



Enterprise Chat and Email Upgrade Guide, Release 12.0(1)

For Packaged Contact Center Enterprise

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Preface

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Welcome to the Enterprise Chat and Email (ECE) feature, which provides multichannel interaction software used by businesses all over the world as a core component to the Packaged Contact Center Enterprise product line. ECE offers a unified suite of the industry’s best applications for chat and email interaction management to enable a blended agent for handling of web chat, email and voice interactions.

About This Guide

Enterprise Chat and Email Upgrade Guide describes the process of upgrading your ECE 11.6 system to ECE 12.0. This guide is intended for installation engineers, system administrators, database administrators, and others who are responsible for installing and maintaining Enterprise Chat and Email (ECE) installations that are integrated with Cisco Packaged Contact Center Enterprise (Packaged CCE).



Important: Upgrades to ECE 12.0(1) are not supported on Windows Server 2012. If you need to access the archived documentation for the old platform, please contact Cisco Support.

Change History

This table lists changes made to this guide. Most recent changes appear at the top.

Change	See	Date
Added post-install task for configuring SSO for partition administrators.	“Configuring SSO for Partition Administrators” on page 37	December, 2019
Updated the steps for running Pre-Upgrade utilities.	“Appendix A: Pre-Upgrade Utilities” on page 41	

Related Documents

The latest versions of all Cisco documentation can be found online at <https://www.cisco.com>

Subject	Link
Complete documentation for Enterprise Chat and Email, for both Cisco Unified Contact Center Enterprise (UCCE) and Cisco Packaged Contact Center Enterprise (PCCE)	https://www.cisco.com/c/en/us/support/contact-center/enterprise-chat-email-12-0-1/model.html

Communications, Services, and Additional Information

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- ▶ To find warranty information for a specific product or product family, access [Cisco Warranty Finder](#).

Cisco Bug Search Tool

[Cisco Bug Search Tool](#) (BST) is a web-based tool that acts as a gateway to the Cisco bug tracking system that maintains a comprehensive list of defects and vulnerabilities in Cisco products and software. BST provides you with detailed defect information about your products and software.

Field Alerts and Field Notices

Cisco can modify its products or determine key processes to be important. These changes are announced through use of the Cisco Field Alerts and Cisco Field Notices. You can register to receive Field Alerts and Field Notices through the Product Alert Tool on Cisco.com. This tool enables you to create a profile to receive announcements by selecting all products of interest.

Sign in www.cisco.com and then access the tool at <https://www.cisco.com/cisco/support/notifications.html>.

Documentation Feedback

To provide comments about this document, send an email message to the following address:
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We appreciate your comments.

Document Conventions

This guide uses the following typographical conventions.

Convention	Indicates
<i>Italic</i>	Emphasis. Or the title of a published document.
Bold	Labels of items on the user interface, such as buttons, boxes, and lists. Or text that must be typed by the user.
Monospace	The name of a file or folder, a database table column or value, or a command.
<i>Variable</i>	User-specific text; varies from one user or installation to another.

Document conventions

1 Planning

- ▶ [Planning the Upgrade](#)
- ▶ [Planning Database Upgrade from SQL 2014 to SQL 2016](#)
- ▶ [Planning Upgrade of Windows 2012 to Windows 2016](#)
- ▶ [Verifying ECE 11.6\(1\) Release Version](#)
- ▶ [Running Pre-Upgrade Utilities](#)
- ▶ [Planning Downtime](#)
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To upgrade to ECE 12.0(1), you need to complete a number of tasks, which include potential infrastructural upgrades, and completing certain pre-upgrade, upgrade, and post-upgrade tasks. This chapter will help you to plan your upgrade.

Upgrade is supported from ECE 11.6(1) or higher to ECE 12.0(1).

Planning the Upgrade

- ▶ Read this guide before upgrading to ECE 12.0(1). The chapter “[Pre-Upgrade Tasks](#)” on page 14 contains a set of tasks that must be completed before beginning the upgrade.
- ▶ You *must* run the Pre-Upgrade utilities before running the actual Upgrader. For details, see “[Running Pre-Upgrade Utilities](#)” on page 13.
- ▶ While upgrading from ECE 11.6(1) to ECE 12.0(1), you need to run the Upgrader on the ECE server and the web server.

Planning Database Upgrade from SQL 2014 to SQL 2016

- ▶ SQL version changes:
 - When upgrading from ECE 11.6(1) to ECE 12.0(1), you must upgrade your SQL version from **SQL 2014 to SQL 2016 Service Pack 2, Cumulative Update 2 or higher**. You have two options:
 - Install SQL 2016 on the same machine where SQL 2014 is installed. If you plan to use the same VM, ensure that it has enough CPU, Memory and Disk space to accommodate both installations of SQL and an additional copy of the ECE databases.
 - Upgrade SQL 2014 to SQL 2016. If you plan to do this, you must take a backup of the VM, in case you need to revert the installation to ECE 11.6(1). The VMs must be shutdown before taking backups.
- ▶ SQL Edition changes:
 - While changing the SQL version from SQL 2014 to SQL 2016 you have the option to retain the Edition of SQL you were using for ECE 11.6(1) or change the SQL Server Edition from Standard to Enterprise.
 - With SQL 2016, the ECE installations using Standard Edition of SQL will no longer have the archive database. If you need access to the data in the archive database, restore a copy of the archive database on SQL 2016 or SQL 2014 and the Upgrader will give you an option to create a data link to the archive database ([page 25](#)).



Important: You *must* restore the archive database on a different machine and not on the same server where ECE is installed.

- With SQL 2016, ECE installations using Standard Edition of SQL will have a new reports database.

- ▶ SQL Authentication changes:
 - While upgrading, you can change the **Authentication mode** from **SQL Authentication** to **Windows Authentication** or vice versa.

Planning Upgrade of Windows 2012 to Windows 2016

- ▶ After upgrading the application to ECE 12.0(1), you must update the Operating System on the VMs to Windows 2016 ([page 36](#)). Ensure that you have the copy of the Windows upgrader and check to make sure that the servers have the required resources for the Windows upgrade. Please check the Microsoft documentation for details.

Upgrading Windows Server 2012 to Windows Server 2016 for Existing 12.0(1) Deployments

If your application is already upgraded to ECE 12.0(1), follow the steps in this section to upgrade the Operating System from Windows Server 2012 to Windows Server 2016.

To upgrade Windows Server 2012 to Windows Server 2016 for existing 12.0(1) deployments:

1. Plan for the downtime required to do this task. Take into account the time required to take VM backups and the time required to upgrade the operating system on all servers.
2. Stop the ECE application. ([page 18](#))
3. Take a back up of the VMs and upgrade windows Server 2012 to Windows Server 2016. ([page 36](#))
4. Start the ECE application. ([page 36](#))

Verifying ECE 11.6(1) Release Version

The ECE installation should be on ECE 11.6(1) or higher to be able to upgrade to ECE 12.0(1).

To verify the release version:

1. Open the ECE Login window and click the **About** button.
2. Click the History tab and verify that the current version is ECE 11.6(1) or higher.

Running Pre-Upgrade Utilities

The Upgrader comes with two utilities, DB PreCheck Utility and DBUpdate Utility, that can be run before doing the actual upgrade. DB PreCheck utility can be run on the ECE 11.6(1) production databases. The DBUpdate Utility must always be run on copies of databases, and *not* on the actual ECE 11.6(1) databases.



Important: It is highly recommended that you run these utilities before running the actual Upgrader on your installation.

- ▶ The DB PreCheck Utility checks if there is any data in the databases that can cause the upgrade to fail. If any such issues are found, it logs them in a file. All these issues must be fixed before running the actual upgrader. This is a read only utility and does not make any modifications on the databases.
- ▶ The DBUpdate Utility actually upgrades the standalone copies of the databases and reports if the upgrade can fail because of any database issues. The utility can also help you estimate the disk space required on the database servers.

For details about running these utilities, see [“Appendix A: Pre-Upgrade Utilities” on page 41](#).

Planning Downtime

The time required to upgrade your installation will depend on a number of factors. This section lists all those factors and helps you determine the downtime required for your installation.

