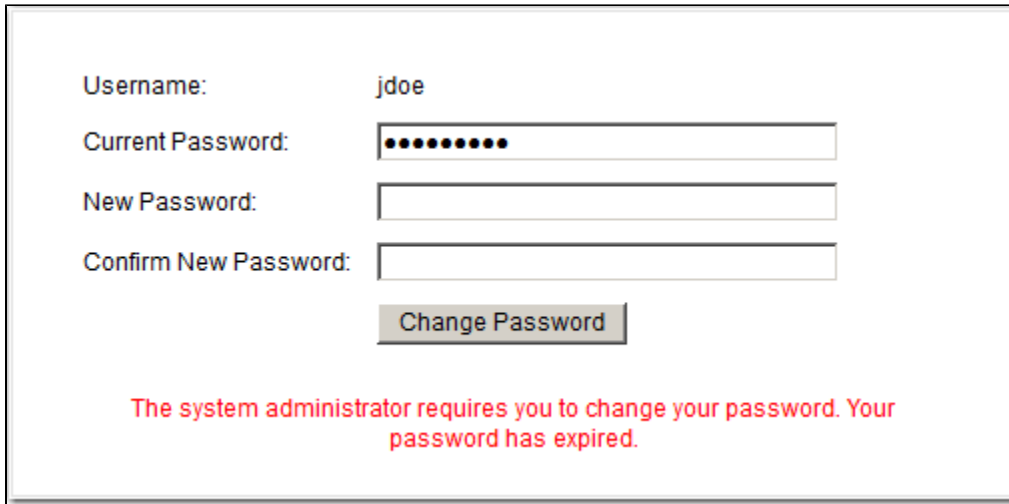


Password Expiration

Note

 Password expiration is not applicable to users that log in using LDAP authentication.

If the [Password Expiration Enabled](#) field in [Password Settings](#) has been enabled, and you reach the maximum number of days that a user password can remain unchanged, as specified by the [Password Expiration in Days](#) field in [Password Settings](#), the following dialog displays when you enter your password on the [Standard Login](#) page:



Username: jdoe


Current Password:

New Password:

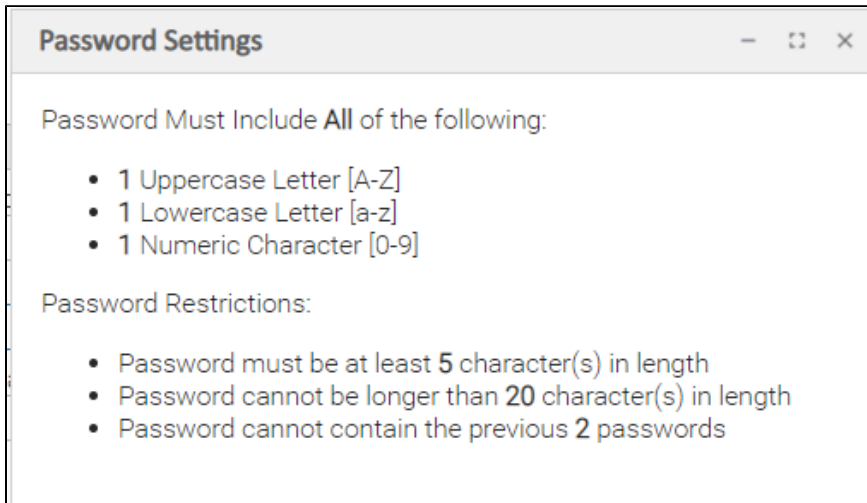
Confirm New Password:

The system administrator requires you to change your password. Your password has expired.

Note

 Below the **Change Password** button, the Change Password dialog will display any characteristics and restrictions defined in [Password Settings](#).

For example:



Password Settings

Password Must Include **All** of the following:

- 1 Uppercase Letter [A-Z]
- 1 Lowercase Letter [a-z]
- 1 Numeric Character [0-9]

Password Restrictions:

- Password must be at least 5 character(s) in length
- Password cannot be longer than 20 character(s) in length
- Password cannot contain the previous 2 passwords

You must enter a new password, one that is different than your currently expired password. (To maintain a high level of security, you should never use a password that you have used before.)

1. In **Current Password**, enter your password that has just expired.
2. In **New Password** and **Confirm New Password**, enter a new, previously unused password.
3. Click **Change Password**.

If you try to enter your currently expired password as your new password, the following error message displays on the Password Expired dialog:

```
Your new password cannot be the same as your current password.
```

Single Sign-On Login

For information on Single Sign-On Login method and the Single Sign-On Login URL, see [Single Sign-On Login](#) on the [Single Sign-On Settings](#) page.

User Lockout

If the [Lock Account After Maximum Login Attempts](#) field in [Password Settings](#) has been enabled, and you reach the maximum number of successive login attempts that is allowed, as specified by the [Maximum Failed Login Attempts](#) field in [Password Settings](#), your user account in Universal Controller will be locked.

(Whenever [Lock Account After Maximum Login Attempts](#) is reset from enabled to disabled, the current number of login attempts for all users is reset to 0.)

If you attempt to log in to a locked account, the following message displays:

```
User account <Username> is locked. Please check with your administrator."
```

To unlock a locked account, your Controller system administrator must uncheck the **Locked out** field on the [User Details](#) for that user account.

User Restriction

You can be restricted from logging in to the Universal Controller user interface either of two ways:

1. The system level default for web browser access, specified by the [System Default Web Browser Access](#) Universal Controller system property, has been set to **No**, and the **Web Browser access** field in the [User Details](#) for your user account is set to **-- System Default --**.
2. The **Web Browser access** field is set to **No**, which overrides the **System Default Web Browser Access** value (**Yes** or **No**).

If either restriction is in place, the following error message will display when you enter your user name at the **User name** prompt:

```
User <Username> not permitted to login through the web browser. Please check with your administrator.
```

To remove the restriction, the system administrator must either:

- Set the System Default Web Browser Access property to **Yes** and set the **Web Browser access** field in the User Details for your user account to **-- System Default --**.
- Set the **Web Browser access** field in the User Details for your user account to **Yes**.

License Expiration

If you log in to the Controller and your Controller license is about to expire within one week, the following informational message displays in the [Console](#):

```
Universal Controller license for node <node_id> will expire in N days.  
Please contact Stonebranch customer support to avoid service interruption.
```

If you log in to the Controller and your Controller license already has expired, the following error message displays in the [Console](#):

```
Universal Controller license for node <node_id> has expired and the Controller has been suspended.  
  
Licensed Number of Days: N  
Actual Number of Days: N  
  
Please contact Stonebranch customer support to restore services.
```

In each case, the Console will remain open until you manually [close](#) it.

Additionally, if you have configured the Controller for [System Notifications](#), system notifications are sent when the Controller license will expire in seven days and if the license already has expired.

Note



If your license expires, you will not be able to run any tasks.

Login Disclaimer

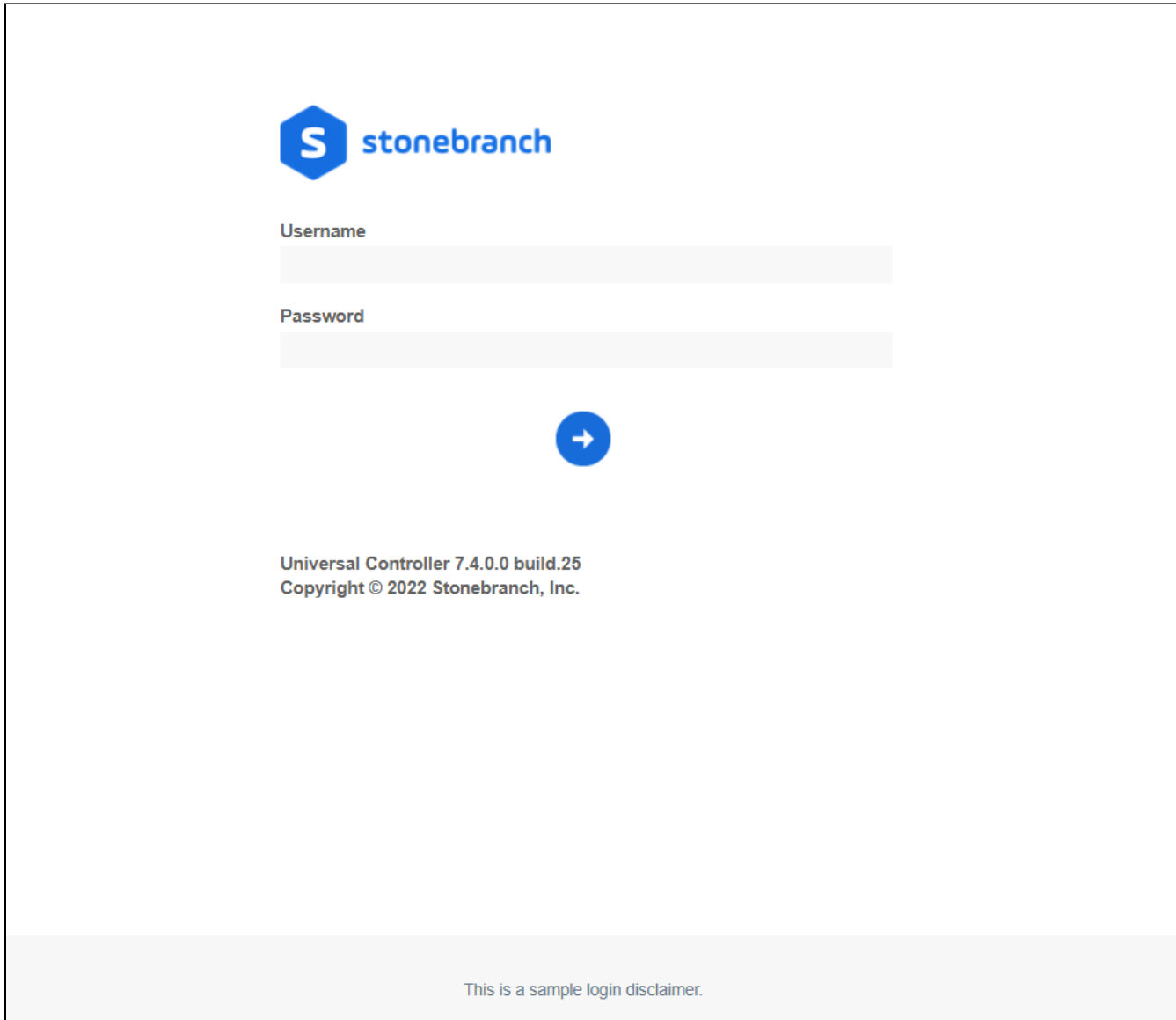
The [Login Disclaimer](#) Universal Controller system property lets you define multi-lines of free-form text that will display at the bottom of the [Universal Automation Center Login page](#) when you attempt to login.

Note



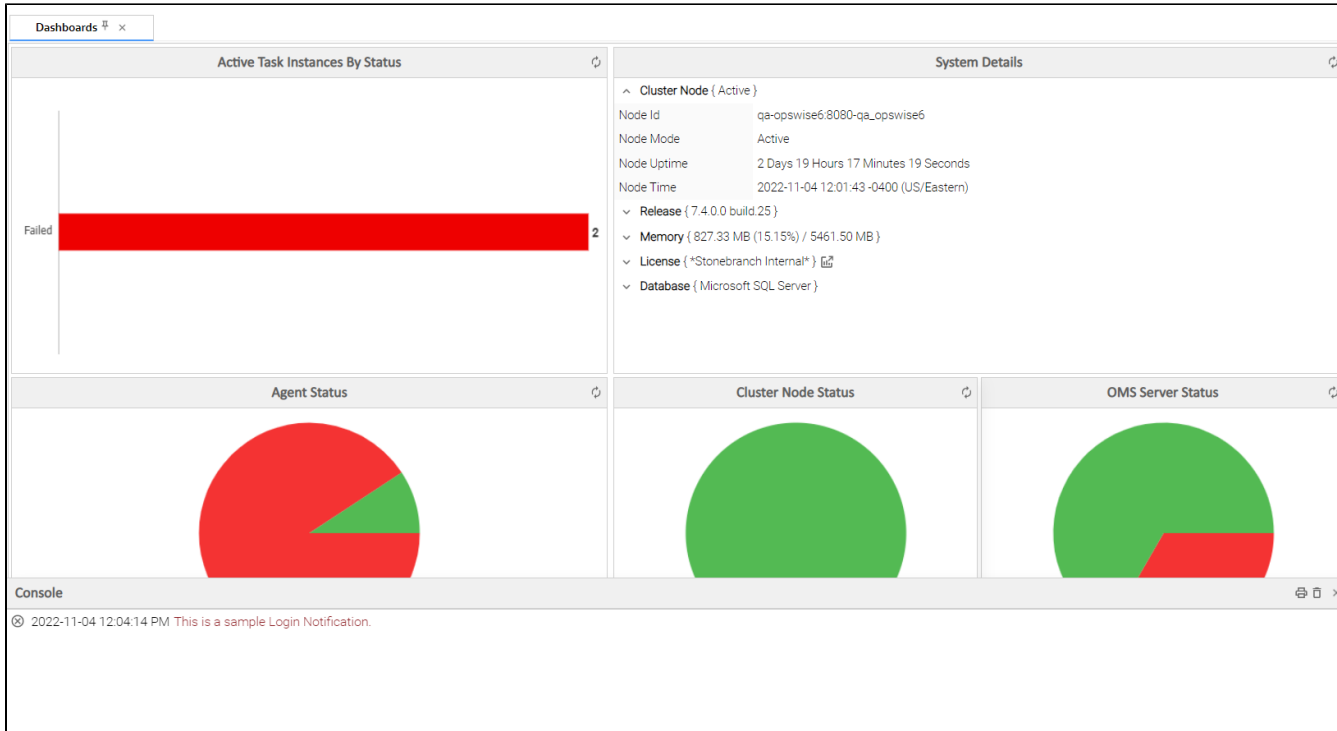
HTML is not permitted and will be escaped accordingly.

For example:



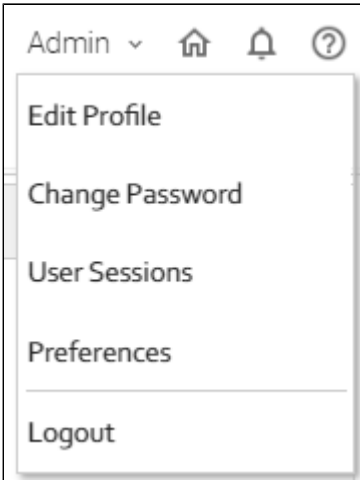
Login Notification

The [Login Notification](#) Universal Controller system property lets you define a message that displays in the [Console](#) when you login to the Controller.



Logging Out

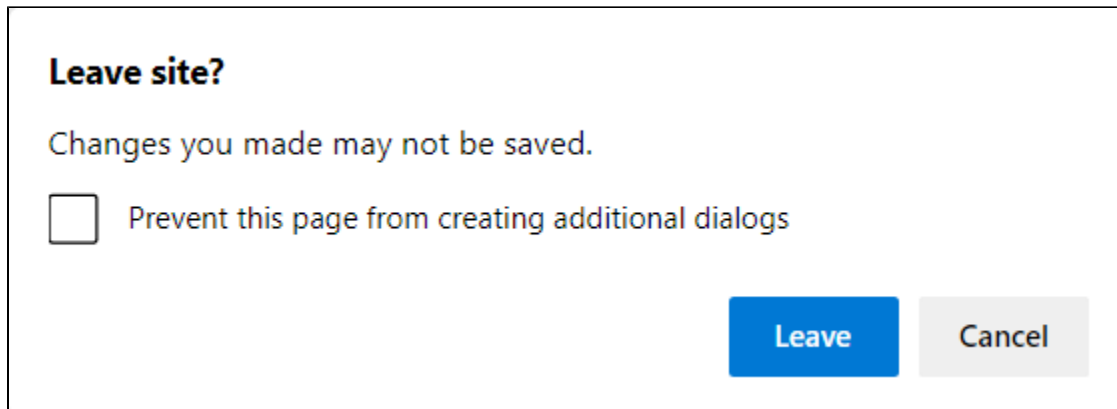
To log out of your Universal Controller session:

<p>Step 1</p>	<p>On the User Task Bar, click the User Actions drop-down list arrow to display a menu of user actions.</p> 
<p>Step 2</p>	<p>Click Logout. You are logged out of this session, and the Universal Automation Center Login page displays.</p>

Exiting without Logging Out

As a best practice, we recommend that you always end your Universal Controller session by logging out before closing the browser or navigating away from the user interface.

If you attempt to close the browser or navigate away from the user interface before logging out, and the [Confirm Exit](#) Universal Controller system property is set to **true**, the following pop-up dialog displays:



- Click **Leave Page** to navigate away from the Universal Controller user interface.
- Click **Stay on Page** to remain in the Universal Controller user interface.

Note



This dialog may differ from browser to browser.

SAML Single Logout

For information on SAML Single Logout, see [Single Logout](#) in [Single Sign-On Settings](#).

Log File and Audits

All user login and logout activity, whether via the user interface or a Universal Controller [remote interface](#), is [logged](#) and [audited](#) (as a single [audit type](#): User Login).

Log File Messages

Log file messages for login activity are in the following format:

```
timestamp(internal)login activity<user=user name, ipaddr=IP address>
```

For example:

```
2015-04-16-11:16:26:391 -0400 INFO [http-bio-8080-exec-5] Login OK <user=ops.admin, ipaddr=192.55.44.123>
2015-04-16-11:17:20:208 -0400 INFO [http-bio-8080-exec-10] Login Failed <user=ops.admin, ipaddr=192.55.44.123>
2015-04-16-11:16:57:442 -0400 INFO [http-bio-8080-exec-11] Logout OK <user=ops.admin, ipaddr=192.55.44.123>
```

Audit Messages

Audit messages for login activity are in the following format:

```
login activity<user=user name, ipaddr=IP address>
```

For example:

```
LOGIN <user=stonebranch-user-01, ipaddr=192.55.44.123>
```

Note



The IP Address of the user is not logged or audited for login activity via the [Command Line Interface \(CLI\)](#).

User Sessions

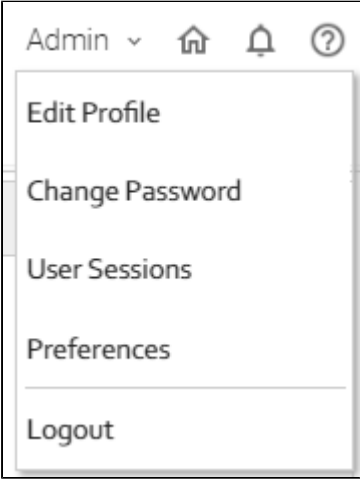
Note



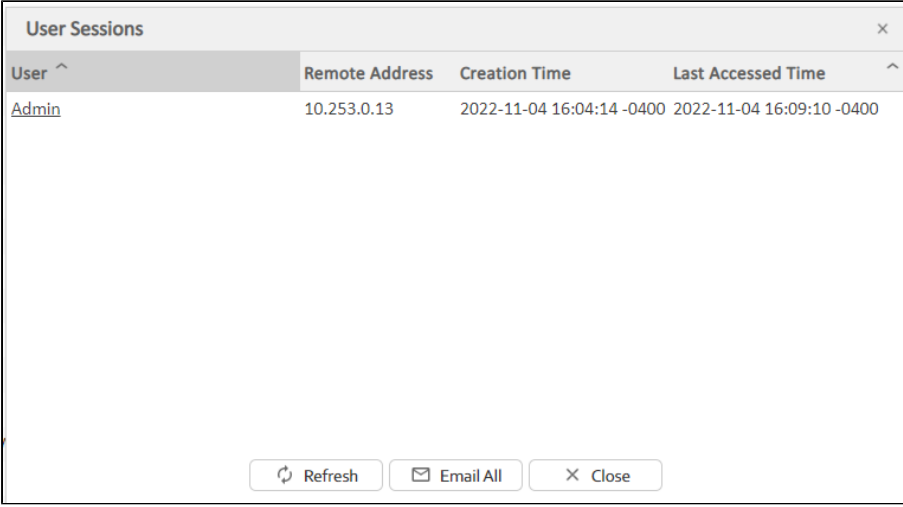
This action requires the [ops_admin](#) role or the [ops_user_admin](#) role.

To display a list of currently authenticated user sessions (logged in users):

Step 1 On the [User task bar](#), click the [User Actions](#) drop-down list arrow to display a menu of user actions.



Step 2 Click [User Sessions](#) to display the User Sessions list of currently authenticated user sessions.



User ^	Remote Address	Creation Time	Last Accessed Time
Admin	10.253.0.13	2022-11-04 16:04:14 -0400	2022-11-04 16:09:10 -0400

Refresh Email All Close

For each logged in the user, the User Sessions list provides the following columns of information:

Column	Description
User	User Id of the user. (You can click a User Id to display the User Details for that user.)
Remote Address	Address of the machine from where the user logged in.
Creation Time	Date and time that the user initially logged in; in other words, when the user session was created.
Last Accessed Time	Last date and time that the client (browser) sent a request associated with this user session..

Note



If you have configured Tomcat for never timing out sessions or for an exceptionally long session timeout - neither of which is recommended - this can result in a large number of lingering sessions if users are not logging out of the web application prior to closing their browser. As a precaution, if the Universal Controller detects more than 1,000 authenticated sessions, only those sessions with a Last Accessed Time of less than 24 hours ago will be displayed.

To view an up-to-date list of the currently logged in users, click the **Refresh button**; to close the list, click the **Close** button.

From the Users Sessions list, you also can:

- [Send an Email](#) to one or more (or all) logged in users.
- [Expire the user session](#) of one or more users.

Note



If the following error appears in the [Console](#) while you are using the User Sessions feature, you may need to manually configure the `opswise.mbean.catalina.manager.name` Universal Controller start-up property:

```
Universal Controller not configured for user session operations.
```

Send an Email to Logged In Users

From the User Sessions list, you can send an Email to:

- [All users](#) on the list.
- [One or more users](#) on the list.

The Controller will auto-generate the email Subject in the following format:

```
Message from system_identifier Universal Controller Administrator (user_id@cluster_node_id)
```

The Reply-To address for the email will be the email address of the sender.

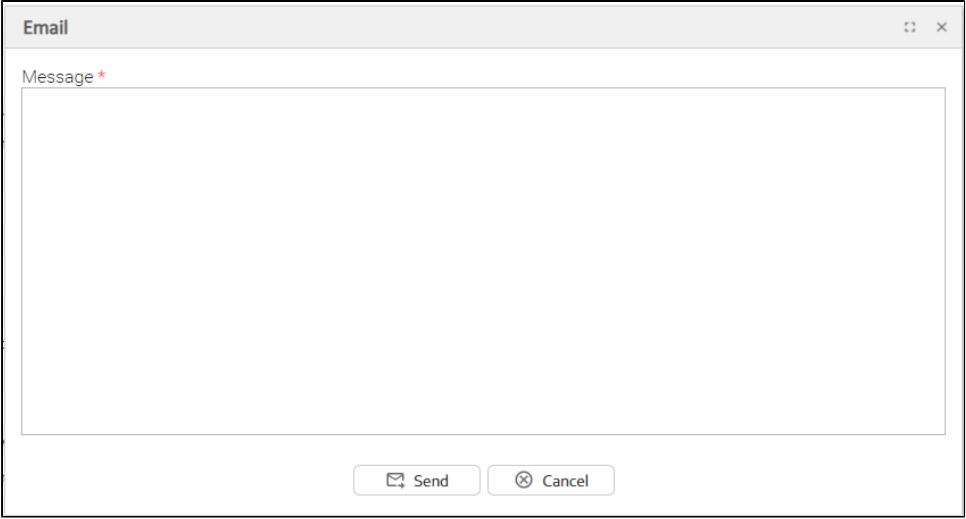
An administrator must ensure that an [Email Connection](#) exists with the Use for System Notifications option enabled. The Email Address specified in the [Email Connection Details](#) will appear as the From email address.

Note

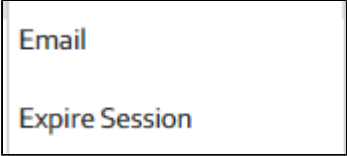
For local user accounts, each user must have assigned a valid email address.

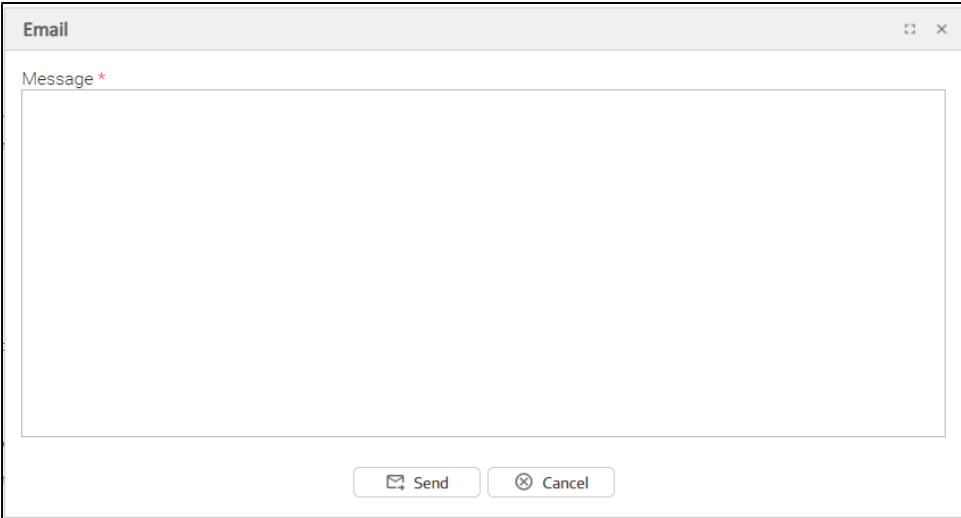
For AD/LDAP synchronized user accounts, each synchronized user must have a valid email address mapped to their user record. (By default, this should be true.)

Send an Email to All Logged In Users

Step 1	<p>Click the Email All button on the User Sessions list. An Email pop-up dialog displays.</p> 
Step 2	<p>Enter a Message and click the Send button.</p>

Send an Email to One or More Logged In Users

Step 1	<p>Select one or more users on the User Sessions list and right-click any of the selected users. The User Sessions actions menu displays:</p> 
---------------	---

<p>Step 2</p>	<p>Click Email to display an Email pop-up dialog.</p> 
<p>Step 3</p>	<p>Enter a Message and click the Send button.</p>

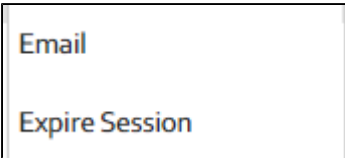
Expire User Sessions

Note



This action requires the [ops_admin](#) role or the [ops_user_admin](#) role.

To expire (log out) one or more currently authenticated user sessions (logged in users):

<p>Step 1</p>	<p>Click User Sessions in the User Actions drop-down list on the User Task Bar. The User Sessions list then displays a list of currently authenticated user sessions.</p>
<p>Step 2</p>	<p>Select one or more users on the list and right-click any of the selected users. The User Sessions actions menu displays:</p> 
<p>Step 3</p>	<p>Click Expire Session to expire the user sessions of the selected users. A confirmation pop-up then displays.</p>
<p>Step 4</p>	<p>Click OK to confirm that you want to expire the selected user sessions.</p>

User Interface

- [Overview](#)
- [Home Page](#)
 - [User Interface Details](#)
- [Available Services](#)
- [Global Search](#)
 - [Performing a Global Search:](#)
- [Customizing the Banner](#)
 - [Changing the Banner Background Color](#)
 - [Changing the Banner Logo](#)
- [Drop-Down Lists](#)
- [Console](#)
 - [Console Actions](#)
- [Tabs](#)
 - [Pinning Tabs](#)
 - [Tab Picker](#)
 - [Record Details as Tabs](#)
- [Additional Information](#)

Overview

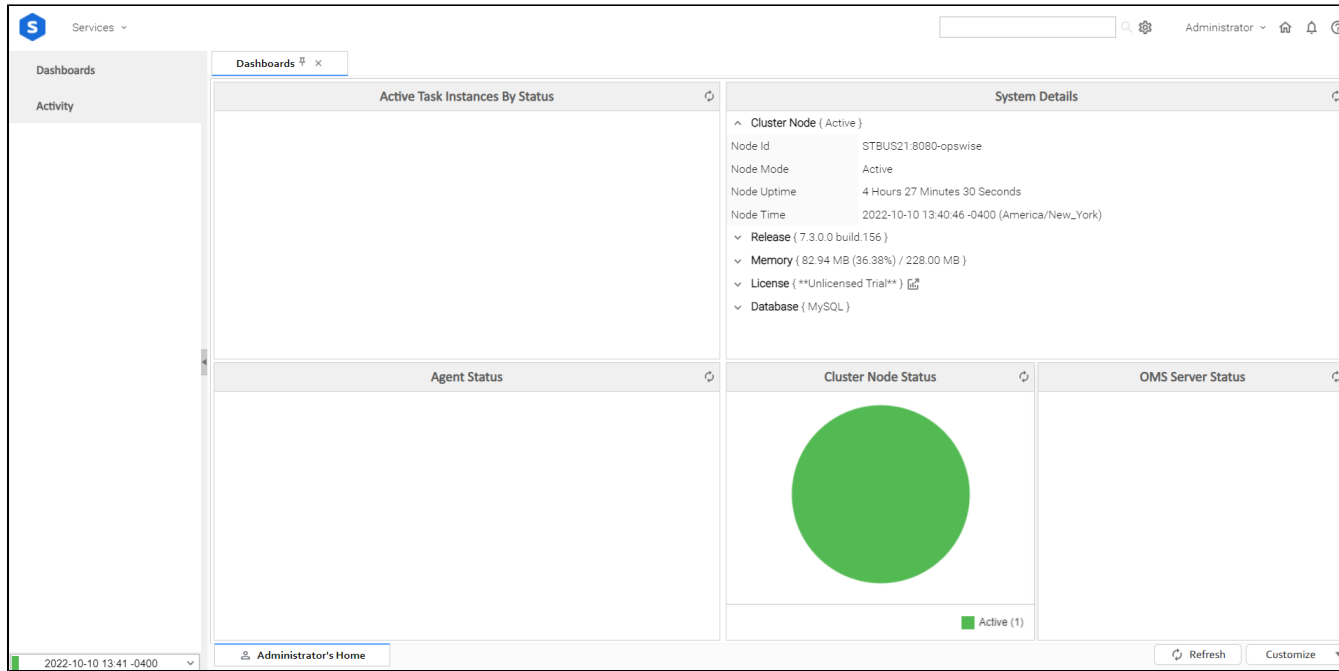
The Universal Controller 7.2.x user interface is comprised of two basic elements:

- [Home page](#)
- [Services](#)

Home Page

When you log in to the Universal Controller 7.2.x user interface, your Universal Controller home page displays.


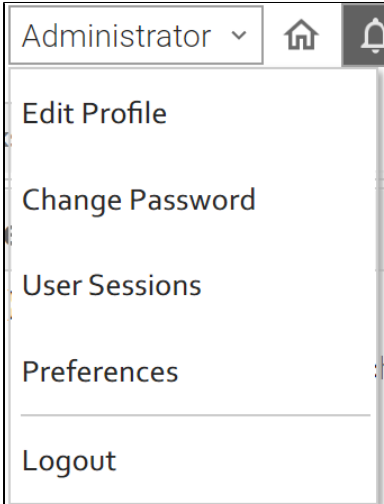

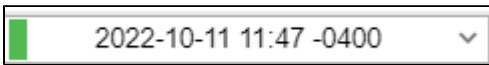
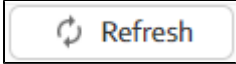
The home page contains the [Home Dashboard](#) and a panel on the left side of the page that lists any [Services](#) that you had selected for easy access.

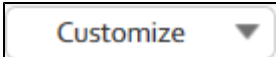


User Interface Details

In addition to the Home Dashboard and user-selected links to areas in Services, the Home Page - and all pages accessed via Services - contains the following information (except where noted).

Section	Description
	Link to the Stonebranch website.
	Link to the Universal Controller Services available in the user interface.

	<p>Search field that enables you to search for a Name, Description, and Member of Business Services across multiple record types.</p> <p>The Search icon lets you select which field types to search for.</p>
	<p>User-specific information for the logged in user.</p> <ul style="list-style-type: none"> • Edit Profile User Details for this user. • Change Password Change Password dialog for this user. • User Sessions List of currently authenticated user sessions. • Preferences List of User Preferences for this user. • Logout Logs out this user from the user interface.
	<p>Links to:</p> <ul style="list-style-type: none"> • Home Dashboard • Console • Universal Controller user documentation
	<p>Time and node status (System Details).</p>
	<p>Home page only; Refreshes the information displayed on this page.</p>

	<p>Home page only:</p> <ul style="list-style-type: none">• New Creates a new Dashboard.• Edit Edits the Dashboard• Delete Delete the Dashboard• Set As Default Set the Dashboard as the default Dashboard.• Copy Creates a copy of the Dashboard.• Visibility Sets the visibility of the Dashboard. <p>Note  You cannot Edit or Delete the Home Dashboard.</p>
---	--

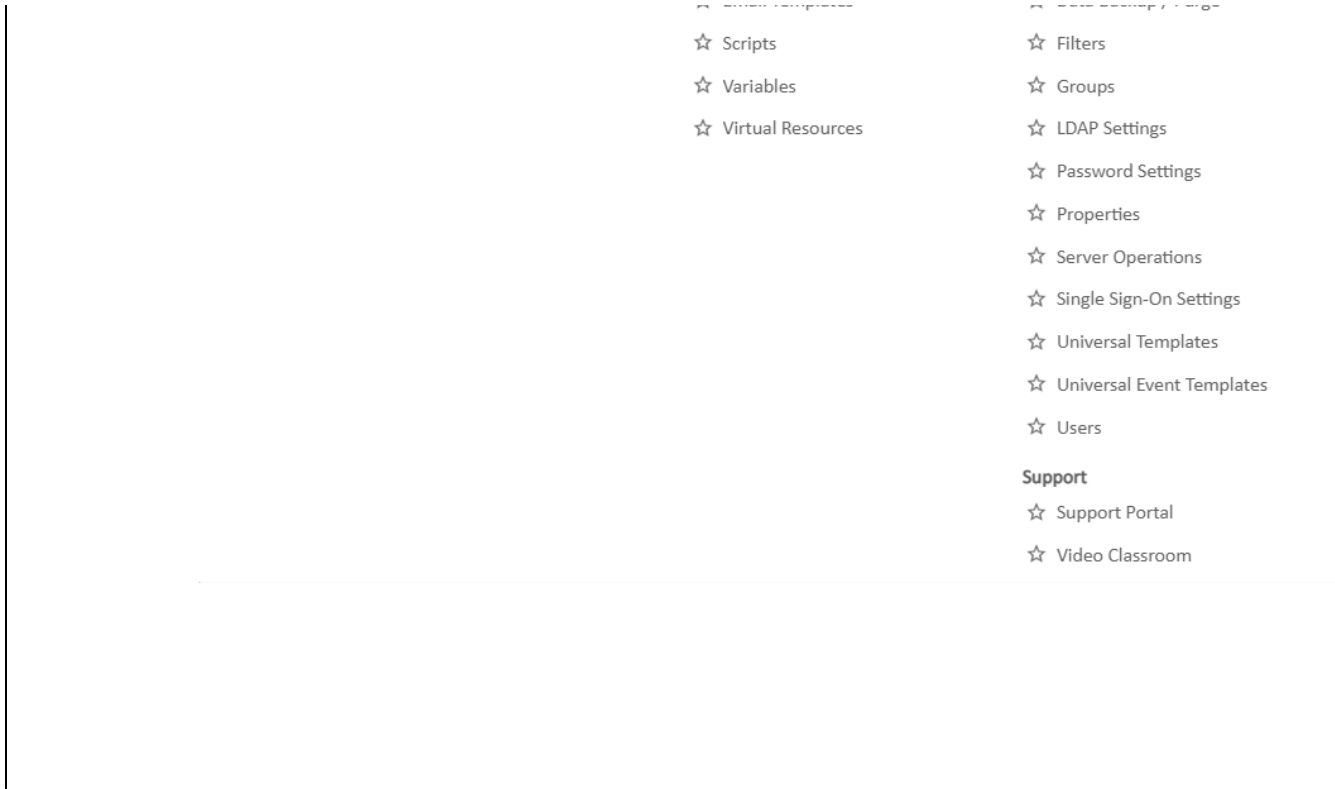
Available Services

All of the record types are under Available Services

To add a record type to the home page navigation panel, click the star icon (U) next to the record type in Available Services

To create a record for a record type while in Available Services, click the new icon (+) next to that record type

Available Services			
★ Dashboards			
★ Activity			
☆ Workflows			
Instances			
☆ Task Instances			
☆ History			
Tasks			
☆ All Tasks			
☆ Linux/Unix Tasks			
☆ Windows Tasks			
☆ z/OS Tasks			
☆ Universal Command Tasks			
☆ File Transfer Tasks			
☆ Manual Tasks			
☆ Timer Tasks			
☆ SQL Tasks			
☆ Stored Procedure Tasks			
☆ Email Tasks			
☆ Web Service Tasks			
☆ Recurring Tasks			
☆ Application Control Tasks			
	Integrations		
	Integration Hub	↓	
	Import Integration Template	↑	
	☆ PeopleSoft Tasks		
	☆ SAP Tasks		
		Triggers	
		☆ All Triggers	
		☆ Active Triggers	
		☆ Cron Triggers	
		☆ Time Triggers	
		☆ Manual Triggers	
		☆ Temporary Triggers	
		☆ Agent File Monitor Triggers	
		☆ Task Monitor Triggers	
		☆ Variable Monitor Triggers	
		☆ Email Monitor Triggers	
		☆ Universal Monitor Triggers	
		☆ Application Monitor Triggers	
		☆ Composite Triggers	
		Monitors	
		☆ Task Monitors	
		☆ Agent File Monitors	
		☆ Remote File Monitors	
		☆ System Monitors	
		☆ Variable Monitors	
		☆ Email Monitors	
		☆ Universal Monitors	
		Calendars	
		☆ Calendars	
		☆ Custom Days	
		Forecasts	
		☆ Forecasts	
		☆ Forecast Calendar	
		Other	
		☆ Credentials	
		☆ Email Templates	
		Reports	
		☆ Reports	
		☆ Widgets	
		☆ Colors	
		Lifecycle Management	
		☆ Bundles	
		☆ Promotion Targets	
		☆ Promotion History	
		☆ Promotion Schedules	
		Agents	
		☆ All Agents	
		☆ Linux/Unix Agents	
		☆ Linux/Unix Agent Clusters	
		☆ Windows Agents	
		☆ Windows Agent Clusters	
		☆ z/OS Agents	
		Connections	
		☆ Email Connections	
		☆ Database Connections	
		☆ SAP Connections	
		☆ PeopleSoft Connections	
		System	
		☆ Applications	
		☆ Cluster Nodes	
		☆ OMS Servers	
		☆ SNMP Managers	
		☆ OAuth Clients	
		Administration	
		☆ Audits	
		☆ Business Services	
		☆ Data Backup / Purge	



Global Search

Global Search enables you to search the user interface for Name, Description, and/or Member of Business Services for the following record types:

- Agent
- Agent Cluster
- Application
- Bundle
- Bundle Target
- Calendar
- Credentials
- Database Connection
- Email Connection
- Email Template
- OMS Server
- PeopleSoft Connection
- SAP Connection
- Script
- SNMP Manager
- Task
- Trigger
- Variable

- Virtual Resource

You can search for:

- Exact field:
Enter a specific record name.
- Partial field:
Enter partial text and use a question mark (?) to replace any single character.
- Wildcard:
Use a wildcard (*) to match one or more matching values (for example: **t***, **Test***, ***est***).

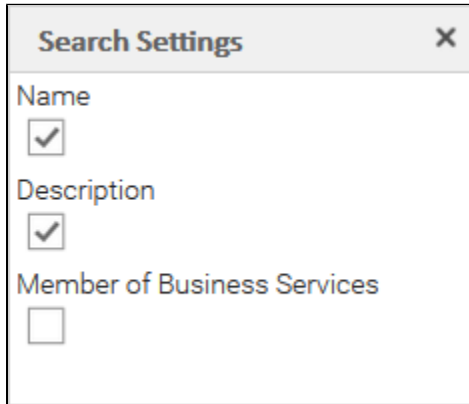
Note



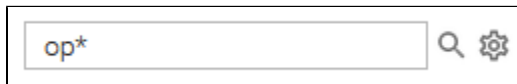
You can receive search results only for records for which you have read access.

Performing a Global Search:

1. Click the Settings icon on the [User Task Bar](#) to configure which fields to search. By default, the Name and Description fields are selected.



2. In the Search field, enter the text to search for. (Search text is not case sensitive.)



3. Click the Search icon to perform the search.

A list of any search results then displays.

2 Matches				
Name	Description	Type	Updated By	Updated
Opwise - Default Linux/Unix Cluster		Agent Cluster	ellen.ulster	2019-12-06 16:42:21 -0500
Opwise - Default Windows Cluster		Agent Cluster	ops.system	2009-06-10 14:08:41 -0400

Customizing the Banner

You can customize the Universal Automation Center banner that displays across the top of the page by changing the banner logo.

Changing the Banner Background Color

To change the background color of the banner, enter a new hexadecimal value in the [Banner Background Color](#) Universal Controller system property.

Changing the Banner Logo

Step 1	Copy the logo file that you want to use in the banner to the <code>uc_images</code> directory directly under your Tomcat <code>home/installation</code> directory: <code>../tomcat/uc_images</code> . Valid logo file extensions are <code>.png</code> , <code>.jpg</code> , and <code>.gif</code> . The logo should be a maximum 298px x 48px. Any logo larger than these dimensions will be scaled automatically; however, it is recommended that keep the logo within these dimensions. <ul style="list-style-type: none"> • If the <code>uc_images</code> directory does not exist, create it. • If you have a High Availability system, you must copy the logo to the <code>uc_images</code> directory for each Universal Controller cluster node in the system.
Step 2	Login to the Universal Controller (or any Controller cluster node in a High Availability system) and update the Banner Logo Universal Controller system property to the name of the logo file (excluding path) that you copied to the <code>uc_images</code> directory. The logo will be deployed automatically to the Controller. In a High Availability system, where an updated property on one cluster node applies to all cluster nodes (since they share the same database), the logo file will be deployed automatically on initial application request.
Step 3	If you want the logo to link to a web resource, enter the URL for the web resource in the Banner Logo URL Universal Controller system property.

Note



If you update the currently configured banner logo file in the `uc_images` folder, as long as the banner logo file size has changed, it will be redeployed automatically. If you do not see the updated banner logo from the user interface, try running the [Clear Server Cache](#) server operation and/or clearing your browser cache.

Drop-Down Lists

Many record Details contain drop-down lists of available values for specific fields.

For example, the record Details for a User contains a drop-down list of titles that can be assigned to the User:

The screenshot shows a 'User Details' form with the following fields and values:

- User Id (Username) ***: stonebranch-user-01
- Password ***: .
- First Name ***: Stone
- Middle Name**: (empty)
- Last Name**: (empty)
- Email**: (empty)
- Password Requires Reset**:
- Locked Out**:
- Login Method ***: Standard
- Time Zone**: Server (America/New_York)
- Title**: (dropdown menu open showing options: System Administrator, Vice President, Director, Senior Developer, Junior Developer, Administrative Assistant, Chief Financial Officer, Chief Technology Officer, Chief Executive Officer, Solution Consultant, Sales Executive, -- System Default --)
- Active**:

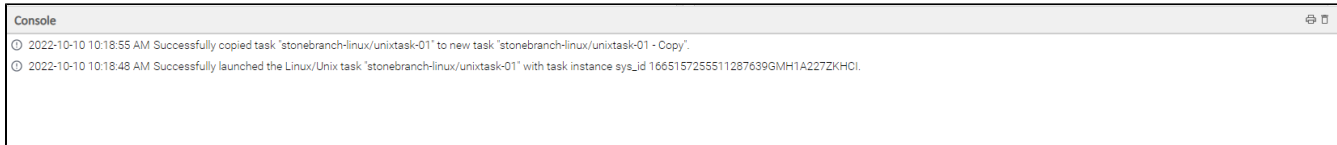
To select a value from a drop-down list, either:

- Click the drop-down list arrow and then click a value.
- Begin entering the name of a value in the drop-down list field. A list of values that match your entry then displays. Click a displayed value.

Console


The Console contains informational and error messages regarding recent Controller activity.

For example:






The Console opens automatically to display error (**x**) messages, and you can set the Console to open automatically to display information (**i**) messages (via one of four [user preferences](#) that allow you to control the Console display).

Note

 Error messages related to specific fields are displayed next to the fields themselves in the record Details, not in the Console.

You also can open the Console manually at any time by clicking the Universal Automation Center Console icon on the User Task Bar.

Console Actions

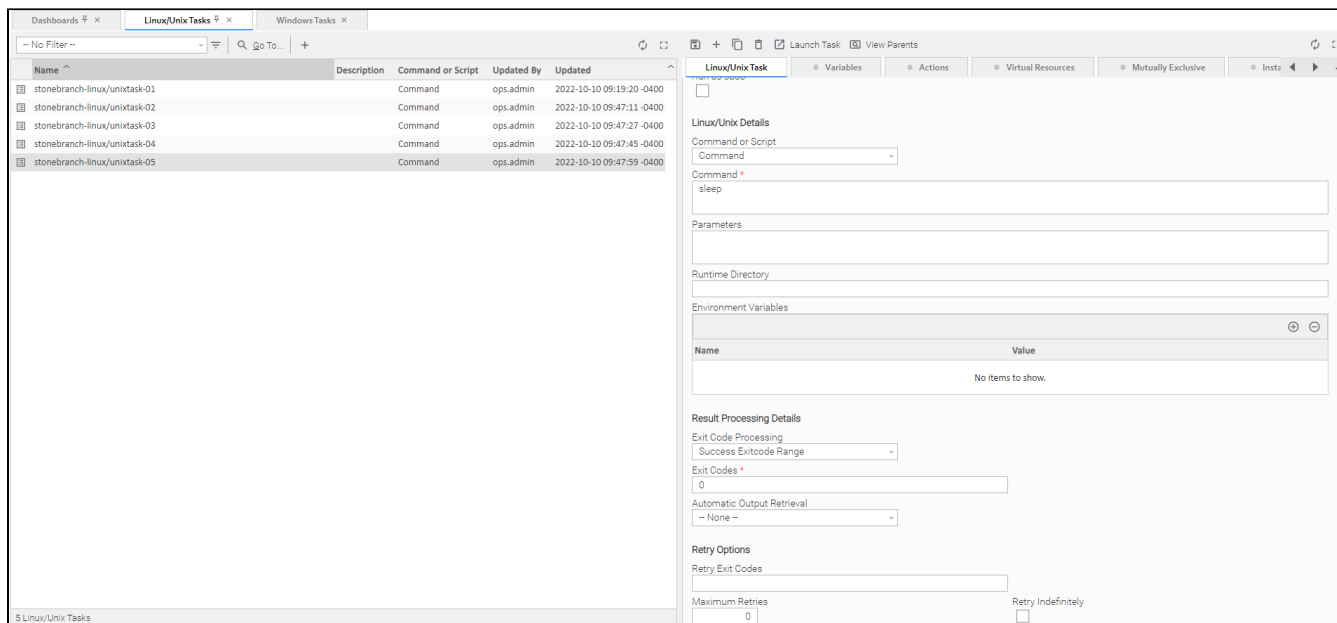
Action	Icon	Description
Select and Copy	n/a	<p>Select message text either of three ways:</p> <ul style="list-style-type: none"> • Drag your cursor across any of the text. • Double-click a single entry in the text to select only that entry. • Triple-click anywhere in the message text to select all of the text. <p>Use Ctrl+C and Ctrl+V to copy and paste the selected text.</p> <p>You also can select and copy text this way from the Print Preview pop-up (see Print in this table).</p>
Print		Click the Print icon at the top of the Console to display a Print Preview pop-up, and then click the Print button.
Trash		Click the Trash icon at the top of the Console to empty the contents of the Console.
Close		<p>Close the Console either by:</p> <ul style="list-style-type: none"> • Clicking the Close icon at the top of the Console. • Double-clicking the Console header.

Tabs

Every page in the user interface displays, when selected, under a tab at the top of the page. The tab for the page currently being viewed is white; all other tabs are gray.

When you log in to the Controller, the [Home dashboard](#) displays under a **Dashboards** tab. The Home dashboard - as well as the [Activity Monitor](#) and [Dashboard Details](#) - remain open throughout your session unless you manually close them by clicking the **x** icon in the tab itself. The tabs for those pages otherwise remain at the top of the screen so that you can quickly return to them at any time.

For example:



If you select a page in the [Services](#) while viewing Dashboards, Activity Monitor, or Server Operations, a new tab will open for that page. The Dashboards, Activity Monitor, and Server Operations tabs are [pinned](#) automatically to the top of the page and will remain open if you navigate from them.

If you select a page in the [Services](#) while viewing any other page, the [Tabs Pinned Automatically](#) user preference specifies whether or not that page is pinned.

Note



When you close the tab for the page currently being viewed, you return to the tab for the previous page that you viewed, not the tab for the page that you last opened.

Pinning Tabs

You can pin tabs to the top of the page so that the pinned page displays even if you select other pages to display. You also can unpin any pinned tabs at any time (see the [Tabs](#) action menu).

The following tabs are pinned automatically and will not close unless you manually close them either by clicking the **x** icon on the tab or close them via the [Tabs](#) action menu.

- Dashboards
- Activity
- Server Operation

Pinned tabs are identified with a pin icon next to the tab name.

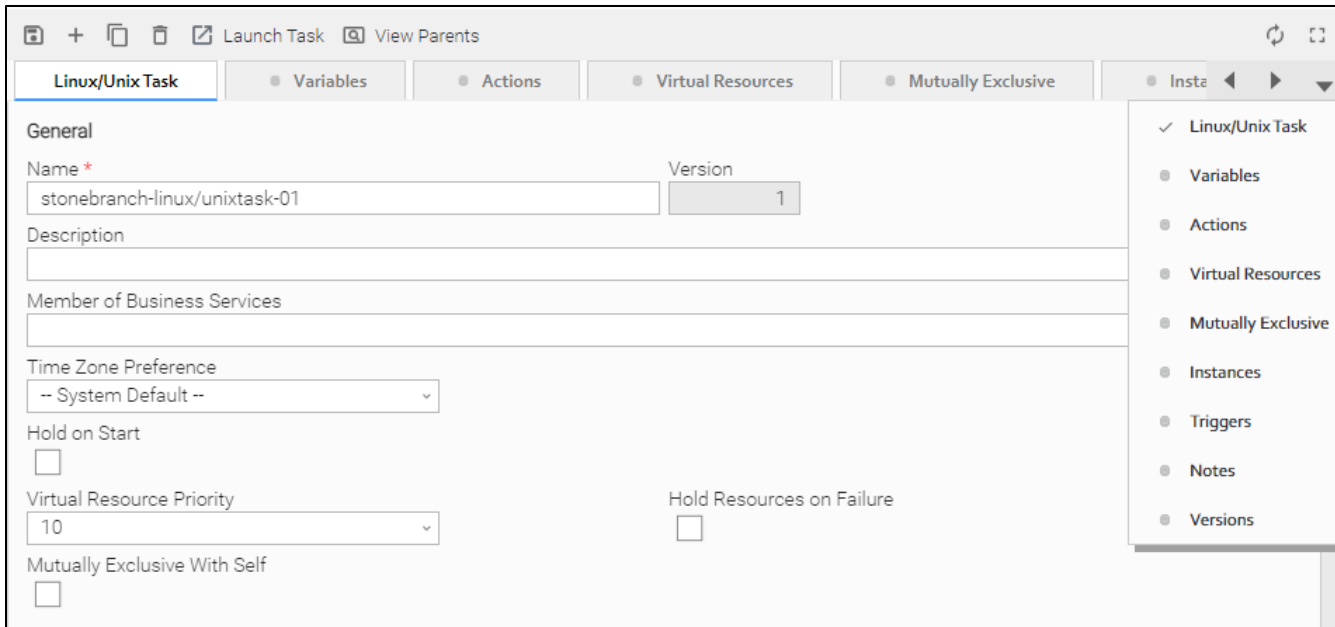
Any tab pinned during the current user session will display as pinned when the tab is opened again in a future user session, until the tab is unpinned.

Tab Picker

If you open more tabs that can be displayed on your screen, tab picker icons display that let you scroll back and forth among the tabs and select any tab from a drop-down list

<	Scroll left through the tabs.
>	Scroll right through the tabs.
v	Display a drop-down list of all open tabs.

For example:



Record Details as Tabs

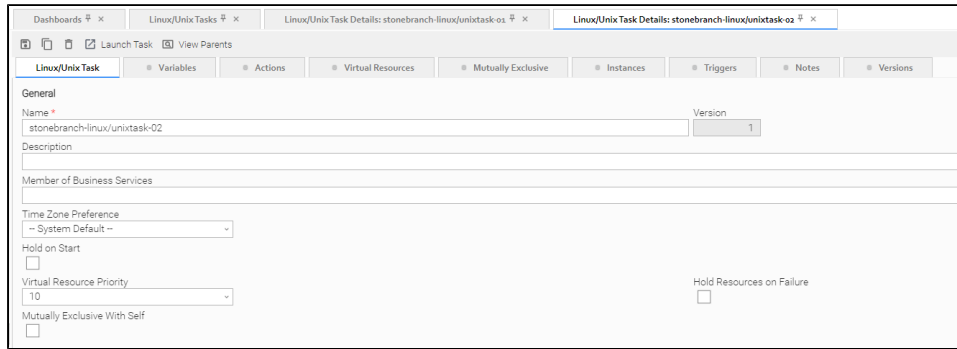
You also can display record Details as tabs at the top of a page

Step 1	From a record list , either: <ul style="list-style-type: none"> • Right-click a record in the list. • Open a record and right-click in the record Details.
Step 2	In the Action menu , click Open in Tab . The record Details display under a tab at the top of the page. If you click Open in Tab for an open record, the record is closed and displays only under the tab.

Step 3 If you want to open the same record or another record under another tab, repeat Steps 1 and 2.

You can open any number and combination of tabs from one or more lists in the user interface.

For example:



Additional Information

The following pages provide additional information for the Universal Controller user interface:

- [Home Dashboard](#)
- [Services](#)
- [Records](#)
- [Record Lists](#)
- [Filters](#)
- [Action Menus](#)
- [User Preferences](#)
- [Wildcards and Regular Expressions](#)
- [Access Keys](#)

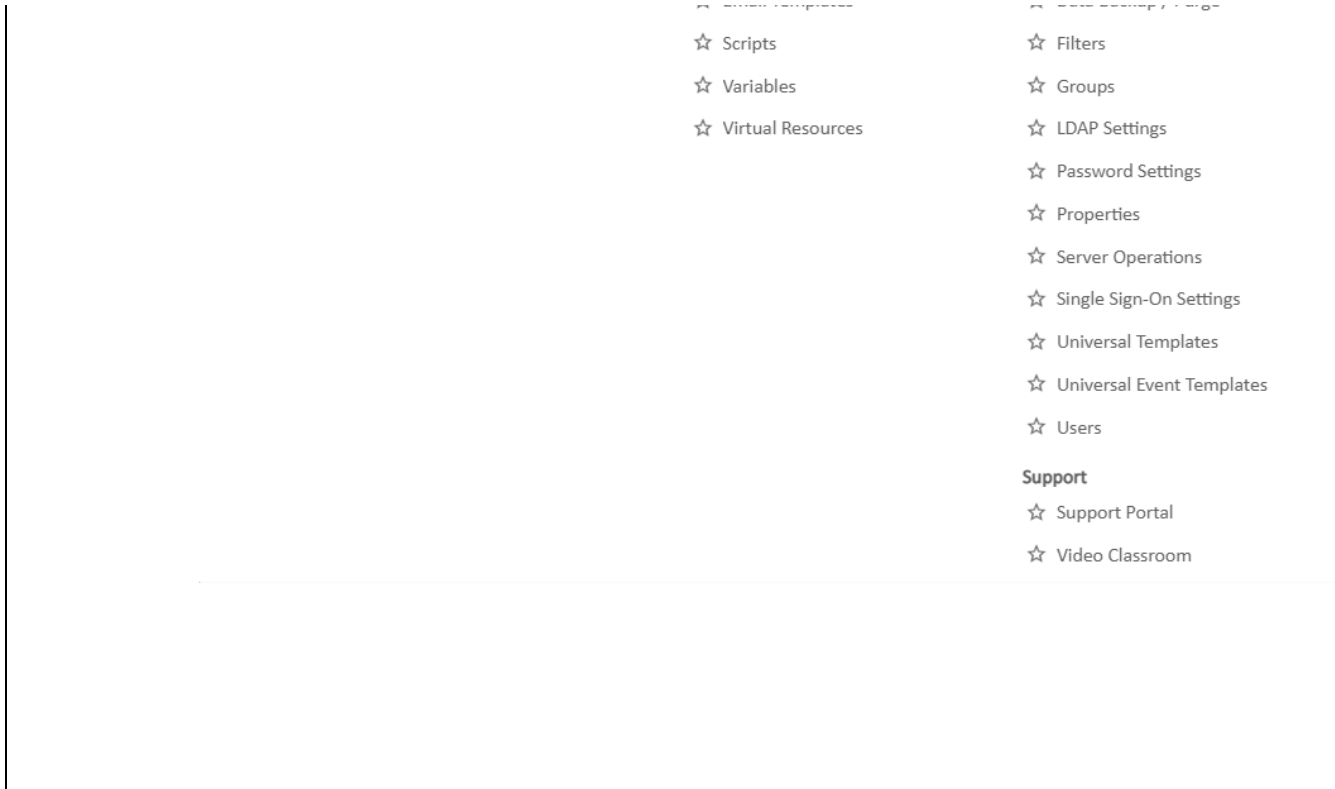
Services

- [Overview](#)
- [Available Services](#)
 - [Adding a Service to the Favorites](#)
- [Recently Visited](#)
- [Available Services](#)
- [Available Services Refresh](#)

Overview

The Services area of the user interface provides access to all areas of the user interface.

Available Services			
★ Dashboards			
★ Activity			
☆ Workflows			
Instances			
☆ Task Instances			
☆ History			
Tasks			
☆ All Tasks			
☆ Linux/Unix Tasks			
☆ Windows Tasks			
☆ z/OS Tasks			
☆ Universal Command Tasks			
☆ File Transfer Tasks			
☆ Manual Tasks			
☆ Timer Tasks			
☆ SQL Tasks			
☆ Stored Procedure Tasks			
☆ Email Tasks			
☆ Web Service Tasks			
☆ Recurring Tasks			
☆ Application Control Tasks			
	Integrations		
	Integration Hub	↓	
	Import Integration Template	↑	
	☆ PeopleSoft Tasks		
	☆ SAP Tasks		
		Triggers	
		☆ All Triggers	
		☆ Active Triggers	
		☆ Cron Triggers	
		☆ Time Triggers	
		☆ Manual Triggers	
		☆ Temporary Triggers	
		☆ Agent File Monitor Triggers	
		☆ Task Monitor Triggers	
		☆ Variable Monitor Triggers	
		☆ Email Monitor Triggers	
		☆ Universal Monitor Triggers	
		☆ Application Monitor Triggers	
		☆ Composite Triggers	
		Monitors	
		☆ Task Monitors	
		☆ Agent File Monitors	
		☆ Remote File Monitors	
		☆ System Monitors	
		☆ Variable Monitors	
		☆ Email Monitors	
		☆ Universal Monitors	
		Calendars	
		☆ Calendars	
		☆ Custom Days	
		Forecasts	
		☆ Forecasts	
		☆ Forecast Calendar	
		Other	
		☆ Credentials	
		☆ Email Templates	
		Reports	
		☆ Reports	
		☆ Widgets	
		☆ Colors	
		Lifecycle Management	
		☆ Bundles	
		☆ Promotion Targets	
		☆ Promotion History	
		☆ Promotion Schedules	
		Agents	
		☆ All Agents	
		☆ Linux/Unix Agents	
		☆ Linux/Unix Agent Clusters	
		☆ Windows Agents	
		☆ Windows Agent Clusters	
		☆ z/OS Agents	
		Connections	
		☆ Email Connections	
		☆ Database Connections	
		☆ SAP Connections	
		☆ PeopleSoft Connections	
		System	
		☆ Applications	
		☆ Cluster Nodes	
		☆ OMS Servers	
		☆ SNMP Managers	
		☆ OAuth Clients	
		Administration	
		☆ Audits	
		☆ Business Services	
		☆ Data Backup / Purge	



Available Services


The Available Services area displays all services available to the logged in user.

Adding a Service to the Favorites

To add a Service to the Favorites list on the user interface home page, click the white star next to the name of that Service. The star turns blue to signify that it has been added to the Favorites list.

To remove a service from the Favorites list, click the blue star next to the service in Available Services. The star turns from blue to white to signify that the service has been removed from the Navigator.

Note

 If the Dashboards and Activity services are available to the logged in user, they will automatically be added to the Favorites list.

Recently Visited

The Recently Visited list identifies items in Available Services that you have recently visited.

The most recently visited items are at the top of the list.

The [Services Recently Visited Limit](#) user preference specified how many recently visited items will display on the list.

Available Services

Available Services provides access to all areas of the user interface.


Each navigation pane provides links to specific pages in the user interface, such as a record type or list. When you hover your cursor over a link, it is highlighted in gray. When you click a link, the highlight is removed.

The following tables provide a quick reference and links for each item in the Available Services.

Area	Menu Options	Description and Links
Dashboards		Access to all Dashboards .
Activity		Access to the Activity Monitor , which lists all active task instances ; the data is automatically refreshed. From this list, you can view and edit any task instance. For non-Workflow task instances, you also can view output or rerun the task.
Workflows		Lists all Workflow tasks in the Controller.
Task Instances		Multiple task instance lists.
	Task Instances	Lists the same task instances as the Activity Monitor, but only for task instances for which there has been a status change or a modification to the task instance record within the last 7 days (an Updated on Last 7 Days filter has been pre-selected for this display). Also, unlike the Activity Monitor, the data is not automatically refreshed. Task Instances also allows you to view details about workflow instances – information that is not available from the Activity Monitor.
	History	Lists a history of completed task instances with a status in an "end state" (SUCCESS, FINISHED, FAILED, CANCELLED, START FAILURE, SKIPPED). This allows you to track information about a specific task instance, including multiple runs. For example, Task A may have failed and was then re-run by a user. This task instance will appear twice on the History list, first for the time that it ran and failed and again for the time it was re-run to success. From the History list, you can display read-only details about any task instance on the list.
Tasks		Lists of tasks for all task types; list of all tasks.
	All Tasks	Lists all existing tasks of all types. From this list, you can view, edit, or launch any task on the list, or create a new task of any type.
	Workflow Tasks	Lists all Workflow tasks . From this list, you can view, edit, or launch any Workflow, or create a new Workflow.
	Linux /Unix Tasks	Lists all Linux/Unix tasks . From this list, you can view, edit, or launch any Linux/Unix task, or create a new Linux/Unix task.
	Windows Tasks	Lists all Windows tasks . From this list, you can view, edit, or launch any Windows task, or create a new Windows task.
	z /OS Tasks	Lists all z/OS tasks . From this list, you can view, edit, or launch any z/OS task, or create a new z/OS task.
	Universal Command Tasks	Lists all Universal Command tasks . From this list, you can view, edit, or launch any Universal Command task, or create a new Universal Command task.

	File Transfer Tasks	Lists all File Transfer tasks . From this list, you can view, edit, or launch any File Transfer task, or create a new File Transfer task.
	Manual Tasks	Lists all Manual tasks . From this list, you can view, edit, or launch any Manual task, or create a new Manual task.
	Timer Tasks	Lists all Timer tasks . From this list, you can view, edit, or launch any Timer task, or create a new Timer task.
	SQL Tasks	Lists all SQL tasks . From this list, you can view, edit, or launch any SQL task, or create a new SQL task.
	Stored Procedure Tasks	Lists all Stored Procedure tasks . From this list, you can view, edit, or launch any Stored Procedure task, or create a new Stored Procedure task.
	Email Tasks	Lists all Email tasks . From this list, you can view, edit, or launch any Email task, or create a new Email task.
	Web Service Tasks	Lists all Web Service tasks . From this list, you can view, edit, or launch any Web Service task, or create a new Web Service task.
	Recurring Tasks	Lists all Recurring tasks . From this list, you can view, edit, or launch any Recurring task, or create a new Recurring task.
	Application Control Tasks	Lists all Application Control tasks . From this list, you can view, edit, or launch any Application Control task, or create a new Application Control task.
Integrations		Lists all Integrations , categorized by Universal Task type. Each Universal Task type is based on an administrator-defined Universal Template . (The area for Universal Tasks displays only if one or more Universal Templates - which the Controller lists as Universal Task types - have been created with one or more defined fields.)
	Integration Hub	Provides access to the Stonebranch Integration Hub.
	Import Integration Template	Provides ability to import IvnNtegration Templates to the Controller.
	PeopleSoft Tasks	Lists all PeopleSoft tasks . From this list, you can view, edit, or launch any PeopleSoft task, or create a new PeopleSoft task. Lists all PeopleSoft tasks . From this list, you can view, edit, or launch any PeopleSoft task, or create a new PeopleSoft task.
	SAP Tasks	Lists all SAP tasks . From this list, you can view, edit, or launch any SAP task, or create a new SAP task.
Triggers		List of triggers for each trigger type; list of all trigger triggers; forecast information.
	All Triggers	Lists all existing triggers of all types. From this list, you can view and edit any trigger on the list, or create a new trigger of any type.
	Active Triggers	Lists all active (enabled) triggers . From this list, you can view and edit any trigger on the list, or create a new trigger of any type.
	Cron Triggers	Lists all Cron triggers . From this list, you can view or edit any Cron trigger, or create a new Cron trigger.
	Time Triggers	Lists all Time triggers . From this list, you can view or edit any Time trigger, or create a new Time trigger.

	Manual Triggers	Lists all Manual triggers . From this list, you can view or edit any Manual trigger, or create a new Manual trigger.
	Temporary Triggers	Lists all Temporary triggers . From this list, you can view or edit any Temporary trigger, or create a new Temporary trigger.
	Agent File Monitor Triggers	Lists all Agent File Monitor triggers . From this list, you can view or edit any Agent File Monitor trigger, or create a new Agent File Monitor trigger.
	Task Monitor Triggers	Lists all Task Monitor triggers . From this list, you can view or edit any Task Monitor trigger, or create a new Task Monitor trigger.
	Variable Monitor Triggers	Lists all Variable Monitor triggers . From this list, you can view or edit any Variable Monitor trigger, or create a new Variable Monitor trigger.
	Email Monitor Triggers	Lists all Email Monitor triggers . From this list, you can view or edit any Email Monitor trigger, or create a new Email Monitor trigger.
	Application Monitor Triggers	Lists all Application Monitor triggers . From this list, you can view or edit any Application Monitor trigger, or create a new Application Monitor trigger.
	Composite Triggers	Lists all Composite triggers . From this list, you can view or edit any Composite trigger, or create a new Composite trigger.
	Forecasts	Lists information about every task in the Forecast Calendar, including tasks within a workflow launched by a trigger. See Forecast List .
	Forecast Calendar	For Time, Temporary and Cron triggers: Lists a Forecast Calendar of all scheduled task instances for the next N days. The number (N) of days displayed in the forecast is specified using the Forecast Period in Days Universal Controller system property (see Forecast Calendar).
Monitors		List of all Monitor task types.
	Task Monitors	Lists all Task Monitor tasks . From this list, you can view, edit, or launch any Task Monitor task, or create a new Task Monitor task.
	Agent File Monitors	Lists all Agent File Monitor tasks . From this list, you can view, edit, or launch any Agent File Monitor task, or create a new Agent File Monitor task.
	Remote File Monitors	Lists all Remote File Monitor tasks . From this list, you can view, edit, or launch any Remote File Monitor task, or create a new Remote File Monitor task.
	System Monitors	Lists all System Monitor tasks . From this list, you can view, edit, or launch any System Monitor task, or create a new System Monitor task.
	Variable Monitors	Lists all Variable Monitor tasks . From this list, you can view, edit, or launch any Variable Monitor task, or create a new Variable Monitor task.
	Email Monitors	Lists all Email Monitor tasks . From this list, you can view, edit, or launch any Email Monitor task, or create a new Email Monitor task.

	Universal Monitors	Lists all Universal Monitor tasks . From this list, you can view, edit, or launch any Universal Monitor task, or create a new Universal Monitor task.
Calendars		Lists of all Calendars and Custom Days.
	Calendars	Lists all Calendars Overview . From this list, you can view or edit any Calendar, create a new Calendar, and assign Custom Days to any Calendar.
	Custom Days	Lists all global Custom Days . From this list, you can view or edit any Custom Day, create a new Custom Day, and assign any Custom Day to any Calendar . Note  Custom Days displays in the Automation Center navigation pane only if the Custom Day Global Permitted Universal Controller system property is set to true .
Forecasts		Lists of all Forecasts and Forecast Calendars.
	Forecasts	Lists all Forecasts .
	Forecast Calendar	Displays a Forecast Calendar for enabled Time, Temporary, and Cron Triggers.
Other		Lists of task- and trigger-related information.
	Credentials	Lists all Credentials . From this list, you can view or edit any Credential, or create a new Credential.
	Email Templates	Lists all Email Templates, which allow you to construct commonly-used information that can be copied to create Email tasks .
	Scripts	Lists all Scripts , which have been stored in the Controller database for execution by Windows, Linux/Unix, and SAP tasks. From this list, you can create and edit Script records containing a script, and specify which tasks can use the script.
	Variables	List all user-defined Global variables . From this list, you can view or edit any Global variable, or create a new Global variable.
	Virtual Resources	Lists all virtual resources defined in your system, which allow you to set up "throttling" schemes that will manage the number of specific tasks that can run at one time. From this list, you can view, edit, and create a virtual resources, as well as assign tasks to a virtual resource.
Reports		
	Reports	Lists all Report Details . From this list, you can view or edit any Report, or create a new Report.
	Widgets	Lists all Widgets . From this list, you can view or edit any Widget, or create a new Widget.
	Colors	Lists all Colors . From this list, you can view and edit the color assigned by default to any task instance status.
Lifecycle Management		
	Bundles	Lists all Bundles , which are groups of user-selected records that can be promoted from one Controller server to another. Available if the user has the ops_bundle_admin or ops_promotion_admin role, or at least one Bundle Read permission assigned.
	Promotion Targets	Lists all Promotion Targets , which are the cluster nodes to which you can promote a Bundle. Available if the user has the ops_promotion_admin or ops_bundle_admin role, or at least one Promotion Target Read permission assigned.
	Promotion History	Lists a history of all promoted Bundles. Available if the user has the ops_promotion_admin or ops_bundle_admin role.

	Promotion Schedules	Lists all scheduled Bundle promotions. Available if the user has the ops_bundle_admin or ops_promotion_admin role, or at least one Bundle Read permission assigned.
Agents		Lists of Agent and Agent Clusters for each Agent type.
	All Agents	Lists all Agents Overview . From this list, you can view or edit any Agent resource record. You also can suspend/resume any Agent.
	Linux /Unix Agents	Lists all Linux/Unix Agents . From this list, you can view or edit any Linux/Unix Agent resource record, as well as suspend/resume any Linux/Unix Agent.
	Linux /Unix Agent Clusters	Lists all Linux/Unix agent clusters . From this list, you can view or edit any Linux/Unix agent cluster record, as well as suspend/resume any Linux/Unix agent cluster.
	Windows Agents	Lists all Windows Agents . From this list, you can view or edit any Windows Agent resource record, as well as suspend/resume any Windows Agent.
	Windows Agent Clusters	Lists all Windows agent clusters . From this list, you can view or edit any Windows agent cluster record, as well as suspend/resume any Windows agent cluster.
	z /OS Agents	Lists all z/OS Agents . From this list, you can view or edit any z/OS Agent resource record, as well as suspend/resume any z/OS Agent.
Connections		Lists of all Connection types.
	Email Connections	Lists all Email Connections , which provide all of the email server information necessary for the Controller to send emails. From this list, you can view, edit, and create Email Connections, as well as specify the Email tasks that will use the server specified in the Email Connection.
	Database Connections	Lists all Database Connections , which provide all the database server information necessary for the Controller to execute a SQL task or Stored Procedure task . From this list, you can view, edit, and create Database Connections, as well as specify the SQL and Stored Procedure tasks that can use this Database Connection.
	SAP Connections	Lists all SAP Connections that have been defined in your system, which provide the SAP server information necessary for the Controller to execute an SAP task on an SAP system.
	PeopleSoft Connections	Lists all PeopleSoft Connections that have been defined in your system, which provide the PeopleSoft server information necessary for the Controller to execute a PeopleSoft task on a PeopleSoft system.
System		Lists of Universal Controller system-related records.
	Applications	Lists all Applications that have been defined in your system and which can be monitored and controlled.
	Cluster Nodes	Lists all cluster nodes in your system. From this list, you can view Details of any cluster node and create Cluster Node Notifications .
	OMS Servers	Lists all Universal Message Service (OMS) servers . From this list, you can create a new OMS Server record and view Details of any existing OMS Server record. From OMS Server Details, you can edit the record and display the list of Agents using this OMS Server.
	SNMP Managers	Lists all SNMP Managers , to which SNMP notifications are sent.
	OAuth Clients	Lists all OAuth Clients , which are used to integrate with an external application registered with an authentication server such as Azure AD or Google.

