CA Workload Automation DE

Release Notes

r11.3 SP1, Fourth Edition

CA Technologies Product References

This document references the following CA Technologies products:

- CA Workload Automation DE
- CA Workload Automation Desktop Client (CA WA Desktop Client)
- CA Workload Automation DE Web Client
- CA Workload Automation High Availability DE (CA WA High Availability)
- CA Workload Automation Web Services (CA WA Web Services)
- CA Workload Automation Agent for UNIX (CA WA Agent for UNIX)
- CA Workload Automation Agent for Linux (CA WA Agent for Linux)
- CA Workload Automation Agent for Windows (CA WA Agent for Windows)
- CA Workload Automation Agent for i5/OS (CA WA Agent for i5/OS)
- CA Workload Automation Agent for z/OS (CA WA Agent for z/OS)
- CA Workload Automation Agent for Application Services (CA WA Agent for Application Services)
- CA Workload Automation Agent for Web Services (CA WA Agent for Web Services)
- CA Workload Automation Agent for Micro Focus (CA WA Agent for Micro Focus)
- CA Workload Automation Agent for Databases (CA WA Agent for Databases)
- CA Workload Automation Agent for SAP (CA WA Agent for SAP)
- CA Workload Automation Agent for PeopleSoft (CA WA Agent for PeopleSoft)
- CA Workload Automation Agent for Oracle E-Business Suite (CA WA Agent for Oracle E-Business Suite)
- CA Workload Automation Restart Option EE (CA WA Restart Option)
- CA Spectrum® Service Assurance (CA Spectrum SA)

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Contents

Chapter 1: Welcome

Welcome to CA Workload Automation DE. This document includes information about changes to existing features, a complete list of fixed issues, supported platform information and system requirements, and known issues for this release, if any. Relevant documentation may also be included for significant fixes or changes.

For the latest version of the Release Notes, visit http://ca.com/support. Service pack releases do not feature a full updated documentation set with a bookshelf. You can find the Release Notes by searching the Find Other Product Documentation section on the Documentation page.

Upgrading CA Workload Automation DE r11.3 to r11.3 SP1

If you are using CA Workload Automation DE r11.3, you can upgrade the server and CA WA Desktop Client to r11.3 SP1 using patches. If you run PeopleSoft jobs, more steps are required.

You can find the latest CA Workload Automation DE solutions and patches on CA Support Online:

https://support.ca.com/irj/portal/anonymous/phpsupcontent?contentID=7e52789e-ab05-4dea-b58b-a4925a7f4beb&productID=7833

On Windows, the patch files are .caz files. On UNIX, the patch files are tar.Z files.

Notes:

- If you are using an older version of CA Workload Automation DE, upgrade to r11.3 SP1 using the migration utility. For more information about the migration utility, see the *Implementation Guide*.
- The patches do not upgrade the default agent from r11.3 to r11.3 SP1. You must upgrade the default agent manually. For information on upgrading the agent to r11.3 SP1, see the *CA Workload Automation Agent for UNIX, Linux, Windows, or i5/OS r11.3 SP1 Release Notes*.
- If you run PeopleSoft jobs and plan to upgrade the server to a new platform, complete the following steps:
  - Upgrade the server to r11.3 SP1 on the existing operating system by following the steps in the Windows (see page 10) or UNIX (see page 12) procedure.
  - Perform a full installation of r11.3 SP1 on your preferred operating system.
  - Export the artifacts from the upgraded server and import them into the new installation by using the IMEXUTIL utility.

Upgrade the Server to r11.3 SP1 on Windows

If you are using CA Workload Automation DE r11.3 on Windows, you can upgrade the server to r11.3 SP1 using a patch.

Note: If CA WA High Availability is configured, you must complete these steps on both Primary and Standby servers.

Follow these steps:

1. Verify that all PeopleSoft jobs have completed.

   Note: This step is only required if you have PeopleSoft job definitions.

2. Stop the server.

3. Back up the r11.3 database.

   Note: This step is only required if you have PeopleSoft job definitions.

4. Unpack the supplied .caz file into a temporary location, such as C:\temp\patch:
   `CAZIPXP -u patch.caz`

   patch

   Specifies the name of the patch file.

   Note: The CAZIPXP utility must reside in the same directory as the .caz file. You can download the CAZIPXP utility from CA Support Online at https://support.ca.com/irj/portal/phpsupcontent?contentID=cb74d332-823b-427e-a6de-811dc2183fb1&fromKBResultsScreen=T.

5. Copy the following extracted files to the r11.3 server installation directory:

   `11.3.1.0_build_xxxx_update.zip`
   `11.3.1.0_build_xxxx_update.zip.MD5`

   xxxx

   Specifies the build number of the patch file.

6. Change to the following directory at the command prompt:

   `install_dir\bin`

   install_dir

   Specifies the server installation directory.

7. Verify the integrity of the server patch file by running the following command:

   `MD5Checksum.bat "install_dir\11.3.1.0_build_xxxx_update.zip"`

   The MD5Checksum utility runs. If you receive a failure message, download the patch file again.

8. Unzip the 11.3.1.0_build_*xxxx*_update.zip file into the server installation directory.

9. Change to the following directory:

   install_dir\update

10. Run the upgrade patch using *one* of the following commands:

    - In interactive mode:

      ```
      update.bat [-licenseAccepted]
      ```

    - In silent mode:

      ```
      update.bat -silent -licenseAccepted
      ```

    Note: If you use the -licenseAccepted option, the license agreement is not shown. Before running the upgrade patch with the -licenseAccepted option, review the license agreement (LICENSES.txt) in the *install_dir*\update\other_libraries directory.

    The patch upgrades CA Workload Automation DE r11.3 to r11.3 SP1. The patch converts existing PeopleSoft job definitions, updates the JRE, and upgrades some third-party libraries to r11.3 SP1.

Upgrade the Server to r11.3 SP1 on UNIX

If you are using CA Workload Automation DE r11.3 on UNIX, you can upgrade the server to r11.3 SP1 using a patch.

Note: If CA WA High Availability is configured, you must complete these steps on both Primary and Standby servers.

Follow these steps:

1. Verify that all PeopleSoft jobs have completed.

   Note: This step is only required if you have PeopleSoft job definitions.

2. Stop the server.
3. Back up the r11.3 database.

   Note: This step is only required if you have PeopleSoft job definitions.

4. (z/Linux systems only) Install the latest version of the 1.6 JRE, if applicable (see page 45).
5. Unpack the supplied tar.Z file into a temporary location, such as /tmp:

   ```
   cd /tmp
   uncompress < patch.tar.Z | tar xvf –
   ```

   patch

   Specifies the name of the patch file.

6. Copy the following extracted files to the r11.3 server installation directory:

   ```
   11.3.1.0_build_xxxx_update.tar.gz
   11.3.1.0_build_xxxx_update.tar.gz.MD5
   ```

   xxxx

   Specifies the build number of the patch file.

7. Change to the following directory at the command prompt:

   ```
   install_dir/bin
   ```

   install_dir

   Specifies the server installation directory.

8. Verify the integrity of the server patch file by running the following command:

   ```
   MD5Checksum.sh "install_dir/11.3.1.0_build_xxxx_update.tar.gz"
   ```

   The MD5Checksum utility runs. If you receive a failure message, download the patch file again.

9. Unpack the extracted tar.gz file into the server installation directory:

   ```
   gunzip 11.3.1.0_build_xxxx_update.tar.gz
   tar -xvf 11.3.1.0_build_xxxx_update.tar
   ```

10. Change to the following directory:

    install_dir/update

11. Enter the following command to provide execute permission to the UNIX shell scripts:

    ```
    chmod a+x *.sh
    ```

12. Run the upgrade patch using *one* of the following commands:

    - In interactive mode:

      ```
      update.sh [-licenseAccepted]
      ```

    - In silent mode:

      ```
      update.sh -silent -licenseAccepted
      ```

    Note: If you use the -licenseAccepted option, the license agreement is not shown. Before running the upgrade patch with the -licenseAccepted option, review the license agreement (LICENSES.txt) in the *install_dir*/update/other_libraries directory.

    The patch upgrades CA Workload Automation DE r11.3 to r11.3 SP1. The patch converts existing PeopleSoft job definitions, updates the JRE, and upgrades some third-party libraries to r11.3 SP1.

Upgrade CA WA Desktop Client r11.3 to r11.3 SP1

If you are using CA Workload Automation DE r11.3, you can upgrade CA WA Desktop Client to r11.3 SP1 using a patch.

Follow these steps:

1. Download and unpack the supplied .caz file into a temporary location, such as C:\temp\patch:

   `CAZIPXP -u patch.caz`

   patch

   *S*pecifies the name of the patch file.

2. Extract the CAWADesktopClientUpdate_11.3.1.0.*timestamp_build*_patch1.zip file to the following directory.

   `install_dir\update`

   install_dir

   Specifies the CA WA Desktop Client installation directory.

3. Verify that CA WA Desktop Client is closed.
4. Change to the following directory at the command prompt:

   `install_dir\update`

5. Run the following command to update the JRE:

   `update.bat`

6. Extract the CAWADesktopClientUpdate_11.3.1.0.*timestamp_build*_patch2.zip file to the update location used for automatic patch updates and apply the patch.

Notes:

- CA WA Desktop Client patches are made available as ZIP archives and can only be applied through automatic updates. For more information about applying CA WA Desktop Client patches, see the *Admin Perspective Help*.
- Before you apply the patch on Windows 7, complete the following steps:
  a. Close CA WA Desktop Client.
  b. Right-click the program shortcut or executable file that you use to launch CA WA Desktop Client, and select the Run as Administrator option.
  c. Apply the patch as described in the *Admin Perspective Help*.