- ▶ **Time to back-up** ([page 19](#)) **ECE 11.6(1) installation** folder.
- ▶ **Time to back-up** ([page 19](#)) **and restore** ([page 19](#)) **ECE 11.6(1) databases:** This time will vary based on the size of your databases. You can do a standalone back-up and restore of your databases to estimate the required time.
- ▶ **Four** hours to do other upgrade tasks.
- ▶ **Time to back-up VMs** ([page 36](#)) **and upgrade the OS from Windows 2012 to Windows 2016** ([page 36](#)).

Add all these times to determine the total downtime required for the upgrade.

Getting Started

The upgrade process involves completing the following activities, in sequence:

- ▶ **Pre-upgrade tasks:** To be performed before you begin the upgrade. For detailed instructions, refer to [“Pre-Upgrade Tasks” on page 14](#).
- ▶ **Upgrade tasks:** Run the Upgrader on the ECE server and the web server. Details are in [“Upgrade Process” on page 19](#).
- ▶ **Post-upgrade tasks:** To be performed after completing the upgrade. For details, refer to [“Post-Upgrade Tasks” on page 30](#).

2 Pre-Upgrade Tasks

- ▶ [Preparing Database Servers](#)
- ▶ [Installing Application Request Routing Module on the Web Server](#)
- ▶ [Verifying Available Disk Space](#)
- ▶ [Stopping the Application](#)
- ▶ [Stopping IIS](#)
- ▶ [Stopping the Reports Jobs](#)
- ▶ [Backing up ECE 11.6\(1\) Installation](#)
- ▶ [Backing up ECE 11.6\(1\) Databases](#)
- ▶ [Opening Ports Between Servers](#)

This chapter describes the pre-upgrade procedures that need to be completed before beginning the upgrade process.

Preparing Database Servers

- ▶ First, plan for your databases upgrade. See [“Planning Database Upgrade from SQL 2014 to SQL 2016” on page 11](#).
- ▶ Installations using SQL Standard edition for ECE 11.6(1), will have a new reports database. You can install this database along with master and active databases, or on a new machine. If you plan to install on the same server, you will need additional hard disk space: size of the active database + 16 GB.
- ▶ Prepare the database server machine where you are installing SQL 2016 for ECE 12.0(1).

Creating a New Drive for Partitioned File Groups

- ▶ It is recommended that you store the data files for the database partition groups on a separate drive than the drive where the ECE databases are installed. Create a new vDisk manually for this. For sizing of this drive, see the “Planning for Database Growth” section of the *Enterprise Chat and Email Design Guide*.

Verifying Microsoft SQL Server Features

- ▶ Ensure that the following Microsoft SQL Server features are installed.
 - Instance Feature:
 - Database Engine Services > Full Text and Semantic Extraction for Search
 - Shared Features
 - Client Tools Connectivity
 - Integration Services
 - Client Tools SDK
 - Management Tools - Basic > Management Tools - Advanced
 - SQL Client Connectivity SDK

Verifying Collation Settings

- ▶ Collation settings are typically chosen while installing SQL Server 2016. Since collations specify the rules for how strings of character data are sorted and compared, based on particular languages, a particular type of collation is required for the application to process and present information accurately.

On the Collation settings screen, choose SQL Collations and select the following option: **Dictionary order, case-insensitive, for use with 1252 Character Set**. For example, `SQL_Latin1_General_CP1_CI_AS`. Although this is the recommended collation, it is not mandatory. Any ASCII, case insensitive collation can be used. If you have already installed SQL Server 2016, consult your DBA and verify that the collation

setting chosen is ASCII (case insensitive). The application databases will be installed using the collation that is configured for MSSQL Server.

Creating SQL User for Installing ECE Databases

Skip this section if you want to use the default SA user to install the ECE databases.

- ▶ Create a user for installing the ECE databases and make sure the following roles are assigned to the user: `dbcreator`, `securityadmin`, `sysadmin`

Assigning Permissions to Domain User

- ▶ Give `sysadmin` permission to the domain account created for installing and running the application. If you are using a separate account for the database services, then assign the permission to that user.

Configuring SQL Server Integration Service on the Reports Database

The application uses the functionality provided by the SQL Server Integration Services (SSIS) to allow custom data to be available for inclusion in data extracts. Note that custom data is not available in the reports that are included out-of-the-box. There are three parts to completing this task:

1. Configuring permissions for user accounts ([page 16](#)).
2. Verify **Replace a process-level token** privilege has been enabled for the server ([page 16](#)).
3. Finally, create a folder on the machine where all data files will be created by the application ([page 17](#)).

Configuring Permissions for User Accounts

This task is required while using Windows or SQL Authentication. Perform this task for the **Install Account** used for installing the application.

To configure permissions:

1. From the SQL Management studio, add the user account to **Security > Logins**. Assign the `sysadmin` role to this user.
2. From the Computer Management Console, add this user to the Remote Management Users Group.

Verifying Server Privileges

Ensure that the “Replace a process level token” privilege is enabled for the **NT Service\MSSQL Server**.

To verify server privileges:

1. On the database server where the Reports database is to be installed, open the command prompt and run `gpedit.msc`. The Local Group Policy Management Editor opens.
2. Navigate to **Local Computer Policy > Windows Settings > Security Settings > Local Policies > User Right Assignment > Replace a process level token**.

3. From the policy list, double-click **Replace a process level token**.
4. In the window that opens, click the **Add User or Group...** button.
5. Add the `NT_SERVICE\DB_Instance_Name` service account to the privilege.
 - If you are using the default instance name for the reports database, it will be `NT_SERVICE\MSSQLSERVER`.
 - If the reports database is installed with a named instance, add the service account `NT_SERVICE\MSSQLDB_Instance_Name`.
6. To apply your changes, restart the ECE server. If the privileges were already enabled on the service account, a reboot is not necessary.

Creating Directory for Data Files

- ▶ Create a directory on the reports server machine, for example, `D:\ssis_data` and ensure that the domain user has **write** and **modify** permissions on this folder.

Running Services

Make sure the following services are running. These services should be started using the **SQL Services Account** that you have created for the ECE application. If you didn't create a **SQL Services Account**, use the **Service Account** created for the ECE application.

- ▶ **SQL Server Service**
- ▶ **SQL Full-text Filter Daemon Launcher Service:** This service is required for text searches.
- ▶ **SQL Server Agent Service:** This service is used by the Reports module.
- ▶ **SQL Server Integration Service:** This service is used by the Reports module.
- ▶ **SQL Server Browser Service:** In configurations where database servers are configured to run on named instances, and no listener port is configured, the SQL Server Browser service needs to be running when you run the installer. This service does not have to be running if the database servers are configured to run on the default instance. It is also not required if the database servers are configured to run on named instances, and specific, static listener ports are configured for the named instances.
- ▶ **Windows Remote Management Service:** This service is required only on the reports database.
- ▶ **Distributed Transaction Coordinator Service**

To start the services:

1. Go to **Start > Programs > Administrative Tools > Services**.
2. For the SQL Full-text Filter Daemon Launcher, SQL Server Agent, SQL Server, and SQL Server Browser services check if the right domain account is used for starting the services.
 - a. Select a service and right-click to open the menu.
 - b. From the menu select **Properties**.
 - c. In the Properties window, go to Log On tab and ensure the service is started using the same domain account that you have created for installing the ECE application.

3. Ensure that the SQL Server Service, SQL Full-text Filter Daemon Launcher, SQL Server Agent, Windows Remote Management Service, SQL Server Integration Service, and SQL Server Browser services are running.
4. If they are not running, select the services one by one, and click **Start** to start the service.

Installing Application Request Routing Module on the Web Server

This task is performed automatically by the Upgrader program. You can choose to do it manually before running the Upgrader.

- ▶ The **Application Request Routing** module is required to be installed on the web server. Download and install the module from the Microsoft website. The installation program is also available in the **Environment\Web Server\Application Request Routing** folder of the ECE 12.0(1) upgrade package. After installing the module, restart IIS.

