



# Cisco Workload Automation UCS Manager Adapter Guide

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## Contents 3

### Preface 5

- Audience 5
- Related Documentation 5
- Obtaining Documentation and Submitting a Service Request 5
- Document Change History 6

### Introducing the UCS Manager Adapter 7

- Overview 7
- Prerequisites 7

### Configuring the UCS Manager Adapter 9

- Overview 9
- Licensing an Adapter 9
- Defining UCS Manager Adapter Users 10
  - Defining Runtime Users 11
  - Defining an UCS Manager Security Policy 11
  - Authorizing CWA to Work with USCM Jobs 12
  - Defining CWA Users to Work with UCSM Jobs 12
- Configuring the HTTPS Protocol 13
  - Obtain Security Certificates 13
  - Export Security Certificates 14
  - Import Target Server Certificates Into a Java Keystore 14
- Defining a UCS Manager Connection 15
  - Verifying Connection Status 16
  - Connection Definition User Interface 16
    - Connection Definition Dialog 16
    - USCManager Connection Tab 17
    - Connection Definition - General Tab 17
    - Connection Definition - Options Tab 17

### Using the UCS Manager Adapter 19

- Overview 19
- Defining a UCS Manager Job 19
  - Job Definition Dialog - USCManager Job Tab 20
  - Job Definition Dialog - Management Tree 21
  - Job Definition Dialog - Server Details 22
  - Job Definition Dialog - Parameters 22
  - Job Definition Dialog - Run Page 22
- Monitoring UCSM Job Activity 24
  - Job Details - Output Tab 24
  - Job Details - USCManager Tab 24
  - Job Details - Run Info Tab 24
- Controlling Adapter and Agent Jobs 24
  - Holding a Job 25
  - Aborting a Job 25
  - Rerunning a Job 25
  - Making One Time Changes to an Adapter or Agent Job Instance 25
  - Deleting a Job Instance before It Has Run 26

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## Configuring service.props 27

About Configuring service.props 27  
service.props Properties 27



# Preface

This guide describes the installation, configuration, and usage of the UCS Manager Adapter with Cisco Workload Automation (CWA).

## Audience

This guide is for administrators who install and configure the UCS Manager Adapter for use with CWA, and who troubleshoot CWA installation and requirements issues.

## Related Documentation

See the *Cisco Workload Automation Documentation Overview* for your release on [cisco.com](http://www.cisco.com) at:

<http://www.cisco.com/c/en/us/support/cloud-systems-management/tidal-enterprise-scheduler/products-documentation-roadmaps-list.html>

...for a list of all CWA guides.

**Note:** We sometimes update the documentation after original publication. Therefore, you should also review the documentation on [Cisco.com](http://www.cisco.com) for any updates.

## Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see *What's New in Cisco Product Documentation* at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>.

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## Document Change History

The table below provides the revision history for the *Cisco Workload Automation UCS Manager Adapter Guide*.

Version Number	Issue Date	Reason for Change
6.2.1 SP2	June 2015	Configuration provided in the <i>TES Installation Guide</i> ; usage provided in online Help only.
6.2.1 SP3	May 2016	Consolidated all UCS Manager Adapter documentation into one document.
6.3	August 2016	Rebranded “Cisco Tidal Enterprise Scheduler (TES)” to “Cisco Workload Automation (CWA)”.  Miscellaneous edits for the 6.3 release.



# 1

## Introducing the UCS Manager Adapter

This chapter provides an overview of the UCS Manager Adapter and its requirements:

- [Overview, page 7](#)
- [Prerequisites, page 7](#)

### Overview

Cisco UCS Manager (UCSM) is a device manager, providing unified and embedded management of all software and hardware components of the Cisco Unified Computing System. It integrates computing, networking, storage access, and virtualization resources in a single, cohesive system. UCSM provides management interfaces through a GUI and command-line interface (CLI). Additionally, a native XML API provides full access to all UCS Manager functions. All operations, including the Cisco UCS Manager's GUI and CLI, use this XML API.

The UCS Manager Adapter integrates with UCS Manager using the XML API and provides for the automation of UCS Manager activities for Blade and Rack-mount Server management, in the form of UCS Manager jobs.

UCS-managed objects form the [UCS Management Information Tree](#), which is exposed in entirety through the API, permitting development of external applications that can modify Management Information as needed.

The Cisco UCS Manager Adapter provides for automating the execution of Cisco UCS Manager tasks as part of a CWA-managed process. In this release, tasks are limited to a subset of server management activities.

The Adapter uses the Cisco UCS XML API to submit and monitor UCS management tasks with full scheduling capabilities and parameter support. As a platform independent solution, the Adapter can run on any platform where the CWA master runs.

### Prerequisites

You need to configure your firewall to grant the adapter access to ports 6400 to 6405, 8080, 1948, and 4205. If you override any of these default ports, verify that ports required to communicate with USC Manager are open.

If the associated host is configured to use SSL for external communication (HTTPS), you must complete the following steps as described in detail in [Configuring the HTTPS Protocol, page 13](#).

- Obtain security certificates for all target servers.
- Export security certificates for all target servers to a local directory.
- Import security certificates for all target servers into a Java keystore.

Verify that:

- Web Services are configured.

## Prerequisites

- The Job Server is configured for each repository containing jobs you want to schedule.
- The adapter is configured to use a connection/runtime user that has Administrative privileges.
- Jobs are Web Service enabled.

For information on these configuration items, refer to the appropriate USC Manager documentation.

Refer to your *Cisco Workload Automation Compatibility Guide* for a complete list of hardware and software requirements.