Administration	
Audits	Lists all Audits that have been created for user interaction with the Controller.
Business Services	Lists all Business Services . From this list, you can view or edit any Business Service, or create a new Business Service.
Data Backup/Purge	Lists all Data Backup/Purge records in your system, which specify the automatic back-up and purge of Controller activity data. From this list, you can view, edit, and create Data Backup / Purge records.
Filters	Lists all record Filters for which the logged in user has permission. List filters are created using the filtering fields on the record list itself. Note that this feature is used only for record lists, not the Activity Monitor. This feature allows you to update or delete existing filters.
Groups	Lists all user groups that have been defined in your system.
LDAP Settings	Allows you to configure Lightweight Directory Access Protocol (LDAP) settings. See LDAP Settings .
Password Settings	Allows you to configure password specifications. See Password Settings .
Properties	Lists all Universal Controller system properties .
Server Operations	Lists all Server Operations , which you can run to help maintain and administer your Controller installation.
Single Sign-On Settings	Allows you to configure SAML Single Sign-On settings. See Single Sign-On Settings .
Universal Templates	Lists all Universal Templates , from which Universal Task types are created. Available if the user has the ops_universal_template_view , ops_universal_template_admin , ops_admin , or ops_service role.
Universal Event Templates	Lists all global Universal Event Templates , For any global Universal Event, the Universal Template administrator must declare the Universal Event here to allow the event to be monitored by an Universal Monitor.
Users	Lists all users that have been defined in your system.
Support	
Support Portal	Links to the Support page on the Stonebranch website.
Video Classroom	Links to the Universal Controller Video Classroom , which provides demos of Controller features.

Available Services Refresh

You can refresh the Navigation tree for any navigation pane at any time in order to refresh the displayed items in that tree. Refreshing the Navigation tree reloads the tree as if you were logging out and logging in.

If you change the [navigation visibility](#) to one or more areas of a navigation pane for a user group, refreshing the navigation tree for that navigation pane will show those changes for any user in that group.

Additionally, for the Automation Center navigation pane, any new Universal Task types that were created since user login, as well as any modifications made to the System Default Navigation pane by an Administrator, will be displayed on the Automation Center navigation pane when the navigation tree is refreshed.

To refresh a navigation tree, right-click anywhere in the navigation pane and, in the [Action menu](#) that displays, click Refresh Navigation Tree. Any changes to the navigation pane will display.

Records

- [Introduction](#)
 - [Naming Tips](#)
- [Creating a Record](#)
- [Opening a Record](#)
- [Record Details](#)
- [Record Details Fields](#)
 - [Selecting Field Values](#)
 - [Details Icon](#)
 - [Field Hints](#)
- [Record Details Tabs](#)
 - [Color-Coding of Tabs](#)
 - [Re-Ordering of Tabs](#)
- [Complete Database Details](#)
- [Record Details Metadata](#)
 - [Metadata Field Descriptions](#)
- [Performing Actions on a Record](#)
 - [Updating a Record](#)
 - [Copying a Record](#)
 - [Printing a Record](#)
 - [Deleting a Record](#)
- [Record Versioning](#)
 - [Viewing Old Versions of Records](#)
 - [Restoring Old Versions of Records](#)
 - [Purging Old Versions of Records](#)
 - [Enabling/Disabling Versioning](#)
- [Exporting and Importing Records](#)
 - [Bulk Export/Import](#)
 - [List Export/Import](#)
- [Updating Multiple Records](#)
 - [Updating Manually Selected Records](#)
 - [Updating Records That Match the Current Filter](#)
 - [Update / Update Filtered Dialog Columns](#)
 - [Update / Update Filtered Dialog Variable Fields for Tasks](#)
- [Uploading Records](#)
- [Downloading Records](#)
 - [Download Manually Selected Records from a List](#)
 - [Download Records That Match the Current Filter](#)
 - [Download a Single Record from its Record Details](#)

Introduction

A record is an entry in the Universal Controller database. Most records are created by the user via the user interface, but others (such as [Agent](#) records) are created by the Controller.

All system-supplied and/or user-supplied information about a record is contained in the record Details.

Naming Tips

Many functions within Controller are executed against one or more records.

For example, you can assign a user permission to:

- Change only certain tasks.
- Issue commands against a group of task instances.
- Filter a trigger list to display only certain triggers.

Two methods are available to help you organize your records to facilitate the use of these functions.

Method 1	<p>Develop a naming scheme for records.</p> <p>For example, when naming tasks, you could prepend with SF all tasks related to San Francisco operations, or you could prepend with REPT all report-related tasks. With such a naming scheme, you can sort and filter lists by selecting records, for example, that begin with "REPT." You can assign permissions and execute commands against records using the same method.</p>
Method 2	<p>Use Business Services, which simply is a method of grouping records. Whenever you create a record, you can assign it to a Business Service.</p> <p>For example, you could have a Business Service called "SF" and a Business Service called "REPT." Using this method, you could then filter or sort a list based on the Business Service. As another example, you could assign permissions to a user, giving the user update permission to all records in the "REPT" Business Service. Business Services allow you to create groups based on business functions and organize all your Controller records according to user-defined categories.</p>

Creating a Record

Step 1	Select a record type from the appropriate navigation pane of the Services . The records list for that record type displays.
Step 2	<p>Either:</p> <ul style="list-style-type: none"> • Enter / select information for a new record in the empty Details that displays below the list. • Click the New button that displays above the list to display an empty Details pop-up, and enter / select information for a new record.
Step 3	Click the Save , Save & New , or Save & View button to save the record.

Note



You also can create a record by [copying](#) and renaming an existing record.

Opening a Record

Opening a record refers to the displaying of a record [Details](#).

Note



Some [actions](#) (such as [delete](#)) can be performed on a record without opening the record.

Step 1	Select a record type from the appropriate navigation pane of the Services . The records list for that record type displays.
---------------	---

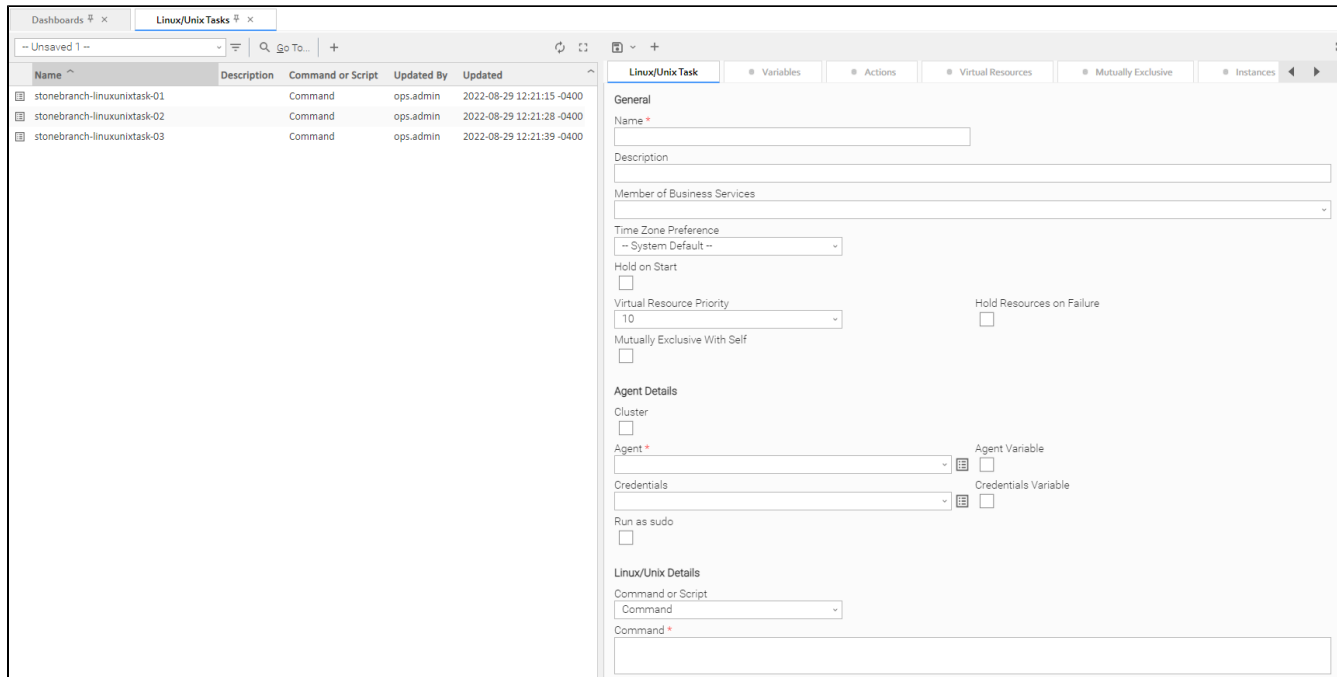
Step 2 Either:

- Click a record in the list to display its record Details below the list.
- Clicking the [Details icon](#) next to a record name in the list, or right-click a record in the list and then click **Open** in the [Action menu](#) that displays, to display a pop-up version of the record Details.
- Right-click a record in the a list, or open a record and right-click in the record Details, and then click **Open In Tab** in the [Action menu](#) that displays, to display the record Details under a new tab on the record list page (see [Record Details as Tabs](#)).

Record Details

When you select a record type from the [Services](#), a list of records for that type displays. To the right of the list, an empty record Details for a new record of that type displays.

For example:



To see Details of an existing record, [open](#) the record.

For example:

The screenshot shows a web-based configuration interface for a task. The title bar reads 'Linux/Unix Task Details: stonebranch-linux/unixtask-01'. Below the title bar is a navigation menu with tabs: Linux/Unix Task (selected), Variables, Actions, Virtual Resources, Mutually Exclusive, Instances, Triggers, Notes, and Versions. The main content area is divided into two sections: 'General' and 'Agent Details'. In the 'General' section, there are fields for Name (stonebranch-linux/unixtask-01), Version (2), Description, Member of Business Services, Time Zone Preference (System Default), Hold on Start (checkbox), Virtual Resource Priority (10), Mutually Exclusive With Self (checkbox), and Hold Resources on Failure (checkbox). In the 'Agent Details' section, there are fields for Cluster (checkbox), Agent (qa-ontlr-ora-1.stonebranch - ONTLR-ORA), Agent Variable (checkbox), Credentials (checkbox), Credentials Variable (checkbox), and Run as sudo (checkbox).

Record Details Fields

The following formatting applies to fields for all record types:

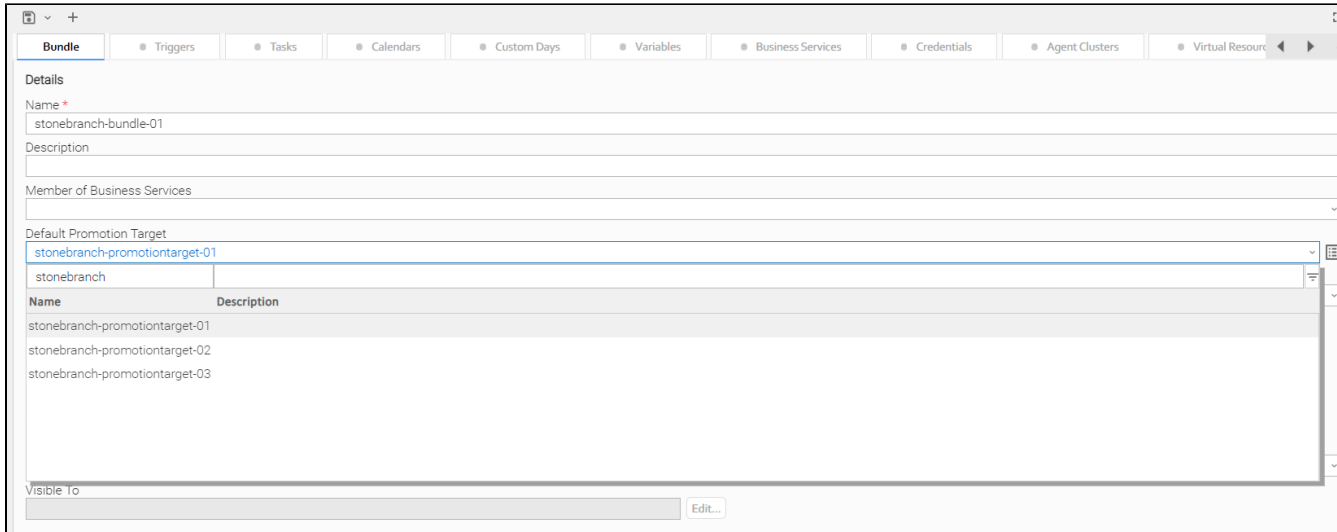
- Fields with names followed by an asterisk (*) are required.
- Gray fields are read-only.
- White fields are editable. They may accept any value or only values selected from a drop-down list.
- Some fields provide a drop-down list of values, which are the only selections available for that field.
- Some fields contain a default value.
- Some fields provide [hints](#) that describe value to be entered/selected for that field.

Selecting Field Values

Many fields provide a drop-down list of values for that field. These fields have a down arrow next to it, which you must click to display the list of values.

Additionally, drop-down list fields whose available values are records (as identified by a [Details Icon](#)), provide a filter for only listing records that contain the sequence characters that you enter in any of the provided record fields.

In the following example, the drop-down list for **Default Promotion Target** lets you filter the list of Promotion Target records by **Name** or **Description** field:

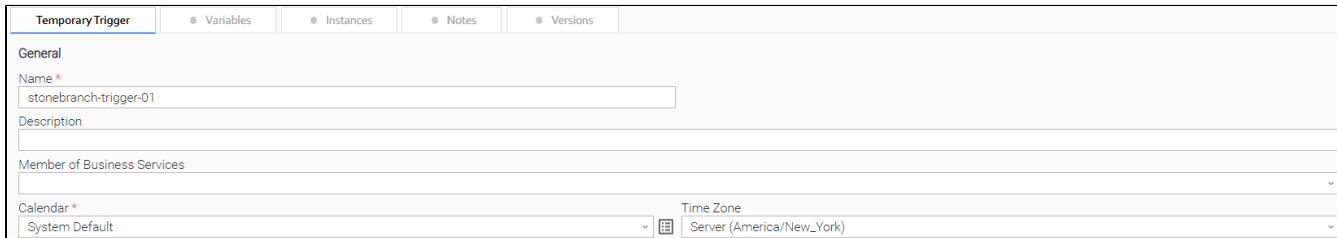


Details Icon

A Details icon displays next to a drop-down list field if the values available for that field are records.

- If the drop-down list field contains a value (a record selected from the list), you can click the Details icon to view (and modify) that record.
- If the drop-down list is empty, you can click the Details icon to create a record of that record type.

For example, every Trigger record contains a Calendar field whose value is the name of a Calendar selected from the drop-down list:



If you click the Details icon next to the Calendar field, the Details for that Calendar displays.

The screenshot shows a 'Calendar Details: System Default' dialog box. It has tabs for 'Calendar', 'Local Custom Days', 'Custom Days', 'Triggers', and 'Versions'. The 'Calendar' tab is active. Fields include:

- Name: System Default
- Version: 2
- Description: Default System Calendar
- Member of Business Services: (empty dropdown)
- Business Days: Sunday (unchecked), Monday (checked), Tuesday (checked), Wednesday (checked), Thursday (checked), Friday (checked), Saturday (unchecked)
- First Day Of Week: Sunday
- 1st Quarter Start: Jan 1
- 2nd Quarter Start: Apr 1
- 3rd Quarter Start: Jul 1
- 4th Quarter Start: Oct 1

Field Hints

Fields hints describe the value to be entered/selected for that field.

To display a field hint, hover your cursor over the field value.

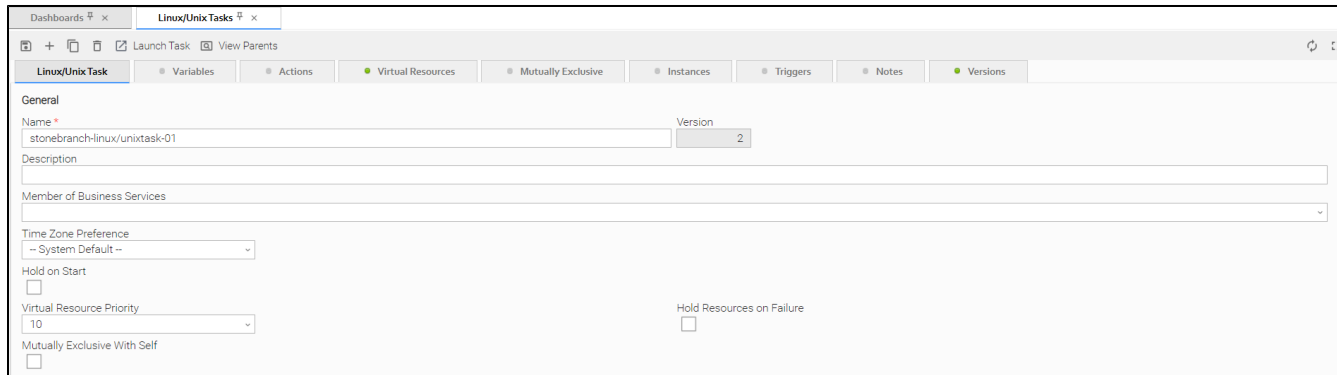
For example:

The screenshot shows the 'Temporary Trigger' form. The 'Calendar' field is highlighted with a blue border. A tooltip (field hint) is displayed over the field, containing the text: "The calendar this trigger uses. Click the details icon to view the selected calendar." The 'Calendar' dropdown is set to 'System Default' and the 'Time Zone' dropdown is set to 'Server (America/New_York)'. The 'Task(s)' field is empty and shows "No items to show." with a lock icon.

Record Details Tabs

The record Details for every record contains one or more tabs, including the default **<record type>** tab that provides detailed information about the record.

The currently selected tab displays in white. All other tabs display in gray.



Each tab displays a list of records that have been user-defined to be associated with the record. For example, the **Triggers** tab for a task would list any [trigger](#) records that specify this task in its trigger Details.

As appropriate for the type of record listed for a tab, the following also is provided:

- **Details** icon that allows you to view and edit Details for that record.
- **+** button that allows you to create a new record of that type and automatically associate it with the record whose Details are displayed in the **<record type>** tab.

When you click a tab to display a list of records associated with the current record, you can:

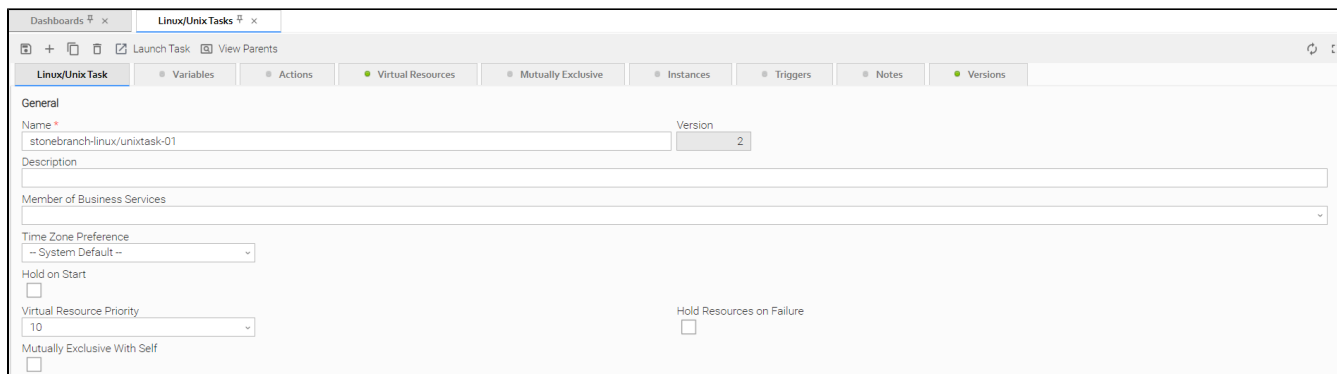
- View details about each record on the list.
- Create a new record of that type.

Color-Coding of Tabs

Tabs are color-coded:

- Current tab displays in white.
- Tabs that contain records display a green icon.
- Tabs that do not contain records display a gray icon.

For example, this Linux/Unix Task Details shows that there are one or more records under the Virtual Resources and Versions tabs:



Re-Ordering of Tabs

You can change the order of one or more tabs for a record type by clicking the tabs in any record of that type and dragging them left or right to a new position.

The tabs for all records of that record type will display in that order.

To restore the original order of the tabs, right-click any tab and click **Restore Tab Order**.

Any tab re-ordering that you apply is associated with your user own account. The re-ordering is automatically persisted in the Universal Controller database and will apply any time that you log into the user interface.

Complete Database Details

The information displayed in the Details for any record is only a portion of the complete details for that record contained in the Controller database.

To see the complete details, right-click anywhere in the record Details to display an [Action menu](#) and then click **Details > Show Details**.

The database Details for all records contains the following fields:

- UUID
- Updated By
- Updated
- Created By
- Created

The database Details for some record types (for example, any Task Instance record, as shown below) may show additional fields, such as Status History.

After Date:	
After Time:	
Agent:	
Agent Acquired:	
Agent Acquired Name:	
Agent Cluster:	cb5c8998a9fec69f003b05b69a2061e4
Agent Cluster Acquired:	
Agent Cluster Acquired Name:	
Agent Cluster Name:	Opswise - Default Linux/Unix Cluster
Agent Cluster Unresolved:	
Agent Cluster Variable:	false
Agent Name:	
Agent Unresolved:	
Agent Variable:	false
All Dependencies Cleared:	false
Attempt:	1
Auto Cleanup:	false
Automatic Output File:	
Automatic Output Retrieval:	-- None --
Average Estimated End Time:	
Before Date:	
Before Time:	
Calendar:	77171434c0a801c9016d5b2b5d17ddee
Calendar Name:	System Default
Can Copy:	false
Can Delete:	false
Can Update:	true
Class:	ops_exec_universal
Cluster:	true
Computed Late Finish Time:	
Computed Late Start Time:	
Content Type:	Text
CP Duration:	
CP Duration (Resolved):	
CP Duration Unit:	Minutes
CPU Time:	0
Created:	2022-08-16 09:43:55 -0400
Created By:	Yan
Credentials:	
Credential Name:	

Credentials Name:	
Credentials Unresolved:	
Credentials Variable:	false
Critical:	false
Current Retry Count:	0
Date List:	
Delay Duration:	00:00:00:00
Delay Duration In Seconds:	
Delay On Start:	-- None --
Description:	
Duration:	
Duration In Seconds:	
Early Finish:	false
Early Finish Day Constraint:	-- None --
Early Finish Duration:	00:00:00:00
Early Finish Duration Offset (-):	
Early Finish Duration Offset Unit:	Minutes
Early Finish Nth Amount:	5
Early Finish Offset Type:	Percentage
Early Finish Percentage Offset (-):	0
Early Finish Time:	00:00
Early Finish Type:	Time
End Time:	
Environment Variables:	
Evaluation Time:	
Example Array:	
Example Boolean:	true
Example Choice:	Medium
Example Credentials:	8a124dd32eda4b39b7c1ef6cbd060d41
Example Credentials Name:	Application Credentials
Example Integer:	7
Example Large Text:	Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.
Example Script Data:	6f6c9da7c6ed4e83af7d90b434e33838
Example Script Data Name:	Application Data
Example Text:	Lorem Ipsum
Exclude Backup (Task Instance):	false
Exclusive State:	Initial
Execution Restriction:	-- None --
Execution User:	

Exit Code:	0
Exit Code Processing:	Success Exitcode Range
Exit Codes:	0
Extension Status:	
Failure Only:	false
Finished Early:	false
Finished Late:	false
Forced Finished:	false
Highest Estimated End Time:	
Hold on Start:	false
Hold Reason:	
Hold Resources on Failure:	false
Instance Name:	yantest
Instance Number:	1
Invoked By:	Manually Launched
IO Other:	0
IO Reads:	0
IO Writes:	0
Is Version:	false
Late Finish:	false
Late Finish Day Constraint:	-- None --
Late Finish Duration:	00:00:00:00
Late Finish Duration Offset (+):	
Late Finish Duration Offset Unit:	Minutes
Late Finish Nth Amount:	5
Late Finish Offset Type:	Percentage
Late Finish Percentage Offset (+):	0
Late Finish Time:	00:00
Late Finish Type:	Time
Late Start:	false
Late Start Day Constraint:	-- None --
Late Start Duration:	00:00:00:00
Late Start Nth Amount:	5
Late Start Time:	00:00
Late Start Type:	Time
Launch Source:	Launch Task / User Interface
Launch Time:	2022-08-16 09:43:55 -0400
Log Level:	Inherited
Lowest Estimated End Time:	
Maximum Retries:	0

Member of Business Services:	
Member of Business Services:	
Memory Peak:	0
Memory Used:	0
Mutually Exclusive With Self:	false
Next Retry Time:	
Number of Lines:	100
Operational Memo:	
Operator:	=
Output File:	
Output Type:	Standard Output
Path Expression:	
Predecessors Satisfied Time:	
Process ID:	
Progress:	
Projected End Time:	
Projected Late:	false
Queued Time:	
Resolve Name Immediately:	false
Resources Consumed:	false
Resources State:	Initial
Restriction Period:	-- None --
Retention Time:	
Retry Exit Codes:	
Retry Indefinitely:	false
Retry Interval (Seconds):	60
Run as sudo:	false
Run Called:	true
Run Criteria Run Time:	false
Run Criteria Trigger Time:	false
Run with Highest Privileges:	false
Runtime Directory:	
Scan Output For:	
Scan Text:	
Security Name:	
Source Instance:	
Source Instance Name:	
Source Version:	1
Start Line:	1

Start Time:	
Started Late:	false
State Changed Time:	2022-08-16 09:43:56 -0400
Status:	Undeliverable
Status Attributes:	
Status Description:	No active Agents in the Cluster.
Status History:	2022-08-16 09:43:55 -0400: Defined 2022-08-16 09:43:56 -0400: Undeliverable
Strategy:	Match Any
Suppress Intermediate Failures:	false
Tab Names Containing Data:	
Table Name:	ops_exec_universal
Task:	0d876dc0c0874731ae29460609a06122
Task Name:	yantest
Task Priority:	MEDIUM
Time Wait State:	Initial
Time Zone:	Server
Time Zone Preference:	-- System Default --
Trigger:	
Trigger Name:	
Trigger Time:	
Type:	Universal
Universal Template:	db107968120f447f9bbc0ec426d6da5a
Universal Template Name:	Example
Updated:	2022-08-16 09:43:56 -0400
Updated By:	
User Defined Field 1:	
User Defined Field 2:	
User Estimated End Time:	
UUID:	1660363200078736713MMYI8689PO8VU2
Value:	
Virtual Resource Priority:	10
Wait Day Constraint:	-- None --
Wait Duration:	00:00:00:00
Wait Duration In Seconds:	
Wait For Output:	false
Print	Refresh
Wait to Start:	-- None --

Record Details Metadata

The [Action menu](#) for every record [Details](#) contains a Details sub-menu. If you click **Show Metadata** on this sub-menu, a Metadata section displays at the bottom of the Details. (If Metadata is being displayed, the Details sub-menu contains a **Hide Metadata** entry.)

Note



You can choose to display Metadata automatically via the [Show Metadata](#) Universal Controller system property, and you can override the Show Metadata property setting via the [Show Metadata](#) user preference.

The Metadata for all records contains the following fields:

- UUID
- Updated By
- Updated
- Created By
- Created

The Metadata for any Task Instance record, as shown below, also contains a Status History field.

Metadata

UUID

Updated By

Created By

Updated

Created

Time Zone

Status History

Date	Status
2022-10-10 17:20:02 -0400	Defined
2022-10-10 17:20:03 -0400	Resource Requested
2022-10-10 17:20:04 -0400	Queued
2022-10-10 17:20:04 -0400	Started
2022-10-10 17:20:04 -0400	Running
2022-10-10 17:20:14 -0400	Finished

Metadata Field Descriptions

The following table describes the fields that display in the Metadata section of record Details.

Field Name	Description
UUID	Universally Unique Identifier of this record.

Updated By	Name of the user that last updated this record.
Updated	Date and time that this record was last updated.
Created By	Name of the user that created this record.
Created	Date and time that this record was created.
Status History	Task instance only; History of all statuses that the task instance has gone through.

Performing Actions on a Record

You can perform many actions on a record by right-clicking anywhere in the the record Details to display an [Action menu](#) of all actions available for that record.

You also can perform many actions on a record (or multiple records) from a records list; that is, without having to open the record (see [Performing Actions on a Record from a List](#)).

Note



The actions available for a record when selecting an Action menu from the record Details may not be the same as the actions available when you select an Action menu from a list.

The following actions can be performed for all user-defined records:

- [Updating](#)
- [Copying](#)
- [Printing](#)
- [Deleting](#)

Updating a Record

Step 1	Open the record that you want to update.
Step 2	Make any desired updates to the record and click the Update button.

Note



If you change the name of a [task](#) that is part of a [Workflow](#), the Controller automatically changes the name of that task within the Workflow itself.

Copying a Record

Step 1	Open the record that you want to copy.
Step 2	In the <record> Name field, enter a new name for the record.
Step 3	Right-click in the Details and then click Insert on the Action menu . The displayed record becomes a copy of the record you selected and is added to the list.

Note



To copy a [Report](#) or [Filter](#), you must use the **Save As...** button in the record Details, which lets you save the record under a different Title (for Reports) or Name (for Filters) and/or as being visible to different users.

Caution



Do not use **Insert** to copy the following types of records unless you do not want to copy any records associated with them, such as Actions, Notes, and Variables. Using **Insert** does not copy any records associated with these types of records:

- Tasks
- Triggers
- Calendars
- Scripts
- Connections
- SNMP Managers

To copy any of these record types and all of their associated records, use the methods described in:

- [Copying Tasks](#)
- [Copying Triggers](#)
- [Copying Calendars](#)
- [Copying Scripts](#)
- [Copying Email Templates](#)
- [Copying Database Connections](#)
- [Copying Email Connections](#)
- [Copying PeopleSoft Connections](#)
- [Copying SAP Connections](#)
- [Copying SNMP Managers](#)

Also, do not use the **Update** button to copy a record; the **Update** button overwrites the existing record.

Printing a Record

To print a hard copy of the Details of any record:

Step 1	<p>Either:</p> <ul style="list-style-type: none"> • Right-click the record in the records list and click Details > Print in the Action menu. • Open the record, right-click in the record Details, and click Details > Print in the Action menu.
Step 2	Select a printer and click OK .

Deleting a Record

Deleting a record removes it from the Controller database.

Step 1	<p>Either:</p> <ul style="list-style-type: none"> • Right-click a record in the records list and click Delete in the Action menu. • Open the record and either: <ul style="list-style-type: none"> • Click the Delete button. • Right-click anywhere in the record Details and click Delete in the Action menu.
Step 2	On the Confirmation pop-up that displays, click Yes .

Record Versioning

Universal Controller maintains historical copies of most user-created records in the database. These include tasks and their associated records (virtual resources, variables, actions, notes), calendars and their custom day associations, custom days, variables, credentials, virtual resources, scripts (and associated notes), email templates and connections, database connections, SNMP managers, SAP connections, PeopleSoft connections, agent clusters, applications, Business Services, and triggers (and associated variables).

These historical copies - old versions of the current records - are read-only.

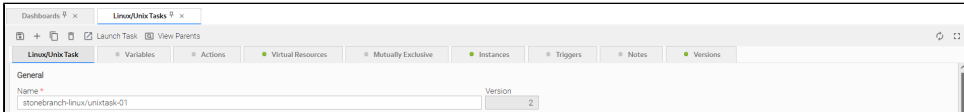
When you update any of these records, the Controller creates an image of the old version and stores it in the record's **Versions** tab. It also updates the **Version** field in the current version of the record. For example, if you have updated a task three times, there will be three versions of that task stored in the Versions tab, and the current version will be identified as Version 4.

Although you can [purge](#) old versions of records, the **Versions** field in the current record always will show how many versions of the record have been created.

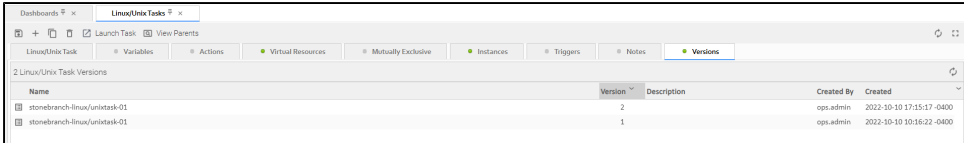
Viewing Old Versions of Records

To view old versions:

Step 1 Open the record Details for which you want to view old versions. The **Version** field indicates how many versions of this record have been made.



Step 2 Click the **Versions** tab. A list of old versions that currently exist for this record displays.

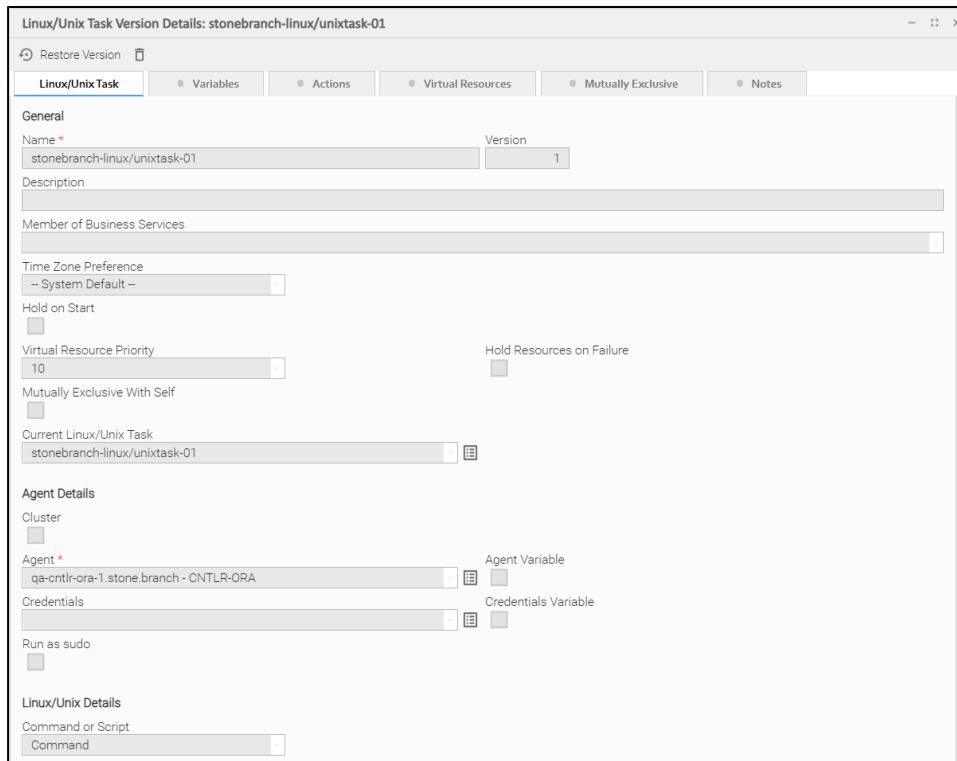


Name	Version	Description	Created By	Created
stonebranch-linux/unixtask-01	2		ops.admin	2022-10-10 17:15:17 -0400
stonebranch-linux/unixtask-01	1		ops.admin	2022-10-10 10:16:21 -0400

The number of old versions that currently exist for this record is identified above the list.

Click the Refresh icon at any time to get the current list.

Step 3 Click the Details icon next to the **Name** of the version, or double-click anywhere in the version row, to displays Details for that version.



All of the associated records (tabs) contain the data as it existed when this version was the current version. At the top of the Details, the **Name** field contains the name of the record as it existed for t

Step 4 Click **Close** to return to the version list.

Restoring Old Versions of Records

You can restore an old version of a record to the current version. When you restore an old version, the current version will become the newest old version.

Step 1	Display the Details of the record for which you want to restore an old version.
Step 2	Click the Versions tab.
Step 3	Either right-click a Version record in the Versions list and then click Restore Version , or open a Version record and click the Restore Version button.

Fields Not Restored

The following fields are not restored when you restore an old version of a record.

Record Type	Fields
Trigger (all types)	<ul style="list-style-type: none"> • Disabled By • Execution User • Forecast • Skip Count
Agent Cluster	<ul style="list-style-type: none"> • Task Execution Limit • Current Task Count • Suspended • Limit Amount • Last Used
Application	<ul style="list-style-type: none"> • Status • Status Description • Last Known Status • PID • Queued Time • Start Time • Last Query
Email Connection	<ul style="list-style-type: none"> • Use for System Notifications
Task (all types)	<ul style="list-style-type: none"> • Statistics (Statistics section in Task Details)
Workflow Task	<ul style="list-style-type: none"> • Calculate Critical Path
Virtual Resource	<ul style="list-style-type: none"> • Resource Used

Purging Old Versions of Records

The Controller provides two methods for purging old versions of records.

Note



When you purge old versions of records, the version number of the current version remains the same.

Purge Specific Versions

Step 1	Display the Details of the record for which you want to purge versions.
---------------	---

Step 2	Click the Version tab to display a list of old versions of that record.
Step 3	Either: <ul style="list-style-type: none"> • Ctrl-click one or more versions to be purged, right-click in the row of any selected version, and click Delete. • Display the Details of a version that you want to delete and click the Delete button.

Purge All Outdated Versions

Step 1	From the Administration navigation pane, select Configuration > Server Operations . The Server Operations list displays.
Step 2	Run the Purge Versions server operation to purge versions that exceed the maximum number of records allowed, as defined by the System Default Maximum Versions Universal Controller property.

Enabling/Disabling Versioning

Two properties are available that allow you to control if and when the Controller automatically creates a new version of a record (and all its associated records):

- The [Automatically Create Versions](#) Universal Controller system property (true or false) determines whether modifications to the record itself will cause the Controller to create a new version of the record. The default value is true. If this property is set to false, the Controller does not create versions.
- The [Create Version On Related List Change](#) Universal Controller system property (true or false) determines whether changes, deletions, or additions to a related list will cause the Controller to create a new version of the record. For example, if this property is enabled, the Controller will create a new version of the task and all its associated records when the user adds a variable to the task, deletes a Note, or changes an Email Notification. The default value is true. If this property is set to false, and the [Automatically Create Versions](#) property is set to true, the Controller creates a new version only if the base record is updated.

To change one or both of these properties:


Step 1	From the Administration navigation pane, select Configuration > Properties .
Step 2	Locate the property you want to change.
Step 3	Double-click the Value and select true or false .

Exporting and Importing Records

There are two different types of exports/imports:

- [Bulk exports/imports](#) let you export/import all records in a Controller database.
- [List exports/imports](#) let you export/import all records selected on a list.

Note

 [Critical Path](#) settings for tasks and Workflows are not exported/imported.
Important!

 It is strongly recommended that you do NOT use the Import and Export functions for modification of Universal Controller records. API functions are available if you need to programmatically update, copy, insert, or otherwise manipulate Universal Controller records.

Bulk Export/Import

Universal Controller provides [Server Operations](#) (in Controller 5.2.0 and earlier: maintenance scripts) that allow you to perform a [bulk export](#) and [bulk import](#) of all records in your Controller database.

Normally, you would use bulk export and bulk import to migrate data, in bulk, from an existing Universal Controller deployment to a new Universal Controller deployment. If you are [upgrading from Universal Controller 5.2.0](#), you would also migrate data using bulk export and bulk import.

See:

- [Run an Import](#)
- [Run an Export](#)

List Export/Import

You also can perform a [list export](#) of records selected on a list, or a [list import](#) of an XML file to any list for a specific record type.

Updating Multiple Records

You can update multiple records from any of the following lists:

- Agents list for any [Agent type](#) (Credentials field and Member of Business Services field only)
- [All Agents](#) list (Credentials field and Member of Business Services field only)
- Tasks list for any [task type](#)
- [All Tasks](#) list
- Triggers list for any [trigger type](#)
- [All Triggers](#) list
- [Database Connections](#), [Email Connections](#), [PeopleSoft Connections](#), and [SAP Connections](#) lists
- [SNMP Managers](#) list
- [Credentials](#) list (all fields except Type and Key Location (FTP only))
- [Email Templates](#) list
- [Global Variables](#) list
- [Scripts](#) list
- [Users](#) (these fields only: Active, Command Line Access, Department, Locked Out, Manager, Password, Password Requires Reset, Time Zone, Web Browser Access, Web Service Access)
- [Virtual Resources](#) list

There are two [actions](#) available for updating multiple records:

1. [Update](#) - Updates all [manually selected records](#) on the list.
2. [Update Filtered](#) - Updates all records that [match the currently selected filter](#) for the list.

Updates are applied and validated per selected record, since a valid update for one record may not be valid for another. A validation failure for one update does not prevent the update of other records.

Updating Manually Selected Records

Step 1	Select the list from which you want to update multiple records.
Step 2	Ctrl-click each record on the list that you want to update.
Step 3	Right-click any of the selected records to display an Action menu .

Step 4

Click **Update...** to display the **Update** dialog, which lists every field that can be updated for that record type (since read-only fields cannot be updated, they are not displayed).

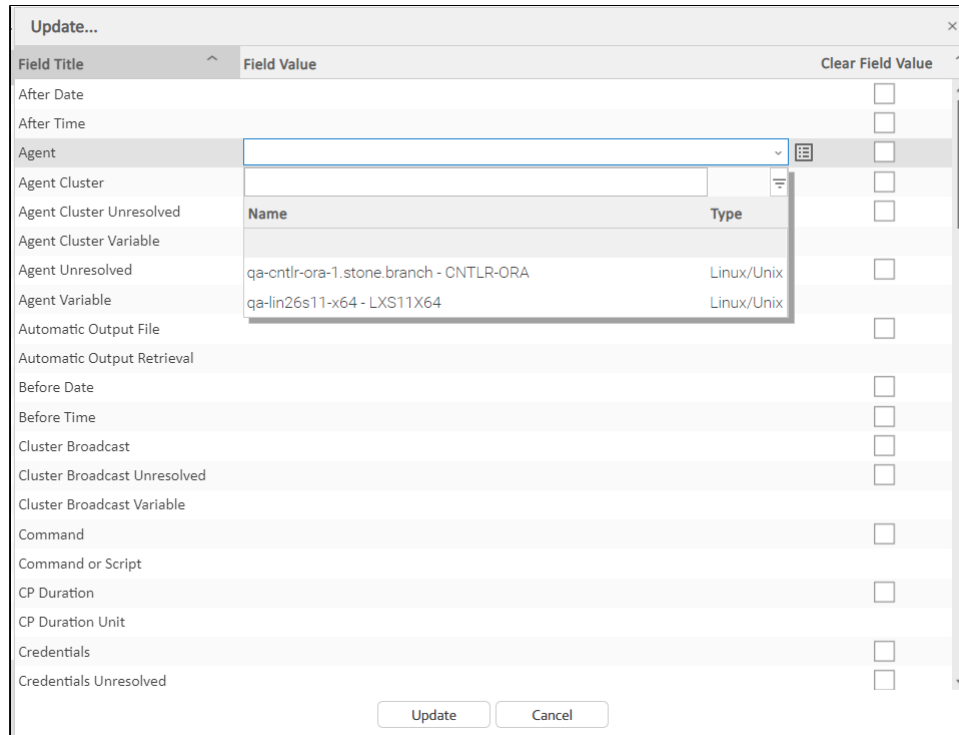
For example, the following **Update** dialog displays if you select multiple [Linux/Unix Task](#) records.

The screenshot shows a dialog box titled "Update...". It contains a table with the following columns: "Field Title", "Field Value", and "Clear Field Value". The "Field Value" column is currently empty. The "Clear Field Value" column contains checkboxes for each field. At the bottom of the dialog are "Update" and "Cancel" buttons.

Field Title	Field Value	Clear Field Value
After Date		<input type="checkbox"/>
After Time		<input type="checkbox"/>
Agent		<input type="checkbox"/>
Agent Cluster		<input type="checkbox"/>
Agent Cluster Unresolved		<input type="checkbox"/>
Agent Cluster Variable		<input type="checkbox"/>
Agent Unresolved		<input type="checkbox"/>
Agent Variable		<input type="checkbox"/>
Automatic Output File		<input type="checkbox"/>
Automatic Output Retrieval		<input type="checkbox"/>
Before Date		<input type="checkbox"/>
Before Time		<input type="checkbox"/>
Cluster Broadcast		<input type="checkbox"/>
Cluster Broadcast Unresolved		<input type="checkbox"/>
Cluster Broadcast Variable		<input type="checkbox"/>
Command		<input type="checkbox"/>
Command or Script		<input type="checkbox"/>
CP Duration		<input type="checkbox"/>
CP Duration Unit		<input type="checkbox"/>
Credentials		<input type="checkbox"/>
Credentials Unresolved		<input type="checkbox"/>

Step 5 For any field, click anywhere in the **Field Value** cell to display an editor where you can enter / select a value.

For example, if you click the **Agent** row, a drop-down list displays that lets you select any currently defined Linux/Unix Agent.



Step 6 If you want to clear the value of a field for each selected record and not select a new value, click the **Clear Field Value** check box.

Step 7 Click the **Update** button to update all of the fields with the changed values.

Updating Records That Match the Current Filter

Step 1 Select the list from which you want to update multiple records.

Step 2 Create a [Filter](#) to display only those records that you want to update.

Step 3 Right-click the list header to display an [Action menu](#).

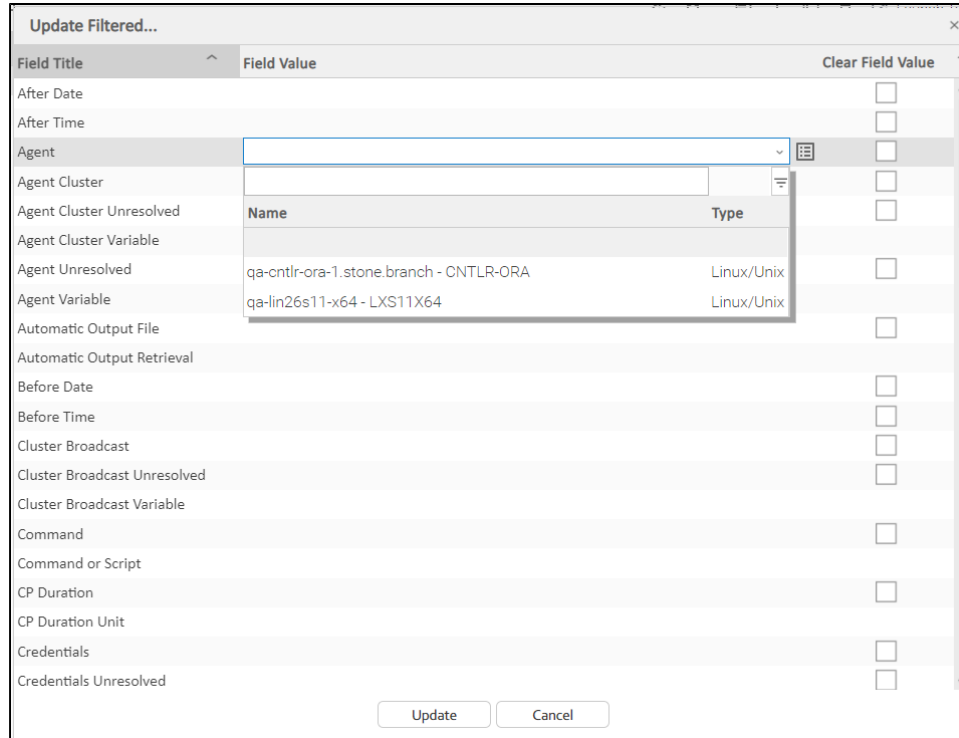
Step 4 Click **Update Filtered....** A Confirm pop-up displays.

Step 5 Click **OK** to display the **Update Filtered** dialog, which lists every field that can be updated for that record type (since read-only fields cannot be updated, they are not displayed).
 For example, the following **Update Filtered** dialog displays if you select multiple [Linux/Unix Task](#) records.

Field Title	Field Value	Clear Field Value
After Date		<input type="checkbox"/>
After Time		<input type="checkbox"/>
Agent		<input type="checkbox"/>
Agent Cluster		<input type="checkbox"/>
Agent Cluster Unresolved		<input type="checkbox"/>
Agent Cluster Variable		
Agent Unresolved		<input type="checkbox"/>
Agent Variable		
Automatic Output File		<input type="checkbox"/>
Automatic Output Retrieval		
Before Date		<input type="checkbox"/>
Before Time		<input type="checkbox"/>
Cluster Broadcast		<input type="checkbox"/>
Cluster Broadcast Unresolved		<input type="checkbox"/>
Cluster Broadcast Variable		
Command		<input type="checkbox"/>
Command or Script		
CP Duration		<input type="checkbox"/>
CP Duration Unit		
Credentials		<input type="checkbox"/>
Credentials Unresolved		<input type="checkbox"/>

Step 6 For any field, click anywhere in the **Field Value** cell to display an editor where you can enter / select a value.

For example, if you click the **Agent** row, a drop-down list displays that lets you select any currently defined Linux/Unix Agent.



Step 7 If you want to clear the current value of a field for each selected record and not select a new value, click the **Clear Field Value** check box.

Step 8 Click the **Update** button to update all of the fields with the changed values.

Update / Update Filtered Dialog Columns

The following columns display on the Update / Update Filtered dialog:

Field Title	Name of the field as displayed in the Record Details .
Field Value	Value that you want to select for this field in all of the selected records.
Clear Field Value	Check box indicating whether or not to clear the value from this field when the record is updated. By default, this column is unselected for all fields. For fields that cannot be blank (for example, fields that demand a yes or no value), the check box will not be displayed.

Since read-only fields cannot be updated, they are not displayed on the List.

If you are updating multiple records on the [All Tasks](#) list or [All Triggers](#) list, the Update / Update Filtered dialog contains only fields that are common to all types of tasks or triggers.

Note



When updating manually selected Universal Task records on the [All Tasks](#) list, the Update dialog will only contain [mapped fields](#) if all of the records have the same Universal Template UUID (that is, those Universal Tasks were based on the same Universal Template).

Update / Update Filtered Dialog Variable Fields for Tasks

The [Record Details](#) for many individual [tasks](#) contain one or more Variable fields that allow you enter a variable instead of a record.

For example:

If you select **Agent Variable** in the Details for a single Linux/Unix task, the **Agent** field converts from a reference field (where you browse and select a record) into a text field that allows you to enter the variable.

In the Update / Update Filtered dialog for multiple tasks, the **Agent** field is not converted into a text field if you select **Agent Variable**. Instead, an additional field - **Agent Unresolved** - is provided, into which you enter a variable, variable and text, or Agent name. The **Agent** field is not used.

Update...
×

Field Title	Field Value	Clear Field Value
After Date		<input type="checkbox"/>
After Time		<input type="checkbox"/>
Agent		<input type="checkbox"/>
Agent Cluster		<input type="checkbox"/>
Agent Cluster Unresolved		<input type="checkbox"/>
Agent Cluster Variable		<input type="checkbox"/>
Agent Unresolved	<input style="width: 100%;" type="text"/>	<input type="checkbox"/>
Agent Variable	Yes	<input type="checkbox"/>
Automatic Output File		<input type="checkbox"/>
Automatic Output Retrieval		<input type="checkbox"/>
Before Date		<input type="checkbox"/>
Before Time		<input type="checkbox"/>
Cluster Broadcast		<input type="checkbox"/>
Cluster Broadcast Unresolved		<input type="checkbox"/>
Cluster Broadcast Variable		<input type="checkbox"/>
Command		<input type="checkbox"/>
Command or Script		<input type="checkbox"/>
CP Duration		<input type="checkbox"/>
CP Duration Unit		<input type="checkbox"/>
Credentials		<input type="checkbox"/>
Credentials Unresolved		<input type="checkbox"/>

Uploading Records

You can upload records (as contained in a zip and/or JSON file) from your local system to any of the following lists:

- [Agent Clusters](#) list
- [Bundles](#) list
- [Business Services](#) list
- [Calendars](#) list
- [Connections](#) list ([Database Connections](#), [Email Connections](#), [PeopleSoft Connections](#), and [SAP Connections](#))
- [Credentials](#) list

- [Custom Days](#) list
- [Email Templates](#) list
- [OMS Servers](#) list
- [Promotion Targets](#) list
- [Scripts](#) list
- [SNMP Managers](#) list
- [Tasks](#) list (for any [task type](#))
- [All Tasks](#) list
- [Triggers](#) list (for any [trigger type](#))
- [All Triggers](#) list
- [Variables](#) list
- [Virtual Resources](#) list

The Upload operation takes a zip file (containing one or more files) or a JSON file.

- For a zip file, each JSON file in the zip file will be parsed, and non-JSON files will be ignored.
- For a JSON file, the file is parsed to update/create a record.

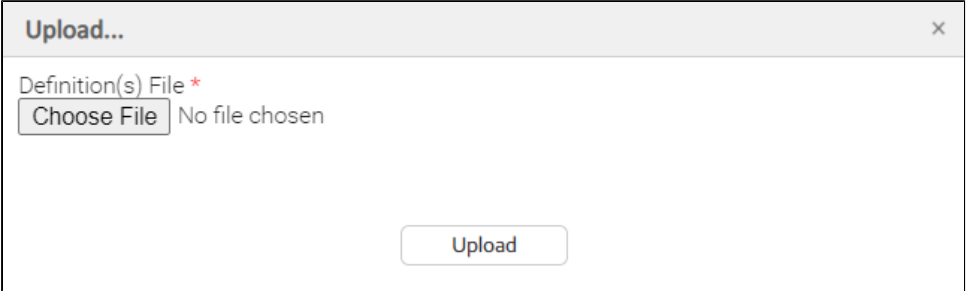
Note



A zip can contain multiple files, where each file could be for a different record type. For example, the zip might contain two files; one file for a task and one file for a trigger. The zip file can be uploaded from any list that supports upload (for example; tasks list, triggers list, and calendars list). When the zip file has been successfully uploaded, both the task record and the trigger record will be uploaded.

A JSON file contains data for one record type only. The `exportTable` property in the JSON file is used to identify the record type. Any file without this attribute will be ignored.

- For a record type that supports download/upload, the JSON response from Read web service API contains the `exportTable` property.
- For a Read response from an older release, you must manually add the `exportTable` property in order to be upload compatible.

Step 1	Right-click any column on any list that supports uploads to display an Action menu .
Step 2	Click Upload... to display the Upload dialog. 
Step 3	Click Browse to Select a file to upload.
Step 4	Click Upload to upload the selected file.

Downloading Records

You can download multiple records from a list (or download a single record from its record details) from any of the following lists:

- [Agent Clusters](#) list
- [Bundles](#) list
- [Business Services](#) list
- [Calendars](#) list
- [Connections](#) list ([Database Connections](#), [Email Connections](#), [PeopleSoft Connections](#), and [SAP Connections](#))
- [Credentials](#) list
- [Custom Days](#) list
- [Email Templates](#) list
- [OMS Servers](#) list
- [Promotion Targets](#) list
- [Scripts](#) list
- [SNMP Managers](#) list
- [Tasks](#) list (for any [task type](#))
- [All Tasks](#) list
- [Triggers](#) list (for any [trigger type](#))
- [All Triggers](#) list
- [Variables](#) list
- [Virtual Resources](#) list

There are two [actions](#) available for downloading records from a list:

- [Download](#)
Downloads all [manually selected records](#) on the list.
- [Download Filtered](#)
Downloads all records that [match the currently selected filter](#) for the list.

There is one [action](#) available for downloading a single record from its record details:

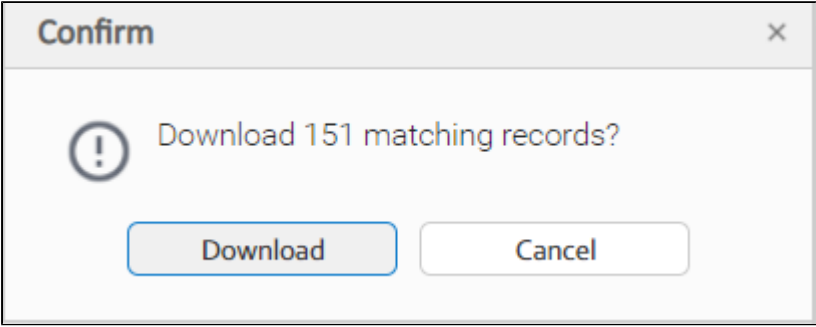
- [Download](#)
Downloads the current record.

Download Manually Selected Records from a List

Step 1	Select the list from which you want to download multiple records.
Step 2	Ctrl-click each record on the list that you want to download.
Step 3	Right-click any of the selected records to display an Action menu .
Step 4	Click Download to download the selected records.

Download Records That Match the Current Filter

Step 1	Select the list from which you want to download multiple records.
Step 2	Create a Filter to display only those records that you want to download.
Step 3	Right-click the list header to display an Action menu .

<p>Step 4</p>	<p>Click Download Filtered.... A Confirm pop-up displays.</p> 
<p>Step 5</p>	<p>Click Download to download the matching records</p>

Download a Single Record from its Record Details

<p>Step 1</p>	<p>Select the list from which you want to download a single record.</p>
<p>Step 2</p>	<p>Open the record that you want to download.</p>
<p>Step 3</p>	<p>Right-click anywhere in the record details to displays an Action menu.</p>
<p>Step 4</p>	<p>Click Download to download the record.</p>

Note

 You also can download a single record by [manually selecting](#) it from the records list.

Record Lists

- [Introduction](#)
- [List Task Bar](#)
- [Formatting a List](#)
- [Sorting](#)
 - [Sorting by Type](#)
 - [Configure a Multi-Level Sort](#)
- [Filtering](#)
- [Selecting Columns / Column Locations for a List](#)
- [List Layouts](#)
 - [Layouts Menu](#)
 - [Selecting a Layout for a List](#)
 - [Saving a Layout](#)
 - [Saving a Layout As Your Default Layout](#)
 - [Deleting a Layout](#)
- [Adding Records from a List](#)
- [Deleting Records from a List](#)
- [Updating Multiple Records from a List](#)
- [Uploading Records to a List](#)
- [Downloading Multiple Records from a List](#)
- [Performing Actions on One or More Records from a List](#)
- [Exporting Records to an Output File](#)
 - [Exporting Records to CSV, PDF, XLS \(Excel\), or XLSX](#)
 - [Exporting Records to XML, XML \(Export References\), or Permissions for Group](#)
- [Importing Records from a File](#)

Introduction

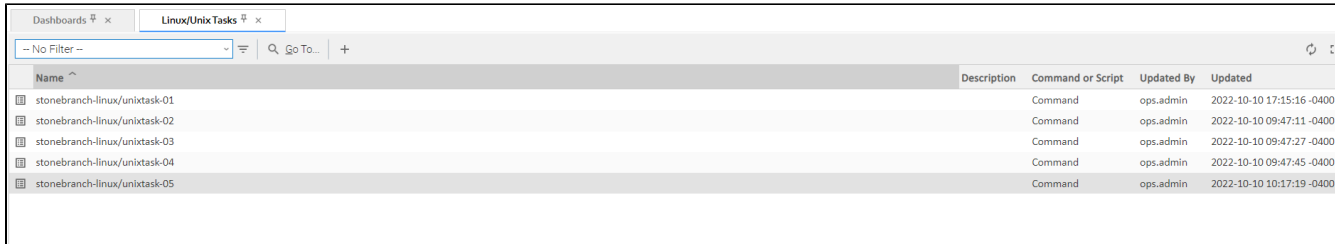
A record list is either a:

- Listing of records of the same type, such as tasks, calendars, or users.
- Listing of all records of the same type or category, such as all tasks or active triggers.

When you click a record type in the [Services](#), a list of currently defined records for that record type displays.

List Task Bar

A task bar displays at the top of every list. For example:



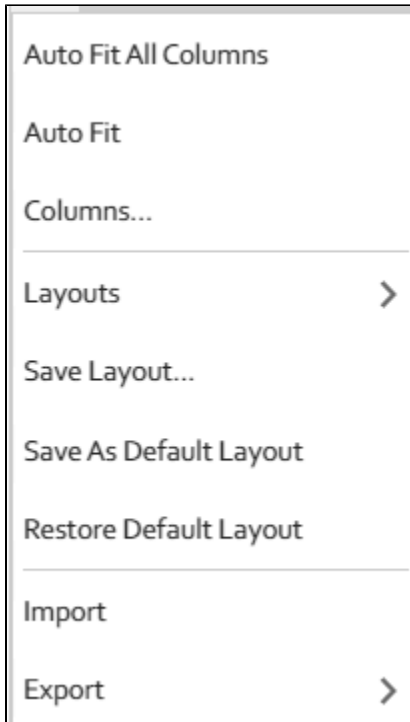
The following table describes the different elements that can appear on a list task bar and the function of each element:

Task Bar Element	Function
	Allows you to apply an existing filter to the records on the list. The default selection is -- No Filter -- (no Filter is applied). Click the down arrow to display a list of existing filters.
	Allows you to create, view, or edit a filter that you can save or apply to the records on the list.
	Allows you to create a quick record name filter that you can apply (but not save) to the records on the list.
	Allows you to create a new record of the record type displayed on the list.
	Allows you to refresh any dynamic data displayed on the list.

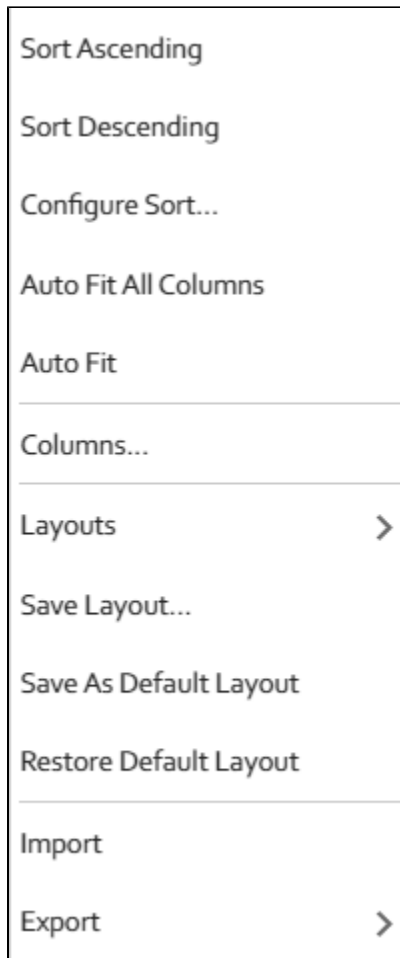
Formatting a List

For every list in the user interface, an [Action menu](#) of formatting options is available.

To display the menu of formatting options, click the down arrow that appears over the Detail icons column.



For all lists, you can right-click any column header on the list to display an [Action menu](#) of formatting options preceded by sort actions for the selected column.



See [Action Menus](#) for a description of these formatting and sort options.

Sorting

By default, lists are sorted by **<record type> Name** in ascending, alphanumeric order (0-9, a-z).

You can sort a list in ascending or descending order of the entries in any displayed column.

There are two ways to sort a list:

1. Click a column header; the list is sorted in ascending order of the entries in that column. A small arrow appears to the left of the column name to indicate the direction of sort. An up arrow indicates ascending alphanumeric order; a down arrow indicates descending alphanumeric. Re-click the header to reverse the direction of sort.
2. Right-click a column header to display an [Action menu](#) and click either:

- [Sort Ascending](#)
- [Sort Descending](#)

Sorting by Type

Type columns, such as Permission Type, Task Type, or Task Instance Status, are sorted by the Type underlying integer values, not alphabetically by the Type display names.

For example, if you sort the list of task instances on the Activity Monitor by [Status](#), the list is sorted by the numeric Status Code, not the alphabetic Status Name:

Instance Name	Instance Number	Type	Status
stonebranch-z/OSTask-01	1	z/OS	Finished
stonebranch-z/OSTask-01	2	z/OS	Finished
stonebranch-linux/unixtask-01	2	Linux/Unix	Finished
stonebranch-z/OSTask-01	3	z/OS	Finished
stonebranch-z/OSTask-01	4	z/OS	Finished
stonebranch-z/OSTask-01	5	z/OS	Finished
stonebranch-z/OSTask-01	6	z/OS	Finished

Configure a Multi-Level Sort

You can use the [Configure Sort](#) action to create a temporary, multi-level sort for any column.

S t e p 1	Click a column header to sort the list by the currently defined sort level of that column (default is column name in ascending order).
S t e p 2	Right-click the same column header to display an Action menu .

Step 3

Click **Configure Sort...** to display the Sort dialog.

The screenshot shows a dialog box titled "Sort" with a close button (X) in the top right corner. Below the title bar are three buttons: "Add Level" (with a plus icon), "Delete Level" (with a minus icon), and "Copy Level" (with a copy icon). To the right of these buttons are two small circular icons, one with a plus and one with a minus. The main area of the dialog contains a table with two columns: "Column" and "Order".

	Column	Order
Sort by	Status	Ascending

At the bottom right of the dialog are two buttons: "Apply" and "Cancel".

The **Sort By** row identifies the default **Column** and **Order** by which the list is sorted if you click the column header.

Step 4

Click the **Add Level** or **Copy Level** button to add a **Then by** row to the list.

The screenshot shows the same "Sort" dialog box as in Step 3, but now with two rows in the table. The "Add Level" button is highlighted. The table now has two rows: "Sort by" and "Then by".

	Column	Order
Sort by	Status	Ascending
Then by	Instance Name	Ascending

The "Then by" row has dropdown menus for both the column name and the order. At the bottom right are "Apply" and "Cancel" buttons.

Step 5

Select a **Column** and **Order** for **Then by**.

Step 6 Add as many sort levels as desired. To remove a level from the dialog (including the default level), select it and then click **Delete Level**. Use the up and down arrow buttons to re-arrange the order of the lev

Step 7 Click **Apply**. The list is sorted according to the levels that you have defined. Numbers display next to the column headers, identifying the sort order.
For example:

Instance Name	Instance Number	Type	Status
stonebranch-linux/unitask-01	2	Linux/Unix	Finished
stonebranch-z/OStask-01	1	z/OS	Finished
stonebranch-z/OStask-01	2	z/OS	Finished
stonebranch-z/OStask-01	3	z/OS	Finished
stonebranch-z/OStask-01	4	z/OS	Finished
stonebranch-z/OStask-01	5	z/OS	Finished
stonebranch-z/OStask-01	6	z/OS	Finished

Step 8 To remove the temporary sort levels for the column, either:

- Click anywhere in the list header row.
- Right-click the column header of the column you were sorting and click **Clear Sort**.

Filtering

You can apply a filter to a list so that it temporarily displays only records matching the filter criteria, and you can create and save a filter that can be applied at any time to the list.

You also can create a quick filter that will filter a list by full or partial record name.

For detailed information on creating and applying filters, see [Filters](#).

Selecting Columns / Column Locations for a List

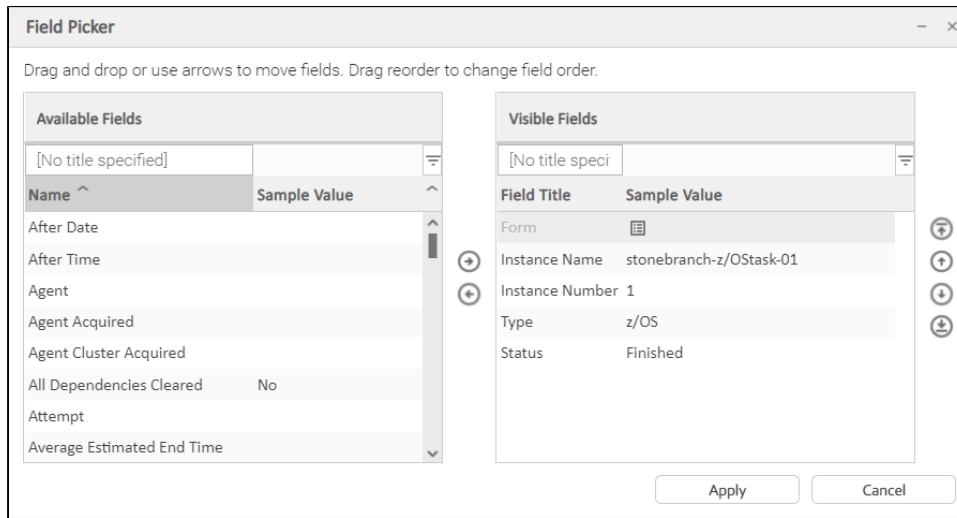
Initially, all lists display default columns of information in default locations. You can change a list to display any available column in any location.

The columns are based on the fields that exist for a record type in the Controller database; all fields that display in the user interface, including [Metadata](#) fields, are available as columns.

To select which columns you want displayed on a list:

Step 1	Display the list.
Step 2	Access the Action menu of list formatting options .

Step 3 Click **Columns...** to display the Field Picker pop-up dialog.



- The **Available Fields** window lists the fields that currently are not displayed on the list but are available for display.
- The **Visible Fields** window lists the fields that currently are displayed on the list (in left-to-right sequence).

Step 4 Drag and drop fields between the Available Fields and Visible Fields windows, as appropriate for whichever fields you want displayed on the list.

You can drag and drop a field from the Available Fields window into any location in the Visible Fields window, and you can drag and drop any field in the Visible Fields window to a new location. Fields dragged from the Visible Fields window to the Available Fields are automatically dropped into location based on alphabetical order.

Note



You also can:

- Move any field between the Available Fields and Visible Fields windows by clicking the field and then clicking the > or < arrow.
- Relocate any field by dragging and dropping the corresponding column directly on the list.

Step 5 To filter the fields listed in either window, enter characters in the text field above the Name column. Only fields containing that sequence of characters will display in the list.

Step 6 Click the **Apply** button on the Field Picker dialog to save your relocation selections.

List Layouts

Every list displays in its System Default layout when you first log in to the Controller.

You can sort, filter, select, and/or relocate columns in a list, and save that configuration of the list as a new layout.

You can create any number of layouts for a list, and:

- Pin any layout to a list, making it your Default layout whenever you display that list.
- Select any layout as a temporary layout for the list while it currently is being displayed.

To select a layout for a list, access the [Action menu](#), which provides the following selections for saving and selecting list layouts:

Layouts >	Displays a menu of all layouts , including the System Default layout, that you can apply to the list.
Save Layout...	Saves the current configuration of the list as a new layout and displays the layout in the Layouts menu .
Save As Default Layout	For the ops_admin role only; Saves the current configuration of the list as the System Default layout for this list.
Restore the Default Layout	For the ops_admin role only; Restores the System Default layout of this list to the original System Default layout.

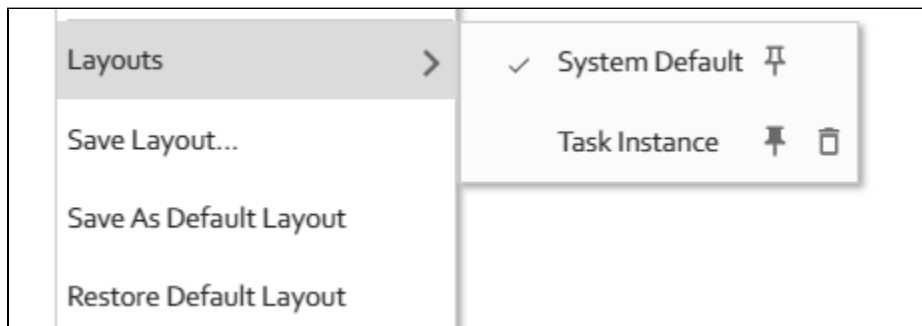
Layouts Menu

The Layouts menu identifies all currently defined layouts for the list, including the [System Default](#) layout.