Verifying Available Disk Space

- ▶ On all servers, ensure that there is ample disk space available so that the Upgrader can create a back-up of the installation folder. The available space should be at least 10 GB more than the size of the `ECE_Home\eservice` folder.

Stopping the Application

Make sure that the application is stopped on the ECE server.

To stop the application:

- ▶ On the ECE server, stop the Cisco service from the Windows Services panel. From the Windows Task Manager verify that none of the `java` processes (the services) are running.

Stopping IIS

- ▶ Stop IIS (World Wide Web Publishing Service) on the web server.

Stopping the Reports Jobs

Perform this task on the ECE server.

To stop the job:

1. Ensure that the Reports job is not running. The name of the job will be like `populatesmy_Reports_Database_Name`.
2. Disable the reports job before running the upgrader.

Backing up ECE 11.6(1) Installation

Take a back-up of the ECE 11.6(1) installation home directories on the following servers:

- ▶ ECE server
- ▶ Web server

Backing up ECE 11.6(1) Databases

You should back up the master, active, and archive databases. These backup copies will enable you to restore the system if you encounter any problems while upgrading.

1. Back up the master database.
2. Back up the active database.
3. Back up the archive database.



Important: If you are doing an in-place upgrade of SQL 2014 to SQL 2016, you must take backup of the VMs where the databases are installed. The VM must be shutdown before taking a backup.

Restoring Backup Copies of Databases on SQL 2016



Important: Always ensure that you restore the latest backup copies of databases. These copies should be pristine and *should not* have been used to run the DB Update utility (page 45).

- ▶ Restore the backed up copies of the ECE 11.6(1) active and master databases on the machine where SQL 2016 for ECE 12.0(1) is installed.
- ▶ Restore a second copy of the active database on the server where you want the reports database for ECE 12.0(1) to exist. Make sure you give it a different name than the active database, for example, `reportsdb`. The upgrader will convert this copy of the active database to reports database.

- ▶ You *must* restore the copy of the archive database on a different machine and not on the same server where ECE 11.6(1) archive database is installed. This task needs to be performed only if you are going to create data links to the archived data ([page 11](#)).

Opening Ports Between Servers

This section only lists the new ports that need to be opened for version 12.0. If you want to review the complete list of ports, see the *Enterprise Chat and Email Installation and Configuration Guide*.

With support for Jetty, port 9001 is required to be open between the following servers.

From Server	To Server	Default Destination Ports and Protocols
Web Server	Application Server	9001 [Protocol: TCP]

3 Upgrade Process

- ▶ [Upgrade Overview](#)
- ▶ [Upgrading the ECE Server](#)
- ▶ [Upgrading the Web Server](#)

This chapter describes the process of upgrading from ECE 11.6(1) to ECE 12.0(1). Before beginning the upgrade, ensure that you have complied with all the prerequisites listed in “Pre-Upgrade Tasks” on page 14.

Upgrade Overview

Run the Upgrader on the ECE server and the web server.



Important: Always run the Upgrader on the ECE server first.

Upgrading the ECE Server

Run the Upgrader on the ECE server.

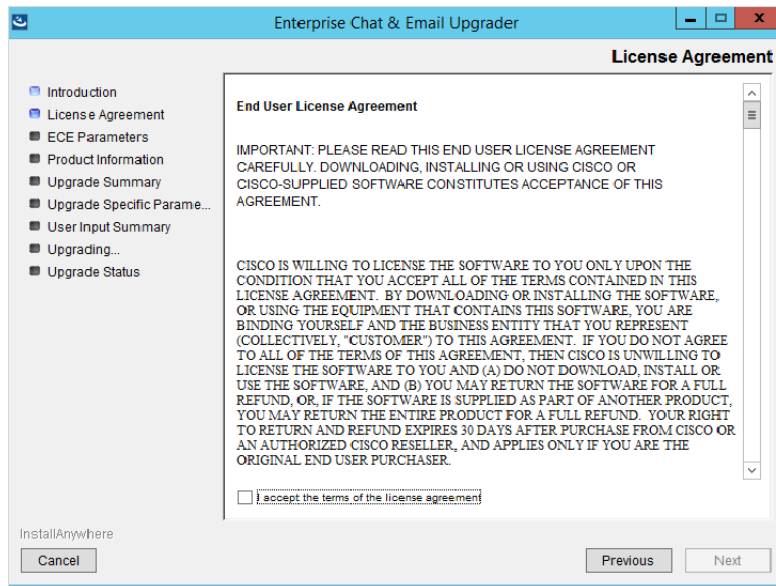


Important: When running the upgrade you must be logged on to the server using the same domain account that was used for installing ECE 11.6(1).

To upgrade the ECE server:

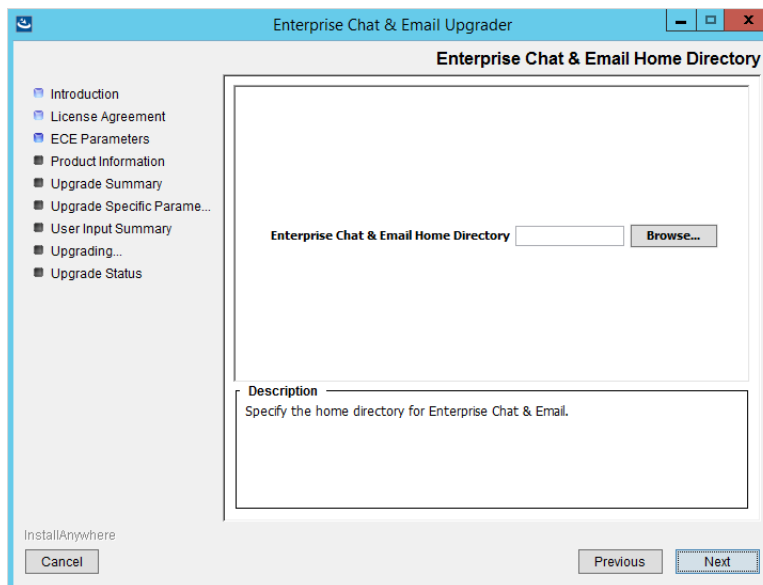
1. Check to see that you have closed all the application files before you begin the upgrade.
2. Create a temporary folder, *Temporary_Folder* and from the upgrade package, copy the upgrade files into *Temporary_Folder*.
3. Double-click `setup_windows.exe` to launch the ECE 12.0(1) Upgrader.
4. When the Introduction window appears, read the installation instructions. Click **Next**.

5. In the License Agreement window, review the licensing terms and select the **I accept the terms of the License Agreement** option. Click **Next**.



Read and accept the terms of the License Agreement

6. In the Enterprise Chat & Email Home Directory window, type the path or browse to the folder where ECE 11.6(1) is installed. Click **Next**.



Provide the location of the ECE 11.6(1) home directory

7. In the Restored SQL Server Database Authentication window, select the authentication type to be used while connecting to the databases. Set the value as **SQL Server Authentication mode** or **Windows Authentication mode**. Click **Next**.
8. In the Restored ECE Master Database Parameters window provide the following details.

- **Database Server Name:** Name of the MSSQL 2016 database server where the master database is restored.
- **Master Database Name:** Provide the name of the restored master database.
- **Database Server Instance Name:** Provide the name of the MSSQL server instance used to connect to the restored active and master databases. Set the value only if you used a named instance, and not the default instance.
- **Database Server Listen Port:** Provide the port to connect to the restored active and master databases. If you are using the named instance, then you do not need to set the port number.

The following fields appear only if you are using the SQL Server Authentication mode.

- **Database Administrator Username:** User name of the database administrator for MSSQL Server. If you have created a separate user for installing ECE databases, provide the name of that user.
- **Database Administrator Password:** Provide password of the database administrator.
- **Master Database Username:** Provide username for the restored database.
- **Master Database Password:** Provide password of the user.
- **Database Verify Password:** Verify the password.

9. In the Restored ECE Active Database Parameters window provide the following details.

- **Database Server Name:** This field is pre-filled and value cannot be changed.
- **Active Database Name:** Provide the name of the restored active database.
- **Database server Instance Name:** This field is pre-filled and value cannot be changed.
- **Database Server Listen Port:** This field is pre-filled and value cannot be changed.