# 2

## Configuring the UCS Manager Adapter

### Overview

The UCS Manager Adapter software is already installed as part of a normal installation of CWA. However, you must perform the following steps to license and configure the adapter before you can define UCS Manager jobs:

- [Licensing an Adapter, page 9](#) - License the connection(s) to the UCS Manager. You cannot define an UCS Manager connection until you have applied the UCS Manager license from Cisco.
- [Defining UCS Manager Adapter Users, page 10](#) - Create one or more user definitions in CWA with access to the UCSM instance using UCSM user accounts and passwords. Users in CWA are authorized to run UCSM jobs on behalf of these UCSM runtime users. Defining and securing UCSM users with CWA is covered in these sections:
  - [Defining Runtime Users, page 11](#)
  - [Defining an UCS Manager Security Policy, page 11](#)
  - [Authorizing CWA to Work with UCSM Jobs, page 12](#)
  - [Defining CWA Users to Work with UCSM Jobs, page 12](#)
- [Configuring the HTTPS Protocol, page 13](#) - Define the HTTPS security protocol for the UCSM Adapter.
- [Defining a UCS Manager Connection, page 15](#) - Define a connection so the master can communicate with the UCSM instance.

See also [Configuring service.props, page 27](#) for information about general and adapter-specific properties that can be set to control things like logging and connection properties.

### Licensing an Adapter

Each CWA Adapter must be separately licensed. You cannot use an Adapter until you apply the license file. If you purchase the Adapter after the original installation of CWA, you will receive a new license file authorizing the use of the Adapter.

You might have a Demo license which is good for 30 days, or you might have a Permanent license. The procedures to install these license files are described below.

#### To license an Adapter:

1. Stop the master:

Windows:

- a. Click on **Start** and select **All Programs>Cisco Workload Automation>Scheduler>Service Control Manager**.

- b. Verify that the master is displayed in the **Service** list and click on the **Stop** button to stop the master.

UNIX:

Enter **tesm stop**

2. Create the license file:

- For a Permanent license, rename your Permanent license file to *master.lic*.
- For a Demo license, create a file called *demo.lic*, then type the demo code into the *demo.lic* file.

3. Place the file in the **C:\Program Files\TIDAL\Scheduler\Master\config** directory.

4. Restart the master:

Windows:

Click **Start** in the Service Control Manager.

UNIX:

Enter **tesm start**

The master will read and apply the license when it starts.

5. To validate that the license was applied, select **Registered License** from **Activities** main menu.

## Defining UCS Manager Adapter Users

There are two types of users associated with the UCSM Adapter, Runtime Users and Schedulers. You maintain definitions for both types of users from the Users pane.

### ■ Runtime Users

Runtime users in the context of USCM jobs represent those users and passwords required for authentication. USCM operations require authentication against a valid USCM user as defined by a USCM administrator.

### ■ Schedulers

Schedulers are those users who will define and/or manage USCM jobs. There are three aspects of a user profile that grant and/or limit access to scheduling jobs that affect USCM:

- Security policy—Grants or denies add, edit, delete and view capabilities for UCSM jobs.
- Authorized runtime user list—Grants or denies access to specific authentication accounts for use with UCSM jobs.
- Authorized agent list—Grants or denies access to specific UCSM Adapter connections for use when defining UCSM jobs.

Defining and securing UCSM users with CWA is covered in these sections:

- [Defining Runtime Users, page 11](#)
- [Defining an UCS Manager Security Policy, page 11](#)
- [Authorizing CWA to Work with USCM Jobs, page 12](#)
- [Defining CWA Users to Work with UCSM Jobs, page 12](#)

## Defining Runtime Users

Before you can create UCSM jobs, a user with access to the UCSM instance must be defined to CWA. CWA cannot run any UCSM job unless it knows the user name(s) and password(s) defined in the user account that accesses the UCSM instance. CWA then interacts with the UCSM as that defined user, exchanging information to monitor and control the execution of the UCSM jobs through CWA. Other users in CWA are authorized to run the database jobs on behalf of UCSM runtime users.

The credentials specified for the runtime user are used to store the information about the simple user security context consisting of a user name and password pair and to pass this information to the adapters. This runtime user can be used for database targets when needing database authentication.

### To define a runtime user:

1. From the **Navigator** pane, expand the **Administration** node and select **Runtime Users** to display the defined users.
2. Right-click **Runtime Users** and select **Add Runtime User** from the context menu (Insert mode).

-or-

You can also right-click a user in the **Runtime Users** pane and select **Edit Runtime User** from the shortcut menu (Edit mode).

The **User Definition** dialog displays.

3. Enter the new user name in the **User/Group Name** field.
4. For documentation, enter the Full Name or description associated with this user.
5. In the **Domain** field, select a Windows domain associated with the user account required for authentication, if necessary.
6. To define this user as a runtime user for UCSM jobs, click **Add** on the **Passwords** tab.

The **Change Password** dialog displays.

7. Select **UCSM** from the **Password Type** list.
8. Enter a password (along with confirmation) in the **Password/Confirm Password** fields.

Only those users with a password specified for UCSM will be available for use with UCSM jobs. The password might be the same as the one specified for Windows/FTP jobs.

9. Click **OK** to return to the **User Definition** dialog.

The new password record displays on the **Passwords** tab.

10. Click **OK** to add or save the user record in the CWA database.

For further information about the User Definition dialog, see your *Cisco Workload Automation User Guide*.

## Defining an UCS Manager Security Policy

Access to the USCM environment is controlled by assigning a USCM security policy with specified privileges to user accounts. The system administrator should create a new security policy or edit an existing policy in CWA as described in the *Users* chapter of the *Cisco Workload Automation User Guide*. The new policy should include the normal user privileges as well as the capability to add and/or edit USCM jobs. A user whose assigned security policy does not include USCM privileges cannot create and/or run USCM jobs.

**To grant UCS Manager access privileges:**

1. In the **Navigator** pane, select **Security Policies** to display the **Security Policies** pane.
2. Select a security policy for the UCSM job privileges and double-click on it to display its **Security Policy Definition** dialog.
3. Scroll down the list of function categories and double-click on the **UCSM Jobs** category to display the available functions.
4. Double-click the category row to select the desired job privileges then click **OK**.

A check mark appears next to the **UCSM Jobs** function category indicating that one or more functions are selected within the category.