Layouts menu icons:

Icon	Description
	Indicates that this layout has been pinned as the Default layout for this list.
	Lets you delete a layout (except the System Default layout).
	Indicates the list layout that currently is selected for the list. This layout will display for the list - including any modifications made since the layout was selected - until you close, and then re-open, the list.

For example:



In this Layouts menu, the checkmark next to **System Default** indicates this is the currently selected layout.

Selecting a Layout for a List

There are two ways to select a layout for a list:

1. Click the name of the layout in the [Layouts menu](#). The check mark will display next to that layout, indicating that it is the currently selected layout for the list.
2. Click the Layout icon next to the layout. The Default Layout icon and the check mark will display next to that layout, indicating that it is the currently selected layout for the list and is pinned as the Default layout for the list.

Note



Pinning a layout as your Default layout also selects it as the currently displayed layout, but selecting a layout as the currently displayed layout does not pin it as your Default layout.


Saving a Layout

You can save any configuration of a list as a list layout.

Step 1	Select Save Layout... from the Action menu. A Save As... pop-up dialog displays. <div style="border: 1px solid gray; padding: 5px; margin: 10px 0;"> </div>
Step 2	Enter a Name for the layout. (By default, the dialog displays the record type of the list as the Name .)
Step 3	Select whether or not you want to pin the layout as your Default layout for this list.

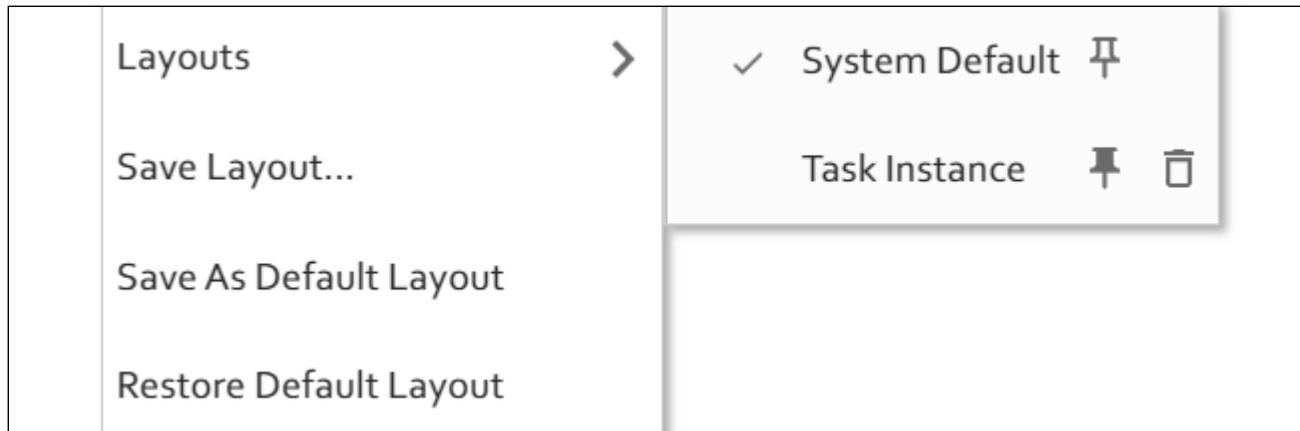
You can display a layout for a list without pinning it as your Default layout by clicking the layout name in the **Layout >** menu. The list will display in the selected layout, but your Default layout will remain the same.

Saving a Layout As Your Default Layout


To save a layout as your Default layout for a list, which pins the layout to the list, click the  icon next to that layout in the Layouts menu.

Saving a layout as your Default layout for a list does not make that layout the System Default layout; it only means that for you, as the user that saved the layout, it is pinned as your Default layout for the list whenever you display the list.

In the following example, **Task Instance** has been pinned as the your Default layout for the list, and **System Default** has been selected as the currently displayed layout.




Deleting a Layout

To delete a list layout, click the  icon that appears next to every layout (except the [System Default](#) layout, which cannot be deleted) in the Layouts menu.

If you delete a layout that is pinned as your Default layout for the list, the System Default layout automatically becomes your Default layout for the list.

Adding Records from a List

Adding a new record is a simple uniform procedure through the environment: from any list, click the  button.

Deleting Records from a List

To delete one or more records from a list of records:

Step 1 On the records list, Ctrl+right-click the records that you want to delete. Each selected record is highlighted.

For example:

User Id (Username) ^	Name	Locked Out	Active	Updated By
stonebranch-user-01	stone a branch	No	⊙	ops.system
stonebranch-user-02	stone b branch	No	⊙	ops.admin
stonebranch-user-03	stone c branch	No	⊙	ops.admin
stonebranch-user-04	stone d branch	No	⊙	ops.admin
stonebranch-user-05	stone e branch	No	⊙	ops.admin

Step 2 On the [Action menu](#) that displayed after you made your first selection, click **Delete**.

Step 3 On the Confirmation pop-up that displays, click **OK**.

Note



You also can delete an individual record from its record Details (see [Deleting a Record](#)).

Updating Multiple Records from a List

You can update multiple records from any of the following lists:

- Agents list for any [Agent type](#) (Credentials field and Member of Business Services field only)
- [All Agents](#) list (Credentials field and Member of Business Services field only)
- Tasks list for any [task type](#)
- [All Tasks](#) list
- Triggers list for any [trigger type](#)
- [All Triggers](#) list
- [Credentials](#) list (all fields except Type and Key Location (FTP only))
- [Email Templates](#) list
- [Global Variables](#) list
- [Scripts](#) list
- [Users](#) (these fields only: Active, Command Line Access, Department, Locked Out, Manager, Password, Password Requires Reset, Time Zone, Web Browser Access, Web Service Access)
- [Virtual Resources](#) list

For detailed information on how to perform a multiple records update, see [Updating Multiple Records](#).

Uploading Records to a List

You can upload records (as contained in a zip and/or json file) to any of the following lists:

- [Agent Clusters](#) list
- [Bundles](#) list
- [Business Services](#) list
- [Calendars](#) list
- [Connections](#) list ([Database Connections](#), [Email Connections](#), [PeopleSoft Connections](#), and [SAP Connections](#))
- [Credentials](#) list
- [Custom Days](#) list
- [Email Templates](#) list
- [OMS Servers](#) list
- [Promotion Targets](#) list
- [Scripts](#) list
- [SNMP Managers](#) list
- [Tasks](#) list (for any [task type](#))
- [All Tasks](#) list
- [Triggers](#) list (for any [trigger type](#))
- [All Triggers](#) list
- [Variables](#) list
- [Virtual Resources](#) list

For detailed information on how to perform a multiple records upload, see [Uploading Records](#).

Downloading Multiple Records from a List

You can download multiple records from a list (or download a single record from its record details) from any of the following lists:

- [Agent Clusters](#) list
- [Bundles](#) list
- [Business Services](#) list
- [Calendars](#) list
- [Connections](#) list ([Database Connections](#), [Email Connections](#), [PeopleSoft Connections](#), and [SAP Connections](#))
- [Credentials](#) list
- [Custom Days](#) list
- [Email Templates](#) list
- [OMS Servers](#) list
- [Promotion Targets](#) list
- [Scripts](#) list
- [SNMP Managers](#) list
- [Tasks](#) list (for any [task type](#))
- [All Tasks](#) list
- [Triggers](#) list (for any [trigger type](#))
- [All Triggers](#) list
- [Variables](#) list
- [Virtual Resources](#) list

For detailed information on how to perform a multiple records downloads, see [Download Records](#).

Performing Actions on One or More Records from a List

You can perform many actions on one or more records on a list without having to open the record(s).

- For a single record, right-click the record on the list to display an [Action menu](#) of all actions available for that record.
- For multiple records, press Ctrl and right-click each record. An [Action menu](#) of all actions available for multiple records of that type displays.

Note



The actions available for a record when selecting an Action menu from a list may not be the same as the actions available when you select an Action menu from its record Details.

Exporting Records to an Output File

This feature allows you to export record information for records on a list to any of the following file types:

- CSV (comma-separated values in an Excel file)
- Permissions for Group (XML for [User Groups](#) only)
- PDF
- XLS (Excel)
- XLXS
- XML
- XML (Export References)

To export records, you first display the current list of those records.

By default, an export contains all records on the list. If you do not want to export all records on the list, use [filtering](#) to select the records to be exported.

Note



You cannot *select* records on a list manually to indicate which records are to be exported; you must *filter* the list in order to select the records.

Important!



It is strongly recommended that you do NOT use the Import and Export functions for modification of Universal Controller records. API functions are available if you need to programmatically update, copy, insert, or otherwise manipulate Universal Controller records.

Exporting Records to CSV, PDF, XLS (Excel), or XLSX

When you export to CSV, PDF, XLS (Excel), or XLXS, you export only the columns of information displayed on the list. To select which columns are displayed, see [Selecting Columns / Column Locations for a List](#).

To run the export:

Step 1	Display the list of records.
Step 2	Right-click in any column header of the list to display an Action menu .
Step 3	Select Export .
Step 4	Select CSV , PDF , XLS (Excel) , or XLXS .
Step 5	When the export is complete, select whether to open or save the file.

Exporting Records to XML, XML (Export References), or Permissions for Group

When you export to XML, XML (Export References), or Permissions for Group (XML for [User Groups](#) only), you export the entire record.

Note



Exporting records to XML files requires the [ops_admin](#) role or the [ops_imex](#) role.

To run the export:

Step 1	Display the list of records.
Step 2	Right-click in any column header of the list to display an Action menu .
Step 3	Select Export .

Step 4	Select either:		
	<ul style="list-style-type: none"> • XML • XML (Export References) • Permissions for Group 		
	The following table provides notes on these export types for different record types.		
	Export Type	Record Type	Notes
	XML	Task	Also exported: local variables, Actions, Notes, and Virtual Resource requirements.
	XML	Workflow	Also exported: all tasks in the workflow. Each task is exported to a separate XML file
	XML (Export References)	Task	Also exported: all of the XML export data, plus triggers, global variables, calendars, credentials, and any resources referred to. These "reference" records are saved to separate XML file.
	XML	Universal Task	<ul style="list-style-type: none"> • Export does not include Universal Template XML. • Any unmapped fields (for example: booleanField1, choiceField1) are excluded from the XML. • For any mapped fields, the XML element includes both the Name and Label attributes. For example: <boolean_field1 name="immediate" label="Immediate">true</boolean_field1>
XML (Export References)	Universal Task	Export includes: <ul style="list-style-type: none"> • Universal Template XML. • Referenced Credentials, Agent Cluster, and Broadcast Cluster. • Referenced Agent only if the Export Agent References Universal Controller system property (opwise.export.agent_references) is set to true. For any other reference fields that might be inherited from the common Task definition (for example, System Operations), those references also will be followed.	
XML	Universal Template	Export includes the base Universal Template definition, along with as the Universal Template Field and Universal Template Field Value Maps data, in a single XML per Universal Template.	
XML (Export References)	Universal Template	Export includes: <ul style="list-style-type: none"> • Referenced Credentials, Agent Cluster, and Broadcast Cluster (under "Defaults" section). • Referenced Agent only if the Export Agent References Universal Controller system property (opwise.export.agent_references) is set to true. 	
XML (Export References)	Bundle	Export includes: <ul style="list-style-type: none"> • Any Business Services referenced by the Member of Business Services field. • Any Promotion Target referenced by the Default Promotion Target field. • Any record added to the Bundle, including those records referenced by any record added to the Bundle. 	
Step 5	When the export is complete, an Exported message displays above the list, indicating that the export is complete. (The export location is configurable; see the Export Path Universal Controller system property.)		

Importing Records from a File

You can import record information from any valid XML file to a list using the [Import](#) action that is available for all lists.

- Any Universal Template XML found in the import directory will be processed prior to any other XML.
- Universal Template XML will be processed only if the Universal Template does not exist by **name** or **sys_id**. You can create a Universal Template via List Import, but you cannot update a Universal Template via List Import; if the Universal Template exists, the Universal Template XML will be ignored.
- Any Universal Task XML must be validated to ensure that it conforms to the currently defined Universal Template it is associated with.

Note



Importing records from XML files requires either the [ops_admin](#) role or the [ops_imex](#) role.

Important!



It is strongly recommended that you do NOT use the Import and Export functions for modification of Universal Controller records. API functions are available if you need to programmatically update, copy, insert, or otherwise manipulate Universal Controller records.

Action Menus

- [Overview](#)
- [Accessing Action Menus](#)
- [Actions](#)

Overview

Action menus contain a set of actions and commands that you can apply to a [list](#) of records or one or more individual [records](#). The actions listed on an Action menu are context-sensitive; they appear only as appropriate for the type of list or record (and as allowed by your [User Permissions](#)).

Accessing Action Menus

To access an Action menu:

For a List	Right-click a column header to display an Action menu containing a set of actions that you can apply to that column or to the entire list.
For a Record	<p>Either:</p> <ul style="list-style-type: none"> • Right-click a record on a list. • Right-click anywhere in the record Details. <p>The list of actions on an Action menu for a record may differ depending on whether you accessed the menu from the records list or from the record Details.</p>

The following is a sample Action menu for an individual record selected on a list:

Dashboards ⌵ × Linux/UnixTasks ×

-- No Filter -- ⌵ | 🔍 Go To... | +

Failure Only	Name ^
<input type="checkbox"/>	No stonebranch-linuxunixtas
<input type="checkbox"/>	No stonebranch-linuxunixtas
<input type="checkbox"/>	No stonebranch-linuxunixtas
<input type="checkbox"/>	No stonebranch-linuxunixtas
<input type="checkbox"/>	No stonebranch-linuxunixtas


- Launch Task
- Launch Task with Variables...
- Open
- Open In Tab
- Copy
- View Bundles
- Add To Bundle...
- Promote...
- Reset Statistics
- Set Execution Restriction...
- Clear Execution Restriction
- View Parents
- Update...
- Download
- Delete
- Details >
- Refresh


Actions

The following table identifies actions that can appear on Action menus throughout the Universal Controller user interface. The Availability column identifies the location(s) from where each action is available.

Most actions are available for multiple, if not all, record types. Some actions are available for specific record types; these actions are categorized alphabetically following the list of actions for multiple record types:

- [Multiple Record Types](#)
- [Agents and Agent Clusters](#)
- [Applications](#)
- [Bundles and Promotion](#)
- [Calendars and Custom Days](#)
- [Dashboards](#)
- [Data Backup/Purge](#)
- [Manual Task Instances](#)
- [Reports](#)
- [SAP Task Instances](#)
- [Task Instances](#)
- [Task Monitor Task Instances](#)
- [Tasks](#)
- [Triggers](#)
- [Universal Templates](#)
- [Users and Groups](#)
- [Virtual Resources](#)
- [Workflow Task Instances](#)
- [Workflow Tasks](#)
- [z/OS Task Instances](#)
- [z/OS Tasks](#)

Action	Availability	Description
Multiple Record Types		
	<p>For any type of record that can be added to a Bundle:</p> <ul style="list-style-type: none"> • Record on any list • Record Details 	<p>Adds this record to any existing Bundle.</p> <p>This action is enabled only if a user has the ops_bundle_admin role or at least one Bundle Update permission assignment.</p> <ul style="list-style-type: none"> • For a user with the ops_bundle_admin role, the Add To Bundle dialog allows selection of any pre-existing Bundle. • For a user without the ops_bundle_admin role but at least one Bundle Update permission assignment, the Add To Bundle dialog allows selection of pre-existing Bundles for which the user has Read permission. <p>Only users with the ops_bundle_admin role or Update permission for the bundle can add definitions to the Bundle.</p>

Auto Fit	<ul style="list-style-type: none"> • Lists 	Left-adjusts all columns in the list to their smallest size that still displays the full column name and column details for all records in the list.
Auto Fit All Columns	<ul style="list-style-type: none"> • Lists 	Adjusts all Auto Fitted columns back to their original size.
Clear Sort	<ul style="list-style-type: none"> • Lists 	Clears the temporary sort levels that you created via the Configure Sort action.
Close	<ul style="list-style-type: none"> • Record Details pop-up 	Closes the Details pop-up of any record.
Columns...	<ul style="list-style-type: none"> • Lists 	Displays a list of all available columns that can be displayed for this list. Click any column in the list to display / remove it.
Configure Sort...	<ul style="list-style-type: none"> • Lists 	Sorts a list according to temporary, user-defined sort levels for a column on the list (see Configure a Multi-Level Sort).
Copy	<ul style="list-style-type: none"> • Record on any list • Record Details 	Creates a copy of the selected record, which you are prompted to rename.
CSV	<ul style="list-style-type: none"> • Lists 	Exports records on a list in CSV (comma-separated values in an Excel file) format (see Exporting Records to an Output File).
Details 	<ul style="list-style-type: none"> • Record on any list • Record Details 	Displays a menu of the following actions: <ul style="list-style-type: none"> • Show/Hide Metadata • Show Details • Show Variables • Print
Delete	<ul style="list-style-type: none"> • Record on any list • Record Details 	Deletes the selected record(s).
		Downloads the selected record(s) to a zip file on your local file system.

Download

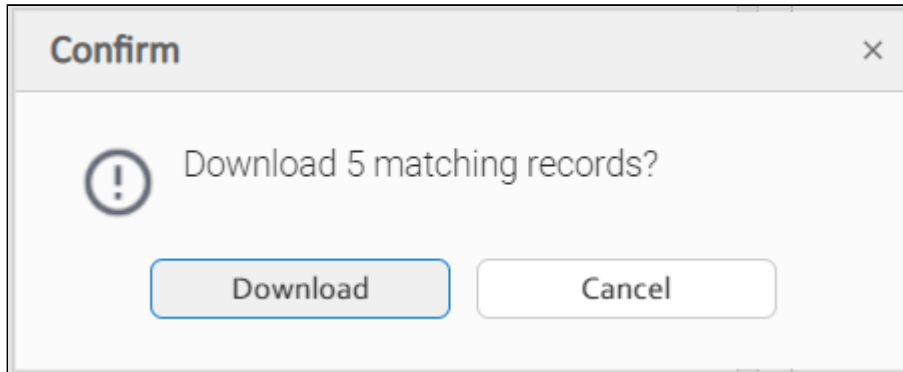
- Records on any of these lists:
 - Agent Clusters list
 - Bundles list
 - Business Services
 - Calendars
 - Connections lists (Database, Email, PeopleSoft, SAP)
 - Credentials list
 - Custom Days
 - Email Templates list
 - OSS Servers list

- Promotion Targets
- Scripts list
- SNMP Managers list
- Task lists
- Triggers lists
- Variables list
- Virtual Resources list
- Record Details of these record types

Download Filtered

- Records on any of these lists:
 - Agent Clusters list
 - Bundles list
 - Business Services

[Downloads](#) all records in the list that match the current filter to a zip file on your local file system.







- Cal
end
ars
- Con
nec
tion
s
lists
(Da
tab
ase
,
Em
ail,
Peo
ple
Soft
,
SA
P)
- Cre
den
tials
list
- Cus
tom
Days
- Em
ail
Te
mpl
ate
s
list
- OM
S
Ser
ver
s
list
- Pro
mot
ion
Tar
gets
- Scri
pts
list
- SN
MP
Ma
nag
ers
list
- Tas
ks
lists

	<ul style="list-style-type: none"> • Triggers lists • Variables list • Virtual Resources list 	
<div style="border: 1px solid black; padding: 5px; display: flex; justify-content: space-between; align-items: center;"> Export > </div>	<ul style="list-style-type: none"> • Lists 	<p>Exports records on a list in either of seven formats (as available for the type of record in the list):</p> <ul style="list-style-type: none"> • CSV • Permissions For Group • PDF • XLS (Excel) • XLSX • XML • XML (Export References)
<div style="border: 1px solid black; padding: 5px;">Hide Metadata</div>	<ul style="list-style-type: none"> • All record Details 	<p>Hide Metadata for these Details.</p>
<div style="border: 1px solid black; padding: 5px;">Import</div>	<ul style="list-style-type: none"> • Lists 	<p>Imports valid XML files (usually from an Export) from a user-defined location to a list.</p> <p>Import performs a pre-validation on the XML files; if any files are found to be invalid, a warning displays on the Console and the import operation is aborted. Any invalid XML files should be fixed or removed from that location.</p>
<div style="border: 1px solid black; padding: 5px;">Insert</div>	<ul style="list-style-type: none"> • All record Details (except task instances, Agents, cluster nodes) 	<p>Creates a copy of the current record, for which which you have just entered a new Name.</p>
<div style="border: 1px solid black; padding: 5px; display: flex; justify-content: space-between; align-items: center;"> Layouts > </div>	<ul style="list-style-type: none"> • Lists 	<p>Displays a menu of available layouts for this list.</p>

New	<ul style="list-style-type: none"> Any Details 	Displays empty Details for you to begin creating a new record.
Open	<ul style="list-style-type: none"> Any record on list 	Opens the Details pop-up of a record.
Open	<ul style="list-style-type: none"> Navigator 	Opens a page right-clicked in the Navigator under the current tab. (If the current tab is for the Activity Monitor or Dashboard Details , the page will open in a new tab (see Tabs).
Open In New Tab	<ul style="list-style-type: none"> Navigator 	Opens a page right-clicked in the Navigator under a new tab.
Open In Tab	<ul style="list-style-type: none"> Record in list Record Details 	Displays the record Details under a new tab rather than as a pop-up (see Opening a Record).
PDF	<ul style="list-style-type: none"> Lists 	Exports the displayed data (the selected columns) of every record on a list into PDF format (see Exporting Records to an Output File).
Print	<ul style="list-style-type: none"> Record in list Record Details 	Prints the record Details as shown in the user interface.
Promote...	<p>For any type of record that can be promoted:</p> <ul style="list-style-type: none"> Record on any list Record Details 	<p>Copies this record from this source cluster node to a target cluster node.</p> <p>The Promote... action is disabled unless a user has the ops_promotion_admin role or if the Bundleless Promotion With Execute Permission Permitted Universal Controller system property is true and the user has at least one promotion target Execute permission assignment.</p> <ul style="list-style-type: none"> For a user with the ops_promotion_admin role, the Promote... dialog allows selection of any pre-existing promotion target. For a user without the ops_promotion_admin role, the Promote... dialog allows selection of pre-existing promotion targets for which the user has Read permission. <p>The server will prohibit the user from promoting the definition using the promotion target if neither of the two conditions are met:</p> <ul style="list-style-type: none"> The user has the ops_promotion_admin role. The user has Execute permission for the selected promotion target and the Bundleless Promotion With Execute Permission Permitted Universal Controller system property is true.

Refresh	<ul style="list-style-type: none"> Record Details 	Refreshes all dynamic information in the Details.
Restore Default Layout	<ul style="list-style-type: none"> Lists 	Restores the current layout of the list to its default layout.
Save	<ul style="list-style-type: none"> New, unsaved record 	Saves this record and, if the record is displayed in a pop-up dialog, closes the record. (Same action as Save button on Details.)
Save & New	<ul style="list-style-type: none"> New, unsaved record 	Saves this record and displays empty Details for a new record. (Same action as Save & New button on Details.)
Save As Default Layout	<ul style="list-style-type: none"> Lists 	Saves the current layout of the list as the default layout.
Save Layout...	<ul style="list-style-type: none"> Lists 	Saves the current layout of the list.
Show Details	<ul style="list-style-type: none"> Record on any list All record Details. 	Displays all details stored in the database for this record in table format.
Show Metadata	<ul style="list-style-type: none"> All record Details 	Display Metadata for these Details.
Sort Ascending	<ul style="list-style-type: none"> Lists 	Sorts the list in ascending alphabetical order.
Sort Descending	<ul style="list-style-type: none"> Lists 	Sorts the list in descending alphabetical order.

	<ul style="list-style-type: none"> • Lists 	<p>Selects the default layout for the list.</p>
	<ul style="list-style-type: none"> • Email, Database, SAP, and PeopleSoft Connections lists 	<p>Performs a connectivity test to the selected connection. (Same action as Test Connection button on Details.)</p>
	<ul style="list-style-type: none"> • Record Details (except Cluster Nodes) 	<p>Updates the Details of any record and, if the Details are displayed in a pop-up dialog, closes the pop-up. (Same action as Update button on Details.)</p>
	<ul style="list-style-type: none"> • Record Details pop-up (except Cluster Nodes) 	<p>Updates the Details of any record and continues to display the record.</p>

Update...

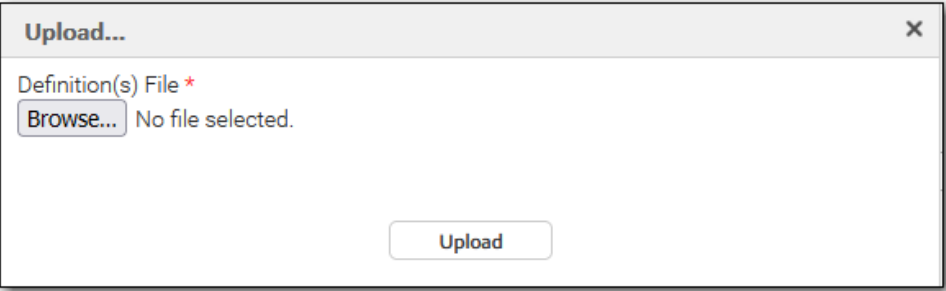
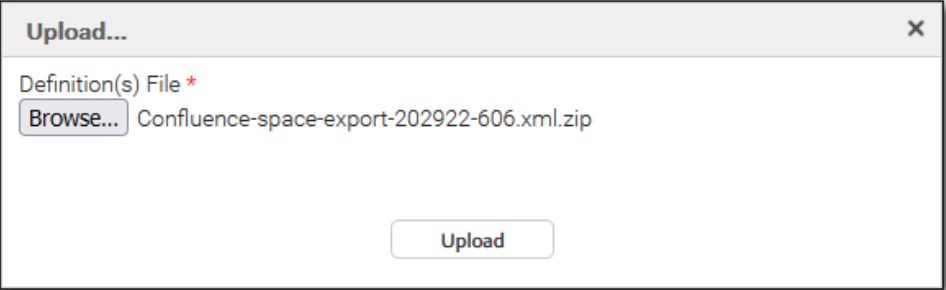
- Agents lists
- Connections lists (Database, Email, PeopleSoft, SAP)
- Credentials list
- Email Templates list
- SNMP Managers list
- Tasks lists
- Triggers lists
- Users list
- Variables list
- Virtual Resources list

Updates all currently selected records in the list.

Update Filtered...

- Agents lists
- Connections lists (Database, Email, PeopleSoft, SAP)
- Credentials list
- Email Templates list
- SNMP Managers list
- Tasks lists
- Triggers lists
- Users list
- Variables list
- Virtual Resources list

Updates all records in the list that match the current filter.

<p>Upload...</p>	<ul style="list-style-type: none"> • Agent Clusters list • Bundles list • Business Services • Calendars • Connections lists (Database, Email, PeopleSoft, SAP) • Credentials list • Custom Days • Email Templates list • OMS Servers list • Promotion Targets • Scripts list • SNMP Managers list • Tasks lists • Triggers lists • Variables list • Virtual Resources list 	<p>Uploads all selected files.</p>  <p>Click Browse to select the file(s) that you want to upload.</p>  <p>Click Upload to upload the selected file(s).</p>
<p>View</p>	<ul style="list-style-type: none"> • Entries on Edit Members dialogs 	<p>Displays detailed information about that entry.</p>

View Bundles	<p>For any type of record that can be added to a Bundle:</p> <ul style="list-style-type: none"> Record on any list Record Details 	<p>Displays a list of bundles to which this record belongs.</p> <p>This action is enabled only if a user has the <code>ops_bundle_admin</code> or <code>ops_promotion_admin</code> role, or at least one Bundle Read permission assignment.</p> <ul style="list-style-type: none"> For a user with the <code>ops_bundle_admin</code> or <code>ops_promotion_admin</code> role, the View Bundles list displays every Bundle containing the definition. For a user with neither the <code>ops_bundle_admin</code> or <code>ops_promotion_admin</code> role, the View Bundles list displays every Bundle, for which the user has Read permission, containing the definition.
XLS (Excel)	<ul style="list-style-type: none"> Lists 	<p>Exports the displayed data (the selected columns) of every record on a list into XLS (Excel) format (see Exporting Records to an Output File).</p>
XLSX	<ul style="list-style-type: none"> Lists 	<p>Exports the displayed data (the selected columns) of every record on a list into XLSX format (see Exporting Records to an Output File).</p>
XML	<ul style="list-style-type: none"> Lists 	<p>Exports all data of every record on a list into XML format (see Exporting Records to an Output File).</p>
XML (Export References)	<ul style="list-style-type: none"> Lists 	<p>Exports all data, plus references, of every record on a list into XML format (see Exporting Records to an Output File).</p>
Agents and Agent Clusters		
Reset Agent Task Count	<ul style="list-style-type: none"> Agents list Agent Details 	<p>Resets the Current Task Count field for this Agent to 0.</p>
Reset Agent Cluster Task Count	<ul style="list-style-type: none"> Agent Clusters list Agent Cluster Details 	<p>Resets the Current Task Count field for this Agent Cluster to 0.</p>

<p>Resolve Agent Cluster</p>	<ul style="list-style-type: none"> • Agent Cluster on Agent Clusters list • Agent Cluster Details 	<p>If Distribution type for an Agent Cluster is Network Alias; Resolves the Network Alias for this Agent Cluster.</p>
<p>Resume Agent</p>	<ul style="list-style-type: none"> • Agent on Agents list • Agent Details 	<p>Resumes the ability to run tasks for suspended Agent. (Same action as Resume Agent button on Agent Details.)</p>
<p>Resume Agent Cluster</p>	<ul style="list-style-type: none"> • Agent Cluster on Agent Clusters list • Agent Cluster Details 	<p>Resumes the ability to run tasks for a suspended cluster of Agents. (Same action as Resume Cluster button on Agent Cluster Details.)</p>
<p>Resume Cluster Membership</p>	<ul style="list-style-type: none"> • Agents in Cluster list 	<p>Resumes the membership of this Agent in the selected Agent Cluster.</p>
<p>Suspend Agent</p>	<ul style="list-style-type: none"> • Agent on Agents list • Agent Details 	<p>Suspends the ability to run tasks for this Agent. (Same action as Suspend Agent button on Agent Details.)</p>

<p>Suspend Agent Cluster</p>	<ul style="list-style-type: none"> • Agent Cluster on Agent Clusters list • Agent Cluster Details 	<p>Suspends the ability to run tasks for this cluster of Agents. (Same action as Suspend Cluster button on Agent Cluster Details.)</p>
<p>Suspend Cluster Membership</p>	<ul style="list-style-type: none"> • Agents in Cluster list 	<p>Suspends the membership of this Agent in the selected agent cluster.</p>
<p>Applications</p>		
<p>Query</p>	<ul style="list-style-type: none"> • Application on Applications list 	<p>Queries the application (if it is running).</p>
<p>Start</p>	<ul style="list-style-type: none"> • Application on Applications list 	<p>Starts the application.</p>
<p>Stop</p>	<ul style="list-style-type: none"> • Application on Applications list 	<p>Stops the application.</p>
<p>Bundles and Promotion</p>		
<p>Bundle Report</p>	<ul style="list-style-type: none"> • Bundle on Bundles list 	<p>Displays a Bundle Report for this bundle. (Same action as the Bundle Report button in Bundle Details.)</p>
<p>Promote Bundle...</p>	<ul style="list-style-type: none"> • Bundle on Bundles list 	<p>Copies this bundle from this source cluster node to a target cluster node. (Same action as Promote Bundle button on Bundle Details.)</p>

<p>Refresh Target Agents</p>	<ul style="list-style-type: none"> • Promotion Targets list • Promotion Targets Details 	<p>Refreshes any Agents on the promotion target server selected in this record.</p>
<p>Reschedule...</p>	<ul style="list-style-type: none"> • Promotion Schedule on Promotion Schedule list • Promotion Schedule Details 	<p>Reschedules a scheduled promotion.</p> <p>(Same action as Reschedule... button in Promotion Schedule Details.)</p>
<p>View Target Server Info</p>	<ul style="list-style-type: none"> • Promotion Targets list • Promotion Targets Details 	<p>Displays a Remote Server Information pop-up that lists details about the Automation Center cluster node selected as the promotion target in this record.</p>
<p>Calendars and Custom Days</p>		
<p>Calendar Preview</p>	<ul style="list-style-type: none"> • Calendar on Calendars list • Calendar Details 	<p>Provides a month-by-month display of all Custom Days defined for this calendar.</p>
<p>List Qualifying Dates...</p>	<ul style="list-style-type: none"> • Custom Day Details 	<p>Displays a table of the next 30 dates that match this Custom Day details.</p> <p>(Same action as List Qualifying Dates button.)</p>

<p>List Qualifying Periods</p>	<ul style="list-style-type: none"> • Custom Day Details 	<p>Displays a table of the next 30 periods that match this Custom Day details. (Same action as List Qualifying Periods button.)</p>
<p>Data Backup/Purge</p>		
<p>Disable</p>	<ul style="list-style-type: none"> • Data Backup /Purge record on Data Backup /Purge list 	<p>Disables this <i>scheduled</i> data backup/purge. (Same action as Disable button on Details.)</p>
<p>Enable</p>	<ul style="list-style-type: none"> • Data Backup /Purge record on Data Backup /Purge list 	<p>Enables this <i>scheduled</i> data backup/purge. (Same action as Enable button in Details.)</p>
<p>Run</p>	<ul style="list-style-type: none"> • Data Backup /Purge list 	<p>Run the selected backup or purge. (Same action as Run button in Details.)</p>
<p>Terminate</p>	<ul style="list-style-type: none"> • Data Backup /Purge record on Data Backup /Purge list 	<p>Terminates this <i>scheduled</i> data backup/purge. (Same action as Terminate button in Details.)</p>
<p>Manual Task Instances</p>		

<div style="border: 1px solid black; padding: 5px;"> Manual Task Commands > </div>	<ul style="list-style-type: none"> • Manual task instance on Activity Monitor / Task Instance s list • Manual task instance Details 	<p>Displays a menu of commands specific to Manual task instances:</p> <ul style="list-style-type: none"> • Set Completed • Set Started
<div style="border: 1px solid black; padding: 5px;"> Set Completed </div>	<ul style="list-style-type: none"> • Manual task instance on Activity Monitor / Task Instance s list 	<p>Sets this task instance to Success status.</p>
<div style="border: 1px solid black; padding: 5px;"> Set Started </div>	<ul style="list-style-type: none"> • Manual task instance on Activity Monitor / Task Instance s list 	<p>Resets the Started Time of this task instance.</p>
<p>OMS Servers</p>		
<div style="border: 1px solid black; padding: 5px;"> Resume </div>	<ul style="list-style-type: none"> • OMS Server on OMS Servers list • OMS Server Details 	<p>Resumes the connection of a suspended OMS Server.</p> <p>(Same action as Resume button on OMS Server Details.)</p>


<div style="border: 1px solid black; padding: 5px; width: fit-content;">Suspend</div>	<ul style="list-style-type: none"> • OMS Server on OMS Servers list • OMS Server Details 	<p>Temporarily disconnects the OMS Server.</p> <p>(Same action as Suspend button on OMS Server Details.)</p>
<p>Reports</p>		
<div style="border: 1px solid black; padding: 5px; width: fit-content;">Run</div>	<ul style="list-style-type: none"> • Reports list • Reports Details 	<p>Run the selected report.</p> <p>(Same action as Run button in Details.)</p>
<p>SAP Task Instances</p>		
<div style="border: 1px solid black; padding: 5px; width: fit-content;">SAP Task Commands ></div>	<ul style="list-style-type: none"> • SAP task instance on Activity Monitor / Task Instances list • SAP task instance Details 	<p>Displays a menu of commands specific to SAP task instances:</p> <ul style="list-style-type: none"> • Abort SAP Job • Interrupt SAP Process Chain • Purge SAP Job • Restart SAP Process Chain • Retrieve SAP Job Definition • Retrieve SAP Job Log • Retrieve SAP Job Status • Retrieve SAP Process Chain - Instance • Retrieve SAP Process Chain - Planned • Retrieve SAP Process Chain Log • Retrieve SAP Process Chain Status • Retrieve SAP Spool List
<div style="border: 1px solid black; padding: 5px; width: fit-content;">Abort SAP Job</div>	<ul style="list-style-type: none"> • SAP task instance on Activity Monitor / Task Instances list • SAP task instance Details 	<p>Aborts the SAP job specified in the task instance.</p>


<p>Interrupt SAP Process Chain</p>	<ul style="list-style-type: none"> • SAP task instance on Activity Monitor / Task Instance s list • SAP task instance Details 	<p>Interrupts the SAP Process Chain.</p>
<p>Purge SAP Job</p>	<ul style="list-style-type: none"> • SAP task instance on Activity Monitor / Task Instance s list • SAP task instance Details 	<p>Purges the SAP job specified in the task instance.</p>
<p>Restart SAP Process Chain</p>	<ul style="list-style-type: none"> • SAP task instance on Activity Monitor / Task Instance s list • SAP task instance Details 	<p>Restarts the SAP Process Chain.</p>

<p>Retrieve SAP Job Definition</p>	<ul style="list-style-type: none"> • SAP task instance on Activity Monitor / Task Instance s list • SAP task instance Details 	<p>Retrieves the SAP job definition.</p>
<p>Retrieve SAP Job Log</p>	<ul style="list-style-type: none"> • SAP task instance on Activity Monitor / Task Instance s list • SAP task instance Details 	<p>Retrieves the SAP job log.</p>
<p>Retrieve SAP Job Status</p>	<ul style="list-style-type: none"> • SAP task instance on Activity Monitor / Task Instance s list • SAP task instance Details 	<p>Retrieves the SAP job status.</p>

<p>Retrieve SAP Process Chain - Instance</p>	<ul style="list-style-type: none"> • SAP task instance on Activity Monitor / Task Instance s list • SAP task instance Details 	<p>Retrieves the specific run information for the SAP Process Chain.</p>
<p>Retrieve SAP Process Chain - Planned</p>	<ul style="list-style-type: none"> • SAP task instance on Activity Monitor / Task Instance s list • SAP task instance Details 	<p>Retrieves the "blueprint" information for the SAP Process Chain.</p>
<p>Retrieve SAP Process Chain Log</p>	<ul style="list-style-type: none"> • SAP task instance on Activity Monitor / Task Instance s list • SAP task instance Details 	<p>Retrieves SAP Process Chain log.</p>

<p>Retrieve SAP Process Chain Status</p>	<ul style="list-style-type: none"> • SAP task instance on Activity Monitor / Task Instance s list • SAP task instance Details 	<p>Retrieves SAP Process Chain status.</p>
<p>Retrieve SAP Spool List</p>	<ul style="list-style-type: none"> • SAP task instance on Activity Monitor / Task Instance s list • SAP task instance Details 	<p>Retrieves SAP spool list.</p>
<p>Tabs</p>		
<p>Pin</p>	<ul style="list-style-type: none"> • All tabs except non-replaceable tabs. 	<p>Pins the tab to the task bar.</p>
<p>Auto</p>	<ul style="list-style-type: none"> • All tabs except non-replaceable tabs. 	<p>Automatically pins the tab to the task bar upon login.</p>
<p>Close</p>	<ul style="list-style-type: none"> • All tabs. 	<p>Close this tab from the task bar.</p>
<p>Close Others</p>	<ul style="list-style-type: none"> • All tabs. 	<p>Close all other tabs except this tab.</p>

<div style="border: 1px solid black; padding: 5px; text-align: center;">Close All</div>	<ul style="list-style-type: none"> • All tabs. 	<p>Close all tabs including this tab.</p>
<p>Task Instances</p>		
<div style="border: 1px solid black; padding: 5px; text-align: center;">Cancel</div>	<ul style="list-style-type: none"> • Task instance on Activity Monitor / Task Instance s list 	<p> Cancels this task instance.</p> <p>Note  Cancelling a Web Service task instance with Protocol = SOAP is prohibited.</p> <p>Cancelling a PeopleSoft task instance cancels the PeopleSoft process itself, not the PeopleSoft task process. Once the Peoplesoft process has been cancelled, its status will filter through to the PeopleSoft task.</p>
<div style="border: 1px solid black; padding: 5px; text-align: center;">Clear ></div>	<ul style="list-style-type: none"> • Task instance on Activity Monitor / Task Instance s list • Task Instance Details 	<p>Displays a menu of the following actions:</p> <ul style="list-style-type: none"> • Clear All Dependencies • Clear Exclusive • Clear Resources • Clear Time Wait/Delay
<div style="border: 1px solid black; padding: 5px; text-align: center;">Clear All Dependencies</div>	<ul style="list-style-type: none"> • Task instance on Activity Monitor 	<p>Clears all dependencies (predecessors, resources, and exclusive) to allow the task instance to run.</p>
<div style="border: 1px solid black; padding: 5px; text-align: center;">Clear Exclusive</div>	<ul style="list-style-type: none"> • Task instance on Activity Monitor / Task Instance s list 	<p>Clears mutually exclusive dependencies of this task instance.</p>

<p>Clear Resources</p>	<ul style="list-style-type: none"> • Task instance on Activity Monitor / Task Instance s list 	<p>Clears resource dependencies of this task instance.</p>
<p>Clear Time Wait/Delay</p>	<ul style="list-style-type: none"> • Task instance on Activity Monitor / Task Instance s list • Task instance Details 	<p>Clears all Wait To Start and Delay On Start specifications for this task instance.</p>
<p>Delete</p>	<ul style="list-style-type: none"> • Task Instance on Activity Monitor / Task Instance s list 	<p>Deletes the selected task instance if it is in any of the following statuses:</p> <ul style="list-style-type: none"> • In Doubt (110) • Failed to Start (120) • Confirmation Required (125) • Cancelled (130) • Failed (140) • Skipped (180) • Finished (190) • Success (200) <p>Note:  You cannot delete a task instance in any of these statuses if it was within a workflow task instance that itself has not been deleted.</p>
<p>Force Finish ></p>	<ul style="list-style-type: none"> • Task instance on Activity Monitor / Task Instance s list 	<p>Displays a menu of the following actions:</p> <ul style="list-style-type: none"> • Force Finish • Force Finish (Halt) • Force Finish/Cancel • Force Finish/Cancel (Halt)

<p>Force Finish</p>	<ul style="list-style-type: none"> • Task instance on Activity Monitor / Task Instances list 	<p>Places this task into the Finished status.</p>
<p>Force Finish (Halt)</p>	<ul style="list-style-type: none"> • Task instance on Activity Monitor 	<p>Places this task into the Finished status without aborting monitoring processes.</p>
<p>Force Finish/Cancel</p>	<ul style="list-style-type: none"> • Task instance on Activity Monitor / Task Instances list 	<p>Cancels this task and places it into the Finished status.</p>
<p>Force Finish/Cancel (Halt)</p>	<ul style="list-style-type: none"> • Task instance on Activity Monitor 	<p>Cancels this task and places it into the Finished status without aborting monitoring processes.</p>
<p>Hold</p>	<ul style="list-style-type: none"> • Task instance on Activity Monitor / Task Instances list 	<p>Places this task instance in the Held status</p>

<p>Release</p>	<ul style="list-style-type: none"> • Task instance on Activity Monitor / Task Instances list 	<p>Releases this task instance from Held status.</p>
<p>Re-run ></p>	<ul style="list-style-type: none"> • Task instance (except Workflows) on Activity Monitor / Task Instances list 	<p>Displays a menu of the following actions:</p> <ul style="list-style-type: none"> • Re-run • Re-run (Suppress Intermediate Failures) <p>This menu is disabled if the task instance does not qualify for re-run.</p>
<p>Re-run</p>	<ul style="list-style-type: none"> • Task instance (except Workflows) on Activity Monitor / Task Instances list 	<p>Re-runs this completed task.</p> <p>For tasks not completed but scheduled for automatic retry, it re-runs the task and counts the re-run as one of the automatic retries.</p>
<p>Re-run (Suppress Intermediate Failures)</p>	<ul style="list-style-type: none"> • Task instance (except Workflows) on Activity Monitor / Task Instances list 	<p>Re-runs a task instance specifying that intermediate failures be suppressed. (See Re-run (Suppress Intermediate Failures) Permitted Universal Controller system property.)</p> <p>If the task instance qualifies for re-run, but it already has Retry Options enabled, the Re-run (Suppress Intermediate Failures) command will display as disabled in the menu.</p>
<p>Retrieve Output...</p>	<ul style="list-style-type: none"> • Task instance in list • Task Instance Details 	<p>Retrieves standard out and/or standard error output for the following running or completed task instances: FTP File Monitor, Linux /Unix, SAP, Universal Command, Windows, z/OS.</p>

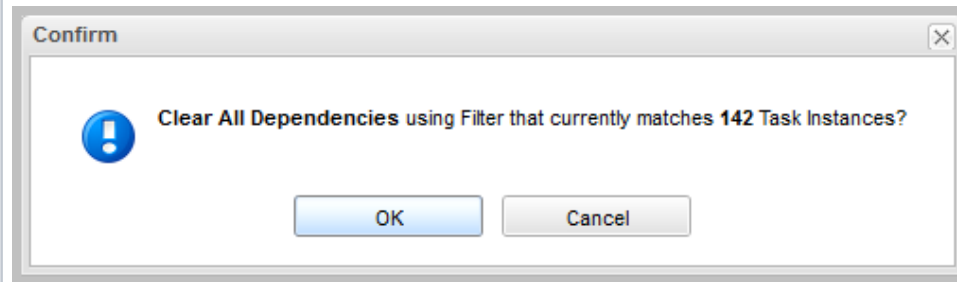
Run Command On Filtered >

- Activity Monitor
- Task Instances List

Executes a selected command against all task instances that match the current filter.

- Clear
 - Clear All Dependencies
 - Clear Exclusive
 - Clear Resources
 - Clear Time Wait Delay
- Force Finish
 - Force Finish
 - Force Finish (Halt)
 - Force Finish/Cancel
 - Force Finish/Cancel (Halt)
- Cancel
- Hold
- Release
- Skip Path
- Skip
- Unskip
- Rerun
- Set Priority (High, Medium, Low)
- Delete

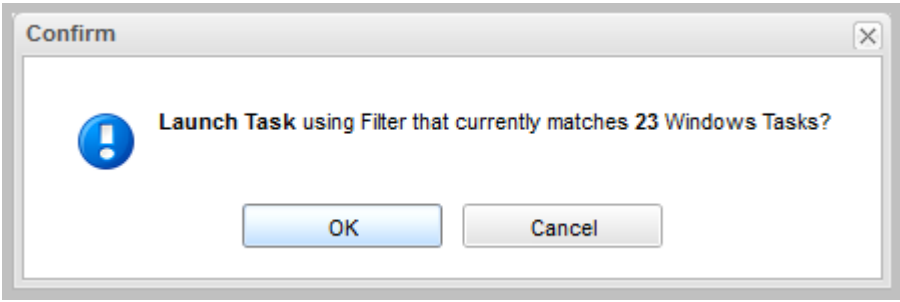
Before the selected command is executed, a confirmation pop-up displays. For example:




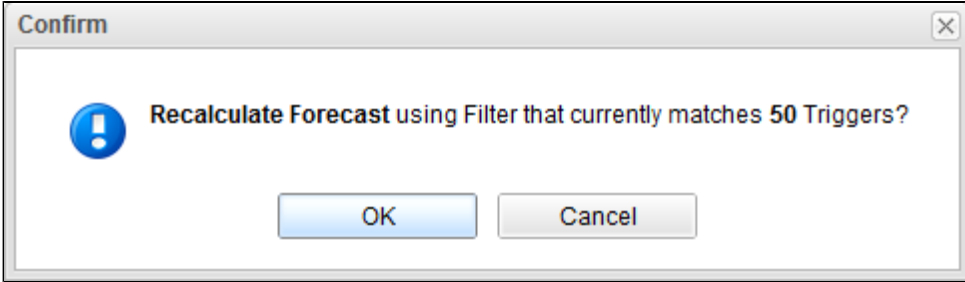
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Set Priority > </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> High </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Medium </div> <div style="border: 1px solid black; padding: 5px;"> Low </div>	<ul style="list-style-type: none"> • Linux /Unix, Universal, Windows, and z/OS Task instance on Activity Monitor / Task Instance lists • Linux /Unix, Universal, Windows, and z/OS Task instance Details 	<p>Displays a menu of run priorities that you can set for this task instance:</p> <ul style="list-style-type: none"> • High = Sets the run priority to High so that it will run before task instances in Low and Medium priorities. • Medium = Sets the run priority to Medium so that it will run before task instances in Low priority and after task instances in High priority. • Low = Sets the run priority to Low so that it will run after task instances in High and Medium priorities.
<div style="border: 1px solid black; padding: 5px;"> Show Variables </div>	<ul style="list-style-type: none"> • Task instance on Activity Monitor / Task Instance list • Task Instance Details 	<p>Displays all variables currently available to the task instance, including those inherited from a workflow, those passed in from a trigger, or those available globally.</p>
<div style="border: 1px solid black; padding: 5px;"> Skip </div>	<ul style="list-style-type: none"> • Task instance on Activity Monitor / Task Instance list 	<p>Places this task in the Skipped status.</p>


Skip Path	<ul style="list-style-type: none"> • Task instance on Activity Monitor 	Skips this task instance and all of its dependent task instances.
Unskip	<ul style="list-style-type: none"> • Task instance on Activity Monitor / Task Instance s list 	Removes the Skip status from this task.
View Blocking Ancestors...	<ul style="list-style-type: none"> • Task Instance Details • Task Instance on Activity Monitor / Task Instance s list • Task Instance on View Blocking Ancestor s... pop-up dialog 	<p>Displays a dialog identifying blocking ancestors of a waiting task instance in a Workflow, if any exist.</p> <p>Only task instances that are in a workflow and have not started (that is: Defined, Waiting or Held status) will qualify.</p>
View In Workflow	<ul style="list-style-type: none"> • Task Instance Details • Task Instance on Activity Monitor / Task Instance s list 	Displays the Workflow Monitor for the parent Workflow of a selected task instance and highlights that task instance within the Workflow.

<div style="border: 1px solid black; padding: 2px;">View Parent</div>	<ul style="list-style-type: none"> • Task Instance Details • Task Instance on Activity Monitor / Task Instance s list 	<p>Displays the Workflow Task Instance Details of the parent Workflow, if applicable, of this task instance.</p>
<div style="border: 1px solid black; padding: 2px;">View Predecessors/Successors</div>	<ul style="list-style-type: none"> • Task Instance Details • Task Instance on Activity Monitor / Task Instance s list • Task Instance on View Predecessors /Successors pop-up dialog 	<p>Displays a dialog identifying the predecessors / successors of this task instance in the Workflow, if any exist.</p>
<p>Task Monitor Task Instances</p>		
<div style="border: 1px solid black; padding: 2px;">View Potential Matches...</div>	<ul style="list-style-type: none"> • Task Instance Details • Task instance on Activity Monitor / Task Instance s list • Workflow Monitor 	<p>For task instances in Running status; Displays a list of running task instances that have the potential to match the specifications for tasks being monitored by the running Task Monitor task instance.</p>
<p>Tasks</p>		

<p>Clear Execution Restriction</p>	<ul style="list-style-type: none"> • Tasks lists • Task Details 	<p>Clears any Execution Restrictions that have been set for this task.</p>
<p>Launch Task</p>	<ul style="list-style-type: none"> • Task on Tasks list 	<p>Launches the task. (Same action as Launch Task button in Task Details.)</p>
<p>Launch Task with Variables...</p>	<ul style="list-style-type: none"> • Task Details 	<p>Launches this task with one or more variables that you will specify on a Task Variables pop-up dialog.</p>
<p>Reset Statistics</p>	<ul style="list-style-type: none"> • Task Details 	<p>Resets the run-time statistics that the Controller has gathered for this task.</p>
<p>Run Command On Filtered ></p>	<ul style="list-style-type: none"> • All Tasks list • Tasks list (all task types) 	<p>Executes a selected command against all tasks that match the current filter.</p> <ul style="list-style-type: none"> • Launch Task • Add To Bundle • Promote • Reset Statistics • Delete
<p>Before the selected command is executed, a confirmation pop-up displays. For example:</p>		
<p>Set Execution Restriction...</p>	<ul style="list-style-type: none"> • Tasks lists • Task Details 	<p>Allows you to sets Execution Restrictions for this task.</p>

View Parents	<ul style="list-style-type: none"> • Tasks lists • Task Details 	<p>Displays a list of all parent workflows, if any, of this task.</p> <p>(Same action as View Parents button on Task Details.)</p>
Triggers		
Assign Execution User...	<ul style="list-style-type: none"> • Trigger on Triggers list • Trigger Details 	<p>Displays a dialog that lets you select an execution user that overrides the execution user of task instances being launched by the trigger.</p> <p>Users not assigned the ops_admin role must provide the execution user credentials (User ID and Password) in order to assign the execution user to the trigger.</p> <p>Users must have the Assign Execution UserTrigger permission in order to assign an execution user.</p>
Disable	<ul style="list-style-type: none"> • Trigger record on Triggers list • Trigger Details 	<p>Disables this trigger.</p> <p>(Same action as Disable button on Details.)</p>
Enable	<ul style="list-style-type: none"> • Trigger record on Triggers list • Trigger Details 	<p>Enables this trigger.</p> <p>(Same action as Enable button on Details.)</p>
Forecast...	<ul style="list-style-type: none"> • Workflow on Workflows list • Workflow Details • Trigger on Workflow Triggers tab list 	<p>Allows for the forecasting of a Workflow by specific date/time.</p>
List Qualifying Times...	<ul style="list-style-type: none"> • Trigger Details 	<p>Lets you modify and display a list of qualifying times for this trigger (the next 30 dates and times when this trigger will be satisfied).</p>

<p>Recalculate Forecast</p>	<ul style="list-style-type: none"> • Trigger on Triggers list • Trigger Details 	<p>Recalculates the forecast data for this trigger.</p>
<p>Run Command On Filtered ></p>	<ul style="list-style-type: none"> • Triggers list 	<p>Executes a selected command against all triggers that match the current filter.</p> <ul style="list-style-type: none"> • Enable • Disable • Assign Execution User... • Unassign Execution User... • Set Skip Count... • Recalculate Forecast • Add To Bundle... • Promote... <p>Note </p> <ul style="list-style-type: none"> • Enable and Disable are not valid for Active and Manual Triggers. • Disable is not valid for Manual Triggers. • Set Skip Count is not valid for Manual and Temporary Triggers. • Recalculate is valid only for the following lists: All Triggers, Active Triggers, Cron, Time, and Temporary. <p>Before the selected command is executed, a confirmation pop-up displays. For example:</p> 
<p>Set Skip Count...</p>	<ul style="list-style-type: none"> • Trigger on Triggers list • Trigger Details 	<p>Lets you perform a Set Skip Count action if you have the Set Skip Count Trigger permission, Update permission, or both.</p>

<p>Trigger Now...</p>	<ul style="list-style-type: none"> • Trigger on Triggers list • Trigger Details 	<p>Immediately triggers all the tasks specified in this trigger.</p> <p>(Same action as Trigger Now... button on Trigger Details.)</p> <p>Optionally, you also can select to:</p> <ul style="list-style-type: none"> • Launch the task(s) specified in the trigger with one or more variables. • Launch the task(s) specified in the trigger by a specified date and time. • Launch the task(s) specified in the trigger but place them in Held status; they will not run until they are released. <p>Note</p> <p> If a Trigger Now... command is issued for an Enabled trigger that does not have an assigned Execution User, the trigger will launch its task(s) under the context of the user that enabled the trigger.</p> <p>If a Trigger Now... command is issued for a Disabled trigger that does not have an assigned Execution User, the trigger will launch its task(s) under the context of the user that issued the Trigger Now... command.</p> <p>If a Trigger Now... command is issued for an Enabled or Disabled trigger that has an assigned Execution User, the trigger will launch its task(s) under the context of the assigned Execution User.</p>
<p>Unassign Execution User</p>	<ul style="list-style-type: none"> • Trigger on Triggers list • Trigger Details 	<p>Unassigns an execution user that had been selected to override the execution user of task instances being launched by the trigger.</p> <p>Users must have the Assign Execution UserTrigger permission in order to unassign an execution user.</p>
<p>Universal Templates</p>		
<p>Deselect All</p>	<ul style="list-style-type: none"> • List /Load Built-In Universal Templates server operation 	<p>Deselects all templates on the List/Load Built-In Universal Templates server operation list.</p>
<p>Load</p>	<ul style="list-style-type: none"> • List /Load Built-In Universal Templates server operation 	<p>Loads all templates on the List/Load Built-In Universal Templates server operation list to the Universal Templates list.</p>

<div style="border: 1px solid black; padding: 5px;">Restore Default Icon</div>	<ul style="list-style-type: none"> • Universal Template on Universal Templates list • Universal Template Details 	<p>Restores the default Universal Task icon to all Universal Tasks based on this Universal Template.</p>
<div style="border: 1px solid black; padding: 5px;">Select All</div>	<ul style="list-style-type: none"> • List /Load Built-In Universal Templates server operation 	<p>Selects all templates on the List/Load Built-In Universal Templates server operation list.</p>
Users and Groups		
<div style="border: 1px solid black; padding: 5px;">Permissions For Group</div>	<ul style="list-style-type: none"> • Groups List 	<p>Exports user groups and their permissions (see Exporting Records to an Output File).</p>
Virtual Resources		
<div style="border: 1px solid black; padding: 5px;">Reset Virtual Resource</div>	<ul style="list-style-type: none"> • Virtual Resource Details 	<p>Resets the Resource Used value of a renewable virtual resource to accurately reflect the actual number of resources currently in use.</p>
Workflow Task Instances		

<p>Workflow Task Commands ></p>	<ul style="list-style-type: none"> • Workflow task instance on Activity Monitor / Task Instance s list • Workflow task instance Details 	<p>Displays a menu of the commands specific to Workflow task instances:</p> <ul style="list-style-type: none"> • Release Recursive • View Children • View Tree • View Workflow
<p>Release Recursive</p>	<ul style="list-style-type: none"> • Workflow task instance on Activity Monitor / Task Instance s list 	<p>Releases this Workflow, and all of its task instances on Held Status, from Held status.</p>
<p>View Children</p>	<ul style="list-style-type: none"> • Workflow task instance on Activity Monitor / Task Instance s list • Workflow task instance Details • Workflow Monitor 	<p>Displays all children task instances of this Workflow task instance (and children task instances of any sub-Workflow task instance) and, optionally, their Predecessors and Successors within this Workflow.</p>

<div style="border: 1px solid black; padding: 5px;">View Tree</div>	<ul style="list-style-type: none"> • Workflow task on Workflow tasks list • Workflow task Details • Workflow Editor • Workflow Forecast • Workflow Monitor • Workflow Vertex in Workflow Editor / Workflow Forecast 	<p>Displays a tree view of this workflow task instance and its tasks, including children tasks of any sub-Workflow task, and, optionally, lets you display the Details for any of those tasks.</p>
<div style="border: 1px solid black; padding: 5px;">View Workflow</div>	<ul style="list-style-type: none"> • Workflow task instance on Activity Monitor / Task Instance list • Workflow task instance Details 	<p>Displays the Workflow Monitor for this Workflow task instance. (Same action as View Workflow button on Details.)</p>
<p>Workflow Tasks</p>		

<p>Workflow Task Commands ></p>	<ul style="list-style-type: none"> • Workflow task on All Tasks list • Workflow task on Workflow Tasks list • Workflow task Details 	<p>Displays a menu of the commands specific to Workflow tasks:</p> <ul style="list-style-type: none"> • Clone • Edit Workflow • Forecast • Recalculate Forecast • View Children • View Tree
<p>Clone...</p>	<ul style="list-style-type: none"> • Workflow task on All Tasks list • Workflow task on Workflow Tasks list • Workflow task Details 	<p>Creates a copy of the Workflow, a copy of each task in the Workflow, and - optionally - copies of its Virtual Resources.</p>
<p>Edit Workflow</p>	<ul style="list-style-type: none"> • Workflow task on All Tasks list • Workflow task on Workflow Tasks list • Workflow task Details 	<p>Displays the Workflow Editor for this Workflow.</p>

<p>Recalculate Forecast</p>	<ul style="list-style-type: none">• Workflow task on All Tasks list• Workflow task on Workflow Tasks list• Workflow task Details	<p>Recalculates the forecast data for this workflow.</p>
<p>Forecast...</p>	<ul style="list-style-type: none">• Workflow task on All Tasks list• Workflow task on Workflow Tasks list• Workflow task Details• Trigger on Workflow Triggers tab list	<p>Allows for the forecasting of a Workflow by specific date/time.</p>

View Children

- Workflow task on All Tasks list
- Workflow task on Workflow Tasks list
- Workflow task Details
- Workflow Editor
- Workflow Forecast
- Workflow Vertex in Workflow Editor / Workflow Forecast

Displays all children tasks of this Workflow task (and children tasks of any sub-Workflow task) and, optionally, their Predecessors, Successors, and Task Run Criteria within this Workflow.

View Tree	<ul style="list-style-type: none"> • Workflow task on All Tasks list • Workflow task on Workflow Tasks list • Workflow task Details • Workflow Editor • Workflow Forecast • Workflow Vertex in Workflow Editor / Workflow Forecast 	<p>Displays a tree view of this workflow and its tasks, including children tasks of any sub-Workflow task, and, optionally, lets you display the Details for any of those tasks.</p>
z/OS Task Instances		
z/OS Task Commands >	<ul style="list-style-type: none"> • z/OS task instance Details 	<p>Displays a menu of the following actions:</p> <ul style="list-style-type: none"> • Confirm JCL Changes
Confirm JCL Changes...	<ul style="list-style-type: none"> • z/OS task instance Details 	
Deselect for Re-run	<ul style="list-style-type: none"> • Restartable Job Step tab of z/OS Task Instance Details 	<p>Deselects the selected job step(s) from being included in a z/OS job re-run.</p>

<p>Select for Re-run</p>	<ul style="list-style-type: none"> • Restartable Job Steps list in z/OS Task Instance Details. • Restartable Job Steps Details 	<p>Selects the selected job step(s) for inclusion in a z/OS job re-run.</p>
<p>Select for Re-run (Force)</p>	<ul style="list-style-type: none"> • Restartable Job Steps list in z/OS Task Instance Details. • Restartable Job Steps Details 	<p>Selects the selected non-Restartable job step(s) for inclusion in a z/OS job re-run.</p>
<p>Select to End for Re-run</p>	<ul style="list-style-type: none"> • Restartable Job Steps list in z/OS Task Instance Details 	<p>Selects the selected job step and all following job steps for inclusion in a z/OS job re-run.</p>
<p>z/OS Tasks</p>		
<p>z/OS Task Commands ></p>	<ul style="list-style-type: none"> • All Tasks list • z/OS Tasks list • z/OS Task Details 	<p>Displays a menu of the following actions:</p> <ul style="list-style-type: none"> • Reset Override Statistics

Reset Override Statistics

- All Tasks list
- z/OS Tasks list
- z/OS Task Details

Reset the override statistics used for automated JCL override clean-up.

Action URLs

- [Overview](#)
- [open Action URL](#)
- [open_workflow Action URL](#)
- [run_report Action URL](#)

Overview

Action URLs let you automatically perform actions in the user interface.

There are three action URLs:

Name	Action
open	Navigates to a specific record in the user interface.
open_workflow	Navigate to a specific Workflow Monitor/Editor graph in the user interface.
run_report	Runs a Report and displays the report output without navigating to the Report record.

To use an action URL:

1. Verify that the [URL Action Parameter Enabled](#) Universal Controller system property is set to true (the default).
2. Append the action URL to the URL of the Universal Controller Login page or Home page.

If you do not have an authenticated browser session, regardless of the URL that you specify, you will be redirected to the login page to authenticate. Once authenticated, the action URL will proceed.

If you have an authenticated browser session, and you are entering the action URL from an already loaded application page/browser tab, the application page/browser tab will be reloaded, comparable to a browser refresh, and all unsaved changes will be lost, including any open application tabs.

open Action URL

The **open** action URL lets you automatically navigate to a specific record.

You must append the **open** action URL to the Login page or Home page URL in the following format: `?action=open&type=<record type>&id=<UUID>`

The **open** action URL contains the following parameters:

Name	Value
<code>action</code>	open
<code>type</code>	Type of record to open.
<code>id</code>	UUID of the specific record to open.

Examples:

- Login Page
<http://localhost:8081/uc/login.jsp?action=open&type=task&id=b93b64075a49419ea19b74faaa864320>
- Home Page
<http://localhost:8081/uc/?action=open&type=task&id=b93b64075a49419ea19b74faaa864320>

The following table provides:

- List of the record types that you can navigate to with the **open** action URL.
- `type` parameter value for each record type.

Parameter values with a V suffix, such as `credentialV`, let you navigate to any previous record version of that record type by using the UUID of that version.

Record Type	type Parameter Value
Agent	agent
Agent Cluster	agentCluster, agentClusterV
Application	application, applicationV
Audit	audit
Business Service	businessService, businessServiceV
Calendar	calendar, calendarV
Cluster Node	clusterNode
Credential	credential, credentialV
Custom Day	customDay, customDayV
Data Backup/Purge	backup
Database Connection	databaseConnection, databaseConnectionV
Email Connection	emailConnection, emailConnectionV
Email Template	emailTemplate, emailTemplateV
History	history
OMS Server	omsServer
PeopleSoft Connection	peoplesoftConnection, peoplesoftConnectionV
Report	report
SAP Connection	sapConnection, sapConnectionV
Script	script, scriptV
SNMP Manager	snmpManager, snmpManagerV
Task	task, taskV

Task Instance	exec
Trigger	trigger, triggerV
Variable	variable, variableV
Virtual Resource	virtualResource, virtualResourceV
Widget	widget

open_workflow Action URL

The **open_workflow** action URL lets you automatically navigate to a specific Workflow Monitor/Editor graph in the user interface.

You must append the **open_workflow** action URL to the Login page or Home page URL in the following format: `?action=open_workflow&type=<record type>&id=<UUID>`

The **open_workflow** action URL contains the following parameters:

Name	Value
action	open_workflow
type	Type of record to open.
id	UUID of the specific record to open.

Examples:

- Login Page
http://localhost:8081/uc/login.jsp?action=open_workflow&type=task&id=b93b64075a49419ea19b74faaa864320
- Home Page
http://localhost:8081/uc/?action=open_workflow&type=task&id=b93b64075a49419ea19b74faaa864320

The following table provides:

- List of the record types that you can navigate to with the **open_workflow** action URL.
- type parameter value for each record type.

Record Type	type Parameter Value
Workflow Task	task
Workflow Task Instance	exec

run_report Action URL

The **run_report** action URL lets you automatically run a [Report](#) and display the report output without navigating to a specific Report record.

You must append the **run_report** action URL to the Login page or Home page URL in the following format: `?action=run_report&id=<UUID>`

The **run_report** action URL contains the following parameters:

Name	Value
action	run_report
id	UUID of the specific Report record for which you want to run a report.

Examples:

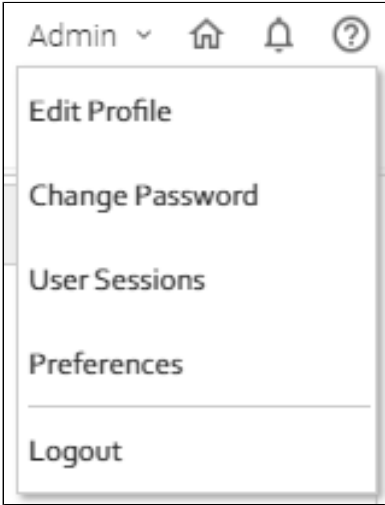
- Login Page
http://localhost:8081/uc/login.jsp?action=run_report&id=bfe8a7df83b64c90876dfce6cfab0a5a
- Home Page
http://localhost:8081/uc/?action=run_report&id=bfe8a7df83b64c90876dfce6cfab0a5a

User Preferences

- [Selecting User Preferences](#)
- [User Preferences Field Descriptions](#)

Selecting User Preferences

You can select your own preferences for the display of information on the Controller [Activity Monitor](#) and the [Universal Automation Center Console](#).

Step 1	On the User task bar , click the User Actions drop-down list arrow to display a menu of user actions. 
Step 2	Click Preferences . The User Preferences dialog pops up.



User Preferences	
Name	Value
Activity Monitor Automatically	No
Activity Refresh Rate	10 seconds
Activity Results Per Page	25 per page
Activity Time Constraint	Last 48 hours
Agent Task Instances Tab Time Constraint	Last 48 hours
Audit Time Constraint	Last 48 hours
Boolean Column Display Format	Yes/No
Console Error Fade Out Delay	7
Console Info Fade Out Delay	3
Console Location	Bottom
Console Open For Info	Yes
Dashboard Force Refresh On Focus	No
Dashboard Force Refresh On Focus Threshold	30 seconds
Go To Operator	contains
History Time Constraint	Last 48 hours
Node Time Display	-- System Default --
Node Time Display Background Color	-- System Default --
Node Time Display Color	-- System Default --
Node Time Display Time Zone	-- System Default --
Pin Tabs Automatically	No
Reference Picker Display Columns	2
Services Recently Visited Limit	10
Show Metadata	-- System Default --
Show Variables Fetch Global Automatically	-- System Default --
Target Task Instances Tab Time Constraint	Last 48 hours
Task Instances Tab Time Constraint	Last 48 hours
Task Instances Time Constraint	Last 48 hours


	<table border="1"> <tr> <td>Trigger Task Instances Tab Time Constraint</td> <td>Last 48 hours</td> </tr> <tr> <td>Use Dashboard Visibility Icons</td> <td>-- System Default --</td> </tr> <tr> <td>Use Default Dashboard For Home</td> <td>No</td> </tr> <tr> <td>User Interface Density</td> <td>-- System Default --</td> </tr> <tr> <td>User Interface Theme</td> <td>-- System Default --</td> </tr> </table> <p style="text-align: center;"> <input type="button" value="Submit"/> <input type="button" value="Cancel"/> </p>	Trigger Task Instances Tab Time Constraint	Last 48 hours	Use Dashboard Visibility Icons	-- System Default --	Use Default Dashboard For Home	No	User Interface Density	-- System Default --	User Interface Theme	-- System Default --
Trigger Task Instances Tab Time Constraint	Last 48 hours										
Use Dashboard Visibility Icons	-- System Default --										
Use Default Dashboard For Home	No										
User Interface Density	-- System Default --										
User Interface Theme	-- System Default --										
Step 3	Using the field descriptions below as a guide, change any of the User Preferences, as desired.										
Step 4	Click the Submit button.										

User Preferences Field Descriptions

The following table describes the fields that display on the User Preferences pop-up dialog.

Name	Description
Activity Monitor Automatically	Specifies whether or not the Activity Monitor automatically monitors Controller activity.
Activity Refresh Rate	Frequency that dynamic data is refreshed on the Activity Monitor .
Activity Results Per Page	Number of task instances that display on a single page of the Activity Monitor
Activity Time Constraint	Time frame, starting with the current time, for which activity data is listed on the Activity Monitor and Task Instances list .
Agent Task Instances Tab Time Constraint	Time frame, starting with the current time, for which instance data is listed on the Task Instances tab of a specific Agent .
Audit Time Constraint	Time frame, starting with the current time, for which audit data is listed on the Audits list.
Boolean Column Display Format	Specifies whether Boolean columns on lists will be in Yes/No or enabled/disabled (check box) format.
Console Error Fade Out Display	Specifies how long the Console will stay open after displaying an error message.
Console Info Fade Out Display	Specifies how long the Console will stay open after displaying an informational message.
Console Location	Location of the Console that displays when you click the Console icon .
Console Open For Info	Specifies whether or not the Console will open automatically to display informational messages.