Chapter 2: Changes to Existing Features

This chapter documents changes made to existing features in CA Workload Automation DE r11.3 SP1.

This section contains the following topics:

Support for New Agent Releases

This release of CA Workload Automation DE supports the following new agent releases:

- CA Workload Automation Agent for Application Services r11.3.1
- CA Workload Automation Agent for Web Services r11.3.1
- CA Workload Automation Agent for Remote Execution r11.3.1

If you are using CA Workload Automation DE r11.3 (base version), first apply the appropriate r11.3 SP1 upgrade patch on the server:

- AIX — RO50914
- HP-UX PA-RISC — RO50909
- HP-UX IA — RO50910
- Linux x86 — RO50912
- Linux x64 — RO50913
- z/Linus (s390/zSeries) — RO50911
- Solaris SPARC — RO50916
- Windows 32-bit — RO50906
- Windows 64-bit — RO50907

Also, apply the following upgrade patch on CA WA Desktop Client:

- Windows — RO50931

After you apply the upgrade patches, apply the latest r11.3 SP1 patches that add support for the Web Service Document/Literal and Remote Execution job types:

- Server patch — RO59733
- CA WA Desktop Client patch — RO59737

If you are already using CA Workload Automation DE r11.3 SP1, only apply the latest r11.3 SP1 patches:

- Server patch — RO60117
- CA WA Desktop Client patch — RO59737

These patches will upgrade CA Workload Automation DE to r11.3 SP1, build 1069.

Web Service Jobs

The CA Workload Automation Agent for Web Services supports the following new job type:

Web Service Document/Literal

Lets you call an operation within a web service and pass parameters to the operation using document/literal style binding. The parameters represent a flattened view of the XML document the agent constructs. The values passed into the XML document can be literal values or a serialized Java object passed by another job.

The existing Web Service job type was renamed to Web Service RPC/Encoded to distinguish it with the new job type:

Web Service RPC/Encoded

Lets you call an operation within a web service and pass parameters to the operation using RPC/encoded style binding. The parameters can be actual values or a serialized Java object passed by another job.

Note: For more information defining Web Service jobs, see the *Define Perspective Help* in CA WA Desktop Client.

Remote Execution Jobs

The CA Workload Automation Agent for Remote Execution supports the following new job type:

Remote Execution

Lets you run commands on a remote UNIX, HP Integrity NonStop, and OpenVMS computer through Secure Shell (SSH2) or Telnet.

Note: HP-UX supports only SSH2 protocol.

In addition to the standard commands, you can issue the following commands against a running Remote Execution job:

Get Spool File Reference

Displays the location of the spool file on the remote system for a Remote Execution job.

Retrieve Spool File

Retrieves the spool file for a Remote Execution job in text format. The spool file resides on the remote system where the agent stores job spool files.

Get Job Log

Retrieves the job log for a Remote Execution job in text format. The job log resides in the spool directory on the agent computer.

Cancel Job

Cancels a running Remote Execution job. The agent can terminate the running process immediately or can let the canceled process shut down gracefully.

Note: For more information about defining Remote Execution jobs, see the *Define Perspective Help* in CA WA Desktop Client. For more information about controlling Remote Execution jobs, see the *Monitor Perspective Help* in CA WA Desktop Client.

JRE Supplied with the Server on AIX

The server now supplies a 64-bit JRE for AIX. If you are installing the server on AIX, you are no longer required to install the JRE before the server installation.

More information:

CA Workload Automation DE Server (see page 36)

JRE Not Supplied with the Server or Stand-alone CLI on z/Linux

On z/Linux, the JRE is not supplied for the server or the stand-alone Command Line Interface (CLI). If you are installing the server or stand-alone CLI on z/Linux, you must install the required 31-bit JRE 1.6 before the installation.

More information:

CA Workload Automation DE Server (see page 36)
Install the JRE on z/Linux (see page 45)

LDAP Integration for User Authentication Enhancements

CA Workload Automation DE supports Light Weight Directory Protocol (LDAP) for user authentication. If you use MS Active Directory, Novell eDirectory, or Sun One Directory Server, you can import LDAP users into CA Workload Automation DE.

This release includes the following enhancements to LDAP integration:

- Ability to configure the user property that contains the login username
- Ability to retrieve users from the subdirectories of the configured LDAP directory

More information:

Configure the LDAP User Property that Contains the Username (see page 46)
Retrieve Users from Subdirectories of the Configured LDAP Directory (see page 47)

Support for Multiple Run Control Tables in PeopleSoft Job

In a PeopleSoft job, you can now specify arguments in multiple run control tables. Each run control table contains multiple run parameters for a given PeopleSoft process.

Note: Before you can use the multiple run control tables feature, apply the latest patch for CA WA Agent for PeopleSoft.

More information:

Define a PeopleSoft Job to Run a Request (see page 48)

JRE Supplied with CA WA Web Services

The JRE is now supplied with CA WA Web Services. If you are installing CA WA Web Services on UNIX or Windows, you are no longer required to install the JRE before the installation.

More information:

How to Install the CA WA Web Services on UNIX (see page 54)
How to Install the CA WA Web Services on Windows (see page 53)

New Scripts to Start and Stop the Apache Tomcat Web Server

CA WA Web Services includes new scripts in the installation directory to start and stop the Apache Tomcat web server.

More information:

Start the Apache Tomcat Web Server on Windows (see page 53)
Start the Apache Tomcat Web Server on UNIX (see page 54)
Stop the Apache Tomcat Web Server on Windows (see page 55)
Stop the Apache Tomcat Web Server on UNIX (see page 55)

New Authentication Mechanism for CA WA Web Services

CA WA Web Services now supports the HTTP Basic authentication mechanism (with challenge response).

Note: CA WA Agent for Web Services r11.3.1 supports the HTTP Basic authentication mechanism (with challenge response). You can use the Web Services CLI provided with that agent to invoke any of the web services functions described in the *Programming Guide*. For more information about the Web Services CLI, see the *CA Workload Automation Agent for Web Services CLI User Guide*.

More information:

How the Web Services Work (see page 55)
Viewing the Web Services WSDL File (see page 57)

Disconnecting Inactive Client Connections from the Server

To prevent inactive (stale) connections, CA WA Desktop Client now pings the server every 60 minutes (heartbeat frequency). If CA WA Desktop Client fails to ping the server during this interval, the heartbeat monitor closes the connection after a grace period of 5 minutes. You can configure a shared parameter to increase or decrease the heartbeat frequency.

Note: The heartbeat monitor does not close stale connections for r11.3 and older versions of CA WA Desktop Client, the stand-alone CLI, or CA WA Web Client. To close these connections, use the new DISCONNECTCLIENT command.

More information:

Configure How Often CA WA Desktop Client Pings the Server (see page 58)
disconnectclient Command—Disconnect Inactive Client Connections from the Server (see page 59)
Security Permissions for CLI (see page 61)

Banning Users from Opening Client Sessions Temporarily

To help you manage client connections, a new CLI command named CLIENTSESSION was added. You can use the CLIENTSESSION command to ban users or groups of users from temporarily opening client sessions to the server.

More information:

clientsession Command—Ban Users from Opening Client Sessions (see page 59)
Security Permissions for CLI (see page 61)

Using a Trust Store File for SSL Communication

CA Workload Automation DE requires a trust store in the following scenarios:

- To install the server on AIX or z/Linux with an SSL-enabled Oracle or DB2 database
- To configure the server to work with an SSL-enabled LDAP server

In r11.3, CA Workload Automation DE uses multiple trust store files when the database and LDAP server are configured for SSL communication. In this release, a single trust store stores all certificates that CA Workload Automation DE requires.

If you are installing the server on AIX or z/Linux with an SSL-enabled Oracle or DB2 database, the installer now requires the following information:

- Full path to the trusted root certificate file, including the certificate filename
- Full path to the trust store file, including the trust store filename

  Note: You can use an existing trust store file or can let the installer generate the trust store file for you.
- Trust store password

  Note: Preserve this password for later use, such as for importing certificates.
- Certificate alias name

When configuring the server to work with an SSL-enabled LDAP server, the trust store location and password are required. However, if the database is already configured for SSL communication, you are no longer required to provide this information.

More information:

Required Database Connection Properties (see page 65)
How to Configure the CA Workload Automation DE Server to Work With the LDAP Server (see page 67)
Modify the Database Connection Properties (see page 71)

Guidelines for Cleaning Up Old Generations from the Database

The ESP_APPLICATION,ESP_GENERIC_JOB table tends to grow over time and requires trimming or cleaning to create space. We recommend that you periodically clean the CA Workload Automation DE database. As jobs complete, the database continues to grow with records of completed jobs.

The server collects information about completed Applications and stores this information in the relational database. Over time, the history data can become huge. To create more disk space for the database and improve server performance, you can issue the MOVEHISTORYDATA command to move some of the history information in the database tables to stage tables.

Note: When the data has been moved, a message is added to the tracelog.txt file indicating the number of Applications and rows that were moved. For more information about the trace log, see the *Admin Perspective Help***.**

This command has the following format:

```
movehistorydata olderthan("olderthan")
```

olderthan("*olderthan*")

Moves history data older than the specified time to stage tables.

Note: The value must be a valid schedule criteria statement that resolves to a date and time. For more information about a valid schedule criteria statement, see the *Define Perspective Help*.

Example: Move History Data Older than a Specified Date

The following example moves all the history data that is older than a month to stage tables:

```
movehistorydata olderthan("now less 1 month")
```

We recommend that you force complete Applications that have been active for a long time because of failed jobs or jobs with submission errors (suberror). Force completing old Application generations helps prevent the server from caching unwanted data.

We also recommend that you issue the PURGECOMPLETEDJOBS CLI command regularly to purge completed Application generations. You can schedule the PURGECOMPLETEDJOBS command to run once a day for Applications over seven days old. For certain Applications that run on a more frequent basis, you can schedule it to run every two hours.

