



Compuware Enterprise Services

Installation and Configuration Guide

Release 16.03

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or comments on this document to:

Compuware Customer Support

<http://go.compuware.com/>

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Contents

Introduction	v
Intended Audience	v
Database Installation Options	v
Options for New Customers	v
Options for Existing Customers	v
How This Guide is Organized	vi
How to Use This Guide	vi
CES Publications	vi
CES 3rd Party Licensing Documentation	vi
Compuware CES Customer Support	vi
Compuware FrontLine Customer Support Website	vi
Contacting Customer Support	vii
Corporate Website	vii
Chapter 1. Installing Compuware Enterprise Services on Windows	1-1
Before Beginning	1-1
Installing Compuware Enterprise Services on Windows	1-1
Chapter 2. Installing Compuware Enterprise Services on z/OS UNIX	2-1
Before Beginning	2-1
Installing Compuware Enterprise Services on z/OS UNIX	2-1
Running Compuware Enterprise Services as a Started Task	2-3
Running the Compuware Enterprise Services Web Application	2-4
Executing CES OSGi Job as a Started Task	2-5
Changing the Time Zone for CES OSGi	2-6
Modifying Java Heap Size for CES OSGi	2-6
Chapter 3. Installing Compuware Enterprise Services on Linux	3-1
Before Beginning	3-1
Installing Compuware Enterprise Services on Linux	3-1
Chapter 4. Configuring Compuware Enterprise Services	4-1
Database Setup	4-1
Email	4-1
Host Connections	4-1
Licensing	4-2
Infocenter Settings	4-2
Issue Tracking	4-2
Chapter 5. Uninstalling Compuware Enterprise Services	5-1
Uninstalling CES from Windows	5-1
Uninstalling CES from z/OS UNIX or Linux	5-1
Appendix A. CES Repository Preparation	A-1
DB2 z/OS	A-1
Database server	A-1
Port	A-1
Database location	A-1
Database name	A-2
Schema	A-2
JDBC driver path	A-2
Security mode	A-2

Database user ID/Database user password	A-2
Secondary authorization ID	A-3
Use secondary authorization ID for updating data	A-3
Database administrator ID/Database administrator password	A-3
Use SSL connection to database	A-3
SSL connection keystore	A-3
Keystore password	A-3
Sample Create Database and Grant DDL	A-3
DB2 for Linux, UNIX, and Windows	A-4
Database Server	A-4
Port	A-4
Database Name	A-5
Schema	A-5
JDBC Driver Path	A-5
Database User ID	A-5
Database Password	A-5
Database Administrator ID	A-5
Database Administrator Password	A-5
Microsoft SQL Server	A-5
Database Server	A-6
Port	A-6
Instance Name	A-6
Database Name	A-6
Schema	A-6
Database User ID	A-6
Database Password	A-6
Database Administrator ID (optional)	A-7
Database Administrator Password (optional)	A-7
Oracle	A-7
Database Server	A-7
Port	A-8
Database Name	A-8
Schema	A-8
Database User ID	A-8
Database Password	A-8
Database Administrator ID	A-8
Database Administrator Password	A-8

Introduction

This guide provides instructions on how to install Compuware Enterprise Services (CES).

Compuware Enterprise Services (CES) is a set of commonly used and shared services running on a web platform. Based on the theme of Modernize, Simplify, and Automate (MSA), CES can be accessed by any Compuware resource choosing to use its services.

Compuware Enterprise Services is a shared common server resource, designed to be used with other Compuware products (e.g. iStrobe and Fault Analytics) running on workstations. CES uses a Web browser that enables you to create a custom view of the product being used.

Compuware Enterprise Services is required for the plug-ins licensed through Topaz. It checks for valid LMS licensing through Compuware Enterprise Services' HCI Configuration as described in Chapter 4, "Configuring Compuware Enterprise Services".

Intended Audience

This installation guide is intended for the individual(s) installing CES. You should be familiar with administering the operating system, your network security policies, and your web server. If you are unfamiliar with any of the prerequisite software, contact your administrator for help.

Database Installation Options

When upgrading to the new 16.03.03 version of CES—or installing CES 16.03.03 for the first time—you have multiple database options available to you.

Options for New Customers

Apache Derby is installed by default with CES and will let you get up and running without any additional setup. This is an ideal option for a CES that is seeing limited use such as only for Topaz licensing. At any point after installing CES you have the option to migrate your Derby database to one of our other supported databases. You can also switch to the other databases and leave the information in your Derby database behind. A note of caution, you will not be able to migrate your database from an enterprise option back to Derby should you decide Derby is the database for you.

Options for Existing Customers

Apache Derby is available as a new database option, it allows for easier setup than any other database as it comes pre-configured. Derby can be used instead of your current database option but you cannot migrate your current database to the Derby database. As part of Compuware's commitment to help alleviate install pains we have also added the ability to upgrade your existing CES database. In order to do this you enter your existing database information in the database settings page. CES will recognize the older version of the database and prompt you to upgrade the database. If you select yes CES will restructure the database to meet our current standards and maintain the integrity of all of your data. Currently we support this database upgrade for all CES databases created using version 05.00.01 CES or above.

How This Guide is Organized

This guide contains the following chapters and appendixes:

- Chapter 1, “Installing Compuware Enterprise Services on Windows”
 - Chapter 2, “Installing Compuware Enterprise Services on z/OS UNIX”
 - Chapter 3, “Installing Compuware Enterprise Services on Linux”
 - Chapter 4, “Configuring Compuware Enterprise Services”
 - Chapter 5, “Uninstalling Compuware Enterprise Services”
 - Appendix A, “CES Repository Preparation”
-

How to Use This Guide

If you are installing CES for the first time, you should read the following chapters:

- The appropriate installation chapter or appendix for your environment
 - Chapter 4, “Configuring Compuware Enterprise Services”
-

CES Publications

To learn more about using CES:

- See the CES online help within the product.
 - Visit Compuware’s FrontLine at <http://frontline.compuware.com> and select CES, for the latest technical information on CES.
-

CES 3rd Party Licensing Documentation

To view CES 3rd party licensing documentation, refer to the legal subdirectory that is included as part of the CES installation.