<p>Dashboard Force Refresh On Focus</p>	<p>Forces a refresh of all Widgets in a Dashboard when the Dashboard is re-focused (that is, the user tabs back to the Dashboard). Whether a Widget qualifies for a refresh depends on the configuration of the Dashboard Force Refresh On Focus Threshold user preference.</p> <p>Warning  Depending on user behaviour, enabling this user preference could increase the load on Universal Controller by ultimately increasing the number of and frequency of Widget refreshes.</p>
<p>Dashboard Force Refresh On Focus Threshold</p>	<p>If the Dashboard Force Refresh On Focus user preference is Yes, when re-focusing an already open Dashboard, each Widget in the Dashboard will be refreshed immediately if the last refresh time of the Widget exceeds this threshold (Default is 30 seconds).</p>
<p>Go To Operator</p>	<p>Specifies the default operator for the Go To filter:</p> <ul style="list-style-type: none"> • contains • starts with • equals
<p>History Time Constraint</p>	<p>Time frame, starting with the current time, for which history data is listed on the History list</p>
<p>Node Time Display</p>	<p>Specifies whether to use the currently defined system default for whether or not to display the Cluster Node time in the User Task Bar, or to select Yes or No.</p> <p>Note  For a change in Cluster Node time visibility to take effect, you must re-login or click your browser refresh button. In either case, all unsaved changes will be lost, including any open application tabs.</p>
<p>Node Time Display Background Color</p>	<p>Specifies whether to use the currently defined system default as the background color of the Cluster Node time in the User Task Bar or select another color.</p>
<p>Node Time Display Color</p>	<p>Specifies whether to use the currently defined system default as the color of the Cluster Node time in the User Task Bar or select another color.</p>
<p>Node Time Display Time Zone</p>	<p>Specifies whether to use the currently defined system default for the cluster node time zone in the User Task Bar, or to use the time zone of the Server or User.</p>
<p>Pin Tabs Automatically</p>	<p>Specifies whether or not to pins tabs automatically.</p> <ul style="list-style-type: none"> • If No (default): <ul style="list-style-type: none"> • Users must pin their own tabs. • Once a tab is pinned, a tab will not be replaced by a new tab being opened and will remain designated as pinned between a user's sessions. • Pinned tabs are identified with a pin icon displayed in the tab. • Tabs are pinned by DataSource; therefore, once you pin a type of tab (for example, Reports,) any time you open Reports in a tab, it will be designated as pinned. • If Yes: <ul style="list-style-type: none"> • All tabs will be pinned automatically, no pin icon will be displayed, and legacy tab behavior will be applied.
<p>Reference Picker Display Columns</p>	<p>Where applicable, if additional information is available for Controller records in drop-down lists, the columns of information displayed for each record:</p> <ul style="list-style-type: none"> • 1 = Record name only. • 2 = Record name and type. • 3 = Record name, type, and ID or Description. • All = (Same as 3.)

Services Recently Visited Limit	<p>Maximum number of Services that will display in the Recently Visited column for Available Services in the user interface.</p> <p>If the number of recently visited Services exceeds this number, the earliest of the recently visited Services will be dropped from the column.</p> <p>Default is 10.</p>
Show Metadata	<p>Specifies whether to use the currently defined system default for whether or not the Metadata section displays automatically in the the Details of all Controller records, or to override the system default by selecting Yes or No.</p>
Show Variables Fetch Global Automatically	<p>Specifies whether to use the currently defined system default for whether or not to fetch and display Global Variables automatically for the Show Variables action, or to override the system default by selecting Yes or No.</p>
Target Task Instances Tab Time Constraint	<p>Time frame, starting with the current time, for which target task instance data is listed on the Target Task Instances tab of a Recurring Task instance.</p>
Task Instances Tab Time Constraint	<p>Time frame, starting with the current time, for which instance data is listed on the Instances tab of a specific task.</p>
Task Instances Time Constraint	<p>Time frame, starting with the current time, for which instance data is listed on the Task Instances list.</p>
Trigger Task Instances Time Tab Constraint	<p>Time frame, starting with the current time, for which task instances display on a trigger Instances tab.</p>
Use Dashboard Visibility Icons	<p>Specifies whether to use the currently defined system default for whether or not to include visibility indicator icons in the Dashboard tabs that display at the bottom of the Dashboards page, or to select Yes or No.</p>
Use Default Dashboard For Home	<p>Specifies whether you want to use the currently selected default Dashboard as the Home dashboard for this user (Yes) or use the system-defined default Dashboard as the Home dashboard (No).</p> <p>Warning </p> <p>We strongly encourage you to maintain the system-defined default Dashboard as your Home dashboard. At login, all Widgets on the Home dashboard will be loaded. By keeping the system-defined default Dashboard, you will maintain a more consistent and optimal login process.</p>
User Interface Density	<p>Specifies whether to use the currently defined system default for the user interface density, or to select another density.</p>
User Interface Theme	<p>Specifies whether to use the currently defined system default for the user interface theme, or to select another theme.</p>

Wildcards and Regular Expressions

- [Introduction](#)
- [Wildcards](#)
 - [File Name Examples](#)
- [Regular Expressions](#)
 - [File Name Examples](#)
 - [String Examples](#)

Introduction

Universal Controller supports the use of wildcards and regular expressions in the user interface and [remote interfaces](#).

For files, wildcards and regular expressions can be used only in:

- Source file specifications, not destination file specifications. (Under some operating systems, it is possible for * and ? to be valid characters in a file name. If they appear in a destination file, they are treated as file characters, not as wildcards or regular expressions.)
- File name portion of file specifications, not as part of the directory.

Wildcards

Universal Controller supports two wildcards:

- Asterisk (*)
- Question mark (?)

You can use wildcards in record searches and when applying some rule or command against records. Fields that support wildcards are identified in their field description.

Wildcard	Meaning
Asterisk (*)	Represents a wildcard of any number of characters. For example, a search for string "FEE*SF" returns all records whose name begins with "FEE" and ends with "SF", with any number and type of characters between the two strings.
Question mark (?)	Represents a wildcard of one character in a specific position. For example, a search for string "FEE?SF" returns all records whose name begins with "FEE" and ends with "SF", with any single character between the two strings.
Multiple questions marks	Represent wildcards of multiple characters in a specific position. For example, a search for string "FEE??SF" returns all records whose name begins and ends with "FEE" and "SF", respectively, with any two characters between the two strings.

File Name Examples

File Names

1. test.txt
2. test1.txt
3. test2.txt
4. test3.txt
5. test.bin
6. test1.bin
7. test2.bin
8. test3.bin

Wildcard Matches

- *, *.* , test*.* , and tes?*. will match all of the files.
- *.txt will match files 1 - 4.
- *.bin will match files 5 - 8.
- test?.txt will match files 2 - 4.

Regular Expressions

Important!



POSIX Extended Regular Expression syntax is used for file name matching and string matching.

Note



You can use regular expressions only on Windows and UNIX operating systems; you cannot use them on z/OS.

File Name Examples

File Names

1. test.txt
2. test1.txt
3. test2.txt
4. test3.txt
5. test.bin
6. test1.bin
7. test2.bin
8. test3.bin

Regular Expression Matches

- .+, tes.+, and te.+[tn]\$ will match all of the files.
- .+txt\$ will match files 1 - 4.
- .+bin\$ will match files 5 - 8.
- te..[123].+bin\$ will match files 6 - 8.

String Examples

C:\UDM\TEST\OUT\LinuxSystem.[D](20)[1-9][1-9][0-1][0-9][0-3][0-9][.][T][0-2][0-9][0-5][0-9][0-5][0-9].*	Matches C:\UDM\TEST\OUT\LinuxSystem.D20171001.T235159.*
C:\UDM\TEST\OUT\LinuxSystem.[D][1-9][1-9][0-1][0-9][0-3][0-9][.][T][0-2][0-9][0-5][0-9][0-5][0-9].*	Matches C:\UDM\TEST\OUT\LinuxSystem.D171001.T235159.*
C:\UDM\TEST\OUT\LinuxSystem.[D](20)[1-9][1-9][0-1][0-9][0-3][0-9][.][T][0-2][0-9][0-5][0-9][0-5][0-9].*	Fails C:\UDM\TEST\OUT\LinuxSystem.D2017201033.T235159.* month 20 day 33!

C:\UDM\TEST\OUT\LinuxSystem.[D][1-9][1-9][0-1][0-9][0-3][0-9].[T][0-2][0-9][0-5][0-9][0-5][0-9].*

Fails C:\UDM\TEST\OUT\LinuxSystem.D171001.T266159.* hour 26 minutes 61!

Access Keys

- [Overview](#)
- [Access Key Combination](#)
- [Access Keys](#)

Overview

In a web browser, access keys allow you to immediately jump to specific sections of a web page using only the keyboard.

To use an access key, press the access key in combination with one or more other keys, as defined by the browser, in order to focus an element on a page.

Access Key Combination

The following access key combinations, which vary for different browsers / platforms, are implemented in Universal Controller:

Browser	Platforms	Access Key Combination
Mozilla Firefox	Windows, Unix	Alt+Shift + access key
Mozilla Firefox	Mac	Ctrl+Opt + access key
Chrome	Windows, Unix	Alt + access key
Chrome	Mac	Ctrl+Opt + access key

Access Keys

The following access keys are pre-defined in Universal Controller:

Access Key	Description
G	Focuses the Go To... button on any list so that the Go To Filter dialog can be displayed by pressing Enter .

Troubleshooting

Troubleshooting

Troubleshooting information is categorized into two areas:

- [Problem Resolution](#)
- [Error Messages](#)

Problem Resolution

- [Problem Resolution](#)
 - [Database](#)
 - [Installation](#)
 - [Operations](#)

Problem Resolution

This page provides links to problems, and their solutions, that you might encounter with Universal Controller.

Database

- [Error in your SQL syntax](#)
- [Maximum open cursors have been exceeded](#)
- [Out-of-Range Value during Database Initialization](#)
- [JDBC Connections Time Out](#)
- [DB2 JDBC License Error](#)

Installation

- [Processes Will Not Start Automatically \(Debian Linux\)](#)
- [Error when Starting Controller](#)
- [Tomcat Post Limit: STATUS_MAX_POST_SIZE_EXCEEDED](#)
- [Special Characters not Displayed Correctly](#)
- [Open JRE Dependency not Installed](#)

Operations

- [Cannot launch a task](#)
- [VBScript stuck in "Running" state](#)
- [My Universal Controller License has Expired](#)
- [Packet for query is too large](#)
- [Invalid login credentials for refreshing target agents](#)
- [Invalid Call Error: Invalid call to setDataSource\(\)](#)
- [Permanent Generation \(PermGen\) space removed in Java 8](#)

Error in your SQL syntax

Problem

When you execute an SQL task that includes multiple SQL commands, the following error message (for example) may display:

```
INSERT INTO uc_demo (name, value) values ('A', 'F');  
INSERT INTO uc_demo (name, value) values ('B', 'S');  
INSERT INTO uc_demo (name, value) values ('C', 'F');
```

Solution

Multiple queries, by default, are disabled for MySQL. To enable multiple queries, append the following string to the Connection URL field in the [Database Connections](#) resource definition:

```
?allowMultiQueries=true
```

The following example is a URL connection string for a MySQL Database Connection resource definition:

```
jdbc:mysql://localhost:3306/uc?allowMultiQueries=true
```

Maximum open cursors have been exceeded

Problem

During large imports on Oracle, you could receive following error message:

```
ORA-01000: maximum open cursors exceeded
```

(The cursors are used only during the import; they then are closed.)

Issue the following **sql*plus** utility command to check the current value for maximum open cursors:

```
show parameter open_cursors
```

A listing similar to the following will display:

```
SQL> show parameter open_cursors;
```

NAME	TYPE	VALUE
open_cursors	integer	1000

Solution

An **open_cursors** value of 1000 should be sufficient for all large imports.

You can temporarily set the **open_cursors** value with the following SQL:

```
alter system set open_cursors=1000
```

To make a permanent change, you must set the **open_cursors** value in the initialization parameters file.

Out-of-Range Value during Database Initialization

Problem

During the database initialization performed on initial start-up, you could receive the following message:

```
The conversion of a varchar data type to a datetime data type of the value is out of range.
```

The problem likely is that the database was created in SQL SERVER Management Studio with a user that has other than English as the default language.

Solution

Verify the installed default language and set the language to U.S. English.

To check what default language a server has installed, use the following SQL command:

```
sp_configure 'default language'
```

If the resulting value is not 0, the default language is not U.S. English. Run the following SQL command to find the installed default language setting and date format used:

```
select name ,alias, dateformat
from syslanguages
where langid =
(select value from master..sysconfigures
where comment = 'default language')
```

To set the default language to U.S. English, use the following SQL statements:

```
sp_configure 'default language', 0
reconfigure with override
```

For further details, refer to this [Microsoft Support](#) page.

JDBC Connections Time Out

Problem

JDBC connections from Linux to MS SQL Server 2008 R2/Windows 2008 R2 time out after 40 seconds causing SQL/Stored Procedure Tasks that take longer than 40 seconds to fail with the following exception:

```
2014-09-22-14:51:37:034 -0400 ERROR [Ops.General.15.EP.SqlHandler.ecd8ab62183f4b9dbf32d3ea4ad0a126.74b824ad1ca84142a40d3ec1f84d4d2b.0]
SQLServerException - Connection reset
com.microsoft.sqlserver.jdbc.SQLServerException: Connection reset
    at com.microsoft.sqlserver.jdbc.SQLServerConnection.terminate(SQLServerConnection.java:1667)
    at com.microsoft.sqlserver.jdbc.SQLServerConnection.terminate(SQLServerConnection.java:1654)
    at com.microsoft.sqlserver.jdbc.TDSChannel.read(IOBuffer.java:1789)
    at com.microsoft.sqlserver.jdbc.TDSReader.readPacket(IOBuffer.java:4838)
    at com.microsoft.sqlserver.jdbc.TDSCommand.startResponse(IOBuffer.java:6150)
    at com.microsoft.sqlserver.jdbc.SQLServerPreparedStatement.doExecutePreparedStatement(SQLServerPreparedStatement.java:402)
    at com.microsoft.sqlserver.jdbc.SQLServerPreparedStatement$PrepStmtExecCmd.doExecute(SQLServerPreparedStatement.java:350)
    at com.microsoft.sqlserver.jdbc.TDSCommand.execute(IOBuffer.java:5696)
    at com.microsoft.sqlserver.jdbc.SQLServerConnection.executeCommand(SQLServerConnection.java:1715)
    at com.microsoft.sqlserver.jdbc.SQLServerStatement.executeCommand(SQLServerStatement.java:180)
    at com.microsoft.sqlserver.jdbc.SQLServerStatement.executeStatement(SQLServerStatement.java:155)
    at com.microsoft.sqlserver.jdbc.SQLServerPreparedStatement.execute(SQLServerPreparedStatement.java:332)
    at com.stonebranch.opswise.server.events.SqlEventHandler.storedProc(SqlEventHandler.java:266)
```

Resolution

To disable TCP Chimney Offload, follow these steps:

Step 1	Use administrative credentials to open a command prompt.
Step 2	At the command prompt, enter the following command: netsh int tcp set global chimney=disabled
Step 3	Press ENTER:.

For additional information, see:

<http://support.microsoft.com/kb/951037>

DB2 JDBC License Error

Problem

A [SQL](#) or [Stored Procedure](#) task using a DB2 [Database Connection](#) may fail with the following error message:

```
The IBM Data Server for JDBC and SQLJ license was invalid or was not activated for the DB2 for z/OS subsystem. If you are connecting directly to the data server and using DB2 Connect Unlimited Edition for System z, perform the activation step by running the activation program in the license activation kit. If you are using any other edition of DB2 Connect, obtain the license file, db2jcc_license_cisuz.jar, from the license activation kit, and follow the installation directions to include the license file in the class path.
```

Solution

The `db2jcc_license_cisuz.jar` file needs to be included in the classpath for Universal Controller.

Step 1	Copy the <code>db2jcc_license_cisuz.jar</code> file to the following directory: Windows <code>[tomcat-install]\webapps\uc\WEB-INF\lib</code> UNIX <code>[tomcat-install]/webapps/uc/WEB-INF/lib</code>
Step 2	Restart Universal Controller.

Processes Will Not Start Automatically (Debian Linux)

Problem

For Debian Linux environment: Outboard 5.1.0 processes will not start automatically at boot time.

Debian Linux does not provide the **chkconfig** command and therefore cannot work with the runlevels specified in the opsagent, opstransport, opsmsgithub scripts provided in `/etc/init.d`.

This is a known problem; we are working on a solution.

Error when Starting Controller

Problem

Upon starting the Universal Controller, the `opswise.log` shows ERR:

```
SQLSTATE: HY000, SQLERR: 1040, ERRMSG: [unixODBC][MySQL][ODBC 5.1 Driver]Too many connections
```

Solution

You must set additional connections in your database server:

```
MySQL - /etc/my.conf - max_connections=500 (default is either 100 or 150)
```

Tomcat Post Limit - STATUS_MAX_POST_SIZE_EXCEEDED

Problem

The following error message displays:

```
The server did not receive the data that was sent to it. Please see the documentation for isc.RPCResponse.STATUS_MAX_POST_SIZE_EXCEEDED
```

Resolution

Remove the post limit by specifying the following attribute on the **<Connector>** element in `conf/server.xml`:

```
maxPostSize="-1"
```

Special Characters not Displayed Correctly

Problem

Some special characters not getting displayed correctly in your browser GUI.

Resolution

Tomcat on Windows requires you to define code page UTF-8 as the default code page for war files.

To do this, add the following to the Java options statement just as you did with the memory parameter:

```
-Dfile.encoding=UTF8
```

Open JRE Dependency not Installed

Problem

If Universal Controller produces an exception similar to the following when exporting a dashboard [widget](#) or generating a scheduled chart [report](#), a required dependency may not be installed.

```
java.lang.NullPointerException
  at sun.awt.FontConfiguration.getVersion(FontConfiguration.java:1264)
  at sun.awt.FontConfiguration.readFontConfigFile(FontConfiguration.java:219)
  at sun.awt.FontConfiguration.init(FontConfiguration.java:107)
  at sun.awt.X11FontManager.createFontConfiguration(X11FontManager.java:774)
  ...
```

When using the `java-1.8.0-openjdk-headless` package from the EL7 repository, it did does not include a required dependency; specifically, `fontconfig`.

Solution

Installing the `fontconfig` dependency, along with its own dependencies, will resolve the issue.

```
yum install fontconfig
```

Alternatively, you can use the non-headless package, `java-1.8.0-openjdk`.

Cannot launch a task

Problem

You cannot launch a task.

The problem may be with your credentials. Check the stderr for the following message:

```
ops_suexec: Not enough privileges. Check SUID bit and binary owner.
```

Solution

If the error message is present, issue the following commands as **root** in the `$WMS_HOME/bin` directory:

```
chown root ops_suexec  
chmod 4755 ops_suexec
```

VBScript stuck in "Running" state

Problem

By default, Windows uses a GUI-based VBScript interpreter (`wscript.exe`). With this interpreter, if your script tries to display an error message that requires a user-response (for example, **Click OK**), you will never see the dialog box. The script therefore gets stuck in the "Running" state.

Solution

To avoid this, we recommend you use the console version of the VBScript interpreter (`cscript.exe`). To do so, specify `cscript.exe` before the script name in a task definition, as shown in the following example:

```
"cscript.exe C:\Work\script.vbs".
```

My Universal Controller License has Expired

Problem

If your Universal Controller license has expired, you will not be able to run any tasks. If you attempt to run a task under an expired license, the Controller will place the task in the Defined state.

When you log in to the Controller, the [Console](#) will display a [license expiration](#) informational message if your license will expire within a week, and an error message if your license already has expired.

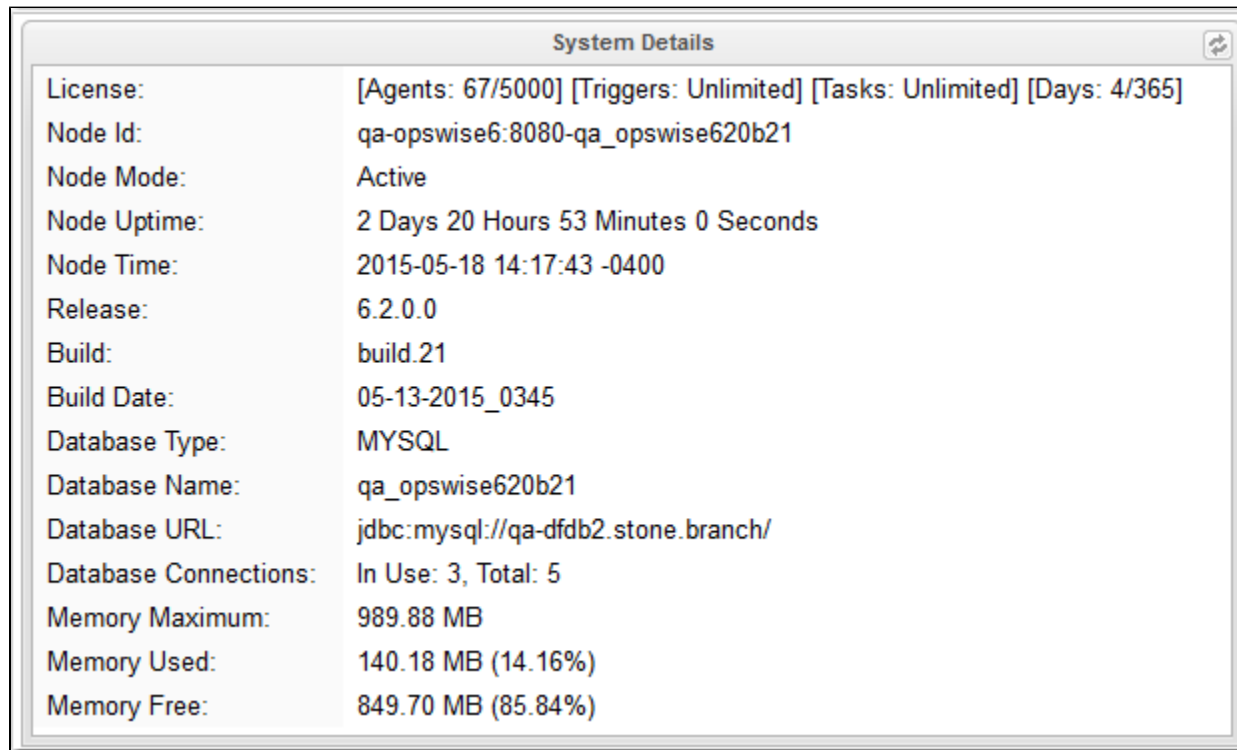
Additionally, if you have configured the Controller for [System Notifications](#), system notifications are sent when the Controller license will expire in seven days and if the license already has expired.

There are two other methods you can use to check on license expiration.

Method 1

Check the System Details widget (view the system-defined [Home Dashboard](#) or, on the [Reporting](#) navigation pane, click **Widgets**) to see how many days are left on your license.

The **Days: ##** entry in the **License** field indicates the current day of your current license and the total number of days in the license. If the numbers are identical, your license has expired.



The screenshot shows a 'System Details' window with the following information:

License:	[Agents: 67/5000] [Triggers: Unlimited] [Tasks: Unlimited] [Days: 4/365]
Node Id:	qa-opswise6:8080-qa_opswise620b21
Node Mode:	Active
Node Uptime:	2 Days 20 Hours 53 Minutes 0 Seconds
Node Time:	2015-05-18 14:17:43 -0400
Release:	6.2.0.0
Build:	build.21
Build Date:	05-13-2015_0345
Database Type:	MYSQL
Database Name:	qa_opswise620b21
Database URL:	jdbc:mysql://qa-dfdb2.stone.branch/
Database Connections:	In Use: 3, Total: 5
Memory Maximum:	989.88 MB
Memory Used:	140.18 MB (14.16%)
Memory Free:	849.70 MB (85.84%)

Method 2

Check the Controller log file.

If your license has expired, the following two messages should appear in the log at the midnight roll-over:

```
2015-01-07-00:00:00:006    WARN [Ops.Timer.Forecast_Refresh.0] License Violation: Number of Days has exceeded # suspending system
2015-01-07-00:00:00:006    INFO [Ops.Timer.Forecast_Refresh.0] Pausing the server.
```

Additionally, this message should appear in the log if you try to run a task under an expired license:

```
2015-01-07-09:32:27:728    INFO [Ops.Available.2367.0] System paused, waiting for resume
```

Solution

Contact Stonebranch [Customer Support](#).

Packet for query is too large

Problem

During operations, the following message may appear in the Universal Controller log:

```
Packet for query is too large (1084852 > 1048576).
```

Solution

Change this value on the database server by setting the MySQL **max_allowed_packet** configuration variable.

For detailed information about this variable, refer to:

- [MySQL 5.7.x reference manual](#)
- [MySQL 8.0.x reference manual](#)

Error when refreshing target agents

Problem

An error occurs when you click **Refresh Target Agents** on a [Promotion Target record](#) and you are using invalid login credentials for the target Universal Controller instance.

The user interface on source machine will show the following error:

```
GET http://NN.NNN.NN.N:8080/uc/resources/agents/list returned a response status of 401 Unauthorized
```

The the Controller log on the source machine will show the following error:

```
ERROR [http-8080-10] com.sun.jersey.api.client.UniformInterfaceException:  
GET http://uc/resources/agents/list returned a response status of 401 Unauthorized"
```

The target machine will return the following error:

```
ERROR [http--#] *** ERROR *** Login using Basic Authentication failed for:
```

Solution

Update the Promotion Target record with valid login credentials and try the promotion again.

Invalid Call Error

Problem

The following error message displays:

```
onUncaughtException: Exception caught: Invalid call to setDataSource() passing null.
```

Resolution

You may need to update the **LimitRequestLine** property in the Apache `httpd.conf` file to its default value, **8190**.

Permanent Generation (PermGen) space removed in Java 8

Problem

The Permanent Generation (PermGen) space has been completely removed in Java 8.

If you specify the Maximum PermGen Size option (`-XX:MaxPermSize=<NNN>`) for a Java 8 VM, you may see a warning message similar to the following.

```
Java HotSpot(TM) 64-Bit Server VM warning: ignoring option MaxPermSize=512m; support was removed in 8.0
```

Resolution

The PermGen space is superseded by a new space called Metaspace in Java 8.

You can specify the Maximum Metaspace Size with the analogous `-XX:MaxMetaspaceSize=<NNN>` option; however, the default (no limit) is recommended for most deployments.

Error Messages

Error Messages

This page identifies error messages (in alphabetical order) that you may receive for Universal Controller.

For each error, there is a link to the cause problem, and its solution, in [Problem Resolution](#).

```
GET http://NN.NNN.NN.N:8080/uc/resources/agents/list returned a response status of 401 Unauthorized
```

(in user interface on source machine)

```
ERROR [http-8080-10] com.sun.jersey.api.client.UniformInterfaceException:  
GET http://uc/resources/agents/list returned a response status of 401 Unauthorized"
```

(in Controller log on source machine)

```
ERROR [http--#] *** ERROR *** Login using Basic Authentication failed for:
```

(on Target machine)

See [Error when refreshing target agents](#).

```
INSERT INTO uc_demo (name, value) values ('A', 'F');
```

See [Error in your SQL syntax](#).

```
Java HotSpot(TM) 64-Bit Server VM warning: ignoring option MaxPermSize=512m; support was removed in 8.0
```

See [Permanent Generation \(PermGen\) space removed in Java 8](#)

```
onUncaughtException: Exception caught: Invalid call to setDataSource() passing null.
```

See [Invalid Call Error](#).

```
ops_suexec___Not enough privileges. Check SUID bit and binary owner
```

See [Cannot launch a task](#).

```
ORA-01000: maximum open cursors exceeded
```

See [Maximum open cursors have been exceeded](#).

```
Packet for query is too large (1084852 > 1048576
```

See [Packet for query is too large](#).

```
SQLSTATE: HY000, SQLERR. 1040, ERRMSG. unixODBC MySQL ODBC 5.1 Driver Too many connections
```

See [Error when Starting Controller](#).

```
The conversion of a varchar data type to a datetime data type resulted in an out-of-range value.
```

See [Out-of-Range Value during Database Initialization](#).

The IBM Data Server for JDBC and SQLJ license was invalid or was not activated for the DB2 for z/OS subsystem. If you are connecting directly to the data server and using DB2 Connect Unlimited Edition for System z, perform the activation step by running the activation program in the license activation kit. If you are using any other edition of DB2 Connect, obtain the license file, db2jcc_license_cisuz.jar, from the license activation kit, and follow the installation directions to include the license file in the class path.

See [DB2 JDBC License Error](#).

The server did not receive the data that was sent to it. Please see the documentation for `isc.RPCResponse.STATUS_MAX_POST_SIZE_EXCEEDED`

See [Tomcat Post Limit - STATUS_MAX_POST_SIZE_EXCEEDED](#).

Tutorials

Introduction

The tutorials guide you through features of Universal Controller. They also provide links to more detailed information about each aspect of the Controller.

Once you have completed the tutorials, you should have a basic understanding of how the features work together to automate your environment.

Before you begin, we recommend that you read the [Setting Up Universal Controller](#) and [User Interface](#) sections of this documentation to familiarize yourself with user interface navigation and terminology.

Note



During the course of performing these tutorials, you will build up a small database of demonstration records that you will re-use in subsequent exercises. To avoid having to reenter data, do not delete the records.

The navigation pane on the left lists the tutorials in the sequence they should be read; many of them refer to information created in one or more previous tutorials.

The following table lists the tutorials by topic, rather than sequence.

Tasks
Creating and Manually Launching a Simple Task
Creating and Manually Launching a Universal Task
Running a Windows Task
Launching a Task Automatically Using a Simple Time Trigger
Launching a Task Every Monday Except Holidays
Launching a Task Every Two Hours During Workday
Launching Tasks at a Future Time
Launching an Email Task Based on a File Monitor
Launching an Email Task Based on a Task Monitor
Launching Tasks Using a Cron Trigger
Aborting a Process Launched by a Task
Force Finishing, Force Finish-Cancelling, and Cancelling a Task
Accessing Task Instance Details
Monitoring Task Activity
Workflows
Creating a Simple Workflow

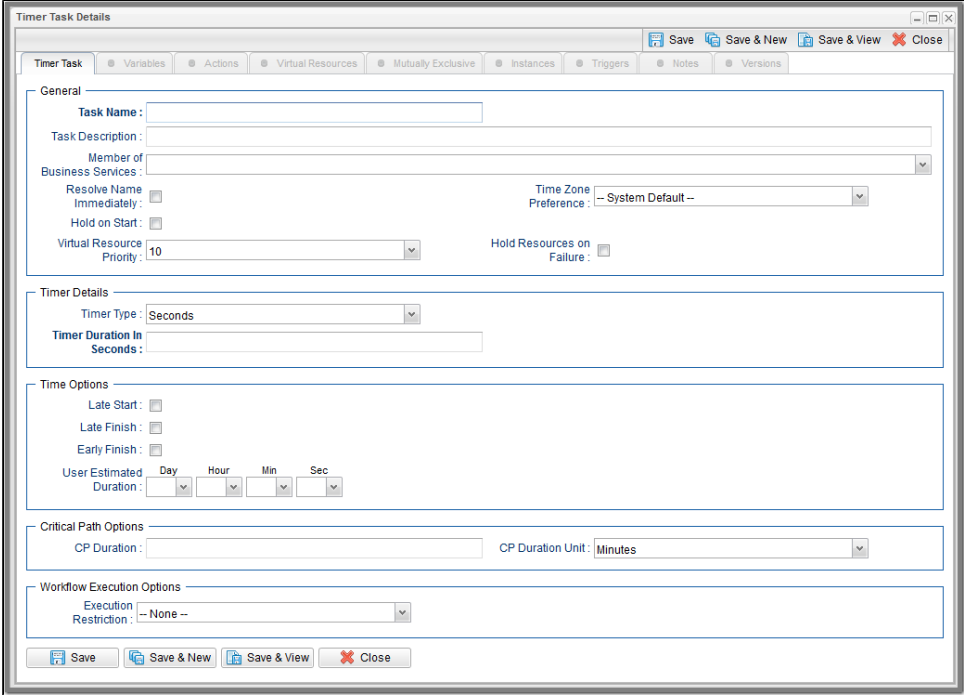
Running a Workflow with a Conditional Path
Running a Workflow with Multiple Conditional Paths
Running a Workflow with Skipped Criteria
Finding and Inserting Tasks in an Active Workflow
Skipping, Unskipping, and Showing-Hiding Skipped Task Instances
Variables
Using Variables in a Simple Task
Using Variables in a Workflow
Custom Days
Creating Custom Days and Periods
Forecasting
Generating Forecast Data
Virtual Resources
Setting Up a Virtual Resource
User Interface
Creating a Widget
Creating a Dashboard and Selecting Widgets
Business Services
Creating Business Services
Assigning Records to Business Services
Viewing Activity by Business Service
Reports
Creating a Report
Creating a Report Based on Business Services
Scheduling a Report
Security
Creating Users and Assigning Permissions
Creating User Groups and Assigning Permissions

Bundles and Promotion
Creating and Promoting a Bundle
Scheduling the Promotion of a Bundle

Tutorial - Creating and Manually Launching a Task

In this tutorial, you will:

- Create a [Timer task](#).
- Manually launch the task.
- View task instance Details of the task.

Step 1	From the Automation Center navigation pane, select Tasks > Timer Task . The Timer Tasks list displays.
Step 2	<p>Click New. The Timer Task Details displays.</p> <ul style="list-style-type: none"> • In the Task Name field, enter stonebranch-timertask-01. • In the Time Duration in Seconds field, enter 60. 
Step 3	Click Save .
Step 4	On the Timer Tasks list, right-click stonebranch-timertask-01 task to display an Action menu .
Step 5	Click Launch Task .
Step 6	From the Automation Center navigation pane, select Task Instances > Activity . The Activity Monitor displays.
Step 7	Locate the stonebranch-timertask-01 task instance. When the task instance completes, the status changes from Running to Success .

Step 8 Click the Details icon next to the **Instance Name** of **stonebranch-timertask-01** to display Details of the task instance.

The screenshot displays the 'Timer Task Instance Details' window for 'stonebranch-timertask-01'. The window has a title bar with 'Timer Task Instance Details: stonebranch-timertask-01' and standard window controls. Below the title bar is a toolbar with 'Update', 'Re-run', 'Delete', 'Refresh', and 'Close' buttons. The main content area is divided into four sections: 'General', 'Status', 'Timer Details', and 'Statistics'. Each section contains various input fields and text boxes.

General

Instance Name:	stonebranch-timertask-01	Instance Number:	1
Task:	stonebranch-timertask-01	Invoked By:	Manually Launched
Task Description:			
Member of Business Services:		Execution User:	ops.admin
Calendar:	System Default	Time Zone Preference:	--System Default--
Virtual Resource Priority:	10	Hold Resources on Failure:	<input type="checkbox"/>

Status

Status:	Success		
Status Description:			
Operational Memo:			
Trigger Time:		Launch Time:	2019-08-20 15:24:37 -0400
Start Time:	2019-08-20 15:24:38 -0400	End Time:	2019-08-20 15:25:38 -0400
Duration:	1 Minute 0 Seconds		
Run Until Time:	2019-08-20 15:25:38 -0400		

Timer Details

Timer Type:	Seconds
Timer Duration In Seconds:	60

Statistics

User Estimated End Time:		Average Estimated End Time:	2019-08-20 15:24:38 -0400
Lowest Estimated End Time:		Highest Estimated End Time:	

At the bottom of the window is a secondary toolbar with 'Update', 'Re-run', 'Delete', 'Refresh', and 'Close' buttons.

For additional information, see:

- [Creating Tasks](#)

Tutorial - Creating and Manually Launching a Universal Task

- [Overview](#)
 - [Before You Begin](#)
- [Create a Universal Template](#)
- [Create Universal Template Fields](#)
- [Create a Universal Task](#)

Overview

To run a Universal Task, you must:

- Create a Universal Template, for which Universal Controller automatically creates a Universal Task type. This includes:
 - Entering a script that any Universal Task created for that Universal Task type will execute.
 - Creating fields, for which the Controller will both automatically assign variables (to be used in the script) and add to any Universal Task created for that Universal Task type.
- Replace variables in the script with the variables assigned to the user-defined Fields that you created in the Universal Template.
- Create a Universal Task for the Universal Task type based on the Universal Template that you created.
- Enter/select values for the user-defined fields in the Universal Task that match the fields you created in the Universal Template.
- Run the Universal Task.
- Retrieve the task output and verify that the script variables have been resolved to the Universal Task field values.

In this tutorial, you will:

- Create a [Universal Template](#).
- Define fields for a Universal Task in the Universal Template.
- Create a [Universal task](#).

Before You Begin

When you create a Universal Template, you create fields that will display in the Details of the Universal Task (based on this Universal Template) that you will create. These Universal Template fields are assigned variables to be used in the script. The script should contain these variables in a specific [format](#) based on information that you provide when creating the Universal Template.

Create a Universal Template

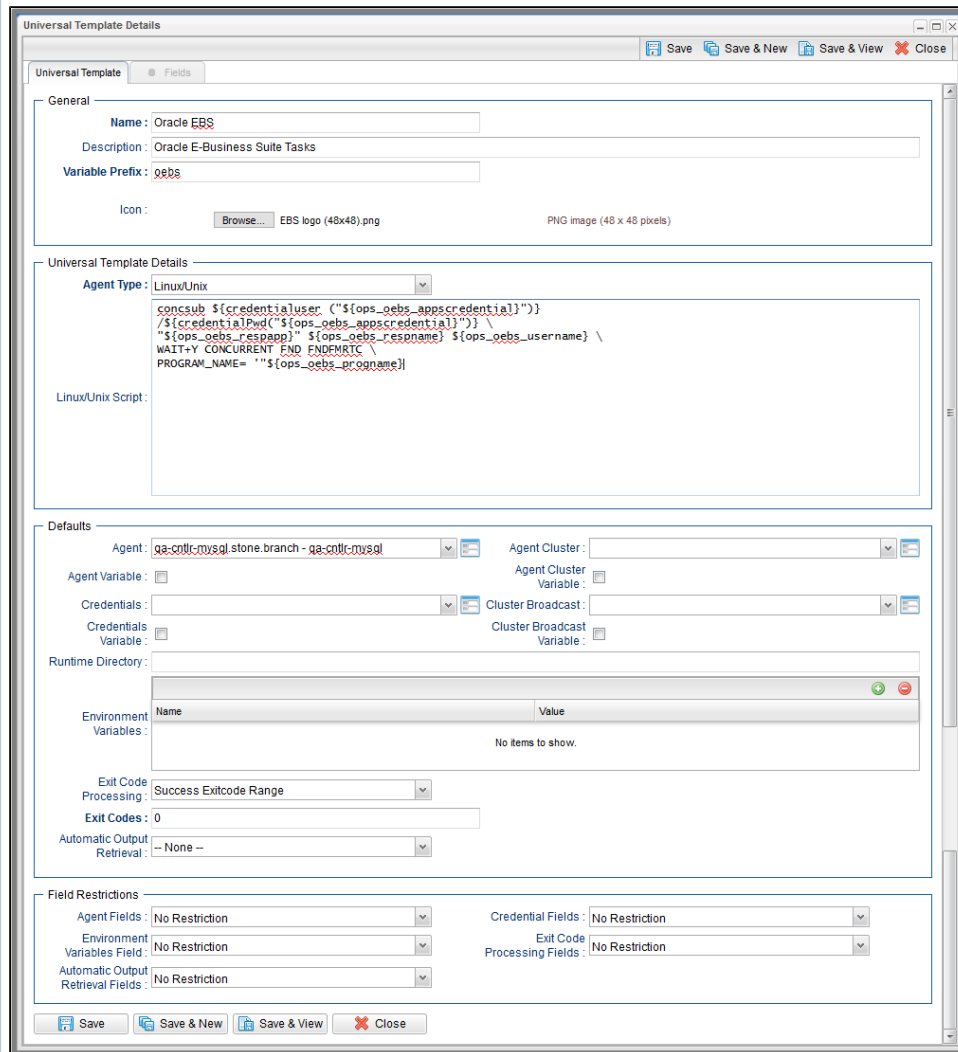
First, create a Universal Template:

Step 1	From the Administration navigation pane, select Configuration > Universal Templates . The Universal Templates list displays.
Step 2	Click New . The Universal Template Details displays.

- In the Name field, enter **Oracle EBS**.
- In the Description field, enter **Oracle E-Business Suite Tasks**.
- In the Variable Prefix field, enter: **oebs**.
- In the Agent Type field, select **Linux/Unix**.
- In the Linux/Unix Script field, enter:

```
consub ${credentialuser ("${ops_oebs_appscredential}")}/${_credentialPwd("${ops_oebs_appscredential}")} \  
"${ops_oebs_respapp}" ${ops_oebs_respname} ${ops_oebs_username} \  
WAIT=Y CONCURRENT FND FNDFMRTC \  
PROGRAM_NAME= "${ops_oebs_progname}
```

- In the Agent field, select a Linux/Unix agent on which the Universal Task based on this agent will run.



- Step 3** Optionally, in the Icon field, browse for an icon (PNG image, 48x48 pixels) to be used instead of the default icon for any Universal Tasks based on this Universal Template.
If you select an icon, the file name display next to the Browse button. When you save the Universal Template, the logo itself displays in the Icon field (see [#Create Universal Template Fields](#), below).
- Step 4** Click **Save**.

Create Universal Template Fields

Next, create fields in the template:

Step 1 Open the **Oracle EBS** template that you just created.

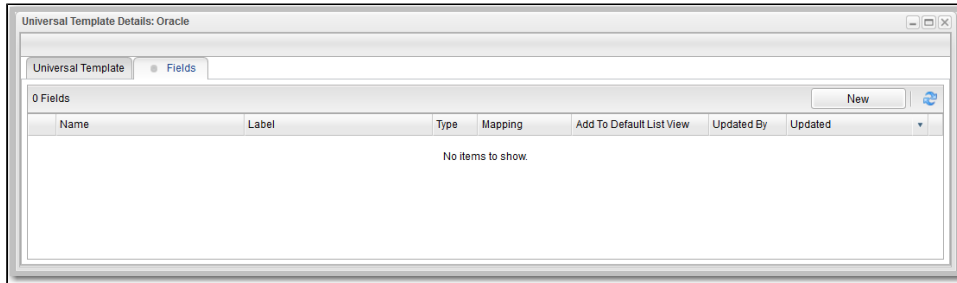
The screenshot shows the 'Universal Template Details: Oracle EBS' window. It contains the following sections:

- Universal Template:** Includes an icon field with an 'EBS' logo and a 'Browse...' button. Below it, the 'Agent Type' is set to 'Linux/Unix'.
- Linux/Unix Script:** A text area containing a shell script:


```
consub ${credentialuser} ("${ops_oebs_appsccredential}")
/${credentialPwd}("${ops_oebs_appsccredential}") \
"${ops_oebs_respapp}" "${ops_oebs_respname}" ${ops_oebs_username} \
WAIT+Y CONCURRENT END ENDEFMTIC \
PROGRAM_NAME= "${ops_oebs_programe}"
```
- Defaults:** A section with various configuration options:
 - Agent: qa-ctrl-mysql.stone.branch - qa-ctrl-mysql
 - Agent Cluster: (empty)
 - Agent Variable: (checkbox)
 - Agent Cluster Variable: (checkbox)
 - Credentials: (empty)
 - Cluster Broadcast: (empty)
 - Credentials Variable: (checkbox)
 - Cluster Broadcast Variable: (checkbox)
 - Runtime Directory: (empty)
 - Environment Variables: A table with columns 'Name' and 'Value', currently showing 'No items to show.'
 - Exit Code Processing: Success Exitcode Range
 - Exit Codes: 0
 - Automatic Output Retrieval: -- None --
- Field Restrictions:** A section with dropdown menus for:
 - Agent Fields: No Restriction
 - Credential Fields: No Restriction
 - Environment Variables Field: No Restriction
 - Exit Code Processing Fields: No Restriction
 - Automatic Output Retrieval Fields: No Restriction

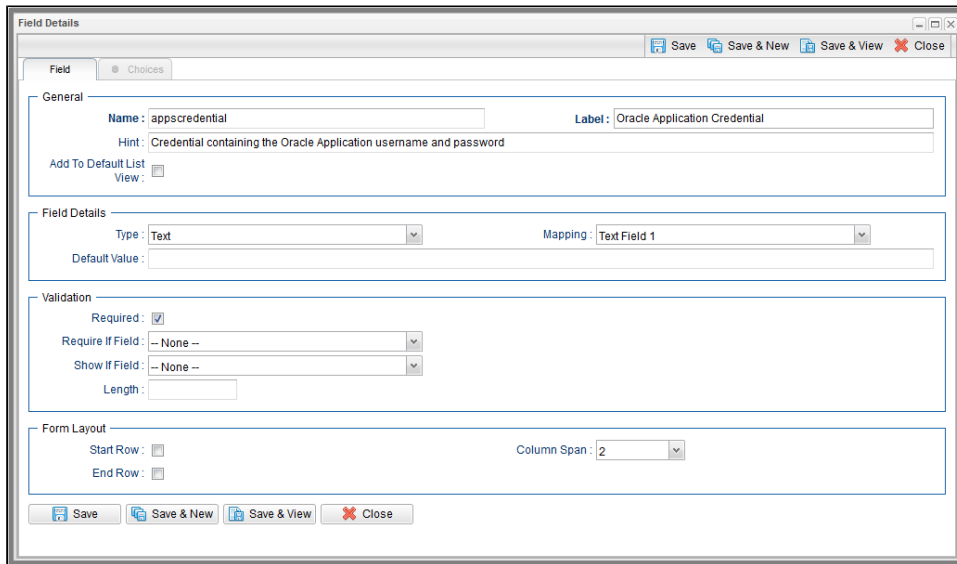
At the bottom of the window, there are buttons for 'Update', 'Copy', 'Delete', 'Refresh', and 'Close'.

Step 2 Click the **Fields** tab to display an empty Fields list.

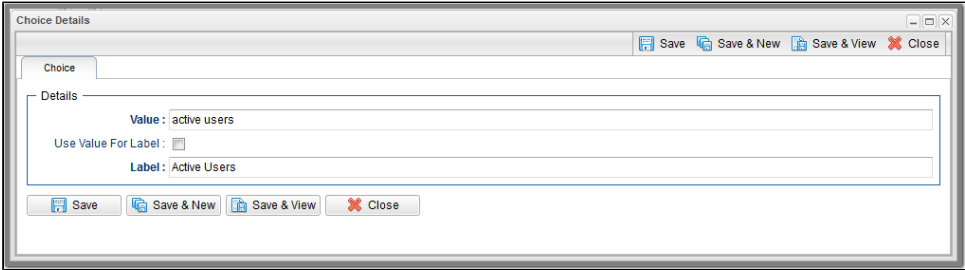


Step 3 Click **New**. The Field Details for a new Field displays.

- In the Name field, enter **appscredential**.
- In the Label field, enter **Oracle Application Credential**.
- In the Hint field, enter **Credential containing the Oracle Applications username and password..**
- In the Type field, select **Text**.
- In the Required field, enter a check mark.



Step 4 Click **Save** to save the Field and re-display the Fields list.

<p>Step 5</p>	<p>Click New and create four more Fields.</p> <ul style="list-style-type: none"> • Name = respapp. • Label = Responsibility Application. • Type = Text. <ul style="list-style-type: none"> • Name = respname. • Label = Responsibility Name. • Type = Text. <ul style="list-style-type: none"> • Name = username. • Label = Application User. • Type = Text. <ul style="list-style-type: none"> • Name = progrname. • Label = Program Name. • Type = Choice. • Default = active users <p>Click Save to save each Field.</p>
<p>Step 6</p>	<p>When you save the progrname field, the Choices tab is enabled so that you can define user-selectable Choices for that Field. An empty Choices list displays under the enabled Choices tab. Click New to display an empty Choice Details for a new Choice:</p> <ul style="list-style-type: none"> • In the Value field, enter active users. • In the Label field, enter Active Users. 
<p>Step 7</p>	<p>Click Save to save the Choice and then create two more Choices for the progrname field:</p> <ul style="list-style-type: none"> • Value = inactive users. • Label = Inactive Users. <ul style="list-style-type: none"> • Name = temporary users. • Label = Temporary Users. <p>Click Save to save each Field.</p>
<p>Step 8</p>	<p>Click the Field tab to re-display the Field Details, click the Close to return to the Fields list, and then click click the Universal Template tab to return to the Universal Template Details.</p>
<p>Step 9</p>	<p>Check the script to make sure that the variables for the five Fields that you created are in the following format: <code>ops_<Variable Prefix>_<Field Name></code>. For example: <code>ops_oeps_appscredential</code>.</p>
<p>Step 10</p>	<p>Click Save to save the template.</p>

Create a Universal Task

You now can create a Universal Task based on Stonebranch Template One.

Step 1	Select the Automation Center navigation pane.
Step 2	Right-click inside the navigation pane and, on the Action menu that displays, click Refresh Navigation Tree . An Oracle EBS Tasks Universal Task task type now displays in the Universal Tasks folder.
Step 3	Click Oracle EBS Tasks to display an empty tasks list for this Universal Task type.

Step 4

Click **New** to display Details for a new Oracle EBS Tasks task.

Save Save & New Save & View Close

Oracle EBS Task
Variables Actions Virtual Resources Mutually Exclusive Instances Triggers Notes Versions

General

Task Name:

Task Description:

Member of Business Services:

Resolve Name Immediately: Time Zone Preference:

Hold on Start:

Virtual Resource Priority: Hold Resources on Failure:

Oracle EBS Details

Agent: Agent Cluster:

Agent Variable: Agent Cluster Variable:

Credentials: Cluster Broadcast:

Credentials Variable: Cluster Broadcast Variable:

Oracle Application Credential:

Responsibility Application: Responsibility Name:

Application User: Program Name:

Runtime Directory:

Name	Value
No items to show.	

Exit Code Processing:

Exit Codes:

Automatic Output Retrieval:

Retry Options

Retry Exit Codes:

Maximum Retries: Retry Indefinitely:

Retry Interval (Seconds): Suppress Intermediate Failures:

Wait/Delay Options

Wait To Start:

Delay On Start:

Workflow Only:

Time Options

Late Start:

Late Finish:

Early Finish:

User Estimated Duration: Day Hour Min Sec

Critical Path Options

CP Duration: CP Duration Unit:

Workflow Execution Options

Execution Restriction:

Save Save & New Save & View Close

Step 5	In the Task Name field, enter: Active Users Report.
Step 6	Review the Details section fields that you defined in the Oracle EBS Universal Template to make sure that their names, defaults, and requirement settings are correct.
Step 7	<p>Enter the following field values:</p> <ul style="list-style-type: none"> • Oracle Application Credential: APPS • Responsibility Application: SYSADMIN • Responsibility Name: System Administrator • Application User: SYSADMIN
Step 8	Click the Save button to save the task.
Step 9	Right-click Active Users Report on the Oracle EBS Task list and, on the Action menu that displays, click Launch Task.

Step 10

Click **Activity** in the Automation Center navigation pane and open the Active Users Report task instance:

Oracle EBS Task Instance Details: Active Users Report

Update Force Finish Re-run Retrieve Output... Delete Refresh Close

Oracle EBS Task Instance Virtual Resources Exclusive Requests Output Notes

General

Instance Name: Active Users Report Instance Number: 1

Task: Active Users Report Invoked By: Manually Launched

Task Description:

Member of Business Services: Execution User: ops.admin

Calendar: System Default Time Zone Preference: System Default

Virtual Resource Priority: 10 Hold Resources on Failure:

Status

Status: Success Exit Code: 2

Status Description:

Operational Memo:

Trigger Time: Launch Time: 2019-08-20 17:03:04 -0400

Queued Time: 2019-08-20 17:03:04 -0400

Start Time: 2019-08-20 17:03:04 -0400 End Time: 2019-08-20 17:03:05 -0400

Duration: CPU Time: 120

Process ID: 31825

Oracle EBS Details

Agent: qa.stone.branch - mysql Agent Cluster:

Agent Variable: Agent Cluster Variable:

Credentials: Credentials Variable:

Oracle Application Credential: APPS

Responsibility Application: SYSADMIN Responsibility Name: System Administrator

Application User: SYSADMIN Program Name: Active Users

Runtime Directory:

Environment Variables:

Name	Value
No items to show.	

Exit Code Processing: Success Exitcode Range

Exit Codes: 0

Automatic Output Retrieval: -- None --

Retry Options

Retry Exit Codes:

Maximum Retries: 0 Retry Indefinitely:

Retry Interval (Seconds): 60 Suppress Intermediate Failures:

Current Retry Count: 0

Statistics

User Estimated End Time: Average Estimated End Time: 2019-08-20 17:03:04 -0400

Lowest Estimated End Time: Highest Estimated End Time:

Update Force Finish Re-run Retrieve Output... Delete Refresh Close

Step 11

In the **Status** section of the task instance Details, check the Status and Exit Code fields to verify that the task ran to success. Optionally, [retrieve output](#) from the task instance to view details about the run.

For additional information, see:

- [Universal Templates](#)
- [Universal Tasks](#)

Tutorial - Running a Windows Task

- [Creating a Simple Windows Task](#)
- [Manually Retrieving Output from a Windows Task](#)
- [Attaching Output to an Email Notification](#)

To perform this tutorial, you need a running [Universal Agent for Windows](#).

Creating a Simple Windows Task

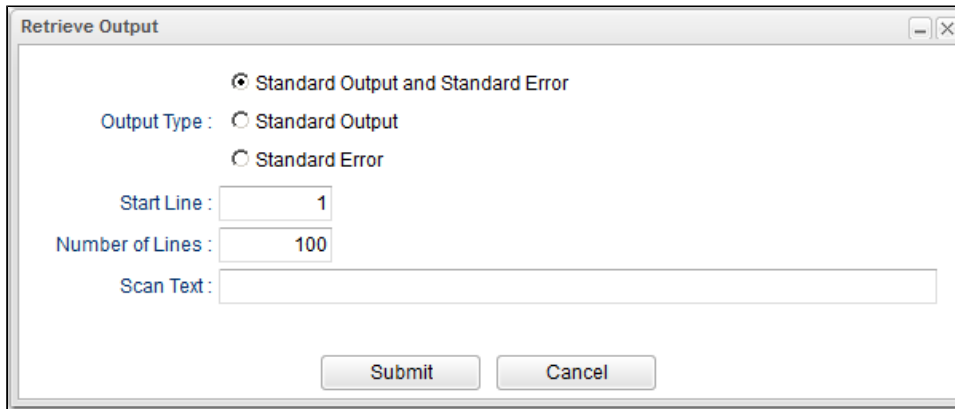
Step 1	From the Automation Center navigation pane, select Tasks > Windows Tasks . The Windows Tasks list displays.
Step 2	In the empty Windows task Details below the list: <ul style="list-style-type: none"> • In the Task Name field, enter stonebranch-windowstask-01. • In the Agent field, select your Windows agent. • In the Command field, enter md c:\tutorial.
Step 3	Click Save .
Step 4	On the Windows Tasks list, right-click stonebranch-windowstask-01 to display an Action menu .
Step 5	Click Launch Task .
Step 7	Check the Activity Monitor for the task instance.

Manually Retrieving Output from a Windows Task

In this Windows task, we will run a DIR command. Normally, you would use the [Automatic Output Retrieval](#) field to specify that any output generated by the command be attached to the task instance after the task completes. However, if you did not specify that output be attached, you can manually retrieve it after the task instance has run. In this exercise, we will manually retrieve and display the output.

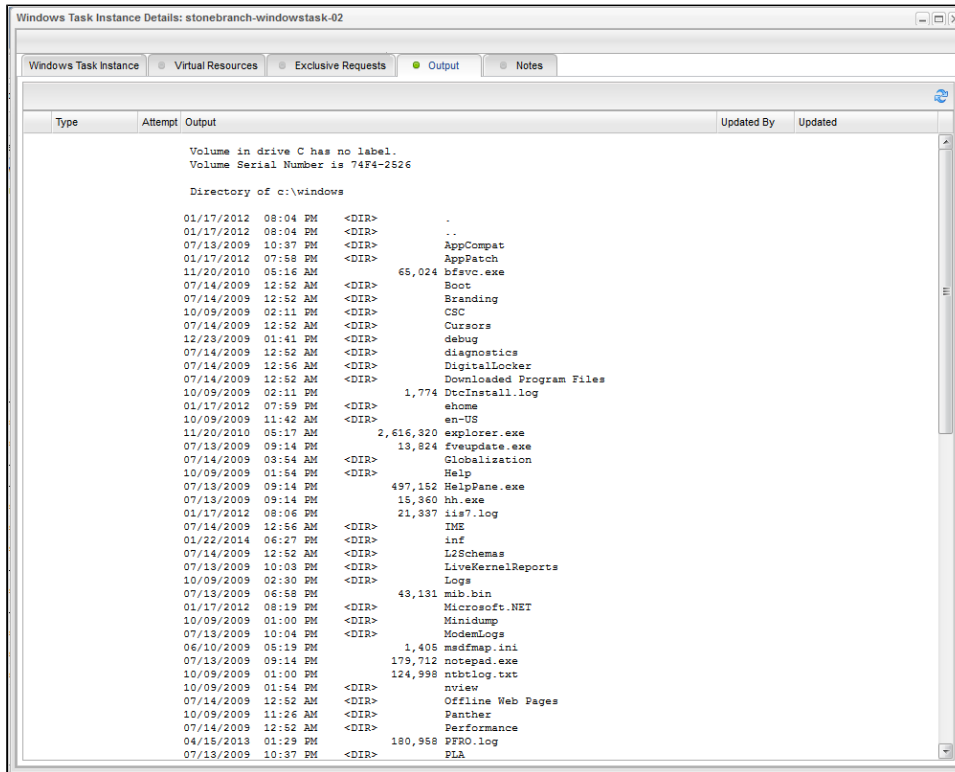
Step 1	Use the same steps to create another Windows task called stonebranch-windowstask-02 . Do not specify Automatic Output Retrieval, and use the following command: <div style="border: 1px solid #ccc; padding: 10px; margin-top: 10px;"> <pre>dir c:\windows</pre> </div>
Step 2	Save and launch the task.
Step 3	Locate and open the task instance on the Activity Monitor.

Step 4 Note that the Output tab is empty. Click **Retrieve Output**. The Retrieve Output window appears:



Step 5 Change the number of lines to 300 and click **Submit**.

Step 6 Click the Output tab. The STDOUT (standard output) displays on the output list, as shown in the following example:



Attaching Output to an Email Notification

In this exercise, we will modify the **stonebranch-windowstask-02** task with an Email notification that includes the output from the DIR command.

Step 1	Open the stonebranch-windowstask-02 task.
Step 2	Click the Actions tab.
Step 3	Click Email Notification and then click the New button.

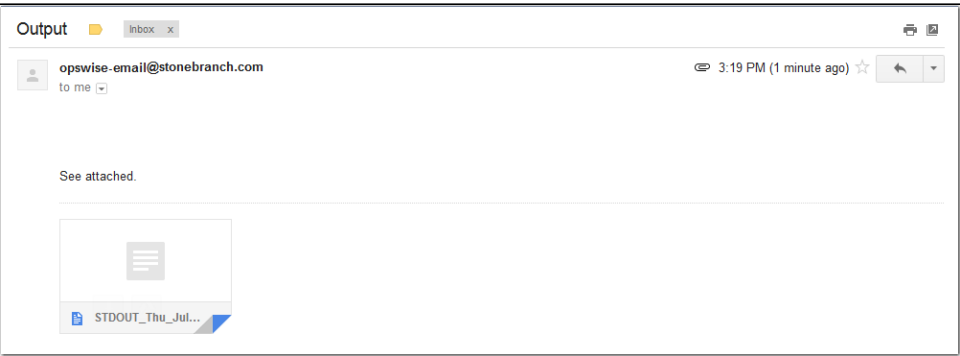
Step 4 In the Email Notification Details, specify the following:

- Status=Success
- Email Connection=Your email connection
- To=Your email address
- Subject=Output
- Body=See attached.
- Attach Standard Output=enabled
- Start Line=1
- Number of lines=300

The screenshot shows the 'Email Notification Details' dialog box with the following configuration:

- Action Criteria:**
 - Status: Success
 - Exit Codes: (empty)
 - On Late Start:
 - On Late Finish:
 - On Early Finish:
 - Description: (empty)
- Action Details:**
 - Email Template: (empty)
 - Email Connection: OPSWISE-MAILER
 - Email Template Variable:
 - Reply-To: (empty)
 - To: stonebranch@stonebranch.com
 - Cc: (empty)
 - Bcc: (empty)
 - Subject: Output
 - Body: See attached.
 - Report: (empty)
 - Report Variable:
 - Attach Standard Output:
 - Start Line: 1
 - Number of Lines: 300
 - Scan Text: (empty)
 - Attach Standard Error:
 - Attach File:

Step 5 Click **Save**.

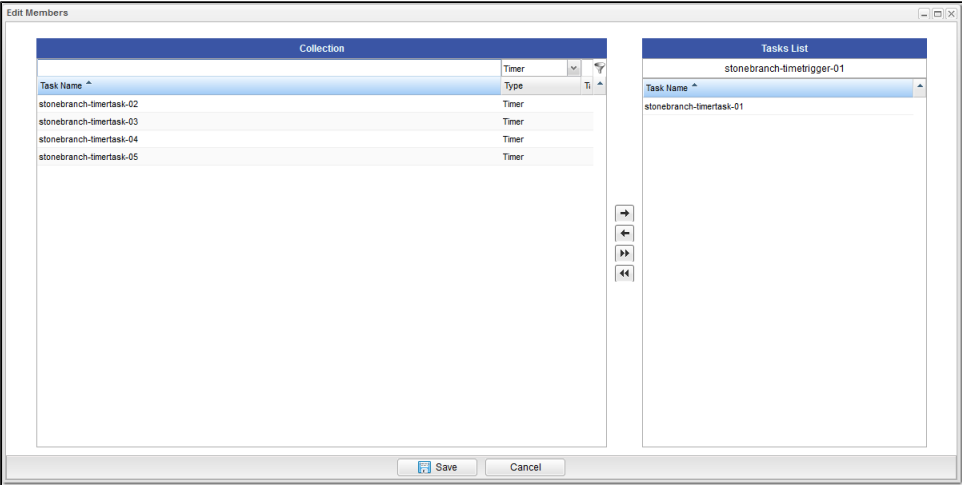
Step 6	Launch the stonebranch-windowstask-02 task.
Step 7	Once the Windows task goes to success, check your inbox for the email. The output is attached, as shown in the following example. 

For additional information, see:

- [Creating Tasks](#)
- [Windows Task](#)

Tutorial - Launching a Task Automatically Using a Simple Time Trigger

In this exercise, we will define a time trigger that launches our Timer task every one minute.

Step 1	From the Automation Center navigation pane, select Triggers > Time Triggers .
Step 2	Click New .
Step 3	In the Name field, enter stonebranch-timetrigger-01 .
Step 4	In the Task(s) field, click the Add-Remove Multiple icon.
Step 5	<p>In the Collection window, locate the Timer task created in the Creating and Manually Launching a Task tutorial, stonebranch-timertask-01, move it to the Tasks List window, and click Save.</p> 
Step 6	In the Task(s) field, click the lock icon.
Step 7	In the Time Style field, select Time Interval .
Step 8	In the Time Interval field, enter 1 .

Step 9 In the **Time Interval Units** field, select **Minutes**.

The screenshot shows the 'Time Trigger Details' configuration window for a trigger named 'stonebranch-timetrigger-01'. The window is divided into several sections:

- General:** Name: stonebranch-timetrigger-01. Description: (empty). Member of: (empty). Business Services: (empty). Calendar: System Default. Time Zone: Server (America/New_York). Task(s): stonebranch-timertask-01. Purge By Retention Duration: (unchecked).
- Status:** Forecast: (unchecked). Skip Count: 0. Task Launch Skip Condition: -- None --. Simulate: -- System Default --.
- Time Details:** Time Style: Time Interval. Time Interval: 1. Time Interval Units: Minutes. Enable Offset: (unchecked).
- Day Details:** Day Style: Simple. Radio buttons: Daily (selected), Business Days, Specific Day(s).
- Restrictions:** Restrict Times: (unchecked). Special Restriction: (unchecked).

At the bottom of the window, there are buttons for Save, Save & New, Save & View, and Close.

Step 10 Click **Save**.

Step 11 By default, triggers are disabled. To enable this trigger:

1. On the Time Triggers list, right-click **stonebranch-timetrigger-01** to display an [Action menu](#).
2. Click **Enable** to enable the trigger. Note that the **Enabled** column on the trigger list now displays a green check-mark for this trigger.

Step 12 From the **Automation Center** navigation pane, select **Activity** to display the Activity Monitor. Note that a new instance of **stonebranch-timertask-01** appears every one minute.

Step 13

Click the most recent instance of **stonebranch-timertask-01** to view its details, and note that the **Invoked By** field contains the name of the trigger that launched this task.

The screenshot shows a web-based interface for viewing timer task instance details. The window title is "Timer Task Instance Details: stonebranch-timertask-01". The interface includes several sections:

- General:** Instance Name: stonebranch-timertask-01, Reference Id: 1, Task: stonebranch-timertask-01, Invoked By: Trigger: stnebranch-timetrigger-01, Task Description: (empty), Member of Business Services: (dropdown), Execution User: ops.admin, Calendar: System Default, Time Zone Preference: -- System Default --, Virtual Resource Priority: 10, Hold Resources on Failure: (checkbox).
- Status:** Status: Success, Status Description: (empty), Operational Memo: (empty), Trigger Time: 2017-10-06 15:18:25 -0400, Launch Time: 2017-10-06 15:18:25 -0400, Start Time: 2017-10-06 15:18:25 -0400, End Time: 2017-10-06 15:18:35 -0400, Duration: 10 Seconds, Run Until Time: 2017-10-06 15:18:35 -0400.
- Timer Details:** Timer Type: Seconds, Timer Duration In Seconds: 10.
- Statistics:** User Estimated End Time: (empty), Average Estimated End Time: 2017-10-06 15:18:25 -0400, Shortest Estimated End Time: (empty), Longest Estimated End Time: (empty).

At the bottom of the window, there are buttons for Update, Re-run, Delete, Refresh, and Close.

For additional information, see:

- [Triggers](#)
- [Time Trigger](#)
- [Enabling and Disabling Triggers](#)

Tutorial - Launching a Task Every Monday Except Holidays

- [Introduction](#)
- [Create Calendar and Custom Days](#)
- [Create a Time Trigger](#)
- [Adding a Complex Restriction](#)

Introduction

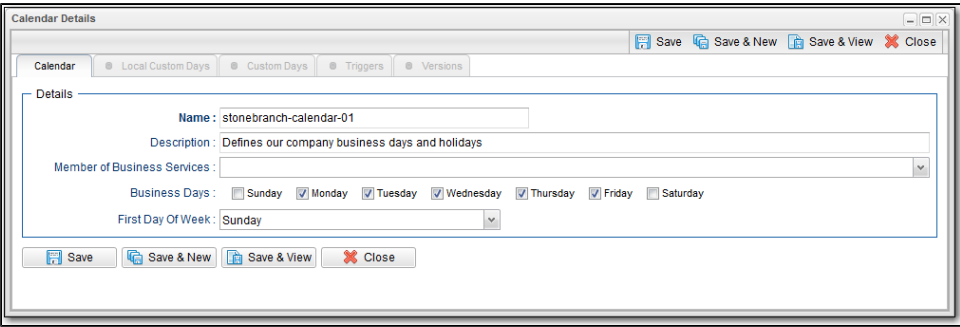
In this exercise, we will define a trigger that runs the **stonebranch-timertask-01** task (created in the [Creating and Manually Launching a Simple Task](#) tutorial) automatically every Monday at 1 p.m., except holidays.

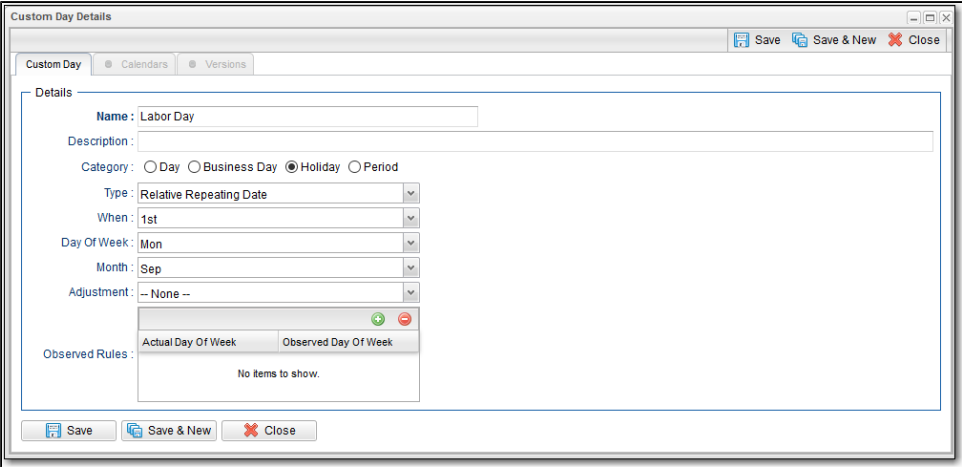
For cases where Monday falls on a holiday, we will define a special restriction in the trigger that instructs the Controller to run the task on the next business day.

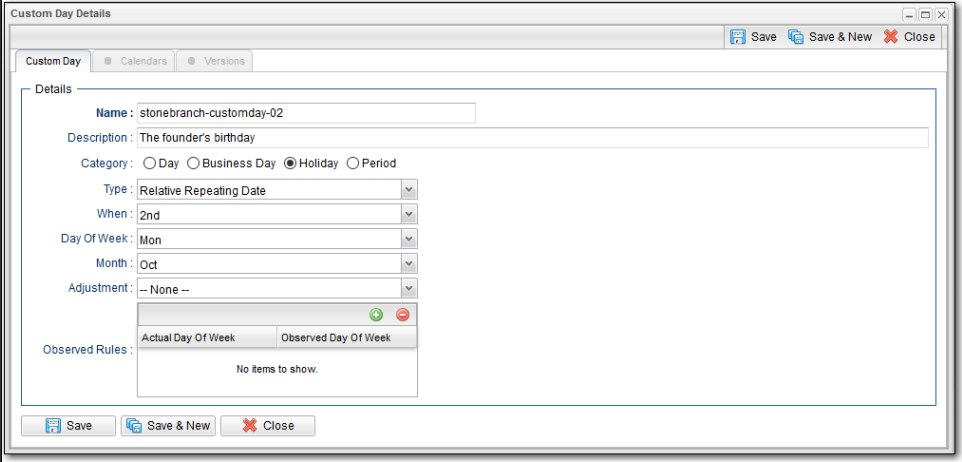
We will define the business days and holidays in a calendar.

Create Calendar and Custom Days

Before building the trigger, we will create the calendar:

Step 1	From the Automation Center navigation pane, Others > Calendars to display the Calendars list.
Step 2	Click New to display an empty Calendar Details.
Step 3	Enter stonebranch-calendar-01 in the Name field.
Step 4	In the Description field, enter Defines our company business days and holidays .
Step 5	Do not change the default selections for Business Days (Monday through Friday). Click Save .
	
Step 6	Open stonebranch-calendar-01 and click the Custom Days tab.
Step 7	On the Custom Days list, click the New button. A Custom Day Details for a new Custom Day displays.

Step 8	In the Name field, enter stonebranch-customday-01 .
Step 9	In the Description field, enter Labor Day .
Step 9	In the Category field, select Holiday .
Step 10	<p>In the Type field, select Relative Repeating Date. In the three additional fields that appear, make the following selections:</p> <ul style="list-style-type: none"> • When = 1st • Day of Week = Mon • Month = Sep 
Step 11	Click Save to add this Custom Day to the Calendar.
Step 12	On the Custom Days list, click the New button. A Custom Day Details for a new Custom Day displays.
Step 13	In the Name field, enter stonebranch-customday-02 .
Step 14	In the Description field, enter The founder's birthday .
Step 15	In the Category field, select Holiday .

<p>Step 16</p>	<p>In the Type field, select Relative Repeating Date. In the three additional fields that appear, make the following selections:</p> <ul style="list-style-type: none"> • When = 2nd • Day of Week = Mon • Month = Oct 
<p>Step 17</p>	<p>Click Save to add this Custom Day to the Calendar.</p>

Create a Time Trigger

<p>Step 1</p>	<p>From the Automation Center navigation pane, select Triggers > Time Trigger to display the Time Triggers list.</p>
<p>Step 2</p>	<p>Click New to display an empty Time Trigger Details.</p>
<p>Step 3</p>	<p>In the Name field, enter stonebranch-timetrigger-01.</p>
<p>Step 4</p>	<p>In the Description field, enter Run every Monday at 1 p.m., roll to Tuesday if Monday is a holiday.</p>
<p>Step 5</p>	<p>In the Calendar field, select stonebranch-calendar-01.</p>
<p>Step 6</p>	<p>In the Task(s) field, select stonebranch-timertask-01.</p>
<p>Step 7</p>	<p>In the Time Style field, keep the default, Time.</p>
<p>Step 8</p>	<p>In the Time field, enter 13:00 (1 p.m. in 24-hour time).</p>
<p>Step 9</p>	<p>In the Day Style field, keep the default, Simple.</p>
<p>Step 10</p>	<p>Enable Specific Day(s) field and select Monday.</p>

Step 11

Enable **Special Restriction** and select:

- **On Holiday** in the **Situation** field.
- **Next Business Day** in the **Action** field.