The following fields appear only if you are using the SQL Server Authentication mode.

- **Database Administrator Username:** This field is pre-filled and value cannot be changed.
- **Database Administrator Password:** This field is pre-filled and value cannot be changed.
- **Active Database Username:** Provide username for the restored database.
- **Active Database Password:** Provide password of the user.
- **Database Verify Password:** Verify the password.

10. In the Restored Active Database Filegroup Parameters window provide the following details:

- **Filegroup Datafile 1 Name:** Provide the name of the first file group to be created for the active database.
- **Filegroup Datafile 1 Path:** Provide the location for the first filegroup. If you created a separate drive for the file groups, then provide the path to that drive ([page 15](#)).
- **Filegroup Datafile 2 Name:** Provide the name of the second file group to be created for the active database.
- **Filegroup Datafile 2 Path:** Provide the location for the second filegroup. If you created a separate drive for the file groups, then provide the path to that drive ([page 15](#)).
- **Filegroup Datafile 3 Name:** Provide the name of the third file group to be created for the active database.
- **Filegroup Datafile 3 Path:** Provide the location for the third filegroup. If you created a separate drive for the file groups, then provide the path to that drive ([page 15](#)).

- **Filegroup Datafile 4 Name:** Provide the name of the fourth file group to be created for the active database.
 - **Filegroup Datafile 4 Path:** Provide the location for the fourth filegroup. If you created a separate drive for the file groups, then provide the path to that drive (page 15).
11. In the Restored ECE Reports Database Parameters window provide the following details.
- **Database Server Name:** Name of the MSSQL 2016 database server where you have restored the additional copy of the active database to convert to reports database. (page 19)
 - **Reports Database Name:** Provide the name of the additional copy of the restored active database (page 19). The Upgrader will convert this copy of the active database to reports database.
 - **Database server Instance Name:** Provide the name of the MSSQL server instance used to connect to the restored reports database. Set the value only if you used a named instance, and not the default instance.
 - **Database Server Listen Port:** Provide the port to connect to the restored reports database. If you are using the named instance, then you do not need to set the port number.

The following fields appear only if you are using the SQL Server Authentication mode.

- **Database Administrator Username:** User name of the database administrator for MSSQL Server. If you have created a separate user for installing ECE databases, provide the name of that user.
 - **Database Administrator Password:** Provide password of the database administrator.
 - **Reports Database Username:** Provide username for the restored database.
 - **Reports Database Password:** Provide password of the user.
 - **Database Verify Password:** Verify the password.
12. In the Restored Reports Database Filegroup Parameters window provide the following details:
- **Filegroup Datafile 1 Name:** Provide the name of the first file group to be created for the reports database.
 - **Filegroup Datafile 1 Path:** Provide the location for the first filegroup. If you created a separate drive for the file groups, then provide the path to that drive (page 15).
 - **Filegroup Datafile 2 Name:** Provide the name of the second file group to be created for the reports database.
 - **Filegroup Datafile 2 Path:** Provide the location for the second filegroup. If you created a separate drive for the file groups, then provide the path to that drive (page 15).
 - **Filegroup Datafile 3 Name:** Provide the name of the third file group to be created for the reports database.
 - **Filegroup Datafile 3 Path:** Provide the location for the third filegroup. If you created a separate drive for the file groups, then provide the path to that drive (page 15).
 - **Filegroup Datafile 4 Name:** Provide the name of the fourth file group to be created for the reports database.
 - **Filegroup Datafile 4 Path:** Provide the location for the fourth filegroup. If you created a separate drive for the file groups, then provide the path to that drive (page 15).
13. In the Confirmation Required for Archive Database window, select **Yes** if you want to create a link to the restored archive database (page 11). Click **Next**.
14. In the Restored ECE Archive Database Parameters window, provide the below details:

- **Database Server Name:** Name of the MSSQL database server where the archive database is restored.
- **Archive Database Name:** Provide the name of restored archive database.
- **Database server Instance Name:** Provide the name of the MSSQL server instance used to connect to restored archive database. Set the value only if you used a named instance, and not the default instance.
- **Database Server Listen Port:** Provide the port to connect to the restored archive database. If you are using the named instance, then you do not need to set the port number.

The following fields appear only if you are using the SQL Server Authentication mode.

- **Database Administrator Username:** User name of the database administrator for MSSQL Server. If you have created a separate user for installing ECE databases, provide the name of that user.
 - **Database Administrator Password:** Provide password of the database administrator.
 - **Archive Database Username:** Provide username for the restored database.
 - **Archive Database Password:** Provide password of the user.
 - **Database Verify Password:** Verify the password.
15. In the Product Information window, check the current version of ECE 11.6(1) installed. The current version should be 11.6(1) or higher. Click **Next**.
 16. In the Upgrade Summary window, verify the version being installed. It should be ECE 12.0(1). The screen also notifies you if you need to run the Upgrader on additional servers. This information only appears while running the Upgrader on the file server. If using NAS, this information is displayed on the first component where you run the Upgrader. Click **Next**.
 17. In the Jetty Parameters window, provide the following details:
 - **Jetty HTTP port:** Jetty HTTP listener port where all the HTTP requests are handled. The value is pre-filled and it cannot be changed.
 - **Jetty HTTP SSL Port:** Jetty HTTPS listener port where all the SSL requests are handled. The value is pre-filled and it cannot be changed.
 - **Jetty Stop Port:** Jetty shutdown command listener port. This port is used for issuing shutdown command to stop Jetty. The port number can be between 1024-65535.
 18. In the ActiveMQ Parameters window, provide the following details. Click **Next**.
 - **ActiveMQ Port:** ActiveMQ listener port used by JMS clients to connect to ActiveMQ messaging server. The port number can be between 1024-65535. Default value is 15097.
 - **Admin ActiveMQ Port:** ActiveMQ Admin listener port used for administering and monitoring resources on the server. The port number can be between 1024-65535. Default value is 15096.
 19. In the Reports Database SSIS Parameters window, provide the following details and click **Next**.
 - **SSIS Datafile path:** Provide the path of the SSIS Directory created on the reports database server ([page 17](#)).
 - **Domain User Name:** User name of the domain user account created on the reports database server for installing the application. This account should have administrative privileges on the reports database server ([page 16](#)).
 - **Domain User Password:** Password of the domain user account.
 20. In the Reports Database SSIS Catalog Parameters window, provide the following details. This window does not appear if the SSIS catalog already exists on the report database. Click **Next**.
 - **SSIS Catalog Encryption Password:** Provide a password to encrypt the SSIS catalog.

- **Verify SSIS Catalog Password:** Verify the SSIS catalog encryption password.
21. In the Domain User Account Parameters window, provide the domain user name and password. Click **Next**.
 22. The supervisors screen provides a list of users who have supervisor role in the ECE application and are not marked supervisors in Packaged CCE. The list is also available for reference at:
ECE_Home\eservice\installation\logs\supervisors.txt. If you want these users to continue to be supervisors, you must mark them supervisors in Packaged CCE. Click **Next**.
 23. In the User Input Summary window, verify the information provided by you during the upgrade process. Click **Install**.

The Upgrader creates a backup of the file system at
ECE_Home\Patches\Backup\Pre_Upgrade_Version\FileServer and starts upgrading the application.
 24. If the Upgrader finds that any of the out-of-the-box product libraries have been modified and if there are any unsupported customizations made to the master and active databases, it displays the Unsupported Customization Detected window and you cannot proceed with the upgrade process. In the Unsupported Customization Detected window, you will find the location of the log file (for example,
ECE_Home\eservice\installation\logs\unsupported_customizations_ServerName.txt) which lists all customizations related issues you need to fix before running the Upgrader. Click **Cancel** to exit the Upgrader and contact Cisco TAC for assistance.
 25. In the Installation Status window, click the **Close** button to complete the upgrade process.

Upgrading the Web Server

Run the upgrader on the ECE 11.6(1) web server.