Guidelines for Cleaning Up Server and Agent Logs

The server is packaged with a cleanup utility that deletes server and default agent log files that accumulate over time.

For server logs, use the following command:

`cleanup hostname port userid password maxdays`

hostname

Specifies the host name of the computer where the log files are stored.

port

Specifies the port of the computer where the log files are stored.

userid

Specifies the user name of the administrator.

password

Specifies the password of the administrator.

maxdays

Specifies the maximum age of the files in days. The cleanup utility deletes files that are older than this value.

Example: cleanup *hostname port userid password* 9 (deletes files that are older than 9 days)

Note: Alternatively, you can clear server log files by issuing the PURGELOG command in the CLI or scheduling the HOUSEKEEPING Application that is packaged with CA WA Desktop Client.

For agent logs, use the following CLI command:

`purgeagentlogs agent("agent")`

agent("*agent*")

Specifies the name of the agent that you want to delete logs for.

Note: For more information about maintaining agent spool and log files, see the *CA Workload Automation for UNIX, Linux, or Windows Implementation Guide*.

Chapter 3: Known Issues

The chapter details the known issues in CA Workload Automation DE r11.3 SP1.

This section contains the following topics:

Installing CA WA Desktop Client on Windows 8

Valid on Windows 8

Symptom:

When I try to install CA WA Desktop Client on Windows 8, the installation fails with the following error:

```
Installer User Interface Mode Not Supported
```

Solution:

Change the compatibility options of the Setup.exe file.

To correct this problem

1. Right-click the Setup.exe file, and select Properties from the pop-up menu.

   The Setup Properties dialog opens.
2. Select the Compatibility tab.
3. Select the Run this program in compatibility mode for check box.
4. Click OK to save the changes.
5. Rerun the Setup.exe file to begin the installation.

ORA-00942: table or view does not exist

Valid on Oracle

Symptom:

After running the server for a long time, the following database error sometimes occurs, causing the server to shut down:

```
ORA-00942: table or view does not exist
```

Solution:

This issue occurs when there is a cache memory problem with the Oracle database.

To resolve this issue, clear the used space in the database using the following command:

```
ALTER SYSTEM FLUSH SHARED_POOL;
```

Note: For more information about this command, see your Oracle documentation.

On-Request Job with Do not submit before Time Gets Stuck in WAITING State

When an on-request job with a Do not submit before time is eligible to run, it goes into a WAITING state. When the time dependency of the job is met, it is bypassed. However, if you issue a Ready command against the on-request job while it is in a WAITING state, the job is never bypassed. The job remains in a WAITING state (or READIED state if you then issue the Request command) indefinitely and must be forced complete manually.

Note: If you issue the Request command against the on-request job *before* it is eligible to run, the job runs after its time dependency is met.

References to espresso.properties in Documentation

The documentation contains a few references to the old espresso.properties file. The espresso.properties file was renamed to server.properties and is located in the conf subdirectory of your server's installation directory.

Chapter 4: Fixed Issues

The chapter details the issues that have been fixed in CA Workload Automation DE r11.3 SP1.

Server Crashes When Suspend at/Resume at Time Resolves in the Past

If you suspend or resume an Event with a "suspend at" or "resume at" time that resolves in the past, the server crashes.

Suspend/Resume Counts Not Retained When Exporting Agent-Based Events

When you export an agent-based (Monitor) Event using the IMEXUTIL utility, the suspend and resume counts of the Event are not retained. For example, if you export a File Trigger Event with a non-zero suspend count, the suspend count becomes zero (0) after the Event is imported.

LASTRUN Command Displays Wrong Start Time of Running Job

The LASTRUN CLI command displays the wrong start time when the job is in the EXEC state.

Support for New Time Zones

You can now specify the following new time zones based on major world cities:

- Stockholm
- Madrid
- Mexico
- Caracas

Problem Logging into IMEXUTIL Utility in Batch Mode

When using the IMEXUTIL utility in batch mode (with the -c option), a login problem occurs.

JavaScript Script Runs with the Permissions of Triggering User Instead of Execution User

When you manually trigger an Event with the Inherit trigger user option not selected, the JavaScript script runs with the permissions of the user triggering the Event instead of the execution user.

z/OS-Regular Job Gets Stuck in READY State When Resetting Job Definition

When you try to reset the job definition of a z/OS-Regular job in the SUBERROR state, the job gets stuck in the READY state.

Null Pointer Exception when Issuing Job Command

When the server cache becomes full, issuing a command against a job causes a null pointer exception to occur.

Able to Exceed Maximum Number of Agent Licenses in the Topology

When saving agents to the Topology, the server lets you exceed the maximum number of agent licenses. A license error occurs when you try to recycle the server.

Status of File Trigger Event Not Updated Correctly When Suspended

After a File Trigger Event is suspended, the Event status is not updated correctly in the Services perspective.

External-Other Scheduler Job Goes into Unknown State Intermittently

The External-Other Scheduler job goes into an Unknown state intermittently.

Variable Resolution at Simulation and Application Execution Shows Different Results

When JavaScript scripts are defined at the Application- and job-level, variable resolution at simulation and Application execution show different results.

Event Fails to Trigger Occasionally with Do not trigger if active Option

When you select the Do not trigger if active option, the Event fails to trigger occasionally at its scheduled time.

Daylight Saving Time Issues

Changes were made to resolve scheduling issues related to Daylight Saving Time, as shown in the following examples:

Example: HOURLY Schedule Criteria

When scheduling an Event using the HOURLY schedule criteria, the Event runs at the following times during fall back:

```
Sat Nov 03 22:00:00 EDT 2012
Sat Nov 03 23:00:00 EDT 2012
Sun Nov 04 00:00:00 EDT 2012

Sun Nov 04 01:00:00 EST 2012
Sun Nov 04 02:00:00 EST 2012
Sun Nov 04 03:00:00 EST 2012
```

In this example, the 01:00:00 EDT execution was missed.

Example: EVERY 10 MINUTES Schedule Criteria

When scheduling an Event using the EVERY 10 MINUTES schedule criteria, the Event runs at the following times during fall back:

```
Sun Nov 04 00:00:00 EDT 2012
Sun Nov 04 00:10:00 EDT 2012
Sun Nov 04 00:20:00 EDT 2012
Sun Nov 04 00:30:00 EDT 2012
Sun Nov 04 00:40:00 EDT 2012
Sun Nov 04 00:50:00 EDT 2012

Sun Nov 04 01:00:00 EST 2012
Sun Nov 04 01:10:00 EST 2012
Sun Nov 04 01:20:00 EST 2012
Sun Nov 04 01:30:00 EST 2012
Sun Nov 04 01:40:00 EST 2012
Sun Nov 04 01:50:00 EST 2012
Sun Nov 04 02:00:00 EST 2012
```

In this example, the 01:00 EDT, 01:10 EDT, 01:20 EDT, 01:30 EDT, 01:40 EDT, and 01:50 EDT executions were missed.

Example: Using a Remote Time Zone

When scheduling an Event using a time zone other than the server's time zone, the schedule slips by an hour after the spring forward transition. For example, assume that the server runs in the EST time zone and the Event is scheduled using 9AM TOKYO. In this scenario, the Event runs at the following times during spring forward:

```
Fri Mar 09 19:00:00 EST 2012
Sat Mar 10 19:00:00 EST 2012

Sun Mar 11 19:00:00 EDT 2012
Mon Mar 12 19:00:00 EDT 2012
Tue Mar 13 19:00:00 EDT 2012
```

The correct results are as follows:

```
Fri Mar 09 19:00:00 EST 2012
Sat Mar 10 19:00:00 EST 2012

Sun Mar 11 20:00:00 EDT 2012
Mon Mar 12 20:00:00 EDT 2012
Tue Mar 13 20:00:00 EDT 2012
```

File Trigger Variables Not Set Correctly

The APPL._filename and APPL._ftfile variables are no longer set correctly in File Trigger Events and jobs. This issue caused other jobs that use these variables to fail.

Importing JavaScript Does Not Overwrite Existing Script

When you import a JavaScript with the Overwrite existing JavaScripts with the same name without warning option, the script is not overwritten in the repository.

Primary Tab Not Displayed in Server Instance Parameters

When you display the server instance parameters in the Admin perspective, the Primary tab is not displayed. Instead, the Server Instance Parameters view displays two Standby tabs, although the parameters for the Primary and Standby servers are displayed correctly.

Submission Count Not Available in Job Details

When you display the job details in the Monitor perspective, the Submission Count field is no longer displayed.

Job Predecessor Count Lost When Dependencies of Successor Jobs are Changed

The predecessor count of a job is lost when the dependencies of its successor jobs are changed.

Memory Problems With More than 500 Users Defined in Topology

When more than 500 users are defined in the Topology, CA WA Desktop Client fails to respond after multiple users are added or deleted.

Cannot Delete Multiple Jobs with Dependencies

When you try to delete multiple jobs with dependencies in the Define perspective, an error occurs.

Cannot Cancel Running Database Job

When you try to cancel a running Database job, the job goes into a SUBERROR state instead of a FAILED state. Later, the job completes normally.

Notifications are Not Sent When an Overdue Job is Resubmitted

By default, when an overdue job is resubmitted, the server does not send any more overdue notifications. If an overdue job is resubmitted and goes overdue again, no new notifications are sent. You can override the default behavior by setting the overdue.notify.resubmit.enable parameter to true in the server.properties file.

More information:

Enable Overdue Notifications When an Overdue Job is Resubmitted (see page 64)

JobStatusGet SAP Command Does Not Work

The JobStatusGet SAP command returns the wrong results.

