Oracle® MICROS Simphony

Installation Guide

Release 19.1

F15056-07

March 2021

ORACLE

Oracle MICROS Simphony Installation Guide, Release 19.1

F15056-07

Contents

Preface

Audience

This installation guide is intended for installers, programmers, technical support teams, product specialists, and others who are responsible for installing the Oracle Hospitality Simphony 19.1 release.

Customer Support

To contact Oracle Customer Support, access My Oracle Support at the following URL:

https://support.oracle.com

When contacting Customer Support, please provide the following:

- Product version and program/module name
- Functional and technical description of the problem (include business impact)
- Detailed step-by-step instructions to re-create
- Exact error message received and all associated log files
- Screen shots of each step you take

Documentation

Once Simphony has been installed, for information about accessing the Simphony Enterprise Management Console (EMC) or when performing Simphony upgrades on existing systems, see the *Oracle Hospitality Simphony Post-Installation or Upgrade Guide*, specifically the **EMC Access Security** chapter.

Product documentation is available on the Oracle Help Center at https://docs.oracle.com/en/industries/food-beverage/pos.html.

Revision History

Date	Description of Change
January 2020	Initial publication.
February 2020	Updated compatibility information in *Getting Started* and *Installing Reporting and Analytics*.
April 2020	Updated several areas in the *Pre-Installation Tasks* chapter to reference the *Oracle Food and Beverage Compatibility Matrix*, rather than listing database platforms.

Date	Description of Change
July 2020	Updated the following topics for Simphony release 19.1.2: • Chapter 1: Getting Started • Chapter 2: Pre-Installation Tasks • Chapter 3: Simphony Installation • Chapter 4: Post-Installation Tasks • List of Simphony Components and Services
October 2020	Updated the tasks located in the Post-Installation Tasks chapter.
March 2021	Updated the tasks located in the Pre-Installation chapter.

1
Getting Started

This guide provides instructions on how to perform a fresh installation and configure the Simphony 19.1 release.

Install R&A separately from Simphony using the Back Office R&A installation application. The *Oracle Food & Beverage Compatibility Matrix* provides more information on compatibility between R&A and Simphony.

For Simphony Cloud Services users, refer to the *Simphony Cloud Services Post-Installation or Upgrade Guide* for more about the required steps to take both before and after performing an installation or upgrade.

About Simphony Release Numbers

Simphony releases are categorized by numeric segments that indicate release information.

A release in a calendar year starts with the last two digits of the calendar year. For example, if the release year is 2018, the release version starts with 18. If the release year is 2019, the release version starts with 19. Previously, release versions were in this format: 2.10.X.

A minor release can occur in the year that follows the major release. For example, there can be an 18.X minor release in 2019 to support the major release from 2018.

Release versions are in the format [NN].[N].[N].[X].[XXXX], where:

- N is a number
- X is a wild-card number
- Changes made at the major level include architectural changes to the application
- The first [NN] represents the year of the release
- Changes made at the minor level include minor changes to the application

Additional hardware platform and operating system support can be added at the minor level.

For functional changes to the product with no changes in the operating system or security of the application:

- Changes at an interim level are represented by a wild-card (X).
- Changes made at the build level are daily changes that include partial or full changes made on a daily basis. Changes at this level are not represented or shown on the released product.

Simphony Deployment Process

The following high-level steps comprise the Simphony deployment process.

1. Select the deployment scenario that aligns with the Reporting and Analytics (R&A) release to be used.

   Before installation and configuration, determine which deployment scenario meets your requirements. See Implementation Deployment Scenarios for more information about the minimum requirements based on the implementation scenario that is deployed.

2. Install the database server application.

   The database platform must be installed prior to installing Simphony application components. See the Oracle Food and Beverage Compatibility Matrix for more information about the supported database platforms.

3. Install or upgrade R&A.

   Run the Simphony 19.1 release installation application to perform a fresh installation, upgrade, or upon adding application or database servers. List of Simphony Components and Services contains more installation information.

4. Install Simphony.

5. Configure Post-installation Settings to ensure that the application components and the database are configured correctly after installation.