Compuware CES Customer Support

Compuware provides a variety of support resources to make it easy for you to find the information you need.

Compuware FrontLine Customer Support Website

You can access online information for Compuware products via our FrontLine customer support website at <http://go.compuware.com>.

Compuware FrontLine provides access to critical information about your Compuware products. You can review frequently asked questions, read or download documentation, access product fixes, or e-mail your questions or comments. The first time you access Compuware FrontLine, you are required to register and obtain a password. Registration is free.

Contacting Customer Support

Phone

- USA and Canada: 1-800-538-7822 or 1-313-227-5444.
- All other countries: Contact your local Compuware office. Contact information is available at <http://go.compuware.com>.

Web

You can report issues via the Quick Link **Create & View Support Cases** on the Compuware FrontLine home page.

Note: Please report all high-priority issues by telephone.

Mail

Compuware Customer Support
Compuware Corporation
One Campus Martius
Detroit, MI 48226-5099

Corporate Website

To access Compuware's site on the Web, go to <http://www.compuware.com>.

The Compuware site provides a variety of product and support information.

Chapter 1.

Installing Compuware Enterprise Services on Windows

This chapter guides you through the process for installing Compuware Enterprise Services on Windows.

Before Beginning

Before beginning the installation, you should have the following:

- If you are performing an upgrade installation of Compuware Enterprise Services, be sure to stop the CES service *before* beginning the upgrade.
- Compuware Enterprise Services 16.03 *cannot* be installed over an existing CES 05.00.0x release. A database upgrade path is available once CES is installed.
- Verify that you have a compatible version of Java installed on the Windows machine. Those versions include either 64-bit Oracle Java 1.7 or 64-bit Oracle Java 1.8.
- The Compuware Enterprise Services media image downloaded from the Compuware Enterprise Services media; or an image downloaded from an RFN order; or an image from the Enterprise Common Components (ECC) EP Media Browser.
- Enough allocated system temporary space to accommodate the installation. Compuware recommends 3 GB. When the installation is complete, the temporary installation files are removed.

Installing Compuware Enterprise Services on Windows

1. From the Compuware Enterprise Services media image downloaded from an RFN order, or from the Enterprise Common Components (ECC) EP media, select **Install CES for Windows**, and click **Start Install**. The Install Anywhere application prepares for the installation. The **Compuware Enterprise Services** dialog box appears.
2. Read the introduction content, and then click **Next** to proceed. The **License Agreement** page appears.
3. Accept the terms of the License Agreement and click **Next**. The **Oracle License Agreement** page appears.
4. Accept the terms of the Oracle Technology Network Development and Distribution License Agreement and click **Next**. The **Instance Name** page appears.
5. Select an instance name for the CES Service. This is used to distinguish between different versions that can run on your system. The name entered here will be appended to 'Compuware Enterprise Services' as the service name. If this is the first instance of CES being installed, then this step is skipped. For example:

```
Compuware Enterprise Services$CES_16.3.0.36
```

Click **Next**. The **Choose Install Folder** page appears.

6. Specify an installation folder or accept the default installation folder for Compuware Enterprise Services.
 - Select **Restore Default** to use the default folder (C:/Program Files/Compuware/CES).

- Select **Choose** to specify a folder.

Note: Be sure that you are not specifying a 05.00.0x CES directory. Compuware Enterprise Services 16.03 *cannot* be installed over an existing CES 05.00.0x release.

Click **Next**. The **Configuration Settings** page appears.

7. Compuware Enterprise Services stores log and configuration **data** in a specific directory. Click **Choose...** to specify a folder path or click **Next** to accept the displayed location (default: C:\ProgramData\Compuware\CES\data).

Note: The **ProgramData** folder is a hidden folder in MS Windows. If you choose this default location, be sure that all hidden files and folders are displayed in MS Windows. Refer to MS Windows Help for instruction on revealing hidden files and folders.

The **Optional HTTPS Configuration** page appears.

8. If the URL to access CES will use HTTPS, select the **Use HTTPS** checkbox. If Jetty is configured to require client authentication, then you will need to provide a keystore containing the client certificate and a password for that keystore. Otherwise, these fields can be ignored. Click **Next**. The **CES Occupied Ports** page appears.
9. Specify the port settings that CES will use to access Compuware technology. Be sure that the ports you choose are open on your network's firewall.
 - **Server port** (default: 24354) Used to communicate between mainframe and client. This replaces the iStrobe Manager function that was previously specific to the iStrobe Manager.
 - **Web Application port** (default: 48226) Used to access the web application via a browser.
 - **Web Application Listener Secure port**(Default: 48443) If HTTPS was applied in step 8, this port is used as the secure port.
 - **Web Application Stop port** (default: 8465) Used to stop the web application.
 - **Infocenter port** (default: 10250) Used to access online help.
 - **Profile Parallel Processing port** (default: 17667) Used to provide additional processing capacity.
 - **Derby port** (default: 1545) Used to start the embedded Derby database.

Click **Next**. The **Pre-Installation Summary** page appears.

10. Review the installation information. If it is incorrect, click **Previous** and make revisions to the installation settings as necessary. If it is correct, click **Install** to start the Compuware Enterprise Services installation. The **Install Complete** page appears when the installation finishes.

CAUTION:

Before exiting the installer, open the CES URL in a browser and bookmark the page so you can easily access CES in the future.

