stonebranch workload Automation Simplified.

Universal Controller 6.3.x

Installation, Upgrade, and Applying Maintenance

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Installation, Upgrade, and Applying Maintenance





The information on these pages also is located in the Universal Controller 6.3.x Installation, Upgrade, and Applying Maintenance.pdf.

Installation, Upgrade, and Applying Maintenance - Overview

- Installation, Upgrade, and Applying Maintenance
 - Installation
 - Upgrade
 - Applying Maintenance

Installation, Upgrade, and Applying Maintenance

There are separate procedures for installing, upgrading, and applying maintenance for Universal Controller 6.3.x.

Installation

Installation refers to the installation of Universal Controller 6.3.x on a machine with any supported platform that does not already contain an installed Controller.

If you are installing Universal Controller for the first time, see Universal Controller Installation for instructions.

Upgrade

Upgrading to Universal Controller 6.3.x refers to the increase of its currently installed 5.2.x version to a 6.3.x version (for example, upgrading Controller 5.2.0.10 to Controller 6.3.0.0).

You cannot upgrade to Controller 6.3.x from versions prior to 5.2.x (for example, 5.1.1).

If you are upgrading from Universal Controller 5.2.x to Universal Controller 6.3.x, see Upgrading Universal Controller for instructions.

🔥 Note

To increase a currently installed 6.1.x or later release of the Controller to a 6.3.x release, you do not have to perform an upgrade; you only have to apply maintenance to the 6.1.x or later release. (The procedures for applying maintenance differ from the procedures for upgrading.)

Applying Maintenance

For Universal Controller 6.3.x, applying maintenance refers to the increase from a currently installed 6.1.x or later release of the Controller to a 6.3.x release of the Controller (for example, increase Controller 6.1.3.1 to Controller 6.3.0.0).

If you are applying maintenance to your version of Universal Controller, see Applying Maintenance to Universal Controller.

🔥 Note

To increase a Controller 5.2.x version to Controller 6.3.x, you must perform an upgrade. (The procedures for upgrading differ from the procedures for applying maintenance.)

You cannot upgrade to Controller 6.3.x from versions prior to 5.2.x (for example, 5.1.1).

Universal Controller Installation

Overview

Universal Controller is a Java web application running in a Tomcat web container.

For this reason, the Universal Controller software and the procedure for installing Universal Controller on UNIX or Windows is basically the same.



Note This installation procedure includes installation of Apache Tomcat, but it does not include the installation of Java or a database;

Upgrade and Applying Maintenance

however, they all are prerequisites.

If you are upgrading to Universal Controller 6.3.x from Universal Controller 5.2.x, see Upgrading Universal Controller for instructions.

If you are applying maintenance to a Universal Controller 6.1.x, 6.2.x, or 6.3.x installation to increase it to a later 6.3.x release, see Applying Maintenance to Universal Controller for instructions.

Pre-Installation Procedure

Overview

Before you install Universal Controller or Universal Bundled Controller on AIX, you must perform the following pre-installation procedure:

Step 1	Determine the space requirements for Universal Controller software and the Universal Controller database.
Step 2	Install all required Universal Controller prerequisites.
Step 3	Download the platform-specific Universal Controller distribution file from the Stonebranch Customer Portal.

🔥 Note

You can install the Controller before, during, or after installation of Universal Agent.

Determining Space Requirements

- Overview
- Controller Space Requirements
 - Database Space Requirements
 - Calculating Space Requirements
 - Output Retrieval

Overview

The following space requirements must be determined for the Controller and its database.

Controller Space Requirements

The Universal Controller war file is approximately 60MB compressed and 200MB uncompressed, using a total of approximately 260MB of space when fully deployed.

However, the space requirements for the Controller are driven largely by logging. Logging requirements are based on the log levels selected in the Log Level and Platform Log Level Universal Controller system properties.

A minimum 2GB of space is recommended for logging and other operations that require the Controller file system, such as bulk (and list) import/export.

The Log File Retention Period in Days Universal Controller system property lets you specify the number of days that a Controller log file (and an Agent log file) is retained before it is purged. The default is 5 days.

Database Space Requirements

Each type of database software (MySQL, Microsoft SQL Server, Oracle) takes up different amounts of space. However, the space required for saved Controller data is the same; that is, for example, 1,000 tasks consume no more space in MySQL than they do in Oracle.

Calculating Space Requirements

Following the initialization of the Controller database, the initial table space size will be approximately 60MB.

Based on calculations using data from all task types, each Controller task instance consumes approximately 10KB of database space. You should estimate space requirements for your data based on your expected number of task executions per day and the duration for retaining history and activity data before purging.

Output Retrieval

An Agent always caches output. Output is stored in the database only if you do one or more of the following:

- Select Automatic Output Retrieval for a task.
- Create Email Notifications with output attachments for task.
- Retrieve output for a task instance.

A retrieved output file of 1K (for example) will require 2KB to 2.5KB of space in the database.

Installing Universal Controller Prerequisites

Before installing Universal Controller, on either Windows or UNIX (both Linux and AIX), you first must install the following prerequisites:

- 1. Java Runtime Environment
- 2. Apache Tomcat
- 3. Database

🔥 Note

If you will be installing Universal Bundled Controller on AIX, you do not need to install Apache Tomcat.

Downloading Java Runtime Environment

Introduction

You must download a Java Runtime Environment (JRE) appropriate for your platform:

Operating System	JRE	Supported Level
Windows, UNIX (Linux)	Oracle JRE	Level 8
UNIX (AIX)	IBM JRE	Level 8

Oracle JRE

To download the Oracle Java Runtime Environment (JRE) for Windows and UNIX (Linux), access the Oracle site for Java JREs and download the appropriate package for your platform:

http://www.oracle.com/technetwork/java/javase/downloads/index.html

IBM JRE

To download the IBM Java Runtime Environment (JRE) for UNIX (AIX), access the IBM site for Java JREs and download the appropriate package for your platform:

http://www-01.ibm.com/support/docview.wss?uid=isg3T1022644

Installing Apache Tomcat

- Install Apache Tomcat
- Start and Validate Apache Tomcat
- Troubleshooting
 - Tomcat Post Limit: STATUS_MAX_POST_SIZE_EXCEEDED
 - Special Characters Not Displaying Correctly

Note Apache Tomcat version 7.0.x and 8.0.x is supported.

Install Apache Tomcat

Perform the following steps to install Apache Tomcat (download and installation procedure for Apache Tomcat may vary a bit for each platform):

Step 1	Select an appropriate method of installation:					
	 Windows We recommend using the GUI installer to create the Apache Tomcat Service: 1. Download the "32-bit/64-bit Windows Service Installer" from Tomcat 7.0.xx or Tomcat 8.0.xx. 2. Follow the instructions to install the package. 					
	 Windows or Linux/Unix Download a tar.gz or zip package that you unzip into a directory: 1. Download an appropriate package from Tomcat 7.0.xx or Tomcat 8.0.xx. 2. Follow the instructions to unzip the appropriate package (tar.gz or zip) into a directory on your file system. 					
	Linux/Unix: Redhat and Centos distributions Instead of downloading a tar.gz or zip package, you can use the yum installer.					
Step 2		e large workloads, Universal Controller requires that you update the JVM run-time values to the following e CATALINA_OPS= variable:				
	AIX	CATALINA_OPTS="-Xms512m -Xmx1024m"				
	z/Linux	CATALINA_OPTS="-Xms512m -Xmx1024m -Xjit:optLevel=noOpt"				
	All Other Platforms	CATALINA_OPTS="-Xms512m -Xmx1024m -XX:MaxPermSize=256m"				
		Note Updating MaxPermSize= is not required for Java 8.				

To update the JVM run-time values, select a method appropriate for your platform:

All Platforms

Either:

- Add CATALINA_OPTS= and the appropriate values to \$CATALINA_HOME/bin/catalina.bat or \$CATALINA_HOME/bin/catalina.sh as the first line after the comment box.
- Add CATALINA_OPTS= and the appropriate values to the environment variables.

Windows

If you installed Tomcat as a Windows service, you can set values using the \$CATALINA_HOME\bin\tomcatw.exe GUI tool.

Enter the parameters as follows (for Tomcat 7.0.xx or Tomcat 8.0.xx):

- Enter the MaxPermSize parameter as a Java Option
- Initial memory pool = minimum heap size (Xms)
- Maximum memory pool = Maximum heap size (Xmx)

Java Virtual Machine:	re7\bin\server\ivm dll		
Java Classpath:	rez (pintgerver (jvin.uii		
-	e Software Foundation\Tomo	at 7.0\bin\bootstrap	
Java Options:			
-XX:MaxPermSize=256r Initial memory pool:	512	MB	
Maximum memory pool:	1024	MB	
Thread stack size:		КВ	
	ОК Са	ncel Apply	1

Start and Validate Apache Tomcat

Perform the following steps to start and validate Apache Tomcat:

Step 1	Tomcat is normally run as a system service or daemon. You can start Tomcat using the standard method for your operating system or by using a script, as follows:					
	Windows Use Windows Services to start Tomcat or start Tomcat from the command line as follows: net start <name of="" tomcat<br="">service>.</name>					
	Linux Start the Tomcat daemon using the script placed in the /etc/init.d directory for Tomcat: service <name of="" tomcat<br="">service> start.</name>					
	Windows or Linux Start the service using the \$CATALINA_HOME/bin/startup.bat or \$CATALINA_HOME/bin/startup.sh scripts.					
Step 2	Open a browser and go to	the following URL: http://localhost:8080.				
Step 3	The following screen displ	ays, verifying that you have successfully installed and started Tomcat:				
	Apache Tor	If you're seeing this page via a web browser, it means you've setup Tomcat successfully. Congratulations!				
	Administration Status Tomcat Manager	As you may have guessed by now, this is the default Tomcat home page. It can be found on the local filesystem at: \$CATALINA_HOME/webapps/ROOT/index.html				
	Documentation Release Notes Change Log	where "\$CATALINA_HOME" is the root of the Tomcat installation directory. If you're seeing this page, and you don't think you should be, then you're either a user who has arrived at new installation of Tomcat, or you're an administrator who hasn't got his/her setup quite right. Providing the latter is the case, please refer to the <u>Tomcat Documentation</u> for more detailed setup and administration information than is found in the INSTALL file.				
	Tomcat Documentation	NOTE: For security reasons, using the manager webapp is restricted to users with role "manager". Users are defined in <pre>\$CATALINA_HOME/conf/tomcat-users.xml.</pre>				
	Tomcat Online Home Page	Included with this release are a host of sample Servlets and JSPs (with associated source code), extensive documentation, and an introductory guide to developing web applications.				
	FAQ Bug Database	Tomcat mailing lists are available at the Tomcat project web site:				
	Open Bugs Users Mailing List Developers Mailing List IRC	 <u>users@tomcat.apache.org</u> for general questions related to configuring and using Tomcat <u>dev@tomcat.apache.org</u> for developers working on Tomcat 				
		Thanks for using Tomcatl				
	Miscellaneous Servlets Examples JSP Examples Sun's Java Server Pages Site	Copyright © 1999-2008 Apache Software Foundation All Rights Reserved				

Troubleshooting

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.sml**:

maxPostSize="-1" |

Special Characters Not Displaying 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

Installing a Database

- Overview
 - Database Management Systems
 - MySQL
 - Microsoft SQL Server
 - Oracle

Overview

Universal Controller can use a database space of an existing database or you can install a database specifically for the Controller.

We recommend an initial size of 100MB.

Note In a High Availability environment, each cluster node connects to the same database.