Step 12

Click **Save**.

The screenshot displays the 'Time Trigger Details' configuration window. The window title is 'Time Trigger Details' and it includes standard window controls (minimize, maximize, close) and a menu bar with 'Save', 'Save & New', 'Save & View', and 'Close' options. The main content area is divided into several sections:

- General:** Name: stonebranch-timetrigger-01; Description: Run every Monday at 1 p.m., roll to Tuesday if Monday is a holiday; Member of: (empty); Business Services: (empty); Calendar: stonebranch-calendar-01; Task(s): stonebranch-timertask-01; Time Zone: US/Eastern; Purge By Retention Duration: (unchecked).
- Status:** Forecast: (unchecked); Skip Count: 0; Skip Trigger if Active: (unchecked); Simulate: - System Default -.
- Time Details:** Time Style: Time; Time: 13:00.
- Day Details:** Day Style: Simple; Day Style: Specific Day(s); Sunday: (unchecked); Monday: (checked); Tuesday: (unchecked); Wednesday: (unchecked); Thursday: (unchecked); Friday: (unchecked); Saturday: (unchecked).
- Restrictions:** Special Restriction: (checked); Simple Restriction: (checked); Situation: On Holiday; Action: Next Business Day; Complex Restriction: (unchecked).

At the bottom of the window, there are buttons for 'Save', 'Save & New', 'Save & View', and 'Close'.

Step 13

Click the **List Qualifying Times** button to display the *List Qualifying Times Input pop-up dialog.

Step 14

In the **Number of Dates/Times** field, enter **15**.

Step 15

In the **Start Date** fields, Select **July 25 2014**.

Step 16

Click **Submit** to display a list of **Qualifying Times** when the trigger will launch the task.

stonebranch-timetrigger-01

Run every Monday at 1 p.m., roll to Tuesday if Monday is a holiday.

Listing From: Friday, July 25, 2014 10:42:46 EDT -0400 🖨

User/Trigger Timezone: US/Eastern
Monday, July 28, 2014 13:00:00 EDT -0400
Monday, August 04, 2014 13:00:00 EDT -0400
Monday, August 11, 2014 13:00:00 EDT -0400
Monday, August 18, 2014 13:00:00 EDT -0400
Monday, August 25, 2014 13:00:00 EDT -0400
Tuesday, September 02, 2014 13:00:00 EDT -0400
Monday, September 08, 2014 13:00:00 EDT -0400
Monday, September 15, 2014 13:00:00 EDT -0400
Monday, September 22, 2014 13:00:00 EDT -0400
Monday, September 29, 2014 13:00:00 EDT -0400
Monday, October 06, 2014 13:00:00 EDT -0400
Tuesday, October 14, 2014 13:00:00 EDT -0400
Monday, October 20, 2014 13:00:00 EDT -0400
Monday, October 27, 2014 13:00:00 EDT -0400
Monday, November 03, 2014 13:00:00 EST -0500

As shown in the list, the task will not run on the two Mondays that you have defined as holidays in the calendar, but instead will run the the following Tuesday.

Adding a Complex Restriction

The following steps show you how to add a complex restriction to the **stonebranch-timetrigger-01** trigger. In this case, you will add a restriction that skips the last Monday of the year and instead triggers the task on the following Tuesday, just as it does for Mondays that are holidays.

Step 1	Enable Complex Restriction .
Step 2	In the Restriction Mode field, select Or .
Step 3	In the Restriction Adjective field, select Last .
Step 4	In the Restriction Noun field, select Monday .
Step 5	In the Restriction Qualifier field, select Year .
Step 6	Click Update .
Step 7	Re-open the trigger, click the List Qualifying Times button, enter 25 in the Number of Dates/Times field, and click Submit . The Qualifying Times list now shows an additional Monday (the last Monday of the year) on which the task will not be run.

Qualifying Times

stonebranch-timettrigger-01

Run every Monday at 1 p.m., roll to Tuesday if Monday is a holiday.

Listing From: Friday, July 25, 2014 11:01:54 EDT -0400

User/Trigger Timezone: US/Eastern

Monday, July 28, 2014 13:00:00 EDT -0400
Monday, August 04, 2014 13:00:00 EDT -0400
Monday, August 11, 2014 13:00:00 EDT -0400
Monday, August 18, 2014 13:00:00 EDT -0400
Monday, August 25, 2014 13:00:00 EDT -0400
Tuesday, September 02, 2014 13:00:00 EDT -0400
Monday, September 08, 2014 13:00:00 EDT -0400
Monday, September 15, 2014 13:00:00 EDT -0400
Monday, September 22, 2014 13:00:00 EDT -0400
Monday, September 29, 2014 13:00:00 EDT -0400
Monday, October 06, 2014 13:00:00 EDT -0400
Tuesday, October 14, 2014 13:00:00 EDT -0400
Monday, October 20, 2014 13:00:00 EDT -0400
Monday, October 27, 2014 13:00:00 EDT -0400
Monday, November 03, 2014 13:00:00 EST -0500
Monday, November 10, 2014 13:00:00 EST -0500
Monday, November 17, 2014 13:00:00 EST -0500
Monday, November 24, 2014 13:00:00 EST -0500
Monday, December 01, 2014 13:00:00 EST -0500
Monday, December 08, 2014 13:00:00 EST -0500
Monday, December 15, 2014 13:00:00 EST -0500
Monday, December 22, 2014 13:00:00 EST -0500
Tuesday, December 29, 2014 13:00:00 EST -0500

Tuesday, December 30, 2014 13:00:00 EST -0500

Monday, January 05, 2015 13:00:00 EST -0500

Monday, January 12, 2015 13:00:00 EST -0500

For additional information, see:

- [Triggers](#)
- [Time Trigger](#)
- [Calendars](#)
- [Displaying Trigger Forecast Information](#)

Tutorial - Launching a Task Every Two Hours During Workday

In this exercise, we will define a recurring task that runs every two hours, limited to business hours – Monday through Friday from 9 a.m. to 5 p.m. We will also instruct Universal Controller not to run the task on holidays.

Also, if the task is still running two hours later when it is time to run the next task instance, the Controller will be instructed not to run the next instance.

Step 1	From the Automation Center navigation pane, select Triggers > Time Triggers . The Triggers list displays.
Step 2	Click the New button to display an empty Time Trigger Details.
Step 3	In the Name field, enter stonebranch-timetrigger-02 .
Step 4	In the Description field, enter Run Every Two Hours During Business Hours Except Holidays .
Step 5	In the Calendar field, select stonebranch-calendar-01 (created in the Launching a Task Every Monday Except Holidays tutorial).
Step 6	In the Task(s) field, select stonebranch-timertask-01 (created in the Creating and Manually Launching a Simple Task tutorial).
Step 7	Enable the Skip Trigger if Active field. This tells the Controller not to trigger the task if the previous instance of the task is still active.
Step 8	In the Time Style field, select Time Interval and specify the following: <ul style="list-style-type: none"> • Time Interval = 2 • Time Interval Units = Hours
Step 9	Enable the Restrict Times field and specify the following: <ul style="list-style-type: none"> • Enabled Start = 09:00 • Enabled End = 17:00
Step 10	Specify that this trigger should run on weekdays only by selecting either: <ul style="list-style-type: none"> • Day Style = Simple • Business Days = Enabled <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> • Day Style = Complex • Date Adjective = Every • Date Noun = Business Day • Date Qualifier = Year <p style="text-align: center;">Both methods use the Business Days specified in stonebranch-calendar-01.</p>
Step 11	Enable the Special Restriction field and specify the following: <ul style="list-style-type: none"> • Situation = On Holiday • Action = Do Not Trigger

Step 12 Click the **Save** button.

The screenshot shows the 'Time Trigger Details' window for 'stonebranch-timetrigger-02'. The window title is 'Time Trigger Details: stonebranch-timetrigger-02'. The interface includes a toolbar with buttons for Update, Enable, Trigger Now..., List Qualifying Times..., Copy, Delete, Refresh, and Close. Below the toolbar are tabs for 'Time Trigger', 'Variables', and 'Versions'. The main content area is divided into several sections:

- General:** Name: stonebranch-timetrigger-02, Version: 1, Description: Run Every Two Hours During Business Hours except Holidays, Member of Business Services: (empty), Calendar: stonebranch-calendar-01, Time Zone: System (America/New_York), Task(s): stonebranch-timertask-01, Purge By Retention Duration: (checkbox).
- Status:** Forecast: (checkbox), Status: Disabled, Skip Count: 0, Disabled By: (empty), Skip Trigger if Active: (checked), Simulate: -- System Default --.
- Time Details:** Time Style: Time Interval, Time Interval: 2, Time Interval Units: Hours, Enable Offset: (checkbox).
- Day Details:** Day Style: Simple, Radio buttons for Daily, Business Days (selected), and Specific Day(s).
- Restrictions:** Restrict Times: (checked), Enabled Start: 09:00, Enabled End: 17:00, Adjust Interval To Enabled Start: (checkbox), Special Restriction: (checked), Action: Do Not Trigger, Simple Restriction: (checked), Complex Restriction: (checkbox), Situation: On Holiday.

At the bottom of the window is another toolbar with buttons for Update, Enable, Trigger Now..., List Qualifying Times..., Copy, Delete, Refresh, and Close.

Step 13 Re-open **stonebranch-timetrigger-02** and click the **List Qualifying Times** button. The **Qualifying Times** list displays the next scheduled 30 (by default) times when **stonebranch-timetrigger-02** will launch **stonebranch-timertask-01**.

Qualifying Times

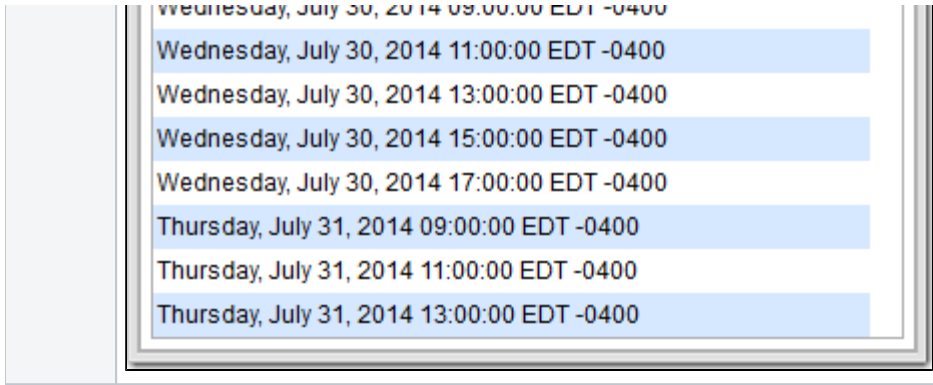
stonebranch-timettrigger-02

Run Every Two Hours During Business Hours except Holidays

Listing From: Friday, July 25, 2014 13:47:58 EDT -0400

User/Trigger Timezone: US/Eastern

Friday, July 25, 2014 15:00:00 EDT -0400
Friday, July 25, 2014 17:00:00 EDT -0400
Saturday, July 26, 2014 09:00:00 EDT -0400
Saturday, July 26, 2014 11:00:00 EDT -0400
Saturday, July 26, 2014 13:00:00 EDT -0400
Saturday, July 26, 2014 15:00:00 EDT -0400
Saturday, July 26, 2014 17:00:00 EDT -0400
Sunday, July 27, 2014 09:00:00 EDT -0400
Sunday, July 27, 2014 11:00:00 EDT -0400
Sunday, July 27, 2014 13:00:00 EDT -0400
Sunday, July 27, 2014 15:00:00 EDT -0400
Sunday, July 27, 2014 17:00:00 EDT -0400
Monday, July 28, 2014 09:00:00 EDT -0400
Monday, July 28, 2014 11:00:00 EDT -0400
Monday, July 28, 2014 13:00:00 EDT -0400
Monday, July 28, 2014 15:00:00 EDT -0400
Monday, July 28, 2014 17:00:00 EDT -0400
Tuesday, July 29, 2014 09:00:00 EDT -0400
Tuesday, July 29, 2014 11:00:00 EDT -0400
Tuesday, July 29, 2014 13:00:00 EDT -0400
Tuesday, July 29, 2014 15:00:00 EDT -0400
Tuesday, July 29, 2014 17:00:00 EDT -0400
Wednesday, July 30, 2014 09:00:00 EDT -0400



The image shows a screenshot of a calendar or trigger list. It contains the following entries:

Wednesday, July 30, 2014 09:00:00 EDT -0400
Wednesday, July 30, 2014 11:00:00 EDT -0400
Wednesday, July 30, 2014 13:00:00 EDT -0400
Wednesday, July 30, 2014 15:00:00 EDT -0400
Wednesday, July 30, 2014 17:00:00 EDT -0400
Thursday, July 31, 2014 09:00:00 EDT -0400
Thursday, July 31, 2014 11:00:00 EDT -0400
Thursday, July 31, 2014 13:00:00 EDT -0400

For additional information, see:

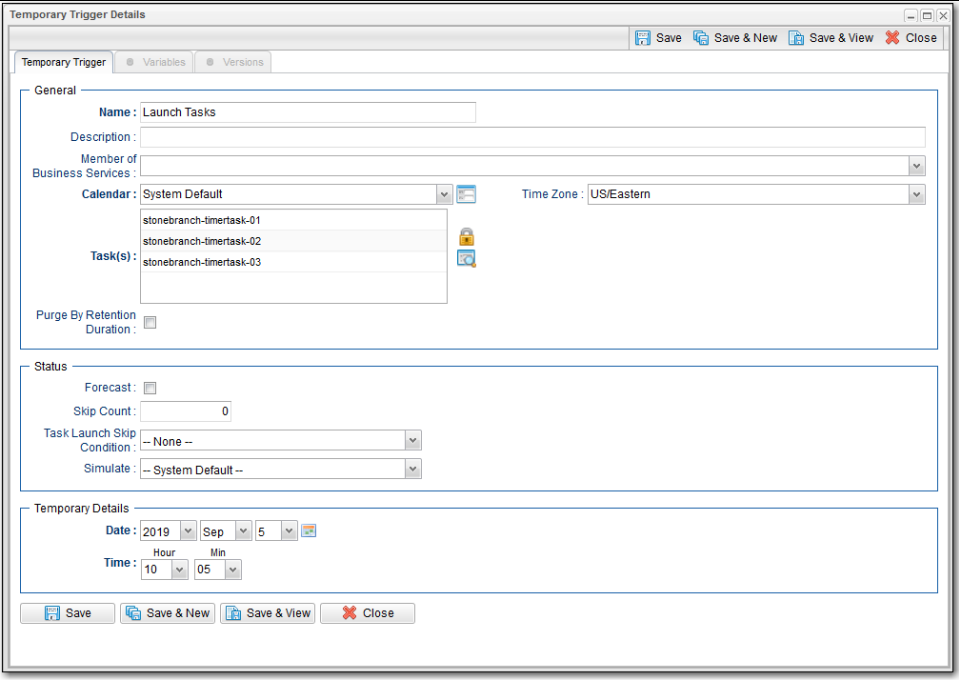
- [Triggers](#)
- [Time Trigger](#)
- [Calendars](#)

Tutorial - Launching Tasks at a Future Time

In this exercise, we will create a trigger that will launch multiple tasks at the same time in the future (in two minutes). For this exercise, we will use the SQL tasks created in the [Running a Workflow with a Conditional Path](#) tutorial.

(A future date also can be selected, but to see now that the tasks have been launched, keep the current date.)

Create a Temporary Trigger

<p>Step 1</p>	<p>From the Automation Center navigation pane, select Triggers > Temporary Triggers. The Temporary Triggers list displays.</p>
<p>Step 2</p>	<p>Click the New button to display Temporary Trigger Details for a new trigger and enter/select the following values:</p> <ul style="list-style-type: none"> • Name = Launch Tasks • Tasks = stonebranch-timertask-01, stonebranch-timertask-02, and stonebranch-timertask-03 Timer tasks • Date = current date • Time = 5 minutes from the current time • Time Zone = your time zone
<p>Step 3</p>	<p>Click the Save button.</p> 
<p>Step 4</p>	<p>Right-click Launch Tasks on the Temporary Triggers list and click Enable.</p>
<p>Step 5</p>	<p>Open the Activity Monitor to see that the three Timer tasks are run at the selected time.</p>

For additional information, see:

- [Temporary Trigger](#)

Tutorial - Launching an Email Task Based on a File Monitor

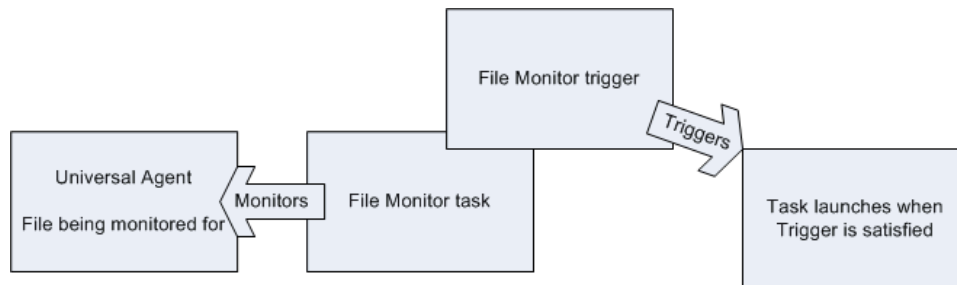
- [Introduction](#)
- [Create File Monitor Task](#)
- [Create an Email Task](#)
- [Create File Monitor Trigger](#)
- [Test Your File Monitor Set-up](#)

Introduction

In this exercise, we will monitor a machine for a specific file. When the file appears, we will send an email that uses variables to supply information about when and how the email was sent.

In order to set this up, we need the following:

- Universal Agent
- File Monitor task
- File Monitor trigger
- Email task being launched by the trigger.



Prerequisites:

- In order to perform this exercise, you need a Windows, Linux/Unix, or z/OS [Agent](#) running on the machine that is being monitored for the file. Create a directory on the machine called `controller tutorial`. Later on, you will copy a text file to this directory to satisfy the File Monitor trigger.

Note



- If you do not have a running Agent, you can bypass this step by manually satisfying the trigger, as per instructions in the tutorial. However, you do need an [Agent](#) defined in the database.
- Since we are going to generate an email when the trigger is satisfied, you will need an [Email Connection](#) defined.

Create File Monitor Task

The File Monitor task monitors the agent machine for the specified file.

Step 1 From the [Automation Center](#) navigation pane, select **Tasks > File Monitors**. The File Monitors list displays.

Step 2	Click the New button to display an empty File Monitor Details.
Step 3	In the Task Name field, enter stonebranch-filemonitor-01 .
Step 4	In the Task Description field, enter Demo File Monitor .
Step 5	In the Agent field, select an Agent.
Step 6	In the Monitor Type field, keep the default value, Create . (See File Monitor Task Details Field Descriptions for details about the other file monitor options.)
Step 7	In the Monitor File field, type file1.txt . Since we have not specified any directory, the Controller will search the root directory.
Step 8	Enable the Recursive field. Since we are going to write our file to the controller tutorial directory, we want the Controller to search all sub-directories for the file.

Step 9

In the **Stable (seconds)** field, enter **5**. This tells the Controller to satisfy the trigger only when the file has not changed in 5 seconds.

The screenshot shows the 'File Monitor Details' configuration window. The 'Stable (seconds)' field is set to 5. Other visible fields include:

- General:** Task Name: stonebranch-filemonitor-01, Task Description: Demo File Monitor, Member of: [empty], Resolve Name Immediately: [checkbox], Hold on Start: [checkbox], Virtual Resource Priority: 10, Time Zone Preference: -- System Default --, Hold Resources on Failure: [checkbox].
- File Monitor Details:** Agent: qa-stone.branch - qa, Agent Cluster: [empty], Agent Variable: [checkbox], Agent Cluster Variable: [checkbox], Credentials: [empty], Credentials Variable: [checkbox], Cluster Broadcast: [empty], Cluster Broadcast Variable: [checkbox], Monitor Type: Create, Trigger on Existence: [checkbox], Monitor File(s): file 1.txt, Use Regular Expression: [checkbox], Recursive: [checked], Maximum Files: [empty], File Owner: [empty], Stable (seconds): 5, Minimum File Size: [empty], Minimum File Scale: KB, Scan Text: [empty].
- Wait/Delay Options:** Wait To Start: -- None --, Delay On Start: -- None --, Workflow Only: -- System Default --.
- Time Options:** Late Start: [checkbox], Late Finish: [checkbox], Early Finish: [checkbox], User Estimated Duration: [Day] [Hour] [Min] [Sec].
- Critical Path Options:** CP Duration: [empty], CP Duration Unit: Minutes.
- Workflow Execution Options:** Execution Restriction: -- None --.

Step 10

Click **Save**.

Create an Email Task

Create the task that will run when the File Monitor is satisfied. In this case, we will **generate an email, using the Email task**:

Step 1	From the Automation Center navigation pane, select Tasks > Email Tasks . The Email Tasks list displays.
Step 2	Click the New button to display an empty Email task Details.
Step 3	In the Task Name field, enter stonebranch-emailtask-01 .
Step 4	In the Description field, enter Send Email When File Appears .
Step 5	In the Email Connection field, select your Email Connection .
Step 6	In the To field, enter your email address. This is where the email will be sent.
Step 7	In the Subject field, enter file1.txt arrived .
Step 8	<p>In the body field, enter the following Universal Controller variable and Universal Controller function:</p> <div style="border: 1px solid #ccc; padding: 10px; margin-top: 10px;"> <pre>Triggered by: \${ops_trigger_name} Date: \${_date}</pre> </div>

Step 9

When the email is generated, the variables will be substituted with the name of the trigger that launched the Email task, along with the date and time the task was launched.

The screenshot shows the 'Email Task Details' configuration window. The 'General' section includes fields for Task Name (stonebranch-emailtask-01), Task Description (Send Email When File Appears), Member of Business Services, Resolve Name Immediately, Hold on Start, Virtual Resource Priority (10), Time Zone Preference (-- System Default --), and Hold Resources on Failure. The 'Email Details' section includes Email Template, Email Connection (QA-MAILER), Email Template Variable, Reply-To, To (stonebranch@email.com), Cc, Bcc, Subject (file 1.txt arrived), and Body (Triggered by: \${ops_trigger_name}, Date: \${_date}). The 'Wait/Delay Options' section includes Wait To Start, Delay On Start, and Workflow Only. The 'Time Options' section includes Late Start, Late Finish, Early Finish, and User Estimated Duration. The 'Critical Path Options' section includes CP Duration and CP Duration Unit (Minutes). The 'Workflow Execution Options' section includes Execution Restriction. The window has a menu bar with Save, Save & New, Save & View, and Close buttons.

Step 9

Click the **Save** button.

Create File Monitor Trigger

Create the File Monitor trigger:

Step 1	From the Automation Center* navigation pane, select Triggers > File Triggers . The File Monitor Triggers list displays.
Step 2	Click the New button to display an empty File Monitor Trigger Details.
Step 3	In the Trigger Name field, enter stonebranch-filemonitortrigger-01 .
Step 4	In the Description field, enter When File Arrives Send Email .
Step 5	In the Task(s) field, select stonebranch-emailtask-01 .
Step 6	In the File Monitor field, select stonebranch-filemonitor-01 .
Step 7	Click the Save button.

Test Your File Monitor Set-up

Test your File Monitor set-up.

Step 1	Enable the File Monitor trigger . This launches the File Monitor task. It will appear in the Activity Monitor with a status of Running.
---------------	---

Step 2	<p>Do one of the following:</p> <ul style="list-style-type: none">• If you have a running agent, place a text file called <code>file1.txt</code> in the <code>controller tutorial</code> directory on the machine that is being monitored by the File Monitor task. When the file appears, the File Monitor task waits five seconds, as specified, and then satisfies the trigger.• If you do not have a running agent but do have an agent connected to your instance, you can manually satisfy the trigger as follows:<ol style="list-style-type: none">1. From the Automation Center navigation pane, select Triggers > File Triggers to display the File Monitor Triggers list.2. Right-click the stonebranch-file monitortrigger-01 trigger and select Trigger Now.
Step 3	When the trigger is satisfied, the Email is sent. Go to the Activity Monitor and note that the astonebranch-emailtask-01 Email task has been launched.
Step 4	Go to your email account where the email was sent and open the email. Note that the variables were resolved.

For additional information, see:

- [Email Task](#)
- [File Monitor Task](#)
- [File Trigger](#)
- [Variables](#)

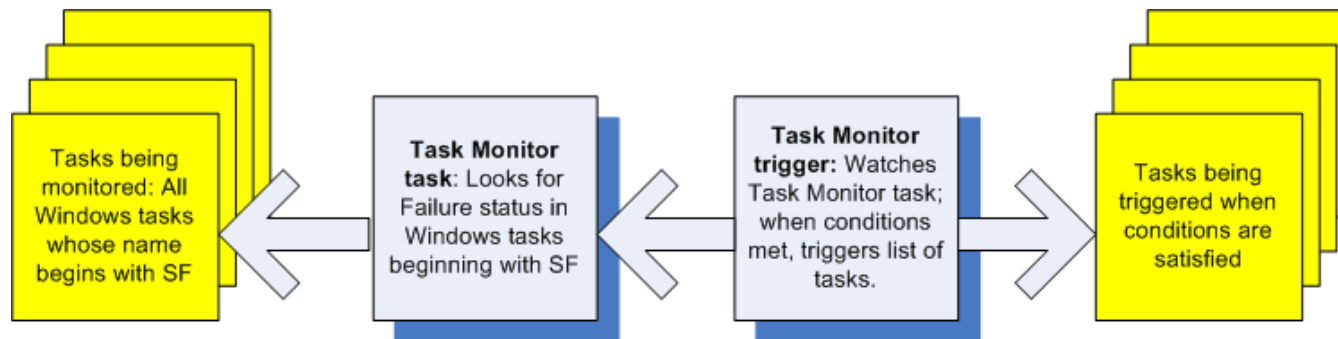
Tutorial - Launching an Email Task Based on a Task Monitor

- [Introduction](#)
- [Select the Activity Monitor Problem Filter](#)
- [Create an Email Template](#)
- [Creating an Email Task Using the Email Template](#)
- [Creating a Task Monitor Task](#)
- [Creating a Task Monitor Trigger](#)
- [Running the Task Monitor](#)

Introduction

In this exercise, we will set up a Task Monitor and Task Monitor trigger. The Task Monitor will monitor all tasks for a status that indicates some sort of problem. When the trigger is satisfied, Universal Controller will launch an Email task that notifies a user that there is a problem. We will also create an Email template for use in our Email task and create an Activity Monitor filter that displays only problem tasks.

The following illustration shows the various components used to trigger tasks based on the status of other tasks.

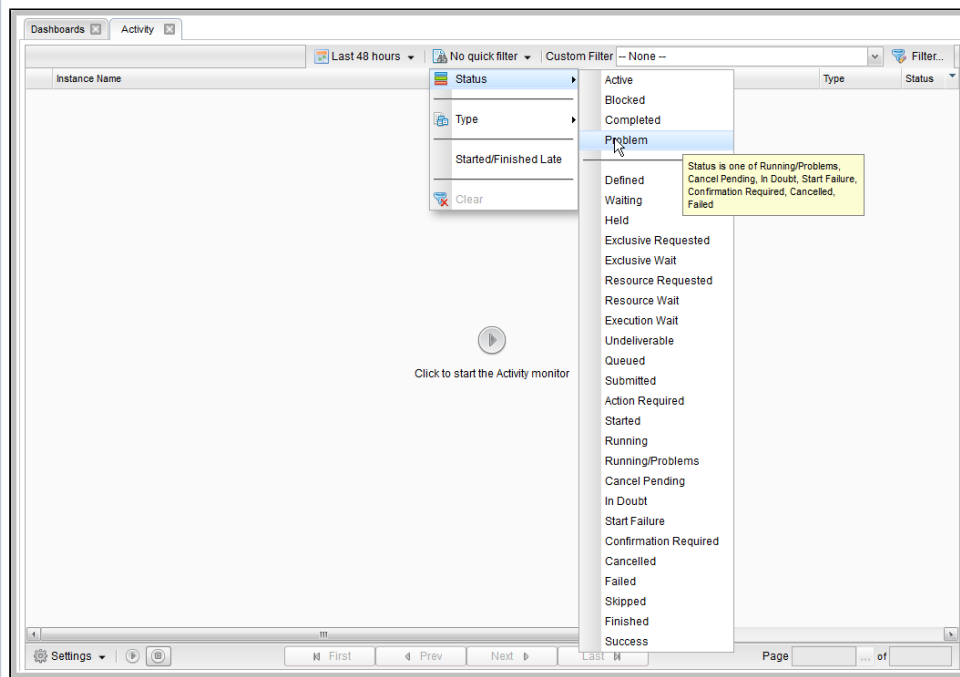


Select the Activity Monitor Problem Filter

The first task we will do is select the Problem filter for the Activity Monitor. When the user receives an email indicating there is a problem, the user can view this Activity Monitor to find out more information.

Step 1	From the Automation Center navigation pane, select Task Instances > Activity . The Activity Monitor displays.
Step 2	Click the Click to start the Activity monitor button. All active task instances display.

Step 3 From the Quick Filter drop-down list, select **Status > Problem**.



The Activity Monitor now will display only Problem task instances.

Create an Email Template

Email Templates allow you to create pre-defined Email task information that you refer to when creating an Email task. This is useful if you have a large number of common parameters on Email tasks but still require separate tasks.

Step 1 From the [Agents & Connections](#) navigation pane, select **System > Email Templates**. The Email Templates list displays.

Step 2 Click the **New** button to display an empty Email Template Details and enter the following values:

- **Template Name** = Notification based on status
- **Email Connection** = (a valid email connection)
- **To** = (a valid email account)
- **Subject** = Task Failure Alert
- **Body** = Task failure, see Activity Monitor for Problems

Step 3 Click the **Save** button.

The screenshot shows a web-based form titled "Email Template Details". The form contains the following fields and values:

- Template Name:** Notification based on status
- Description:** (empty)
- Member of Business Services:** (empty dropdown)
- Email Connection:** QMAILER
- Reply-To:** (empty)
- To:** support@stonebranch.com
- Cc:** (empty)
- Bcc:** (empty)
- Subject:** Test Failure Alert
- Body:** Task Failure: see Activity Monitor for Problems.

The window has a title bar with "Email Template Details" and standard window controls. Below the form, there are four buttons: "Save", "Save & New", "Save & View", and "Close".

Creating an Email Task Using the Email Template

Step 1 From the [Automation Center](#) navigation pane, select **Tasks > Email Tasks**. The Email Tasks list displays.

Step 2 Click the **New** button to display an empty Email Task Details and enter the following values:

- **Task Name** = Triggered by Task Status
- **Email Template** = Notification based on status

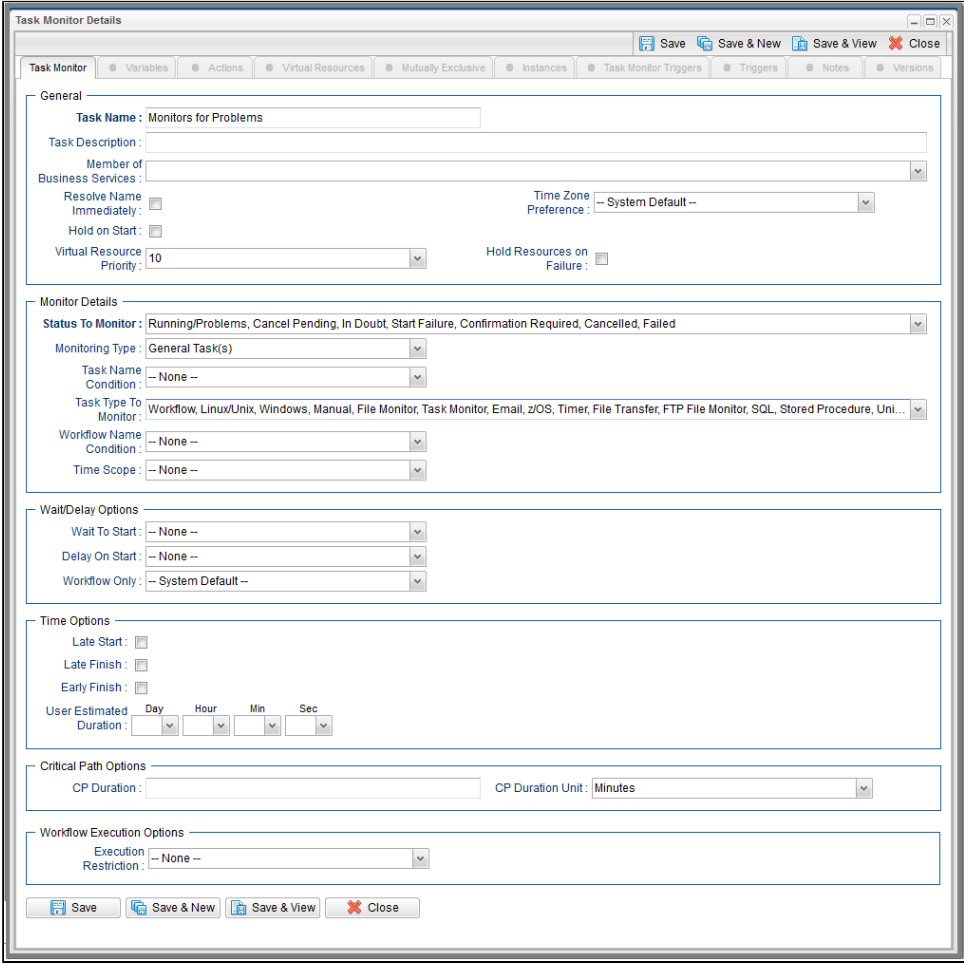
Leave the remaining fields blank, since we want to use the information from the template. (If you fill in any of the duplicate fields, the information from the task overrides the information from the template.)

Step 3 Click the **Save** button.

The screenshot shows the 'Email Task Details' configuration window. The 'General' section includes 'Task Name' (Triggered by Task Status), 'Task Description', 'Member of Business Services', 'Resolve Name Immediately' (checkbox), 'Time Zone Preference' (System Default), 'Hold on Start' (checkbox), 'Virtual Resource Priority' (10), and 'Hold Resources on Failure' (checkbox). The 'Email Details' section includes 'Email Template' (Notification based on status), 'Email Connection', 'Email Variable' (checkbox), 'Reply-To', 'To', 'Cc', 'Bcc', 'Subject', 'Body', 'Report', 'Report Variable' (checkbox), and 'Attach Local File' (checkbox). The 'Wait/Delay Options' section includes 'Wait To Start', 'Delay On Start', and 'Workflow Only'. The 'Time Options' section includes 'Late Start', 'Late Finish', 'Early Finish', and 'User Estimated Duration'. The 'Critical Path Options' section includes 'CP Duration' and 'CP Duration Unit'. The 'Workflow Execution Options' section includes 'Execution Restriction'. The bottom of the window has buttons for 'Save', 'Save & New', 'Save & View', and 'Close'.

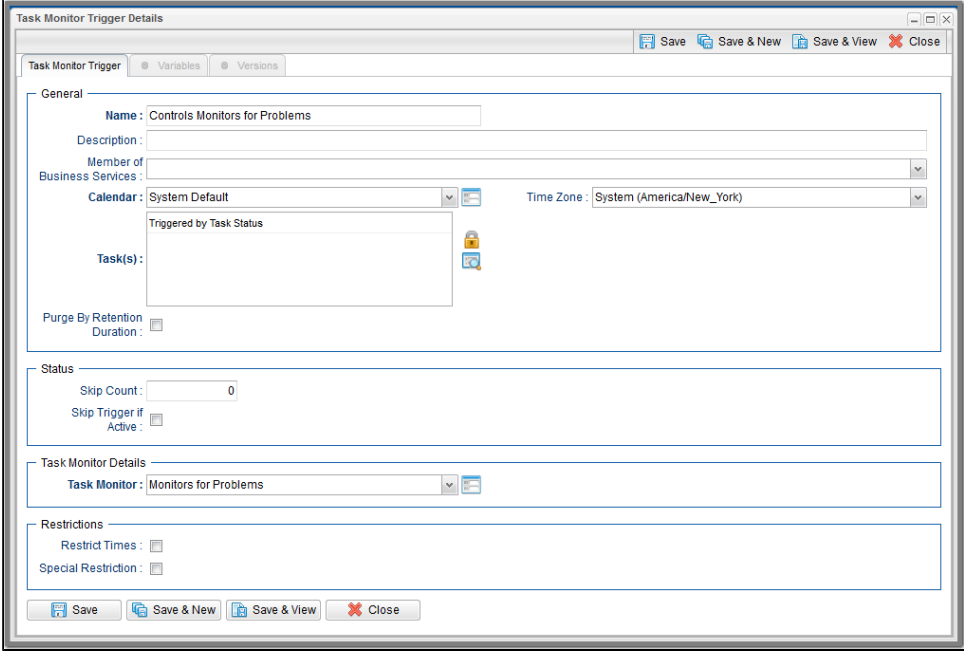
Creating a Task Monitor Task

For this Task Monitor, we will monitor the status of all other tasks. If any task has a status that indicates there is some sort of problem, we will generate an email. Once the Task Monitor is launched by the Task Monitor trigger, it remains active, launching an Email every time any of its conditions are met. The Task Monitor task remains active until the Task Monitor trigger is disabled or until a user manually stops it.

<p>Step 1</p>	<p>From the Automation Center navigation pane, select Tasks > Task Monitors. The Task Monitors list displays.</p>
<p>Step 2</p>	<p>Click the New button to display an empty Task Monitor Details and enter the following values:</p> <ul style="list-style-type: none"> • Task Name = Monitors for Problems • Status To Monitor = enable Running/Problems, Cancel Pending, In Doubt, Start Failure, Confirmation Required, Cancelled, and Failed. (For a description of each status, see Displaying Task Instance Status). • Monitoring Type = General Task(s) • Task Type To Monitor = enable all task types
<p>Step 3</p>	<p>Click the Save button.</p> 

Creating a Task Monitor Trigger

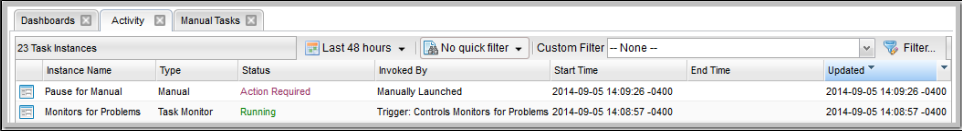
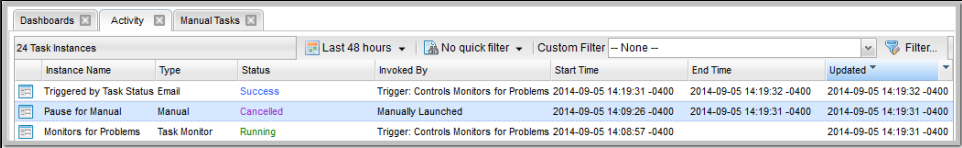
As the last step in our set-up process, we will create the Task Monitor trigger, which controls when the Task Monitor task is started and stopped.

<p>Step 1</p>	<p>From the Automation Center navigation pane, select Triggers > Task Monitor Triggers. The Task Monitor Triggers list displays.</p>
<p>Step 2</p>	<p>Click the New button to display an empty Task Monitor Trigger Details and enter the following values:</p> <ul style="list-style-type: none"> • Name = Controls Monitors for Problems • Task(s) = Triggered by Task Status • Task Monitor = Monitors for Problems
<p>Step 3</p>	<p>Click the Save button.</p> 
<p>Step 4</p>	<p>On the Task Monitor Triggers list, right-click Controls Monitors for Problems and then click Enable.</p>

Running the Task Monitor

To test our set-up, we need to run a task to one of the failure statuses that will trigger the email. To do so, we will launch the **Pause for Manual** Manual task created in the [Running a Workflow with a Conditional Path](#) tutorial and force it into Failed status.

<p>Step 1</p>	<p>From the Automation Center navigation pane, select Tasks > Manual Tasks. The Manual Tasks list displays.</p>
----------------------	---

Step 2	Right-click the Pause for Manual task and, on the Action menu , select Launch Task .																												
Step 3	<p>Display the Activity Monitor. It will list the Pause for Manual task instance, in Action Required status, and the Monitors for Problems Task Monitor task, which was launched when enabled the Controls Monitor for Problems triggered</p>  <table border="1"> <thead> <tr> <th>Instance Name</th> <th>Type</th> <th>Status</th> <th>Invoked By</th> <th>Start Time</th> <th>End Time</th> <th>Updated</th> </tr> </thead> <tbody> <tr> <td>Pause for Manual</td> <td>Manual</td> <td>Action Required</td> <td>Manually Launched</td> <td>2014-09-05 14:09:26 -0400</td> <td></td> <td>2014-09-05 14:09:26 -0400</td> </tr> <tr> <td>Monitors for Problems</td> <td>Task Monitor</td> <td>Running</td> <td>Trigger: Controls Monitors for Problems</td> <td>2014-09-05 14:08:57 -0400</td> <td></td> <td>2014-09-05 14:08:57 -0400</td> </tr> </tbody> </table>	Instance Name	Type	Status	Invoked By	Start Time	End Time	Updated	Pause for Manual	Manual	Action Required	Manually Launched	2014-09-05 14:09:26 -0400		2014-09-05 14:09:26 -0400	Monitors for Problems	Task Monitor	Running	Trigger: Controls Monitors for Problems	2014-09-05 14:08:57 -0400		2014-09-05 14:08:57 -0400							
Instance Name	Type	Status	Invoked By	Start Time	End Time	Updated																							
Pause for Manual	Manual	Action Required	Manually Launched	2014-09-05 14:09:26 -0400		2014-09-05 14:09:26 -0400																							
Monitors for Problems	Task Monitor	Running	Trigger: Controls Monitors for Problems	2014-09-05 14:08:57 -0400		2014-09-05 14:08:57 -0400																							
Step 4	Right-click on Pause for Manual to display an Action menu of actions currently available for this task instance.																												
Step 5	<p>Click Cancel. Pause for Manual goes to Cancelled status and an Email task is launched by the Task Monitor trigger.</p>  <table border="1"> <thead> <tr> <th>Instance Name</th> <th>Type</th> <th>Status</th> <th>Invoked By</th> <th>Start Time</th> <th>End Time</th> <th>Updated</th> </tr> </thead> <tbody> <tr> <td>Triggered by Task Status Email</td> <td></td> <td>Success</td> <td>Trigger: Controls Monitors for Problems</td> <td>2014-09-05 14:19:31 -0400</td> <td>2014-09-05 14:19:32 -0400</td> <td>2014-09-05 14:19:32 -0400</td> </tr> <tr> <td>Pause for Manual</td> <td>Manual</td> <td>Cancelled</td> <td>Manually Launched</td> <td>2014-09-05 14:09:26 -0400</td> <td>2014-09-05 14:19:31 -0400</td> <td>2014-09-05 14:19:31 -0400</td> </tr> <tr> <td>Monitors for Problems</td> <td>Task Monitor</td> <td>Running</td> <td>Trigger: Controls Monitors for Problems</td> <td>2014-09-05 14:08:57 -0400</td> <td></td> <td>2014-09-05 14:19:31 -0400</td> </tr> </tbody> </table>	Instance Name	Type	Status	Invoked By	Start Time	End Time	Updated	Triggered by Task Status Email		Success	Trigger: Controls Monitors for Problems	2014-09-05 14:19:31 -0400	2014-09-05 14:19:32 -0400	2014-09-05 14:19:32 -0400	Pause for Manual	Manual	Cancelled	Manually Launched	2014-09-05 14:09:26 -0400	2014-09-05 14:19:31 -0400	2014-09-05 14:19:31 -0400	Monitors for Problems	Task Monitor	Running	Trigger: Controls Monitors for Problems	2014-09-05 14:08:57 -0400		2014-09-05 14:19:31 -0400
Instance Name	Type	Status	Invoked By	Start Time	End Time	Updated																							
Triggered by Task Status Email		Success	Trigger: Controls Monitors for Problems	2014-09-05 14:19:31 -0400	2014-09-05 14:19:32 -0400	2014-09-05 14:19:32 -0400																							
Pause for Manual	Manual	Cancelled	Manually Launched	2014-09-05 14:09:26 -0400	2014-09-05 14:19:31 -0400	2014-09-05 14:19:31 -0400																							
Monitors for Problems	Task Monitor	Running	Trigger: Controls Monitors for Problems	2014-09-05 14:08:57 -0400		2014-09-05 14:19:31 -0400																							
Step 8	Check the Email account where you sent the notification.																												

Step 9 Once the user receives the email, the user can quickly check for more information by looking at the Activity Monitor using the Cancelled Task Instances filter and clicking on the Instance Name of the problem task. As shown in the illustration below, additional information about the issue is displayed in the Status Description field.

The screenshot displays the 'Manual Task Instance Details: Pause for Manual' window. The 'Status' section is expanded, showing the following information:

- Status:** Cancelled
- Status Description:** State was cancelled from ACTION REQUIRED to CANCELLED
- Start Time:** 2014-09-05 14:09:26 -0400
- End Time:** 2014-09-05 14:19:31 -0400
- Duration:** [Empty field]

Other visible fields in the 'General' section include:

- Instance Name:** Pause for Manual
- Task:** Pause for Manual
- Reference ID:** 1
- Invoked By:** Manually Launched
- Task Description:** A Manual task run at 2014-09-05 14:09:26 -0400
- Execution User:** ops.admin
- Time Zone Preference:** - System Default -
- Virtual Resource Priority:** 10
- Hold Resources on Failure:** [Unchecked]

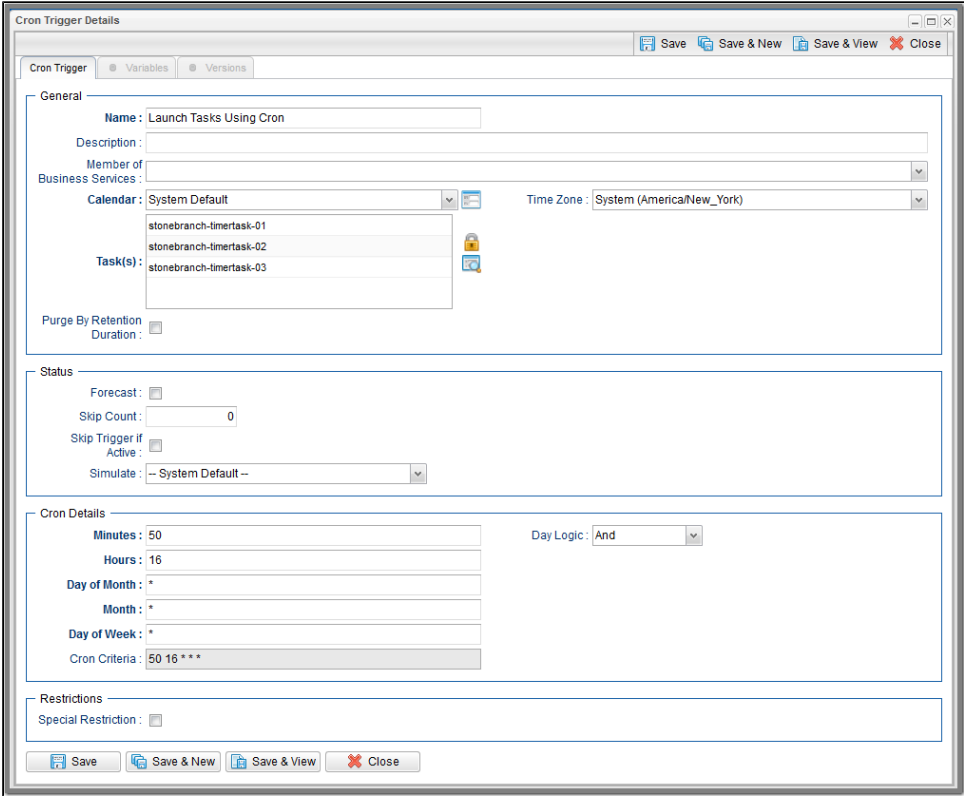
For additional information, see:

- [Email Task](#)
- [Email Connections](#)
- [Email Templates](#)
- [Report Details](#)
- [All Task Instances Table \(ops_exec\)](#)
- [Activity Monitor](#)
- [Task Monitor Task](#)
- [Task Monitor Trigger](#)

- [Command Quick Reference](#)
- [Cancelling a Task Run](#)

Tutorial - Launching Tasks Using a Cron Trigger

Create a Cron Trigger

Step 1	From the Automation Center navigation pane, select Triggers > Cron Triggers . The Cron Triggers list displays.
Step 2	<p>Click the New button to display Cron Trigger Details for a new trigger and enter/select the following values:</p> <ul style="list-style-type: none"> • Name = Launch Tasks Using Cron • Task(s) = stonebranch-timertask-01, stonebranch-timertask-01=2, and stonebranch-timertask-03 Timer tasks • Minutes = Number of minutes past the hour you want the tasks to run. For example, if you want the tasks to run at for 3:16, enter 16. • Hours = Hour (in 24-hour time) that you want the tasks to run. For example, if you want the tasks to run at for 3:16, enter 15. Universal Controller uses the time zone of the Controller server.
Step 3	<p>Keep the asterisks (*) in the remaining fields and click the Save button.</p> 
Step 4	In the Cron Triggers list, right-click Launch Tasks Using Cron and click Enable .
Step 5	Open the Activity Monitor to see that three Timer tasks are run at the selected time.

For additional information, see:

- [Cron Trigger](#)

Tutorial - Aborting a Process Launched by a Task

You can use an Abort Actions to instruct Universal Controller to abort a process under certain conditions. For example, you may want to abort a task if it is running too long.

In this tutorial, we will set a Timer task to run for 60 seconds and specify an Abort Action when the task runs 45 seconds.

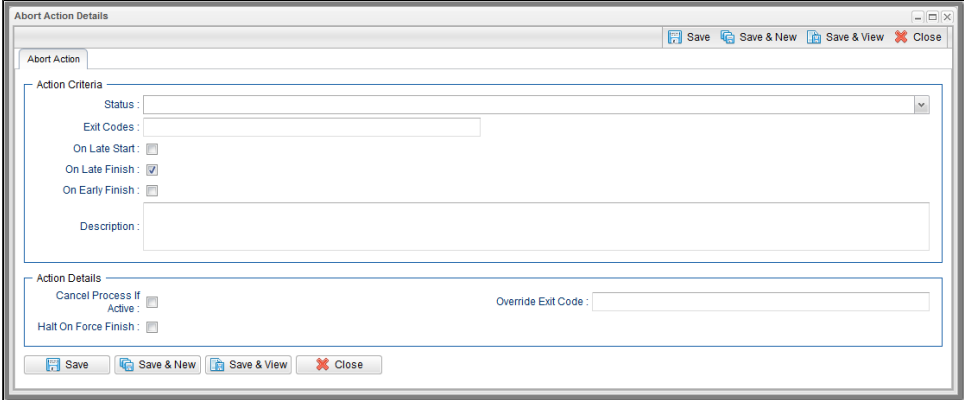
Step 1 Open the Timer1 task created in the [Creating a Simple Workflow](#) tutorial and enter / select the following values:

- **Time in Seconds** = 60
- **Late Finish** = enabled
- **Late Finish Type** = Duration
- **Late Finish Duration** = 00:00:45

The screenshot displays the 'Timer Task Details: Timer 1' configuration window. The window is divided into several sections:

- General:** Task Name: Timer 1, Version: 2, Task Description: (empty), Member of Business Services: Operations, Tech Support, Resolve Name Immediately: (unchecked), Hold on Start: (unchecked), Virtual Resource Priority: 10, Hold Resources on Failure: (unchecked), Time Zone Preference: -- System Default --.
- Timer Details:** Timer Type: Seconds, Timer Duration In Seconds: 60.
- Time Options:** Late Start: (unchecked), Late Finish: (checked), Late Finish Type: Duration, Late Finish Duration: 00:00:45 (Day: 00, Hour: 00, Min: 00, Sec: 45), Early Finish: (unchecked), User Estimated Duration: (empty).
- Critical Path Options:** CP Duration: (empty), CP Duration Unit: Minutes.
- Workflow Execution Options:** Execution Restriction: -- None --.
- Statistics:** First Time Ran: 2017-05-05 15:23:18 -0400, Last Instance Duration: 1 Minute 0 Seconds, Lowest Instance Time: 1 Minute 0 Seconds, Average Instance Time: 1 Minute 0 Seconds, Highest Instance Time: 1 Minute 0 Seconds, Number of Instances: 1.

Step 2 Click the **Actions** tab to display the Actions list.

<p>Step 3</p>	<p>Click Abort Action to display the Abort Action list.</p>
<p>Step 4</p>	<p>Click New to display Abort Action Details for a new Abort action, enable On Late Finish, and click Save.</p> 
<p>Step 5</p>	<p>Click the Timer Task tab and then click the Update button.</p>
<p>Step 6</p>	<p>Right-click Timer1 in the Timers Tasks list and click Launch Task.</p>
<p>Step 7</p>	<p>Navigate to the Activity Monitor and verify that after running for 45 seconds, the task instance status changes from Running to Finished.</p>

Step 8 Open the task instance Details and note the status description indicates:

Finished due to abort action on Timer 1

The screenshot shows a window titled "Timer Task Instance Details: Timer 1" with several sections:

- General:** Instance Name: Timer 1, Reference Id: 1, Task: Timer 1, Invoked By: Manually Launched, Member of Business Services: Operations, Tech Support, Execution User: ops.admin, Calendar: System Default, Time Zone Preference: System Default, Virtual Resource Priority: 10, Hold Resources on Failure:
- Status:** Status: Finished, Status Description: Finished due to abort action on Timer 1. (Last Status=Running, Cancel Process If Active=false, Halt On Force Finish=false), Operational Memo: (empty), Trigger Time: (empty), Launch Time: 2017-10-26 15:43:17 -0400, Start Time: 2017-10-26 15:43:17 -0400, End Time: 2017-10-26 15:44:02 -0400, Duration: 45 Seconds, Run Until Time: 2017-10-26 15:44:17 -0400
- Timer Details:** Timer Type: Seconds, Timer Duration In Seconds: 60
- Time Options:** Late Finish: , Finished Late: , Late Finish Type: Duration, Late Finish Duration: 00:00:45
- Statistics:** User Estimated End Time: (empty), Average Estimated End Time: 2017-10-26 15:43:17 -0400, Shortest Estimated End Time: (empty), Longest Estimated End Time: (empty)

For additional information, see:

- [Setting Up Abort Actions](#)

Tutorial - Force Finishing, Force Finish-Cancelling, and Cancelling a Task

In this exercise, we will force finish, force finish/cancel, and cancel tasks within a workflow from three areas:

- Workflow Monitor
- Activity Monitor
- Task Instances list

You can run any of these three commands from any of these three areas. For stand-alone tasks, you can run these commands only from the Activity Monitor and Task Instances list.

Note

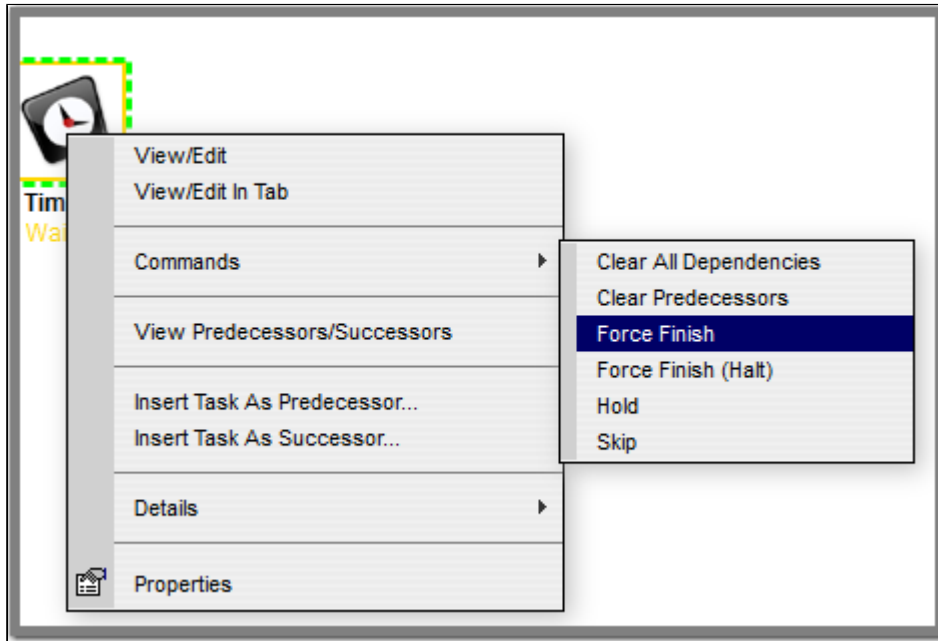


You can force finish, force finish/cancel, and cancel any task in Running status, but you only can force finish a task in Waiting status. See [Manually Running and Controlling Tasks](#) for a complete list of task statuses for each command.

Step 1	From the Automation Center navigation pane, select Tasks > Workflow Tasks . The Workflow Tasks list displays.
Step 2	Create a Workflow with an Agent-based task , such as a File Monitor task, that can be Force Finished, Force Finish / Cancelled, and Cancelled. (See the Creating a Simple Workflow tutorial for help on creating the Workflow.)
Step 3	Click Launch Task to run the Workflow.

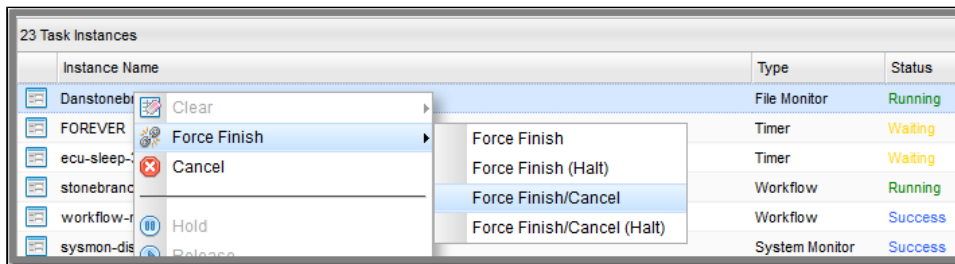
Step 4 Force Finish a task from the Workflow Monitor:

1. From the **Automation Center** navigation pane, select **Task Instances > Task Instances** to display the Activity Monitor which displays, by default, a list of Active Task Instances.
2. Open the running Workflow and click the View Workflow button to display its Workflow Monitor.
3. Right-click a Waiting task and, from the list of Commands on the pop-up menu, click Force Finish. The status of the task changes from Waiting to Finished, and all successor task instances waiting for successful completion of this task instance will start.



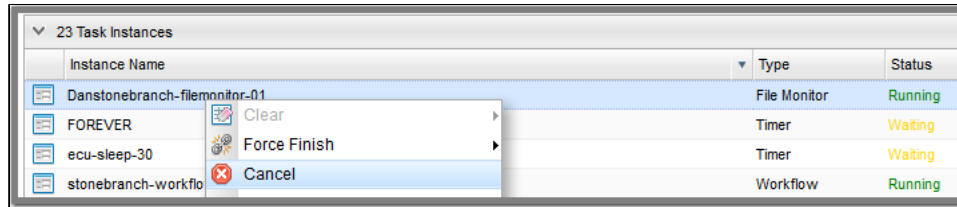
Step 5 Force Finish/Cancel a task from the Activity Monitor:

1. Return to the Activity Monitor.
2. Right-click a Simple Workflow task that is in the Running status and, on the **Action menu**, click Force Finish/Cancel. The status of the task changes from Running to Finished, and all successor task instances waiting for successful completion of this task instance will start.



Step 6 Cancel a task from the Task Instances list:

1. From the **Automation Center** navigation pane, select **Task Instances > Task Instances** to display the Task Instances list.
2. Right-click a Simple Workflow task in the Running status and, on the **Action menu**, click **Cancel**. The status of the task changes from Running to Cancelled, and all successor task instances waiting for successful completion of this task will remain in the Waiting status. The status of Simple Workflow changes from Running to Running/Problems.



For additional information, see:

- [Force Finishing a Task](#)
- [Cancelling a Task](#)
- [Force Finish / Cancelling a Task](#)
- [Monitoring Activity from the Activity Monitor](#)
- [Monitoring Activity from the Task Instances List](#)
- [Monitoring Workflows](#)

Tutorial - Accessing Task Instance Details

Step 1 From the [Automation Center](#) navigation pane, select **Task Instances > Activity** to display the [Activity Monitor](#).

Step 2 Click the **Instance Name** of any task instance to display its Task Instance Details. For example:

Timer Task Instance Details: Timer 1

Update Re-run Delete Refresh Close

Timer Task Instance Virtual Resources Exclusive Requests Notes

General

Instance Name: Timer 1 Reference Id: 1

Task: Timer 1 Invoked By: Manually Launched

Task Description:

Member of Business Services: Operations, Tech Support Execution User: ops.admin

Calendar: System Default Time Zone Preference: System Default

Virtual Resource Priority: 10 Hold Resources on Failure:

Status

Status: Finished

Status Description: Finished due to abort action on Timer 1. (Last Status=Running, Cancel Process If Active=false, Halt On Force Finish=false)

Operational Memo:

Trigger Time: Launch Time: 2017-10-26 15:43:17 -0400

Start Time: 2017-10-26 15:43:17 -0400 End Time: 2017-10-26 15:44:02 -0400

Duration: 45 Seconds

Run Until Time: 2017-10-26 15:44:17 -0400

Timer Details

Timer Type: Seconds

Timer Duration in Seconds: 60

Time Options

Late Finish: Late Finish Type: Duration

Finished Late: Late Finish Duration: 00:00:45

Statistics

User Estimated End Time: Average Estimated End Time: 2017-10-26 15:43:17 -0400

Shortest Estimated End Time: Longest Estimated End Time:

Update Re-run Delete Refresh Close

Task Instance Details contain many fields not displayed in the Task Details for this task that provide information about this run (instance) of the task and all runs of the task, including the first time it was run; the last time it was run; the number of times it has run; and the least, average, and most amount of time it has ever taken to run. |

Step 3 To view all details stored in the [All Task Instances table](#) (`ops_exec`) for this task instance, right-click anywhere in the Task Instance Details to display an [Action menu](#) and then click **Details > Show Details**.

Dashboards		Activity		Timer Tasks		Timer 1	
Agent:							
Agent Acquired:							
Agent Acquired Name:							
Agent Cluster Acquired:							
Agent Cluster Acquired Name:							
Agent Name:							
All Dependencies Cleared:	false						
Attempt:	1						
Average Estimated End Time:	2017-05-05 15:32:03 -0400						
Calendar:	77171434c0a801c9016d5b2b5d17ddee						
Calendar Name:	System Default						
Can Delete:	true						
Can Update:	true						
Class:	ops_exec_sleep						
CP Duration:							
CP Duration (Resolved):							
CP Duration Unit:	Minutes						
CPU Time:	0						
Created:	2017-05-05 15:31:02 -0400						
Created By:	ops.admin						
Credentials:							
Credentials Name:							
Credentials Unresolved:							
Credentials Variable:	false						
Critical:	false						
Current Retry Count:	0						
Delay Duration:	00:00:00:00						
Delay Duration In Seconds:							
Delay On Start:	-- None --						
Duration:	45 Seconds						
Duration In Seconds:	45						
Early Finish:	false						
Early Finish Duration:	00:00:00:00						
Early Finish Time:	00:00						
Early Finish Type:	Time						
End Time:	2017-05-05 15:31:48 -0400						
Exclude Backup:	false						
Exclusive State:	Initial						
Execution User:	ops.admin						

Exit Code:	0
Finished Early:	false
Finished Late:	true
Forced Finished:	true
Hold on Start:	false
Hold Reason:	
Hold Resources on Failure:	false
Instance Name:	Timer 1
Invoked By:	Manually Launched
IO Other:	0
IO Reads:	0
IO Writes:	0
Is Version:	false
Late Finish:	true
Late Finish Duration:	00:00:00:45
Late Finish Time:	00:00
Late Finish Type:	Duration
Late Start:	false
Late Start Duration:	00:00:00:00
Late Start Time:	00:00
Late Start Type:	Time
Launch Time:	2017-05-05 15:31:02 -0400
Longest Estimated End Time:	2017-05-05 15:32:03 -0400
Maximum Retries:	0
Member of Business Services:	Operations, Tech Support
Member of Business Services:	3fa01c7d335a44f0a93c85955c833aac,209686ac5a4f4eaebe488e9a3749ceb7
Memory Peak:	0
Memory Used:	0
Next Retry Time:	
Operational Memo:	
Predecessors Satisfied Time:	
Progress:	
Projected End Time:	
Queued Time:	
Reference Id:	2
Resources Consumed:	false
Resources State:	Initial
Retention Time:	
Retry Indefinitely:	false
Retry Interval (Seconds):	60
Run Called:	true
Run Criteria Run Time:	false

Run Criteria Trigger Time:	false
Run Criteria Trigger Time:	false
Run Until Time:	2017-05-05 15:32:03 -0400
Security Name:	Timer 1
Shortest Estimated End Time:	2017-05-05 15:32:03 -0400
Start Time:	2017-05-05 15:31:03 -0400
Started Late:	false
State Changed Time:	2017-05-05 15:31:48 -0400
Status:	Finished
Status Description:	Finished due to abort action on Timer 1. {Last Status=Running, Cancel Process If Active=false}
Status History:	2017-05-05 15:31:02 -0400: Defined 2017-05-05 15:31:03 -0400: Running 2017-05-05 15:31:48 -0400: Finished
Suppress Intermediate Failures:	false
Tab Names Containing Data:	
Table Name:	ops_exec_sleep
Task:	6fb0f68152a748f6ab7346647c5f53e5
Task Description:	
Task Name:	Timer 1
Task Priority:	MEDIUM
Time Wait State:	Initial
Timer Day Constraint:	-- None --
Timer Duration:	00:00:00:00
Timer Duration In Seconds:	60
Timer Time (HH:MM):	00:00
Timer Type:	Seconds
Trigger:	
Trigger Name:	
Trigger Time:	
Type:	Timer
Universal Template:	
Universal Template Name:	
Updated:	2017-05-05 15:31:48 -0400
Updated By:	ops.system
User Defined Field 1:	
User Defined Field 2:	
User Estimated End Time:	
UUID:	14937490962627849468SYUYMI970CZ
Vertex Id:	
Virtual Resource Priority:	10
Wait Day Constraint:	-- None --
Wait Duration:	00:00:00:00

Wait Duration In Seconds:	
Wait Time (HH:MM):	00:00
Wait To Start:	-- None --
Wait Until Time:	
Waited for Exclusive:	false
Waited for Resources:	false
Workflow:	
Workflow Definition:	
Workflow Definition Name:	
Workflow Name:	
Workflow Only:	Yes
Workflow Start Time:	

Print

- Left column shows each field in the All Task Instances table for this task instance.
- Right column shows the current value for each field for this task instance.

Tutorial - Monitoring Task Activity

- [Starting and Stopping the Activity Monitor](#)
- [Apply Time Constraints and Filters to the Activity Monitor](#)
- [Apply Display Settings to the Activity Monitor](#)

In this tutorial, we will monitor task activity from the [Activity Monitor](#).

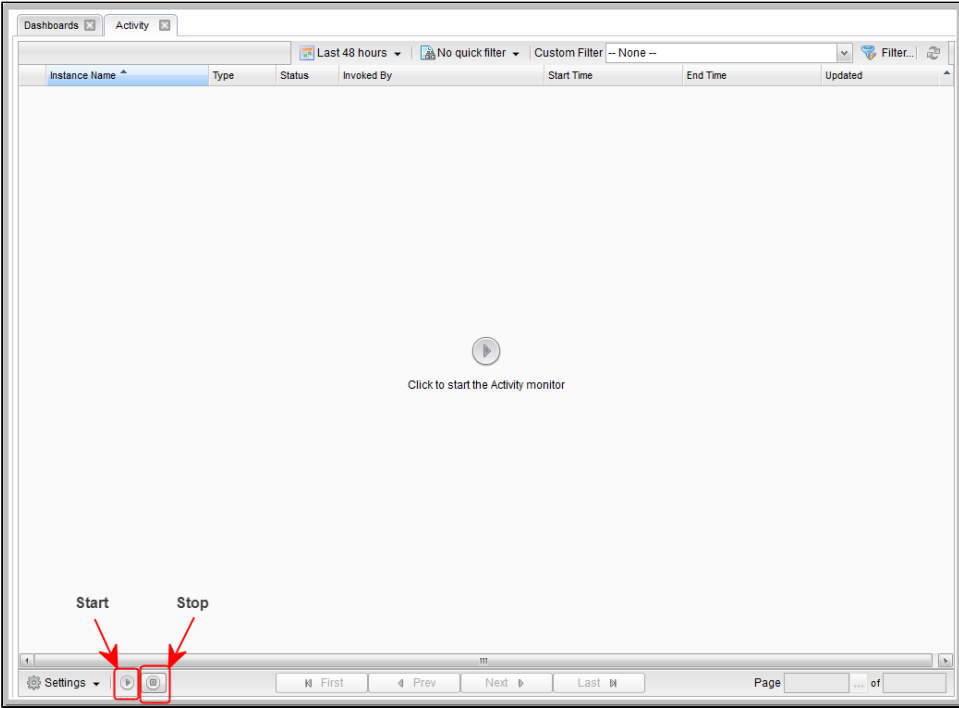
We will start and stop the Activity Monitor, apply time constraints and filters to the task instances displayed on the Activity Monitor, and apply display settings to the Activity Monitor.

Starting and Stopping the Activity Monitor

By default, the Activity Monitor does not automatically monitor Universal Controller activity when you log in. You must start the Activity Monitor to see task activity.

(You can allow the Activity Monitor to automatically monitor Controller activity when you log in by changing the [Activity Monitor Automatically](#) user preference.)

Step 1 From the [Automation Center](#) navigation pane, select **Task Instances > Activity**. The Activity Monitor displays.



The screenshot displays the Activity Monitor interface. At the top, there are tabs for 'Dashboards' and 'Activity'. Below the tabs, there are filters for 'Last 48 hours', 'No quick filter', and 'Custom Filter -- None --'. A table header is visible with columns: Instance Name, Type, Status, Invoked By, Start Time, End Time, and Updated. The main area contains a play button and the text 'Click to start the Activity monitor'. At the bottom, there is a toolbar with 'Settings', 'Start', and 'Stop' buttons. Red arrows point to the 'Start' and 'Stop' buttons.

Step 2 To start the Activity Monitor, either:

1. Click the **Click to start the Activity monitor** button in the middle of the Activity Monitor.
2. Click the **Start Activity monitor** button at the bottom of the Activity Monitor.

The Activity Monitor then displays a list of all current activity.

The screenshot shows the Activity Monitor interface with a table of task instances. The table has columns for Instance Name, Type, Status, Invoked By, Start Time, End Time, and Updated. The status of tasks varies, including Success, Skipped, and Failed.