5. Repeat this process for the **UCSM Events** function category to authorize use of UCSM events for this security policy.

If needed, different security policies with varying authorized functions can be created to provide different levels of access for a variety of users.

## Authorizing CWA to Work with USCM Jobs

**To authorize CWA:**

1. From the Navigator pane, select Administration>Security Policies to display the Security Policies pane.
2. Right-click Security Policies and select Add Security Policy from the context menu. You can also right-click to select an existing security policy in the Security Policies pane and select Edit Security Policy.
3. In the Security Policy Name field, enter a name for the policy.
4. On the Functions page, scroll to the USC Manager category, click the ellipses on the right-hand side of the dialog and select the check boxes next to the functions that are to be authorized under this policy (Add, Edit, Delete and View USC Manager Jobs).
5. Click Close on the Function drop-down list.
6. Click OK to save the policy.

For further information about setting up security policies, see your *Cisco Workload Automation User Guide*.

## Defining CWA Users to Work with UCSM Jobs

**To define a CWA user to work with USCM jobs:**

1. From the Navigator pane, expand the Administrative node and select Interactive Users to display the defined users.
2. Right-click Interactive Users and select Add Interactive User from the context menu (*Insert mode*). You can also right-click a user in the Interactive Users pane and select Edit Interactive User from the shortcut menu (*Edit mode*). The User Definition dialog displays.
3. If this is a new user definition, enter the new user name in the User/Group Name field.
4. For documentation, enter the Full Name or description associated with this user.
5. In the Domain field, select a Windows domain associated with the user account required for authentication, if necessary.
6. On the Security page, select the Other option and then select the security policy that includes authorization for USCM jobs.
7. Click the Runtime Users tab.

8. Select the USCM users that this scheduling user can use for USCM authentication from USCM jobs.
9. Click the Agents tab.
10. Select the check boxes for the USCM connections that this scheduling user can access when scheduling jobs.
11. Click OK to save the user definition.

## Configuring the HTTPS Protocol

UCS Manager can be configured to use SSL via the HTTPS protocol. If your environment is configured to use HTTP, you can skip this section.

For complete instructions on configuring UCS Manager servers to use the HTTP or HTTPS protocol, refer to the USCM documentation that ships with the product.

## Obtain Security Certificates

From a Windows desktop, you can obtain a security certificates for each target UCSM server using the Microsoft Internet Explorer Certificate Cache.

**Note:** Although other procedures are available for obtaining the required certificates, the procedure below can be performed from your Windows desktop.

**Note:** You need to carry out the following instructions only if your server certificate is generated in-house (that is, self-signed) or if your server certificate is signed by a Certification Authority that is not trusted by the version of Java you are using. Alternatively, if your adapter connection fails by reporting the error “unable to find valid certification path to requested target” you need to carry out the following instructions.

### To obtain target UCSM server security certificates

1. Open the Internet Explorer browser and navigate to the following dispatch URL (replacing servername and port as it applies to your environment).

```
https://<adminHost:adminPort>/admin/servlet/webservices
```

where adminHost is where the USC Manager is installed and adminPort is the port the USC Manager is listening on.

A **Security Alert** message displays.

2. Click **View Certificate** to open the **Certificate** dialog.
3. Click **Install Certificate**.
4. On the **Certificate Import Wizard Welcome** panel, click **Next**.
5. On the **Certificate Store** panel, use the default option **Automatically select the certificate store based on the type of certificate** and click **Next**.
6. On the **Completing Certificate Import Wizard** panel, click **Finish**.

A **Security Warning** message displays informing you that you are about to install a certificate from a certification authority.

7. Click **Yes** to continue with the certificate installation.

A message stating *The import was successful* displays.

8. Click **OK** to close the message and return to the **Certificate** dialog.

9. Click **OK** on the **Certificate** dialog. You can close your browser now.
10. Repeat the process for each Cognos server that you want to connect to with the Cognos adapter.

## Export Security Certificates

After you have obtained the security certificates for the target servers, you must export them from the Internet Explorer cache to a local directory.

### To export the cached certificates to a local directory

1. On the local computer, create the following directory for the certificates:

```
C:\ucsm-Certs
```

2. In Internet Explorer, select **Tools>Internet Options**.
3. On the **Internet Options** dialog, select the **Content** tab.
4. In the Certificates area, click **Certificates**.
5. On the **Certificates** dialog, select the **Trusted Root Certification Authorities** tab to display the list of trusted certificates. This list should contain the certificates for the target servers that were obtained in the previous procedure (see [Obtain Security Certificates, page 13](#)).
6. Scroll through the list of certificates to find the certificates.
7. Perform the following procedure for each target server certificate:
  - a. Select the certificate and click **Export** to launch the Certificate Export Wizard.
  - b. On the **Welcome** panel, click **Next**.
  - c. On the **Export File Format** panel, use the default option DER encoded binary X.509 (.CER) and click **Next**.
  - d. On the File To Export panel, enter the complete path to the ucsm-Certs directory and a unique name for the certificate:

```
C:\ucsm-Certs\servername.cer
```
  - e. Click **Next**.
  - f. On the **Completing the Certificate Export Wizard** panel, click **Finish** to complete the export.

A message stating The export was successful displays.
  - g. Click **OK** to close the message box.
8. After all target server certificates have been exported, click **Close** to exit the **Certificates** dialog.
9. Click **OK** to close the **Internet Options** dialog.

## Import Target Server Certificates Into a Java Keystore

You must now import the target server certificates into a local Java keystore.