Database Management Systems

The following database management systems are supported:

- MySQL
- Microsoft SQL Server
- Oracle

MySQL

A

Note MySQL versions 5.6.x and 5.7.x are supported.

Step 1	Download MySQL installation instructions.
Step 2	 Download MySQL (Windows only). For Windows, select Windows (x86, 32-bit), MSI Installer For Unix and Linux, you can use a tar.gz download or select a systems package installer appropriate for your environment, such as Yum.
Step 3	Install MySQL as per the instructions.
Step 4	Make a note of the user ID and password to be used later when installing the Controller.
Step 5	The database will be created automatically when you select MySQL during the Controller installation process.

MySQL Options

The following enhancements can be made to your MySQL database.

Speeding Up MySQL Performance

For Windows installations, you can speed up MySQL performance by adding the following parameter to the appropriate MySQL.ini file:

innodb_flush_log_at_trx_commit=0

For more information about this parameter, see the MySQL documentation:

- http://dev.mysql.com/doc/refman/5.6/en/innodb-parameters.html#sysvar_innodb_flush_log_at_trx_commit
- http://dev.mysql.com/doc/refman/5.7/en/innodb-parameters.html#sysvar_innodb_flush_log_at_trx_commit

Setting the MySQL max_allowed_packet Configuration Variable

A communication packet is a single SQL statement sent to the MySQL server, a single row that is sent to the client, or a binary log event sent from a master replication server to a slave.

If you want the Controller to handle big packets, you must increase the MySQL max_allowed_packet configuration variable on the database server.

For detailed information about this variable, refer to:

- MySQL 5.6.x reference manual
- MySQL 5.7.x reference manual

Microsoft SQL Server

Â)	lote licrosof	ft SQL Server versions 2008, 2012, and 2014 are supported.
Step 1	Do	wnload	and install MS SQLServer as per the Microsoft documentation.
Step 2	Cre	eate the	e Controller database. You can use any legal name, but we recommend the name opswise . Important You must use a <i>case-insensitive</i> collation.
Step 3	Ma	ke a no	ote of the userid and password to be used later when installing the Controller.

The Unicode translation property can be changed to specify that prepared parameters for character data are sent as ASCII or Multi-byte Character Set (MBCS) instead of Unicode:

jdbc:sqlserver://localhost:1433;sendStringParametersAsUnicode=false

(The default value is true.)

Oracle

Â	Note Oracle versions 10g, 11g, and 12c are supported.
Step 1	Download and install Oracle as per the Oracle documentation.
Step 2 Create the Controller database. You can use any legal name, but we recommend the name opswise.	
Step 3	Make a note of the userid and password to be used later when installing the Controller.

If PDB (Pluggable Database) is being used for the Oracle 12c Controller database, the JDBC URL should be used in EZCONNECT format and point to the PDB service, not the database SID.

For example:

jdbc:oracle:thin:@//dbhost:1521/pdbopswise.userdomain

Oracle Options

The following enhancements can be made to your Oracle database.

Setting open_cursors Value for Large Imports

To facilitate large imports on Oracle, specify the maximum number of cursors that can be open by setting the open_cursors value to 1000.

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

Checking the Current Value of open_cursors

To check the current value for maximum open cursors, issue the following **sql*plus** utility command:

show parameter open_cursors

A listing similar to the following will display:

SQL> show parameter open_cursors;		
NAME	TYPE	VALUE
open_cursors	integer	1000

Setting a New Value for open_cursors

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.



Downloading Universal Controller Software

Overview

- Versioning
- Downloading Current Products Software

Overview

This page tells you how to download the current Universal Controller 6.3.x software from the Stonebranch Customer Portal.

Versioning

Universal Automation Center software (Universal Controller and Universal Agent) packages are labeled with four numeric identifiers: Version.Release.Modification.Maintenance.

For example, for Universal Controller 6.3.0.0:

- 6 = Version 6
- 3 = Release 3
- 0 = Modification Level 0
- 0 = Maintenance Level 0

Downloading Current Products Software

To download the Universal Controller 6.3.x software:

Step 1	Log in to the Stonebranch Customer Portal. If you do not have a login, you can request one at support@stonebranch.com.		
Step 2	Click the Software Downloads link.		
Step 3	Click the Universal Controller link.		
Step 4	Click the Universal Controller package link appropriate for your platform.		
Step 5	Click Save File and browse to your save location. You can then use the software to install, upgrade, or apply maintenance to the Controller.		

Installing Universal Controller

- Overview
- Unpack the Universal Controller Distribution File
- Install the Controller
 - Command Line Switches
 - Examples
- Deploy the Controller
- Update the Universal Controller Start-up Properties (opswise.properties)
- Verify the Installation
- Apply the License Key
 - License Information
- Enable LDAP SynchronizationConfigure System Notifications
 - System Notifications for License Violations and Expirations
 - System Notification for System Operations
 - System Notification for Data Backup / Purge Operations

Overview

This page tells you how to install Universal Controller.

The procedure is the same, unless otherwise noted, for both Windows and UNIX (Linux or AIX).

It assumes you already have completed the following:

1	Installed prerequisite software.
2	Downloaded a Universal Controller distribution file.

To install Universal Controller:

1	Unpack the Downloaded Distribution File
2	Install the Controller
3	Deploy the Controller
4	Update the Universal Controller Start-up Properties
5	Verify the Installation
6	Apply the License Key
7	Enable LDAP Synchronization
8	Configure System Notifications

Unpack the Universal Controller Distribution File

To unpack the Universal Controller distribution file, use the following method appropriate for your platform:

Linux/Unix	tar -xvf universal-controller-N.N.N.N.tar
Windows	Use an appropriate archiving / unzipping product.

Install the Controller

To install the Controller, issue the following command that is appropriate for your platform:

Linux	> sh install-controller.sh
Windows	> install-controller.bat

The installation process writes the war file (universal-controller-N.N.N.N-build.N.war) to the Tomcat installation directory and renames it opswise.war.

You must include command line switches that specify information the Controller needs to access the Tomcat installation directory, the war file, and the database. You can include additional command line switches, but they are not required.

If a required command line switch is missing from the command line, an error message will identify it during the installation process.

The Controller installation process writes the values for some command line switches to the Universal Controller start-up properties file, opswise.properties (see the table, below). For any of those command line switches that are not required and, in fact, are not included on the command line, the Controller installation process writes their default value to opswise.properties.

Command Line Switches

The following table describes the command line switches for the Controller installation process and identifies which are required.

For command line switches that have their value written to the Universal Controller start-up properties file, **opswise.properties**, the table also identifies the property in that file to which the value is written.

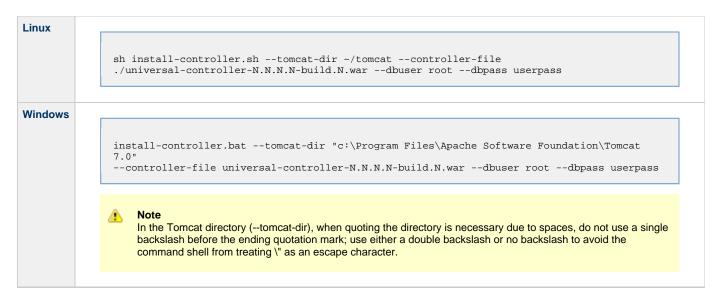
All command line switches are case-sensitive.

Command Line Switch	Description
controller-file	Full path of the Universal Controller war file (universal-controller-N.N.N.N-build.N.war) from th Universal Controller package.
dbname	Universal Controller database name.
dbpass	Database user's password.

	JDBC connect URL.						
dburl	Format: jdbc:[database type]://localhost						
	Examples (for MS SQLSe	erver and Oracle, opswise is the database name):					
	MySQL	jdbc:mysql://localhost/					
	MS SQL Server	jdbc:sqlserver://localhost:1433;DatabaseName=opswise					
	MS SQL Server JTDS	jdbc:jtds:sqlserver://localhost:1433/opswise					
	Oracle	jdbc:oracle:thin:@//localhost:1521/opswise					
	 Note Enclose the URL in quotation marks to guard against any special characters (for example: treated by the shell uniquely. Unix Enclose the URL in single quotation marks; for example: 'jdbc:sqlserver://dbserver.local; instanceName=IN01; DatabaseName Windows Enclose the URL in double quotation marks; for example: 'jdbc:sqlserver://dbserver.local; instanceName=IN01; DatabaseName 						
	needed for your environm Refer to Installing a Datal configuration, and setup.	ntation from your database supplier for specific jdbc driver URL parameters or opt ient. You may want to consult with your local DBA to discuss these parameters ar base in this documentation for more information about suggested connection para					
dbuser	Database user name.						
	Database type.						
rdbms	Valid values are: • mysql • sqlserver • sqlserver-jtds • oracle						
	*rdbms <i>is</i> require	d ifdburl is used in the command.					
tomcat-dir	Path to the Tomcat instal	ation directory (contains the directories:/bin, /conf, /logs, webapps).					
		bath in quotes to guard against spaces or any special characters (for example: ; > / the shell uniquely.					

Examples

Shown below are sample commands for installing the Controller on Linux and Windows platforms, using defaults for the database:



Deploy the Controller

In this procedure, you will start Tomcat, which starts the Controller and builds your database tables. This process takes several minutes. When it is complete, the Controller is started and ready to use.

If Tomcat already was running when you installed the Controller, you do not need to stop and restart it; this process will occur automatically after you start the installation.

Step 1	Start Tomcat as follows:
	Linux Start the Tomcat daemon using the script placed in the /etc/init.d directory for Tomcat.
	service [name of Tomcat service] start
	Windows We recommend you use Windows Services to start Tomcat. Or, you can start Tomcat from the command line as follows:
	net start [name of Tomcat service]
	Linux or Windows You can start the service using the \$TOMCAT_HOME/bin/startup.bat or \$TOMCAT_HOME/bin/startup.sh scripts.