Agent Name Cannot be Used as an Agent User Name

By default, the name of an agent cannot be used as the name of a user name defined in any of the agents in the Topology. You can override the default behavior by setting the allow_agentname_as_username parameter to true in the server.properties file.

More information:

Allow Agent Name to be Used as Agent User Name (see page 65)

Application Stays in APPLWAIT State with Require reason for job commands Option

When you select the Require reason for job commands and Wait for previous generation options, the Application remains in APPLWAIT state after the previous generation completes. A similar issue occurs with jobs in the JANCWAIT and SUBWAPPLWAIT states.

Job wait for previous generation Value Not Retained

When you select a value for Job wait for previous generation in the Application properties, the value is not always retained in the job definition. For example, if you change the value to blank in the job definition and then later check Use Application-level defaults, the value remains blank.

Insufficient Memory When Running Reports with the Show Details Table Option

When running the Jobs by Application or the Long Running Jobs report with the Show Details table option, sometimes one of the following errors occur:

```
Failed with exit code 143
Error unmarshaling return header; nested exception is: java.io.EOFException
```

To avoid this issue, we recommend that you use an operating system with a minimum of 4-GB RAM for the CA Workload Automation DE server.

Note: By default the server runs with -Xmx1024MB of memory. A report is run on a separate JVM process, which can take up to 512 MB of additional memory. If the server is processing moderately heavy workload or a huge number of records, 2 GB of RAM may not be sufficient.

Could Not Subscribe to Workload Because of Unsupported Characters

CA WA Desktop Client could not subscribe to workload because of unsupported characters that were added to Application definitions by an external XML editor. To avoid this issue, remove any unsupported characters such as the following characters from your Application definitions:

- ¬
- ¢
- Æ
- Å
- ¿
- ¾
- ¦
- ¡
- À
- Á
- Â
- Ã
- Æ

CRYPTOJ SELF CHECK FAILED Runtime Exceptions

CRYPTOJ SELF CHECK FAILED exceptions sometimes occur during server and agent communications.

Chapter 5: System Requirements

This section contains the following topics:

CA Workload Automation DE Server

The following table lists the minimum and recommended hardware requirements and software requirements for the CA Workload Automation DE server.

Notes:

- Based on your workload volume and environment, you may require additional disk space, a larger processor, and more memory than the minimum requirements.
- In the table below, the number of cores refers to the number of CPUs multiplied by the number of cores per CPU.
- A Java Runtime Environment (JRE) runs the server and default agent. The JRE is supplied with the server and default agent on all platforms except z/Linux. For z/Linux, install the required JRE version. For the other platforms, do not change the JRE.
- The default agent that is packaged with the server is CA Workload Automation Agent for UNIX, Linux, or Windows r11.3 SP1. However, if you upgrade CA Workload Automation DE r11.3 to r11.3 SP1 using the patch, the default agent is not upgraded to r11.3 SP1. You must upgrade the default agent manually. For information on upgrading the agent to r11.3 SP1, see the *CA Workload Automation Agent for UNIX, Linux, Windows, or i5/OS r11.3 SP1 Release Notes*.
- The following platforms have been certified at the time of General Availability (GA). Additional platforms are planned to be certified post GA. For current information regarding platform support, check the CA Workload Automation DE Support web page at http://ca.com/support and follow the CA Workload Automation Compatibility Information link under the Product Status section.

Platform	Minimum Hardware	Recommended Hardware	Operating System	JRE Version
AIX	IBM eServer P5 P550E 2 CPU cores, 1.5 GHz each 2 GB RAM 10 GB of disk space	IBM eServer P5 550B 4 CPU cores, 1.65 GHz each 4 GB RAM 20 GB of disk space	AIX 5.3, 6.1, or 7.1 (64-bit)	IBM JRE 1.6.0 SR10 FP1 (64-bit)

Platform	Minimum Hardware	Recommended Hardware	Operating System	JRE Version
HP-UX PA-RISC	HP-9000 rp 3440-4 server 2 CPU cores, 1 GHz each 2 GB RAM 10 GB of disk space	HP rp 3440 server 4 CPU cores, 1 GHz each 4 GB RAM 20 GB of disk space	HP 11i v3 (PA-RISC) (64-bit)	HP-UX JRE 1.6.0.14 (HPUX_PA-RISC)
HP-UX IA	HP rx2660 2 CPU cores, 1 GHz each 4 GB RAM 20 GB of disk space	HP rx2660 4 CPU cores, 1 GHz each 4 GB RAM 20 GB of disk space	HP 11i v3 (Itanium 64-bit)	HP-UX JRE 1.6.0.14 (ia64)
Linux x86	Intel Xeon processor 2 CPU cores, 2.8 GHz each 2 GB RAM 10 GB of disk space	Intel Xeon processor 4 CPU cores, 2.8 GHz each 4 GB RAM 20 GB of disk space	Red Hat Enterprise Linux EA/AS 5 or 6 (32-bit) SUSE Linux Enterprise Server 10 (32-bit) **Note:** You must have RPM package libXp-1.0.0-8.i386.rpm for Linux systems.	Oracle (formerly SUN) JRE 1.6.0_33 (32-bit)

Platform	Minimum Hardware	Recommended Hardware	Operating System	JRE Version
Linux x64	Intel Xeon processor 2 CPU cores, 2.8 GHz each 2 GB RAM 10 GB of disk space	Intel Xeon processor 4 CPU cores, 2.8 GHz each 4 GB RAM 20 GB of disk space	Red Hat Enterprise Linux EA/AS 5 or 6 (64-bit) SUSE Linux Enterprise Server 10 (64-bit) **Note:** You must have RPM package libXp-1.0.0-8.i386.rpm for Linux systems.	Oracle (formerly SUN) JRE 1.6.0_33 (64-bit)
z/Linux (s390/zSeries)	4 GB RAM 10 GB of disk space	8 GB RAM 20 GB of disk space	Red Hat Enterprise z/Linux 5 or 6 (31- or 64-bit) SUSE z/Linux 10 or 11 (31- or 64-bit)	31-bit JRE 1.6 SR8 or higher for the server and default agent **Note:** The JRE is not supplied with the server or default agent.
Solaris SPARC	Sun V440 UltraSPARC IIIi processor 2 CPU cores, 1.5 GHz each 2 GB RAM 10 GB of disk space	Sun V440 UltraSPARC IIIi processor 4 CPU cores, 1.5 GHz each 4 GB RAM 20 GB of disk space	Solaris 9 or 10 (64-bit)	Oracle (formerly SUN) JRE 1.6.0_33 (64-bit)

Platform	Minimum Hardware	Recommended Hardware	Operating System	JRE Version
Windows	Intel Xeon processor 2 CPU cores, 2.8 GHz each 2 GB RAM 10 GB of disk space	Intel Xeon processor 4 CPU cores, 2.8 GHz each 4 GB RAM 20 GB of disk space	Windows Server 2003 and R2 (32- or 64-bit), Standard Edition Windows Server 2008 and R2 (64-bit), Standard Edition	Oracle (formerly SUN) JRE 1.6.0_33 (32- and 64-bit)

CA Workload Automation Desktop Client

The following table lists the system requirements for CA WA Desktop Client:

Component	Recommended Level
Operating system	Windows XP Professional - any supported version Windows Vista Business & Ultimate - any supported version Windows 7 Professional & Ultimate - any supported version Windows 8 Professional - any supported version
Processor	Intel Pentium, 1.0 GHz or higher
Memory	2 GB RAM or higher
Monitor	Video support for at least 256 colors at 1024x768 resolution
Network	Active IP connection to your CA Workload Automation DE server and a user ID that has authority to access it

Note: CA WA Desktop Client does not support CA Workload Automation ESP Edition functionality.

Supported Databases

CA Workload Automation DE supports the following databases:

- Oracle 10g R1 or R2, Oracle 11g R2, or Oracle 11g RAC
- Microsoft SQL Server 2005, 2008, or 2012 (with the CA Workload Automation DE server installed on all supported platforms except AIX and z/Linux)
- IBM DB2 9.1, 9.5, or 9.7 (with the CA Workload Automation DE server installed on AIX and z/Linux only)

Database Requirements

The following table lists the disk space requirements for the database:

Requirement	Minimum Value
Disk space for software files	3 GB
Disk space for database files	16 GB

Notes:

- If you use a Microsoft SQL Server database, verify that the collation setting is set to be case insensitive.
- If you use an Oracle database, verify that the database uses an 8-bit ASCII character set. Non-ASCII characters sets such as Unicode are not supported.

Disk Space Calculation

Before you install CA Workload Automation DE, ensure that your database has the required disk space to handle your workload. To calculate the required disk space, use the following formula:

```
required disk space = initial storage space + database growth
```

initial storage space

Specifies the storage space (file size) required to initially set up the database to work with CA Workload Automation DE. We recommend that you set up the following initial storage space for your database:

- Trial environment—200 MB
- Production environment—1 GB

database growth

Specifies the storage space your database requires over time. To calculate the database growth, use the following formula:

```
Database growth = Number of jobs run per day x 13 KB x Number of days
```

where 13 KB is the maximum space required for a job based on testing.

Example

Suppose that you want to set up a database for a trial environment. You plan to run 500 jobs per day, everyday. You delete data from the database once a month to free space for future workload. To calculate the disk space required to handle growth per month, apply the following formula:

Database growth = 500 jobs run/day x 13 KB x 30 days

= approximately 200 MB

To calculate the overall disk space required for the database, apply the following formula:

Required disk space = Initial storage space + database growth

= 200 MB + 200 MB

= 400 MB

Supported Agents

CA Workload Automation DE supports the following agents and the supported agent plug-ins:

- CA WA Agent for UNIX, Linux, Windows, and i5/OS r11.3 SP1
- CA WA Agent for UNIX, Linux, Windows, and i5/OS r11.3
- ESP System Agent Release 7.0 for UNIX, Linux, Windows, and i5/OS

Chapter 6: Related Documentation

This chapter includes documentation updates made as a direct result of the functionality changes and fixed issues in this service pack.