**Note:** These instructions assume that a JRE or JDK is in your system PATH.

### To import certificates into a Java keystore

1. Open a Windows **Command Prompt** window.
2. Change to the directory where the certificates are stored by entering the following commands:

## Defining a UCS Manager Connection

```
c:
cd \ucsm-Certs
```

3. Use the Java keytool utility to import a certificate. The following syntax is used:

```
keytool -import -file <certificate-filename> -alias <server-name> -keystore <keystore_filename>
```

For example:

```
keytool -import -file C:\ucsm-certs\ia-ucs-400.cer -alias ia-ucs-400 -keystore ia-ucs-400.keystore
```

4. When prompted to create a password for the keystore, enter a password at the prompt. The keystore utility displays the certificate information.
5. At the **Trust this certificate? [no]** prompt, type **yes** and press **Enter**. The certificate is imported into the **UCSM.keystore** keystore and the following message displays:

```
Certificate was added to keystore
```

6. Repeat this procedure for each target server.
7. Navigate to the following folder where the CWA UCSM adapter is installed and create a new directory named **config**:

```
<install_dir>\master\services\{2F7735E8-3B6C-4273-A7C5-D2F5D3A5A9B8}\config
```

8. If necessary, create a text file named *service.props*. See [Configuring service.props, page 27](#) for more information about configuring polling, output, and log gathering for the Cognos Adapter.
9. Open the *service.props* text file and add the following line:

```
Keystore=c:\\ucsm-Certs\\ia-ucs-400.keystore
```

(Note the use of escaped backslashes for Windows directories).

## Defining a UCS Manager Connection

You must create a connection to the UCS Manager before CWA can run your UCSM jobs. The connection for the UCSM Adapter is defined like other CWA connections. A connection is defined through the **Connection Definition** dialog.

### To add a UCSM connection:

1. From the Navigator pane, navigate to Administration>Connections to display the Connections pane.
2. Right-click Connections and select Add Connection>USC Manager Adapter from the context menu. The Connection Definition dialog displays.
3. On the General page, enter a name for the new connection in the Name field.
4. In the Job Limit field, select the maximum number of concurrent active processes that CWA should submit to the USCM server at one time.
5. From the Default Runtime User drop-down list, you have the option to select the name of a default user for USCM jobs. The runtime user is used for authentication with USC Manager to authorize scheduled operations.
6. Only authorized users that have been defined with USC Manager passwords display in this list. The selected user is automatically supplied as the default runtime user in a new USCM job definition.
7. Click the USC Manager Connection tab.
8. In the UCS Manager Host Name field, enter the server IP or name that hosts the UCS Manager.

## Defining a UCS Manager Connection

9. In the UCS Manager User field, select the user account used to connect to UCS Manager.
10. In the Port field, enter the appropriate port number for connecting to UCS Manager. Default is 80.
11. If checked, HTTPS indicates SSL is to be used. Uncheck the checkbox if SSL is not to be used.  
**Note:** During connection creation, when checked, the port will default to 80. (Default: unchecked )
12. Click the Test button to test the connection.
13. Click the Options tab to configure parameters for this connection.

The following parameters are available:

- CONNECT\_TIMEOUT - timeout in seconds establishing a connection (default 60)
- REQUEST\_TIMEOUT - timeout in seconds for API requests (default 60)
- REQUEST\_RETRIES - number of retries to retry a failed API request (default 3)
- REFRESH\_PERIOD - number of seconds between session refreshes. (default -1)

When a web client connects to UCS Manager, it needs to send refresh requests to UCS Manager to keep the web session active. This option specifies the maximum amount of time in seconds, allowed between refresh requests for a user in this domain. If not specified or specified with a value of  $\leq 0$ , indicates the default value configured in Cisco UCS should be used. This default is typically 600 seconds.

14. Click OK to save the new USCM connection.

The configured connection displays in the Connections pane. See [Verifying Connection Status, page 16](#) for how to tell the status of a connection and troubleshoot issues.

## Verifying Connection Status

The status light next to the connection indicates whether the CWA Master is connected to the USCM server. If the light is green, the USCM server is connected.

A red light indicates that the master cannot connect to the USCM server. USCM jobs will not be submitted without a connection to the USCM server. You can only define jobs from the Client if the connection light is green.

If the light is red, you can test the connection to determine the problem. Right-click the connection and select Test from the shortcut menu. A message displays on the Test USCMConnection dialog describing the problem. Or go to Operator>Logs to look for error messages associated with this connection.

## Connection Definition User Interface

You must create one or more USCM connections before CWA can run your USCM jobs. These connections also must be licensed before CWA can use them. A connection is created using the Connection Definition dialog and the user interface described here.

### Connection Definition Dialog

The Connections Definition dialog contains the following elements:

- Name—Enter a name for the Adapter.
- Enabled—Activates or disables (deactivates) the connection, shutting down the adapter. A job cannot run on an adapter if its connection is disabled. If jobs try to run on a disabled connection, the job enters Agent Disabled status. Jobs already running on an agent that is disabled (or if the connection to the agent is lost) run to completion; however, their completion status is not returned until the agent is enabled.



## Defining a UCS Manager Connection

- Use as default for USCManager Jobs—Select to use the connection as your default connection when setting up future USCM jobs.

The Connection Definition dialog contains the following tabs of configuration settings:

- USCManager Connection—Provides information to connect to the designated USCManager server. See [USCManager Connection Tab, page 17](#).

### USCManager Connection Tab

The USCManager Connection tab of the Connection Definition dialog for the USCM Adapter defines parameters needed to connect to a UCS Manager target.

The USCManager Connection tab contains the following elements:

- USC Manager Host Name—Enter the server IP or name that hosts the UCS Manager.
- USC Manager User—Select the user account used to connect to UCS Manager.
- Port—Enter the appropriate port number for connecting to UCS Manager. (Default: 80)
- HTTPS—If checked, indicates SSL is to be used. Uncheck the checkbox if SSL is not to be used.

**Note:** During connection creation, when checked, the port will default to 80. (Default: unchecked).

- Test—Tests the connection.

### Connection Definition - General Tab

The General tab of the Connection Definition dialog for the USCM Adapter specifies a limit to the number of jobs the agent can work on simultaneously and provides a default runtime user for USCM jobs.

The General tab contains the following elements:

- Job Limit—Select the maximum number of concurrent active processes that CWA should submit to the USCM server at one time.
- Default Runtime User—Select the name of a default user for USCM jobs. The runtime user is used for authentication with the USC Manager server to authorize scheduled operations.