6. Log in to EMC to ensure that the Simphony application and the database applications are set correctly.

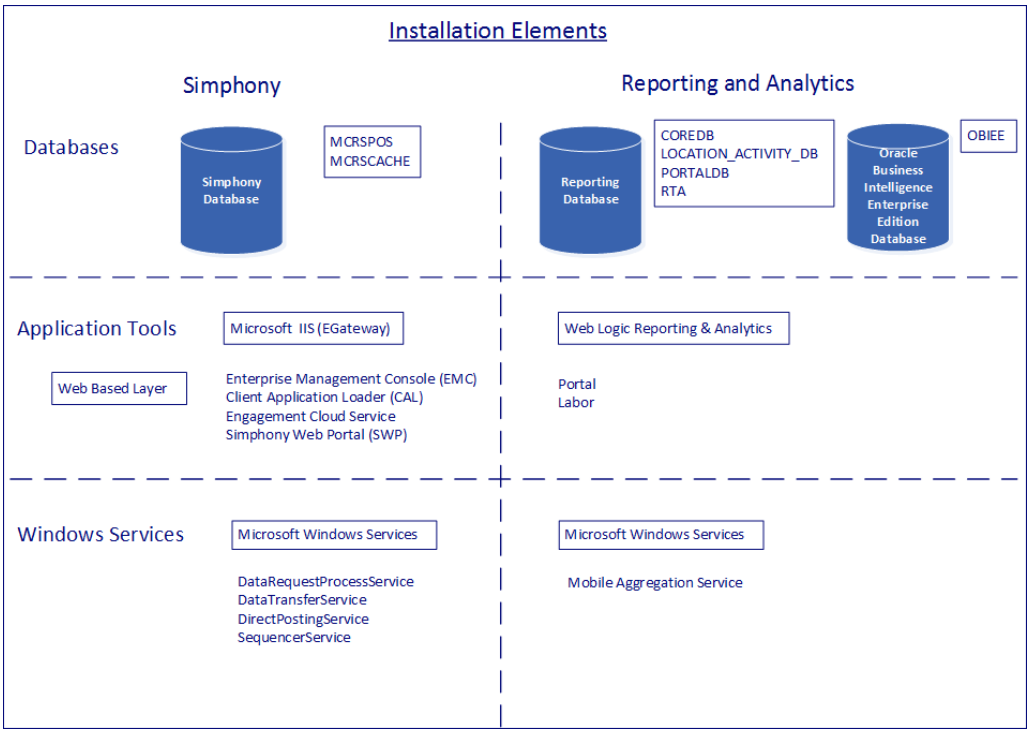
- Implementation Deployment Scenarios

Implementation Deployment Scenarios

Simphony and Reporting and Analytics Installation Elements

Here are the required installation elements for implementing Simphony release 18.2 along with Reporting and Analytics release 9.1.

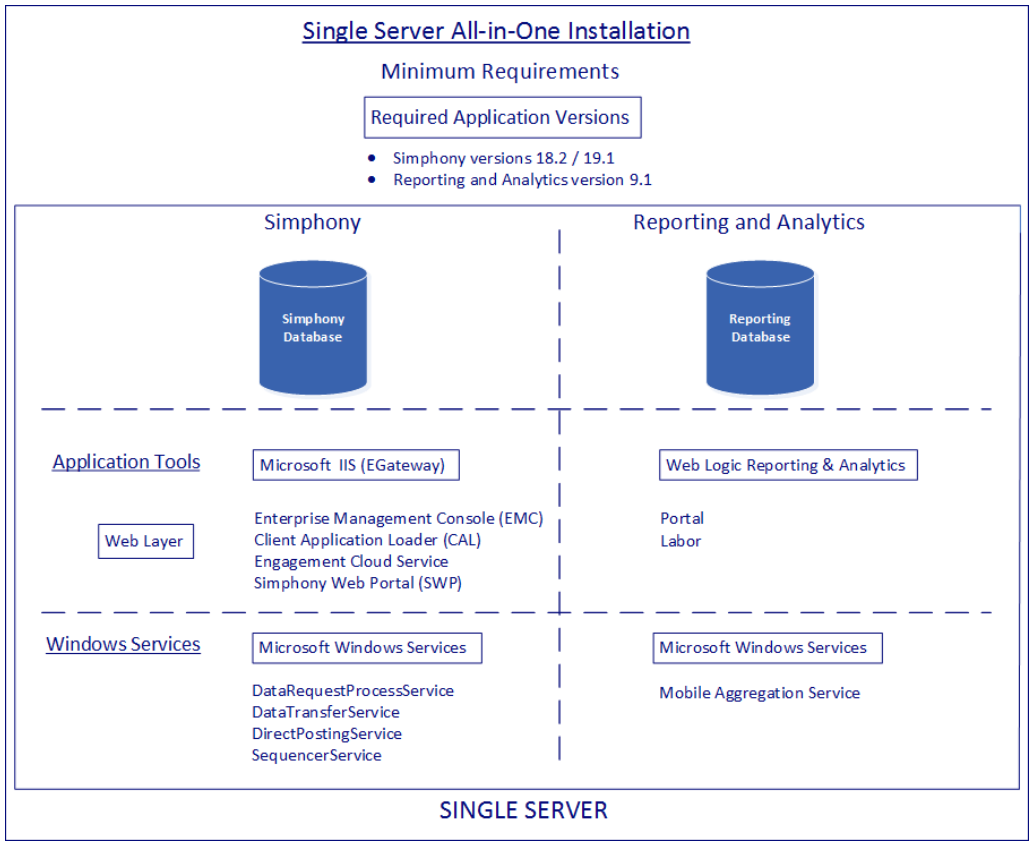
Figure 1-1 Simphony and Reporting and Analytics Installation Elements