Note: CA Workload Automation DE r11.3 SP1 includes the Release Notes only. This chapter refers to and should be read in conjunction with the CA Workload Automation DE r11.3 documentation set.

This section contains the following topics:

How to Install the Server and Default Agent on UNIX

The server is the core of the CA Workload Automation DE system and is installed with a default agent. This topic provides an overview of the steps that you must perform to complete the installation of the server and its default agent.

Note: Before you install the server, ensure that your computer meets the system requirements. For more information about the system requirements, see the *Release Notes*, which is included on the product DVD and available at the CA Support website (http://ca.com/support).

To complete the installation of the server on UNIX, follow these steps:

1. Set up a relational database:
   - On Oracle
   - On Microsoft SQL Server
   - On IBM DB2
2. Collect the required information.
3. (z/Linux systems only) Install the JRE (see page 45).
4. Install the server and default agent on UNIX.
5. Start the server on UNIX.
6. Start the default agent on UNIX.
7. Install CA WA Desktop Client.
8. Verify the installation.
9. Set up a permanent license file.

After you complete the installation, you can do the following tasks:

- Configure the SSL FTP client or server for the default agent

  Note: This step is only required if you set up the SSL FTP client or SSL FTP server during the installation. For more information about configuring SSL FTP on the agent, see the *CA Workload Automation Agent for UNIX, Linux, or Windows Implementation Guide*.
- (Optional) Configure CA WA High Availability
- Install additional agents and configure them to work with CA Workload Automation DE

  Note: For more information about installing an additional agent, see the *Implementation Guide* for that agent.
- Uninstall the server if you no longer use it

Install the JRE on z/Linux

A Java Runtime Environment (JRE) runs the server and default agent. Before installing the server on z/Linux, you must install the following Java Runtime Environment (JRE) versions on your system:

- For the server—31-bit JRE 1.6 SR8 or higher
- For the default agent—31-bit JRE 1.6 SR8 or higher

The installation program prompts for the location of the JRE for the server and default agent.

Configure the LDAP User Property that Contains the Username

By default, the CA Workload Automation DE server uses the following LDAP user property to retrieve users:

- MS Active Directory—cn
- Sun One Directory Server—uid
- Novell eDirectory—cn

If your environment uses a different property for usernames, you can configure the CA Workload Automation DE server to use that property instead.

Follow these steps:

1. Open the following file in a text editor:
   - On Windows:

     install_dir\conf\server.properties
   - On UNIX:

     install_dir/conf/server.properties

   install_dir

   Specifies the server installation directory.
2. Add the following parameter:

   ldap.propertyNameForLogin=*property_name*

   property_name

   Specifies the LDAP user property that contains the username.

   Default: cn (MS Active Directory and Novell eDirectory); uid (Sun One Directory Server)

   Example: sAMAccountName
3. Save and close the file.
4. Restart the server.

   CA Workload Automation DE uses the configured user property to retrieve users.

Retrieve Users from Subdirectories of the Configured LDAP Directory

By default, the CA Workload Automation DE server does not retrieve users from subdirectories of the configured LDAP directory. You can configure the CA Workload Automation DE server to retrieve users from the configured LDAP directory and its subdirectories.

Follow these steps:

1. Open the following file in a text editor:

   - On Windows:

     install_dir\conf\server.properties

   - On UNIX:

     install_dir/conf/server.properties

   install_dir

   Specifies the server installation directory.

2. Set the following parameter:

   ldap.pullUsersFromSubdirectories=true

   Note: If the parameter is set to false, users from subdirectories of the configured LDAP directory are *not* retrieved.

3. Save and close the file.

4. Restart the server.

   CA Workload Automation DE retrieves users from the configured LDAP directory and its subdirectories.

Define a PeopleSoft Job to Run a Request

You can define a PeopleSoft job to schedule workload to run in PeopleSoft. The job runs a PeopleSoft request or a collection of requests.

Note: To run these jobs, your system requires CA WA Agent for UNIX, Linux, or Windows and CA WA Agent for PeopleSoft.

Do not use the following special characters when defining PeopleSoft jobs: left parenthesis (( ) and right parenthesis ( )) and apostrophe ('). Use caution when using other special characters, such as backslash (\) and at (@).

Follow these steps:

1. Open the Application that you want to add the job to in the Define perspective.

   The Application appears in the workspace.

2. Select the PeopleSoft job from the Palette view, and drag the job to the workspace.

   The PeopleSoft icon appears on the Application workspace view.

3. Right-click the PeopleSoft icon, and select Edit from the pop-up menu.

   The Basic page of the PeopleSoft dialog opens.

4. Complete the following required fields:

   Name

   Defines the name of the job that you want to schedule.

   Limits: 128 alphanumeric characters, plus the special characters commercial at (@), pound (#), dollar sign ($), underscore (_), square brackets ([]), brace brackets ({}), and percent sign (%) as a symbolic variable introducer character.

   Agent name

   Specifies the name of the agent that runs the PeopleSoft request.

   Process name

   Specifies the name of the PeopleSoft process you want the job to run. PeopleSoft stores the list of process names in the PS_PRCSDEFN table.

   Example: AEMINITEST

Process type

Specifies the PeopleSoft process type corresponding to the process that you want to run. PeopleSoft stores the list of process types in the PS_PRCSTYPEDEFN table. This value corresponds to the Process Type field in PeopleSoft.

Example: Application Engine

Note: If the process type corresponding to the process that you want to run does not appear in the drop-down list, you can type the process type in the field.

5. Click Other PS Parameters in the left pane to enter the required PS operator ID and run control ID.

   The Other PS Parameters page opens in the right pane.

6. Complete the following required information, as appropriate:

   PS operator ID

   Specifies the PeopleSoft operator ID under whose authority the report runs. The operator ID must be defined as a user in the Topology. This field supports the use of a namespace for a user that has more than one password. Contact your administrator for the user name defined in the Topology.

   Note: This field is mandatory unless its value is specified in the agent parameter (agentparm.txt) file. The value you enter in the job definition overrides the default value in the agentparm.txt file.

   Example: Bob, Production:Bob

   Run control ID

   Identifies a set of PeopleSoft run parameters for a given PeopleSoft process.

   Example: FLOOR8_COLOR

   Note: This field is mandatory unless its value is specified in the agent parameter (agentparm.txt) file. The value you enter in the job definition overrides the default value in the agentparm.txt file.

7. (Optional) Specify the following additional information:

   Server name

   (Optional) Specifies the name of the target server executing the PeopleSoft job. PeopleSoft stores the list of server names in the PS_SERVERDEFN table.

   Example: PSNT

Output destination type

(Optional) Specifies the type of output for the report: NONE, FILE, PRINTER, EMAIL, or WEB.

Note: If you select EMAIL or WEB as the Output destination type, you can distribute the PeopleSoft report electronically to operators, groups of people, or individuals. Use the Distribution page to specify your distribution.

Example: WEB

Output destination format

(Optional) Specifies the type of format for the report output. PeopleSoft stores the list of output destination formats in the PSXLATITEM table.

Example: CSV

Output destination path

(Optional) Defines the path to the output directory. Enter a path to change the output location for FILE and PRINTER output destination types. The path you define in this field overrides the default path defined by the PeopleSoft system.

Example: \\CYBERMATION\Q-SUPPORT

Time zone

(Optional) Specifies a different time zone for the report being run.

Example: Central Time (US)

Arguments

(Optional) Defines an argument string of positional parameters to be appended to the PeopleSoft database. Additional arguments that are specified in this field are appended in a parameter list.

Most parameters for a particular PeopleSoft job are specified in a parameter list in two database tables:

- PS_PRCSTYPEDEFN-Template for a process type
- PS_PRCSDEFN-Additional parameters for a particular process name

Example: -ORIENTL "SHARE"

Skip parameter updates

(Optional) Indicates whether you want the Agent to update job parameters with data in the PS_PRCSDEFN table. If you select Yes, the Agent does not update the parameters in the table.

Note: We recommend you skip parameter updates when some bind variables in the table PS_PRCSDEFN may not be suitably defined. You can use the Arguments field to pass additional argument values.

Disable restart

(Optional) Indicates whether to disable a restart feature for previously failed jobs from the point where the job failed. By default, when a previously-failed job is resubmitted, it will restart from where it was stopped.

8. (Optional) Click Run Control Table List in the left pane to modify run control parameters.

   The Run Control Table List page opens in the right pane.

9. Click Add.

   A new row is added to the Run control table list table.

10. Complete the following fields as required:

    Run control table name

    (Optional) Specifies the table name that contains the run parameters for a given PeopleSoft process.

    Example: PS_AEREQUESTTBL

    Run control arguments

    (Optional) Specifies the run parameters for a PeopleSoft process. Enter a list of argument values separated by commas. You can include symbolic variables in your argument string.

    Note: You must surround arguments containing special characters with double quotation marks.

11. (Optional) Repeat the previous two steps to specify run control parameters in additional run control tables.

12. Click OK.

    The PeopleSoft job is defined.

Example: Add a Row of Process Parameters to a Run Control Table

Suppose you have a PeopleSoft run control table named PS_AEREQUESTTBL that contains the following columns. You want to have the following run control data. The agent that runs the PeopleSoft job you define is named PSAGENT. The process name you want the job to run is called XYZ and its process type is Application Engine.