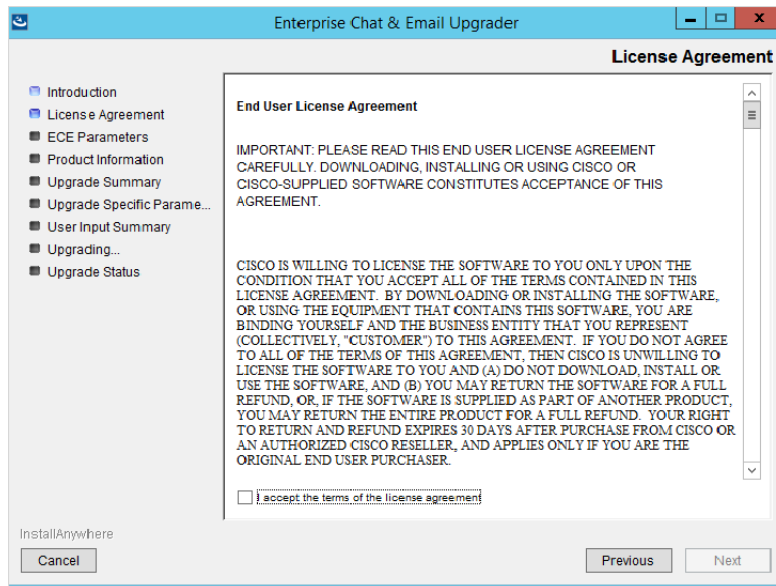


Important: When running the upgrade you must be logged on to the server using the same domain account that was used for installing ECE 11.6(1).

To upgrade the web server:

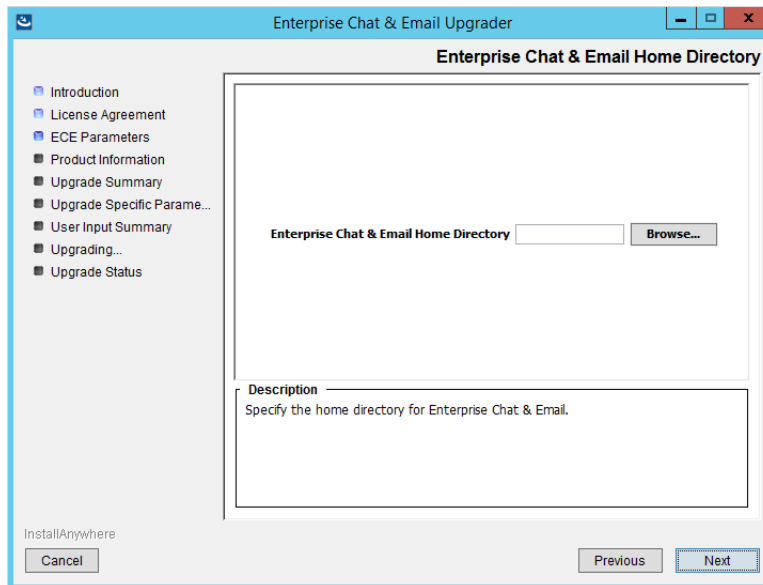
1. Check to see that you have closed all the application files before you begin the upgrade.
2. Create a temporary folder, *Temporary_Folder* and from the upgrade package, copy the upgrade files into *Temporary_Folder*.
3. Double-click *setup_windows.exe* to launch the ECE 12.0(1) Upgrader.
4. When the Introduction window appears, read the installation instructions. Click **Next**.

5. In the License Agreement window, review the licensing terms and select the **I accept the terms of the License Agreement** option. Click **Next**.



Read and accept the terms of the License Agreement

6. In the Enterprise Chat & Email Home Directory window, type the path or browse to the folder where ECE 11.6(1) is installed. Click **Next**.



Provide the location of the home directory

7. In the Application Server Parameter window, provide the application server name and the Jetty HTTP port. The port value should be same as the Jetty HTTP port value provided for the Application Server (page 26). Click **Next**.
8. In the IIS Web Site Parameter window, select the name of website from the drop down. Click **Next**.

9. In the Domain User Account Parameters window, provide the domain user name and password. Click **Next**.
10. In the Product Information window, verify the ECE 11.6(1) components installed on the machine. Click **Next**.
11. In the Upgrade Summary window, verify the version being installed. It should be ECE 12.0(1). The screen also notifies you if you need to run the Upgrader on additional servers. Click **Next**.
12. In the User Input Summary window, verify the information entered by you during the upgrade process. Click **Install**.

The upgrader creates a backup of the ECE home directory at

ECE_Home\Patches\Backup\Pre_Upgrade_Version\FileServer and starts upgrading the installation.

13. If the Upgrader finds that any of the out-of-the-box product libraries have been modified, it displays the Unsupported Customization Detected window and you cannot proceed with the upgrade process. In the Unsupported Customization Detected window, you will find the location of the log file (for example, *ECE_Home\eservice\installation\logs\unsupported_customizations_ServerName.txt*) which lists all customizations related issues you need to fix before running the Upgrader. Click **Close** to exit the Upgrader and contact Cisco TAC for assistance.
14. In the Installation Status window, click the **Close** button to complete the upgrade process.



Post-Upgrade Tasks

- ▶ [Updating Custom Chat Templates](#)
- ▶ [Updating Finesse Files](#)
- ▶ [Upgrading Windows Server 2012 to Windows Server 2016](#)
- ▶ [Starting IIS](#)
- ▶ [Starting ECE 12.0\(1\)](#)
- ▶ [Removing Archive Database from ECE Server](#)
- ▶ [Configuring Mandatory Global Setting](#)
- ▶ [Setting up User Desktops](#)
- ▶ [Configuring SSO for Partition Administrators](#)
- ▶ [Assigning Permissions on Data Adapters for Archive Database](#)
- ▶ [Troubleshooting Procedures](#)
- ▶ [Uninstalling ECE 12.0\(1\)](#)

This chapter guides you through the tasks to be performed after upgrading the system. It also describes the process of restoring the ECE 11.6(1) installation if the upgrade fails.

Updating Custom Chat Templates

Perform these tasks on the web server.

Steps for updating the template files vary based on the starting point of your custom templates:

- ▶ For updating templates created using **Aqua** template, see [page 31](#).
- ▶ For templates created using **Kiwi** template, see [page 34](#).

For Custom Templates Created From Aqua Template

To update the custom chat template files:

1. Merge the updates in the following files from the Aqua template folder with the files in the custom template folder. If a file does not exist in the customer template folder, copy it and paste it in:

- `ECE_Home\service\templates\chat\aquacomponents:`

- `alternate-contact-options`
- `alternate-engagement-options`
- `article-content`
- `article-toolbar`
- `attachment`
- `attachment-review`
- `chat-attach`
- `chat-initialize`
- `chat-unavailable-message`
- `cobrowse`
- `error-message`
- `escalation-search-results-list`
- `footer-small`
- `header-small`
- `launch-button`
- `message-input-horizontal`
- `post-chat-survey`
- `pre-chat-params-list`
- `status-bar`
- `thanks-message`
- `transcript`
- `video`

- wait-screen
- *ECE_Home*\eService\templates\chat\aquacss:
 - application.css
 - iframe-style.css
 - chat-main.less
- *ECE_Home*\eService\templates\chat\aquall10n:
 - da-DA.json
 - de-DE.json
 - en-US.json
 - es-ES.json
 - fr-CA.json
 - fr-FR.json
 - it-IT.json
 - ja-JP.json
 - ko-KR.json
 - nl-NL.json
 - pt-BR.json
 - pt-PT.json
 - ru-RU.json
 - sv-SV.json
 - zh-CN.json
 - messaging_da_DA.properties
 - messaging_de_DE.properties
 - messaging_en_US.properties
 - messaging_es_ES.properties
 - messaging_fr_CA.properties
 - messaging_fr_FR.properties
 - messaging_it_IT.properties
 - messaging_ja_JP.properties
 - messaging_ko_KR.properties
 - messaging_nl_NL.properties
 - messaging_pt_BR.properties
 - messaging_pt_PT.properties
 - messaging_ru_RU.properties
 - messaging_sv_SV.properties
 - messaging_zh_CN.properties
- *ECE_Home*\eService\templates\chat\aquallibs:
 - angular-bundle.min.js
 - angular-simple-sidebar.min.js
 - application.min.js