Tomcat window or monitor the Controller log, as described below:								
Users can tail the opswise.log to monitor the deployment process, as follows:								
tail -f \$TOMCAT_DIR/opswise_logs/opswise.log								
Windows Users can use a third-party tailing utility or open the log file using Notepad or other editor and scroll to the bottom to view the latest activity.								
<pre>\$TOMCAT_DIR\opswise_logs\opswise.log</pre>								
Do not continue until you see output in the log similar to the following:								
2014-09-15-11:16:17:774 -0400 INFO [Ops.Cluster.Monitor.0] Cluster Monitor / ClusterWatchDog started (16951472) 2014-09-15-11:16:17:778 -0400 INFO [Ops.Cluster.Monitor.0] No active node found.								
ClusterWatchDog started (16951472) 2014-09-15-11:16:17:778 -0400 INFO [Ops.Cluster.Monitor.0] No active node found. sb-server:8080-ops6100 becoming Active node. 2014-09-15-11:16:17:778 -0400 INFO [Ops.Cluster.Monitor.0] Loading time zones								
ClusterWatchDog started (16951472) 2014-09-15-11:16:17:778 -0400 INFO [Ops.Cluster.Monitor.0] No active node found. sb-server:8080-ops6100 becoming Active node. 2014-09-15-11:16:17:778 -0400 INFO [Ops.Cluster.Monitor.0] Loading time zones 2014-09-15-11:16:17:810 -0400 INFO [Ops.Cluster.Monitor.0] Setting System time zone to "America/New_York"								
ClusterWatchDog started (16951472) 2014-09-15-11:16:17:778 -0400 INFO [Ops.Cluster.Monitor.0] No active node found. sb-server:8080-ops6100 becoming Active node. 2014-09-15-11:16:17:778 -0400 INFO [Ops.Cluster.Monitor.0] Loading time zones 2014-09-15-11:16:17:810 -0400 INFO [Ops.Cluster.Monitor.0] Setting System time zone to								
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ClusterWatchDog started (16951472) 2014-09-15-11:16:17:778 -0400 INFO [Ops.Cluster.Monitor.0] No active node found. sb-server:8080-ops6100 becoming Active node. 2014-09-15-11:16:17:778 -0400 INFO [Ops.Cluster.Monitor.0] Loading time zones 2014-09-15-11:16:17:810 -0400 INFO [Ops.Cluster.Monitor.0] Setting System time zone to "America/New_York" 2014-09-15-11:16:17:810 -0400 INFO [Ops.Cluster.Monitor.0] Initialize PubSubController 2014-09-15-11:16:17:813 -0400 INFO [Ops.Cluster.Monitor.0] PubSubController Active Start Load: 0 Subscriptions 2014-09-15-11:16:17:813 -0400 INFO [Ops.Cluster.Monitor.0] Server is now Running in Active mode. Previous mode was Passive 2014-09-15-11:16:17:813 -0400 INFO [Ops.Cluster.Monitor.0] Setting server to ACTIVE. 2014-09-15-11:16:17:813 -0400 INFO [Ops.Cluster.Monitor.0] Releasing lock and ending transaction								
ClusterWatchDog started (16951472) 2014-09-15-11:16:17:778 -0400 INFO [Ops.Cluster.Monitor.0] No active node found. sb-server:8080-ops6100 becoming Active node. 2014-09-15-11:16:17:778 -0400 INFO [Ops.Cluster.Monitor.0] Loading time zones 2014-09-15-11:16:17:810 -0400 INFO [Ops.Cluster.Monitor.0] Setting System time zone to "America/New_York" 2014-09-15-11:16:17:810 -0400 INFO [Ops.Cluster.Monitor.0] Initialize PubSubController 2014-09-15-11:16:17:813 -0400 INFO [Ops.Cluster.Monitor.0] PubSubController Active Start Load: 0 Subscriptions 2014-09-15-11:16:17:813 -0400 INFO [Ops.Cluster.Monitor.0] Server is now Running in Active mode. Previous mode was Passive 2014-09-15-11:16:17:813 -0400 INFO [Ops.Cluster.Monitor.0] Setting server to ACTIVE. 2014-09-15-11:16:17:813 -0400 INFO [Ops.Cluster.Monitor.0] Releasing lock and ending transaction 2014-09-15-11:16:18:147 -0400 INFO [Ops.Cluster.Monitor.0] 617 database statements took 0 Seconds								
ClusterWatchDog started (16951472) 2014-09-15-11:16:17:778 -0400 INFO [Ops.Cluster.Monitor.0] No active node found. sb-server:8080-ops6100 becoming Active node. 2014-09-15-11:16:17:778 -0400 INFO [Ops.Cluster.Monitor.0] Loading time zones 2014-09-15-11:16:17:810 -0400 INFO [Ops.Cluster.Monitor.0] Setting System time zone to "America/New_York" 2014-09-15-11:16:17:810 -0400 INFO [Ops.Cluster.Monitor.0] Initialize PubSubController 2014-09-15-11:16:17:813 -0400 INFO [Ops.Cluster.Monitor.0] PubSubController Active Start Load: 0 Subscriptions 2014-09-15-11:16:17:813 -0400 INFO [Ops.Cluster.Monitor.0] Server is now Running in Active mode. Previous mode was Passive 2014-09-15-11:16:17:813 -0400 INFO [Ops.Cluster.Monitor.0] Setting server to ACTIVE. 2014-09-15-11:16:17:814 -0400 INFO [Ops.Cluster.Monitor.0] Releasing lock and ending transaction 2014-09-15-11:16:18:147 -0400 INFO [Ops.Cluster.Monitor.0] 617 database statements took 0								
ClusterWatchDog started (16951472) 2014-09-15-11:16:17:778 -0400 INFO [Ops.Cluster.Monitor.0] No active node found. sb-server:8080-ops6100 becoming Active node. 2014-09-15-11:16:17:778 -0400 INFO [Ops.Cluster.Monitor.0] Loading time zones 2014-09-15-11:16:17:810 -0400 INFO [Ops.Cluster.Monitor.0] Setting System time zone to "America/New_York" 2014-09-15-11:16:17:813 -0400 INFO [Ops.Cluster.Monitor.0] Initialize PubSubController 2014-09-15-11:16:17:813 -0400 INFO [Ops.Cluster.Monitor.0] PubSubController Active Start Load: 0 Subscriptions 2014-09-15-11:16:17:813 -0400 INFO [Ops.Cluster.Monitor.0] Server is now Running in Active mode. Previous mode was Passive 2014-09-15-11:16:17:813 -0400 INFO [Ops.Cluster.Monitor.0] Setting server to ACTIVE. 2014-09-15-11:16:17:813 -0400 INFO [Ops.Cluster.Monitor.0] Releasing lock and ending transaction 2014-09-15-11:16:18:147 -0400 INFO [Ops.Cluster.Monitor.0] 617 database statements took 0 Seconds 2014-09-15-11:16:18:149 -0400 INFO [Ops.Cluster.Monitor.0] Lock released and transaction ended								

You now have completed the install process and the Controller is running.

Update the Universal Controller Start-up Properties (opswise.properties)

For AIX and z/Linux only

Follow this procedure to change two default values in the Universal Controller start-up properties file, **opswise.properties**, which is read by the Controller.

(The opswise.properties file resides in <tomcat directory>/conf).

Step 1	<pre>Change the following two properties from their default value to the IBM AIX value: opswise.trustmanager.algorithm= (Java trust manager algorithm) Default value = SunX509 IBM AIX = IbmX509 opswise.trustmanager.provider= (Java trust manager provider)</pre>
Step 2	Default value = SunJSSE IBM AIX value = IBMJSSE2 Restart Tomcat.

Verify the Installation

To make sure the Controller is installed, running, and communication with Universal Agent and Universal Message Service (OMS):

Step 1	Start the Controller.	
Step 2	From your browser, access the Unive	rsal Controller user interface.
	http://localhost:8080/op localhost represents the machine r	
Step 3	Log in with user ops.admin and no p	bassword. A Change Password dialog displays.
	Username: Current Password: New Password: Confirm New Password:	ops.admin
	The system administrate	or requires you to change your password.
Step 4		ord and Confirm New Password fields (the Current Password field should remain empty) and sal Controller Home Dashboard displays.

Step 5 The System Details Widget provides current system information. Check the Release information to verify that the latest version number is displayed, as shown in the following example.

				Syste	m Details					×
	License:	[Agents: 1	01/500	0] [Trig	gers: Unlimite	ed] (Tasks:	Unlimit	ed] [Da	ays: 2/36	5]
	Node Id:	opswise:8	080-ops	wise6	b55					
	Node Mode:	Active								
	Node Uptime:	15 Hours 2	25 Minu	tes 2	Seconds					
	Node Time:	2016-04-2	8 09:27	22 -04	100					
	Release:	6.3.0.0								
	Build:	build 55								
	Build Date:	04-27-201	6 0415							
	Database Type:	MYSQL								
	Database Name:	opswise63	8655							
	Database URL:	jdbc:mysq		one h	anch/					
	Database Connections:				2) Server (0/6	a				
		7282.00 M		veu (u	2) Server (0/0	0				
	Memory Maximum:									
	Memory Used:	355.73 ME								
	Memory Free:	6926.27 N	1B (95.1	1%)						
	om the Agents and Conne nilar to the following examp						Agents	> <type< th=""><th>e of Ager</th><th>nt>. You v</th></type<>	e of Ager	nt>. You v
								~	😽 Filter 🔽	🕽 <u>G</u> o To 🍣
	✓ 9 Linux/Unix Agents				Custom Filter U	Insaved 1				
,	Agent Name * H	lost Name	Agent Id	Version	Last Heartbeat	Current Task Count	Suspended	Status	Started Date	
`	Agent Name A H	x61.stone.branch	Agent Id AIX61 centerpoint	Version 6.3.0.1 6.2.0.0			Suspended	Status Active Active	Started Date	
	Agent Name A H akk61.stone.branch - AIX61 ab centerpoint.stone.branch - centerpoint centerpoint	x61.stone.branch enterpoint.stone.branch	AIX61	6.3.0.1	Last Heartbeat 2016-04-28 09:33:09 -0400			Active	Started Date	
	Agent Name A H ak51.stone branch - AD(51 ab centerpoint.stone branch - centerpoint ce db2.stone.branch - QADB2 db db3.stone.branch - QADB3 db	x61.stone.branch enterpoint.stone.branch s2.stone.branch s3.stone.branch	AIX61 centerpoint QADB2 QADB3	6.3.0.1 6.2.0.0 6.2.0.0 6.2.0.0	Last Heartbeat 2016-04-28 09:33:09 -0400 2016-04-28 09:33:52 -0400			Active Active Active Active	Started Date	
	Agent Name H abx61.stone branch - ADX61 abx centerpoint stone branch - centerpoint ce db2.stone branch - QADB2 db db3.stone branch - QADB3 db db5.stone branch - QADB5 db	x61.stone.branch enterpoint.stone.branch x2.stone.branch x3.stone.branch x5.stone.branch	AIX61 centerpoint QADB2 QADB3 QADB5	6.3.0.1 6.2.0.0 6.2.0.0 6.2.0.0 6.2.0.0	Last Heartbeat 2016-04-28 09:33:09 -0400 2016-04-28 09:33:52 -0400 2016-04-28 09:33:52 -0400 2016-04-28 09:33:04 -0400			Active Active Active Active Offline	Started Date	
	Agent Name H aix61.stone.branch - ADX61 aix6 aix62.stone.branch - ADX61 aix6 db2.stone.branch - CaADB2 db db3.stone.branch - QADB3 db db5.stone.branch - QADB5 db im26rh4-x64.stone.branch - LXRH4X64 inn	x61.stone.branch enterpoint.stone.branch x2.stone.branch x3.stone.branch x5.stone.branch 26rh4-x64.stone.branch	AIX61 centerpoint QADB2 QADB3	6.3.0.1 6.2.0.0 6.2.0.0 6.2.0.0	Last Heartbeat 2016-04-28 09:33:09 -0400 2016-04-28 09:33:52 -0400 2016-04-28 09:34:58 -0400			Active Active Active Active	Started Date	

Step 7

From the Agents and Connections navigation pane, select System > OMS Servers. You will see a list similar to the following example. Make sure the Status of the OMS Servers are Connected.

~		Custom Filter None		~	🤝 Filter	🔯 <u>G</u> o To	晶 New	2
	OMS Server Address *		Status	Authenticate OMS Server	Updated By	Updated		-
	localhost:7878		Connected	No	opswise.syster	n 2014-03-05 10	:07:13 -040	0
For I	more information about these components i	n the Universal (Controller us	er interface, see	:			
	Agents							

To get started using the Controller and become familiar with its features, we recommend you spend some time going through the Tutorials.

Apply the License Key

Although you do not normally need to enter a license key immediately after installation, at some point you will need to follow these steps to enter your key:

Step 1	From the Administration navigation pane, select Configuration > Properties . The Properties list displays.