11. Click **Done**. Although the installation of CES is now complete, you may continue with configuring a database (see Chapter 4, "Configuring Compuware Enterprise Services").

Note: Initialization may take several minutes. You may see a 404 page in your web browser during this time.

Chapter 2.

Installing Compuware Enterprise Services on z/OS UNIX

This chapter guides you through the process for installing Compuware Enterprise Services on z/OS UNIX.

If the Compuware Enterprise Services has already been installed in support of previously installed Compuware products (for example, iStrobe, Topaz Workbench, or Abend-AID Fault Analytics), you do not need to re-install it.

A z/OS UNIX system administrator should install CES.

You will need a database administrator to create the database (and tablespace for DB2).

Depending on your site standards, you may also need an MVS systems programmer to set up the CES Manager on JZOS. You may also need a security administrator.

If you are only running Strobe version 4.4, all profiles are transmitted directly to the CES Manager running on JZOS. Therefore, the ID used to run the CES Manager job is always the owner and is the only ID that needs *write* access to the profiles and quarantine directories.

Before Beginning

Before beginning the installation, you should have the following:

- If you are performing an upgrade installation of Compuware Enterprise Services, be sure to stop the CES started task *before* beginning the upgrade.
- Compuware Enterprise Services 16.03 *cannot* be installed over an existing CES 05.00.0x release. A database upgrade path is available once CES is installed.
- Verify that you have a compatible version of Java on the z/OS machine. Those versions include either 64-bit IBM Java 1.7 or 64-bit IBM Java 1.8.
- The Compuware Enterprise Services media image downloaded from the Compuware Enterprise Services media; or an image downloaded from an RFN order; or an image from the Enterprise Common Components (ECC) EP Media Browser.
- Enough allocated system temporary space to accommodate the installation. Compuware recommends 1,220,000 1k blocks (1,750 cylinders). When the installation is complete, the temporary installation files are removed.
- Enough allocated system *temporary space* during the installation. Compuware recommends 1,125,000 1k blocks (1375 cylinders). When the installation is complete, the temporary installation files are removed.
- Enough system *installed space* after the installation. Compuware recommends 1,125,000 of USS 1k blocks (1375 cylinders of HFS/zFS).

Installing Compuware Enterprise Services on z/OS UNIX

1. Select **Install CES for z/OS UNIX**. The **Mainframe FTP Information** tab appears.

2. Specify a valid **Host**, **User ID/Password**, **Port** number (default = 21), and finally an existing **z/OS UNIX Path** in which to upload the `install.jar` and `install.sh` files from the Compuware Enterprise Services product image to the mainframe. The `install.jar` is uploaded as binary and the `install.sh` is uploaded as text.
3. Select **Upload files to mainframe** to begin the upload.
4. Log on to the mainframe and navigate to an OMVS command prompt, or use any SSH shell, such as PuTTY.
5. Change the directory to the location where the `install.jar` and the `install.sh` files were transferred.
6. Ensure that the `install.sh` file has execute authority and execute it. Perform a `chmod 777` to open up permissions if necessary.
7. Execute the **install.sh** file. For example:

```
./install.sh
```

The Compuware Enterprise Service installer starts.

Notes:

- You can cancel the installation at any time by typing `quit`.
 - You can go back in the installation panels at any time by typing `back`.
8. Enter the directory path to a supported installation of JAVA.
Ex. `usr/lpp/java/J7.1_64.bld111513)`
- Note:** If a valid version of JAVA is found, it may automatically be used, thereby skipping this step.
9. Specify **Y** (Yes) or **N** (No) for using the system's `/tmp` directory as the installation temporary space. If **Y**, the installation launches. If **N**, you are prompted to enter a directory path to the designated temporary directory space. Press **Enter**.
- Note:** The installer requires use of the system temporary directory and may require up to 1,125,000 1k blocks (1375 cylinders) of pre-allocated space.
10. The installer launches. Read the Introduction panel and press **Enter**. The **License agreement** panel appears.
 11. Read the license agreement, pressing **Enter** until you have scrolled through and read the entire agreement.
 12. Type **Y** and press **Enter** to accept the terms of the license agreement. The **Oracle License Agreement** panel appears. Type **Y** and press **Enter** to accept the terms of the license agreement.
 13. Specify the absolute directory path in which to install Compuware Enterprise Services, or press **Enter** to accept the default location (Default: `/opt/Compuware/CES`).

Notes:

- Be sure that you are not specifying a 05.00.0x CES directory. Compuware Enterprise Services 16.03 *cannot* be installed over an existing CES 05.00.0x release.
- If you choose an alternate installation directory instead of the default, the directory (and parent directories) will be created with privileges of 775.
- The installer requires use of up to 1,125,000 USS 1k blocks (1375 cylinders HFS/zFS) of pre-allocated space to install properly. You may be prompted to create free space in the specified directory in order to continue with the installation.

14. Specify a data directory into which CES will store log and configuration data. You can accept the default directory.
15. Enter the user ID needed to install and run the CES job (Default: the current user ID).

Note: The CES job is a long running process for CES to function. Choose a user ID appropriate for that condition.

16. Specify Y or N whether CES will be accessed via HTTPS (default: N).
17. Specify Y or N whether you want to modify the default port numbers. Be sure that the ports you choose are open on your network's firewall.
 - **Server port** (Default: 24354) Used to communicate between mainframe and client. This replaces the iStrobe Manager function that was previously specific to the iStrobe Manager.
 - **Web Application Port** (Default: 48226) Used to access the web application via a browser.
 - **Web Application Listener Secure port** (Default: 48443) If HTTPS was Y in step 16, this port is used as the secure port.
 - **InfoCenter** (Default: 10250) Used to access online help.
 - **Profile Parallel Processing** (Default: 17667) to provide additional processing capacity.
 - **Derby port** (default: 1545) Used to start the embedded Derby database.
18. From the **Ready to Install** panel, review the installation information. If it is incorrect, type **Back** and revise the installation settings as necessary. If it is correct, press **Enter** to start the Compuware Enterprise Services installation. The **Installation Complete** panel appears when the installation finishes.
19. Press **Enter** to exit the installer.