- `egain-angular-services.chat.min.js`
- `egain-chat-kiwi-template-controllers.min.js`
- `egain-chat-kiwi-template-factories.min.js`
- `egain-client-library.min.js`
- `egain-va-library.js`
- `handlebars.js`
- `jquery-2.1.3.min.js`
- `lokijs.min.js`
- `onetagutil.js`
- *ECE_Home*\eService\templates\chat\aqu\libs\css:
 - `angular-multi-select.min.css`
 - `angular-simple-sidebar.min.css`
 - `animate.min.css`
 - `bootstrap.min.css`
 - `ng-scrollbar.min.css`
- *ECE_Home*\eService\templates\chat\aqu\libs\videochat:
 - `OpenTok.js`
- *ECE_Home*\eService\templates\chat\aqu\libs\pages:
 - `chat-attach`
 - `chat-deflection`
 - `chat-initialize`
 - `chat-landing`
 - `chat-main`
 - `chat-unavailable`
 - `error`
 - `interaction`
 - `post-chat`
 - `pre-chat`
 - `thanks-message`
 - `va-landing`
 - `wait-screen`
- *ECE_Home*\eService\templates\chat\aqu\transcript:
 - `transcript.properties`
- *ECE_Home*\eService\templates\chat\aqu:
 - `index.html`

For Custom Templates Created From Kiwi Template

To update the custom chat template files:

1. Merge the updates in the following files from the **Kiwi** template folder with the files in the custom template folder. If a file doesn't exist in the customer template folder, copy it and paste it in:

- *ECE_Home*\eService\templates\chat\kiwi:
 - chat.html
 - eGainLiveConfig.js
 - eGainLiveHooks.js
- *ECE_Home*\eService\templates\chat\kiwi\chat\js:
 - altEngmt.js
 - attachment.js
 - chat.js
 - connection.js
 - core.js
 - deflection.js
 - editor.js
 - form-email_friend.js
 - header.js
 - login.js
 - messenger.js
 - multiselect.js
 - OneTagEvents.js
 - survey.js
 - utils.js
 - video.js
 - session.js
- *ECE_Home*\eService\templates\chat\kiwi\transcript:
 - transcript.properties
- *ECE_Home*\eService\templates\chat\kiwi\cobrowse\js:
 - cobrowse.js
- *ECE_Home*\eService\templates\chat\kiwi\chat\less:
 - chat-main.less
- *ECE_Home*\eService\templates\chat\kiwi\properties:
 - chat_da_DA.properties
 - chat_de_DE.properties
 - chat_en_US.properties
 - chat_es_ES.properties
 - chat_fr_CA.properties
 - chat_fr_FR.properties
 - chat_it_IT.properties
 - chat_ja_JP.properties
 - chat_ko_KR.properties
 - chat_nl_NL.properties

- chat_pt_BR.properties
 - chat_pt_PT.properties
 - chat_ru_RU.properties
 - chat_sv_SV.properties
 - chat_zh_CN.properties
 - messaging_da_DA.properties
 - messaging_de_DE.properties
 - messaging_en_US.properties
 - messaging_es_ES.properties
 - messaging_fr_CA.properties
 - messaging_fr_FR.properties
 - messaging_it_IT.properties
 - messaging_ja_JP.properties
 - messaging_ko_KR.properties
 - messaging_nl_NL.properties
 - messaging_pt_BR.properties
 - messaging_pt_PT.properties
 - messaging_ru_RU.properties
 - messaging_sv_SV.properties
 - messaging_zh_CN.properties
2. Copy and paste the following image files from the **Kiwi** template folder to your custom template folder:
- *ECE_Home*\eService\templates\chat\kiwi\chat\img:
 - chat_cust_attachment_icon.png
 - icon_attachment.png
 - icon_attachment_32.gif
 - icon_attachment_64.gif
 - icon_attachment_button.gif
 - icon_close.gif
 - icon_info.gif
 - icon_reject.gif
 - icon_reject_16.gif
 - icon_reject_24.gif
 - icon_reject_32.gif
 - icon_upload_32.gif
 - icon_upload_64.gif

Updating Finesse Files

Perform these tasks from any local machine. You will need access to the `agent.xml` file on the ECE web server.

To configure the Finesse settings and layout:

1. Launch the CCE Web Administration page, using the URL: `https://Server_Name/cceadmin/`. Login using the administrator credentials.

2. From Desktops Layout section, configure the layout for the Advisor Desktop gadget. XML contents for the gadget tab are available in the following files on the ECE web server:
`ECE_Home\service\templates\finesse\gadget\layout\agent.xml`

Upgrading Windows Server 2012 to Windows Server 2016



Important: All ECE servers must be upgraded to Windows 2016.

Backing Up VMs

- ▶ Take a backup of all the VMs where ECE server components are installed. The VM must be shutdown before taking a backup.

Upgrading Windows Server Version

- ▶ On all ECE servers, upgrade Windows 2012 R2 to Windows 2016. Follow Microsoft documentation to complete this task. While doing the upgrade, make sure you select the following options:
 - **Server with Desktop Experience**
 - **Keep personal files and apps**

Starting IIS

- ▶ Start IIS (World Wide Web Publishing Service) on the web server.

Starting ECE 12.0(1)



Important: Note that as part of the start-up process, the application runs a self-scan to validate signatures of all application binaries and application databases. If the binary files or application databases are altered in anyway, the application will not start.

To start ECE 12.0(1):

- ▶ On the ECE server, start the Cisco service from the Windows Services panel.

On starting the application, if you notice high CPU usage (more than 90%) for the SQL Full-text Daemon Launcher service on the active database, stop the service and run it during low volume periods. The CPU usage can be checked from the **Resource Monitor**. For details, see [“Troubleshooting High CPU Usage on Database Server After Upgrade” on page 38](#).

Removing Archive Database from ECE Server

- ▶ ECE 12.0(1) does not use the archive database that was available in ECE 11.6(1). After upgrade to ECE 12.0(1) is completed successfully, you *must remove* the archive database from the ECE server to free up hard disk space. You can keep a backup copy of the database on a separate machine. If you chose to create a data link to the archive database at the time of upgrade ([page 25](#)), you would have already restored the archive database on a separate machine.

Configuring Mandatory Global Setting

- ▶ Ensure that the global level setting **Web server URL or Load Balancer URL** is configured. This is required for configuring chat entry points. For details about doing this task, see the *Enterprise Chat and Email Administrator's Guide*.

Setting up User Desktops

- ▶ Clear the web browser cache on every user desktop.

Configuring SSO for Partition Administrators

- ▶ Configure single sign-on for partition administrators that are auto-provisioned in ECE when they access the ECE gadget in the CCE Admin Web interface. For details about doing this task, see the *Enterprise Chat and Email Administrator's Guide (For PCCE)*.

Updating Supervisor Users in Packaged CCE

With ECE 12.0(1), integrated supervisors are now defined only in Packaged CCE. When such users are imported in ECE, the Supervisor Role is automatically assigned to the user. Before upgrade, if a user is only assigned the supervisor role in ECE and not marked Supervisors in Packaged CCE, they will not be able to access the Supervision Console after upgrade.

At the time of update, a list is generated and is available at the following location on the file server: `ECE_Home\eService\installation\logs\supervisors.txt`. If you want these users to continue to be supervisors in the ECE application, you must mark them supervisors in Packaged CCE.

Assigning Permissions on Data Adapters for Archive Database

You need to perform this task only if you created data adapters while upgrading from ECE 11.6(1) to ECE 12.0(1) ([page 24](#)) and you want your agents to have access to the archived activities and cases available in the archive database.

- ▶ From the Administration Console, go to the Data Adapters section in each department and give permissions to agents who should be able to access the data access links created for the archive database. For details about doing this task, see *Administrator's Guide to Data Adapters*.

Troubleshooting Procedures

Troubleshooting High CPU Usage on Database Server After Upgrade

Under certain conditions, on starting the application, the SQL Full-text Daemon Launcher service starts using high CPU (more than 90%) on the active database.