Only authorized users that have been defined with USC Manager passwords display in this list. The selected user is automatically supplied as the default runtime user in a new USC Manager job definition.

### Connection Definition - Options Tab

The Options tab of the Connection Definition dialog allows you to configure parameters for a USCM connection.

The following parameters are available:

- CONNECT\_TIMEOUT - timeout in seconds establishing a connection (default 60)
- REQUEST\_TIMEOUT - timeout in seconds for API requests (default 60)
- REQUEST\_RETRIES - number of retries to retry a failed API request (default 3)
- REFRESH\_PERIOD - number of seconds between session refreshes. (default -1)

## Defining a UCS Manager Connection

When a web client connects to UCS Manager, it needs to send refresh requests to UCS Manager to keep the web session active. This option specifies the maximum amount of time in seconds, allowed between refresh requests for a user in this domain. If not specified or specified with a value of  $\leq 0$ , indicates the default value configured in Cisco UCS should be used. This default is typically 600 seconds.



# 3

## Using the UCS Manager Adapter

### Overview

This chapter describes how to use the UCSM Adapter in these topics:

- [Defining a UCS Manager Job, page 19](#)
- [Monitoring UCSM Job Activity, page 24](#)
- [Controlling Adapter and Agent Jobs, page 24](#)

You can start creating and scheduling UCSM jobs once you have:

- added the UCSM user to CWA.
- applied the UCSM license file.
- defined your UCSM connection(s).

See [Configuring the UCS Manager Adapter, page 9](#) for more information.

### Defining a UCS Manager Job

You define USCM jobs to be run with CWA using the Job Definition dialog. The following are instructions for defining a USCM job in CWA and descriptions of the various types of tasks and options that can be included in the jobs.

#### To define a USCM job:

1. In the Navigator pane, select Definitions>Jobs to display the Jobs pane.
2. Right-click Jobs and select Add>USCManager Job from the context menu. The USCManager Job Definition dialog displays.

The Run tab is selected by default. You must first specify a name for the job, the USCM Adapter connection that will be used for the job and a valid runtime user who has the appropriate USCM authority for the job being scheduled.

In the upper portion of the dialog, specify the following information to describe the job:

- Job Name – Enter a name that describes the job.
- Job Class – If you want to assign a defined job class to this job, select it from the drop-down list. This field is optional.
- Owner – Select the USCM owner of the job. The user must have the appropriate USCM authority for the operation.

## Defining a UCS Manager Job

- Parent Group – If this job exists under a parent group, select the name of the parent group from the drop-down list. All properties in the Agent Information section are inherited from its parent job group.
3. Specify the following connection information in the Agent/Adapter Information section:
    - Agent/Adapter Name – Select the USCM Adapter connection to be used for this job from the drop-down list.
    - Agent List Name– San agent list. Refer to your *Cisco Workload Automation User Guide* for information on Agent Lists.
    - Runtime User – Select a valid runtime user with the appropriate USCM authority for the job from the drop-down list.
  4. Specify the appropriate Tracking and Duration information for the job. Refer to the *Cisco Workload Automation User Guide* for information on these options.
  5. Click the USCMManager Job tab.
  6. From the Category list, specify the UCSManager operation. For this initial release, “Server Management” is the only available category.
  7. From the Action list, select one of the following actions for the selected category.
    - Boot Server, starts a server that is down.
    - Shutdown Server, shuts down a running server.
    - Reset Server, resets a server.

**Note:** These operations may only be performed against a server with an associated Service Profile.

8. In the Server Dn field, enter the distinguished name for the server.
9. In the Service Profile DN field, enter the distinguished name for the service profile associated with the server.
10. From the Management Tree tab, optionally select from the tree structure of all blade and rack-mount servers.
11. Click the Parameters tab to specify job related parameters with CWA variable support.

Because UCSM interactions are simply POST requests, there is no way of knowing with certainty that a request has actually failed.

For example, suppose a job to "Start a Server" is executed. The POST request is successful, but then it is up to UCS Manager to complete the operation. The adapter polls for an expected result (Server Powered On, in this case), but it is possible we never get the expected result because UCS Manager is unable to power on for some reason. Alternatively, it is also possible that a request may take an inordinate amount of time to complete. For these conditions, job parameter (EXPECTED\_RESULT\_TIMEOUT) in seconds is used (default of -1). If during job status polling, the expected result is not available within the timeout, the job will complete abnormally. A value of -1 indicates it should not timeout, essentially running until the expected result is available .

12. Click OK to save the job.

## Job Definition Dialog - USCMManager Job Tab

The USCMManager Job tab contains the following elements:

- **Category** – Select the Server Management operational category types from the Category drop-down list.
- **Action** – specify one of the following actions for the selected category:
  - *Boot Server*, starts a server that is down

## Defining a UCS Manager Job

- *Shutdown Server*, shuts down a server
- *Reset Server*, restarts a server

These operations may only be performed against a server with an associated Service Profile.

- **Gracefully shutdown OS** – Optionally, select this option to indicate that a graceful shutdown of the OS will be used to shutdown the server.
- **Hard shutdown in case of graceful shutdown failure** – Optionally, select this option to indicate that if a graceful shutdown of the OS fails, the server will be turned off using a hard shutdown.
- **Server DN** – Select the distinguished name for the server. This list contains all active servers (servers with a service profile association) that are in a powered up state. Alternatively, you can navigate the Management Tree and select a server (see [Job Definition Dialog - Management Tree, page 21](#)).
  - If a selection is not valid, an error dialog displays and the selection unselected.
  - If a selection is valid, the Service Profile Distinguished name will automatically populate in the Service Profile DN field.
- **Service Profile DN** – Enter the distinguished name for the service profile associated with the server.
- **Wait for completion of outstanding UCS tasks** – When using the *Reset Server* action, optionally select the Wait for completion of outstanding UCS tasks option if you want the operation to wait until any outstanding tasks being performed on the server are completed before restarting the server.