Column	Data type	Value
OPRID	VARCHAR2(30)	VP1
RUN_CNTL_ID	VARCHAR2(30)	test
AE_APPLID	VARCHAR2(12)	BI_WF_0001
CURTEMPINSTANCE	NUMBER(38)	0

Column	Data type	Value
PROCESS_FREQUENCY	VARCHAR2(1)	O
AE_PROCESS_STATUS	VARCHAR2(1)	N
PROCESS_INSTANCE	NUMBER(10)	0
PROCESS_ORIG	VARCHAR2(1)	N
LAST_RUN_DTM	DATE	null
MARKET	VARCHAR2(3)	b\
ASOF_DT	DATE	2007-07-10 14:30:00

To add a row of process parameters to a run control table

1. Enter the following required information in the Basic page:
   - Agent name—PSAGENT
   - Process name—XYZ
   - Process type—Application Engine
2. Enter the following required information in the Other PS Parameters page:
   - PS operator ID—VP1
   - Run control ID—test
3. Open the Run Control Table List page.
4. Click Add and enter the following information in the first row of the table:
   - Run control table—PS_AEREQUESTTBL
   - Run control arguments—BI_WF_0001,0,O,N,0,N,,b\",sysdate
5. Click OK.

This request adds the new row of values to the PS_AEREQUESTTBL run control table.

How to Install the CA WA Web Services on Windows

You can install the CA WA Web Services on any computer. The installation program installs an Apache Tomcat web server and Apache Axis2, and deploys the CA WA Web Services.

To install CA WA Web Services on Windows, follow these steps:

1. (Optional) Create an SSL keystore for HTTPS communication.

   Note: Alternatively, you can create an SSL keystore after you complete the installation but doing so involves additional steps.

2. Install the CA WA Web Services.
3. Start the Apache Tomcat web server (see page 53).
4. Verify the Apache Tomcat web server and Apache Axis2 installation.
5. (Optional) Verify the SSL setup.

   Note: Complete this step if you created an SSL keystore for HTTPS communication.

6. Verify the CA WA Web Services deployment.

Start the Apache Tomcat Web Server on Windows

You must start the Apache Tomcat web server to verify it is installed properly.

To start the Apache Tomcat web server on Windows, enter the following command at the command prompt:

```
install_dir\StartDEWebServices.bat
```

install_dir

Specifies the CA WA Web Services installation directory.

A new command prompt window opens, displaying a message indicating that the Apache Tomcat web server is running.

How to Install the CA WA Web Services on UNIX

You can install the CA WA Web Services on any computer. The installation program installs an Apache Tomcat web server and Apache Axis2, and deploys the CA WA Web Services.

To install the CA WA Web services on UNIX, follow these steps:

1. (Optional) Create an SSL keystore for HTTPS communication.

   Note: Alternatively, you can create an SSL keystore after you complete the installation but doing so involves additional steps.

2. Install the CA WA Web Services.
3. Start the Apache Tomcat web server (see page 54).
4. Verify the Apache Tomcat web server and Apache Axis2 installation.
5. (Optional) Verify the SSL setup.

   Note: Complete this step if you created an SSL keystore for HTTPS communication.

6. Verify the CA WA Web Services deployment.

Start the Apache Tomcat Web Server on UNIX

You must start the Apache Tomcat web server to verify it is installed properly.

To start the Apache Tomcat web server on UNIX, enter the following command at the command prompt:

install_dir/StartDEWebServices.sh

install_dir

Specifies the CA WA Web Services installation directory.

The Apache Tomcat web server is started.

Stop the Apache Tomcat Web Server on Windows

To stop CA WA Web Services, you issue a command to run a script that stops the Apache Tomcat web server.

To stop the Apache Tomcat web server on Windows, enter the following command at the command prompt:

install_dir\StopDEWebServices.bat

install_dir

Specifies the CA WA Web Services installation directory.

The Apache Tomcat web server is stopped.

Stop the Apache Tomcat Web Server on UNIX

To stop CA WA Web Services, you issue a command to run a script that stops the Apache Tomcat web server.

To stop the Apache Tomcat web server on UNIX, enter the following command at the command prompt:

install_dir/StopDEWebServices.sh

install_dir

Specifies the CA WA Web Services installation directory.

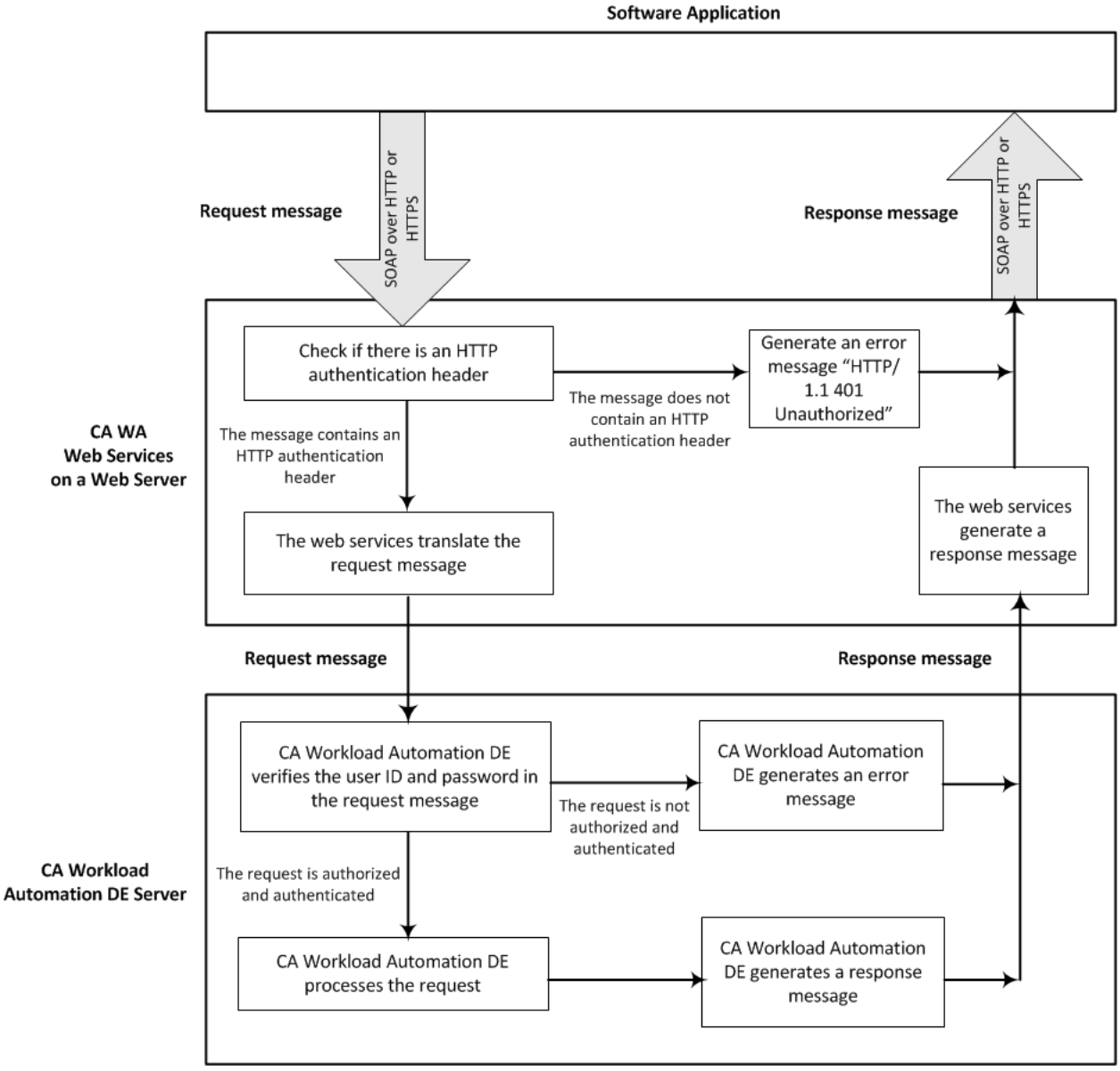
The Apache Tomcat web server is stopped.

How the Web Services Work

To program software applications to use the CA WA Web Services, you must first understand how the web services work.

An external software application can create, update, invoke, monitor, and control CA Workload Automation DE workload by sending a message to the web services that are installed on a web server. The web server then sends the message to the CA Workload Automation DE server, which processes the request. The web services and the CA Workload Automation DE server perform security checks at each step. The messages are sent using Simple Object Access Protocol (SOAP) over HTTP or HTTPS.

The following diagram shows how the components communicate:



Viewing the Web Services WSDL File

The WSDL file for the CA WA Web Services contains details about the parameter types and expected responses for each function**.**

To view the web services WSDL file

1. Ensure that the Apache Axis2 web server is deployed.
2. Ensure that the web services are deployed.
3. Open a web browser and go to the following web page:

   `protocol://host_address:port/axis2/services/EspDSeriesService?wsdl`

   protocol

   Specifies the communications protocol to use.

   Limits: HTTP or HTTPS

   host_address

   Specifies the host name or IP network address.

   port

   Specifies the port for the HTTP or HTTPS connector.

   Default: 8080 (non-SSL connection) or 8443 (SSL connection)

   You are prompted for a user name and password.
4. Enter any credentials.

   Note: The credentials will not be validated.

   The WSDL file is displayed.

Example: Viewing the web services WSDL file

This following URL displays the web services WSDL file that is located on a web server named schedhost. The web server uses port 8080 and non-SSL communication.

```
http://schedhost:8080/axis2/services/EspDSeriesService?wsdl
```

Configure How Often CA WA Desktop Client Pings the Server

To prevent inactive (stale) connections, CA WA Desktop Client pings the server every 60 minutes (heartbeat frequency). If CA WA Desktop Client fails to ping the server during this interval, the heartbeat monitor closes the connection after a grace period of 5 minutes. You can configure a shared parameter to increase or decrease the heartbeat frequency.