Single Server All-in-One Installation

Here are the minimal installation requirements for a single server implementation of Simphony release 19.1 and Reporting and Analytics release 9.1.

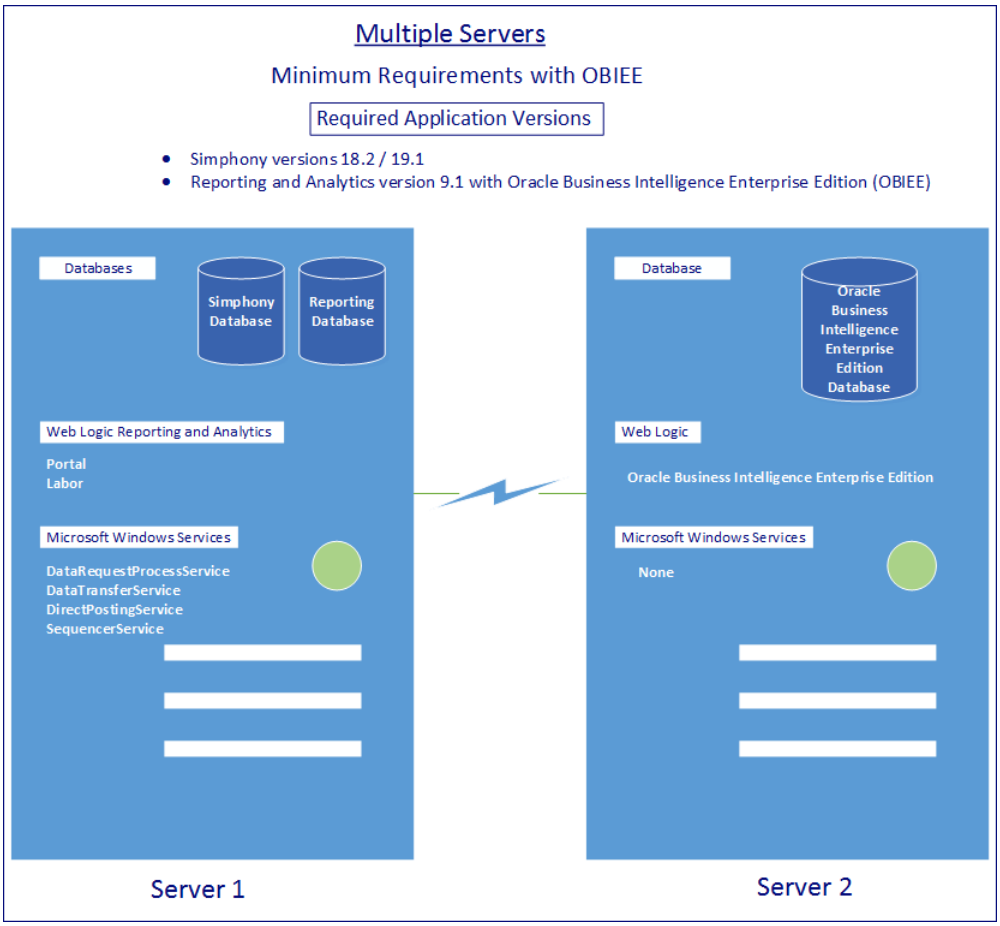
Figure 1-2 Single Server All-in-One Deployment



Multiple Server Installation

Here are the minimal installation requirements for a multiple server implementation of Simphony release 19.1 and Reporting and Analytics release 9.1.