85 Properties			
Name A	Value	Updated By	Updated
Administrator Email Address		ops.system	2016-04-14 11:11:42 -040
Agent Cache Retention Period In Days	7	ops.system	2016-04-14 11:11:42 -040
Agent Heartbeat Interval In Seconds	120	ops.system	2016-04-14 11:11:42 -040
Agent Prefix	AGNT	ops.system	2016-04-14 11:11:42 -040
Automatically Create Versions	true	ops.system	2016-04-14 11:11:42 -040
Automatically Skip Conflicting Multi-Origin Paths	false	ops.system	2016-04-14 11:11:42 -040
Broadcast On Hold If Cluster Suspended	true	ops.system	2016-04-14 11:11:42 -040
Calendar Preview Period In Years	2	ops.system	2016-04-14 11:11:42 -040
Client Export Fetch Limit	1000	ops.system	2016-04-14 11:11:42 -040
Compress Bundle Promotion Payload	false	ops.system	2016-04-14 11:11:42 -040
Confirm Exit	true	ops.system	2016-04-14 11:11:42 -040
Confirm Update For Tasks In Workflows	false	ops.system	2016-04-14 11:11:42 -040
Continue Monitoring Completed Workflows In Workflow Monitor	false	ops.system	2016-04-14 11:11:42 -040
Copy Notes To Task Instances For Reporting	false		2016-04-14 11:11:42 -040
Create Version On Related List Change	true	ops.system	2016-04-14 11:11:42 -040
Critical Path Calculations Permitted		ops.system	
Critical Path Color	false	ops.system	2016-04-14 11:11:42 -040
	#FF0000	ops.system	2016-04-14 11:11:42 -040
Critical Path Dynamic Calculation Threshold In Seconds	0	ops.system	2016-04-14 11:11:42 -040
Critical Path Monitor Polling Interval In Seconds	300	ops.system	2016-04-14 11:11:42 -040
Critical Path Monitor Polling Threshold In Seconds	60	ops.system	2016-04-14 11:11:42 -040
Data Backup/Purge Export Path		ops.system	2016-04-14 11:11:42 -040
Disable Tab Indicators	false	ops.system	2016-04-14 11:11:42 -040
Exclude Holidays For Business Days	faise	ops.system	2016-04-14 11:11:42 -040
Export Agent References	false	ops.system	2016-04-14 11:11:42 -040
Export Path		ops.system	2016-04-14 11:11:42 -040
Expose Resolved Script	false	ops.system	2016-04-14 11:11:42 -040
Expose UDM Script	faise	ops.system	2016-04-14 11:11:42 -040
Flatten Reference List Fields In Chart Reports	false	ops.system	2016-04-14 11:11:42 -040
Forecast Period In Days	31	ops.system	2016-04-14 11:11:42 -040
LDAP Synchronization Enabled	faise	ops.system	2016-04-14 11:11:42 -040
License Key		ops.system	2016-04-14 11:11:42 -040
List Qualifying Times Format	EEEEE, MMMMMMM dd, yyyy HH:mm:ss z Z	ops.system	2016-04-14 11:11:42 -040
Lock Account After Maximum Login Attempts	false	ops.system	2016-04-14 11:11:42 -040
Log File Retention Period In Days	5	ops.system	2016-04-14 11:11:42 -040
Log Level	NFO	ops.system	2016-04-14 11:11:42 -040
Maximum Login Attempts	5	ops.system	2016-04-14 11:11:42 -040
Maximum Nested Variable Depth	25	ops.system	2016-04-14 11:11:42 -040
Maximum Processing Threads	25		2016-04-14 11:11:42 -040
Maximum Frocessing Threads	300	ops.system	2016-04-14 11:11:42 -040
Maximum Timer Threads Node Time Display	Yes	ops.system	2016-04-14 11:11:42 -040
		ops.system	2016-04-14 11:11:42 -040
Node Time Display Background Color	White	ops.system	
Node Time Display Color	Black	ops.system	2016-04-14 11:11:42 -040
Node Time Display Time Zone	Server	ops.system	2016-04-14 11:11:42 -040
Password Expiration Enabled	false	ops.system	2016-04-14 11:11:42 -040
Password Expiration In Days	30	ops.system	2016-04-14 11:11:42 -040
Perform Actions On Defined For Tasks Within Skipped Workflow	false	ops.system	2016-04-14 11:11:42 -040
Perform Actions On Halt	true	ops.system	2016-04-14 11:11:42 -040
Platform Log Level	WARN	ops.system	2016-04-14 11:11:42 -040
Promotion Read Permission Required	false	ops.system	2016-04-14 11:11:42 -040
Promotion Schedule Retention Period In Days	7	ops.system	2016-04-14 11:11:42 -040
Promotion Strict Mode	1	ops.system	2016-04-14 11:11:42 -040
Purge Activity By Primary Key	true	ops.system	2016-04-14 11:11:42 -040
Purge Activity By Primary Key Limit	500	ops.system	2016-04-14 11:11:42 -040
Retrieve Output Default Maximum Lines	100	ops.system	2016-04-14 11:11:42 -040
Scheduled Report 3D Pie Chart	No	ops.system	2016-04-14 11:11:42 -040
Scheduled Report Fetch Limit	1000	ops.system	2016-04-14 11:11:42 -040
Scheduled Report Image Height	500	ops.system	2016-04-14 11:11:42 -040
Scheduled Report Image Width	750	ops.system	2016-04-14 11:11:42 -040
Scheduled Report Inline Image	Yes	ops.system	2016-04-14 11:11:42 -040
Scheduled Report PDF Orientation	Landscape	ops.system	2016-04-14 11:11:42 -040
Scheduled Report PDF Size	Letter	ops.system	2016-04-14 11:11:42 -040
SMTP Debug	false	ops.system	2016-04-14 11:11:42 -040
Start Server Paused	false	ops.system	2016-04-14 11:11:42 -040
Stop Unknown Application Monitors	false	ops.system	2016-04-14 11:11:42 -040
System Default Activity Quick Filters	Active='180,'190,'200;Blocked=10,20,23,30,33,60;Completed=180,190,200;Problem=35,81,99,110,120,125,130,140;	ops.system	2016-04-14 11:11:42 -040
System Default Activity QUICK Piters System Default CLI Bulk Import Path	Active=160,190,200,Blocked=10,20,23,30,35,80,Completed=180,190,200,Ptoblem=35,51,99,110,120,123,130,140, /opt/apache-tomcat-8.0.18/opswise_import	ops.system	2016-04-14 11:11:42 -040
System Default CLI Bulk Import Path System Default Command Line Access			2016-04-14 11:11:42 -040 2016-04-14 11:11:42 -040
	Yes	ops.system	
System Default Confirm Launch Command	Yes	ops.system	2016-04-14 11:11:42 -040
System Default Confirm Task Instance Commands	No	ops.system	2016-04-14 11:11:42 -040
System Default Maximum Versions	100	ops.system	2016-04-14 11:11:42 -040
System Default Report Group Threshold	10	ops.system	2016-04-14 11:11:42 -040
System Default Trigger Simulate	false	ops.system	2016-04-14 11:11:42 -040
System Default Update Virtual Resource Limit On Promotion	Yes	ops.system	2016-04-14 11:11:42 -040
System Default Wait/Delay Workflow Only	Yes	ops.system	2016-04-14 11:11:42 -040
System Default Web Browser Access	Yes	ops.system	2016-04-14 11:11:42 -040
System Default Web Service Access	Yes	ops.system	2016-04-14 11:11:42 -040
System Identifier		ops.system	2016-04-14 11:11:42 -040
System Identifier Background Color	Black	ops.system	2016-04-14 11:11:42 -040
System Identifier Color	White	ops.system	2016-04-14 11:11:42 -040
Track Counts For Unlimited Execution Limit	faise	ops.system	2016-04-14 11:11:42 -040
Use Checksum Validation	false	ops.system	2016-04-14 11:11:42 -040
Validate Report References On Promotion	true	ops.system	2016-04-14 11:11:42 -040
		opsisysicill	2010 01-14 11.11.42 -040
Variable Security Enabled	true	one eveter	2016-04-14 11-11-42 040
Variable Security Enabled Virtual Resource Security Enabled	true true	ops.system	2016-04-14 11:11:42 -040 2016-04-14 11:11:42 -040

Step 2	Click the License Key property Value field and enter your encrypted license key.	
Step 3	Return to the System Details Widget and review the License field to verify that the terms of your license are correct.	
Step 4	Optionally, configure the Controller so that your system administrator receives notifications regarding license violations and expirations	

License Information

The License field in the System Details widget (view the system-defined Home Dashboard or, on the Reporting navigation pane, click **Widgets**) identifies license information for:

- Agents
- Triggers
- Tasks
- Days

The value for each field is either:

- Unlimited (unlimited number to the license)
- N/N (number remaining in license / total number in license)

<u></u>	System Details	×
License: [Agents: 101/5000] [Triggers: Unlimited] [Tasks: Unlimited] [Days: 2/365]		
Node Id:	opswise:8080-opswise6b55	- 17
Node Mode:	Active	- 11
Node Uptime:	15 Hours 25 Minutes 2 Seconds	
Node Time:	2016-04-28 09:27:22 -0400	- 1
Release:	6.3.0.0	- 1
Build:	build.55	- 1
Build Date:	04-27-2016_0415	- 1
Database Type:	MYSQL	- 1
Database Name:	opswise63b55	- 1
Database URL:	jdbc:mysql://db.stone.branch/	- 1
Database Connections:	Client (0/5) Reserved (0/2) Server (0/6)	- 1
Memory Maximum:	7282.00 MB	- 1
Memory Used:	355.73 MB (4.89%)	- 1
Memory Free:	6926.27 MB (95.11%)	

Enable LDAP Synchronization

In order to log in to the Controller using LDAP credentials, you must set the LDAP Synchronization Enabled Universal Controller System property (Administration > Configuration > Properties in the Controller user interface) to true.

Configure System Notifications

System Notifications are emails sent to one or more Universal Controller system administrators based on either:

- · Licensing issues (license violations, expired licenses, invalid licenses)
- Status of a system operation associated with a task instance.
- Data backup / purge operations.

🔥 Note

System Notifications are not the same as Email Notifications. Please refer to the following sections for explicitly defining Email Notifications.

- Email Notifications for Agents
- Email Notifications for OMS Servers
- Email Notifications for Cluster Nodes
- Email Notifications for Task Instance Events

In order for a system administrator to receive system notifications, you must configure the Controller for system notifications:

Step 1	Sele	ct an e	email connection on which the notifications will be sent and enable the Use for System Notifications field.
		4	Note Only one Email Connection can be used for system notifications. If this field is checked in an Email Connection Details, it will appear unchecked on all other Email Connection Details. If you then check this field in another Email Connection Details, it automatically will be unchecked from the Details in which it had been checked.
Step 2			Universal Controller Administrator(s) that will receive the system notifications by entering one or more valid email for those administrators in the Administrator Email Address Universal Controller system property.

System Notifications for License Violations and Expirations

When you have configured the Controller for system notification, notifications automatically are sent to the specified system administrator(s) for the following license issues:

- · License violations
- Expired licenses
- Invalid licenses

License Violations

A system notification is sent for the following license violations:

- User attempts to create a task that exceeds the licensed maximum number of task definitions.
- User attempts to enable a trigger that exceeds the licensed maximum number of enabled triggers.
- Agent registration attempt exceeds the licensed maximum number of Agents.

The License field in the System Details widget (view the system-defined Home Dashboard or, on the Reporting navigation pane, click **Widgets**) identifies these maximum numbers (see License Information, above).

License Expiration

A system notification is sent at the following times if a license will expire in 7 days or sooner:

- Warning sent daily at midnight, processed same time as midnight log rollover, starting 7 days prior to license expiration.
- Warning sent on Controller start-up (or a cluster node becoming the Active cluster node) if license is within 7 days of expiring.
- Warning sent on License Key property change (if new license is still within 7 days of expiring).