The USCManager Job tab contains the following subtabs:

- **Management Tree** – When this dialog is initiated, the Management Tree is automatically populated with all blade and rack-mount servers. The Server Dn combo box is populated with only server's for which the action applies; therefore the list may be less than depicted in the tree. See [Job Definition Dialog - Management Tree, page 21](#).
- **Parameters** – Specifies job related parameters with CWA variable support. See [Job Definition Dialog - Parameters, page 22](#).

## Job Definition Dialog - Management Tree

Applies to Server Management and includes a tree structure showing all blade and rack-mount servers. You may select the server for which to perform the Server Management action upon, from this tree. Alternatively, you may select a server from the Server Dn combo box.



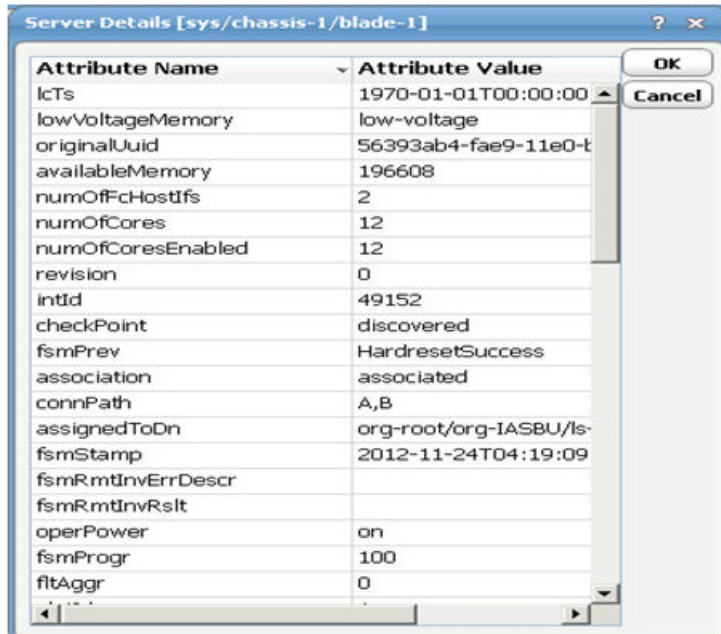
From the Management Tree, you can select a server and display its details via the Server Details menu option.

See [Job Definition Dialog - Server Details, page 22](#).

## Job Definition Dialog - Server Details

From the Management tree, you can select a server and display its details via the Server Details menu option.

The Server Details dialog displays all the server's attributes; that is, its property values.



## Job Definition Dialog - Parameters

The Parameters tab specifies job related parameters with CWA variable support.

Because UCSM interactions are simply POST requests, there is no way of knowing with certainty that a request has actually failed.

For example, suppose a job to "Start a Server" is executed. The POST request is successful, but then it is up to UCS Manager to complete the operation. The adapter polls for an expected result (Server Powered On, in this case), but it is possible we never get the expected result because UCS Manager is unable to power on for some reason. Alternatively, it is also possible that a request may take an inordinate amount of time to complete. For these conditions, job parameter (EXPECTED\_RESULT\_TIMEOUT) in seconds is used (default of -1). If during job status polling, the expected result is not available within the timeout, the job will complete abnormally. A value of -1 indicates it should not timeout, essentially running until the expected result is available .

## Job Definition Dialog - Run Page

The Run page of the [UCSManager Job Definition dialog](#) specifies the UCSManager Connection and UCSManager Runtime user to be used.

**Note:** If the job exists under a parent group, by default, all properties in the Agent/Adapter Information section are inherited from its parent job group. If you want to override any one of these properties, clear the Inherited option.

The Run page contains the following elements:

- **Inherited** - If the job exists under a parent group, by default, all properties in the Agent Information section are inherited from its parent job group. If you want to override any of these properties, clear the Inherited check box. This check box is only displayed if the job belongs to a job group.

## Defining a UCS Manager Job

- **Agent/Adapter Name** – The machine on which the program runs. You must use an adapter that corresponds to one of the defined USCManager connections.
- **Agent List Name** – An agent list is a grouping of defined connections to the USCManager instances. Only agent lists that were defined in the Agent List pane display. When the job runs, CWA attempts to connect with the first connection of the list and if unable to connect, proceeds to the next listed connection until a successful connection is established. You should ensure that the job can run on any of the connections in the agent list. If the job is assigned to a connection that it cannot run on, the job will fail with an Error Occurred status. Note that if you select an agent list, the Agent Name value is reset.
- **Runtime User** – A list of users authorized to run USCManagerjobs. This text field is filled in by default using the information in the USCManager connection definition. If you are using a runtime user with an agent list, ensure that the runtime user is valid for all of the connections in the agent list. The job will fail if assigned to a connection without the specified runtime user.

**Note:** You can clear the above options by right-clicking in them and selecting Clear Selection from the context menu or by pressing the Delete key.

- **Exit Code** – The job completion status is determined by the job's exit code. An exit code of 0 sets the job status to Completed Normally. Any other exit code sets the job status to be Completed Abnormally. The exit code value can range from 0 to 30,000.

The exit code of a job is set depending on the type of adapter you are using. The exit code is determined using the `ocsexit` command at the end of the batch or command file run by a job.

- **External** – Selecting this option means that the status of a completed job is determined externally by a user or program. CWA will set the job status to Externally Defined when the job completes. You can then have the active job completion status set through an action or use the Set command from the Job Activity context menu.
- **Scan Output: Normal String** – Select this option if you want a particular text string in the output from a job to determine that a job completed normally. In the associated text field, enter the text string that signifies normal.
- **Scan Output: Abnormal String** – Select this option if you want a particular text string in the output from a job to determine that a job completed abnormally. In the associated text field, enter the text string that signifies abnormal.

**Note:** You can scan job output for multiple strings. Listing multiple text strings separated by commas means any one of the listed text strings can signal that the job completed normally or abnormally. Listing text strings separated by plus signs means all of the text strings must appear in the job output to determine if the job completed normally or not. If the text strings contain commas or pluses, enclose the text string in quotation marks. You cannot mix commas and pluses together.