To troubleshoot the high CPU usage issue:

1. From the **Resource Monitor**, check the CPU usage for the SQL Full-text Daemon Launcher service.
2. If the CPU usage is high, stop the **SQL Full-text Daemon Launcher** service from the Windows Services panel. Run the service during low volume periods and monitor the CPU usage from the **Resource Monitor**. Once you notice that the service is no longer consuming high CPU, leave the service in **Running** state.

Viewing Log Files

- ▶ If any error occurs while upgrading the installation, error messages are logged in the following:
 - `ECE_Home\eService\installation\logs\eg_log_File_Server_upgrade-installer.log`
 - `ECE_Home\eService\installation\logs\eg_log_Web_Server_upgrade-installer.log`

Restoring ECE 11.6(1) Installation

If you encounter any problems while upgrading, you can restore the ECE 11.6(1) installation and run the Upgrader again.

To restore the ECE 11.6(1) installation:

1. Restore the ECE 11.6(1) installation. The backup copies are available at *ECE_Home\Patches\Backup\Pre_Upgrade_Version\File Server*. Perform this task on the ECE server and web server.
2. On the ECE server machine, enable the reports job `populatesmy_Reports_Database_Name`. Perform this task only if you are not running the upgrader again and plan to continue using the ECE 11.6(1) installation.
3. Before running the Upgrader again, ensure that you restore the database copies on the SQL 2016 machine again ([page 19](#)).

Uninstalling ECE 12.0(1)

The uninstallation program guides you through the process of uninstalling ECE 12.0(1). The uninstallation should be done on the ECE server and web server.

The update uninstallation program should be used only if ECE 12.0(1) was installed successfully. If there were any issues while running the Upgrader, and you want to restore the ECE 11.6(1) installation, follow the steps in the section [“Restoring ECE 11.6\(1\) Installation” on page 39](#).

Preparing to Uninstall

Verifying Availability of Backed-up VMs and Restoring the VMs

1. Before uninstalling the update, ensure that you have a backup of the VMs that was taken before updating the OS from Windows 2012 to Windows 2016 ([page 36](#)).
2. Restore the backed up copies of the VMs.

Stopping the Application

To stop the application:

- ▶ On the ECE server, stop the Cisco service from the Windows Services panel.

Stopping IIS

- ▶ Stop IIS (World Wide Web Publishing Service) on the web server.

Verifying Availability of Backed-up Databases

- ▶ Before uninstalling the update, ensure that you have a backup of the database on which the update was installed ([page 19](#)).

Uninstalling ECE 12.0(1)

To uninstall ECE 12.0(1):

1. Navigate to `ECE_Home\Uninstaller\patches` and launch the `Upgrade_uninstaller.exe`
2. In the Introduction window, verify that all the information mentioned is correct click on the confirmation checkbox and then Click the **Next** button.
3. In the Domain User Details window, provide the domain user name and password. Click **Next**. This window appears while running the Upgrader on the web server.
4. In the Uninstall Enterprise Chat and Email window, click the **Uninstall** button.
5. Restore the active, master, and archive databases from the backup location ([page 19](#)). Make sure that you restore the backup of the database for the last version of the product on which ECE 12.0(1) was installed.

Appendix A: Pre-Upgrade Utilities

- ▶ [About the Utilities](#)
- ▶ [Database Pre-Check Utility](#)
- ▶ [Database DBUpdate Utility](#)

About the Utilities

The Upgrader comes with two utilities, DB PreCheck Utility and DBUpdate Utility, that can be run before doing the actual upgrade.



Important: It is highly recommended that you run these utilities before running the actual Upgrader on your installation. Please contact Cisco TAC if any issues are identified by these utilities.

- ▶ The **DB PreCheck Utility** checks if there is any data in the databases that will cause the upgrade to fail. If any such issues are found, it logs them in a file. This utility also detects the disk space required on the database servers to run the upgrader successfully. For details about running this utility, see [“Running DB Pre-Check Utility” on page 43](#).
- ▶ The **DBUpdate Utility** actually upgrades the standalone copies of the databases and will report if the upgrade can fail because of any database issues. For details about running this utility, see [“Running DBUpdate Utility” on page 46](#).

Database Pre-Check Utility

Preparing to Run the Utility

Installing JDK

- ▶ Install JDK 1.8 Update 65 or higher on the machines from where you are going to run the utilities.

Backing up and Restoring a Copy of Active Database



Important: You need to perform this task only if your installation uses the Standard Edition of MSSQL.

1. For installations using Standard edition of MSSQL 2014, backup and restore a copy of the active database and give it a different name than the active database, for example, `reportsdb`.
2. Create a database user for the active database restored as the reports database. This information will be required while configuring the DBPreCheck Utility ([page 43](#)). Scripts and instructions to create the users are available in the upgrade package in the `Utilities\DBPrecheck\windows-mssql\LoginCreationScripts` folder.

Configuring Database URLs

To be able to run the utility, you have to configure database URLs for the ECE 11.6(1) databases. This section describes the format of these URLs. You will require these URLs while configuring the utilities ([page 43](#)).

Configure URLs for the following databases:

- ▶ Master database
- ▶ Active database
- ▶ Reports database (for installations using Standard edition of MSSQL 2014, this will be the copy of the active database restored as reports database ([page 42](#)))

To configure the database URLs:

The database URLs are configured in the format:

```
jdbc:sqlserver://Server_Name:Port_Number;instanceName=Instance_Name;integratedSecurity=true_or_false;databaseName=Database_Name
```

Where:

- ▶ *Server_Name*: Name of the server where the ECE 11.6(1) databases are installed.
- ▶ *Port_Number*: The port number for the MSSQL server. The default port is 1433.
- ▶ *Instance_Name*: The name of the MSSQL instance for the database. The default instance is MSSQLSERVER.
- ▶ *integratedSecurity*: Set the value to `true` if you are using Windows Authentication to connect to the database. Set the value to `false` if you are using the SQL Server Authentication mode.
- ▶ *Database_Name*: Name of the ECE 11.6(1) database.

For example, the database URL will look like:

```
jdbc:sqlserver://productDB:1433;instanceName=mssqlserver;integratedSecurity=true;databaseName=ActiveDB
```

Running DB Pre-Check Utility

This utility needs to be run on the *actual* ECE 11.6(1) databases. The application does not have to be stopped to run the DB Pre-check utility. You need to have access to the ECE 11.6(1) database servers from the machine you are trying to run this utility.

To run the DB Pre-Check utility:

1. Create a temporary folder, *Temporary_Folder*.
2. From the upgrade files, copy the `Utilities\DBPrecheck\windows-mssql` folder into *Temporary_Folder*.
3. Open the `Temporary_Folder\Utilities\DBPrecheck\windows-mssql\standalone.properties` file in a text editor and set the following properties.
 - `ACTIVE_DATABASE_URL`: Provide the active database URL. For the format of the URL, see [“Configuring Database URLs” on page 43](#).
 - `MASTER_DATABASE_URL`: Provide the master database URL. For the format of the URL, see [“Configuring Database URLs” on page 43](#).

- `REPORTS_DATABASE_URL`: Provide the reports database URL. For the format of the URL, see [“Configuring Database URLs” on page 45](#).

Set the following four properties only if you are using SQL Server Authentication to connect to the active database.

- `ACTIVE_ADMIN_USER`: User name of the database administrator for MSSQL Server. Any database administrator with the following roles can be used: `dbcreator`, `securityadmin`, `sysadmin`.
- `ACTIVE_ADMIN_PASS`: Password of the database administrator.
- `ACTIVE_USER`: Database username of the active database.
- `ACTIVE_PASS`: Database password of the active database.

Set the following four properties only if you are using SQL Server Authentication to connect to the master database.

- `MASTER_ADMIN_USER`: User name of the database administrator for MSSQL Server. Any database administrator with the following roles can be used: `dbcreator`, `securityadmin`, `sysadmin`.
- `MASTER_ADMIN_PASS`: Password of the database administrator.
- `MASTER_USER`: Database username of the master database.
- `MASTER_PASS`: Database password of the master database.