The Compuware Enterprise Services installation process is complete. Although the installation of CES is now complete, you must continue with configuring a database by following the CES URL on the post-installation screen. Continue with Chapter 4, "Configuring Compuware Enterprise Services".

Note: Initialization may take several minutes. You may see a 404 page in your web browser during this time.

Running Compuware Enterprise Services as a Started Task

1. In the CES installation directory, edit the SAMPLE_FTP.JCL member by following the editing instructions in the comments.
2. Submit the job.
3. Go to member JZOSPROC in the newly created data set.
4. Change QUAL to the prefix of the data set.
5. Change the job card to match your system requirements for PDS member MANAGER.
6. Submit the manager JCL job.

Running the Compuware Enterprise Services Web Application

1. Create a dataset for the CES Manager runtime files. A partitioned dataset (PDS) will lend itself better to updating and customizing the JCL prior to submission. The job

shown in step 2 illustrates creation of a new PDS for this FTP transfer.

2. FTP the following files from the CES installation directory in z/OS UNIX to MVS:
 - JZOSPROC.JCL
 - PARMLIB.CESAMN
 - SAMPLE.JCL
 - PARMLIB.CESEMN

The names must be shortened to the eight-character member name limit. The files that start with PARMLIB are input parameter files used to start the appropriate CES Manager service. These can be shortened to CESxxx member names. The files that are qualified as JCL are the PROC and JOB samples for executing on the z/OS system; these can be shortened by removing the .JCL qualifier.

Refer to the **SAMPLE_FTP.JCL** in the CES directory and edit it as follows:

- Modify the job card
- Change **sysid** on JOBPARM card to the target z/OS system name.
- Change **userid** to your z/OS user ID throughout the JCL.
- In the INPUT DD, make the following changes:
 - Change **sysid** on JOBPARM card to the target z/OS system name.
 - Change **password** to the password associated with the z/OS user id to the FTP server.
 - Change the **cd** directory to your Compuware Enterprise Services installation location.
 - Add the extra **get** command that appears at the bottom of the job before the **quit** command.

Submit the job to transfer the files.

3. After the FTP process is complete, modify the JCL members in the dataset you created in as needed:
 - JZOSPROC - Change the dataset name for DDNAME STDENV and MAINARGS to a system dataset where you store the PARMLIB.ISMGRxxx members. The PROC is shipped by default to use &QUAL.PARMLIB where QUAL defaults to SYSA. This PROC should be put into a system PROCLIB to be referenced automatically when the job for the CES Manager is submitted. You can rename the PROC to follow your system standards (e.g. CESMANGR).
 - VERSION - Set the VERSION variable to the level of Java installed on the system. The VERSION variable is used within the JZOSPROC to invoke the proper version of the Java Batch Launcher. The default is set to 70 to invoke Java 7.
 - REGSIZE - The REGSIZE variable specifies a specific region memory allocation. The default is 0, which sets the region memory size based on the system defaults defined within the JES2 sub-system.
 - LEPARM - The LEPARM variable is the mechanism used by the JZOS to establish settings for the z/OS language environment. The initialization of Java is performed by LE as part of the z/OS operating system. By default, the setting assigns the UMASK to files created in the HFS file system. Note that UMASK is a compliment to the permission assignment. The default value is 022, which will give new files a permission setting of 644 for files and 755 for directories. Refer to z/OS UNIX documentation for valid values and other information.
 - MANAGER - Change the job card to match your system requirements.
 - ARG=CESAMN is set by default to start the CES Manager.

```
000001//SAMPLE01 JOB ('ACCOUNT',78,1,1),'CES WEB APP SERVER',
```

```

000002//      CLASS=L,MSGCLASS=H,NOTIFY=&SYSUID,REGION=0M
000003//*****
000004//*      Use CESEMN for the env memeber for all uses
000005//*      Use ARGS="CESAMN" to run CES Web Application
000006//*****
000007//CESSRVR EXEC JZOSPROC,ENV=CESEMN,ARGS=CESAMN
000008//*
```

- As shown in the JCL above, you can insert a JCLLIB statement if you want to invoke the JZOSPROC from the CESOSGI.CNTL dataset.

For example:

```
// JCLLIB ORDER=(<USER>.CESOSGI.CNTL)
```

4. Submit the JCL from member MANAGER, or start the system task (described below), to start the CES OSGi.

Executing CES OSGi Job as a Started Task

You can, optionally, set up the CES OSGi to execute as a started procedure on your z/OS system by adding the start command to the SYS1.PARMLIB(COMMNDxx) member. Your installation may require special security authorizations for the started task to actually execute. You can also rename the PROC at your discretion so that the long-running task is identifiable as the CES Manager (for example: CESMANGR) or to match your systems standards. In this setup, you would only have to start the CES Manager the first time with a z/OS console command:

```
START JZOSPROC
```

or

```
START CESMANGR
```

For stopping the CES Manager, you can cleanly terminate it by using the following console command:

```
STOP JZOSPROC
```

or

```
STOP CESMANGR
```

Note: Compuware recommends that you change all the CES directories and files to be owned by the started task userid.

Execute the following change owner command from a USS command prompt such as OMVS.

```
cd <top-level-CES-install-directory>
chown -R <started-task-userid> *
```

Changing the Time Zone for CES OSGi

The member name CESEMN defines the Time Zone variable.