A system notification is sent at the following times if a license has expired:

- · Sent daily at midnight, processed same time as midnight log rollover.
- Sent on Controller start-up (or a cluster node becoming the Active cluster node).
- Sent on License Key property change (if new license still expired).
- System paused on license expiration.

🚯 Note

A License Expiration message also displays on the Universal Automation Center Console when you log in to the Controller if the license will expire within the week and when the license already has expired.

Invalid Licenses

A system notification is sent at the following times if a license is invalid:

- Sent on Controller start-up (or a cluster node becoming the Active cluster node).
- System paused on invalid license.

An invalid license will display in the Overview as [Agents: x/0] [Triggers: y/0] [Tasks: z/0] [Days: 1/0] where x, y, and z are the current number of agents, triggers, and tasks, respectively.

System Notification for System Operations

For any Controller task, you can select a system operation to be performed when any instance of that task reaches one or more specific statuses. You also can select whether or not to send system notifications based on the success and/or failure of that system operation.

For detailed information on how to set up these system notifications, see System Operation Actions.

System Notification for Data Backup / Purge Operations

For any scheduled Data Backup / Purge operation, you can select to receive system notifications.

For detailed information on how to set up system notifications for Data Backup / Purge operations, see Data Backup / Purge.

Installing Universal Bundled Controller on AIX

- Introduction
- Uncompress the Universal Bundled Controller Distribution File
- Install the Bundled Controller
 - Silent Install
 - Interactive Install
 - Command Line Switches / Configuration File Options
 - Example
- Update the Universal Controller Start-up Properties (opswise.properties)
- Verify the Installation
- Apply the License Key
- License Information
- Enable LDAP Synchronization
- Configure System Notifications
 - System Notifications for License Violations and Expirations
 - System Notification for System Operations
 - System Notification for Data Backup / Purge Operations

Introduction

This page tells you how to install Universal Bundled Controller, which is the Universal Controller bundled with Apache Tomcat (version 8).

file

A Note Curre	ntly, the Bundled Controller is available only for the AIX operating system.
--------------	--

It assumes you already have completed the following:

1	Performed pre-installation procedures		
2	Downloaded the Universal Bundled Controller distribution		

To install Universal Bundled Controller:

1	Uncompress the Downloaded Distribution File	
2	Install the Bundled Controller	
3	Update the Universal Controller Start-up Properties	
4	Verify the Installation	
5	Apply the License Key	
6	Enable LDAP Synchronization	
7	Configure System Notifications	

Uncompress the Universal Bundled Controller Distribution File

To uncompress the Universal Bundled Controller distribution file:

tar -xvfo universal-controller-bundle-N.N.N.N.tar

Among the files contained in the tar file, please note the following:

File Name	Description
install.sh	Installation script
config	Configuration file with default values

Install the Bundled Controller

You can install the Bundled Controller silently or interactively.

Silent Install

A silent install of the Bundled Controller uses the default values contained in the Bundled Controller configuration file, config:

./install.sh -s

Interactive Install

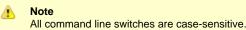
An interactive install of the Bundled Controller prompts you for values for all command line switches:

./install.sh <options>

Command Line Switches / Configuration File Options

The following table describes the command line switches / configuration file options for the Bundled Controller installation process.

The installation process writes some of the command line switch / configuration file option values to the Universal Controller start-up properties, opswise.properties. The table identifies the properties in that file to which values are written.



Command Line Switch	Configuration File Option	Description	Default	Controller Property
dbhost	DBHOST	Database host name	localhost	n/a
dbname	DBNAME	Database name	opswise	opswise.db.name=
dbpass	DBPASS	Database user password	(none)	opswise.db.password=
dbport	DBPORT	Database port number	3306	n/a
dbuser	DBUSER	Database user name	opswise	opswise.db.user=

group	OPSWISE_GROUP	User group to be used for the Controller	opscntlr	n/a
-h	n/a	Usage screen	(none)	n/a
http-port	PORT	HTTP server port number	8080	n/a
install-dir	INSTALL_DIR	Installation directory	/opt/opscntlr	n/a
java-home	n/a	Path to the Java installation (JAVA_HOME)	(none)	n/a
rdbms	RDBMS	Database type. Valid values are: • mysql • sqlserver • sqlserver-jtds • oracle	mysql	opswise.db.rdbms=
-5	n/a	Silent (unattended) install. Default is interactive install.	(none)	n/a
shutdown-port	SHUTDOWN_PORT	Server shutdown port	8005	n/a
user	OPSWISE_USER	System account to be used for the Controller	opscntlr	n/a

Example

Shown below is a sample command for installing the Bundled Controller (default values are used for options not specified):

./install.sh -s --dbuser root --dbpass userpass

Update the Universal Controller Start-up Properties (opswise.properties)

Follow this procedure to change two default values in the Universal Controller start-up properties file, opswise.properties, which is read by the Controller.

(The opswise.properties file resides in <tomcat directory>/conf).

Step 1	Change the following two properties from their default value to the IBM AIX value: • opswise.trustmanager.algorithm= (Java trust manager algorithm) • Default value = SunX509 • IBM AIX = IbmX509 • opswise.trustmanager.provider= (Java trust manager provider) • Default value = SunJSSE
Step 2	Default value = SunJSSE IBM AIX value = IBMJSSE2 Restart Tomcat.

Verify the Installation

To make sure the Controller is installed, running, and communication with Universal Universal Agent and Universal Message Service (OMS):

Step 1	Start the Controller.		
Step 2	From your browser, access the Universal Controller user interface.		
	http://localhost:8080/opswise localhost represents the machine name where you installed the server.		
Step 3	Log in with user ops.admin and no passv	vord. A Change Password dialog displays.	
Username: ops.admin Current Password: New Password: Confirm New Password: Change Password The system administrator requires you to change your password.		nange Password	
Step 4	Enter a password in the New Password a click Change Password . The Universal Co	nd Confirm New Password fields (the Current Password field should remain empty) and optically the pashboard displays.	

Step 5 The System Details Widget provides current system information. Check the Release information to verify that the latest version number is displayed, as shown in the following example.

_				Syste	m Details					X
	License:	[Agents:	101/500	0] [Trig	gers: Unlimite	ed] (Tasks:	Unlimit	ed] [Da	ays: 2/365]	
ŀ	Node Id:	opswise:	8080-ops	wise6	b55					
ļ	Node Mode:	Active								
ŀ	Node Uptime:	15 Hours	25 Minu	tes 2	Seconds					
1	Node Time:	2016-04-	28 09:27	22 -04	100					
ŀ	Release:	6.3.0.0								
	Build:	build.55								
	Build Date:	04-27-20	16 0415							
1	Database Type:	MYSQL	-							
1	Database Name:	opswise	3b55							
	Database URL:	jdbc:mys		one.b	ranch/					
	Database Connections	· · ·	•		2) Server (0/6	6)				
	Memory Maximum:	7282 00			_/ (·				
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v 9	9 Linux/Unix Agents								Started Date	
	Agent Name *	Host Name	Agent Id	Version	Last Heartbeat	Current Task Count	Suspended	Status	Started Date	
	Agent Name * aix61.stone.branch - AIX61	Host Name aix61.stone.branch centerpoint.stone.branch	AIX61	6.3.0.1		Current Task Count		Active	Started Date	
	Agent Name * aix61.stone.branch - ADK61 as centerpoint.stone.branch - centerpoint co	aix61.stone.branch	-		Last Heartbeat 2016-04-28 09:33:09 -0400	Current Task Count			Stated Date	
	Agent Name ^ abx81.stone.branch - ADX81 a centerpoint.stone.branch - centerpoint of db2.stone.branch - QADB2 db	aix61.stone.branch centerpoint.stone.branch	AIX61 centerpoint QADB2 QADB3	6.3.0.1 6.2.0.0	Last Heartbeat 2016-04-28 09:33:09 -0400 2016-04-28 09:33:52 -0400	Current Task Count		Active Active	Statled Date	
	Agent Name A atx61 stone branch - A0X61 centerpoint stone branch - centerpoint db2 stone branch - GADB2 db3 stone branch - GADB3 db5 stone branch - GADB5 db5 stone branch - GADB5	aix61.stone.branch benterpoint.stone.branch Ib2.stone.branch Ib3.stone.branch Ib5.stone.branch	AIX61 centerpoint QADB2 QADB3 QADB5	6.3.0.1 6.2.0.0 6.2.0.0 6.2.0.0 6.2.0.0	Last Heartbeat 2016-04-28 09:33:09 -0400 2016-04-28 09:33:52 -0400 2016-04-28 09:33:52 -0400 2016-04-28 09:33:04 -0400	Current Task Count		Active Active Active Active Offline	Statled Date	
	Agent Name * ak61.stone.branch - ADK61 acenterpoint.stone.branch - centerpoint db2.stone.branch - 0ADB2 db3.stone.branch - 0ADB3 dc db5.stone.branch - 0ADB3 lin26rH4-x64.stone.branch - LXRH4X84	aix61.stone.branch centerpoint.stone.branch Jb2.stone.branch Jb3.stone.branch	AIX61 centerpoint QADB2 QADB3	6.3.0.1 6.2.0.0 6.2.0.0 6.2.0.0	Last Heartbeat 2016-04-28 09:33:09 -0400 2016-04-28 09:33:52 -0400 2016-04-28 09:34:58 -0400	Current Task Count		Active Active Active Active	Sidileo Dale	

Step 7

From the Agents and Connections navigation pane, select System > OMS Servers. You will see a list similar to the following example. Make sure the Status of the OMS Servers are Connected.

OMS Server Address * Status Authenticate OMS Server Updated By Updated Common C	~		Custom Filter None V				🔯 <u>G</u> o To	📇 New 👔	2
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		localhost:7878		Connected	No	opswise.syster	m 2014-03-05 10	0:07:13 -040	00
	or more information about these components in the Universal Controller user interface, see:								
or more information about these components in the Universal Controller user interface, see:		Agents							
Agents		OMS Servers							

To get started using the Controller and become familiar with its features, we recommend you spend some time going through the Tutorials.

Apply the License Key

Although you do not normally need to enter a license key immediately after installation, at some point you will need to follow these steps to enter your key:

Step 1	From the Administration navigation pane, select Configuration > Properties . The Properties list displays.

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Ste	ep 2	Click the License Key property Value field and enter your encrypted license key.
Ste	əp 3	Return to the*System Details* Widget and review the License field to verify that the terms of your license are correct.
Ste	ep 4	Optionally, configure the Controller so that your system administrator receives notifications regarding license key violations and expirations.

License Information

The License field in the System Details widget (view the system-defined Home Dashboard or, on the Reporting navigation pane, click **Widgets**) identifies license information for:

- Agents
- Triggers
- Tasks
- Days

The value for each field is either:

- Unlimited (unlimited number to the license)
- N/N (number remaining in license / total number in license)

	System Details	\times
License:	[Agents: 101/5000] [Triggers: Unlimited] [Tasks: Unlimited] [Days: 2/365]	
Node Id:	opswise:8080-opswise6b55	
Node Mode:	Active	
Node Uptime:	15 Hours 25 Minutes 2 Seconds	
Node Time:	2016-04-28 09:27:22 -0400	
Release:	6.3.0.0	
Build:	build.55	
Build Date:	04-27-2016_0415	
Database Type:	MYSQL	
Database Name:	opswise63b55	
Database URL:	jdbc:mysql://db.stone.branch/	
Database Connections:	Client (0/5) Reserved (0/2) Server (0/6)	
Memory Maximum:	7282.00 MB	
Memory Used:	355.73 MB (4.89%)	
Memory Free:	6926.27 MB (95.11%)	

Enable LDAP Synchronization

In order to log in to the Controller using LDAP credentials, you must set the LDAP Synchronization Enabled Universal Controller System property (Administration > Configuration > Properties in the Controller user interface) to true.