Set the following four properties only if you are using SQL Server Authentication to connect to the database.

- `REPORTS_ADMIN_USER`: User name of the database administrator for MSSQL Server. Any database administrator with the following roles can be used: `dbcreator`, `securityadmin`, `sysadmin`.
- `REPORTS_ADMIN_PASS`: Password of the database administrator.
- `REPORTS_USER`: Database username of the reports database.
- `REPORTS_PASS`: Database password of the reports database.

4. Open the `Temporary\Folder\Utilities\DBPrecheck\windows-mssql\DBPrecheck.bat` file in a text editor and set the following properties:
 - Locate the `SET JAVA_HOME` property and set the value to the location where JDK 1.8 Update 65 or higher is installed on your machine ([page 42](#)). For example, `C:/Java/jdk1.8.0_65`.
5. Double-click `DBPrecheck.bat` to launch the utility. You will be notified when the pre-check finishes.
 - If the utility fails to execute because of any configuration issues, error messages are logged in the `upgrade_db.log`. Fix the properties configured in the `standalone.properties` and `DBPrecheck.bat` files and try to run the utility again.
 - If the DB pre-check utility identifies any issues, all the log messages are logged in the log file `egpl_precheck.log`. Please contact Cisco TAC if any issues are identified by the utility.

The log files are created at the same location from where you launch the utility.

Database DBUpdate Utility

Preparing to Run the Utility

Installing JDK

- ▶ Install JDK 1.8 Update 65 or higher on the machines from where you are going to run the utilities.

Restoring Databases

The DBUpdate utility should always be run on copies of databases and not on the actual databases for your installation. While restoring the databases, make sure that edition of MSSQL 2016 database server matches the edition you plan to use for ECE 12.0(1).

To restore the databases:

- ▶ Create a copy of the following databases to be used by the utility:
 - Master database
 - Active database.
 - Restore a second copy of the active database and give it a different name than the active database, for example, `reportsdb`. The utility will do a test upgrade run on this copy to convert it to the reports database.

Creating Database Users for ECE Databases

- ▶ Create database users for the restored ECE 11.6(1) databases. This information will be required while configuring the DBUpdate Utility ([page 46](#)). Scripts and instructions to create the users are available in the upgrade package in the `Utilities\DBUpdate\windows-mssql>LoginCreationScripts` folder.

Configuring Database URLs

To be able to run the utility, you have to configure database URLs for the restored databases. This section describes the format of these URLs. You will require these URLs while configuring the utilities ([page 46](#)).

Configure URLs for the following databases:

- ▶ Master database
- ▶ Active database
- ▶ Reports database

To configure the database URLs:

The database URLs are configured in the format:

```
jdbc:sqlserver://Server_Name:Port_Number;instanceName=Instance_Name;integratedSecurity=true_or_false;databaseName=Database_Name
```

Where:

- ▶ *Server_Name*: Name of the server where you have restored the database.
- ▶ *Port_Number*: The port number for the MSSQL server. The default port is 1433.
- ▶ *Instance_Name*: The name of the MSSQL instance used to restore the database. The default instance is MSSQLSERVER.
- ▶ *integratedSecurity*: Set the value to `true` if you are using Windows Authentication to connect to the database. Set the value to `false` if you are using the SQL Server Authentication mode.
- ▶ *Database_Name*: Name of the restored database.

For example, the database URL will look like:

```
jdbc:sqlserver://productDB:1433;instanceName=mssqlserver;integratedSecurity=true;databaseName=ActiveDB
```

Running DBUpdate Utility

To run the DBUpdate utility:

1. Create a temporary folder, *Temporary_Folder*.
2. From the upgrade files, copy the `Utilities\DBUpdate\windows-mssql` folder into *Temporary_Folder*.
3. Open the `Temporary_Folder\Utilities\DBUpdate\windows-mssql\standalone.properties` file in a text editor and set the following properties:
 - `ACTIVE_DATABASE_URL`: Provide the active database URL. For the format of the URL, see [“Configuring Database URLs” on page 45](#).
 - `MASTER_DATABASE_URL`: Provide the master database URL. For the format of the URL, see [“Configuring Database URLs” on page 45](#).
 - `REPORTS_DATABASE_URL`: Provide the reports database URL. For the format of the URL, see [“Configuring Database URLs” on page 45](#).



Important: Make sure you provide information for all four file groups for the active DB and the reports DB.

- `ACT_DB_FG1_NAME`: Provide the name of the first file group to be created for the active database.
- `ACT_DB_FG1_DATAFILE_PATH`: Provide the location for the first filegroup.
- `ACT_DB_FG2_NAME`: Provide the name of the second file group to be created for the active database.
- `ACT_DB_FG2_DATAFILE_PATH`: Provide the location for the second filegroup.
- `ACT_DB_FG3_NAME`: Provide the name of the third file group to be created for the active database.
- `ACT_DB_FG3_DATAFILE_PATH`: Provide the location for the third filegroup.
- `ACT_DB_FG4_NAME`: Provide the name of the fourth file group to be created for the active database.

- ACT_DB_FG4_DATAFILE_PATH: Provide the location for the fourth filegroup.
- REPORTS_DB_FG1_NAME: Provide the name of the first file group to be created for the Reports database.
- REPORTS_DB_FG1_DATAFILE_PATH: Provide the location for the first filegroup.
- REPORTS_DB_FG2_NAME: Provide the name of the second file group to be created for the reports database.
- REPORTS_DB_FG2_DATAFILE_PATH Provide the location for the second filegroup.
- REPORTS_DB_FG3_NAME Provide the name of the third file group to be created for the reports database.
- REPORTS_DB_FG3_DATAFILE_PATH: Provide the location for the third filegroup.
- REPORTS_DB_FG4_NAME: Provide the name of the fourth file group to be created for the reports database.
- REPORTS_DB_FG4_DATAFILE_PATH: Provide the location for the fourth filegroup.

Set the following four properties only if you are using SQL Server Authentication to connect to the active database.

- ACTIVE_ADMIN_USER: User name of the database administrator for MSSQL Server. Any database user with the following roles can be used: `dbcreator`, `securityadmin`, `sysadmin`.
- ACTIVE_ADMIN_PASS: Password of the database administrator.
- ACTIVE_USER: Database username of the active database ([page 45](#)).
- ACTIVE_PASS: Database password of the active database.

Set the following four properties only if you are using SQL Server Authentication to connect to the master database.

- MASTER_ADMIN_USER: User name of the database administrator for MSSQL Server. Any database administrator with the following roles can be used: `dbcreator`, `securityadmin`, `sysadmin`.
- MASTER_ADMIN_PASS: Password of the database administrator.
- MASTER_USER: Database username of the master database ([page 45](#)).
- MASTER_PASS: Database password of the master database.

Set the following two properties only if you are using SQL Server Authentication to connect to the reports database.

- REPORTS_ADMIN_USER: User name of the database administrator for MSSQL Server. Any database administrator with the following roles can be used: `dbcreator`, `securityadmin`, `sysadmin`.
- REPORTS_ADMIN_PASS: Password of the database administrator.
- REPORTS_USER: Database username of the reports database ([page 45](#)).
- REPORTS_PASS: Database password of the reports database.

4. Open the *Temporary_Folder*\Utilities\DBUpdate\windows-mssql\DBUpdate.bat file in a text editor and set the following properties:
 - Locate the `SET JAVA_HOME` property and set the value to the location where JDK 1.8 Update 65 or higher is installed on your machine ([page 45](#)). For example, `C:/Java/jdk1.8.0_65`.
5. Double-click `DBUpdate.bat` to launch the utility. You will be notified when the upgrade finishes.

- If the utility fails to execute because of any configuration issues, error messages are logged in the `upgrade_db.log`. Fix the properties configured in the `standalone.properties` and `DBUpdate.bat` files and try to run the utility again.
- If the upgrade fails, all the log messages are logged in the log file `upgrade_db.log`. Please contact Cisco TAC if the upgrade fails.

The log files are created at the same location from where you launch the utility.