For example:

```
TZ = EST5EDT
```

- EST is Eastern Standard Time
- Standard Time is 5 hours west of the universal reference time

- EDT is Eastern Daylight Savings Time

For more information on setting time zones in Compuware Enterprise Services, refer to IBM's z/OS Information Center on the Web.

Modifying Java Heap Size for CES OSGi

The member name CESEMN defines the startup options. The CES Server is configured with an initial heap size of 256 MB (java option = '-Xms256M') and a maximum heap size of 1024 MB (java option = '-Xmx1024m').

To modify these parameters:

1. Stop the CES Server.
2. Locate the following two lines in member CESEMN.

```
# INSTALLER: Sets java heap allocation if more becomes necessary  
DEFS="-Xms256M -Xmx1024m "
```

3. Make the appropriate changes to the heap sizes.
4. Restart the CES OSGi.

Chapter 3.

Installing Compuware Enterprise Services on Linux

This chapter guides you through the process for installing Compuware Enterprise Services on Linux.

Before Beginning

Before beginning the installation, you should have the following:

- If you are performing an upgrade installation of Compuware Enterprise Services, be sure to stop the CES daemon *before* beginning the upgrade.
- Compuware Enterprise Services 16.03 *cannot* be installed over an existing CES 05.00.0x release. A database upgrade path is available once CES is installed.
- Verify that you have a compatible version of Java on the Linux machine. Those versions include either 64-bit Oracle or IBM Java 1.7 or 64-bit Oracle or IBM Java 1.8.
- Ensure that the installable media is on the machine on which you intend to install.
- If Java home is not set as a system variable, identify the path to your installed JRE.
- Issue the following two export commands before executing the install.bin file.

```

JAVA_HOME=/<path to JRE>
PATH=$JAVA_HOME/bin:$PATH

```

Installing Compuware Enterprise Services on Linux

1. Select **Install CES for Linux** and locate **install.bin**.
2. Ensure that the `install.bin` file has execute authority. Perform a `chmod 777` to open up permissions if necessary. This file is located at `Disk1\InstData\NoVM`.
3. Execute the following commands:

```

JAVA_HOME=/<path to JRE>
PATH=$JAVA_HOME/bin:$PATH
./install.bin

```

The CES installer starts.

Notes:

- You can cancel the installation at any time by typing `quit`.
 - You can go back in the installation panels at any time by typing `back`.
4. After reading the Introduction panel, press **Enter**. The **License agreement** panel appears.
 5. Read the CES license agreement, pressing **Enter** until you have scrolled through and read the entire agreement.

6. Type **Y** and press **Enter** to accept the terms of the license agreement. The **Oracle License Agreement** panel appears. Select **Y**.
7. Specify the absolute directory path in which to install Compuware Enterprise Services, or press **Enter** to accept the default location (Default: `/opt/Compuware/CES`). If you specify an installation folder other than the default, confirm it was correct by typing **Y**.

Note: Be sure that you are not specifying a 05.00.0x CES directory. Compuware Enterprise Services 16.03 *cannot* be installed over an existing CES 05.00.0x release.

8. Specify a data directory into which CES will store log and configuration data. You can accept the default directory.
9. Specify an Instance Name for the CES Service. This is used to distinguish between different versions that can run on your system. The name entered here will be appended to 'Compuware Enterprise Services' as the service name. For example:

`Compuware Enterprise Services_CES_16.3.0.36`

10. Specify the user ID needed to install and run the CES daemon (Default: the current user ID).

Note: The CES daemon is a long running process for CES to function. Choose a user ID appropriate for that condition.

11. Specify whether or not CES will be accessed via HTTPS (default: N).
12. Specify Y or N whether you want to modify the default port numbers. Be sure that the ports you choose are open on your network's firewall.
 - **Server port** (default: 24354) Used to communicate between mainframe and client. This replaces the iStrobe Manager function that was previously specific to the iStrobe Manager.
 - **Web Application Port** (default: 48226) Used to access the web application via a browser.
 - **Web Application Listener Secure port** (default:48443) If HTTPS was Y in step 11, this port is used as the secure port.
 - **Web Application Stop** (default: 8465) Used to stop the web application.
 - **InfoCenter** (default: 10250) Used to access online help.
 - **Profile Parallel Processing** (default: 17667) Used to provide additional processing capacity.
 - **Derby port** (default: 1545) Used to start the embedded Derby database.

13. From the **Ready to Install** panel, review the installation information. If it is incorrect, type **Back** and revise the installation settings as necessary. If it is correct, press **Enter** to start the Compuware Enterprise Services installation. The **Installation complete** panel appears when the installation finishes.

14. Press **Enter** to exit the installer.

The Compuware Enterprise Services installation process is complete. Although the installation of CES is now complete, you must continue with configuring a database by following the CES URL on the post-installation screen. Continue with Chapter 4, "Configuring Compuware Enterprise Services".

Note: Initialization may take several minutes. You may see a 404 page in your web browser during this time.

Chapter 4.

Configuring Compuware Enterprise Services

After installing CES, there are a few additional configuration considerations required to allow full functionality of the application.

Launch the Compuware Enterprise Services application from a browser using the URL specified in the installation. For example:

```
http://<hostname>:48226/compuware
```

Once in the Compuware Enterprise Services application, navigate to the Administration window and select each of the following configuration items:

Database Setup

Although Compuware Enterprise Services installs out of the box with a fully functional Apache Derby database, you can either switch or migrate the database to one of the following supported databases:

- Apache Derby (comes configured by default at installation)
- Microsoft SQL Server
- Oracle
- IBM DB2 for LUW
- IBM DB2 for z/OS

Refer to your database system documentation for the minimum hardware requirements. Compuware Enterprise Services data storage requirements vary from 300k to 50MB per profile, depending on the measurement taken. Processor usage also varies, depending on the number of users and their use of Strobe Insight reports.