Instance Name	Type	Status	Invoked By	Start Time	End Time	Updated
lecu-wkfl-sleep	Workflow	Success	Manually Launched	2014-09-02 12:57:55 -0400	2014-09-02 12:58:36 -0400	2014-09-02 12:58:36 -0400
sleep 10	Timer	Success	Workflow: lecu-wkfl-sleep	2014-09-02 12:58:26 -0400	2014-09-02 12:58:36 -0400	2014-09-02 12:58:36 -0400
Sleep 30	Timer	Success	Workflow: lecu-wkfl-sleep	2014-09-02 12:57:56 -0400	2014-09-02 12:58:26 -0400	2014-09-02 12:58:26 -0400
Sleep 0	Timer	Success	Workflow: lecu-wkfl-sleep	2014-09-02 12:57:56 -0400	2014-09-02 12:57:56 -0400	2014-09-02 12:57:56 -0400
Sleep 60	Timer	Skipped	Workflow: lecu-wkfl-sleep		2014-09-02 12:57:55 -0400	2014-09-02 12:57:55 -0400
Sleep 60	Timer	Skipped	Workflow: lecu-wkfl-sleep		2014-09-02 12:57:55 -0400	2014-09-02 12:57:55 -0400
Sleep 60	Timer	Skipped	Workflow: lecu-wkfl-sleep		2014-09-02 12:57:55 -0400	2014-09-02 12:57:55 -0400
Sleep 30	Timer	Skipped	Workflow: lecu-wkfl-sleep		2014-09-02 12:57:55 -0400	2014-09-02 12:57:55 -0400
Sleep 30	Timer	Skipped	Workflow: lecu-wkfl-sleep		2014-09-02 12:57:55 -0400	2014-09-02 12:57:55 -0400
win-exit-code	Windows	Failed	Manually Launched	2014-09-02 12:44:03 -0400	2014-09-02 12:44:03 -0400	2014-09-02 12:44:03 -0400
zos-workflow-regression-test	Workflow	Success	Manually Launched	2014-09-02 11:52:47 -0400	2014-09-02 12:10:30 -0400	2014-09-02 12:10:30 -0400
zos-workflow-simple-load-test-01	Workflow	Success	Workflow: zos-workflow-regression-test	2014-09-02 11:56:39 -0400	2014-09-02 12:10:30 -0400	2014-09-02 12:10:30 -0400
zos-task-load-simple-01	z/OS	Success	Workflow: zos-workflow-simple-load-test-01	2014-09-02 12:10:29 -0400	2014-09-02 12:10:29 -0400	2014-09-02 12:10:30 -0400
zos-task-load-simple-01	z/OS	Success	Workflow: zos-workflow-simple-load-test-01	2014-09-02 12:10:25 -0400	2014-09-02 12:10:26 -0400	2014-09-02 12:10:27 -0400
zos-task-load-simple-01	z/OS	Success	Workflow: zos-workflow-simple-load-test-01	2014-09-02 12:10:23 -0400	2014-09-02 12:10:23 -0400	2014-09-02 12:10:24 -0400
zos-task-load-simple-01	z/OS	Success	Workflow: zos-workflow-simple-load-test-01	2014-09-02 12:10:20 -0400	2014-09-02 12:10:20 -0400	2014-09-02 12:10:21 -0400
zos-workflow-simple-load-test-02	Workflow	Success	Workflow: zos-workflow-regression-test	2014-09-02 11:56:39 -0400	2014-09-02 12:10:19 -0400	2014-09-02 12:10:19 -0400
zos-task-load-simple-02	z/OS	Success	Workflow: zos-workflow-simple-load-test-02	2014-09-02 12:10:17 -0400	2014-09-02 12:10:17 -0400	2014-09-02 12:10:19 -0400
zos-task-load-simple-01	z/OS	Success	Workflow: zos-workflow-simple-load-test-01	2014-09-02 12:10:15 -0400	2014-09-02 12:10:15 -0400	2014-09-02 12:10:19 -0400
zos-task-load-simple-02	z/OS	Success	Workflow: zos-workflow-simple-load-test-02	2014-09-02 12:10:12 -0400	2014-09-02 12:10:12 -0400	2014-09-02 12:10:15 -0400
zos-task-load-simple-01	z/OS	Success	Workflow: zos-workflow-simple-load-test-01	2014-09-02 12:10:11 -0400	2014-09-02 12:10:11 -0400	2014-09-02 12:10:14 -0400
zos-workflow-simple-load-test-03	Workflow	Success	Workflow: zos-workflow-regression-test	2014-09-02 11:56:39 -0400	2014-09-02 12:10:13 -0400	2014-09-02 12:10:13 -0400
zos-task-load-simple-03	z/OS	Success	Workflow: zos-workflow-simple-load-test-03	2014-09-02 12:10:09 -0400	2014-09-02 12:10:09 -0400	2014-09-02 12:10:13 -0400
zos-task-load-simple-02	z/OS	Success	Workflow: zos-workflow-simple-load-test-02	2014-09-02 12:10:07 -0400	2014-09-02 12:10:08 -0400	2014-09-02 12:10:11 -0400
zos-task-load-simple-01	z/OS	Success	Workflow: zos-workflow-simple-load-test-01	2014-09-02 12:10:06 -0400	2014-09-02 12:10:06 -0400	2014-09-02 12:10:10 -0400

Step 3 To stop the Activity Monitor, click the **Stop Activity monitor** button at the bottom of the Activity Monitor.

Apply Time Constraints and Filters to the Activity Monitor

(You can select apply any time constraint for any combination of multiple filters for the list of task instances on the the Activity Monitor.)

Step 1	Select a time frame of task activity to display on the Activity Monitor by clicking the Time Constraint button and selecting a time fame from the menu. The default is Last 48 hours , which means that the Activity Monitor will display only task activity that occurred in the last 48 hours.
Step 2	Click the Quick Filter button to display a menu of simple, pre-defined filters that you can apply to the list, such as a specific task type of specific task instance status. You can apply as many Quick Filters as you like to the list.
Step 3	Click the Clear button at the bottom of the Quick Filter menu to remove all Quick Filters from the list.
Step 4	Click the Filter button to select a Custom Filter of complex, user-defined filter that you can apply to the list, such as only task instances that belong to a specific Business Service .

Apply Display Settings to the Activity Monitor

Step 1	Click the Settings button at the bottom of the Activity Monitor to select: <ul style="list-style-type: none">• Number of task instances to display on each page of the Activity Monitor.• Refresh rate for the dynamic data displayed on the Activity Monitor.
Step 2	Click the First , Prev , Next , and Last buttons at the bottom of the Activity Monitor to navigate through multiple pages of activity.
Step 3	Click the ellipse (...) button at the bottom of the Activity Monitor to select a specific page of activity to display.

Tutorial - Creating a Simple Workflow

- [Introduction](#)
- [Create and Copy Tasks](#)
- [Creating a Simple Workflow](#)
- [Running the Workflow](#)

Introduction

In this tutorial, we will learn how to copy tasks, create a simple Workflow of Timer tasks, and use the tools available in the Workflow Editor.

Create and Copy Tasks

Create a [Timer task](#) and make five copies for use in the Workflow. Use the names Timer1 through Timer6, and assign each task a time of 10 seconds.

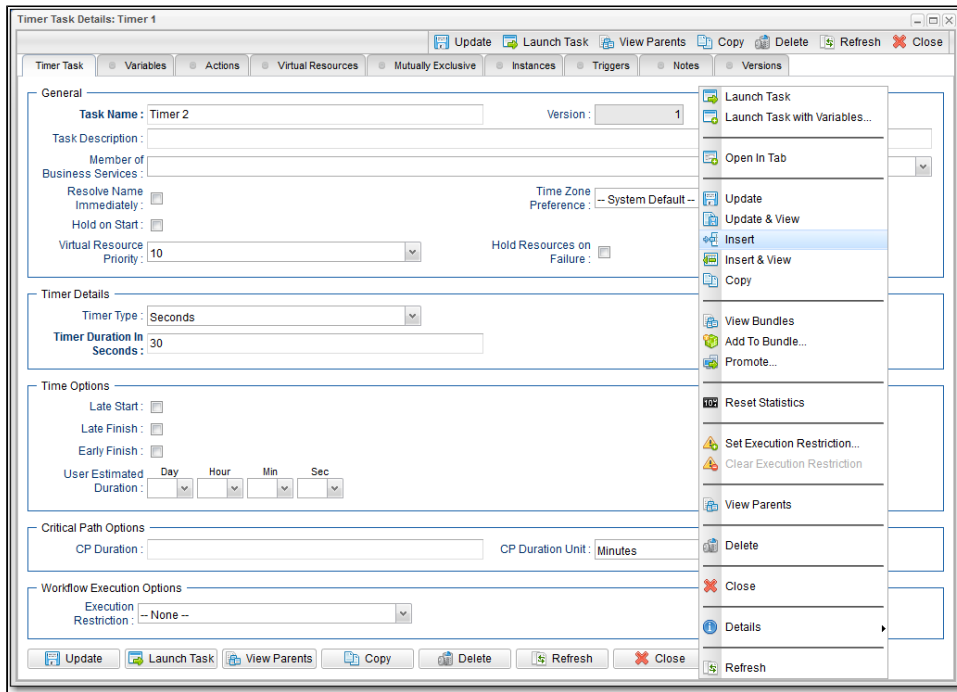
Note



You can [copy tasks](#) using different methods. One method is provided below.

Step 1	From the Automation Center navigation pane, select Tasks > Timer Tasks . The Timer Tasks list displays.
Step 2	In the Timer Task Details below the list, create Timer1 and click Save .

Step 3 Change the **Task Name** from Timer1 to Timer2, right-click the Details to display an **Action menu**, and click **Insert** to make a copy of the Timer1 task named Timer2.



Step 4 Repeat Step 3 for Timer3 through Timer6.

Creating a Simple Workflow

Now that we have six Timer tasks, we are ready to create a simple workflow.

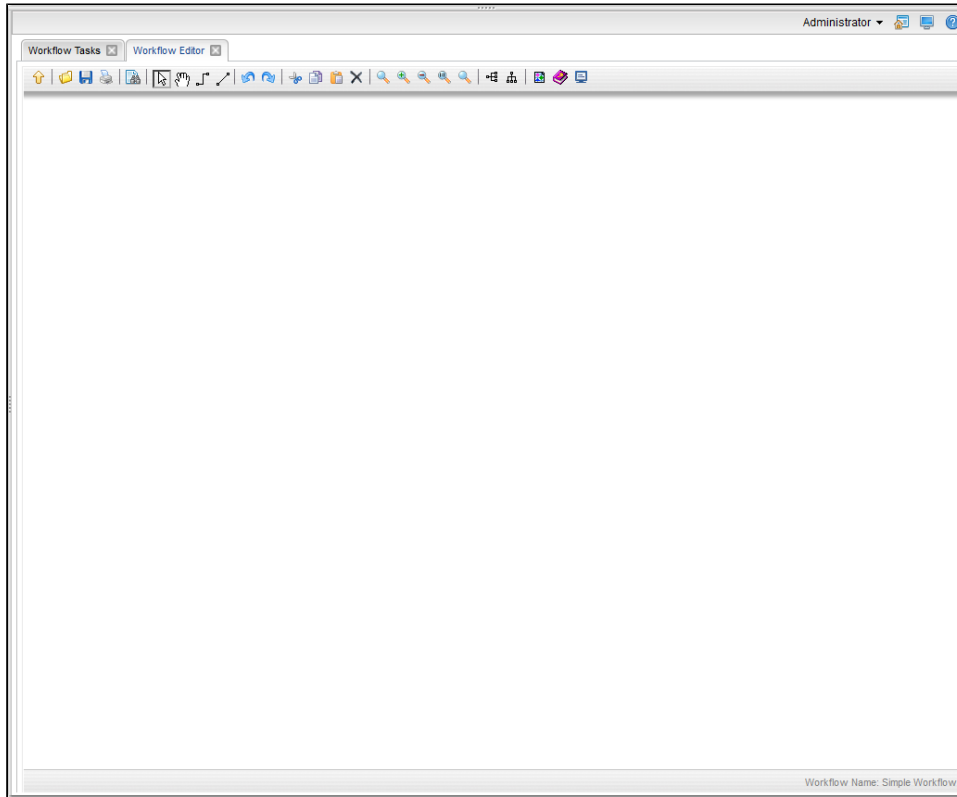
(See [Creating and Maintaining Workflows](#) for detailed information on the tools and icons used in this procedure.)

Step 1 From the **Automation Center** navigation pane, select **Tasks > Workflow Tasks**. The Workflow Tasks List displays.

Step 2 In the Workflow Task Details below the list, enter **Simple Workflow** in the **Task Name** field and then click the **Save** button.

Step 3

Right-click **Simple Workflow** in the Workflow Tasks list and click **Edit Workflow** in the Actions menu to display the Workflow Editor.



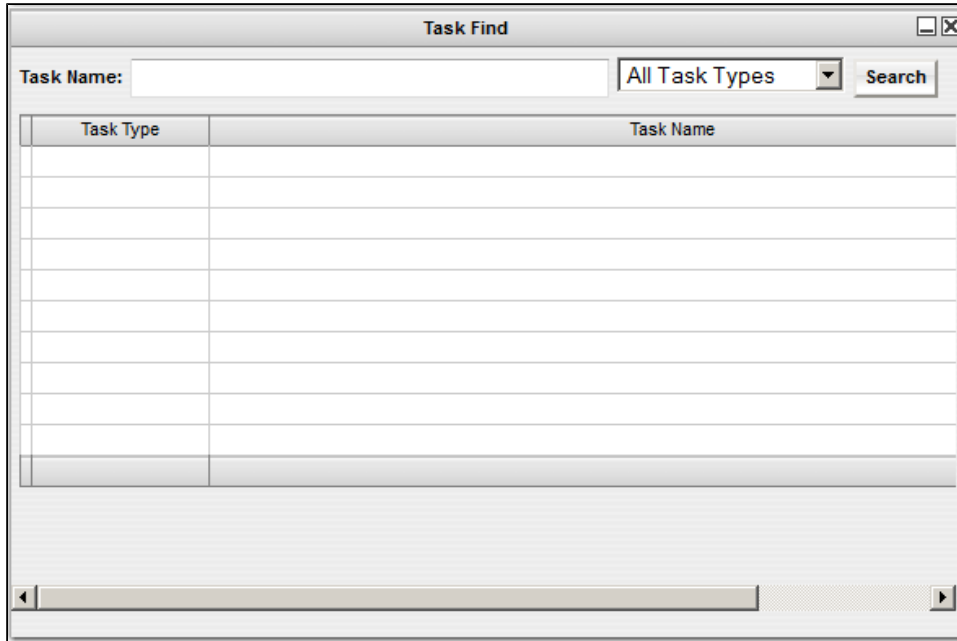
By default, the Workflow Editor displays in **Select mode**, which lets you select tasks for the Workflow.

(See [Workflow Editor Icons](#) for a description of each icon on the toolbar.)

Step 4



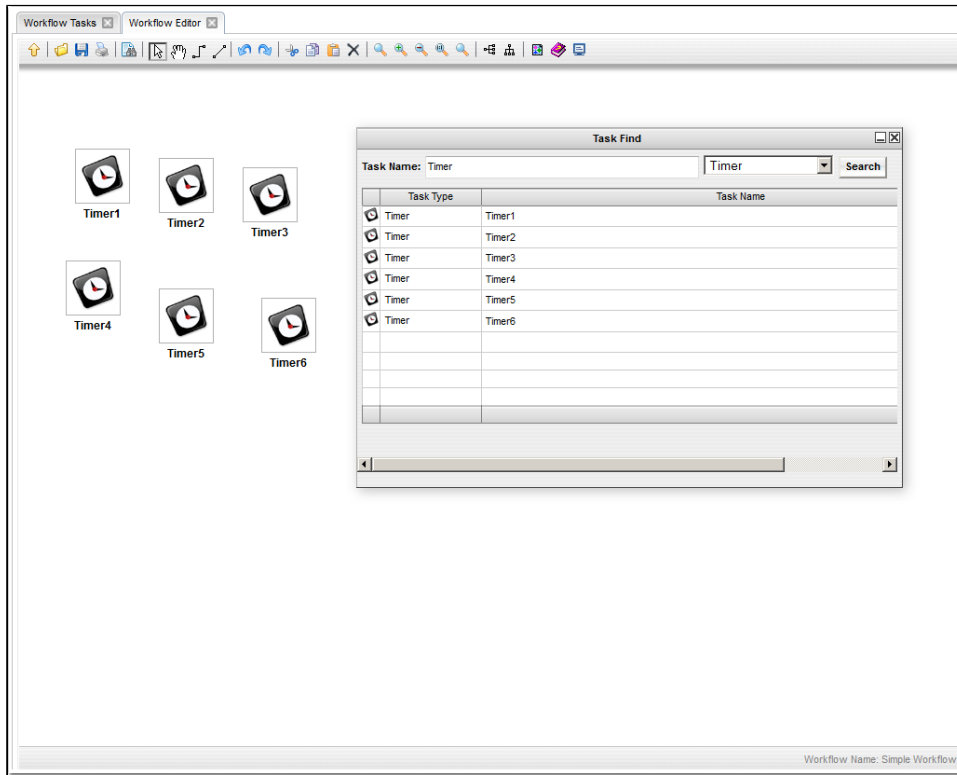
Click the **Add Task** icon. The **Task Find** pop-up dialog displays.

A screenshot of the 'Task Find' dialog box. It has a title bar with 'Task Find' and window control buttons. Below the title bar is a 'Task Name:' text input field, a dropdown menu currently set to 'All Task Types', and a 'Search' button. Below these is a table with two columns: 'Task Type' and 'Task Name'. The table is currently empty. At the bottom of the dialog is a horizontal scrollbar.

Step 5

Select **Timer** in the drop-down list and click the **Search** button. A list of all Timer tasks displays.

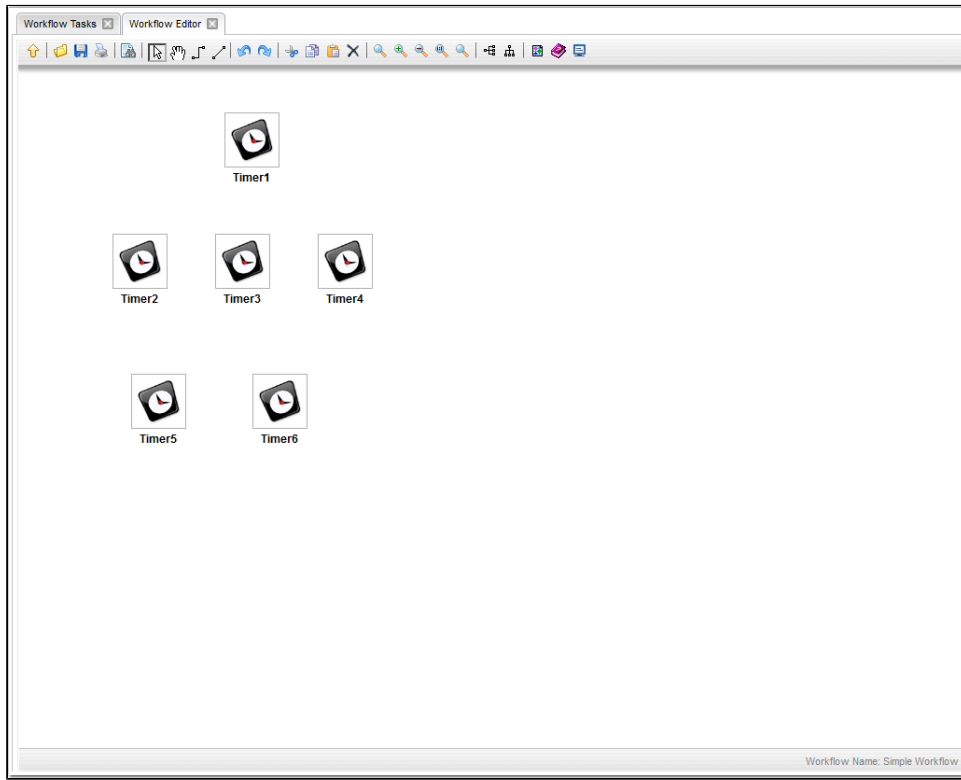
Step 6 Drag and drop the icon for Timer1 onto the Workflow Editor canvas, and repeat for Timer2 through Timer6.



Step 7 Close the **Task Find** pop-up dialog.

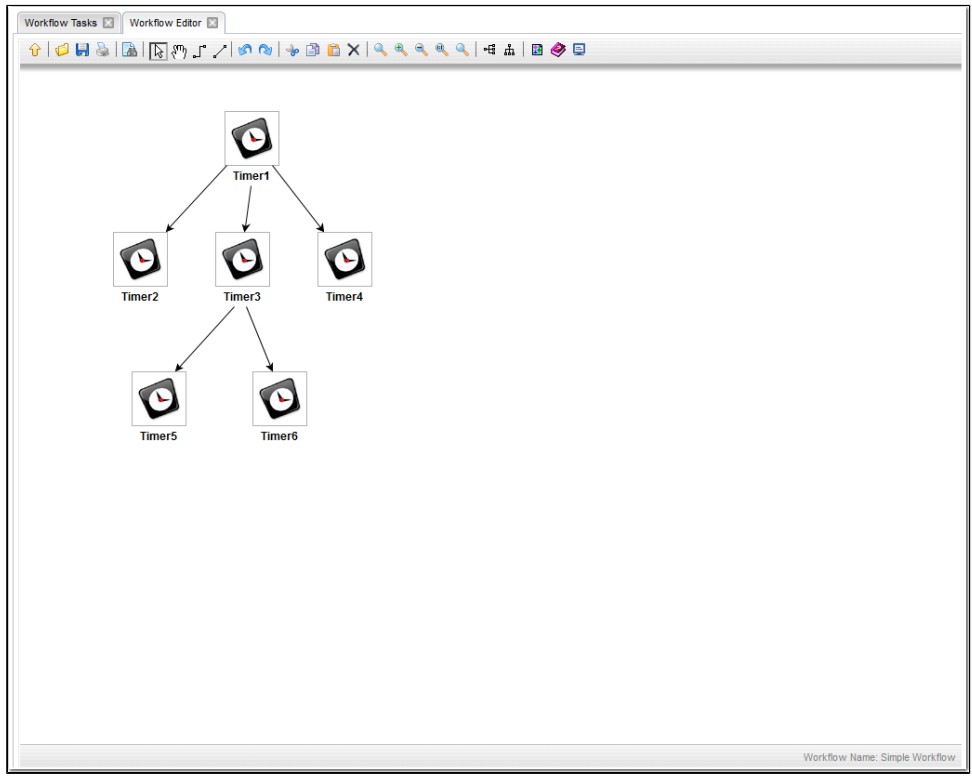
Step 8

Click and drag the tasks so that Timer1 is at the top of the canvas; Timer2, Timer3, and Timer4 are below Timer1; and Timer 5 and Timer6 are below Timer2, Timer3, and Timer4.



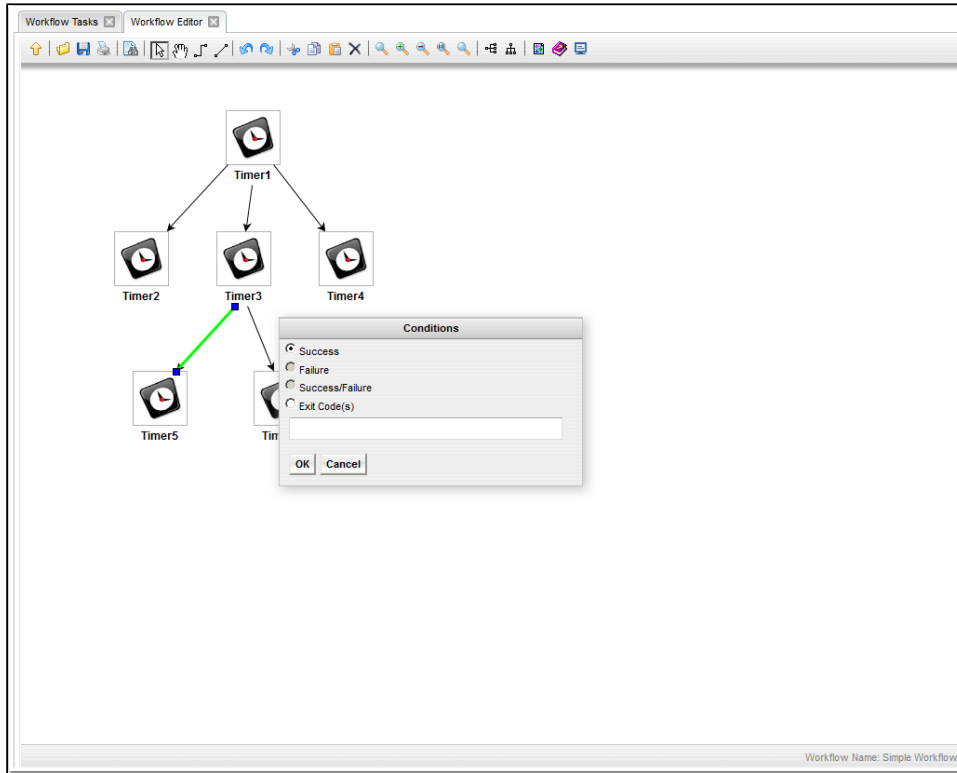
Step 9

Click a [Connect Icon](#) to connect the tasks so that Timer1 is the top-level predecessor task; Timer2, Timer3, and Timer4 are successor tasks to Timer1; and Timer5 and Timer6 are successor tasks to Timer3.



Step 10


The default condition (or dependency) for connectors is Success. That is, a successor task runs if its predecessor task goes to Success. To view the conditions for a successor task, right-click the connector between it and its predecessor task, and then click **Conditions**. The Conditions pop-up displays.



Note

Since a Timer task cannot go to Failure, the Failure and Success/Failure conditions are grayed out.

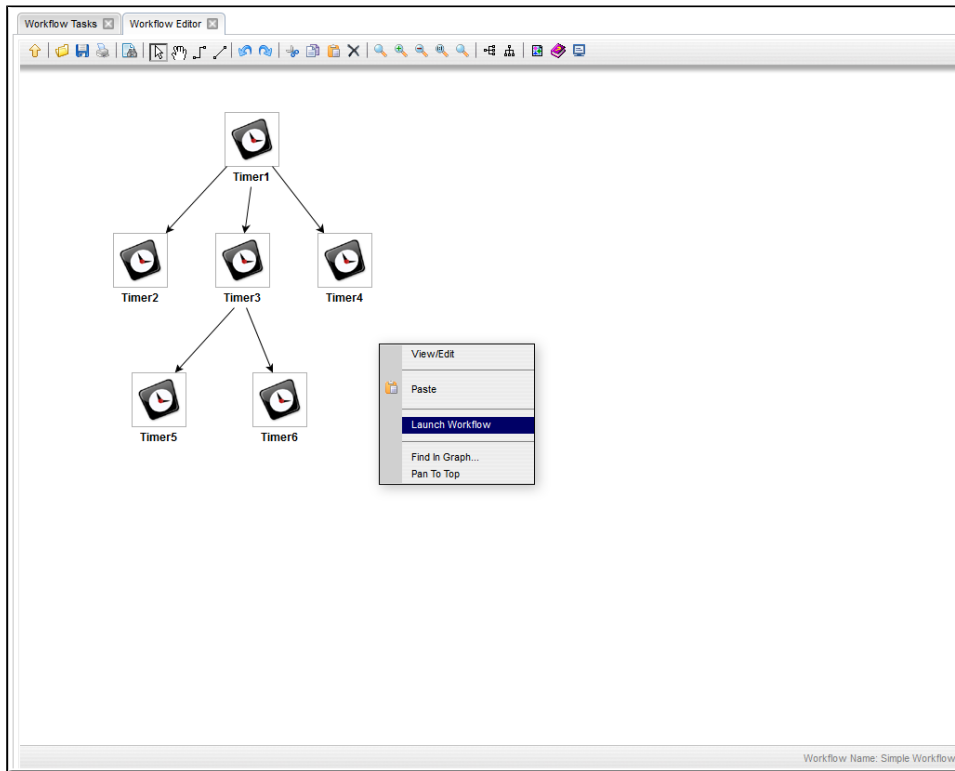
Step 11

Click the **Cancel** button on the Conditions pop-up, and then click the Save  icon in the Workflow Editor task bar to save the Workflow.

Running the Workflow

Now we will manually launch the Workflow and view it from the Activity Monitor.

Step 1 Right-click anywhere in the Workflow Editor canvas and, on the pop-up menu that displays, click **Launch Workflow**.



Step 2 From the **Automation Center** navigation pane, select **Task Instances > Activity**. You will see six task instances: the Simple Workflow task, and the six Timer tasks.

The screenshot shows the Activity view in the Automation Center. The navigation pane at the top includes 'Home', 'Workflow Tasks', 'Workflow Editor', and 'Activity'. The main area displays a table of task instances with the following columns: Instance Name, Type, Status, Invoked By, Start Time, and End Time. The table shows six instances, all with a status of 'Success'.

Instance Name	Type	Status	Invoked By	Start Time	End Time
Timer6	Timer	Success	Workflow: Simple Workflow	2014-07-28 11:38:54 -0400	2014-07-28 11:38:54 -0400
Timer5	Timer	Success	Workflow: Simple Workflow	2014-07-28 11:38:54 -0400	2014-07-28 11:38:54 -0400
Simple Workflow	Workflow	Success	Manually Launched	2014-07-28 11:38:34 -0400	2014-07-28 11:38:34 -0400
Timer2	Timer	Success	Workflow: Simple Workflow	2014-07-28 11:38:44 -0400	2014-07-28 11:38:44 -0400
Timer3	Timer	Success	Workflow: Simple Workflow	2014-07-28 11:38:44 -0400	2014-07-28 11:38:44 -0400
Timer4	Timer	Success	Workflow: Simple Workflow	2014-07-28 11:38:44 -0400	2014-07-28 11:38:44 -0400
Timer1	Timer	Success	Workflow: Simple Workflow	2014-07-28 11:38:34 -0400	2014-07-28 11:38:34 -0400

For additional information, see:

- [Saving, Updating, Deleting, and Copying Records](#)

- [Creating Workflows](#)

Tutorial - Running a Workflow with a Conditional Path

- [Introduction](#)
 - [Prerequisite](#)
- [Create a Timer Task](#)
- [Create SQL Tasks](#)
- [Create a Manual Task](#)
- [Create a Workflow](#)
- [Run the Workflow to Success](#)
- [Run the Workflow Down the Conditional Path](#)

Introduction

In this exercise, we will create a short workflow of SQL tasks. We will begin with a two-minute Timer task so that we will have enough time to see what the Workflow looks like on the Activity Monitor when we launch it. We will also create a conditional path, as follows:

- The Workflow runs seven days a week and creates a new database table. If that is successful, additional SQL tasks run that insert a value, select a count, and delete a value. Each subsequent task runs if the previous is successful.
- If the first (table creation) task fails, the Workflow goes to a Manual task instead of the regular flow. This is the conditional path. The Manual task creates a pause in the Workflow and sends an Email Notification. A user is expected to check the database and fix the problem that caused the first task to fail. If the Manual task is set to a Complete status, it goes to Success and the Workflow then returns to the remaining SQL tasks. While the Manual task remains in the Action Required status, the successor tasks have a Waiting status.

We will also add an Email Notification and a Note to this Workflow.

Prerequisite

Since we are using SQL tasks in this exercise, you will first need to create a [SQL Database Connection](#).

Create a Timer Task

We will add a Timer task at the beginning of our Workflow so that we will have a chance to view it when Universal Controller loads it into the Activity Monitor.

Step 1	From the Automation Center navigation pane, select Tasks > Timer Tasks . The Timer Tasks list displays.
---------------	---

Step 2 Click **New** to display an empty Timer Task Details and enter / select the following values:

- **Task Name** = Two Minute Timer
- **Timer Type** = Secocnds
- **Time Duration in Seconds** = 120

Step 3 Click the **Save** button.

Create SQL Tasks

In this exercise, we will create SQL tasks that execute the following SQL commands:

- Create a new table in the database.
- Insert a value into the table.
- Select a count value from the table.
- Delete the value from the table.

Perform the following steps to create the SQL tasks:

Step 1 From the **Automation Center** navigation pane, select **Tasks > SQL Tasks**. The SQL Tasks list displays.

Step 2 Click **New** to display an empty SQL Task Details and enter / select the following values:

- **Task Name** = SQL Create Table
- **Database Connection** = (the database connection you created as a [prerequisite|#Prerequisite])
- **SQL Command** = CREATE TABLE opswise_tut\${_date{"yyyyMMdd",5}} (name varchar(128), value varchar(128));

Step 3 Click the **Save** button.

Step 4	Create a SQL task called SQL Insert Value with this value: <ul style="list-style-type: none"> • SQL Command = INSERT INTO opswise_tut\${_date("yyyyMMdd",5)} (name, value) values ('A', 'F'), ('B', 'S'), ('C', 'F');
Step 5	Create a SQL task called SQL Select Count with this value: <ul style="list-style-type: none"> • SQL Command = SELECT count (*) as count FROM opswise_tut\${_date("yyyyMMdd",5)} WHERE value = 'F';
Step 6	Create a SQL task called SQL Delete with this value: <ul style="list-style-type: none"> • SQL Command = DELETE FROM opswise_tut\${_date("yyyyMMdd",5)};

Create a Manual Task

A Manual task is used within a Workflow to create a pause in processing, during which the user must perform some task. When the user task is complete, the user sets the Manual task to a completed state and processing continues.

For our Manual task, we are also going to request a warning if the user takes too long to complete it.

Step 1	From the Automation Center navigation pane, select Tasks > Manual Tasks and click New .
---------------	---

Step 2 In the Manual Task Details, enter / select the following values:

- **Task Name** = Pause for Manual
- **Task Description** = A Manual task run at

`${_date() }`

(a variable that indicates the date and time the Manual task launches)

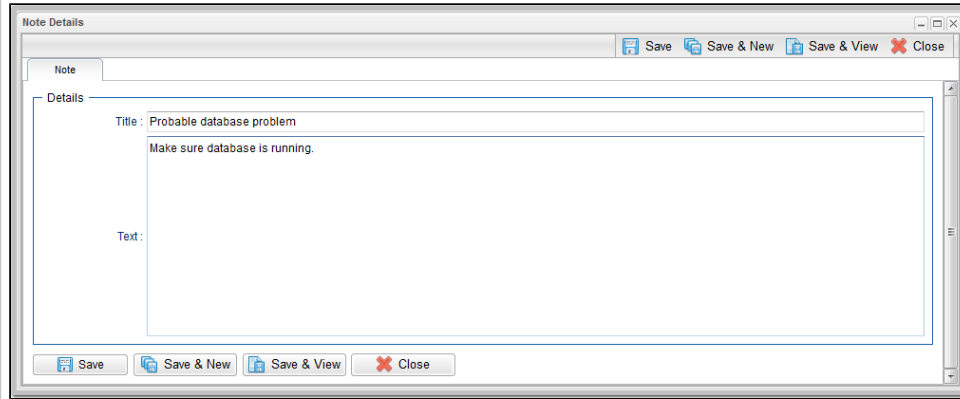
- **Late Finish** = enabled
- **Late Finish Type** = Duration
- **Late Finish Duration** = Hours 00 02 00 (2 minutes)

Step 3 Click the **Save** button.

Step 4

Add a Note:

1. Click the **Notes** tab and then click **New** to display Note Details.
2. Enter the following values:
 - **Title** = Probable database problem
 - **Text** = Make sure database is running.
3. Click **Save**.



Step 5 Add an Email Notification:

1. Click the **Actions** tab.
2. Click **Email Notification** in the list of Action types.
3. Click the **New** button to display Email Notification Details for a new Email Notification.
4. Enter / select the following values:
 - **Status** = ACTION REQUIRED
 - **Email Connection** = (the Email Connection you created earlier)
 - **To** = (your Email address)
 - **Subject** = Issue with Workflow
 - **Body** = `$_date) workflow failure; notification triggered by $_(ops_task_name) |`

The screenshot shows a window titled "Email Notification Details" with a toolbar at the top containing "Save", "Save & New", "Save & View", and "Close" buttons. The window is divided into two main sections: "Action Criteria" and "Action Details".

Action Criteria:

- Status: Action Required (dropdown menu)
- Exit Codes: (empty text field)
- On Late Start:
- On Late Finish:
- On Early Finish:
- Description: (empty text area)

Action Details:

- Email Template: (empty dropdown menu)
- Email Connection: QA-MAILER (dropdown menu)
- Email Template Variable:
- Reply-To: (empty text field)
- To: support@stonebranch.com (text field)
- Cc: (empty text field)
- Bcc: (empty text field)
- Subject: Issue with Workflow (text field)
- Body: `$_date) workflow failure; notification triggered by $_(ops_task_name) |` (text area)
- Report: (empty dropdown menu)
- Report Variable:

At the bottom of the window, there is another toolbar with "Save", "Save & New", "Save & View", and "Close" buttons.

Step 6 Click the **Save** button.

Create a Workflow

Create a Workflow containing the Timer, SQL, and Manual tasks that you just created.

Step 1	From the Automation Center navigation pane, select Tasks > Workflow Tasks and click New .
Step 2	In the Workflow Task Details, enter the following value: <ul style="list-style-type: none"> • Task Name = SQL Workflow
Step 3	Click the Save button, right-click SQL Workflow on the Workflow Tasks list, and then click Edit Workflow on the Action menu .
Step 4	In the Workflow Editor , use the Add Task tool to drag the tasks you just created onto the canvas.
Step 5	Organize the tasks and create connections as shown in the following illustration. The Success connectors tell the Controller that if SQL Create Table goes to Success, run Insert SQL Value and the other SQL tasks.
Step 6	Create a conditional path specifying that if SQL Create Table fails, the Controller should run the Pause for Manual task: <ol style="list-style-type: none"> 1. Right-click the connector between SQL Create Table and Pause for Manual. 2. On the pop-up menu, click Conditions. 3. On the Conditions pop-up dialog, enable Failure and click the OK button. Note that the connector is a dotted line, which indicates a Failure connection.
Step 7	On the Workflow Editor toolbar, click the Save icon. <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> graph TD Timer[Two Minute Timer] --> SQL1[SQL Create Table] SQL1 --> SQL2[SQL Insert Value] SQL2 --> SQL3[SQL Select Count] SQL3 --> SQL4[SQL Delete] SQL1 -.-> Manual[Pause for Manual] </pre> </div>

Run the Workflow to Success

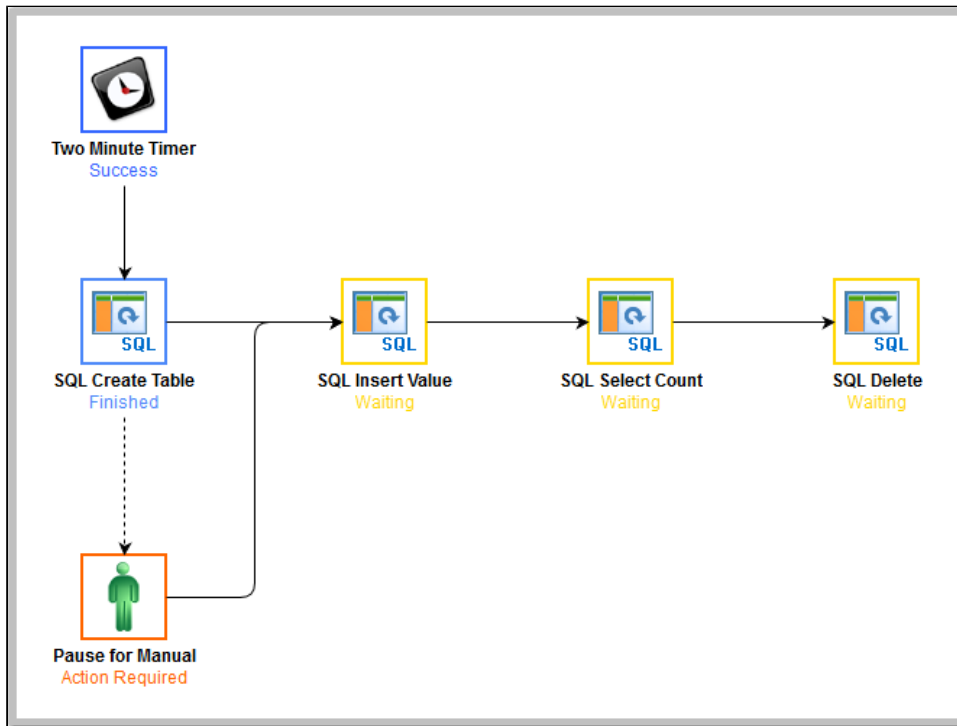
We are going to launch our Workflow and view it from two different perspectives: from the Activity Monitor and the Workflow Monitor.

Step 1 [Launch the workflow manually.](#)

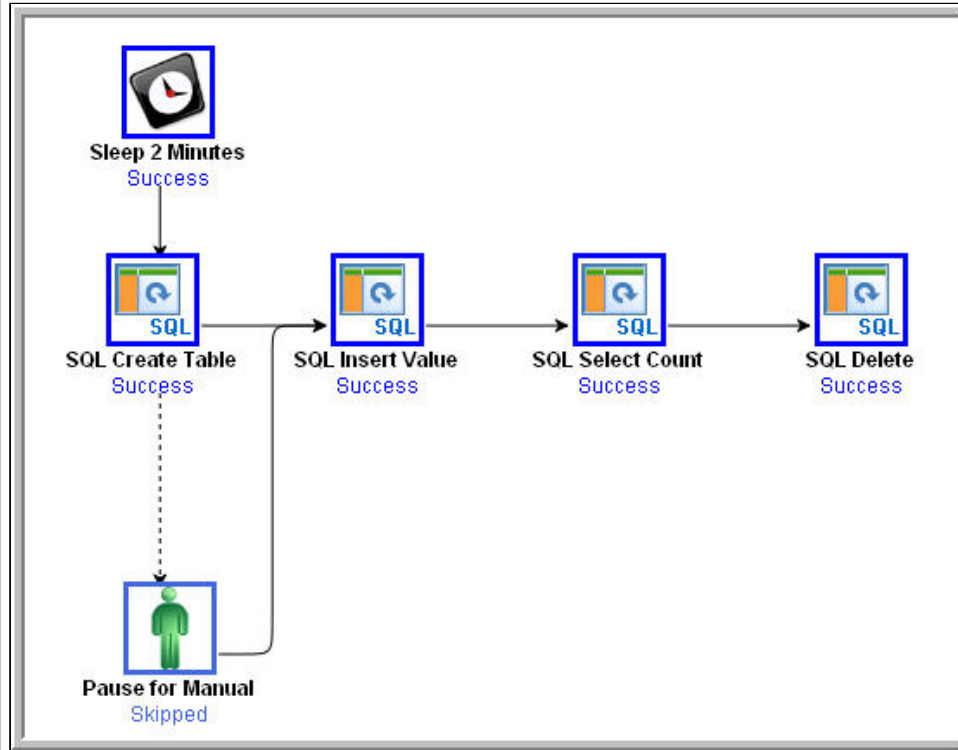
Step 2 Display the Activity Monitor. Because the Two Minute Timer task is still running, your display should look similar to this:

Instance Name	Type	Status	Invoked By	Start Time
SQL Select Count	SQL	Waiting	Workflow: SQL Workflow	
SQL Create Table	SQL	Waiting	Workflow: SQL Workflow	
Pause for Manual	Manual	Waiting	Workflow: SQL Workflow	
SQL Delete	SQL	Waiting	Workflow: SQL Workflow	
SQL Insert Value	SQL	Waiting	Workflow: SQL Workflow	
Two Minute Timer	Timer	Running	Workflow: SQL Workflow	2014-08-22 15:42:21 -0
SQL Workflow	Workflow	Running	Manually Launched	2014-08-22 15:42:20 -0

Step 3 Right-click SQL Workflow on the Activity Monitor list to display an **Action menu** and select **Workflow Task Commands > View Workflow**. The Workflow Monitor opens and shows progress on the task. The Workflow Monitor updates automatically with each status change.



When the Timer task finishes, the SQL tasks execute. All tasks go to Success and the workflow goes to Success. The only task that did not run is the conditional task, Pause for Manual.

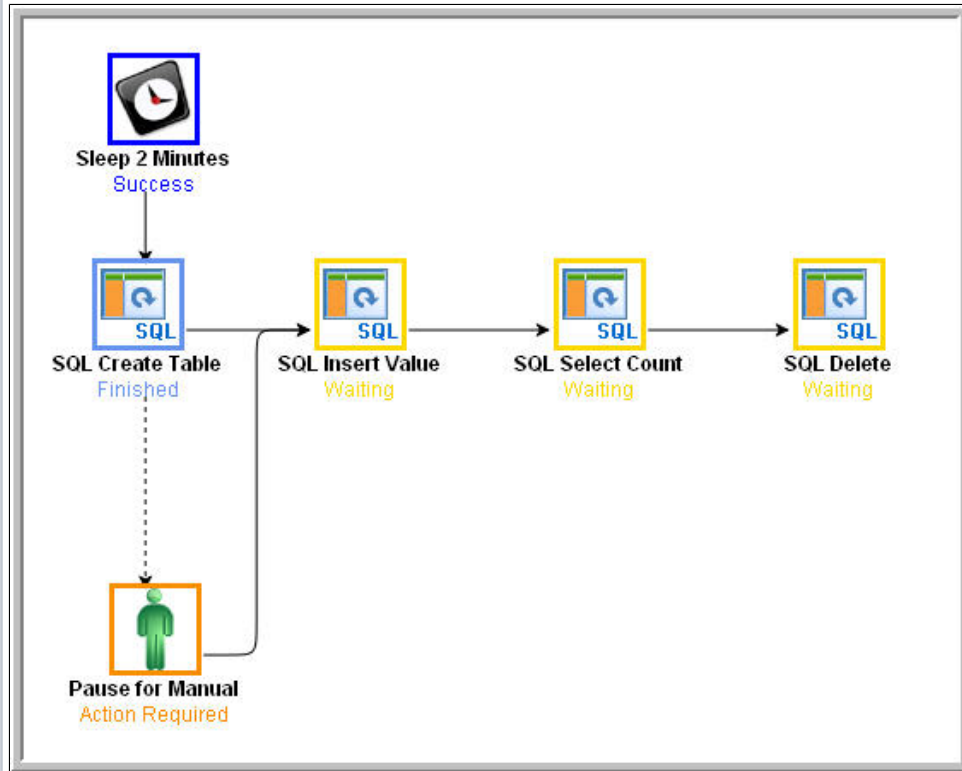


Run the Workflow Down the Conditional Path

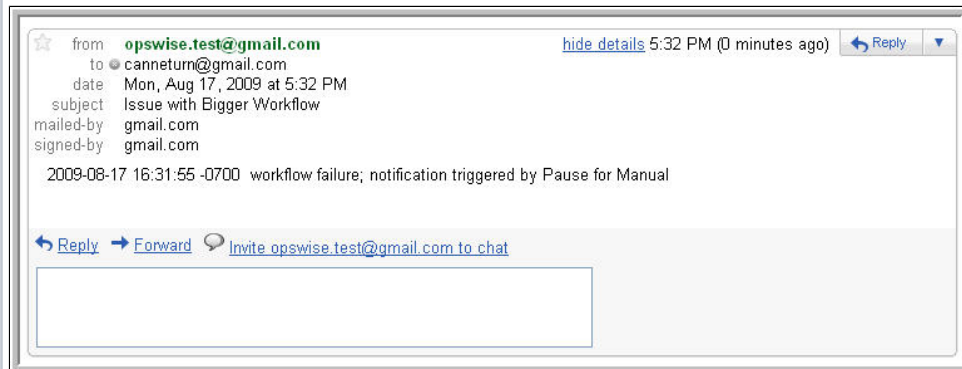
Recall that we inserted a date variable into the INSERT TABLE command. Thus, you can run this workflow every day and get a new table name each day, based on the date. For the purposes of our exercise, assuming you are performing it on the same day you did the previous exercise, the SQL Create Table task will fail this time because the table already exists.

Step 1 Return to the Bigger Workflow task and launch it again.

Step 2 From the Activity Monitor, click the Workflow name to view it from the canvas. This time, the workflow goes down the conditional path. Note that when you set up a conditional path, what would normally be a Failure status for the SQL Create Table task becomes a status of Finished. If you ran this task as a standalone task or without the conditional path, its status would say Failed.



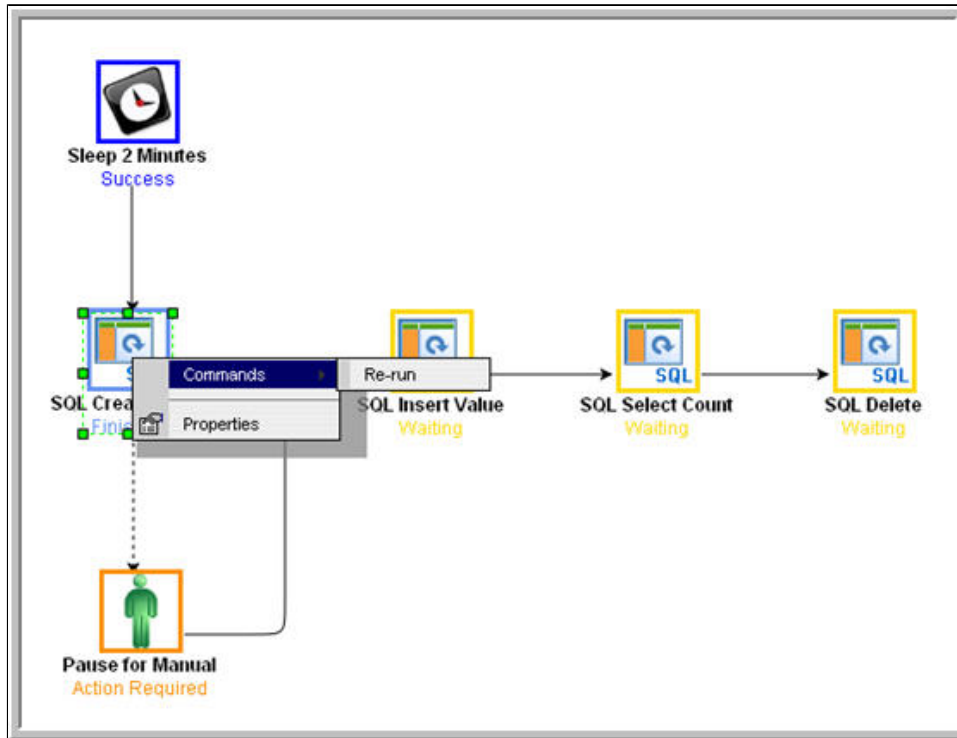
Step 3 When the Pause for Manual task launches, it generates the Email Notification we added earlier.



Step 4 The user receives the email, which provides the name of the task that generated it (Pause for Manual in our case). The user might also be running a special Activity Monitor that displays only Manual tasks in the Action Required status. According to our scenario, the user opens the Pause for Manual task and checks the Notes to find out what action he or she is supposed to take. In our case, the Notes say to check the database and bring it back up.

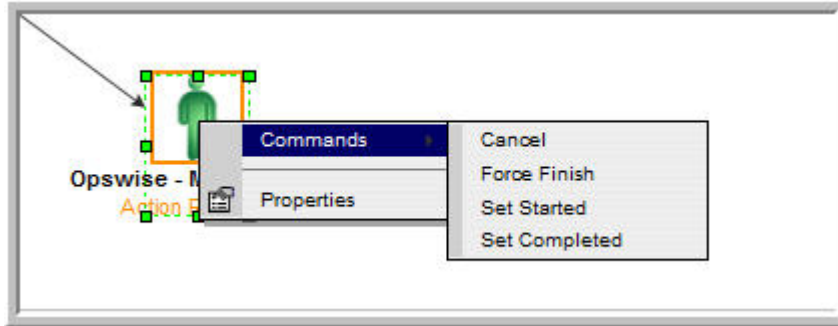
Step 5 At this point, the workflow processing could continue in either of two ways:

1. Re-run the task that failed and send the workflow down the success path.
2. Set the Pause for Manual task to Completed status and continue the workflow from there.
We will try both methods.
3. Re-run the failed task; right-click the task and select **Commands > Re-run**. In a real processing situation, this is the method you would use because you need to create the table before you can continue.
 - a. Right-click the task that failed and select **Commands > Re-run**.

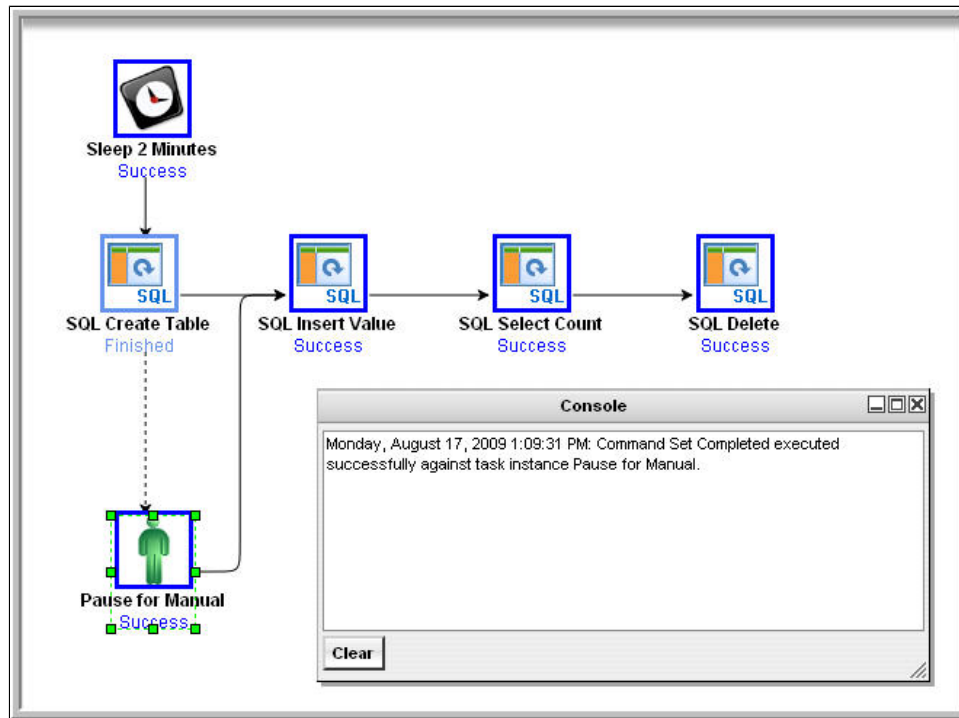


Note that we are still on the same day so the task fails again because the table already exists. In a real processing situation, the task would go to Success and the subsequent tasks would run as expected.

4. Set the Manual task to Complete status. For the purposes of our exercise, we will get the workflow going again by setting the Manual task to complete.
 - a. Right-click the Manual task.
 - b. Select **Commands > Set Completed**.



The Manual task goes to Success and the rest of the workflow runs.



- c. Because we set a two-minute Late Finish flag on our Manual task and we (presumably) took more than two minutes to complete it, the Manual task has been flagged as a late finish. To view the flag, go to the Activity Monitor and click the Manual task name. In the task instance Details, an enabled Finished Late field now displays, and the Duration field indicates the duration of the task.

For additional information, see:

- [Activity Monitor](#)
- [Monitoring Workflows](#)
- [Database Connections](#)
- [SQL Task](#)
- [Manual Task](#)
- [Email Notification Actions](#)
- [Creating Notes](#)
- [Creating Conditional Paths](#)
- [Adding Skip/Run Criteria](#)

Tutorial - Running a Workflow with Multiple Conditional Paths

In this tutorial, we will create a Workflow containing tasks with multiple predecessors and multiple successors, and specify different [conditional paths](#) for those tasks.

The Workflow will show that:

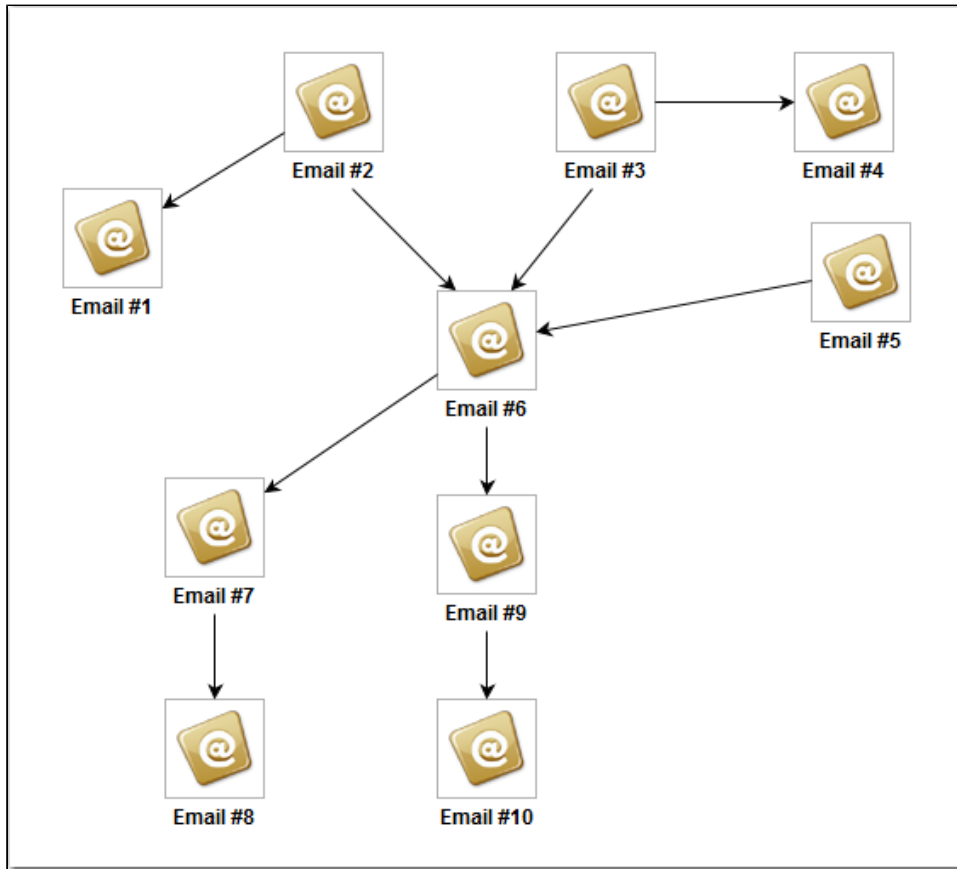
- A successor task with multiple predecessor tasks needs only one of the predecessor tasks to be Successful in order to run.
- Tasks are skipped if they are in conditional paths not taken.

Step 1	From the Automation Center navigation pane, select Tasks > Workflow Tasks and click New .
Step 2	In the Workflow Details, name the Workflow Multiple Paths and click the Save button.
Step 3	Click the Edit Workflow button to display the Workflow Editor .

Step 4

Add 10 tasks to the Workflow and [specify connections](#) for them, as shown below. (In this example, Email tasks have been added, but you can add any type of task except Timer tasks, since they have only one type of Conditional path: Success.)

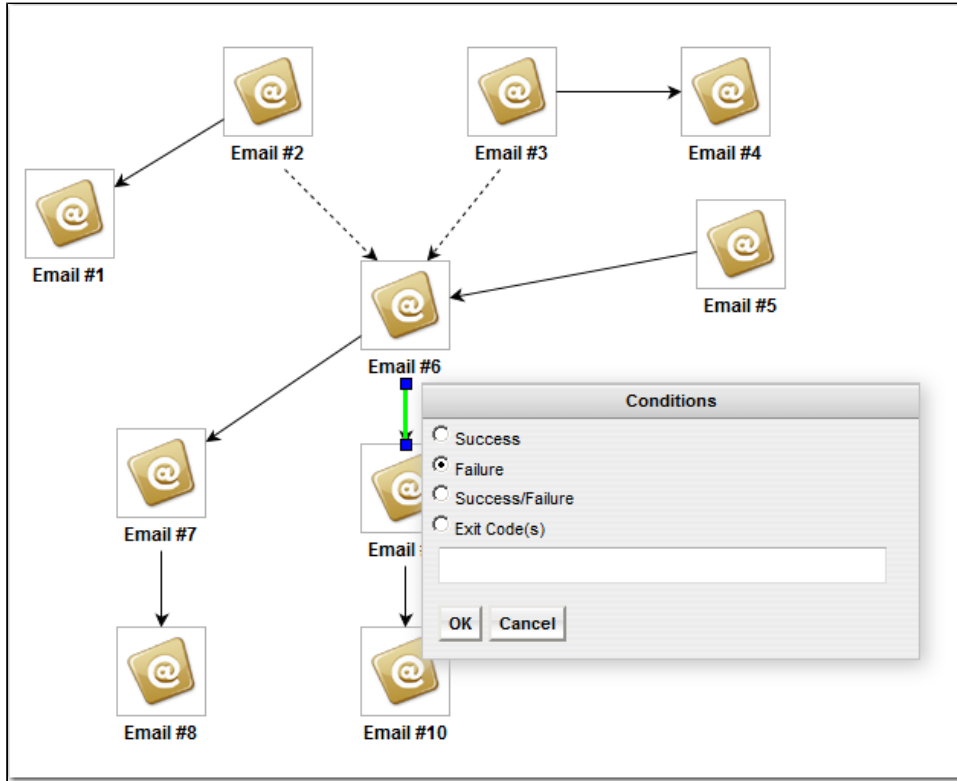
By default, all connections define a Successful condition; if the predecessor task runs to Success, the successor task will run.



Step 5 Create a Failure condition between tasks #2 and #6, #3 and #6, and #6 and #9, as shown below:

1. Right-click the connection between them.,
2. Click **Conditions** on the pop-up menu.
3. Select **Failure**.
4. Click **OK**.

Connections with Failure conditions displays as dotted lines.

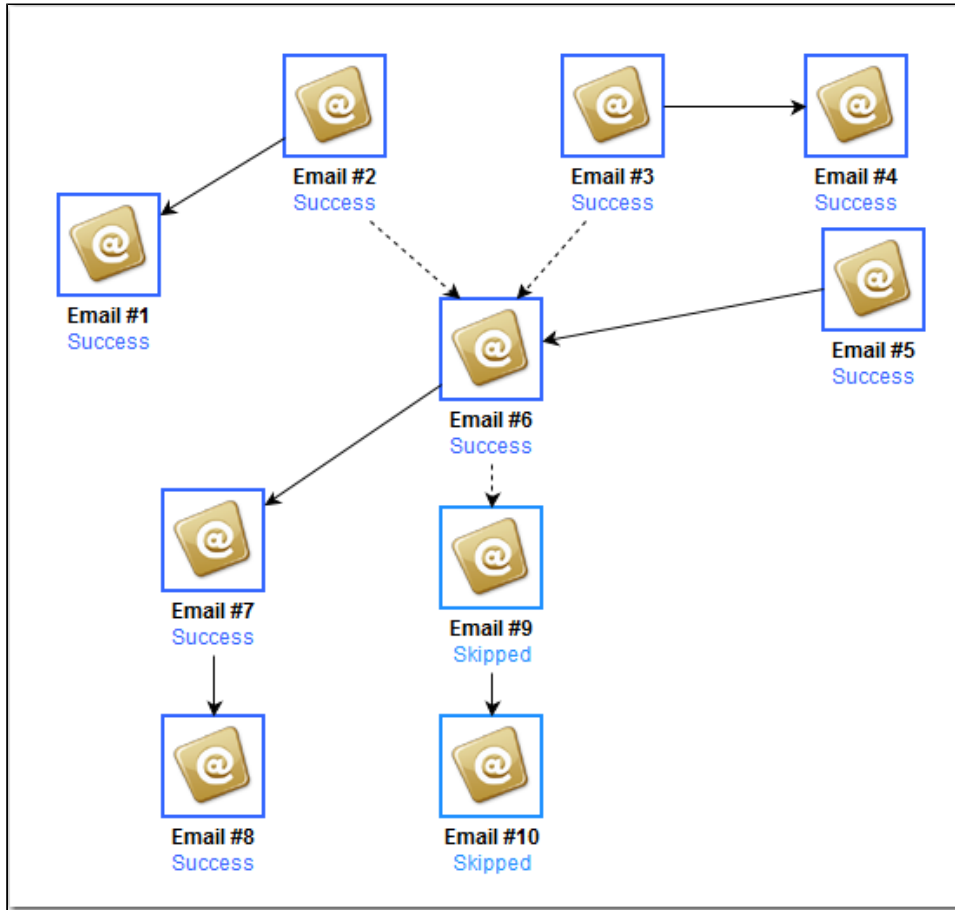


Step 8 Launch the workflow.

Step 9 In the **Automation Center** navigation pane, select **Task Instances > Activity** to display the Activity Monitor.

Step 10

From the list of Task Instances, click **Multiple Paths**. The Workflow Monitor for that Workflow displays.



The Workflow Monitor shows that task #6 ran even though the conditions for two of its predecessor tasks (#2 and #3) specified that it was to run only if those two tasks failed, because the condition for its #5 predecessor task specified that it was to run if #5 ran successfully, which it did.

It also shows that tasks #9 and #10 were Skipped because the Controller took the Success path for task #6 and ran Tasks #7 and #8.

Tutorial - Running a Workflow with Skipped Criteria

- [Introduction](#)
- [Create the Daily Workflow](#)
- [Run the Daily Workflow](#)
- [Check the Skipped Workflow's History](#)

Introduction

In this exercise, we will create a daily Workflow that includes a task that we want to skip on Fridays. We will also include a Workflow within a Workflow and later check the skipped status of the skipped Workflow.

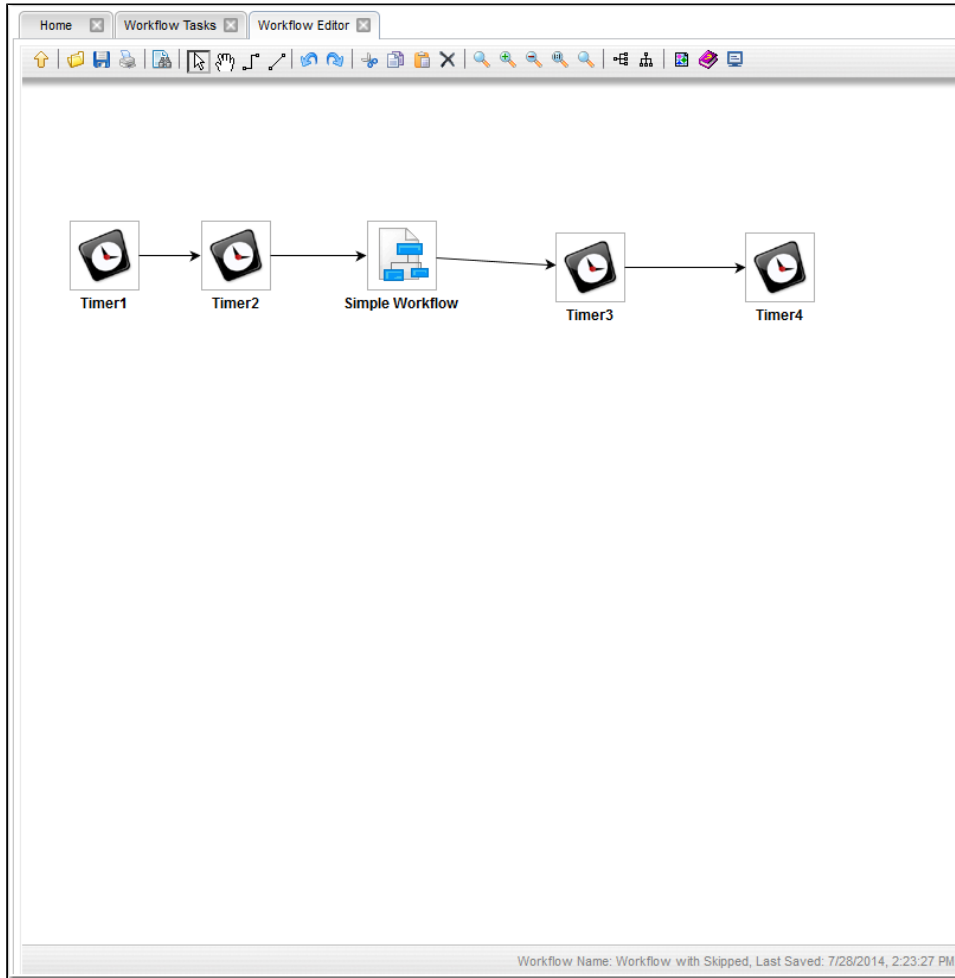
Create the Daily Workflow

Step 1

Create a Workflow named **Workflow with Skipped** and add the following tasks created in the [Creating a Simple Workflow](#) tutorial:

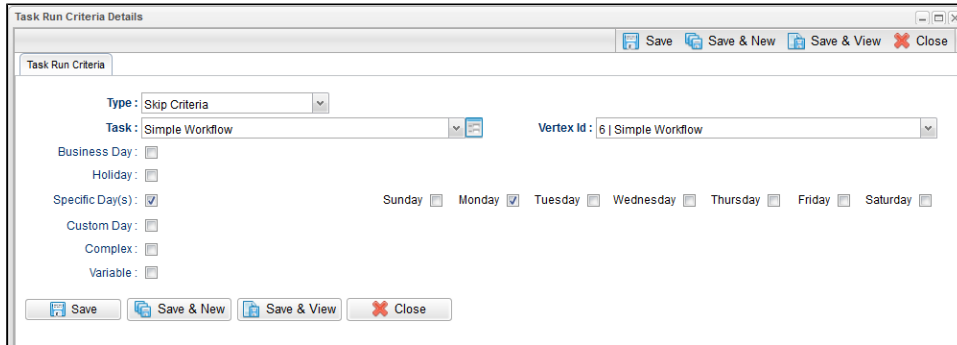
- Four Timer tasks: Timer1, Timer2, Timer3, Timer4.
- One Workflow task: Simple Workflow.

Step 2 Organize the tasks in the Workflow as shown in the following illustration (using all Success conditions) and click the **Save** icon.



- | | |
|---------------|---|
| Step 4 | Right-click Simple Workflow and, on the pop-up menu, click View/Edit Run Criteria . The Task Run Criteria list for Simple Workflow displays. |
| Step 5 | Click New to display Task Run Criteria Details. |
| Step 6 | In the Type field, select Skip Criteria . |
| Step 7 | Select Specific Day(s) . |
| Step 8 | Select the current day (that is, if today is Friday, select Fri).
(See Task Run Criteria Field Descriptions for more details.) |

Step 9 Click **Save**.



Run the Daily Workflow

Step 1 Right-click anywhere in the Workflow Editor and select **Launch Workflow**.

Step 2 Display the Activity Monitor and note that the sub-workflow (Simple Workflow) and all its sub-tasks have been skipped, as shown in the following example. Note also that this did not impact subsequent tasks, which ran as usual.

Instance Name	Type	Status	Invoked By	Start Time	End Time	Updated
Workflow with Skipped	Workflow	Success	Manually Launched	2014-07-28 15:07:42 -0400	2014-07-28 15:08:23 -0400	2014-07-28 15:08:23 -0400
Timer4	Timer	Success	Workflow: Workflow with Skipped	2014-07-28 15:08:13 -0400	2014-07-28 15:08:23 -0400	2014-07-28 15:08:23 -0400
Timer3	Timer	Success	Workflow: Workflow with Skipped	2014-07-28 15:08:02 -0400	2014-07-28 15:08:12 -0400	2014-07-28 15:08:12 -0400
Timer2	Timer	Success	Workflow: Workflow with Skipped	2014-07-28 15:07:52 -0400	2014-07-28 15:08:02 -0400	2014-07-28 15:08:02 -0400
Timer1	Timer	Success	Workflow: Workflow with Skipped	2014-07-28 15:07:52 -0400	2014-07-28 15:07:52 -0400	2014-07-28 15:07:52 -0400
Simple Workflow	Workflow	Skipped	Workflow: Workflow with Skipped		2014-07-28 15:07:42 -0400	2014-07-28 15:07:42 -0400
Timer2	Timer	Skipped	Workflow: Simple Workflow		2014-07-28 15:07:42 -0400	2014-07-28 15:07:42 -0400
Timer3	Timer	Skipped	Workflow: Simple Workflow		2014-07-28 15:07:42 -0400	2014-07-28 15:07:42 -0400
Timer1	Timer	Skipped	Workflow: Simple Workflow		2014-07-28 15:07:42 -0400	2014-07-28 15:07:42 -0400
Timer5	Timer	Skipped	Workflow: Simple Workflow		2014-07-28 15:07:42 -0400	2014-07-28 15:07:42 -0400
Timer6	Timer	Skipped	Workflow: Simple Workflow		2014-07-28 15:07:42 -0400	2014-07-28 15:07:42 -0400
Timer4	Timer	Skipped	Workflow: Simple Workflow		2014-07-28 15:07:42 -0400	2014-07-28 15:07:42 -0400

Check the Skipped Workflow's History

You can view a task instance Details to find out why it has a status of Skipped. On the Activity Monitor, click the Details icon in the first column for any task instance to display its task instance Details.

For example:

Update Unskip View Parent View Workflow Delete Refresh Close

Workflow Task Instance
Virtual Resources
Exclusive Requests
Step Conditions
Notes

General

Instance Name : Simple Workflow Reference Id : 3

Task : Simple Workflow Invoked By : Workflow: Workflow with Skipped

Task Description :

Member of Business Services : Execution User : ops.admin

Calendar : System Default Time Zone Preference : -- System Default --

Virtual Resource Priority : 10

Status

Status : Skipped

Status Description : Skipped due to run/skip criteria.