Note: The heartbeat monitor does not close stale connections for r11.3 and older versions of CA WA Desktop Client, the stand-alone CLI, or CA WA Web Client. To close these connections, use the DISCONNECTCLIENT command. For more information about the DISCONNECTCLIENT command, see the *CLI Perspective Help*.

Follow these steps:

1. Connect to the server as an administrator using CA WA Desktop Client.
2. Open the Admin perspective.
3. Right-click Topology in the Admin view, and select Open from the pop-up menu.

   The Topology view opens.
4. Right-click the server connection in the Topology view, and select Configure Shared Parameters from the pop-up menu.

   The Server Shared Parameters view opens.
5. Modify the following field in the General tab:

   Global client heartbeat interval in minutes

   Specifies how often CA WA Desktop Client pings the server in minutes.

   Default: 60 (hourly)
6. Click Save at the top right corner of the Topology view.

   CA WA Desktop Client pings the server at the specified frequency.

disconnectclient Command—Disconnect Inactive Client Connections from the Server

You can disconnect inactive (stale) client connections from the server by issuing the DISCONNECTCLIENT command. You can disconnect stale CA WA Desktop Client, stand-alone CLI, and CA WA Web Client connections.

This command has the following format:

```
disconnectclient id("clientID")
```

id("*clientID*")

Specifies the ID of the client session you want to disconnect. You can use the ABOUT command to retrieve the client ID. The ABOUT command lists all connected client types including CA WA Desktop Client, the stand-alone CLI, and CA WA Web Client.

Notes:

- Exercise caution before disconnecting clients.
- If the client session is inactive, the client session will be disconnected permanently.
- If the client session is active, the client will automatically try to reconnect.

Example: Disconnect a Client Connection

The following example disconnects the yourserver:1977 client connection:

```
disconnectclient id("yourserver:1977")
```

clientsession Command—Ban Users from Opening Client Sessions

You can ban users or groups of users from temporarily opening client sessions to the server by issuing the CLIENTSESSION command.

This command has the following format:

```
clientsession [disconnect|allow] [user("user_ID")|group("group_ID")]
[period(minutes)] [listdisconnected]
```

disconnect

Bans the specified user or group of users from opening client sessions. When a user is disconnected, all the existing client sessions that were opened for that user are closed. Similarly, when disconnecting a group, all the client sessions that were opened by users belonging to the group are closed.

allow

Allows a previously banned user or group of users to open client sessions.

user("*user_ID*")

Specifies the user that is banned from opening client sessions. Alternatively, you can revert the ban of a user by using this operand with the allow operand.

group("*group_ID*")

Specifies the group of users that is banned from opening client sessions. Alternatively, you can revert the ban of a group by using this operand with the allow operand.

period(*minutes*)

Specifies the number of minutes the specified user or group or users is banned for. This operand only applies to the disconnect operand.

Default: 10 minutes

listdisconnected

Lists the currently banned user and groups, together with the ban period.

Notes:

- The disconnect and allow operands are mutually exclusive. If neither of them is specified, the default behavior is disconnect.
- The user and group operands are mutually exclusive.
- If you issue the clientsession command without any arguments, the command lists the currently banned users and groups (listdisconnected operand).
- You cannot disconnect a user or group that has Alter access to the ADMIN.* permission.
- If a user with the ADMIN.* (Alter) permission is a member of a currently banned group, the user will be able to log in.
- If you revert the ban of a user that is a member of a currently banned group, the user will *not* be able to log in.

Example: Ban Members of a Group from Opening Client Sessions

The following example bans members of a group named group1 from opening client sessions:

```
clientsession disconnect group("group1")
```

Security Permissions for CLI

The following table lists the security permissions required for each CLI command:

CLI Command	Security Permission Required
ABOUT	CMD.APPCMD* (Allow)
ADJUSTRESOURCEPROPERTY	RESOURCE (Update)
APPLYLOGPROFILE	ADMIN.Network Topology (Alter)
BYPASSEVENT	EVENTX.*eventprefix.eventname* (Allow)
CHANGEROLE	CMD.APPCMD* (Allow)
CLIENTSESSION	CMD.APPCMD* (Allow)
COUNTAGENTS	CMD.APPCMD* (Allow)
COUNTLIST	CMD.APPCMD* (Allow)
CREATEAGENT	ADMIN* (Alter)
CREATEAGENTGROUP	ADMIN* (Alter)
CREATERESOURCE	RESOURCE (Alter)
DBINFO	CMD.APPCMD* (Allow)
DECREMENTVAR	VARIABLE (Update)
DELETEAGENT	ADMIN* (Alter)
DELETEAGENTGROUP	ADMIN* (Alter)
DELETERESOURCE	RESOURCE (Alter)
DELETESTATUSMESSAGES	CMD.APPCMD.DELETESTATUSMESSAGES (Allow)
DELETEVAR	VARIABLE (Alter)
DELETEVARCTX	VARIABLE (Alter)
DISCONNECTCLIENT	CMD.APPCMD* (Allow)
DROPVARDEP	APPLX.*applname.jobname.jobqualifier*.* (Allow)
ENCRYPTPASSWORD	No special permission required. Can be issued by any valid logged-in user.
EVALVARDEP	No special permission required. Can be issued by any valid logged-in user.
EXPORTAUDITLOG	CMD.APPCMD* (Allow)
FLUSHAGENTMSGQUEUE	CMD.APPCMD* (Allow)

CLI Command	Security Permission Required
GC	CMD.APPCMD* (Allow)
GETLOGPROFILE	ADMIN.Network Topology (Read)
GETLOGTHRESHOLD	ADMIN.Network Topology (Read)
GETPROPERTIES	CMD.APPCMD* (Allow)
GETPROPERTY	CMD.APPCMD* (Allow)
HOLD	EVENTX.*eventprefix.eventname* (Allow)
INCREMENTVAR	VARIABLE (Update)
LASTRUN	APPLX.*applname*.*.*.SUBSCRIBE (Allow)
LICENSESTATUS	CMD.APPCMD* (Allow)
LISTAETDATA	APPL.*applname* (Read)
LISTAGENT	ADMIN* (Alter)
LISTAGENTGROUP	ADMIN* (Alter)
LISTAPPLICATION	APPLX.*applname.jobname.jobqualifier.command name* (Allow)
LISTEVENT	EVENT.*eventprefix.eventname* (Read)
LISTEVENTSCHEDULE	EVENT.*eventprefix.eventname* (Read)
LISTQUIESCESTATE	CMD.APPCMD* (Allow)
LISTRESOURCES	RESOURCE (Read)
LISTRESOURCESTATUS	RESOURCE (Read)
LISTVAR	VARIABLE (Read)
LISTVARCTX	VARIABLE (Read)
LOGINFO	ADMIN.Network Topology (Read)
MEMCHECK	CMD.APPCMD* (Allow)
MOVEHISTORYDATA	ADMIN*
PURGEAETDATA	CMD.APPCMD* (Allow)
PURGEAGENTLOGS	CMD.APPCMD* (Allow)
PURGECOMPLETEDJOBS	CMD.APPCMD* (Allow)
PURGELOG	ADMIN.Network Topology (Alter)
QUIESCE	CMD.APPCMD* (Allow)
QUIESCEAGENT	CMD.APPCMD* (Allow)

CLI Command	Security Permission Required
REFRESHAGENTSECURITY	CMD.APPCMD* (Allow)
RELEASE	EVENTX.*eventprefix.eventname* (Allow)
RESETGEN	CMD.APPCMD* (Allow)
RESETRESOURCEPROPERTY	RESOURCE (Update)
RESOURCEMANAGERDUMP	CMD.APPCMD* (Allow)
RESUME	EVENTX.*eventprefix.eventname* (Allow)
SCHEDULEALLEVENTS	CMD.APPCMD* (Allow)
SETAGENTPROPERTY	CMD.APPCMD* (Allow)
SETLOGTHRESHOLD	ADMIN.Network Topology (Update)
SETVAR	VARIABLE (Update)
SPINLOG	ADMIN.Network Topology (Update)
STOP	CMD.APPCMD* (Allow)
STOPAGENT	CMD.APPCMD* (Allow)
SUSPEND	EVENTX.*eventprefix.eventname* (Allow)
THREADCOUNT	CMD.APPCMD* (Allow)
THREADDUMP	CMD.APPCMD* (Allow)
THREADLIST	CMD.APPCMD* (Allow)
TRIGGERADD	EVENTX.*eventprefix.eventname* (Allow)
TRIGGERREPLACE	EVENTX.*eventprefix.eventname* (Allow)
UNBYPASSEVENT	EVENTX.*eventprefix.eventname* (Allow)
UNQUIESCE	CMD.APPCMD* (Allow)
UNQUIESCEAGENT	CMD.APPCMD* (Allow)
UPDATEAGENT	ADMIN* (Alter)
UPDATEAGENTGROUP	ADMIN* (Alter)
UPDATERESOURCEDEFINITION	RESOURCE (Update)
UPTIME	CMD.APPCMD* (Allow)

Enable Overdue Notifications When an Overdue Job is Resubmitted

By default, when an overdue job is resubmitted, the server does not send any more overdue notifications. If an overdue job is resubmitted and goes overdue again, no new notifications are sent. You can configure the server to override the default behavior.

Follow these steps:

1. Open the following file in a text editor:
   - On Windows:

     install_dir\conf\server.properties
   - On UNIX:

     install_dir/conf/server.properties

   install_dir

   Specifies the server installation directory.
2. Set the following parameter to true:

   overdue.notify.resubmit.enable

   Indicates whether the server is enabled to send overdue notifications when an overdue job is resubmitted.

   Default: false
3. Save and close the file.
4. Restart the server.

   The server is enabled to send overdue notifications when an overdue job is resubmitted.