Further details for CES database setup are provided in both the online help for Compuware Enterprise Services as well as Appendix A, “CES Repository Preparation” of this installation guide.

Email

In the Email settings you can specify your outgoing mail server and enter an email address as the sender.

Ex. example@company.com

Further details for Email Settings setup are provided in the online help for Compuware Enterprise Services.

Host Connections

Host Connection settings are used to configure connections to the Host Communications Interface (HCI). You must have at least one HCI port configured on one LPAR. Specify the host connection of the HCI port on the LPAR that contains the license file that is available to the License Management System (LMS) connected to that LPAR. In the case where multiple HCIs have been defined to Compuware Enterprise Services, each HCI instance is checked until a valid license is encountered.)

Further details for Host Connections setup are provided in the online help for Compuware Enterprise Services.

Licensing

Licensing Settings allows you to configure license lease durations and display a list of license holders for Topaz licenses being used at your site. This function is specific *only* to those sites using either Topaz Workbench or Topaz for Java Performance. Set your Lease Timeout (default 10 hours): Use this to set an active time duration for a license that has been checked out. Once the time duration expires, that license then become available to be check out again.

Further details for Licensing Settings setup are provided in the online help for Compuware Enterprise Services.

Infocenter Settings

Infocenter Settings allows you to display online help for Compuware Enterprise Services by simply defining which port to use for displaying online help. Although Compuware Enterprise Services installs with a default port, you may choose to change this port setting during the installation, or at any time after the installation.

Further details for Infocenter Settings setup are provided in the online help for Compuware Enterprise Services.

Issue Tracking

The Issue Tracking Settings page allows an administrator to configure integration between Compuware's products and Atlassian's JIRA issue tracking system. Such integration enables the rich issue recreation and debugging information to be stored in JIRA, which can then be used to track the issue and assign it to an application development team for resolution. This integration can be leveraged from Abend-AID web viewer or iStrobe to log issues directly in JIRA.

Further details for Issue Tracking Settings setup are provided in the online help for Compuware Enterprise Services.

Chapter 5.

Uninstalling Compuware Enterprise Services

Uninstall Compuware Enterprise Services using one of the following processes.

CAUTION:

It is important to recognize that uninstalling CES will also uninstall any of the Compuware web-based products. If you want to uninstall a specific product, you must follow the uninstall instructions for that product.

Uninstalling CES from Windows

1. Locate and launch the `uninstall.exe` file from the directory in which CES was installed.
2. Click **Uninstall**. The uninstall process begins.
3. When the uninstall process indicates it has completed, click **Done**.

Uninstalling CES from z/OS UNIX or Linux

1. From a command line, execute the following command:

```
rm -r <ces installation directory>
```


Appendix A.

CES Repository Preparation

This worksheet helps database administrators prepare a new repository for Compuware Enterprise Services. CES supports DB2 z/OS, DB2 LUW, SQLServer, and Oracle RDBMS. Follow the guidance specific to your platform below and contact Compuware Support with any questions.

Note: At this time, DB2 v.10 JDBC drivers are not compatible with Java 1.8.

In addition to those preparation guidelines outlined in the following environments, it is assumed that the database user will have the ability to insert, select, update, and delete records from the database.

DB2 z/OS

Choose any single, non-destructive DB2 subsystem, running DB2 Version 10 (New Function Mode) or later, in which to create a database prior to starting the CES installation. Requirements for the database are found below under the heading 'Database Name'. During database creation tablespaces are explicitly created for each table. The installation process loads some initial data--manual creation of the DB2 objects is not possible. JDBC universal drivers are also required to be available on the DB2 for z/OS subsystem that will be used. Additional information to support the connection to JDBC is found below under 'JDBC Driver Path'.

You must supply the directory containing the driver (db2jcc.jar) and license file (db2jcc_license_cu.jar or db2jcc_license_cisuz.jar) during the CES database installation process.

Database server

This is the DNS name or the IP address of the server on which DB2 for z/OS is installed. Look for "DOMAIN", by browsing the *ssidMSTR* job and doing a find on 'DSNL004I'.

Note: The *ssid* refers to the DB2 subsystem id. *ssidMSTR* is a required DB2 address space that must be running for DB2 to be operational. 'DSNL004I' is a message generated by DB2 that can be found in the JES log output of *ssidMSTR*.

Port

This is the port on which this database is listening. Look for "TCPPORT", by browsing the *ssidMSTR* job and doing a find on 'DSNL004I'.

Database location

This is the location name of your DB2 host. Look for "LOCATION", by browsing the *ssidMSTR* job and doing a find on 'DSNL004I'.

Database name

This is the name of the database created in your DB2 for z/OS subsystem that will be used to hold the DB2 tables and indexes that CES will create. The database must use a 32k bufferpool. A CCSID of EBCDIC should be specified on the create database. The CES tables contain LOB data. If you include “**SET CURRENT RULES = 'STD';**” prior to creating the database, the LOB tablespace, auxiliary tables, and indexes will be implicitly created for you. An implicitly created LOB tablespace will require “*USE*” privileges to the default bufferpool for user LOB data.

Schema

This is the Creator/Schema Name to use for the CES DB2 tables, indexes, and views. If this name is different than the “*Database user ID*”, and a secondary authorization ID is not being used, then the “*Schema*” should be set up as a secondary authorization ID to the “*Database user ID*”. Compuware recommends keeping the Schema and the Database user ID/Secondary authorization ID the same.