Operational Memo :

Start Time : End Time : 2014-07-28 15:07:42 -0400

Duration :

Progress : 6/6

Workflow Details

Show/Hide Skipped Tasks : Show Skipped

Wait/Delay Options

Wait To Start : Seconds Wait Duration In Seconds : 60

Delay On Start : Seconds Delay Duration In Seconds : 5

Workflow Only : No

Statistics

User Estimated End Time : Average Estimated End Time :

Shortest Estimated End Time : Longest Estimated End Time :

Update
Unskip
View Parent
View Workflow
Delete
Refresh
Close

Note that the Status Description field indicates that **Simple Workflow** was skipped due to run/skip criteria.

For additional information, see:

- [Activity display](#)
- [Monitoring Workflows](#)
- [Adding Skip/Run Criteria](#)

Tutorial - Finding and Inserting Tasks in an Active Workflow

In this exercise, we will run a workflow and:

- Find a specific task within the workflow. (You also can find a task in a workflow that has not yet been launched or one that has run and completed.)
- Insert a task as a predecessor to another task in the workflow.
- Insert a task as a successor to another task in the workflow.

Note



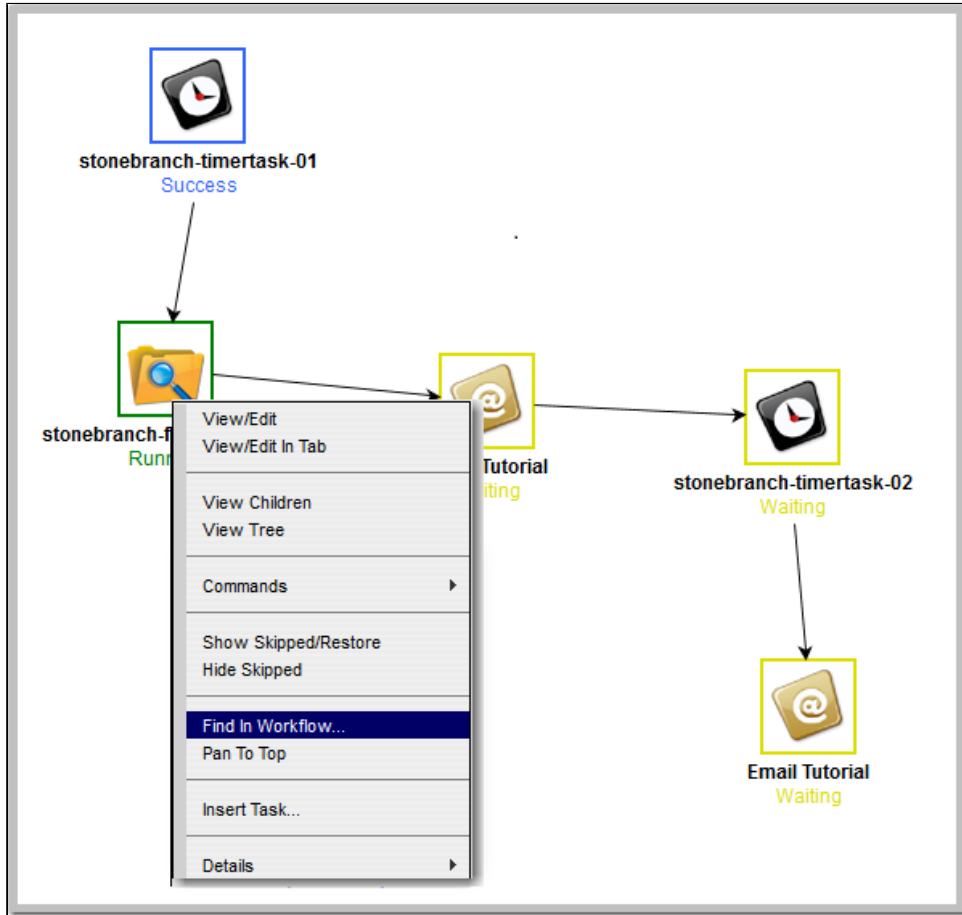
You may find it easier to run a workflow three different times, once for each step in this exercise.

Step 1

Create a workflow so that all of its tasks cannot display on the Workflow Editor/Monitor at the same time.

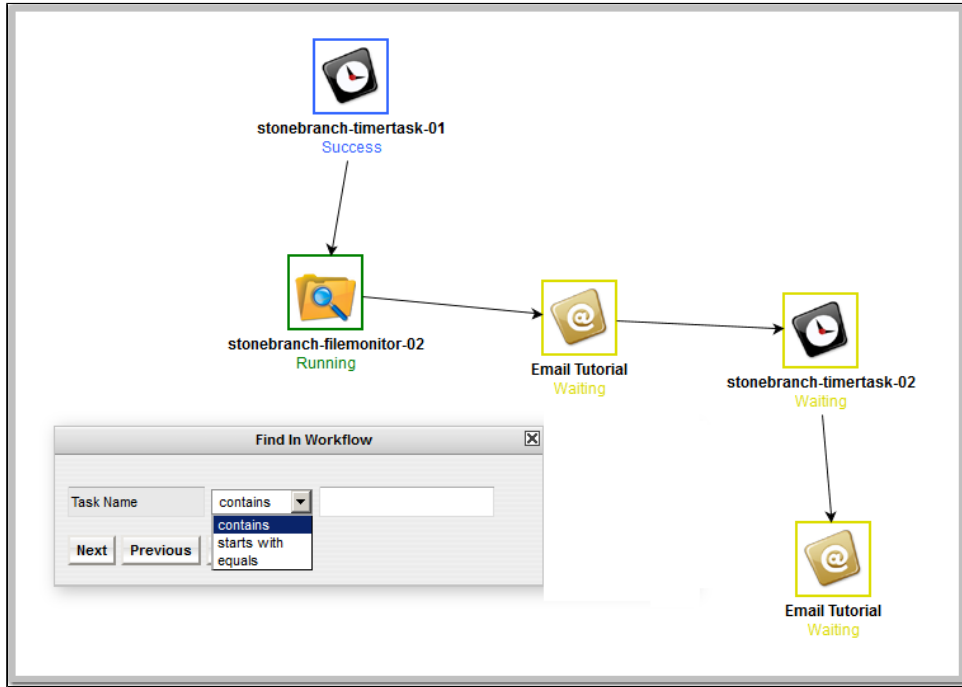
Step 2

Launch the workflow and right-click in the Workflow Monitor canvas. A pop-up menu displays.



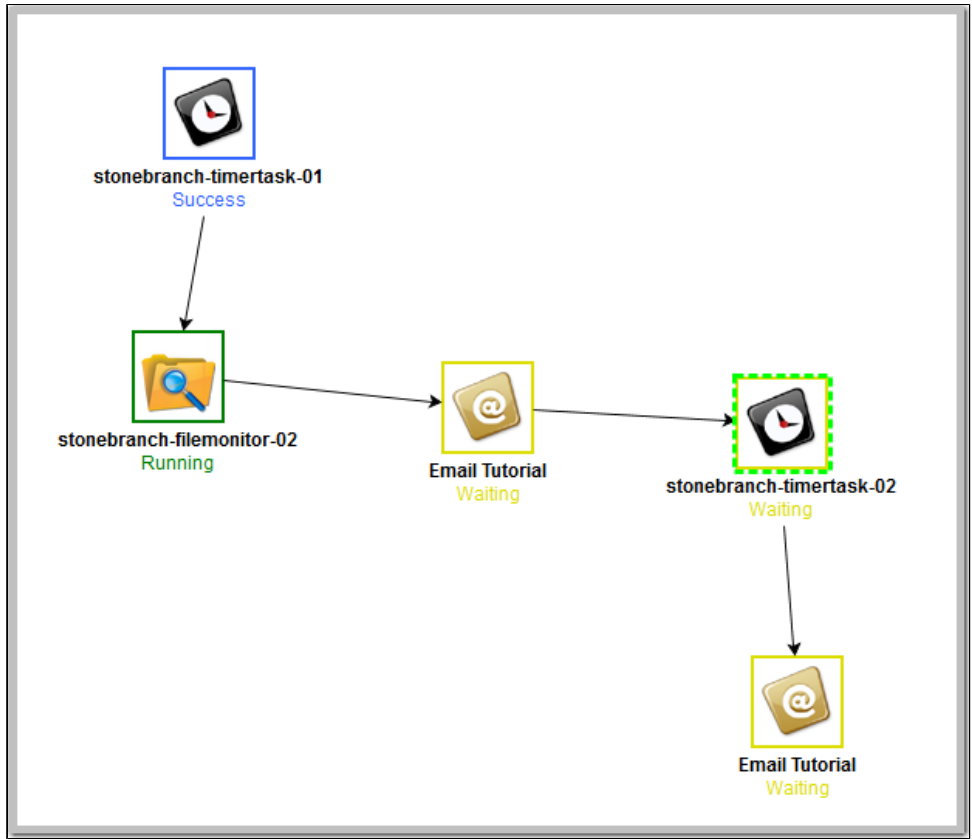
Step 3

Click Find in Workflow... to display the Find in Workflow dialog.

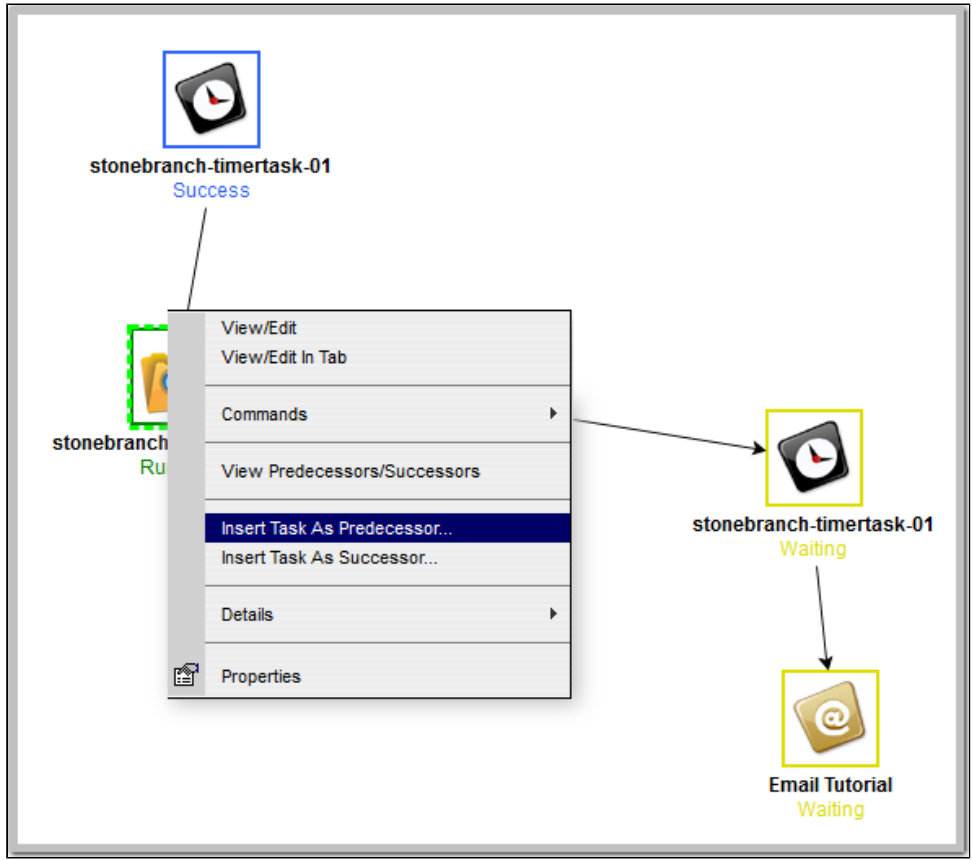


Step 4

Select an operator for the search (**contains**, **starts with**, or **equals**), enter the full or partial name of the task(s) that you want to find, and click OK. The Controller locates and displays the first task within the Workflow that matches the search criteria. Click the **Next** and/or **Previous** buttons to find any other tasks that match the search criteria.

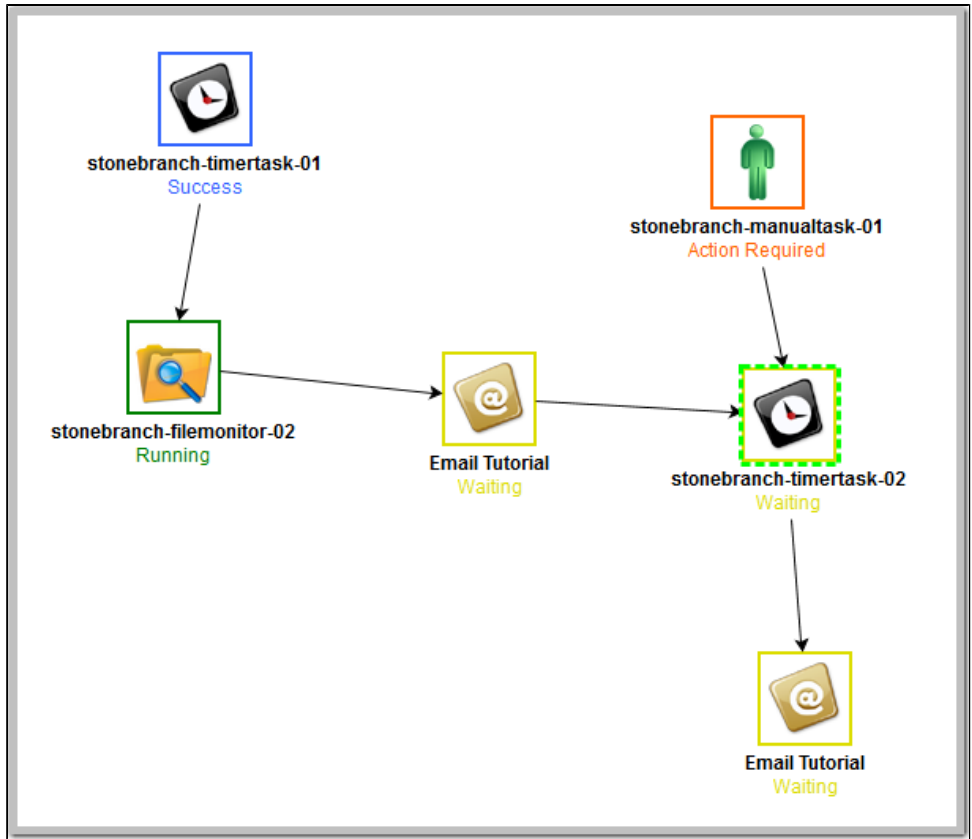


Step 5 Right-click the found task (**stonebranch-timertask-02**) to display a menu of actions available for that task.

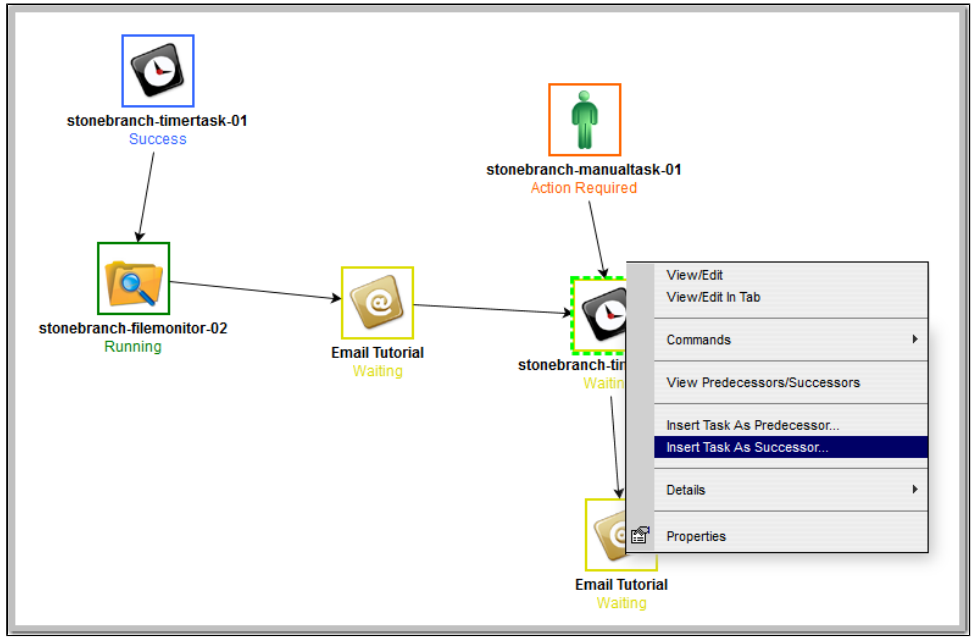


Step 8

The Controller inserts **stonebranch-manualtask-01** as a precedent to the Waiting **stonebranch-timertask-02** task, and **stonebranch-manualtask-01** begins running (as a [Manual Task](#), it requires a user action). When **stonebranch-manualtask-01** completes, **stonebranch-timertask-02** begins running.

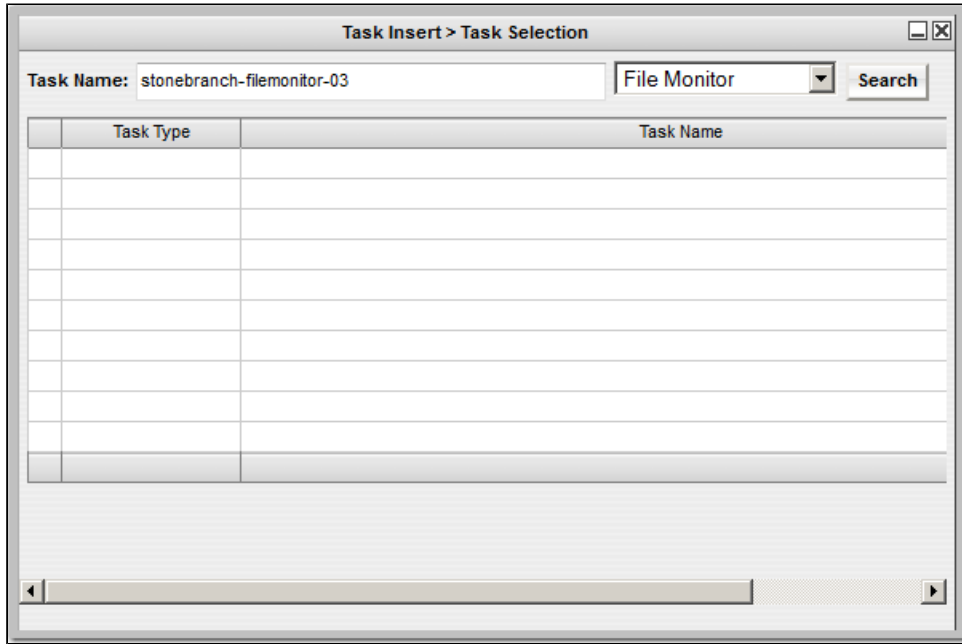


Step 9 Once again, right click **stonebranch-timertask-02** to display a menu of actions available for that task.



Step 10

Select **Insert Task As Successor....** The Task Insert > Task Selection dialog displays.

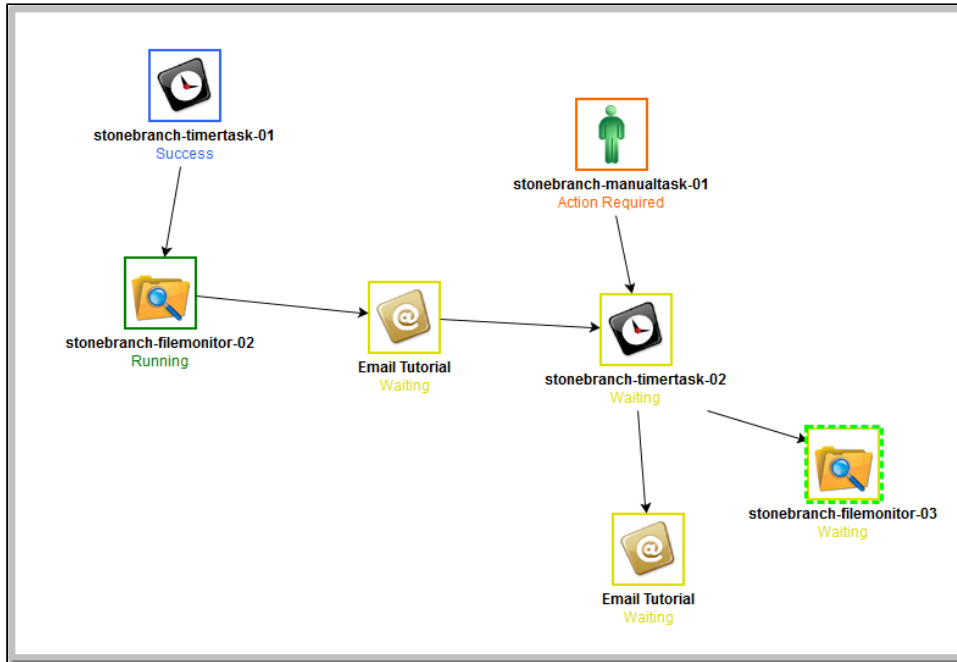


Step 11

Find the task you want to insert and drag the task's icon to the workflow canvas. In this example, we have selected **stonebranch-filemonitor-03**.

Step 12

The Controller inserts **stonebranch-filemonitor-03** as a successor to **stonebranch-timertask-02**. When **stonebranch-timertask-02** completes successfully, the inserted **stonebranch-filemonitor-03** task begins running.



For additional information, see:

- [Finding a Task in a Workflow](#)
- [Inserting a Task in a Workflow](#)
- [Searching for and Adding Tasks](#)

Tutorial - Skipping, Unskipping, and Showing-Hiding Skipped Task Instances

You can skip (and unskip) individual task instances and task instances within a workflow that have been launched but have not yet started to run. For skipped tasks within a workflow, you can choose to show or hide those tasks in the Workflow Monitor.

You also can skip a task instance so that all dependent task instances of that task instance automatically are skipped as well.

Although there are several methods for skipping, unskipping, and showing/hiding skipped task instances, in this exercise we will:

- Skip a task instance in a workflow.
- Unskip a previously skipped task instance in a workflow.
- Show and hide a skipped task instance in a workflow.

Note



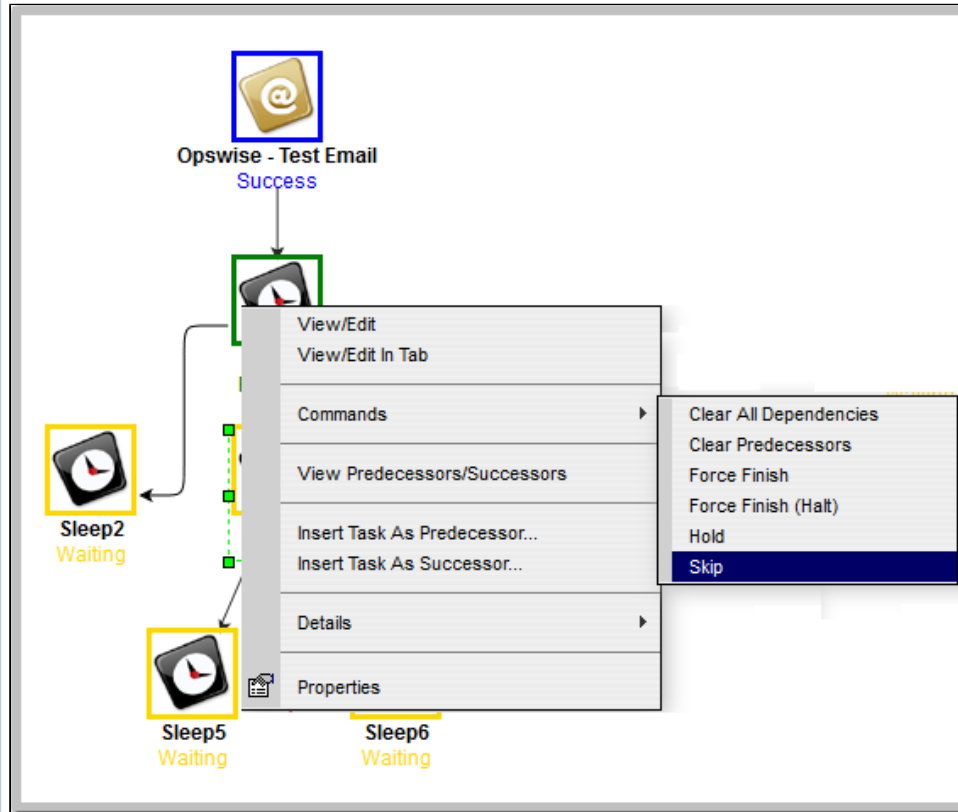
There also are methods for skipping a task and showing/hiding a skipped task before it becomes a task instance (that is, before it or the workflow in which it resides has been launched). See the links at the bottom of this page.

Step 1	From the Automation Center navigation pane, select Tasks > Workflow Tasks . The Workflow Tasks list displays a list of all workflow tasks.
Step 2	Right-click Simple Workflow (created in the Creating a Simple Workflow tutorial), and on the Action menu , click Launch Task .
Step 3	On the Activity Monitor, select Active Workflow Task Instances from the drop-down list.
Step 4	Click Simple Workflow . The Workflow Monitor displays for this running workflow.

Step 5 Right-click the Sleep3 task while it is in Waiting status and, from the pop-up menu that displays, click Commands / Skip.

Note

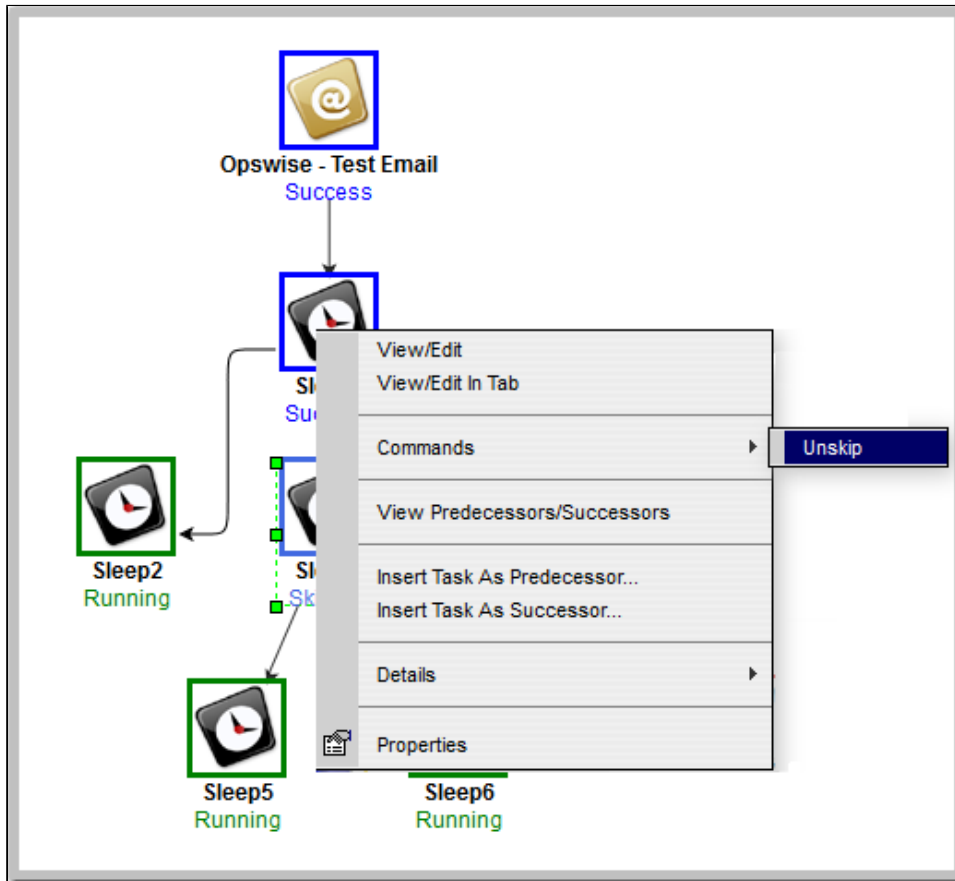
If you wanted to skip the Sleep3 task and its dependent Sleep5 and Sleep6 tasks, you would click Commands / Skip Path.



The Sleep3 status changes from Waiting to Skipped. When Sleep1 completes successfully, Universal Controller will skip Sleep3 and start running Sleep5 and Sleep6.

Step 6

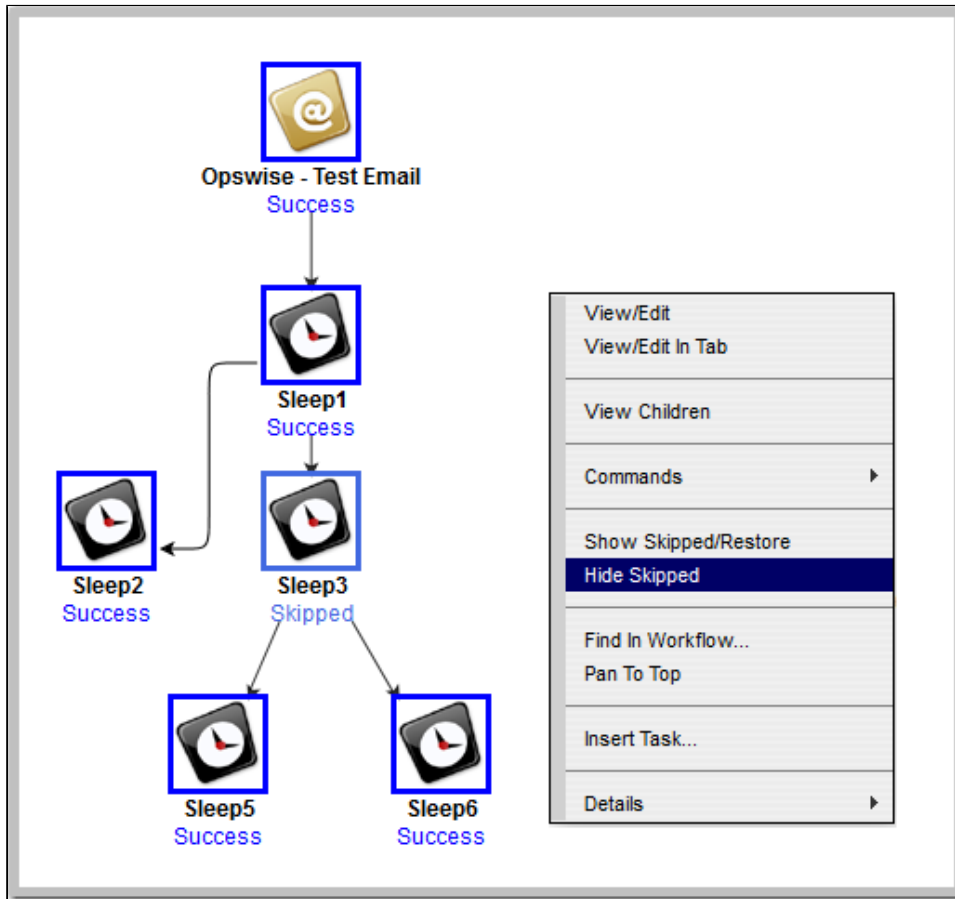
To un-skip Sleep3, right-click it and, from the pop-up menu that displays, click Commands / Unskip.



The task status changes from Skipped to Waiting. When Sleep1 completes successfully, the Controller will not skip Sleep3.

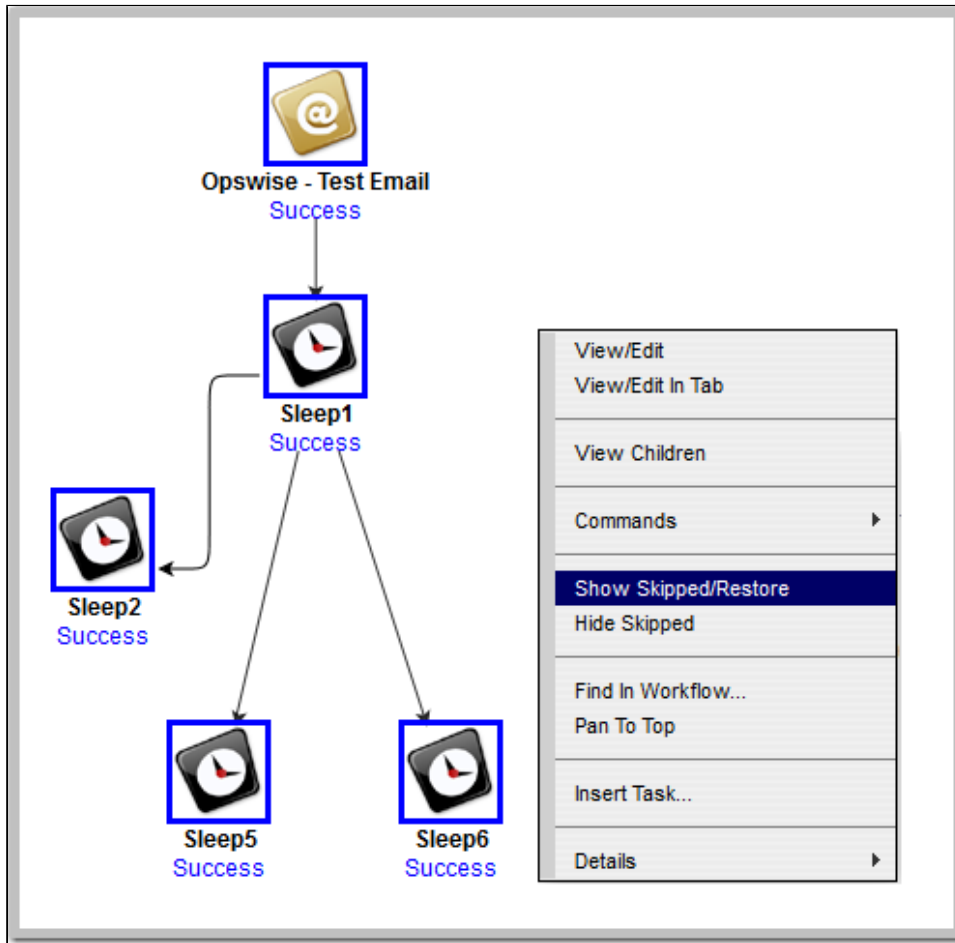
Step 7

To hide the skipped Sleep3 task in the Workflow Editor, right-click in the Workflow Monitor canvas and click Hide Skipped.



Step 8

To show the skipped Sleep3 task in the Workflow Monitor, right-click in the Workflow Editor canvas and click Show Skipped/Restore.



For additional information, see:

- [Skipping a Task](#)
- [Unskipping a Task](#)
- [Showing or Hiding Skipped Tasks](#)
- [Adding Skip/Run Criteria for Specific Tasks](#)

Tutorial - Using Variables in a Simple Task

- [Introduction](#)
- [Resolving Variable Using Value from Global Variable Table](#)
- [Resolving Variable Using Value from Task](#)
- [Resolving Variable Using Value from Trigger](#)

Introduction

Note

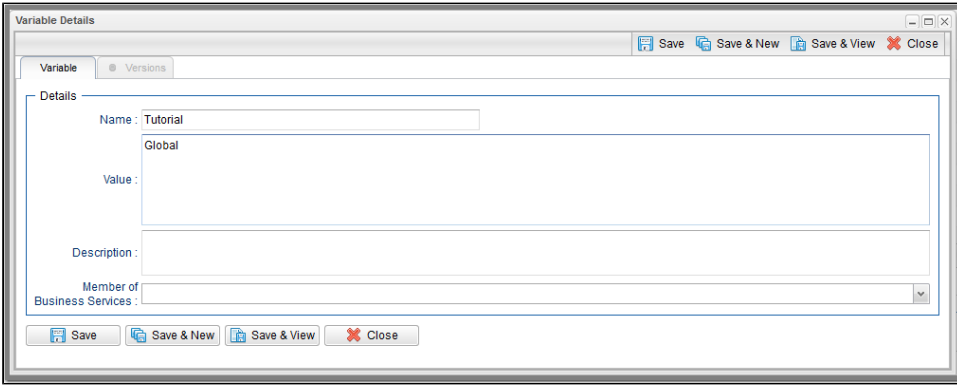


You need an [Email Connection](#) to perform this exercise.

In the [Launching an Email Task Based on a File Monitor](#) tutorial, a built-in variable called `${ops_trigger_name}` and a system variable called `${_date}` were included to pass information into an Email message. Those variables were resolved using system information when the email task instance was created.

In this exercise, we will create a new user-defined variable, use it in a task, and run the task both manually and via a trigger to illustrate how such variables are resolved.

Resolving Variable Using Value from Global Variable Table

Step 1	<p>Create a Variable with the following values:</p> <ul style="list-style-type: none"> • Name = Tutorial • Value = Global
Step 2	<p>Click the Save button.</p> 

Step 3

Create an [Email](#) task with the following values:

- Task Name = Email Tutorial
- Email Connection = your Email connection
- To = your Email address
- Subject = Variable demo
- Body=\${Tutorial}

Step 4 Click the **Save** button, re-open the task, and click the **Launch Task** button.

Update Launch Task View Parents Copy Delete Refresh Close

Email Task Variables Actions Virtual Resources Mutually Exclusive Instances Triggers Notes Versions

General

Task Name: Version:

Task Description:

Member of Business Services:

Resolve Name Immediately: Time Zone Preference:

Hold on Start:

Virtual Resource Priority: Hold Resources on Failure:

Email Details

Email Template: Email Connection:

Email Template Variable:

Reply-To:

To:

Cc:

Bcc:

Subject:

Body:

Report: Report Variable:

Wait/Delay Options

Wait To Start:

Delay On Start:

Workflow Only:

Time Options

Late Start:

Late Finish:

Early Finish:

User Estimated Duration: Day Hour Min Sec

Critical Path Options

CP Duration: CP Duration Unit:

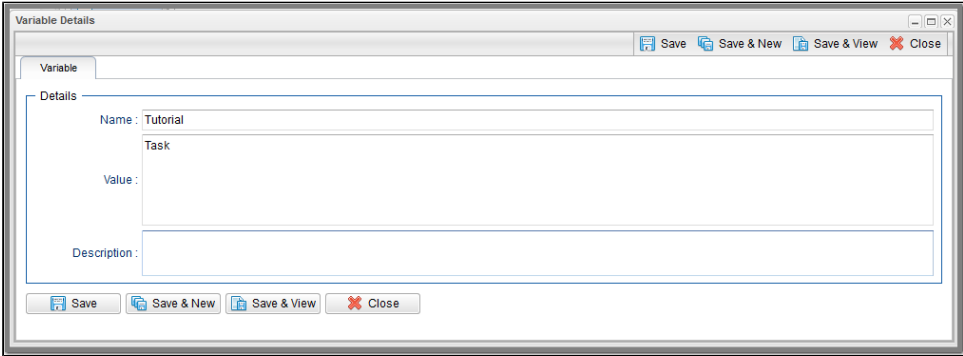
Workflow Execution Options

Execution Restriction:

Update Launch Task View Parents Copy Delete Refresh Close

Step 5	You should receive an email with Global in the body of the email.
---------------	--

Resolving Variable Using Value from Task

Step 1	Open the Email Tutorial task and click the Variables tab.
Step 2	Click the New button to display Variable Details for a new Variable and enter the following values: <ul style="list-style-type: none"> • Name = Tutorial • Value = Task
Step 3	Click the Save button. <div style="border: 1px solid gray; padding: 10px; margin: 10px 0;">  </div>
Step 4	In the Email Tutorial Details, click the Update button and then click the Launch Task button.
Step 5	You should receive an email with Task in the body of the email.

Resolving Variable Using Value from Trigger

Step 1	Create a Time trigger with the following values: <ul style="list-style-type: none"> • Trigger Name = Variable Demo • Tasks = Email Tutorial • Time = (Five minutes from the present time.)
---------------	---

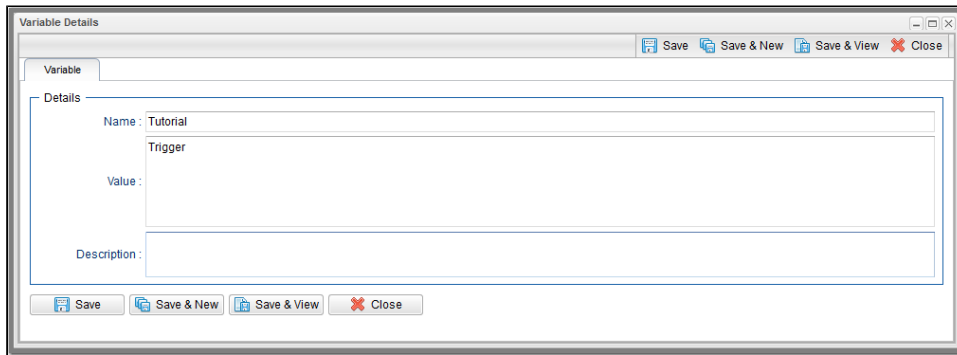
Step 2 Click the **Save** button.

Step 3 Re-open the **Variable Demo** trigger and click the **Variables** tab.

Step 4 Click the **New** button to display Variable Details for a new Variable and enter the following values:

- **Name** = Tutorial
- **Value** = Trigger

Step 5 Click the **Save** button.



Step 6 In the trigger Details, click the **Update** button and then the **Enable** button.

Step 7 You should receive an email with **Trigger** in the body of the email.

For additional information, see:

- [User-Defined Variables](#)

Tutorial - Using Variables in a Workflow

Note



You need a working [Database Connection](#) for this tutorial.

For tasks executing within a Workflow, the order of precedence for [resolving user-defined variables](#) differs.

As the following procedure demonstrates, the variable definition in the task takes precedence, then Universal Controller looks within the Workflow or parent Workflow(s), with the global variable coming last.

Step 1	<p>Create a SQL task called SQL with Variable with the following SQL command:</p> <pre>CREATE TABLE \${tutorial}_\${date("yyyyMMdd",5)} (name varchar(128), value varchar(128));</pre>
Step 2	Click the Save button and then re-open the task.
Step 3	<p>Click the Variables tab and create a Variable with the following values:</p> <ul style="list-style-type: none"> • Name = tutorial • *Value+ = task
Step 4	Click the Save button and in the task Details, click the Update button.
Step 4	Create a Workflow called Variable Workflow .
Step 5	Add the SQL With Variable task to the Workflow and save it.
Step 6	<p>Launch Variable Workflow, and open the SQL With Variable task instance on the Activity Monitor. Note that the SQL command resembles the following, with the value from the task variable.</p> <pre>CREATE TABLE task20090913 (name varchar(128), value varchar(128));</pre>
Step 7	Open the task and delete the task variable.
Step 8	<p>Go back to Variable Workflow and add the following variable:</p> <pre>tutorial/workflow</pre>

Step 9

Open the task instance. The SQL command used the variable from the workflow because the task no longer had a variable.

```
CREATE TABLE workflow20090913 (name varchar(128), value varchar(128));
```

For additional information, see:

- [User-Defined Variables](#)

Tutorial - Creating Custom Days and Periods

- [Introduction](#)
- [Create a Custom Day](#)
- [Create a Custom Period](#)
- [Assigning Custom Day and Custom Period to a Calendar](#)
- [Creating a Local Custom Day for a Calendar](#)
- [Selecting a Custom Calendar for a Trigger](#)

Introduction

In this tutorial, we will create a Custom Day and period for a Calendar, and assign that Calendar to a Trigger.

Create a Custom Day

In this procedure, we will create a Custom Day, which can be applied to any Calendar.

Step 1	From the Automation Center navigation pane, select Other > Custom Days . The Custom Days list displays.
Step 2	Click the New button to display Custom Day Details for a new Custom Day and enter/select the following values: <ul style="list-style-type: none"> • Name = Thanksgiving • Holiday is enabled • Type = Relative Repeating Date • When = 4th • Day of Week = Thu • Month = Nov

Step 3 Click the **Save** button.

The screenshot shows the 'Custom Day Details' dialog box for a custom day named 'Thanksgiving'. The 'Name' field contains 'Thanksgiving'. The 'Description' field is empty. The 'Category' is set to 'Holiday' (selected with a radio button). The 'Type' is 'Relative Repeating Date'. The 'When' field is '4th', 'Day Of Week' is 'Thu', and 'Month' is 'Nov'. The 'Adjustment' is '-- None --'. Below these fields is an 'Observed Rules' section with two columns: 'Actual Day Of Week' and 'Observed Day Of Week'. The 'Observed Day Of Week' column contains the text 'No items to show.' At the bottom of the dialog are buttons for 'Save', 'Save & New', 'Save & View', and 'Close'.

Create a Custom Period

In this procedure, we will create a custom period of days, which can be applied to any calendar.

Step 1 Click the **New** button on the Custom Days list and to display Custom Day Details for a new Custom Day and enter/select the following values:

- **Name** = 4th Quarter
- **Period** is enabled.
- **Type** = List of Dates
- **Dates** = 2017-10-01 and 2017-12-31.

Step 2 Click the **Save** button.

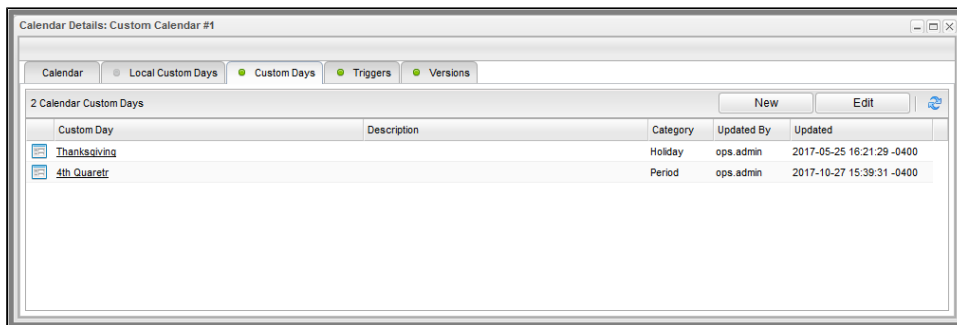
The screenshot shows the 'Custom Day Details' dialog box for a custom day named '4th Quarter'. The 'Name' field contains '4th Quarter'. The 'Description' field is empty. The 'Category' is set to 'Period' (selected with a radio button). The 'Type' is 'List of Dates'. Below these fields is a 'Dates' section with a table containing two rows of dates: '2017-10-01' and '2017-12-31'. At the bottom of the dialog are buttons for 'Save', 'Save & New', 'Save & View', and 'Close'.

Assigning Custom Day and Custom Period to a Calendar

In this procedure, we will assign the custom day and custom period to a new Calendar.

Step 1	From the Automation Center navigation pane, select Other > Calendars . The Calendars list displays.
Step 2	Click the New button to display Calendar Details for a new Calendar and enter/select the following values: <ul style="list-style-type: none"> • Name = Custom Calendar #1
Step 3	Click the Save button. <div style="border: 1px solid gray; padding: 5px; margin-top: 10px;"> </div>
Step 4	Re-open Custom Calendar #1 and click the Custom Days tab. The Custom Days list for this Calendar displays.
Step 5	Click the Edit button to display an Edit Members pop-up dialog of all Custom Days. <div style="border: 1px solid gray; padding: 5px; margin-top: 10px;"> </div>

Step 6 Select **Thanksgiving** and **4th Quarter**, and then click the **Save** button. Those two Custom Days now appear on the Custom Days list for **Custom Calendar #1**.



Step 7 In the Calendar Details, click the **Update** button.

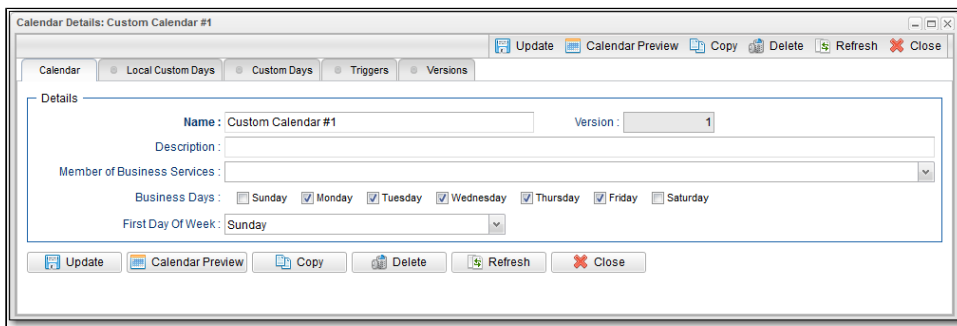
Note

You also can assign a Custom Day to a Calendar by clicking the Calendars tab in the Custom Day Details.

Creating a Local Custom Day for a Calendar

In this procedure, we will create a local custom day for an existing Calendar.

Step 1 Open **Custom Calendar #1** that you created in the previous procedure.

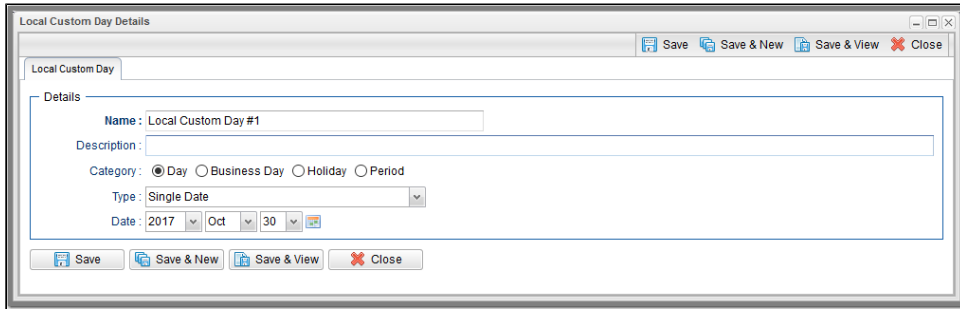


Step 2 Click the **Local Custom Days** tab to display an empty Local Custom Days list.

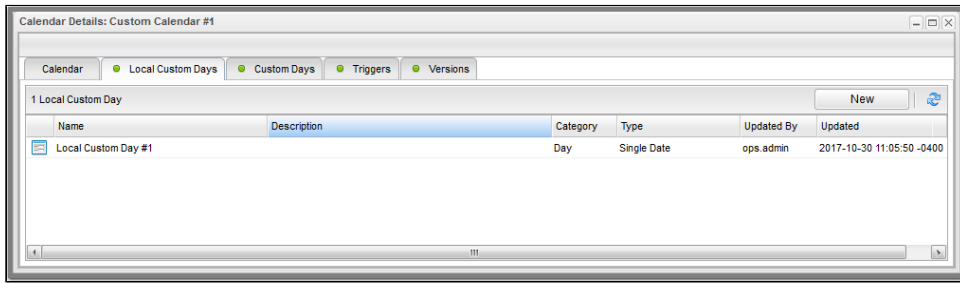
Step 3 Click the **New** button to display Local Custom Details for a new Local Custom Day, and enter the following values:

- **Name** = Local Custom Day #1

Step 4
Click the **Save** button.



Local Custom Days #1 now appears on the Local Custom Days list.



Selecting a Custom Calendar for a Trigger

In this procedure, we will assign the custom calendar to a trigger.

Step 1	From the Automation Center navigation pane, click Triggers > Time Triggers . The Time Triggers list displays.
Step 2	Click the New button to display Time Trigger Details for a new Time Trigger and enter/select the following values: <ul style="list-style-type: none"> • Name = Custom Trigger • Calendar = Custom Calendar #1 • Task(s) = (any task) • Day Style = Complex • Date Noun = Thanksgiving (a Custom Day created for Custom Calendar #1)

Step 3 Click the **Save** button.

The screenshot shows the 'Time Trigger Details' configuration window. The 'General' section includes a text field for 'Name' containing 'Custom Trigger', an empty 'Description' field, a 'Member of Business Services' dropdown, a 'Calendar' dropdown set to 'Custom Calendar #1', and a 'Time Zone' dropdown set to 'System (America/New_York)'. The 'Task(s)' field is empty. The 'Status' section has 'Forecast' and 'Skip Trigger if Active' checkboxes, a 'Skip Count' field with '0', and a 'Simulate' dropdown set to '-- System Default --'. The 'Time Details' section shows 'Time Style' as 'Time' and 'Time' as '00:00'. The 'Day Details' section has 'Day Style' as 'Complex', 'Date Adjective' as 'Every', 'Date Noun' as 'Thanksgiving', 'Date Qualifier' as 'Year', and 'Date Adjustment' as '-- None --'. The 'Restrictions' section has a 'Special Restriction' checkbox. At the bottom are buttons for 'Save', 'Save & New', 'Save & View', and 'Close'.

Step 4 Re-open **Custom Trigger** and click the **List Qualifying Times** button to see that the trigger will run the task every year on Thanksgiving.

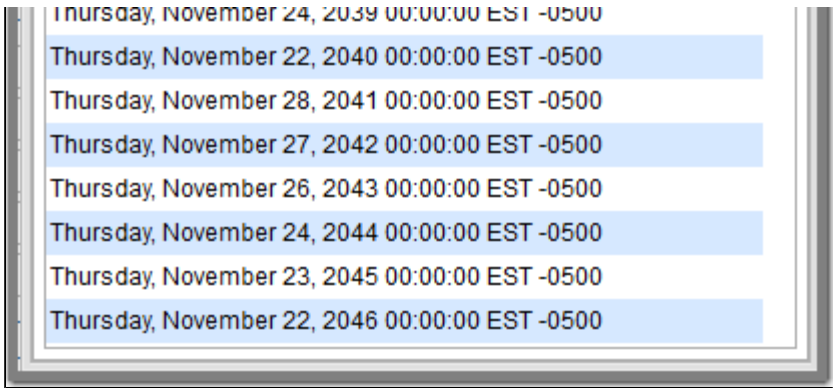
Qualifying Times

Custom Trigger

Listing From: 2017-10-27 15:54:31 -0400

User/Trigger Timezone: America/New_York

Thursday, November 23, 2017 00:00:00 EST -0500
Thursday, November 22, 2018 00:00:00 EST -0500
Thursday, November 28, 2019 00:00:00 EST -0500
Thursday, November 26, 2020 00:00:00 EST -0500
Thursday, November 25, 2021 00:00:00 EST -0500
Thursday, November 24, 2022 00:00:00 EST -0500
Thursday, November 23, 2023 00:00:00 EST -0500
Thursday, November 28, 2024 00:00:00 EST -0500
Thursday, November 27, 2025 00:00:00 EST -0500
Thursday, November 26, 2026 00:00:00 EST -0500
Thursday, November 25, 2027 00:00:00 EST -0500
Thursday, November 23, 2028 00:00:00 EST -0500
Thursday, November 22, 2029 00:00:00 EST -0500
Thursday, November 28, 2030 00:00:00 EST -0500
Thursday, November 27, 2031 00:00:00 EST -0500
Thursday, November 25, 2032 00:00:00 EST -0500
Thursday, November 24, 2033 00:00:00 EST -0500
Thursday, November 23, 2034 00:00:00 EST -0500
Thursday, November 22, 2035 00:00:00 EST -0500
Thursday, November 27, 2036 00:00:00 EST -0500
Thursday, November 26, 2037 00:00:00 EST -0500
Thursday, November 25, 2038 00:00:00 EST -0500



Step 5 In the **Custom Trigger** Details, change the following values:

- **Date Noun** = Business Day.
- **Date Qualifier** = 4th Quarter (a Custom Day period created for Custom Calendar #1)

Step 6 Click the **Update** button.

Step 7 Re-open **Custom Trigger** and click the **List Qualifying Times** button to see that the trigger will run the task every business day during the custom period, October 1 to December 31.

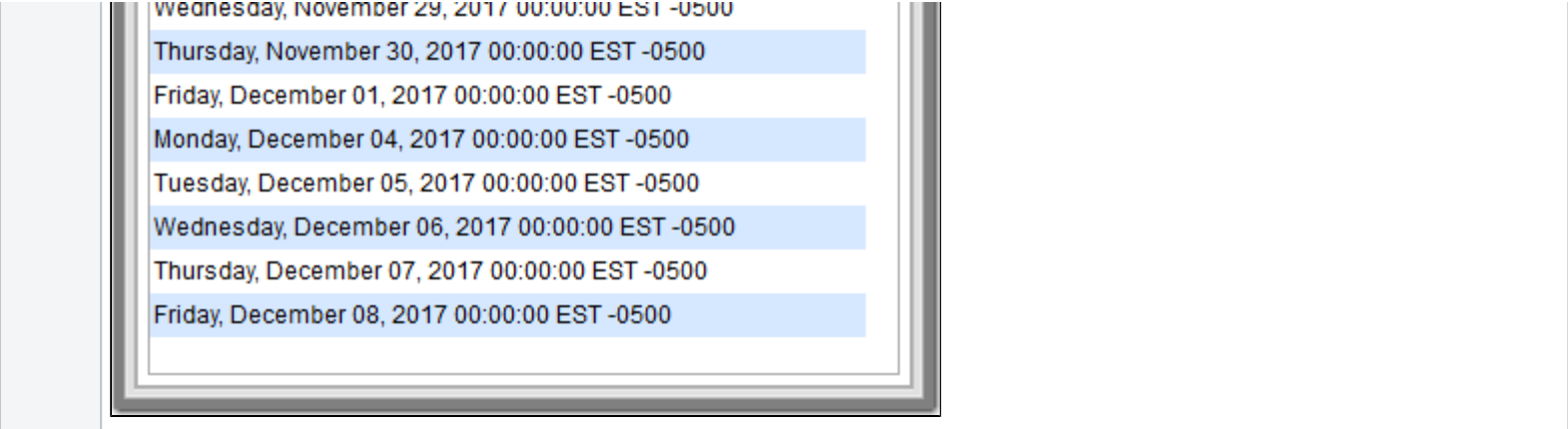
Qualifying Times

Custom Trigger

Listing From: 2017-10-27 15:57:56 -0400

User/Trigger Timezone: America/New_York

Monday, October 30, 2017 00:00:00 EDT -0400
Tuesday, October 31, 2017 00:00:00 EDT -0400
Wednesday, November 01, 2017 00:00:00 EDT -0400
Thursday, November 02, 2017 00:00:00 EDT -0400
Friday, November 03, 2017 00:00:00 EDT -0400
Monday, November 06, 2017 00:00:00 EST -0500
Tuesday, November 07, 2017 00:00:00 EST -0500
Wednesday, November 08, 2017 00:00:00 EST -0500
Thursday, November 09, 2017 00:00:00 EST -0500
Friday, November 10, 2017 00:00:00 EST -0500
Monday, November 13, 2017 00:00:00 EST -0500
Tuesday, November 14, 2017 00:00:00 EST -0500
Wednesday, November 15, 2017 00:00:00 EST -0500
Thursday, November 16, 2017 00:00:00 EST -0500
Friday, November 17, 2017 00:00:00 EST -0500
Monday, November 20, 2017 00:00:00 EST -0500
Tuesday, November 21, 2017 00:00:00 EST -0500
Wednesday, November 22, 2017 00:00:00 EST -0500
Thursday, November 23, 2017 00:00:00 EST -0500
Friday, November 24, 2017 00:00:00 EST -0500
Monday, November 27, 2017 00:00:00 EST -0500
Tuesday, November 28, 2017 00:00:00 EST -0500

A screenshot of a calendar trigger list. The list contains eight entries, each representing a specific day and time. Each entry is displayed on a light blue background. The entries are: Wednesday, November 29, 2017 00:00:00 EST -0500; Thursday, November 30, 2017 00:00:00 EST -0500; Friday, December 01, 2017 00:00:00 EST -0500; Monday, December 04, 2017 00:00:00 EST -0500; Tuesday, December 05, 2017 00:00:00 EST -0500; Wednesday, December 06, 2017 00:00:00 EST -0500; Thursday, December 07, 2017 00:00:00 EST -0500; and Friday, December 08, 2017 00:00:00 EST -0500.

Wednesday, November 29, 2017 00:00:00 EST -0500
Thursday, November 30, 2017 00:00:00 EST -0500
Friday, December 01, 2017 00:00:00 EST -0500
Monday, December 04, 2017 00:00:00 EST -0500
Tuesday, December 05, 2017 00:00:00 EST -0500
Wednesday, December 06, 2017 00:00:00 EST -0500
Thursday, December 07, 2017 00:00:00 EST -0500
Friday, December 08, 2017 00:00:00 EST -0500

For additional information, see:

- [Triggers Overview](#)
- [Creating Calendars](#)
- [Creating Custom Days](#)

Tutorial - Generating Forecast Data

In this exercise, we will:

- Add a workflow and its tasks to the Forecast calendar.
- Run the workflow and display its forecast information.
- Update a task in the workflow and then re-run the workflow.
- Recalculate the forecast information for the workflow.

Step 1

Create a Time trigger and enter/select the following values:

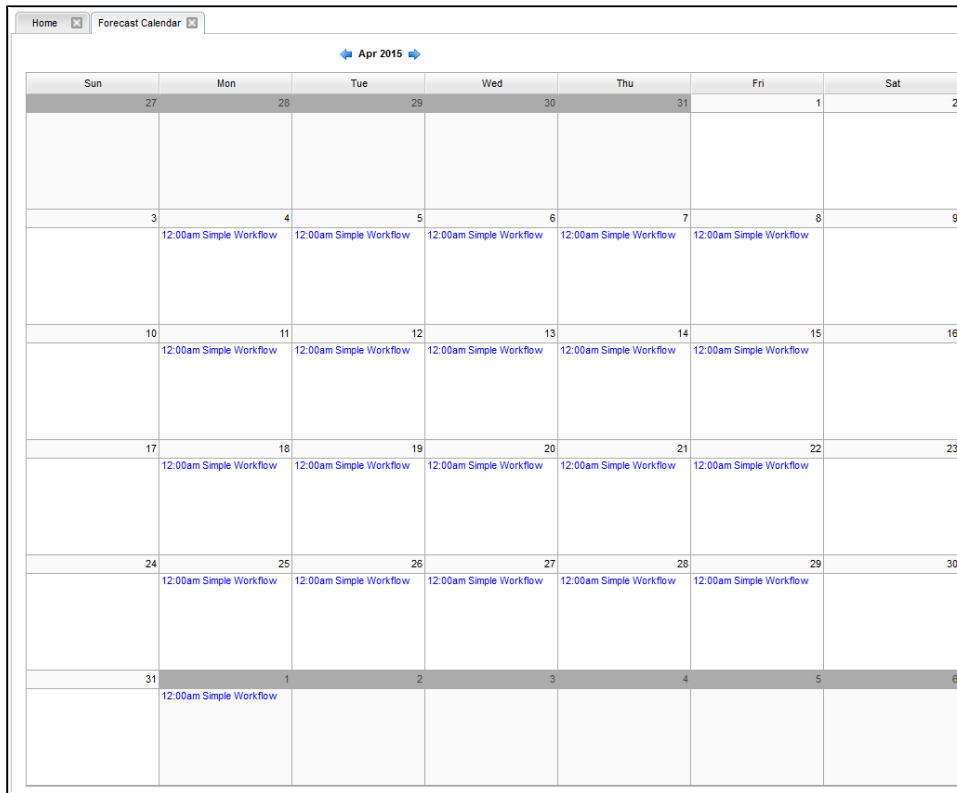
- **Name** = Simple Workflow Trigger.
- **Task(s)** = Simple Workflow
- **Forecast** = enabled
- **Business Days** = enabled

Step 2

Save the trigger and then enable it. A trigger must be enabled in order to generate forecast data for it.

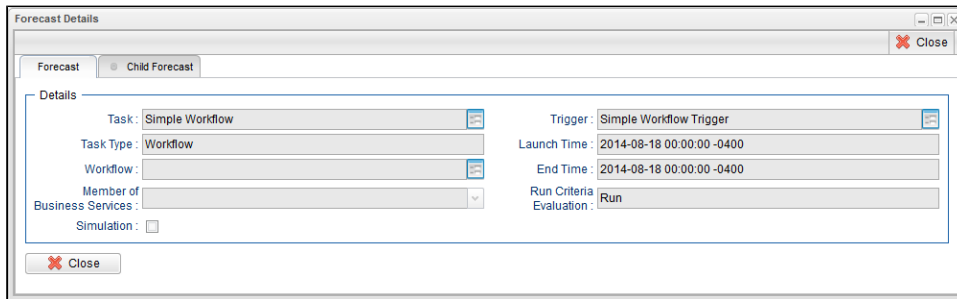
Step 3

From the [Automation Center](#) navigation pane, select **Triggers > Forecast Calendar**. The Forecast Calendar identifies Simple Workflow on the days in the forecast period, for the current month, when it will be launched by Simple Workflow Trigger. (By default, tasks within a Workflow are not displayed.)



Step 4

Click any Simple Workflow link in the Forecast Calendar to display a Forecast Details pop-up. Note that the Launch Time and End Time are identical; since the workflow has never been run, there is no data to support estimated times.



Step 5 From the [Automation Center](#) navigation pane, select **Triggers > Forecasts**. The Forecasts list identifies Simple Workflow and every task in Simple Workflow, as well as their Launch Times and End Times, for every day in the forecast period when Simple Workflow will be launched by Simple Workflow Trigger.

Trigger	Task	Task Type	Workflow	Launch Time	End Time	Run Criteria Evaluation	Simulation	Updated By
Simple Workflow Trigger	Simple Workflow	Workflow	Simple Workflow	2014-08-04 00:00:00 -0400	2014-08-04 00:00:00 -0400	Run	No	ops.admin
Simple Workflow Trigger	Timer1	Timer	Simple Workflow	2014-08-04 00:00:00 -0400	2014-08-04 00:00:10 -0400	Run	No	ops.admin
Simple Workflow Trigger	Timer6	Timer	Simple Workflow	2014-08-04 00:00:00 -0400	2014-08-04 00:00:00 -0400	Run	No	ops.admin
Simple Workflow Trigger	Timer2	Timer	Simple Workflow	2014-08-04 00:00:10 -0400	2014-08-04 00:00:21 -0400	Run	No	ops.admin
Simple Workflow Trigger	Timer3	Timer	Simple Workflow	2014-08-04 00:00:10 -0400	2014-08-04 00:00:21 -0400	Run	No	ops.admin
Simple Workflow Trigger	Timer4	Timer	Simple Workflow	2014-08-04 00:00:10 -0400	2014-08-04 00:00:21 -0400	Run	No	ops.admin
Simple Workflow Trigger	Timer5	Timer	Simple Workflow	2014-08-04 00:00:20 -0400	2014-08-04 00:00:31 -0400	Run	No	ops.admin
Simple Workflow Trigger	Timer1	Timer	Simple Workflow	2014-08-05 00:00:00 -0400	2014-08-05 00:00:10 -0400	Run	No	ops.admin
Simple Workflow Trigger	Simple Workflow	Workflow	Simple Workflow	2014-08-05 00:00:00 -0400	2014-08-05 00:00:00 -0400	Run	No	ops.admin
Simple Workflow Trigger	Timer6	Timer	Simple Workflow	2014-08-05 00:00:00 -0400	2014-08-05 00:00:00 -0400	Run	No	ops.admin
Simple Workflow Trigger	Timer4	Timer	Simple Workflow	2014-08-05 00:00:10 -0400	2014-08-05 00:00:21 -0400	Run	No	ops.admin
Simple Workflow Trigger	Timer2	Timer	Simple Workflow	2014-08-05 00:00:10 -0400	2014-08-05 00:00:21 -0400	Run	No	ops.admin
Simple Workflow Trigger	Timer3	Timer	Simple Workflow	2014-08-05 00:00:10 -0400	2014-08-05 00:00:21 -0400	Run	No	ops.admin
Simple Workflow Trigger	Timer5	Timer	Simple Workflow	2014-08-05 00:00:20 -0400	2014-08-05 00:00:31 -0400	Run	No	ops.admin
Simple Workflow Trigger	Timer6	Timer	Simple Workflow	2014-08-06 00:00:00 -0400	2014-08-06 00:00:00 -0400	Run	No	ops.admin

Step 6 Re-display the Time Triggers list, right-click Simple Workflow Trigger, and then click Trigger Now to launch Simple Workflow.

Step 7 When Simple Workflow has completed, re-display the Time Triggers list, right-click Simple Workflow Trigger, and then click Recalculate Forecast.

Note

You also can recalculate the forecast by right-clicking Simple Workflow on the Workflow Tasks list and then clicking Recalculate Forecast.

Step 8 Re-display the Forecast Calendar and click any Simple Workflow link in the Forecast Calendar to display a Forecast Details pop-up, which now contains estimated Launch Time and End Time information based on the Workflow run just completed.

Forecast Details

Forecast Child Forecast

Details

Task: Simple Workflow

Task Type: Workflow

Workflow:

Member of:

Business Services:

Simulation:

Trigger: Simple Workflow Trigger

Launch Time: 2014-08-11 00:00:00 -0400

End Time: 2014-08-11 00:02:21 -0400

Run Criteria Evaluation: Run

Close

Step 9 Open the Timer Task and change the **Timer Duration in Seconds** value from 10 to 50, and then click Update.

The screenshot shows the 'Timer Task Details: Timer 2' dialog box with the following fields and options:

- General:**
 - Task Name: Version:
 - Task Description:
 - Member of:
 - Business Services:
 - Resolve Name Immediately:
 - Hold on Start:
 - Virtual Resource Priority:
 - Time Zone Preference:
 - Hold Resources on Failure:
- Timer Details:**
 - Timer Type:
 - Timer Duration in Seconds:
- Time Options:**
 - Late Start:
 - Late Finish:
 - Type:
 - Duration:
 - Early Finish:
 - User Estimated Duration:
- Critical Path Options:**
 - CP Duration:
 - CP Duration Unit:
- Workflow Execution Options:**
 - Execution Restriction:

Buttons at the bottom: Update, Launch Task, View Parents, Copy, Delete, Refresh, Close.

Step 10 Re-run Simple Workflow.

Step 11 When Simple Workflow has completed, re-calculate its Forecast; since the updated time for the Timer1 task affected the Simple Workflow End Time (the time it took to run the Workflow), the Forecast information for Simple Workflow is now obsolete.

Step 12 Re-open the Forecast Calendar and click any Simple Workflow link to see that 20 seconds has been added to the End Time.

For additional information, see:

- [Creating and Maintaining Workflows](#)
- [Triggers Overview](#)
- [Displaying Trigger Forecast Information](#)

Tutorial - Setting Up a Virtual Resource

In this exercise, we will set up an imaginary resource and three imaginary tasks.

In this scenario, two of our tasks are resource-intensive, and they run on the same machine. Therefore, if one is already running when the other is launched, we want the second task to wait until the first is finished before running. However, our third task is not so resource-intensive, so we will allow this one to run at the same time as either of the other two.

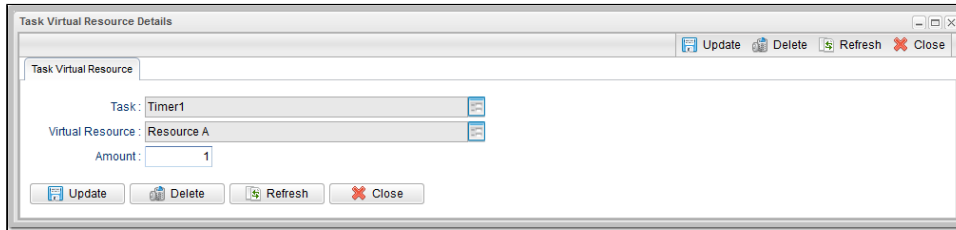
To simplify the exercise, we will use Timer tasks.

Step 1	From the Automation Center navigation pane, click Other > Virtual Resources . The Virtual Resources list displays.
Step 2	Click the New button to display an empty Virtual Resource Details and enter the following values: <ul style="list-style-type: none"> • Resource Name = Resource A • Resource Limit = 5
Step 3	Click the Save button. <div style="border: 1px solid gray; padding: 5px; margin-top: 10px;"> </div>

Step 4 Update the Timer1, Timer2, and Timer3 tasks that you created in the [Creating a Simple Workflow](#) tutorial.

For Timer1:

1. Change **Time in Seconds** to 60.
2. Click the Virtual Resources tab to display the Virtual Resources list for Timer1:
 - a. Click the **Edit** button, add **Resource A** to the Virtual Resources list, and click **Save**.
 - b. Click the Details icon for Resource A to display its Task Virtual Resource Details.



- c. Change the **Amount** (number of resource units required from the virtual resource) from 1 to 4 and click the **Update** button.