Allow Agent Name to be Used as Agent User Name

By default, the name of an agent cannot be used as the name of a user name defined in any of the agents in the Topology. You can configure the server to override the default behavior.

Follow these steps:

1. Open the following file in a text editor:
   - On Windows:

     install_dir\conf\server.properties
   - On UNIX:

     install_dir/conf/server.properties

   install_dir

   Specifies the server installation directory.
2. Set the following parameter to true:

   allow_agentname_as_username

   Indicates whether the server allows an agent name to be used as an agent user name.

   Default: false
3. Save and close the file.
4. Restart the server.

   The server allows an agent name to be used as an agent user name.

Required Database Connection Properties

The CA Workload Automation DE server requires a relational database management system (RDBMS) for message processing, CA WA High Availability, and storing server configuration files, resource definition files, and historical reporting data.

The installation program prompts you for database connection properties. Collect the following information before you run the installation program:

Database Name

Specifies the database name.

Limits: 1-8 uppercase characters

Database Host Name

Specifies the database host name or IP address.

Database Port

Specifies the listener port on the database server.

Default: 1521

Note: On Oracle, this value is located in the database server's listener.ora file.

User ID

Specifies the database user ID.

Note: On Microsoft SQL Server, this user ID must be the database owner.

User Password

Specifies the password for the user ID.

If you are installing the server on AIX or z/Linux with an SSL-enabled Oracle or DB2 database, the installation program also requires the following information:

Location of trusted root certificate for database authentication

Specifies the full path to the trusted root certificate file, including the certificate filename.

Location of trust store including file name

Specifies the full path to the trust store file, including the trust store filename. The trust store stores all certificates CA Workload Automation DE requires. CA Workload Automation DE uses the trust store location to verify the database certificate when connecting through SSL.

Notes:

- To use an existing trust store file, specify its absolute path. If the trust store file does not contain the database certificate, the installer imports the certificate into the specified trust store file.
- If the trust store file does not exist, the installer creates the trust store file and imports the database certificate into it.
- If you configure the server to work with an SSL-enabled LDAP server, import the LDAP certificate to the same trust store.

Trust store password

Specifies the password for accessing the trust store file.

Note: Preserve this password for later use, such as for importing certificates.

Certificate alias name

Specifies the name of the alias that is used to store the database certificate inside the trust store.

Note: The alias must be unique in the trust store. Two certificates cannot have the same alias.

Notes:

- To use a different SSL database after installation, import the new SSL database certificate into the trust store.
- To use a different trust store after installation, you can use the keytool utility that is provided with the JRE to create the trust store. Then, import the SSL database certificate into the new trust store and modify the trust store information in the db.properties file using the setdbparm utility.

More information:

Modify the Database Connection Properties (see page 71)

How to Configure the CA Workload Automation DE Server to Work With the LDAP Server

The CA Workload Automation DE server and the LDAP server can communicate using SSL or non-SSL communication.

To configure the CA Workload Automation DE server to work with the LDAP server, follow these steps:

1. Install the LDAP software.
2. (SSL communication only) Export the SSL certificate.

   Note: This step is only required if SSL communication is enabled on the LDAP server.
3. (SSL communication only) Add the certificate to the SSL trust store (see page 68).

   Note: This step is only required if SSL communication is enabled on the LDAP server.
4. Configure the shared parameters for the authentication systems.
5. Add an LDAP authentication system to the Topology (see page 68).

Add the LDAP Certificate to the SSL Trust Store

If SSL communication is enabled on the LDAP server, add the LDAP certificate to the SSL trust store. You can create your own server keystore using the keytool utility that was provided with the JRE.

Note: CA Workload Automation DE uses a single trust store to store all certificates it requires. If you installed the server on AIX or z/Linux with an SSL-enabled database, use the same trust store that you specified during the installation.

Follow these steps:

1. Change to the directory that contains the JDK.
2. Enter the following command:

   `bin\keytool -importcert -file` *`certificatefile`* `keystore` *`keystorefile`* `-alias` *`aliasname`*

   -file *certificatefile*

   Specifies the name of the certificate file.

   keystore *keystorefile*

   Specifies the full path to the trust store file, including the trust store filename.

   Note: Record this path. You will specify this path when you add the authentication system to the Topology.

   -alias *aliasname*

   Specifies the alias for the SSL trust store.

   The LDAP certificate is added to the SSL trust store.

Add an LDAP Authentication System to the Topology

To authenticate the CA Workload Automation DE users through the LDAP server, you can add an LDAP authentication system to the Topology.

Note: You can add multiple authentication systems from the same server vendor type. If an LDAP server goes down, the CA Workload Automation DE server connects to another LDAP server automatically based on the specified usage priority.

Follow these steps:

1. Connect to the server as an administrator using CA WA Desktop Client.
2. Open the Admin perspective.

3. Right-click Topology in the Admin view, and select Open from the pop-up menu.

   The Topology view opens.

4. Right-click the Authentication Systems node in the Topology view, and select New Authentication System from the pop-up menu.

   The New Authentication System view opens.

5. Complete the following fields as appropriate:

   Connection name

   Specifies the name of the authentication system.

   Description

   (Optional) Specifies a description for the authentication system.

   Enable authentication through LDAP

   Indicates whether the user can be authenticated through an LDAP server.

   Default: true

   Server usage priority

   Specifies the usage priority of the authentication system. The CA Workload Automation DE server uses the authentication system that is based on the priority value you specify; the lowest value indicates the highest priority level.

   Limits: 1 to 256

   Server URL

   Specifies the URL of the LDAP server to use for authentication.

   Examples:

   - ldap://myldapserver:29772
   - ldaps://wade02:636 (s denotes that the LDAP server is SSL enabled)

   User identifier used to connect to the LDAP server

   Specifies the name of the user that has access to the user account location on the LDAP server. Select an organization directly under the Root Organization to be mapped to the Default Organization.

   Example: CN=admin, o=dseries

   User password

   (Optional) Specifies the password of the user to log in through the LDAP server.

Enable SSL for LDAP server communication

Indicates whether to enable SSL for communication with the LDAP server. Options are true and false.

true

Enables SSL for communication with the LDAP server. The SSL trust store location and SSL trust store password fields are required.

false

Disables SSL for communication with the LDAP server. The SSL trust store location and SSL trust store password fields are ignored.

Default: true

SSL trust store location

Specifies the full path to the trust store file, including the trust store filename. The trust store stores all certificates CA Workload Automation DE requires. CA Workload Automation DE uses the trust store location to verify the LDAP server certificate when connecting through SSL.

Note: If the database is already configured for SSL communication, you do not need to specify a value in this field. The value of the trust store location is displayed and cannot be changed.

SSL trust store password

Specifies the password for accessing the trust store file.

Note: If the database is already configured for SSL communication, you do not need to specify a value in this field. The value of the trust store password is displayed and cannot be changed.

6. Click Save.

The new authentication system is added to the Topology.

Modify the Database Connection Properties

If the database connection properties change after you install the server, you can modify the properties on the server to continue connecting to the database. To modify the database connection properties, use the setdbparm utility that is installed with the server.

Note: If CA WA High Availability is configured, complete these steps on both Primary and Standby servers. Before you modify these properties, ensure that you coordinate these changes with your database administrator.

Follow these steps:

1. Log in to the computer where the server is installed.
2. Change to the following directory at the command prompt:
   - On Windows:

     `install_dir\bin`
   - On UNIX:

     `install_dir/bin`

   install_dir

   Specifies the directory where the server is installed.
3. Enter the following command:
   - On Windows:

     `setdbparm.bat property`
   - On UNIX:

     `setdbparm property`

   property

   Specifies the database property that you want to modify. Options are as follows:

   database.maxconnections.in.pool

   Specifies the maximum number of simultaneously open database connections available in the connection pool. The server first requests an open connection from the pool. If all of the connections in the pool have been allocated, the server waits until another connection is available before allocating the connection. When the connection is no longer needed, the server returns the connection to the pool.

   Default: 50

   Note: The server no longer allows connections to be created outside the connection pool.

database.minconnection

Specifies the number of database connections in the connection pool when the server starts. Based on demand, the server adds new connections to the connection pool, up to the maximum specified by the database.maxconnections.in.pool property.

Default: 3

integratedSecurity

(Microsoft SQL Server databases only) Indicates whether the CA Workload Automation DE server uses Windows authentication or SQL Server authentication to connect to the database. If this property is set to true, the server uses Windows authentication; otherwise, it uses SQL Server authentication.

javax.net.ssl.trustStore

Specifies the full path to the trust store file, including the trust store filename. The trust store stores all certificates CA Workload Automation DE requires.

javax.net.ssl.trustStorePassword

Specifies the password for accessing the trust store file.

jdbc.Driver

Specifies the name of the JDBC driver that the server uses to access the database.

jdbc.URL

Specifies the database URL.

Example: jdbc:oracle:thin:@11.2.1.12:1234:APPS

rdbms.password

Specifies the database user's password that the server uses to access the database.

Note: If the password for the CA Workload Automation DE database and the password for the database user do not match, the server cannot connect to the database.

rdbms.type

Specifies the type of relational database that the server uses.

Limits: Oracle, Microsoft SQL Server, IBM DB2

rdbms.userid

Specifies the user ID that the server uses to access the database.

relational.database.retry.attempts

Specifies the number of times that the server tries to connect to the database.

relational.database.retry.interval

Specifies the frequency in seconds in which the server tries to connect to the database.

Default: 60 seconds

You are prompted for a property value.

4. Enter the new value for the database property that you want to modify.
5. Repeat steps 3 and 4 for each connection property that you want to modify.
6. Restart the server.

The database connection properties are modified.

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This appendix contains copyright and license agreement information from third-party software used in CA Workload Automation DE.

This section contains the following topics:

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This section contains the following topics:

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