JDBC driver path

The IBM Data Server DB2 Driver for JDBC and SQLJ must be installed and the packages bound for that DB2 subsystem. Be sure that the driver files can be read by the CES installation program running on z/OS UNIX. To connect to the JDBC location, several z/OS DB2 stored procedures must be installed on the DB2 subsystem. See ‘DSNTESR’ and ‘DSNTIJMS’ found in the DB2 SDSNSAMP dataset. The JDBC connection will be verified, prior to installation, by clicking the ‘Test Connection’ button.

For additional information, refer to the reference manual “*DB2 for z/OS Application Programming Guide and Reference for Java*” found in the IBM Knowledge Center for your release of DB2.

Security mode

Specify the log on mode to use when accessing the CES database.

- **Standard:** Log on to DB2 using a user ID and password in plain text.
- **ID Only:** Log on to DB2 using a user ID that does not require a password.
- **AES Encrypted Password:** Log on to DB2 using an unencrypted user ID and an AES encrypted password.
- **AES Encrypted ID and Password:** Log on to DB2 using AES encryption for both the user ID and password.

Database user ID/Database user password

This ID is required. It is used by CES for the following:

- to run the applications
- when the secondary authorization ID is not specified, to provide authorization to access the CES Database objects

This ID is also used to create the CES tables, tablespaces, indexes, and views when the Secondary Authorization ID or Database Administrator ID below, is not specified. To create the objects, DB2 will require that the ID has the minimum DB2 authorizations as outlined under **Sample Create Database and Grant DDL**.

Note: If the Schema Name is something other than the Database user ID, and a secondary authorization ID is not being used, then the “*Schema*” should be set up as a secondary authorization ID to the “*Database user ID*”.

Secondary authorization ID

When specified, this ID is used in a 'SET CURRENT SQLID' statement prior to any execution of DDL. It is used when the Database user ID and/or Database administrator ID does not have the privileges to create the CES tables, tablespaces, indexes, and views. This ID must have the minimum DB2 authorizations, as outlined under the **Sample Create Database and Grant DDL**.

Use secondary authorization ID for updating data

Check this box to indicate that a 'SET CURRENT SQLID' on the Secondary Authorization ID should be issued by the CES applications during normal operation of the products.

Database administrator ID/Database administrator password

This ID is optional. When specified, it is used to create the CES tables, tablespaces, indexes, and views. This ID and password may be removed after the installation of CES is complete, by accessing the installation panel and clearing the data.

If this ID does not have SYSADM authorization, then it must have the minimum DB2 authorizations, outlined under **Sample Create Database and Grant DDL**.

Use SSL connection to database

Check this box to indicate that connections to the database require a secure socket (SSL) connection.

SSL connection keystore

If the certificate returned by the DB2 server is signed by a well-known public certification authority (CA) listed in the standard Java keystore provided by the Java runtime, this field may be left blank. Otherwise, specify a Java keystore that contains the trusted certificate used to sign the DB2 server certificate.

Keystore password

Specify the password for the Java keystore specified under SSL connection keystore if required.

Sample Create Database and Grant DDL

```
SET CURRENT RULES = 'STD';
```

```
CREATE DATABASE "user-specified-database-name"
```

```
    BUFFERPOOL user-specified-32k-bufferpool-id
```

```
    INDEXBP user-specified-bufferpool
```

```
    CCSID EBCDIC STOGROUP "user-specified-storage-group";
```

```
GRANT the following permissions to the ID being used to create the CES tables, tablespaces, indexes and views.
```

```
-Either the "Database user ID", "Secondary authorization ID", or the "Database administrator ID".
```

```
-Not necessary if ID is a SYSADM.
```

```

GRANT USE OF BUFFERPOOL "default-bufferpool-for-user-data"
  TO "Database user ID/Secondary authorization ID/Database administrator
  ID";

GRANT USE OF STOGROUP "user-specified-storage-group(see database create)"
  TO "Database user ID/Secondary authorization ID/Database administrator
  ID";

GRANT DBADM ON DATABASE "user-specified-database-name"
  TO "Database user ID/Secondary authorization ID/Database administrator
  ID";

GRANT SELECT ON TABLE "SYSIBM"."SYSSEQUENCES"
  TO "Database user ID/Secondary authorization ID/Database administrator
  ID";

GRANT SELECT ON TABLE "SYSIBM"."SYSDATABASE"
  TO "Database user ID/Secondary Authorization ID/Database administrator
  ID";

GRANT SELECT ON TABLE "SYSIBM"."SYSTABLESPACE"
  TO "Database user ID/Secondary Authorization ID/Database administrator
  ID";

```

Note: If you are a CES user migrating from a 5.x release of CES older than 5.0.5, or are migrating from CES 16.03.00, you may need to GRANT DROPIN authorization on the Schema if the Database user ID and/or the Database administrator ID has changed since the original installation of CES.

DB2 for Linux, UNIX, and Windows

Compuware requires a Unicode code page. DB2 for Linux, UNIX and Windows JDBC URLs use the database name. There is no location.

- The IBM Data Server DB2 Type 4 Driver for JDBC and SQLJ must be installed for that DB2 instance.
- You must supply the directory containing the driver (db2jcc.jar) and license file (db2jcc_license_cu.jar or db2jcc_license_cisuz.jar) during the CES database installation process.
- You must know the DNS name or IP address of your DB2 server.
- You must know the port on which the DB2 instance is listening.
- Create a database for CES.
 - The table space associated with the database must be created in a 32K BUFFERPOOL.
- You need an authorization ID and password for use by the CES application.
- This authorization ID needs one of the following sets of privileges:
 - CREATETAB authority for the database; USE privilege for its table spaces
 - DBADM authority for the database
 - SYSADM authority

Note: Be sure the Data Server DB2 Type 4 Driver for JDBC and SQLJ files can be read by the CES installation program from the server on which it will run.

Database Server

This is the DNS name or the IP address of the server on which DB2 for Linux, UNIX, and Windows is installed.