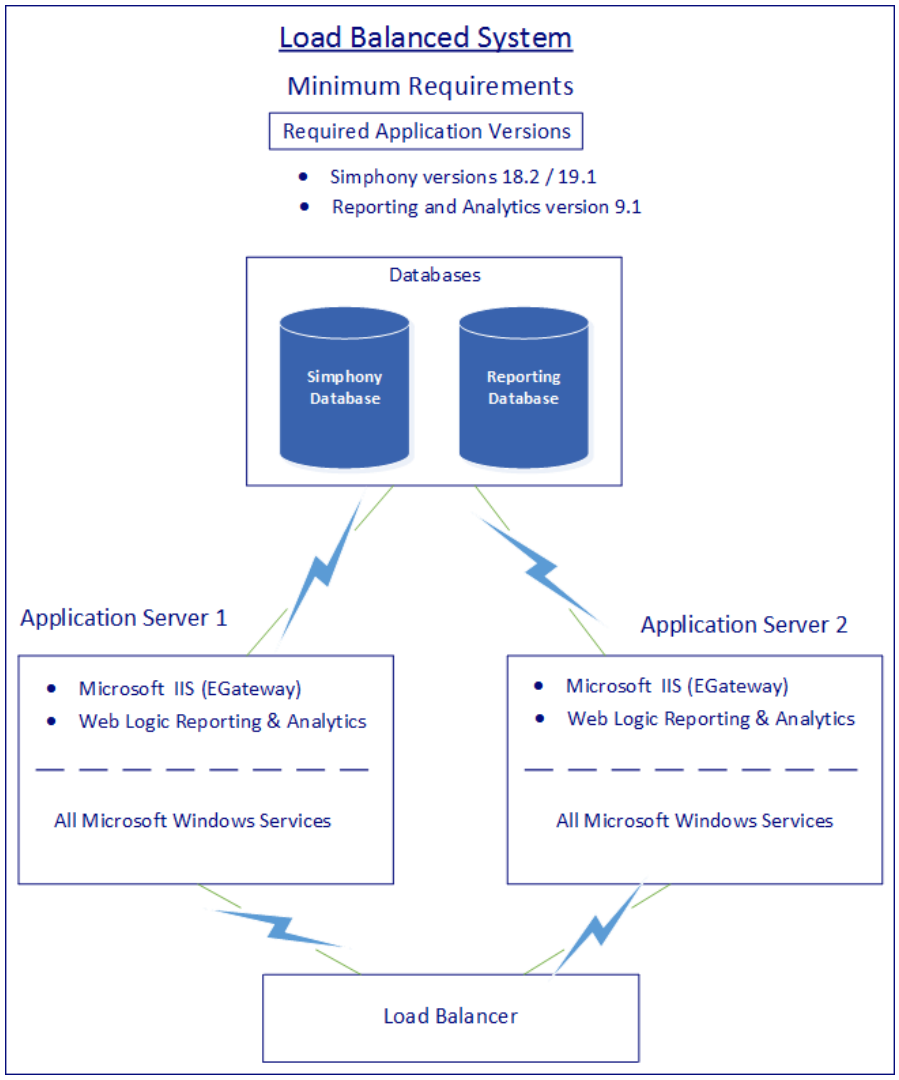
Figure 1-3 Multiple Server Deployment



Multiple Server Load Balanced System

Here are the minimal installation requirements for a multiple server load balanced system implementation of Simphony release 19.1 and Reporting and Analytics release 9.1.

Figure 1-4 Multiple Server Load Balanced Deployment



2
Pre-Installation Tasks

The following table lists the database platform pre-installation tasks that must be performed on the Simphony application and database server (or servers).

If you are performing an upgrade from a version prior to the Simphony 19.1 release (or importing a database after a fresh installation), see the Cloud Services Post-Installation or Upgrade Guide (specifically the **Simphony Upgrade Procedures** section) for important pre-upgrade task information.