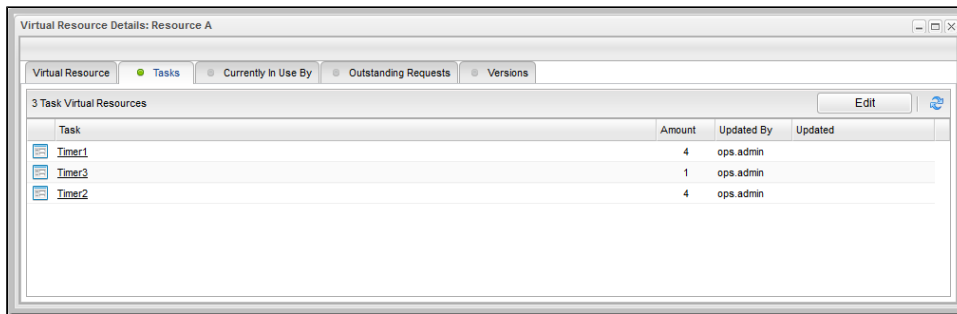
For Timer2:

1. Change **Time in Seconds** to 30.
2. Add Resource A and change the **Amount** to 4.

For Timer3:

1. Change **Time in Seconds** to 20.
2. Add Resource A and keep the **Amount** at 1.

Step 5 Open Resource A and click the Tasks tab to see that Timer1, Timer2, and Timer3 are listed.



Step 6 Create a Time Trigger called **Trigger A**, and select Task1, Task2, and Task 3 in the **Task(s)** field, and enter a **Time** three minutes from the current time.

Step 7 Click the **Save** button, right-click Trigger A on the Triggers list, and click **Enable**.

Step 8 When the trigger is satisfied, only Timer1 or Timer 2 will run, along with Timer3. When Timer1 or Timer 2 finishes, the other will run run. Display the Activity Monitor and note that Timer1 or Timer 2 is waiting in **Resource Wait** status.

The screenshot shows the Activity Monitor interface with a table of timer instances. The table has columns for Instance Name, Type, Status, Invoked By, Start Time, End Time, and an Update button. The data rows are as follows:

Instance Name	Type	Status	Invoked By	Start Time	End Time	Update
Timer3	Timer	Success	Trigger: Trigger A	2014-08-12 10:56:00 -0400	2014-08-12 10:56:10 -0400	2014-08-
Timer1	Timer	Resource Wait	Trigger: Trigger A			2014-08-
Timer2	Timer	Running	Trigger: Trigger A	2014-08-12 10:56:00 -0400		2014-08-

Step 9 In the Virtual Resource Details, click the **Currently In Use By** tab and observe which tasks are running on this virtual resource. Note that this display does not automatically refresh.

For additional information, see:

[Virtual Resources](#)

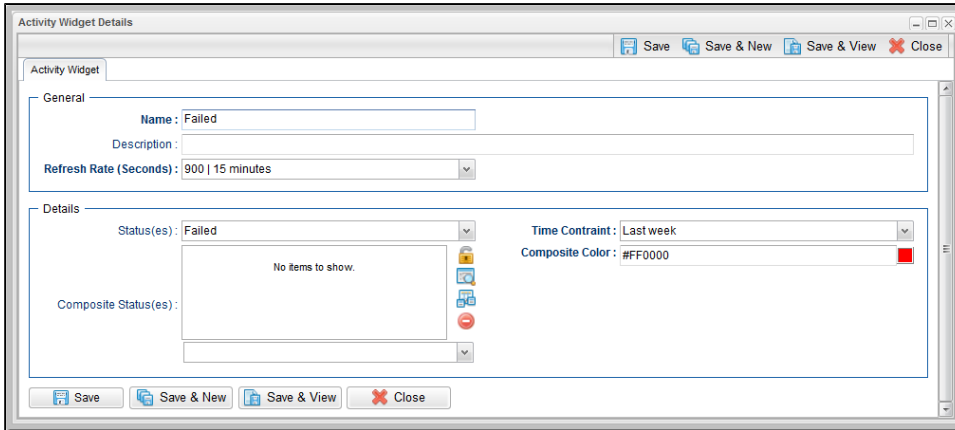
Tutorial - Creating a Widget

There are three types of [Widgets](#), all of which can be placed on one or more [Dashboard Details](#):

- System
- Activity
- Report

In this exercise, we will create an Activity Widget that identifies any failed task instances in the past week.

(You cannot create, modify, or delete a System Widget; they are provided by the Controller.)

Step 1	From the Reporting navigation pane, select Widgets . The Widgets list displays.
Step 2	Click the New button and then click Activity Widget . An Activity Widget Details pop-up displays.
Step 3	<p>Enter / select the following values:</p> <ul style="list-style-type: none"> • Name = Failed • Refresh Rate (Seconds) = 900 15 minutes • Status(es) = Failed • Time Constraint = Last week • Composite Color = Red 
Step 4	Click the Save button. This Widget can now be added to any Dashboard and can be selected for any Composite Widget.

For additional information, see:

- [Widgets](#)

Tutorial - Creating a Dashboard and Adding Widgets

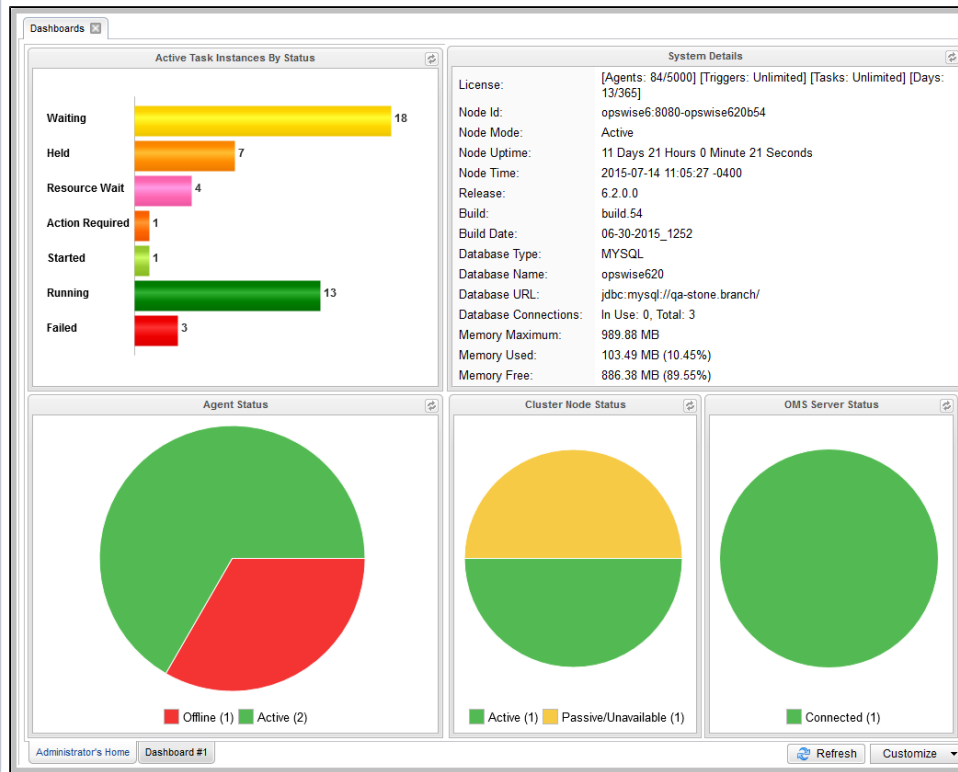
Creating a Dashboard and Adding Widgets

Universal Controller provides a default [Dashboard](#) containing multiple [Widgets](#) that displays as the [Home Dashboard](#) when you log in to Universal Controller.

You can create your own Dashboards containing any available Widgets.

In this exercise, we are going to create a Dashboard and select Widgets for the Dashboard.

Step 1 Click the Home icon in the top right corner of any page to display the Home dashboard.



Step 2 On the **Customize** drop-down list at the bottom of the Home Page, click **New**.

Step 3 Select a name for the new Dashboard on the New Dashboard pop-up and click **OK**. A new, empty Dashboard displays.

Step 4 From the list of Widgets to the left of the Dashboard, drag and drop any of the Widgets into either column. (If you want to add more columns, click either **Column Properties** drop-down list and then click **Add Column**.)

The screenshot shows the dashboard interface with a widget picker on the left and three data widgets on the right. The widget picker lists various widgets, with 'Cluster Node Status' highlighted. The dashboard contains three widgets:

- Active Task Instances By Status:** A horizontal bar chart showing the count of task instances for each status.

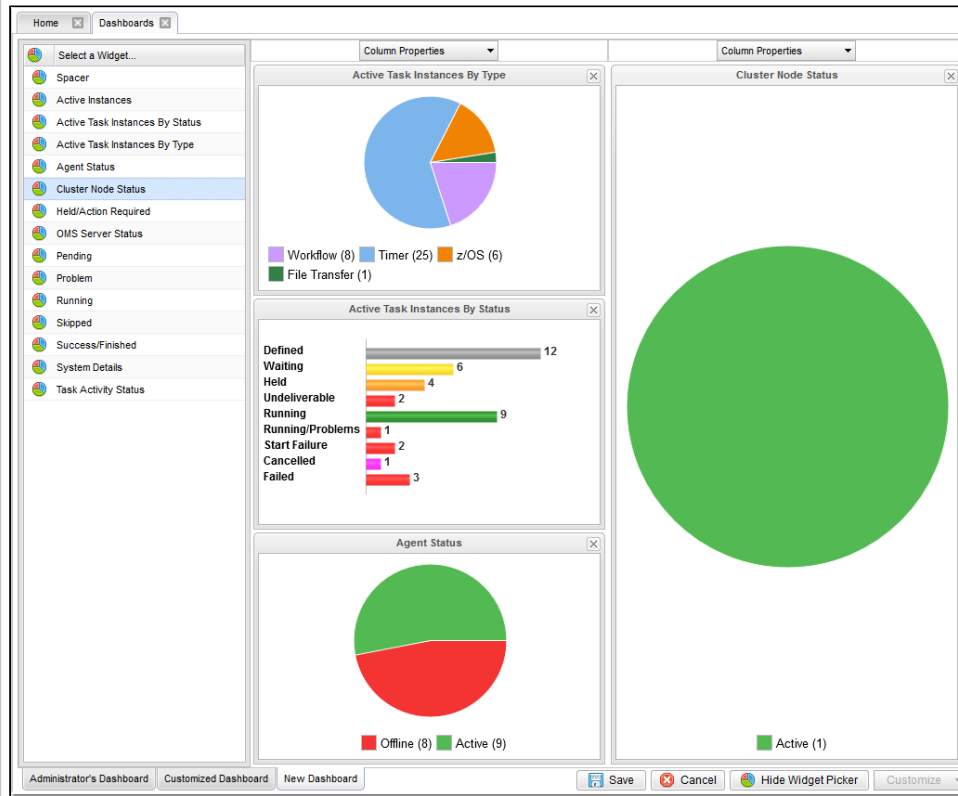
Status	Count
Defined	12
Waiting	6
Held	4
Undeliverable	2
Running	9
Running/Problems	1
Start Failure	2
Cancelled	1
Failed	3
- Active Task Instances By Type:** A pie chart showing the distribution of task instances by type.

Type	Count
Workflow	8
Timer	25
z/OS	6
File Transfer	1
- Agent Status:** A pie chart showing the distribution of agent status.

Status	Count
Offline	8
Active	9

At the bottom of the dashboard, there are buttons for 'Save', 'Cancel', 'Hide Widget Picker', and 'Customize', along with a 'New Dashboard' button.

Step 5 After you have added Widgets to your new Dashboard, you can click the **x** icon in the top right corner of any Widget to remove it from the Dashboard, or drag and drop any Widget to a new location in the Dashboard.



Step 6 Click the **Save** button to add the Dashboard.

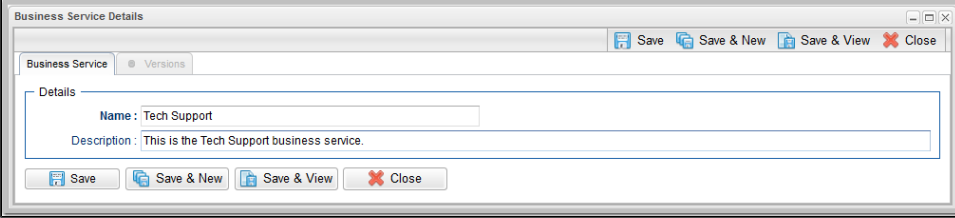
For additional information, see:

- [Home Dashboard](#)
- [Dashboard Details](#)
- [Widgets](#)

Tutorial - Creating Business Services

Business Services are used to group records into business functions.

In this exercise, we will create two hypothetical Business Services: Tech Support and Operations.

Step 1	From the Administration navigation pane, select Security > Business Services . The Business Services list displays.
Step 2	Click the New button to display an empty Business Service Details.
Step 3	<p>Enter the following values:</p> <ul style="list-style-type: none"> • Name = Tech Support • Description = This is the Tech Support business service.
Step 4	<p>Click the Save button.</p>  <p>The screenshot shows a window titled "Business Service Details". At the top, there are tabs for "Business Service" and "Versions", and buttons for "Save", "Save & New", "Save & View", and "Close". Below the tabs is a "Details" section with two text input fields. The first field is labeled "Name:" and contains the text "Tech Support". The second field is labeled "Description:" and contains the text "This is the Tech Support business service." At the bottom of the form, there are buttons for "Save", "Save & New", "Save & View", and "Close".</p>
Step 5	Repeat steps 2 to 4 for a Business Service called Operations .

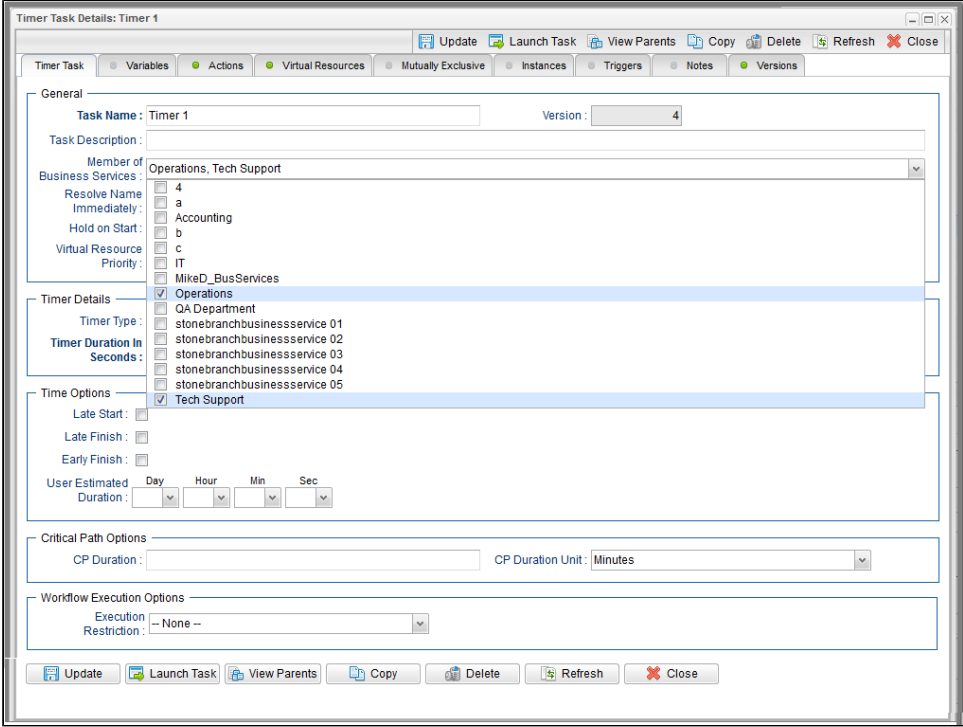
For additional information, see:

- [Business Services](#)

Tutorial - Assigning Records to Business Services

In this exercise, we will assign the Timer and Simple Workflow tasks created in the [Creating a Simple Workflow](#) tutorial to the Operations Business Service, and the SQL task and Bigger Workflow tasks created in the [Running a Workflow with a Conditional Path](#) tutorial) to the Tech Support Business Service.

See the [Creating Business Services](#) tutorial to see how these Business Services were created.

Step 1	Open the Timer task called Timer1 , which you created in the Creating a Simple Workflow tutorial.
Step 2	<p>From the Member of Business Services drop-down list, select Tech Support and Operations.</p> 
Step 3	Click the Update button.
Step 4	Repeat steps 1 to 3 for the Timer2 and Timer3 tasks and the Simple Workflow Workflow, all of which you also created in the Creating a Simple Workflow tutorial.

For additional information, see:

- [Business Services](#)

Tutorial - Viewing Activity by Business Service

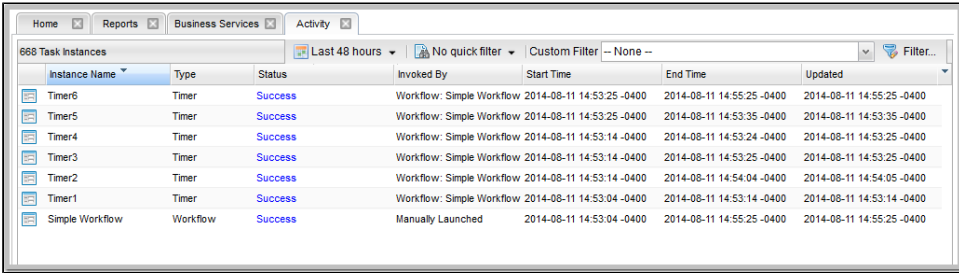
- [Introduction](#)

Introduction

In this exercise, we will launch the **Simple Workflow** Workflow (created in the [Creating a Simple Workflow](#) tutorial and, on the Activity Monitor, display only tasks assigned to the **Operations** Business Service (see [Assigning Records to Business Services](#) | Tutorial - Assigning Records to Business Services) tutorial.

Step 1 Run the **Simple Workflow** Workflow.

Step 2 Display the [Activity Monitor](#), which will list the **Simple Workflow** and all of its tasks.

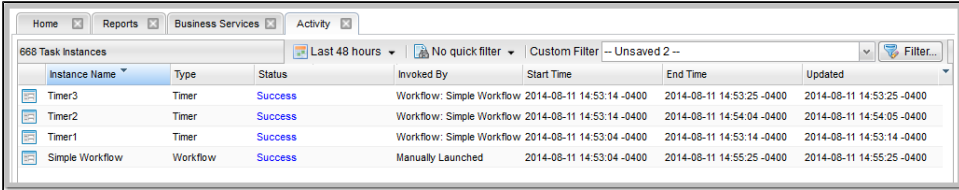


Instance Name	Type	Status	Invoked By	Start Time	End Time	Updated
Timer6	Timer	Success	Workflow: Simple Workflow	2014-08-11 14:53:25 -0400	2014-08-11 14:55:25 -0400	2014-08-11 14:55:25 -0400
Timer5	Timer	Success	Workflow: Simple Workflow	2014-08-11 14:53:25 -0400	2014-08-11 14:53:35 -0400	2014-08-11 14:53:35 -0400
Timer4	Timer	Success	Workflow: Simple Workflow	2014-08-11 14:53:14 -0400	2014-08-11 14:53:24 -0400	2014-08-11 14:53:25 -0400
Timer3	Timer	Success	Workflow: Simple Workflow	2014-08-11 14:53:14 -0400	2014-08-11 14:53:25 -0400	2014-08-11 14:53:25 -0400
Timer2	Timer	Success	Workflow: Simple Workflow	2014-08-11 14:53:14 -0400	2014-08-11 14:54:04 -0400	2014-08-11 14:54:05 -0400
Timer1	Timer	Success	Workflow: Simple Workflow	2014-08-11 14:53:04 -0400	2014-08-11 14:53:14 -0400	2014-08-11 14:53:14 -0400
Simple Workflow	Workflow	Success	Manually Launched	2014-08-11 14:53:04 -0400	2014-08-11 14:55:25 -0400	2014-08-11 14:55:25 -0400

Step 3 Apply the following [Filter](#) to the list of tasks:

- Member of Business Services
- contains
- Operations

The Activity Monitor now displays only tasks assigned to **Operations** Business Service.

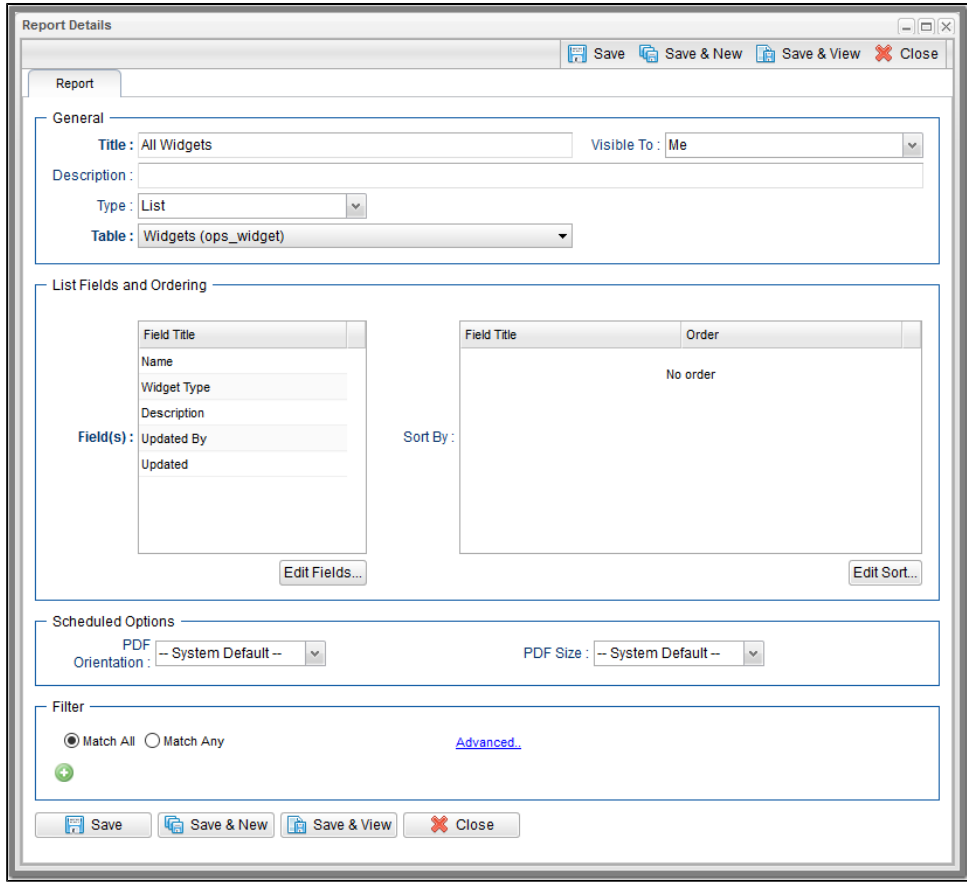


Instance Name	Type	Status	Invoked By	Start Time	End Time	Updated
Timer3	Timer	Success	Workflow: Simple Workflow	2014-08-11 14:53:14 -0400	2014-08-11 14:53:25 -0400	2014-08-11 14:53:25 -0400
Timer2	Timer	Success	Workflow: Simple Workflow	2014-08-11 14:53:14 -0400	2014-08-11 14:54:04 -0400	2014-08-11 14:54:05 -0400
Timer1	Timer	Success	Workflow: Simple Workflow	2014-08-11 14:53:14 -0400	2014-08-11 14:53:14 -0400	2014-08-11 14:53:14 -0400
Simple Workflow	Workflow	Success	Manually Launched	2014-08-11 14:53:04 -0400	2014-08-11 14:55:25 -0400	2014-08-11 14:55:25 -0400

Tutorial - Creating a Report

In this exercise, we will create a report for [Widgets](#).

Step 1	From the Reporting navigation pane, select Reports . The Reports list displays.
Step 2	In the empty Report Details below the list, enter / select the following values: <ul style="list-style-type: none"> • Title = All Widgets • Table = Widgets (ops_widget) • Field(s) = (pre-selected fields display when you click Edit Fields)
Step 3	Click the Save button.



Step 4

Click the **Run** button to run the report, which displays under a new tab.

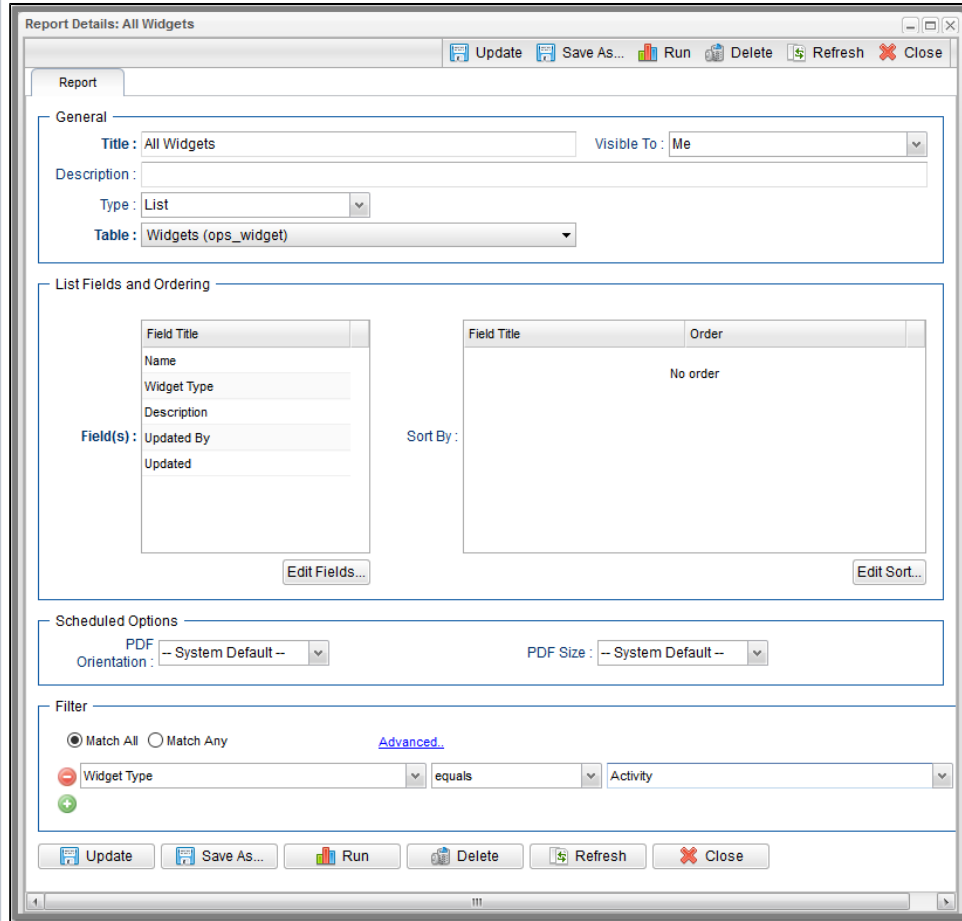
The screenshot shows a web interface with a breadcrumb trail: Dashboards > Reports > All Widgets report. Below the breadcrumb is a table titled '14 Widgets'. The table has five columns: Name, Widget Type, Description, Updated By, and Updated. Each row represents a different widget, such as 'Skipped', 'Problem', 'Success/Finished', etc. The 'Updated' column contains timestamps in the format YYYY-MM-DD HH:MM:SS -0400.

Name	Widget Type	Description	Updated By	Updated
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		ops.admin	2014-08-11 13:43:50 -0400
Agent Status	System	Pie chart for agent statuses.	ops.system	2014-06-24 20:00:00 -0400
Held/Action Required	Activity	Activity - Held/Action Required	ops.admin	2014-07-17 11:41:46 -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
Pending	Activity	Activity - Pending	ops.admin	2014-07-17 11:58:46 -0400
Running	Activity	Activity - Running	ops.admin	2014-07-17 11:38:20 -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

Step 5

Return to the Report Details and select the following **Filter** for the report:

- Widget Type
- equals
- Activity



Step 6

Click the **Update** button, and then click the **Run** button to display the report under a new tab.

Name	Widget Type	Description	Updated By	Updated
Skipped	Activity	Activity - Skipped	ellen.ulrich	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	ellen.ulrich	2014-08-18 23:28:05 -0400
Failed	Activity		ops.admin	2014-08-11 13:43:50 -0400
Held/Action Required	Activity	Activity - Held/Action Required	ellen.ulrich	2014-07-17 11:41:46 -0400
Pending	Activity	Activity - Pending	ellen.ulrich	2014-07-17 11:58:46 -0400
Running	Activity	Activity - Running	ellen.ulrich	2014-07-17 11:38:20 -0400

For additional information, see:

- [Report Details](#)

Tutorial - Creating a Report Based on Business Services

In this exercise, we will create two Activity reports so that users from our hypothetical Operations and Tech Support departments (see the [Creating Business Services](#) tutorials) can view activity related to their organizations.

Step 1	From the Reporting navigation pane, select Reports . The Reports list displays.
Step 2	Click the New button to display empty Report Details.
Step 3	<p>Enter / select the following values:</p> <ul style="list-style-type: none"> • Title - Business Services • Table = Business Services (ops_generic_group) • Field(s) = (pre-selected fields that display when you click the Edit Fields button)
Step 4	Click the Save button.

Report Details

Save Save & New Save & View Close

Report

General

Title: Business Services Visible To: Me

Description:

Type: List

Table: Business Services (ops_generic_group)

List Fields and Ordering

Field Title	Order
Name	
Description	
Updated By	
Field(s): Updated	Sort By:
	No order

Edit Fields... Edit Sort...

Scheduled Options

PDF Orientation: -- System Default -- PDF Size: -- System Default --

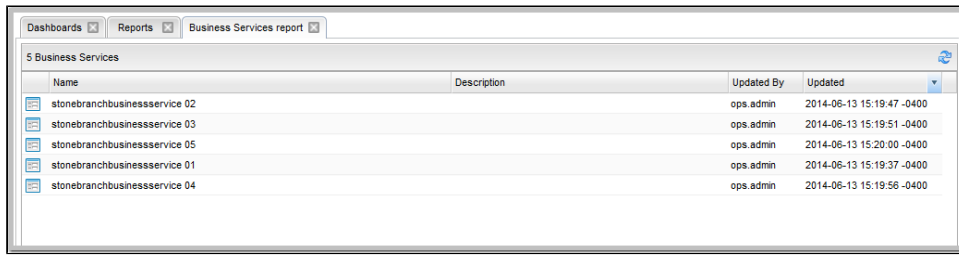
Filter

Match All Match Any [Advanced..](#)

Save Save & New Save & View Close

Step 5

Click the **Run** button. A Business Services report displays under a new tab.



The screenshot shows a web interface with three tabs: 'Dashboards', 'Reports', and 'Business Services report'. The 'Business Services report' tab is active, displaying a table titled '5 Business Services'. The table has four columns: 'Name', 'Description', 'Updated By', and 'Updated'. Each row includes a small icon on the left. The data in the table is as follows:

Name	Description	Updated By	Updated
stonebranchbusinessservice 02		ops.admin	2014-06-13 15:19:47 -0400
stonebranchbusinessservice 03		ops.admin	2014-06-13 15:19:51 -0400
stonebranchbusinessservice 05		ops.admin	2014-06-13 15:20:00 -0400
stonebranchbusinessservice 01		ops.admin	2014-06-13 15:19:37 -0400
stonebranchbusinessservice 04		ops.admin	2014-06-13 15:19:56 -0400

For additional information, see:

- [Report Details](#)

Tutorial - Scheduling a Report

In this exercise, we will [schedule a report](#) by triggering an [Email Task](#) that specifies the report.

To simplify this exercise, we will manually trigger the Email task. However, you can [schedule a report](#) using several methods.

Step 1	<p>Create a Report with the following values:</p> <ul style="list-style-type: none">• Title = Scheduled Activity Report• Visible to = Me• Type = List• Table = All Task Instances (ops_exec)• Field(s) = Instance Name, Type, Status• In Scheduling Options, select any PDF Orientation and PDF Size.
Step 2	<p>From the Automation Center navigation pane, select Email Tasks. The Email Tasks list displays.</p>
Step 3	<p>Click the New button and enter / select the following values in the empty Email Tasks Details:</p> <ul style="list-style-type: none">• Task Name = Schedule a Report• Email Connection = (Select a valid email connection for your environment.)• To = (Enter the email address where you want to send the email.)• Subject = Activity Report• Report = Scheduled Activity Report

Email Task Details

Save Save & New Save & View Close

Variables
 Actions
 Virtual Resources
 Mutually Exclusive
 Instances
 Triggers
 Notes
 Versions

General

Task Name: Schedule a Report

Task Description:

Member of Business Services:

Resolve Name Immediately: Time Zone Preference: -- System Default --

Hold on Start:

Virtual Resource Priority: 10 Hold Resources on Failure:

Email Details

Email Template: Email Connection: QA-OPSWISE-MAILER

Email Template Variable:

Reply-To:

To: support@stonebranch.com

Cc:

Bcc:

Subject: Activity Report

Body:

Report: Scheduled Activity Report Report Variable:

Wait/Delay Options

Wait To Start: -- None --

Delay On Start: -- None --

Workflow Only: -- System Default --

Time Options

Late Start:

Late Finish:

Early Finish:

User Estimated Duration: Day Hour Min Sec

Critical Path Options

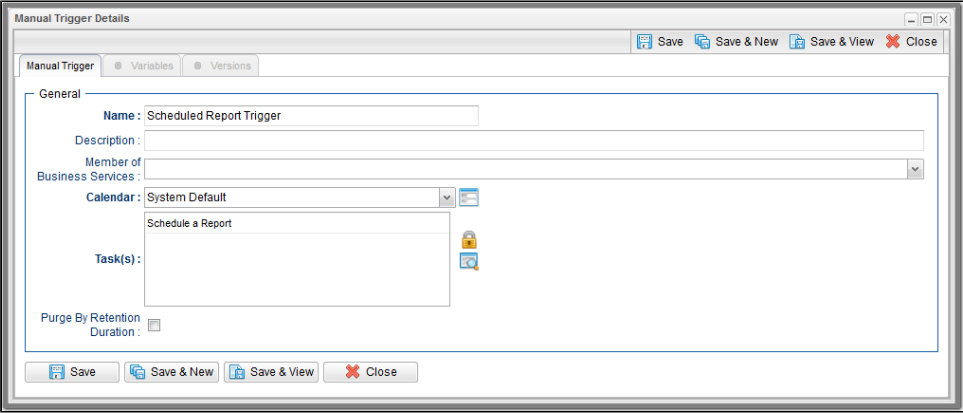
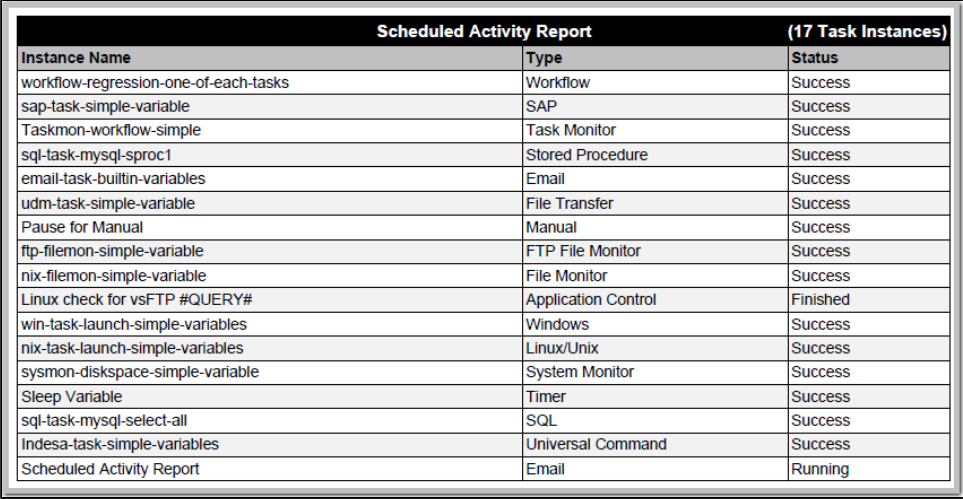
CP Duration: CP Duration Unit: Minutes

Workflow Execution Options

Execution Restriction: -- None --

Save Save & New Save & View Close

Step 4 Click the **Save** button.

Step 5	From the Automation Center navigation pane, select Manual Triggers . The Manual Triggers list displays.																																																									
Step 6	<p>Click the New button and enter / select the following values in the empty Manual Trigger Details:</p> <ul style="list-style-type: none"> • Name = Scheduled Report Trigger • Tasks(s) = Schedule a Report 																																																									
Step 7	Click the Save button.																																																									
Step 8	In the Time Triggers list, right-click the Schedule Report Trigger to display an Action menu .																																																									
Step 9	Click Trigger Now... and then, on the Trigger Now... pop-up dialog, click Submit .																																																									
Step 10	<p>Open the email sent to the recipient selected in Step 3 and double-click the attached Scheduled Activity Report.pdf to see the report.</p>  <table border="1"> <thead> <tr> <th colspan="2">Scheduled Activity Report</th> <th>(17 Task Instances)</th> </tr> <tr> <th>Instance Name</th> <th>Type</th> <th>Status</th> </tr> </thead> <tbody> <tr><td>workflow-regression-one-of-each-tasks</td><td>Workflow</td><td>Success</td></tr> <tr><td>sap-task-simple-variable</td><td>SAP</td><td>Success</td></tr> <tr><td>Taskmon-workflow-simple</td><td>Task Monitor</td><td>Success</td></tr> <tr><td>sql-task-mysql-sproc1</td><td>Stored Procedure</td><td>Success</td></tr> <tr><td>email-task-builtin-variables</td><td>Email</td><td>Success</td></tr> <tr><td>udm-task-simple-variable</td><td>File Transfer</td><td>Success</td></tr> <tr><td>Pause for Manual</td><td>Manual</td><td>Success</td></tr> <tr><td>ftp-filemon-simple-variable</td><td>FTP File Monitor</td><td>Success</td></tr> <tr><td>nix-filemon-simple-variable</td><td>File Monitor</td><td>Success</td></tr> <tr><td>Linux check for vsFTP #QUERY#</td><td>Application Control</td><td>Finished</td></tr> <tr><td>win-task-launch-simple-variables</td><td>Windows</td><td>Success</td></tr> <tr><td>nix-task-launch-simple-variables</td><td>Linux/Unix</td><td>Success</td></tr> <tr><td>sysmon-diskspace-simple-variable</td><td>System Monitor</td><td>Success</td></tr> <tr><td>Sleep Variable</td><td>Timer</td><td>Success</td></tr> <tr><td>sql-task-mysql-select-all</td><td>SQL</td><td>Success</td></tr> <tr><td>Indesa-task-simple-variables</td><td>Universal Command</td><td>Success</td></tr> <tr><td>Scheduled Activity Report</td><td>Email</td><td>Running</td></tr> </tbody> </table>	Scheduled Activity Report		(17 Task Instances)	Instance Name	Type	Status	workflow-regression-one-of-each-tasks	Workflow	Success	sap-task-simple-variable	SAP	Success	Taskmon-workflow-simple	Task Monitor	Success	sql-task-mysql-sproc1	Stored Procedure	Success	email-task-builtin-variables	Email	Success	udm-task-simple-variable	File Transfer	Success	Pause for Manual	Manual	Success	ftp-filemon-simple-variable	FTP File Monitor	Success	nix-filemon-simple-variable	File Monitor	Success	Linux check for vsFTP #QUERY#	Application Control	Finished	win-task-launch-simple-variables	Windows	Success	nix-task-launch-simple-variables	Linux/Unix	Success	sysmon-diskspace-simple-variable	System Monitor	Success	Sleep Variable	Timer	Success	sql-task-mysql-select-all	SQL	Success	Indesa-task-simple-variables	Universal Command	Success	Scheduled Activity Report	Email	Running
Scheduled Activity Report		(17 Task Instances)																																																								
Instance Name	Type	Status																																																								
workflow-regression-one-of-each-tasks	Workflow	Success																																																								
sap-task-simple-variable	SAP	Success																																																								
Taskmon-workflow-simple	Task Monitor	Success																																																								
sql-task-mysql-sproc1	Stored Procedure	Success																																																								
email-task-builtin-variables	Email	Success																																																								
udm-task-simple-variable	File Transfer	Success																																																								
Pause for Manual	Manual	Success																																																								
ftp-filemon-simple-variable	FTP File Monitor	Success																																																								
nix-filemon-simple-variable	File Monitor	Success																																																								
Linux check for vsFTP #QUERY#	Application Control	Finished																																																								
win-task-launch-simple-variables	Windows	Success																																																								
nix-task-launch-simple-variables	Linux/Unix	Success																																																								
sysmon-diskspace-simple-variable	System Monitor	Success																																																								
Sleep Variable	Timer	Success																																																								
sql-task-mysql-select-all	SQL	Success																																																								
Indesa-task-simple-variables	Universal Command	Success																																																								
Scheduled Activity Report	Email	Running																																																								

For additional information, see:

- [Report Details](#)

Tutorial - Creating Users and Assigning Roles and Permissions

- [Introduction](#)
- [Create New Users](#)
- [Assign Permissions to Groups of Users](#)

Introduction

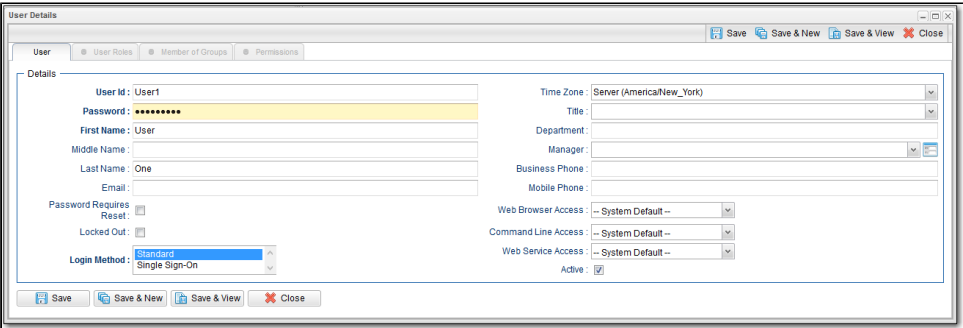
In this exercise, we will create some users related to the Operations and Tech Support departments created in the [Creating Business Services](#) tutorial.

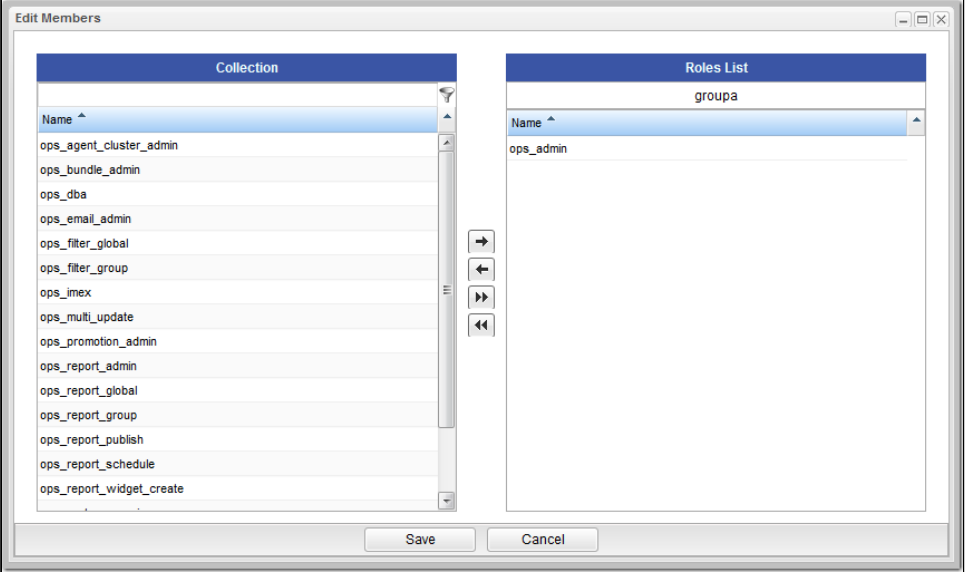
We also will assign access and management rights via user roles and Universal Controller permissions:

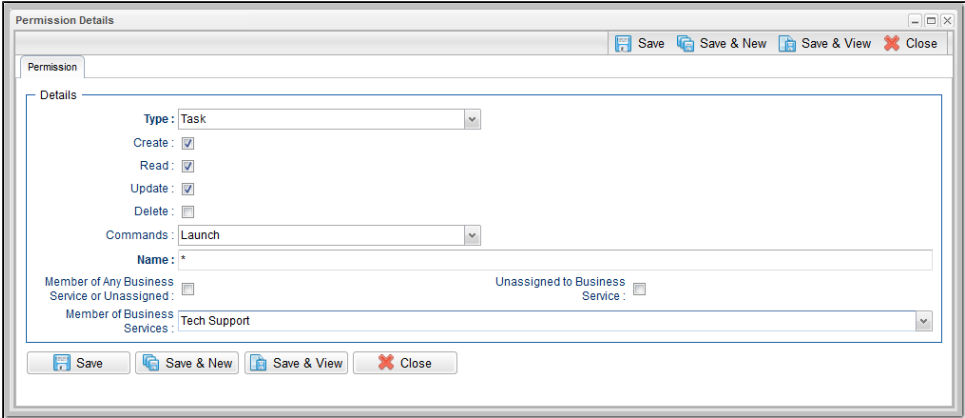
- [Roles](#) are pre-defined groups of permissions that control access to users, reports (filters), gauges, bundles, and promotions.
- [Permissions](#) control who can add, change, delete and control Controller tasks, task instances, triggers, Agents, calendars, and credentials.

Create New Users

In this exercise, we will create a new user and assign different permissions to it.

Step 1	From the Administration navigation pane, click Security > Users . The User list displays.
Step 2	<p>Click the New button to display empty User Details for a new user and enter / select the following values:</p> <ul style="list-style-type: none"> • User Id = user1 • First Name = User • Last Name = One • Password = 123 
Step 3	Click the Save button, log out of the Controller and then log in as user1.
Step 4	Click on several areas of the user interface. Since user1 has not been assigned any permissions, user1 can view only a limited number of lists and records, and cannot create, modify, or delete any records.
Step 5	Log out of the Controller and log in as ops.admin.

Step 6	Open the user1 record and click the User Roles tab.
Step 7	Click Edit .
Step 8	<p>Move the ops_admin role to the Roles List and click Save to provide user1 with full administrative permissions.</p> 
Step 9	Click the User tab and then click the Update button.
Step 10	Log out and log back in as user1 to verify that user1 has the same permissions as ops.admin.
Step 11	Log out and log back in as ops.admin, open the user1 record, and remove the ops.admin role.

<p>Step 12</p>	<p>Click the Permissions tab, click the New button, and in the Permissions Details select the following values:</p> <ul style="list-style-type: none"> • Type = Task • Create = enabled • Read = enabled • Update = enabled • Commands = Launch • Unassigned to Business Service = disabled • Member of Business Services = Tech Support 
<p>Step 13</p>	<p>Click Save, log out of the Controller, and log in as user1.</p>
<p>Step 14</p>	<p>user1 now will be able to see the tasks assigned to the Tech Support group, and launch those tasks. However, user1 cannot see them on the Activity Monitor because user1 was not given permissions on Task Instances.</p>

Assign Permissions to Groups of Users

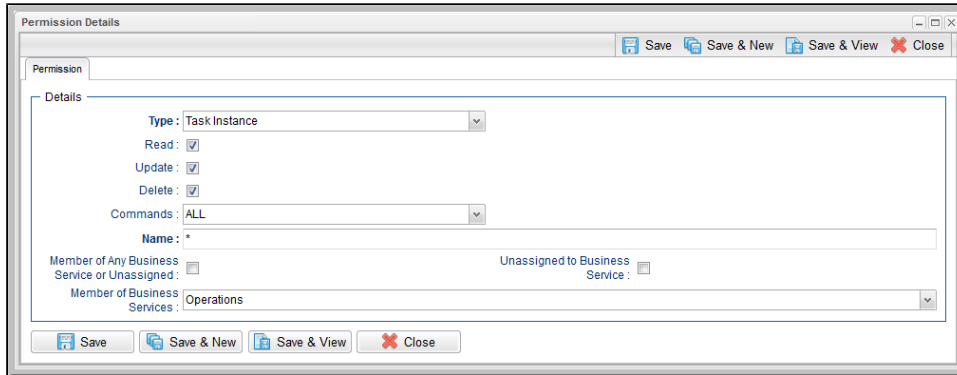
In this exercise we will assign our last user to a group, then assign permissions to the group instead of to the user.

<p>Step 1</p>	<p>Open the user1 record .</p>
<p>Step 2</p>	<p>Click the Member of Groups tab to display a list of groups that user1 belongs to.</p>
<p>Step 3</p>	<p>Click the New button to display Group Details for a new group.</p>
<p>Step 4</p>	<p>In the Name field, enter Group1, and then click the Save button. The Member of Groups list now shoes Group1.</p>
<p>Step 5</p>	<p>Open Group1 and click the Permissions tab to display the list (currently empty) of permissions for Group1.</p>

Step 6 Click the **New** button and on the Permissions Details, enter / select the following values:

- **Type** = Task Instance
- **Read, Update, Delete** = enabled
- **Commands** = All
- **Business Services** = Operations
- **Unassigned to Business Service** = disabled

These permissions provides all users in the Group1 full permissions on all activity (task instances) related to the Operations Business Service. Any users you assign to Group1 will inherit these permissions.



Step 7 Click **Save**, log out, and then log in as user1 to check the permissions.

For additional information, see:

- [Users and Groups](#)

Tutorial - Creating User Groups and Assigning Permissions

In this exercise, we will create users and user groups, then assign permissions to the groups instead of directly to the users.

Step 1	<p>Create the following three users:</p> <ul style="list-style-type: none"> • stonebranch-user-01 • stonebranch-user-02 • stonebranch-user-03 																								
Step 2	<p>Select Users > Groups and create a group called stonebranch-group-01.</p> <ol style="list-style-type: none"> 1. Click the Permissions tab 2. Click the New button and add the following permission: <ul style="list-style-type: none"> • Type = Task Instance • Read = enabled • Member of Any Business Service or Unassigned = enabled 3. Click the Group Members tab and click Edit. 4. Add stonebranch-user-01 to the group. 																								
Step 3	<p>Create a group called stonebranch-group-02.</p> <ol style="list-style-type: none"> 1. Add the following two permissions: <ul style="list-style-type: none"> • Type = Task Instance • Read = enabled • Update = enabled • Commands = None • Business Services = stonebranchbusinessservice 01 • Unassigned to Business Service = disabled <p>and</p> <ul style="list-style-type: none"> • Type = Task Instance • Read = enabled • Update = enabled • Commands = All • Business Services = stonebranchbusinessservice 02 • Unassigned to Business Service = disabled <div> <p>The screenshot shows the 'Group Details: stonebranch-group-02' window with the 'Permissions' tab selected. It displays a table with 2 permissions:</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Operations</th> <th>Commands</th> <th>Name</th> <th>Unassigned to Business Service</th> <th>Business Services</th> <th>Updated By</th> <th>Updated</th> </tr> </thead> <tbody> <tr> <td>Task Instance</td> <td>Read, Update</td> <td>ALL</td> <td>*</td> <td>No</td> <td>stonebranchbusinessservice 02</td> <td>ops.admin</td> <td>2014-08-07 16:12:04 -0400</td> </tr> <tr> <td>Task Instance</td> <td>Read, Update</td> <td></td> <td>*</td> <td>No</td> <td>stonebranchbusinessservice 01</td> <td>ops.admin</td> <td>2014-08-07 16:08:14 -0400</td> </tr> </tbody> </table> </div> <ol style="list-style-type: none"> 2. Click the Group Members tab and Edit button to add stonebranch-user-02 to the group. 	Type	Operations	Commands	Name	Unassigned to Business Service	Business Services	Updated By	Updated	Task Instance	Read, Update	ALL	*	No	stonebranchbusinessservice 02	ops.admin	2014-08-07 16:12:04 -0400	Task Instance	Read, Update		*	No	stonebranchbusinessservice 01	ops.admin	2014-08-07 16:08:14 -0400
Type	Operations	Commands	Name	Unassigned to Business Service	Business Services	Updated By	Updated																		
Task Instance	Read, Update	ALL	*	No	stonebranchbusinessservice 02	ops.admin	2014-08-07 16:12:04 -0400																		
Task Instance	Read, Update		*	No	stonebranchbusinessservice 01	ops.admin	2014-08-07 16:08:14 -0400																		

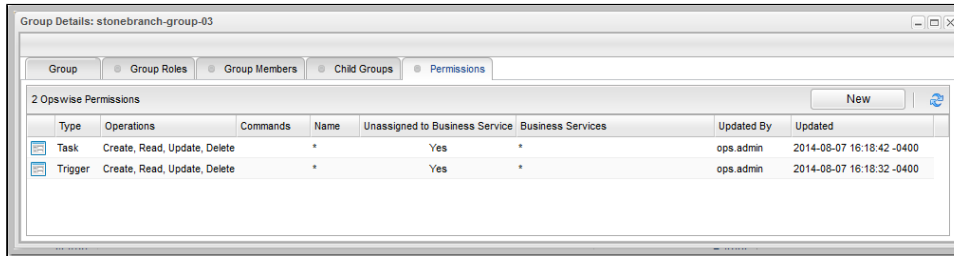
Step 4 Create a group called **stonebranch-group-03**.

1. Add the following two permissions:

- Type = Trigger
- Create = enabled
- Read = enabled
- Update = enabled
- Delete = enabled
- Commands = None
- Member of Any Business Service or Unassigned = enabled

and

- Type = Task
- Create = enabled
- Read = enabled
- Update = enabled
- Delete = enabled
- Commands = None
- Member of Any Business Service or Unassigned = enabled



2. Add stonebranch-user-03 to the group.

Step 5 Log in as each user and note that each is limited to those functions assigned to the user's group.

For additional information, see:

- [Users and Groups](#)

Tutorial - Creating and Promoting a Bundle

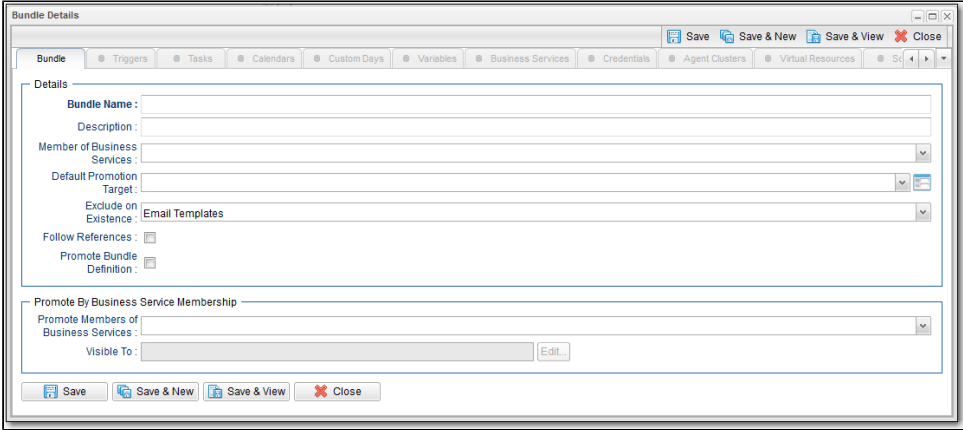
In this exercise, we will create a bundle (group) of Controller records and promote (copy) them from a source machine (a Controller cluster node) to a target machine.

Specifically, we will:

- Create a Bundle.
- Add records to a Bundle.
- Create a promotion target record for the bundle promotion.
- Map Agents on the source machine to Agents on the target machine.
- Promote the bundle to the target.

Create a Bundle

In this procedure, we will create a Bundle record to which other records can be added.

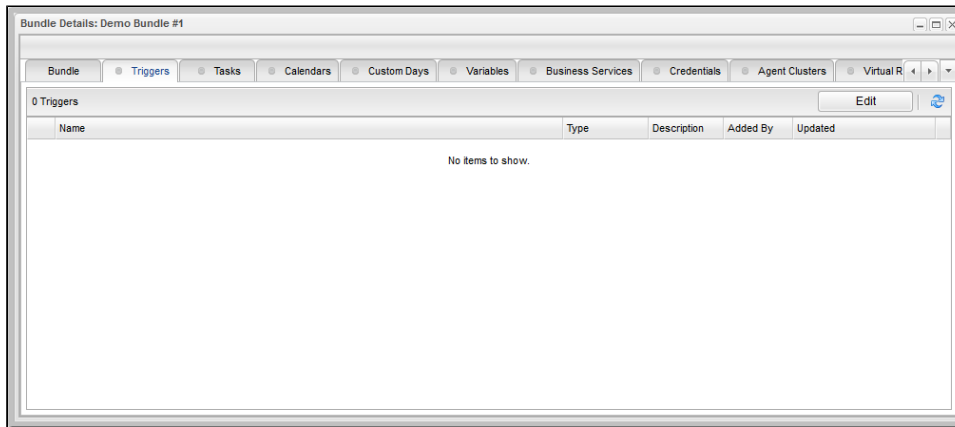
Step 1	From the Bundles & Promotion navigation pane, select Bundles . The Bundles list displays.
Step 2	<p>Click the New button to display Bundle Details for a new Bundle.</p> <p>Enter a Bundle Name.</p> 
Step 3	Click the Save button to create (and close) the Bundle record, which now appears on the Bundle list. You now can add records to the Bundle.

Add Records to the Bundle

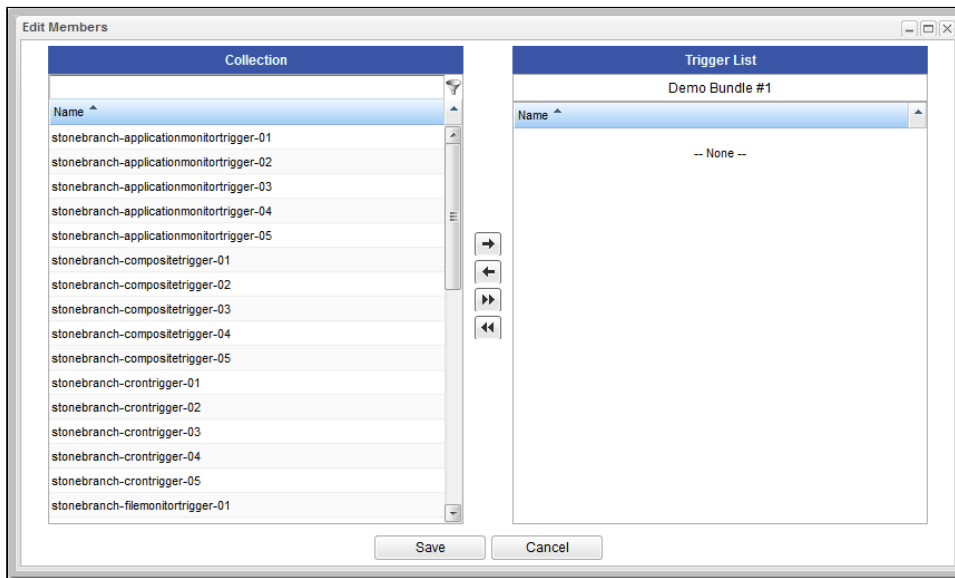
In this procedure, we will add records to the Bundle record that you just created.

Step 1	Open the Bundle record you just created.
---------------	--

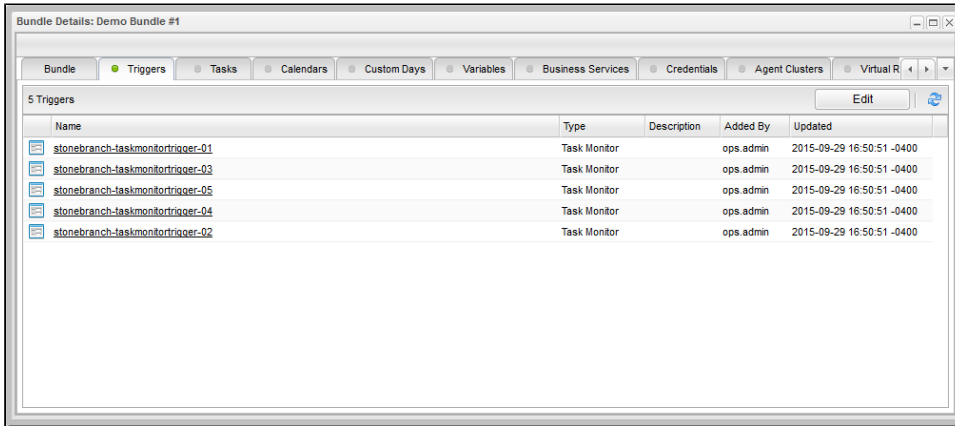
Step 2 Click the **Triggers** tab to display an empty Triggers list.



Step 3 Click the **Edit** button to display a list of all Trigger records.



Step 4 Select the Trigger records that you want to add to the Bundle and click the **Save** button. Those records then display in the Triggers list under the Triggers tab.



Step 5 Repeat Steps 2-4 for any other record types you want to add to the Bundle.

Step 6 Click the **Bundle** tab, the **Update** button, and the **Close** button. You now must create a record identifying the target (Controller cluster node) to which the Bundle will be promoted.

Create a Promotion Target Record for the Bundle

In this procedure, we will create a record identifying the target machine (a Controller cluster node) to which you will promote the Bundle.

Step 1 From the [Bundles & Promotion](#) navigation pane, select **Promotion Targets**. The Promotion Targets list displays.

Step 2 Click the **New** button to display Promotion Target Details for a new promotion target.

Step 3 Enter a name and the URI for the promotion target.

Note

By default, the URI of the cluster node that you are logged into displays. You must change this to the URI of a target cluster node, using the default URI format.

Step 4 Click the **Save** button. You now must map Agents on your source machine to Agents on the target machine.

Map Source Machine Agents to Target Machine Agents

In this procedure, we will map Agents on your source machine to Agents on the selected target machine.

Step 1 From the **Bundles & Promotion** navigation pane, select **Promotion Targets**. The Promotion Targets list displays.

Name	User	URI	Description	Updated By	Updated
stonebranch-promotiontarget-01		http://localhost:8080/opswise		ops.admin	2014-06-13 15:37:58 -0400
stonebranch-promotiontarget-02		http://localhost:8080/opswise		ops.admin	2014-06-13 15:38:04 -0400
stonebranch-promotiontarget-03		http://localhost:8080/opswise		ops.admin	2014-06-13 15:38:07 -0400
stonebranch-promotiontarget-04		http://localhost:8080/opswise		ops.admin	2014-06-13 15:38:12 -0400
stonebranch-promotiontarget-05		http://localhost:8080/opswise		ops.admin	2014-06-13 15:38:17 -0400

Promotion Target Details

Name: _____
 Description: _____
 Member of Business Services: QA Department
 URI: _____
 User: _____
 Password: *****

Step 2 Right-click the Promotion Target record that you just created to display an **Action menu**.

Step 3 Click **Refresh Target Agents** to display a Refresh Target Agents pop-up dialog.

Refresh Target Agents

Promotion Target: stonebranch-promotiontarget-01

Override User/Password:

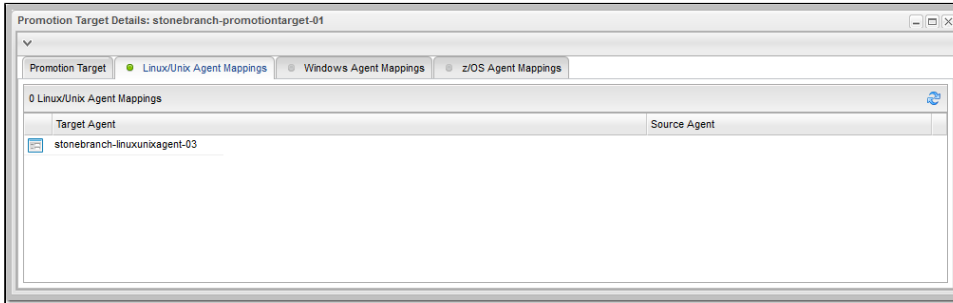
User: _____

Password: _____

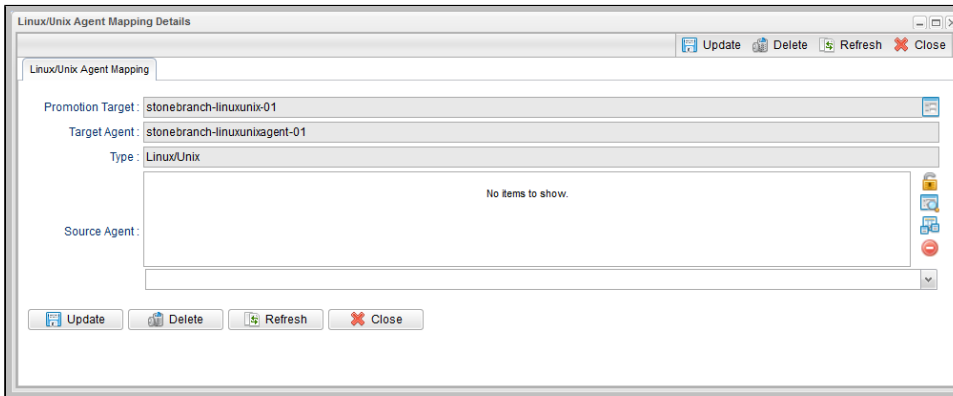
Submit

Step 4 Enter the User and Password credentials for the target machine (if they are not provided) and click **Submit**.

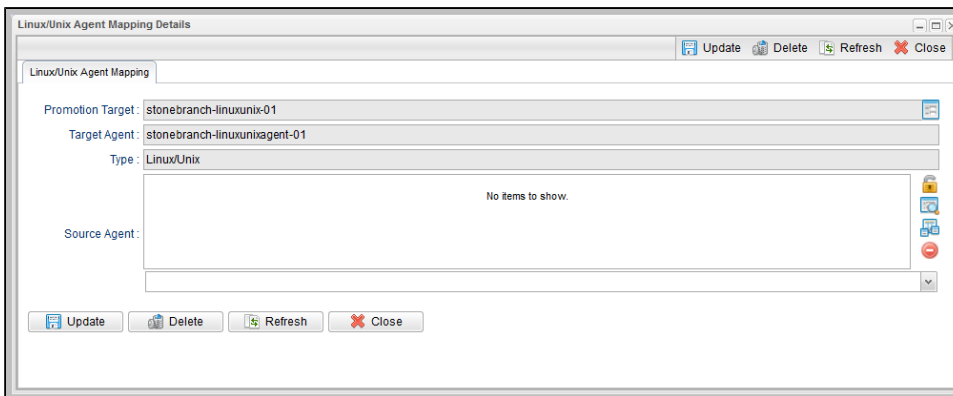
Step 5 Open the Promotion Target record and click an Agent Mappings tab for which there are Agents listed.



Step 6 Click the Details icon next to a Target Agent name to display Agent Mapping Details for that Target Agent.



Step 7 Click the **Add-Remove Multiple** icon next to the **Source** field to display a list of all Agents on the source machine.



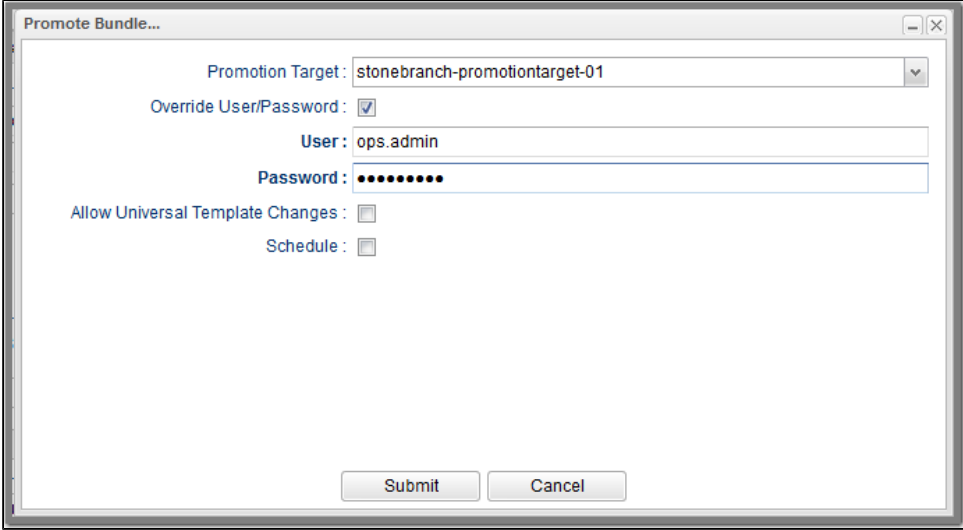
Step 8 Select the source machine Agent(s) that you want mapped to the selected target machine Agent, and then click **Save**.

Step 9 Repeat Steps 6 to 8 for every Target Agent under all Agent Mappings tab(s) for which there are Agents listed.

Promote the Bundle

In this procedure, we will promote the Bundle that you created to the selected Promotion Target machine.

Step 1 On the Bundles list, right-click the Bundle to be promoted and click **Promote Bundle...** on the **Action** menu to display a Promote Bundle... pop-up dialog.



The screenshot shows a dialog box titled "Promote Bundle...". It contains the following fields and options:

- Promotion Target:** A dropdown menu with the value "stonebranch-promotiontarget-01".
- Override User/Password:** A checked checkbox.
- User:** A text input field containing "ops.admin".
- Password:** A text input field containing nine dots.
- Allow Universal Template Changes:** An unchecked checkbox.
- Schedule:** An unchecked checkbox.

At the bottom of the dialog are two buttons: "Submit" and "Cancel".

Step 2 Click **Submit**. The source machine Controller logs in to the target machine specified in the URI field of the **Promotion Target** record and copies the bundled records to the target machine Controller. Based on the specified Agent mapping, the target Agent replaces the source Agent where required.

For additional information, see:

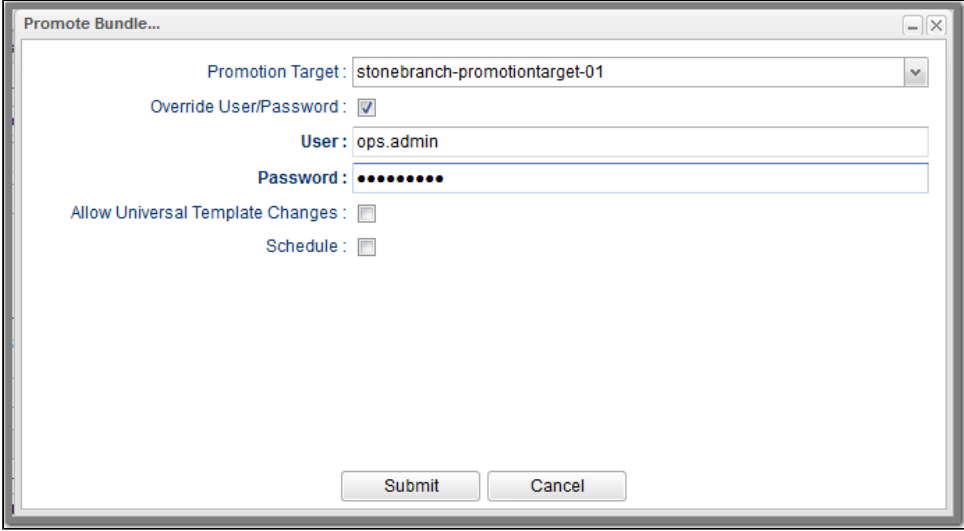
- [Bundles and Promotion](#)

Tutorial - Scheduling the Promotion of a Bundle

In this exercise, we will select a date and time for the automatic promotion of the Bundle that was created in the [Creating and Promoting a Bundle](#) tutorial.

Schedule a Bundle Promotion

In this procedure, we will schedule the promotion of a Bundle to a target machine.

Step 1	From the Bundles & Promotion navigation pane, select Bundles . The Bundles list displays.
Step 2	Right-click the Bundle to be scheduled for promotion and click Promote Bundle... on the Action menu to display a Promote Bundle... pop-up dialog. 

Step 3 Click the **Schedule** field check box to display additional fields for specifying a promotion schedule.

Promote Bundle...

Promotion Target: stonebranch-promotiontarget-01

Override User/Password:

User: ops.admin

Password: ●●●●●●●●

Allow Universal Template Changes:

Schedule:

Date: 2017 May 30

Time: Hour: 11 Min: 00

Create Snapshot:

System Notification: Operation Failure

Submit Cancel

Step 4 Select a **Date** and **Time** for the promotion.

Step 5 Click the **Submit** button. The Bundle is listed on the Promotions Schedules list and will be promoted automatically at the scheduled date and time.

2 Promotion Schedules

Bundle	Promotion Target	Status	Status Description	Scheduled Time	Use Snapshot
stonebranch-bundle-01	stonebranch-promotiontarget-01	Cancelled	Scheduled promotion cancelled by user 'ops.admin'.	2015-05-23 00:00:00 -0400	Yes
stonebranch-bundle-02	stonebranch-promotiontarget-02	Scheduled		2015-05-24 00:00:00 -0400	No

Promotion Schedule Details

For additional information, see:

- [Bundles and Promotion](#)