Configure System Notifications

System Notifications are emails sent to one or more Universal Controller system administrators based on either:

- · Licensing issues (license violations, expired licenses, invalid licenses)
- Status of a system operation associated with a task instance.
- Data backup / purge operations.

🔥 Note

System Notifications are not the same as Email Notifications. Please refer to the following sections for explicitly defining Email Notifications.

- Email Notifications for Agents
- Email Notifications for OMS
- Email Notifications for Cluster Nodes
- Email Notifications for Task Instance Events

In order for a system administrator to receive system notifications, you must configure the Controller for system notifications:

Step 1	Select an email connection on which the notifications will be sent and enable the Use for System Notifications field.				
		۸	Note You can use only one Email Connection at any one time for sending system notifications.		
Step 2			e Controller Administrator(s) that will receive the system notifications by entering one or more valid email addresses for inistrators in the Administrator Email Address Universal Controller system property.		

System Notifications for License Violations and Expirations

When you have configured the Controller for system notification, notifications automatically are sent to the specified system administrator(s) for the following license issues:

- License violations
- Expired licenses
- Invalid licenses

License Violations

A system notification is sent for the following license violations:

- User attempts to create a task that exceeds the licensed maximum number of task definitions.
- User attempts to enable a trigger that exceeds the licensed maximum number of enabled triggers.
- Agent registration attempt exceeds the licensed maximum number of Agents.

The License field in the System Details widget (view the system-defined Home Dashboard or, on the Reporting navigation pane, click **Widgets**) identifies these maximum numbers (see License Information, above).

License Expiration

A system notification is sent at the following times if a license will expire in 7 days or sooner:

- Warning sent daily at midnight, processed same time as midnight log rollover, starting 7 days prior to license expiration.
- Warning sent on Controller start-up (or a cluster node becoming the Active cluster node) if license is within 7 days of expiring.
- Warning sent on License Key property change (if new license is still within 7 days of expiring).

A system notification is sent at the following times if a license has expired:

- Sent daily at midnight, processed same time as midnight log rollover.
- Sent on Controller start-up (or a cluster node becoming the Active cluster node).
- Sent on License Key property change (if new license still expired).
- System paused on license expiration.

🔥 Note

A License Expiration message also displays on the Universal Automation Center Console when you log in to the Controller if the license will expire within the week and when the license already has expired.

Invalid Licenses

A system notification is sent at the following times if a license is invalid:

- Sent on Controller start-up (or a cluster node becoming the Active cluster node).
- System paused on invalid license.

An invalid license will display in the Overview as [Agents: x/0] [Triggers: y/0] [Tasks: z/0] [Days: 1/0] where x, y, and z are the current number of agents, triggers, and tasks, respectively.

System Notification for System Operations

For any Controller task, you can select a system operation to be performed when any instance of that task reaches one or more specific statuses. You also can select whether or not to send system notifications based on the success and/or failure of that system operation.

For detailed information on how to set up these system notifications, see System Operation Actions.

System Notification for Data Backup / Purge Operations

For any scheduled Data Backup / Purge operation, you can select to receive system notifications.

For detailed information on how to set up system notifications for Data Backup / Purge operations, see Data Backup / Purge.

Adding a Cluster Node

- Overview
 - Requirements for Adding a Cluster Node
 - Procedure for Adding a Cluster Node
- Copy and Unpack the Universal Controller Distribution File
- Install the Controller
 - Command Line Switches
 - Examples
- Deploy the Controller
- Verify the Installation
- Adding an OMS Server
 - Add OMS Server to OMS Server Record
 - OMS Server Message Database

Overview

When you install Universal Controller, you create a single instance (cluster node) of the Controller. To operate Universal Automation Center in a High Availability (HA) environment, you must add one or more cluster nodes. Each cluster node should be installed on a separate machine.

This page tells you how to add one or more cluster nodes.

Requirements for Adding a Cluster Node

Each cluster node in an HA environment must connect to the same Universal Controller database. If one of the cluster nodes stops processing, another cluster node continues processing with the same data.

Each cluster node in an HA environment must be the same version and build of the Controller. To ensure this, you can either:

- Install the downloaded version of the Controller on a second machine.
- Download a new version of the Controller software, update the current version, and then install the new version on a second machine.

It is strongly recommended that an HA environment has at least two OMS Servers, although you do not need an OMS Server for every cluster node if your HA environment contains three or more cluster nodes.

Procedure for Adding a Cluster Node

This page describes the following procedure:

1	Copy and Unpack the Downloaded Distribution File
2	Install the Controller
3	Deploy the Controller
4	Verify the Installation
5	Adding an OMS Server

This procedure assumes you already have performed any required pre-installation procedure steps for the cluster node being added.

Copy and Unpack the Universal Controller Distribution File

Copy the downloaded distribution file, which was used to install the current, single instance of Universal Controller, from its current location to the machine on which you want to install a new instance of the Controller.

To unpack the Universal Controller distribution file, use the following method appropriate for your platform:

Linux/Unix	tar xvf opswise-controller-N.N.N.tar
Windows	Use an appropriate archiving / unzipping product.

Install the Controller

To install the Controller, issue the following command that is appropriate for your platform:

Linux	, sh install sustailles sh
	> sh install-controller.sh
Windows	
	> install-controller.bat

You must include command line switches that specify information the Controller needs to access the Tomcat installation directory, the war file, and the database. You can include additional command line switches, but they are not required.

If a required command line switch is missing from the command line, an error message will identify it during the installation process.

The Controller installation process writes the values for some command line switches to the Universal Controller start-up properties file, opswise.properties (see the table, below). For any of those command line switches that are not required and, in fact, are not included on the command line, the Controller installation process writes their default value to opswise.properties.

Command Line Switches

The following table describes the command line switches for the Controller installation process and identifies which are required.

For command line switches that have their value written to the Universal Controller start-up properties file, **opswise.properties**, the table also identifies the property in that file to which the value is written.

Note All command line switches are case-sensitive.

Command Line Switch	Description	Default
controller-file	Full path of the Universal Controller war file from the downloaded Universal Controller package.	none
dbname	Universal Controller database name.	opswise
dbpass	Database user's password.	none

dburl	JDBC con Format: Examples	jdbc:mysql://localhost				
	MySQL MS					
	SQL Server Oracle	jdbc:oracle:thin:@//localhost:1521/opswise				
		user name.	none			
dbuser						
rdbms	Database Valid valu • m	mysql				
		racle dbms <i>is</i> required ifdburl is used in the command.				
tomcat-dir	tomcat-dir Path to the Tomcat installation directory (contains the directories:/bin,/conf,/logs,webapps).					

Examples

Shown below are sample commands for installing the Controller on Linux and Windows platforms, using defaults for the database:

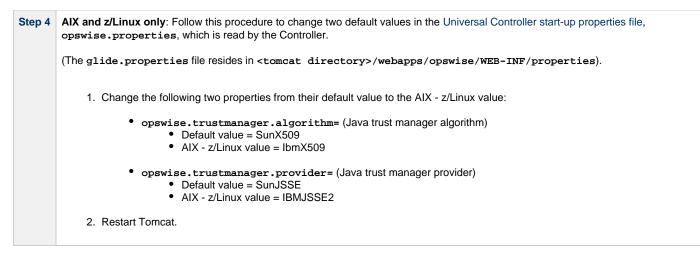
Linux	
	sh install-controller.shtomcat-dir ~/tomcatcontroller-file ./opswise-controller-N.N.N.N-build.N.wardbuser rootdbpass userpass
Windows	
	install-controller.battomcat-dir "c:\Program Files\Apache Software Foundation\Tomcat 7.0" controller-file opswise-controller-N.N.N.N-build.N.wardbuser rootdbpass userpass
	Note In the Tomcat directory (tomcat-dir), when quoting the directory is necessary due to spaces, do not use a single backslash before the ending quotation mark; use either a double backslash or no backslash to avoid the command shell from treating \" as an escape character.

Deploy the Controller

In this procedure, you will start Tomcat, which starts the Controller and builds your database tables. This process takes several minutes. When it is complete, the Controller is started and ready to use.

If Tomcat already was running when you installed the Controller, you do not need to stop and restart it; this process will occur automatically after you start the installation.

Step 1	Start Tomcat as follows:						
Linux Start the Tomcat daemon using the script placed in the /etc/init.d directory for Tomcat.							
	service [name of Tomcat service] start						
	Windows We recommend you use Windows Services to start Tomcat. Or, you can start Tomcat from the command line as follows:						
	net start [name of Tomcat service]						
	Linux or Windows You can start the service using the \$TOMCAT_HOME/bin/startup.bat or \$TOMCAT_HOME/bin/startup.sh scripts.						
Step 2	You can view details of the start-up in the Tomcat window or monitor the Controller log, as described below:						
	Linux/Unix Users can tail the <code>opswise.log</code> to monitor the deployment process, as follows:						
	tail -f \$TOMCAT_DIR/opswise_logs/opswise.log						
	Windows Users can use a third-party tailing utility or open the log file using Notepad or other editor and scroll to the bottom to view the latest activity.						
	<pre>\$TOMCAT_DIR/opswise_logs/opswise.log</pre>						
Step 3	 When you see the following, the Controller is ready: INFO [Ops.Cluster.Monitor.0] Server is now Running in Passive mode. INFO [Ops.Cluster.Monitor.0] Setting server to PASSIVE. 						



You now have completed the install process and the Controller is running.

Verify the Installation

To make sure the new cluster node is installed and running properly:

Step 1	Log in to the originally installed Controller.
Step 2	Verify that the Cluster Node Status Widget illustrates an Active and a Passive cluster node.
Step 3	For detailed information on the new (and original) cluster nodes, select Resources > System > Cluster Nodes .

🔥 Note

The license key for the installed Universal Controller applies to all instances (cluster nodes) of that Controller; no additional licensing is required.

System Notifications configured for the installed Universal Controller apply to all instances (cluster nodes) of that Controller; no additional system notifications have to be configured.

Adding an OMS Server

To add a second OMS Server to an HA environment (which creates an OMS cluster), you must install Universal Agent on a machine where one of the additional cluster nodes has been added.

Add OMS Server to OMS Server Record

You must specify all members of an OMS cluster in your HA environment in the same OMS Server record.

The OMS Servers list screen will contain a single entry for all OMS cluster members defined in the record. (The OMS Servers list screen could have additional entries for an OMS Server or OMS cluster outside of your HA environment. For example, OMS Servers outside a firewall would connect to a different message database and serve different Agents, but would connect to to the same Controller.)

OMS Server Message Database

Members of an OMS cluster in an HA environment must use the same OMS Server message database.

The OMS SPOOL_DIRECTORY configuration option specifies the name of the directory where the OMS maintains its message database. For each OMS Server, you must set this option to a location shared by all of the OMS Servers in the HA environment.

Universal Controller Upgrade and Maintenance

Introduction

The procedures for upgrading Universal Controller differ from the procedures for applying maintenance to Universal Controller.