Table 2-1 Pre-Installation Tasks for Simphony Release 19.1

Pre-Installation Task	Instructions
Obtain the Simphony and Reporting and Analytics (R&A) software installation media and the latest patch set software (as needed). Install R&A separately from Simphony using the Enterprise Back Office R&A installation application.	For instructions on obtaining software, see Obtaining Installation and Patch Set Software. See the *Enterprise Back Office Installation Guide*, specifically the **Installing Reporting and Analytics** section for installation instructions.
Obtain and install a database platform on the database server (or servers)	See the Oracle Food and Beverage Compatibility Matrix for more information about supported databases. Oracle Database users must manually create Tablespaces for the database. See After Installing Oracle Database 18c for information about creating Tablespaces. For instructions on installing and setting up the Oracle Database, see Installing Oracle Database 18c.
Grant PUBLIC access for the DBMS_LOB and DBMS_SCHEDULER on the database server	The Simphony installer requires access to execute certain Oracle database packages for which public privileges are not granted. This makes it necessary to request that temporary public access be granted for the installation to run successfully, after which the public grant can be revoked and a specific schema grant be created. Before performing a new installation, using Oracle SQL Developer, execute the following requests: • GRANT EXECUTE ON DBMS_LOB TO PUBLIC • GRANT EXECUTE ON DBMS_SCHEDULER TO PUBLIC Before performing an upgrade, using Oracle SQL Developer, execute the following request: • GRANT EXECUTE ON DBMS_SCHEDULER TO PUBLIC Refer to the Oracle Database Security Guide for more information.

Table 2-1 (Cont.) Pre-Installation Tasks for Simphony Release 19.1

Pre-Installation Task	Instructions
Install the Oracle Database Client on your Simphony application servers that matches the version of Oracle Database your database servers are running	Regardless of the Oracle Database version you are using, install or update your Oracle Database Client (on your Simphony application servers) to match the version of Oracle Database that is installed on your database server. Oracle Database Client Installation contains more information about installing the Oracle Database Client.
Install and configure Microsoft Internet Information Services (IIS)	Microsoft IIS needs to be installed and configured on each Simphony and Reporting and Analytics (R&A) application server. Microsoft IIS is required to be installed in order to initiate the process to obtain and install secure certificates as outlined in the next step. See Installing Microsoft Internet Information Services (IIS) and Windows Communication Foundation (WCF) Features for information about configuring IIS for a Simphony system.
Obtain Certificate Authority issued certificates for use with Simphony and R&A	From within Microsoft IIS, initiate a Certificate Signing Request (CSR) to obtain and install a TLS 1.2 compliant Certificate Authority (CA) issued secure certificate on each Simphony application and R&A server. CA issued certificates are required to be installed. Self-signed certificates are not supported. For information about requesting and installing secure certificates, see Creating a Certificate Signing Request and Completing a Secure Server Certificate Installation.
Configure Log File Rollover options for Internet Information Services (IIS)	For instructions on configuring log file rollover options, refer to the Microsoft TechNet Library and search the site using: **Configure Log File Rollover Options** as the search phrase.
Install Microsoft .NET 4.6.2 Framework	Run the Microsoft .NET 4.6.2 Framework setup from the Simphony installation media by accessing and navigating to the:`Prerequisites \DotNetFramework462` folder, following the on-screen instructions.
Turn on Data Execution Prevention (DEP)	To enable DEP on servers, open a Command Prompt as an Administrator and execute this command: **bcdedit.exe /set {current} nx AlwaysOn** and then restart the server.
Temporarily disable anti-virus software from the application and database servers just before the installation	Simphony can silently fail to install due to anti-virus software. Temporarily disable or add exclusions for anti-virus software on Simphony and database servers just before installing Simphony. You can re-enable the anti-virus software after Simphony applications and databases are installed.