- **Estimated** – The estimated duration for the job specified in minutes or a fraction thereof. You can use the estimated duration to monitor jobs that run shorter or longer than expected. For example, you could set up a job event and job action to notify you when a certain job, that normally runs five minutes, runs for more than one hour.
- **Minimum** – The minimum duration of time that you expect your job to run. You can create a job event to monitor and perform an action if the job completes in less than the minimum time. For example, you could set up a job event and job action that runs a diagnostic tool if the job completes in less than the specified minimum time.
- **maximum** – The maximum duration of time that you expect your job to run. You can create a job event to monitor and perform an action if the job runs over the maximum time. For example, you could set up a job event and job action to stop the job if it runs past the specified maximum time.

## Monitoring UCSM Job Activity

CWA monitors the progress of an UCSM job as it runs within the UCS Manager. The current status of a job running in UCSM is displayed in real-time in the **Job Activity** pane. Details about the UCSM job instance are collected in the **Job Details** dialog.

The Job Details dialog displays by double-clicking on a job instance record in the Job Activity pane or by right-clicking and selecting the Details option from the context menu. The Job Detail dialog provides information on the job after it has completed or as it is still running.

This dialog contains the following tabs specific to the USCM Adapter:

- [Job Details - Output Tab, page 24](#)
- [Job Details - UCSManager Tab, page 24](#)
- [Job Details - Run Info Tab, page 24](#)

### Job Details - Output Tab

The Output tab of the Job Detail dialog displays the response from the USCM Adapter. CWA can be configured to save, append, or discard job output by default from the Defaults tab of the System Configuration dialog. Regardless of the system default, any individual job instance can be configured from its job definition to override the system default. If you have the Append option configured, each time a job is rerun that run's output is separated by a block of number signs (#).

**Note:** CWA's default is to discard job output. If you want to be able to view job output, you must select the Save Output option on the Options tab in the Job Definition dialog or change the system default on the Defaults tab in the System Configuration dialog

### Job Details - UCSManager Tab

You can monitor UCSManager jobs and if necessary, modify the job details via the Job Details UCSManager tab. This tab contains the following subtabs:

- **General**—Click the General sub-tab to view general Server details such as hardware details.
- **FSM**—Click the FSM sub-tab to view FSM data.

### Job Details - Run Info Tab

You can monitor UCSManager jobs and if necessary, modify the job details via the Job Details Run Info tab. This tab contains the following subtabs:

- **General**—Click the General sub-tab to view general Server details such as hardware details.
- **FSM**—Click the FSM sub-tab to view FSM data.

## Controlling Adapter and Agent Jobs

Scheduler provides the following job control capabilities for either the process currently running or the job as a whole:

- **Holding a Job**—Hold a job waiting to run.
- **Aborting a Job**—Abort an active job.
- **Rerunning a Job**—Rerun a job that completed.
- **Making One Time Changes to an Adapter or Agent Job Instance**—Make last minute changes to a job.



- **Deleting a Job Instance before It Has Run**—Delete a job instance before it has run.

## Holding a Job

Adapter/agent jobs are held in the same way as any other Scheduler jobs.

Adapter/agent jobs can only be held before they are launched. Once a job reaches the Adapter/Agent system, it cannot be held or suspended.

### To hold a job:

1. From the **Job Activity** pane, right-click on the job.
2. Select **Job Control>Hold/Stop**.

## Aborting a Job

Adapter/agent jobs are aborted in the same way as any other Scheduler jobs.

### To abort a job:

1. From the **Job Activity** pane, right-click on the job.
2. Select **Job Control>Cancel/Abort**.

## Rerunning a Job

On occasion, you may need to rerun an Adapter/Agent job. You can override parameter values first, if necessary, from the Adapter/Agent tab.

### To rerun a job:

1. From the **Job Activity** pane, right-click the Adapter/Agent job you need to rerun.
2. Select **Job Control>Rerun** option from the context menu.

## Making One Time Changes to an Adapter or Agent Job Instance

Prior to a run or rerun, you can edit data on the specific **Adapter/Agent** tab. To ensure that there is an opportunity to edit the job prior to its run, you can set the **Require operator release** option on the **Options** tab in the Adapter **Job Definition** dialog. Use this function to make changes to an Adapter job after it enters Waiting on Operator status as described in the following procedure.

### To make last minute changes:

1. From the **Job Activity** pane, double-click the Adapter/Agent job to display the **Job Details** dialog.
2. Click the Adapter tab.
3. Make the desired changes to the job and click **OK** to close the **Job Details** dialog.
4. If this job is Waiting on Operator, perform one of the following tasks:
  - To release the job, select **Job Control->Release**.
  - To rerun the job with changes, select **Job Control->Rerun**.

## Deleting a Job Instance before It Has Run

Adapter/Agent job instances are deleted in the same way as any other Scheduler job.

Deleting a job from the **Job Activity** pane removes the job from the Scheduler job activity only. The original definition is left in tact.

### To delete a job instance:

1. From the **Job Activity** pane, right-click the Adapter/Agent job to be deleted.
2. Select **Remove Job(s) From Schedule**.



# 5

## Configuring service.props

### About Configuring service.props

The **service.props** file is used to configure adapter behavior. **service.props** is located in the \config directory located under the Adapter's GUID directory, You can create both the directory and file if it does not yet exist. Properties that can be specified in service.props control things like logging and connection configuration. Many of the properties are specific to certain adapters; others are common across all adapters.

### service.props Properties

The table below lists many of the parameters that can be specified in service.props. Some properties apply to all adapters (shaded in the table) and some properties are adapter-specific as indicated by the **Applicable Adapter(s)** column. The properties are listed in alphabetical order.