For Universal Controller 6.3.x:

- Upgrading refers to the increase of a currently installed 5.2.x version of the Controller on a machine to a 6.3.x version of the Controller (for example, upgrading Controller 5.2.0.2 to Controller 6.3.0.0).
- Applying maintenance refers to the increase of a currently installed 6.1.x, 6.2.x, or 6.3.x release of the Controller on a machine to a later 6.3.x release of the Controller (for example, applying maintenance to Controller 6.2.0.1 to increase it to version 6.3.0.0).

Upgrading Universal Controller

- Overview
 - Upgrading vs. Applying Maintenance
 - Supported Upgrade Paths
- Upgrade Procedures
- Make Sure No Records Are Being Processed
- Stop OMS
- Back Up Your Database
- Run an Export on the Active Controller
 - Export Scripts
 - Running the Export
- Stop Tomcat and Remove All Controllers
- Prepare Your Database
- Download the New Controller
- Install the Controller
- Verify the Active Controller Installation
- Run an Import on the Active Controller
- Check Your Data
- LDAP Synchronization
- Verify the Passive Controller Installations
- Start OMS
- Verify the Upgrade

Overview

For Universal Controller 6.3.x, upgrading refers to the increase of a currently installed 5.2.0 version of the Controller to a 6.3.x version (for example, upgrading Controller 5.2.0.5 to Controller 6.3.0.0).

You can upgrade to Universal Controller 6.3.x only from Universal Controller 5.2.0; you cannot upgrade to 6.3.x from any version earlier than 5.2.0 (for example, 5.1.1).

🔥 Note

To increase a currently installed 6.1.x, 6.2.x, or 6.3.x release of the Controller to a later 6.3.x release, you do not have to perform an upgrade; you only have to apply maintenance to the 6.1.x, 6.2.x, or 6.3.x version.

Upgrading vs. Applying Maintenance

For Universal Controller 6.3.x, applying maintenance refers to the increase from a currently installed 6.1.x, 6.2.x, or 6.3.x release of the Controller to a later 6.3.x release of the Controller (for example, increase Controller 6.1.3.1 to Controller 6.3.0.0).

The procedures for upgrading differ from the procedures for applying maintenance (see Applying Maintenance to Universal Controller).

Supported Upgrade Paths

You can use these instructions for the supported upgrade paths shown in the following table. For any other upgrade path, consult your Stonebranch representative.

Upgrade Controller to	1.6.0	1.7.0	5.1.0	5.2.0	6.1.x	6.2.x	6.3.x
From 1.5.0	0	0	0	0			
From 1.6.0		0	0	0			
From 1.7.0			0	0			
From 5.1.0				0			
From 5.2.0					0	0	0

Upgrade Procedures

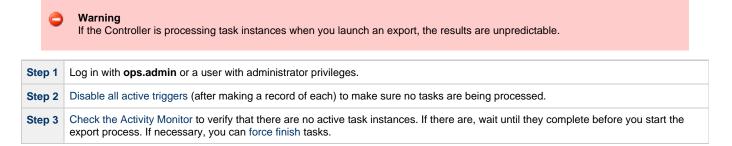
These instructions comprise the following procedures:

1	Make Sure No Records Are Being Processed
2	Stop OMS
3	Back Up Your Database
4	Run an Export on the Active Controller
5	Stop Tomcat and Remove All Controllers
6	Prepare Your Database
7	Download the New Controller
8	Install the Controller
9	Verify the Active Controller Installation
10	Run an Import on the Active Controller
11	Check Your Data
12	LDAP Synchronization
13	Verify the Passive Controller Installations
14	Start OMS
15	Verify the Upgrade

🔥 Note

These instructions assume that you are running a High Availability Universal Controller system: a system configured with Active and Passive Controllers (cluster nodes). If you are running a single Controller, disregard the steps for Passive Controllers.

Make Sure No Records Are Being Processed

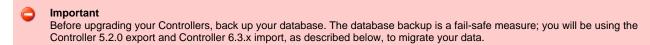


Stop OMS

Stop Universal Message Service (OMS).

The start/stop procedure for Universal Agent components (such as OMS) may differ depending on your platform. For instructions, see Starting and Stopping Agent Components.

Back Up Your Database



Run an Export on the Active Controller

In this procedure, you are performing a bulk export of data that you will import to your upgraded system in a later procedure using the bulk import.

Export Scripts

Export scripts in the Controller copy and save records to one or more XML files. The exported files then can be imported into the upgraded system.

The following scripts are available for exporting different sets of records:

opswise_bulk_export.js	Exports all current record definitions, without versions.
opswise_bulk_export_with_versions.js	Exports all current record definitions and older (non-current) versions of record definitions.
opswise_bulk_export_history.js	Exports task instance history, which includes all task instances in an "end" status (cancelled, failed, skipped, finished, success).
opswise_bulk_export_activity.js	Exports all unfinished activity; that is, task instances in the Activity display. (Not recommended for migration.)

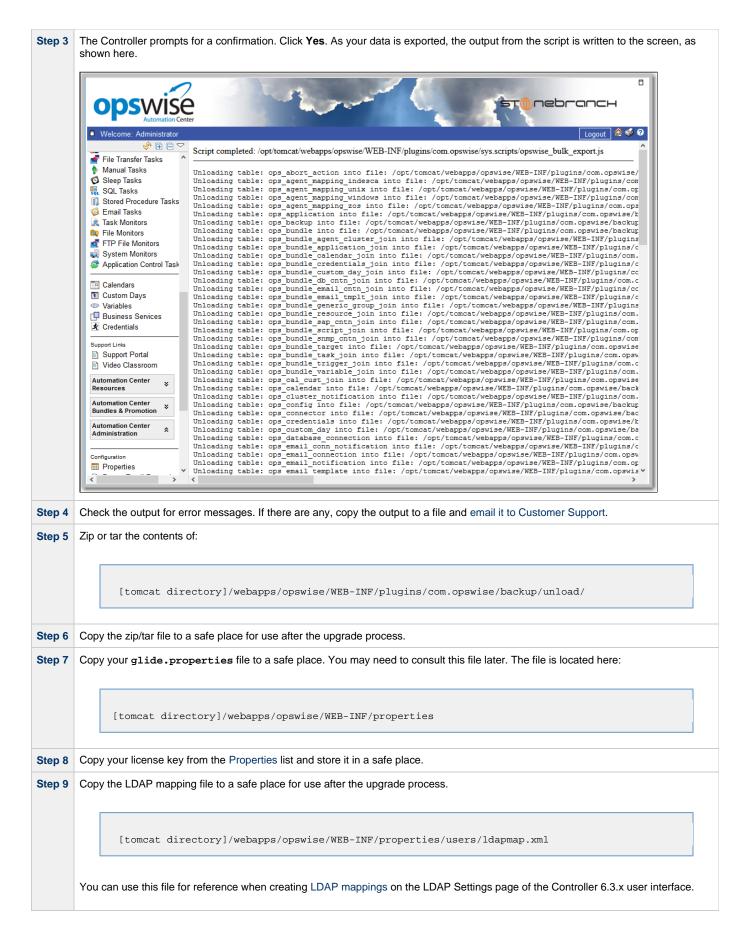
Running the Export

Perform the following steps to run the bulk export:

Step 1

From the navigation pane, select Automation Center Administration > Configuration > Maintenance Scripts. The image below shows export script options for Controller 5.2.0. These are maintenance scripts, running them could cause system disruption or loss of data.

	com.opswis	e	
	[view]	[run]	clear cache.js
	[view]	[run]	customer update.js
	[view]	[run]	database_table_counts.js
	[view]	[run]	fix_imported_activity_data.js
	[view]	[run]	fix_imported_data.js
	[view]	[run]	gc.js
	[view]	[run]	gc_and_clear_cache.js
			health_check.js
			inspect_output_messages.js
			inspect_persistent_events.js
			inspect_persistent_timers.js
			ldap_refresh.js
			ldap_refresh_debug.js
			memory usage.js
		_	opswise_bulk_export.js
			opswise_bulk_export_activity.js
			opswise_bulk_export_history.js
			opswise_bulk_export_with_versions.js
			opswise_bulk_import.js
			opswise_data_reload.js
			opswise_dictionary_upgrade.js
			opswise_load_demo.js
		-	opswise_load_demo_extension.js
			opswise_restart.js
			opswise_updates.js overdue timers delete.js
			overdue timers list.js
			pause.js
			purge history.js
			purge_instances.js
			purge_logs_and_cache.js
			purge message queues.js
			purge versions exceeding maximum.js
			reset all agent cluster task counts.js
			reset all agent task counts.js
			resume.js
			roll log.js
			system properties.js
			thread list.js
			thread_list_by_cpu_usage.js
	[view]	[run]	thread stacktrace.js
Step 2	Select an export so	rint and	click Run
otop z	Coloci an export St	inpr anu	



Stop Tomcat and Remove All Controllers

•	Important Make sure you have copied to a safe location all of the exported files from the bulk export before continuing here, where you will stop Tomcat and remove the Controller.
Step 1	Stop the Tomcat containers in which all Passive Controllers are deployed:
	Windows Use the services application to stop Tomcat. You also can issue the stop command on a command line:
	net stop [name of Tomcat service]
	UNIX Stop the daemon using the script found in the /etc/init.d directory for Tomcat.
	service [name of Tomcat service] stop
	Windows or UNIX Stop the service using the \$CATALINA_HOME\bin\shutdown.bat or \$CATALINA_HOME/bin/shutdown.sh scripts:
	Windows
	cd \$CATALINA_HOME\bin shutdown
	Linux/Unix
	cd \$CATALINA_HOME/bin ./shutdown
Step 2	Confirm that the Tomcat processes where the Passive Controllers are deployed are not running.
	Windows Use the Windows Task Manager.
	Linux/Unix Use the ps command.
Step 3	Back up the Passive Controller deployment directories in any folder other than one under the Tomcat installation.
	The Controller installation process renamed the unpacked war file (universal-controller-N.N.N.N-build.N.war) as opswise.war, so the following would be your deployment directory:
	[tomcat-install]\webapps\opswise



Prepare Your Database

Delete or drop your database using the appropriate database admin tool. You also can create a new database, using a different database name.

0	Important Before dropping your existing database, make sure you have created a backup, as mentioned earlier in these procedures.
---	---

Download the New Controller

From the Stonebranch Customer Portal, download a Universal Controller package (for instructions, see Downloading Universal Controller Software).

Install the Controller

The Universal Controller is a Java application running within Apache Tomcat. For this reason, the Controller software and installation procedure is basically the same for all platforms.

If you will be running the Controller in a High Availability environment, complete the Controller installation for the targeted Active cluster node before installing the Controller for the targeted Passive node(s).

🔥 Note

If you have deployed any JDBC driver jar files (or in the case of DB2, a JDBC driver license jar file) to the \$CATALINA_HOME/webapps/opswise/WEB-INF/lib directory, you must recopy these files to this directory and restart tomcat after your initial validation.

Verify the Active Controller Installation

Step 1	Start Tomcat where the Active Controller is deployed.			
	When the database initialization is complete and the Controller is running, you will see the following (for example) in the log:			
	2012-09-12-12:53:07:339 INFO [Ops.Cluster.Monitor.0] Server is now Running in Active mode. Previous mode was Passive. 2012-09-12-12:53:07:339 INFO [Ops.Cluster.Monitor.0] Setting server to ACTIVE.			
Step 2	As a precaution, clear the browser cache.			
Step 3	Log in to the Active Controller with ops.admin (password is not set). On the Universal Controller Home Dashboard, verify that the Overview specifies the correct release.			

Run an Import on the Active Controller

In this procedure, you are performing a bulk import of the data that you exported earlier using a bulk export.