Port

This is the port on which this database is listening.

Database Name

This is the name of the database you wish to use. This must be created in advance. CES will not create the database programmatically.

Note: The table space associated with the database must be created with a 32K BUFFERPOOL.

Schema

This is the schema you would like to associate the data objects with. This will get created if it does not already exist.

JDBC Driver Path

The IBM Data Server DB2 Driver for JDBC and SQLJ must be installed for that DB2 subsystem. Be sure that the driver files can be read by the CES installation program running on your system.

Database User ID

This ID is required. If the Database administrator ID is not specified, then this ID will be used to create the tables, indexes, and views used by CES. Otherwise, the ID is for use by the CES application. The ID must have one of the following privileges:

- CREATETAB authority for the database; USE privilege for its table spaces
- DBADM authority for the database
- SYSADM authority

Database Password

This is the user's password associated with the database.

Database Administrator ID

This is the Administrator ID associated with this database. When specified, it will only be used to create the tables, indexes, and views used by CES. This is an optional field and only required if the Database User ID does not have the following roles:

- CREATETAB authority for the database; USE privilege for its table spaces
- DBADM authority for the database
- SYSADM authority

Database Administrator Password

This is the password associated with the Database Administrator ID.

Microsoft SQL Server

Observe the following when preparing a Microsoft SQL Server database:

- You must know either the DNS name or the IP address of the server on which Microsoft SQL Server is installed.
- You must know either the statically assigned port number or the instance name (dynamically assigned port) for the Microsoft SQL Server instance.

- For the instance name option, the Microsoft SQL Server Browser Service must be running on that server.
- Select a name for the database.
 - Limit this name to alphabetic, numeric and underscore (_) characters
 - Strobe does not support delimited identifiers
- Identify or create a schema name to be used.
- The CES database should use a case-sensitive collation.
- Microsoft recommends that you back up the master database before creating a new database.

Note: Since CES connects through JDBC, Microsoft SQL Server authentication must be used.

Database Server

This is the DNS name or the IP address of the server on which Microsoft SQL Server is installed.

Port

This is the statically assigned port number or the instance name (dynamically assigned port).

Instance Name

This is the named instance of SQL Server. If your Microsoft SQL Server database uses a port, then you don't need this.

Database Name

This is the name of the database you wish to use. This must be created in advance. CES will not create the database programmatically.

Schema

This is the schema you would like to associate the data objects with.

Database User ID

The Database User ID is required to execute the CES application. The Database User ID must have the following roles:

- DB_READER
- DB_WRITER

If the *optional* Database Administrator ID is not entered, then the Database User ID is used to create the tables, indexes, and views used by CES. The Database User ID must then have the additional role:

- DB_DDLADMIN

Database Password

This is the user's password for the Database User ID.

Database Administrator ID (optional)

This is the optional Database Administrator ID associated with this database. If you enter this field, this Database Administrator ID is used to create the tables, indexes, and views used by CES. The Database Administrator ID must have the following roles:

- DB_READER
- DB_WRITER
- DB_DDLADMIN

If you choose to not enter the Database Administrator ID, then the Database User ID is used to populate the database and must have these roles.

The Database Administrator ID is used only to populate the database. It is not used during regular CES execution.

Database Administrator Password (optional)

This is the password for the Database Administrator ID.

Oracle

For an Oracle Database, CES uses national character datatypes. Using a database with a Unicode character set is recommended, but not required.

You must create an Oracle database before the CES installation.

CES uses the JDBC Thin (type 4) driver with Thin-style server name syntax for its database URLs. You must know your database's service name for this syntax.

You must create a database user ID and password before the CES installation for database authentication. The Oracle CREATE USER command automatically creates a schema with the same name. CES will create all of its objects in this schema.

Before installing CES:

- An Oracle Database instance must be installed and running on a server.
- You must know either the DNS name or the IP address of the server on which the Oracle database is installed.
- You must know the port on which Oracle is listening.
- You need a database for CES and you must know its service name.
- You need a user ID and password within that database for use by the CES application with at least the following privileges:
 - CREATE SESSION system privilege
 - CREATE TABLE or CREATE ANY TABLE system privilege
 - CREATE VIEW or CREATE ANY VIEW system privilege
 - Space quota on the database table spaces or the UNLIMITED TABLESPACE system privilege
- Your Oracle DBA must change the default value of the *open_cursors* parameter to at least 400 to avoid the “Maximum open cursors exceeded” error message.

Database Server

This is the DNS name or the IP address of the server on which Oracle is installed.

Port

This is the port on which this database is listening.

Database Name

This is the name of the database you wish to use. This must be created in advance. CES will not create the database programmatically.

Schema

This will be the same as the name used for the CREATE USER command, this must be created prior to configuring the CES database.

Database User ID

This ID is required. If the Database administrator ID is not specified, then this ID will be used to create tables, indexes, and views used by CES. Otherwise, the ID is for use by the CES application. The ID must have the following privileges:

- CREATE SESSION system privilege
- CREATE TABLE or CREATE ANY TABLE system privilege
- CREATE VIEW or CREATE ANY VIEW system privilege
- Space quota on the database table spaces or the UNLIMITED TABLESPACE system privilege

Database Password

This is the user's password associated with the database.

Database Administrator ID

This is the Administrator ID associated with this database. This is an optional field and only required if the Database User ID does *not* have the following roles:

- CREATE SESSION system privilege
- CREATE TABLE or CREATE ANY TABLE system privilege
- CREATE VIEW or CREATE ANY VIEW system privilege
- Space quota on the database table spaces or the UNLIMITED TABLESPACE system privilege.

Database Administrator Password

This is the Database Administrator password. This is only required if configuring your database with an administrator's ID.