Property	Applicable Adapter(s)	Default	What It Controls
BYPASS_SEC_VALIDATION	Oracle Apps	N	If set to Y, the secondary user validation is bypassed. If not, secondary user validation is performed.
CLASSPATH	All	<none>	(Optional) - The path to the JDBC driver. If the default CLASSPATH used when the Adapter process is started does not include an appropriate JDBC driver jar required to connect to the PowerCenter Repository Database, you will need to specify this <i>service.props</i> configuration
CONN_SYNC	Informatica, Oracle Apps, SAP	N	Setting this flag to Y allows synchronous connections without overloading the RDOOnly Thread. If set to N, the adapter might stop trying to reconnect after an outage or downtime.
DISCONN_ON_LOSTCONN	Informatica	N	Setting this flag to Y avoids an unnecessary logout call to the Informatica server when the connection is lost. This logout call usually hangs.
EnableDynamicPollingInterval	All	N	Use to avoid frequent polling on long-running jobs. When set to Y in service.props of a particular adapter, these properties are enabled: MinDynamicPollInterval—Minimum value should be 5 seconds. MaxDynamicPollIntervalInMin—Maximum value should be 5 minutes. PercentOfEstDuration—Default value is 5.

Property	Applicable Adapter(s)	Default	What It Controls
HADOOP_JAVA_HOME	Sqoop	<none>	If the Java version used in the Hadoop environment is lower than Java 8, then install the same lower JDK version in the in the Master and include the path of the JDK in this property.
IGNORE_CODES	Informatica	<none>	This parameter can be set in service.props, job configuration and connection configuration parameters. The order of precedence is service.props (applicable for all jobs running in all connections), job level (only for that particular job), and connection (applicable for all jobs in the connection). This parameter is used to specify Informatica-specific error codes, separated by commas (,), that you want to ignore while running a job.
IGNORESUBREQ	Oracle Apps	N	Y or N. Setting this flag to Y stops huge job xml file transfers back and forth between the adapter and the AdapterHost during polls when a single request set has multiple sub-requests of more than 100. The default value is N or empty.
kerbkdc	MapReduce	<none>	If the Hadoop cluster is Kerberos secured, use this value to specify the KDC Server. For example, <b>kerbkdc=172.25.6.112</b>
kerbrealm	MapReduce	<none>	If the Hadoop cluster is Kerberos secured, use this value to specify the Kerberos Realm.  For example, <b>kerbrealm=TIDALSOFT.LOCAL</b>
Keystore	BusinessObjects, BusinessObjects BI, BusinessObjects DS, Cognos, JD Edwards, Oracle Applications, UCS Manager, VMware, Web Service	<none>	Specify  Keystore=c:\\<adapter_certificate_directory>\\<your_trusted_keystore>.keystore  when importing certificates into a Java keystore.
LAUNCH_DELAY (in milliseconds)	Informatica	<none>	This parameter can be set in service.props, job configuration and connection configuration parameters. The order of precedence is service.props (applicable for all jobs running in all connections), job level (only for that particular job), and connection (applicable for all jobs in the connection). If a non-zero value is set for this parameter, then the jobs are delayed for the specified number of milliseconds before being submitted to Informatica.

Property	Applicable Adapter(s)	Default	What It Controls
LoginConfig	BusinessObjects BI Platform, BusinessObjects Data Services	<none>	Specifies the location of the login configuration if using WinAD or LDAP authentication. For example:  LoginConfig=c:\\windows\\bscLogin.conf  where "c:\\windows\\bscLogin.conf" is the location of the login configuration information. Note the use of \\ if this is a Windows location.
MaxLogFiles	Informatica, JDBC, PeopleSoft	50	(Optional) - Number of logs to retain.
OUTPUT_ASYNC_LOGOUT	Informatica	N	Setting this flag to Y avoids jobs getting stuck in Gathering Output status.
OUTPUT_SYNC	All	Y	Enables concurrent output gathering on a connection. To enable this feature, set the value to N.
POLL_SYNC	All	Y	Enables concurrent polling on connections of the same type. This is helpful when there is a heavily load on one connection of an adapter. The heavily loaded connection will not affect the other adapter connection. To enable this feature, set the value to N.
QUERY_TIMEOUT	Oracle Apps	N	Y or N. If set to Y, the timeout value defined using the parameter QUERY_TIMEOUT_VALUE is applied to the SQL queries. Default value is N or empty.
QUERY_TIMEOUT_VALUE	Oracle Apps	unset	The time period in seconds that SQL queries wait before timeout. If 0 or not set, there is no timeout.
READPCHAINLOG	SAP	Y	Used to control the log gathering in SAP Process Chain jobs. This property depends on the Summary Only check box of the job definition Options tab.
SCANFOR_SESSIONSTATS	Informatica	Y	Y or N - Set this parameter to N to turn off the default behavior of Informatica jobs collecting the session statistics during the job run.
SCANFOR_SESSIONSTATS_AFTER_WF_ENDS	Informatica	N	Y or N - Set this parameter to Y to turn off the gathering of session statistics during each poll for the status of Informatica jobs.
TDLINFA_LOCALE	Informatica	<none>	Points to the Load Manager Library locale directory. See "Configuring the Informatica Adapter" in the <i>Informatica Adapter Guide</i> for how to set this for Windows and Unix environments.
TDLINFA_REQUESTTIMEOUT	Informatica	<none>	(Optional) - The number of seconds before an API request times out. The default is 120 seconds, if not specified.
TDLJDBC_LIBPATH	JDBC	<none>	(Windows only, optional) An alternate path to the JDBC library files. The library file path should have been configured given system environment variables. This option is available in case you wish to use an alternate set of libraries and may be helpful for trouble-shooting purposes.

Property	Applicable Adapter(s)	Default	What It Controls
TDLJDBC_LOCALE	JDBC	<none>	The path to the JDBC locale files.
TRANSACTION_LOG_BATCH_SIZE	MS SQL	5000	Set this parameter if more than 5000 lines need to be read from the transaction table.
version_pre898	JD Edwards	N	If running on a JD Edwards server version that is less than 8.9.8, set version_pre898=Y.