Step 1	Unzip/untar the backup file that you created earlier using the export.
Step 2	Copy the XML files to any directory on the Controller that it has access to.
Step 3	From the Administration navigation pane, select Configuration > Server Operations.
Step 4	Locate and run the Bulk Import Server Operation.
Step 5	The utility prompts for a confirmation. Click Yes .
Step 6	As your data is imported, the output from the operation is written to the screen. Look over the output for any error messages. If you see any, copy the output to a file and email it to Customer Support.
Step 7	 Due to technology and feature changes in 6.3.x, a number of XML files will not be imported. These include but may not be limited to: Activity History Audit Reports Cluster nodes
Step 8	Apply your 6.3.x license key.

If you experiencing problems with the bulk import, do not continue; please contact Customer Support for guidance.

Check Your Data

At this point, your previous definitions, users and passwords have all been restored. Log out and in again, and review your records to make sure all your previous definitions, users, and passwords have been restored successfully.

LDAP Synchronization

Do not perform LDAP Synchronization until you have **successfully** bulk imported your data.

In order to log in to the Controller using LDAP credentials, you must set the LDAP Synchronization Enabled Universal Controller System property (Administration > Configuration > Properties in the Controller user interface) to true.

Verify the Passive Controller Installations

Step 1	Start Tomcat where each Passive Controller is deployed.
Step 2	Log in to the Passive Controller with ops.admin or a user with equivalent authorization. On the Universal Controller Home Dashboard , verify that the Overview specifies the correct release.

Start OMS

Do not start OMS until you have successfully bulk imported your data.

Start Universal Message Service (OMS).

The start/stop procedure for Universal Agent components (such as OMS) may differ depending on your platform. For instructions, see Starting and Stopping Agent Components.

Verify the Upgrade

Verify that the Controller is installed and running properly (see Verifying a Controller Installation).

Verify that your Agent components are communicating with the Active Controller (see Verifying Universal Agent Installation).

Applying Maintenance to Universal Controller

- Overview
- Applying Maintenance vs. Upgrading
- Universal Controller Maintenance
- Verify the Installation

Overview

For Universal Controller 6.3.x, applying maintenance refers to the increase from a currently installed 6.1.x, 6.2.x, or 6.3.x release of the Controller to a later 6.3.x release of the Controller (for example, increase Controller 6.2.0.1 to Controller 6.3.0.0).

If you want to increase Controller 5.2.0 to Controller 6.3.x, you must perform an upgrade. The procedures for upgrading differ from the procedures for applying maintenance (see Upgrading Universal Controller).

Applying Maintenance vs. Upgrading

For Universal Controller 6.3.x, upgrading refers to the increase of its currently installed 5.2.0 version to a 6.3.x version (for example, upgrading Controller 5.2.0.5 to Controller 6.3.0.0).

You cannot upgrade to Controller 6.3.x from versions prior to 5.2.0 (for example, 5.1.1).

The procedures for upgrading differ from the procedures for applying maintenance (see Upgrading Universal Controller).

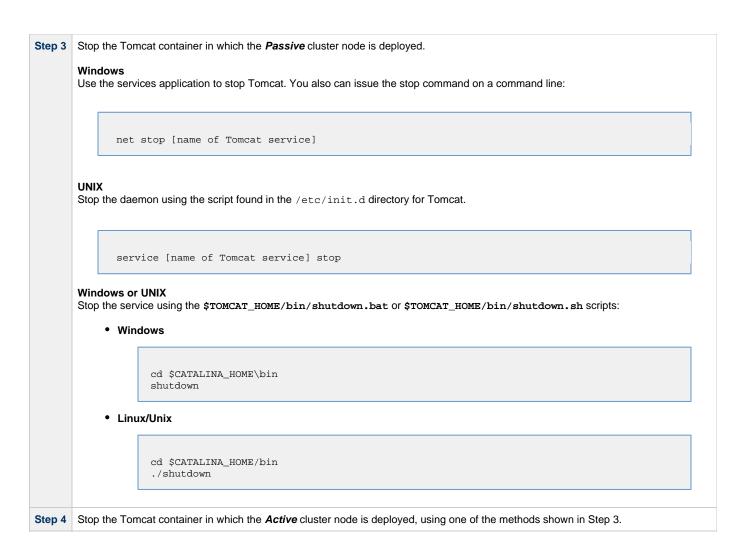
Universal Controller Maintenance

🔥 Note

These instructions assume that you are running a High Availability Universal Controller system: a system configured with **Active** and **Passive** Controllers (cluster nodes). If you are running a single Controller, disregard the steps for the **Passive** Controllers.

To apply maintenance to the currently installed release of Universal Controller:

Step 1	From the Stonebranch Customer Portal, download the Universal Controller 6.3.x package (for instructions, see Downloading Universal Controller Software).		
Step 2	Unpack the Universal Controller distribution file, using the following method appropriate for your platform:		
	Windows Use an appropriate archiving / unzipping product.		
	Linux/Unix		
	tar -xvf universal-controller-N.N.N.tar		



Step 5	For the <i>Active</i> cluster node deployment:
	1. Delete the existing deployment directory and war file from your webapps directory.
	The Controller installation process renamed the unpacked war file (universal-controller-N.N.N.N-build.N.war) as opswise.war, so the following would be your deployment directory and war file:
	[tomcat-install]\webapps\opswise [tomcat-install]\webapps\opswise.war
	Note If you want to rename the deployment directory and opswise.war for back-up, you must do so outside of the Tomcat folder.
	 Copy the war file from the new downloaded package to your webapps directory and rename the war file opswise.war. Start the Tomcat container in which the Active cluster node is deployed.
	Note We recommend that all Universal Controller users clear their browser cache and close their browser prior to re-opening and navigating back to the Universal Controller URL to ensure that the most recent client updates are loaded.
	4. Log in to the Active cluster node deployment with user ops.admin or a user with equivalent authorization and verify the installation (see Verify the Installation, below).\
	Note If you have deployed any JDBC driver jar files (or in the case of DB2, a JDBC driver license jar file) to the \$TOMCAT_HOME/webapps/opswise/WEB-INF/lib directory, you must recopy these files to this directory and restart tomcat after your initial validation.
Step 6	Repeat Step 5 for the <i>Passive</i> cluster node deployment.
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Verify the Installation

To make sure the Controller is installed, running, and communication with Universal Agent and Universal Message Service (OMS), verify the installation after you have logged on:

Step 1 From the Home dashboard, verify that the System Details widget displays the appropriate Universal Controller release. System Details X License: [Agents: 101/5000] [Triggers: Unlimited] [Tasks: Unlimited] [Days: 2/365] Node Id: opswise:8080-opswise6b55 Node Mode: Active Node Uptime: 15 Hours 25 Minutes 2 Seconds Node Time: 2016-04-28 09:27:22 -0400 6.3.0.0 Release: Build: build.55 Build Date: 04-27-2016 0415 Database Type: MYSQL Database Name: opswise63b55 Database URL: jdbc:mysql://db.stone.branch/ Database Connections: Client (0/5) Reserved (0/2) Server (0/6) Memory Maximum: 7282.00 MB Memory Used: 355.73 MB (4.89%) 6926.27 MB (95.11%) Memory Free: Step 2 From the Agents and Connections navigation pane, select Agents > All Agents or Agents > <type of Agent>. You will see a list similar to the following example. Make sure the Status of the Agent is Active. 👻 🦁 Filter... 🔯 Go To... 🛛 🍣 ✓ 9 Linux/Unix Agents Custom Filter - Unsaved 1 -Agent Name 🔷 Host Name Agent Id Version Last Heartbeat Current Task Count Suspended Status Started Date aix61.stone.branch - AIX61 aix61.stone.branch AIX61 6.3.0.1 2016-04-28 09:33:09 -0400 Active centerpoint.stone.branch - centerpoint centerpoint.stone.branch centerpoint 6.2.0.0 2016-04-28 09:33:52 -0400 Active db2.stone.branch - QADB2 db2.stone.branch QADB2 6.2.0.0 2016-04-28 09:34:58 -0400 Active db3.stone.branch QADB3 db3.stone.branch - QADB3 6.2.0.0 2016-04-28 09:33:04 -0400 Active db5.stone.branch - QADB5 db5.stone.branch QADB5 6.2.0.0 Offline in26rh4-x64.stone.branch - LXRH4X64 lin26rh4-x64.stone.branch LXRH4X64 5.2.0.11 2016-04-28 09:33:14 -0400 Active k3ora7-x64.stone.branch - LX30RA7X64 bx3ora7-x64.stone.branch LX30RA7X64 5.2.0.11 2016-04-28 09:33:40 -0400 Active 12 k3rh7-x64.stone.branch - LX3RH7X64 k3rh7-x64.stone.branch LX3RH7X64 6.3.0.1 2016-04-28 09:34:41 -0400 Active k3rh7c-x64.stone.branch - LX3RH7CX64 bx3rh7c-x64.stone.branch LX3RH7CX64 6.3.0.0 2016-04-28 09:34:57 -0400 Active Step 3 From the Agents and Connections navigation pane, select System > OMS Servers. You will see a list similar to the following example. Make sure the Status of the OMS Servers are Connected. OMS Servers Custom Filter -- None -🔽 🦁 Filter... 🔯 Go To... 🟯 New 🍣 Status Authenticate OMS Server Updated By Updated OMS Server Address 4 localhost:7878 Connected No opswise.svstem 2014-03-05 10:07:13 -0400 For more information about these components in the Universal Controller user interface, see: Step 4 Agents OMS Servers

Universal Controller 6.3.x Installation, Upgrade, and Applying Maintenance

Starting and Stopping Universal Controller

These pages provide platform-specific instructions for starting and stopping Universal Controller 6.1.1:

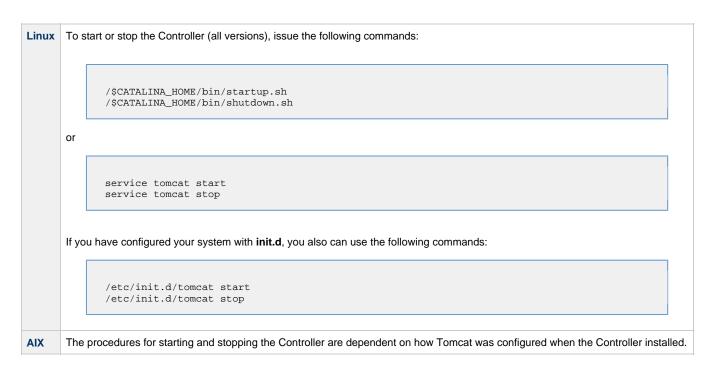
- Starting and Stopping Universal Controller UNIX and Windows
- Starting and Stopping Universal Bundled Controller on AIX

Starting and Stopping Universal Controller - UNIX and Windows

- Starting and Stopping the Controller on UNIX
- Starting and Stopping the Controller on Windows

Starting and Stopping the Controller on UNIX

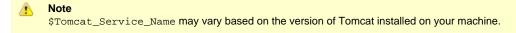
Note These procedures are appropriate for all supported systems of UNIX:



Starting and Stopping the Controller on Windows

To start or stop the Controller (all versions) from the DOS prompt, use the following commands:





Starting and Stopping Universal Bundled Controller on AIX

Starting the Universal Bundled Controller

To start the Universal Bundled Controller, execute the following script:

/etc/rc.d/rc2.d/Sopswise start

Stopping the Universal Bundled Controller

To stop the Universal Bundled Controller, execute the following script:

/etc/rc.d/rc2.d/Kopswise stop