- Obtaining Installation and Patch Set Software

- Installing Microsoft Internet Information Services (IIS) and Windows Communication Foundation (WCF) Features
- Requesting and Installing Secure Certificates
- Database Platform Installation
- Installing Reporting and Analytics
- Enabling Communication Between the Enterprise and Workstations
- List of Simphony Database Configuration Fields

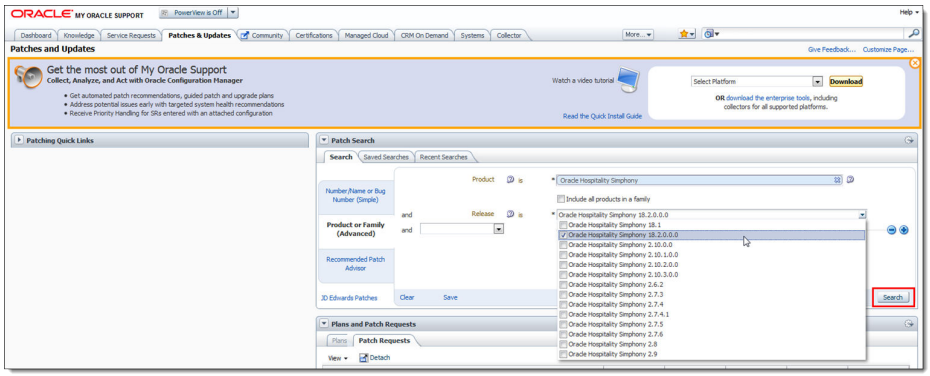
Obtaining Installation and Patch Set Software

To obtain software installation media, click here: Oracle Software Delivery Cloud (OSDC).

A Demo is available on the OSDC page that reviews the software download process if you require more information.

1. To download the Simphony software:
    a. Sign In (or register) on the home page.
    b. Enter **Simphony** in the **Search** field.
    c. Select the latest release of **Oracle Hospitality Simphony**, and then click **+ Add to Cart**.
    d. Click **View Cart** and follow the instructions there.
2. To download the Reporting and Analytics software:
    a. Enter **Reporting and Analytics** in the **Search** field.
    b. Select the latest release of **Oracle Hospitality Reporting and Analytics**, and then click **+ Add to Cart**.
    c. Click **View Cart** and follow the instructions there.
3. To obtain the latest software patch for Simphony or Reporting and Analytics, click here: My Oracle Support (MOS).
    a. Sign In (or register) on the home page.
    b. Click the **Patches & Updates** tab on the toolbar.
    c. In the **Patch Search** section, on the **Search** tab, enter **Oracle Hospitality Simphony** in the **Product** field.

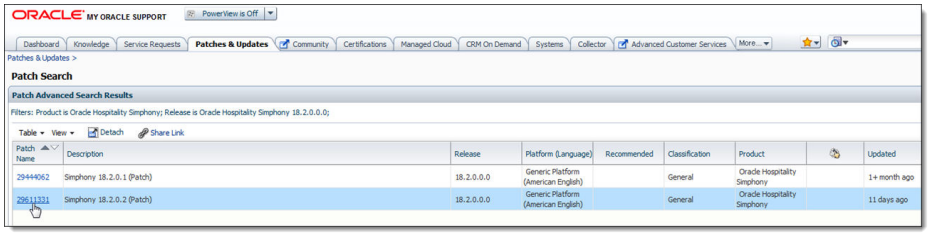
Figure 2-1 MOS Patches and Updates — Simphony Patch Search



d. Click the drop-down list from the **Release** field, select the latest patch for that release, and then click **Search**.

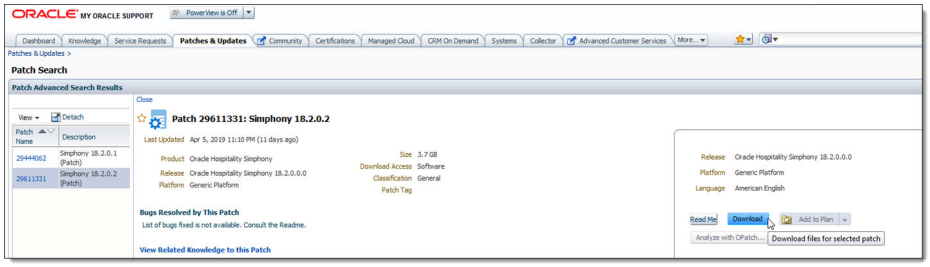
e. In the results area, select the latest patch set from the **Patch Name** column.

Figure 2-2 MOS Patches and Updates — Simphony Patch Advanced Search Results



f. To obtain the patch software, click the **Download** button. The **File Download** window appears.

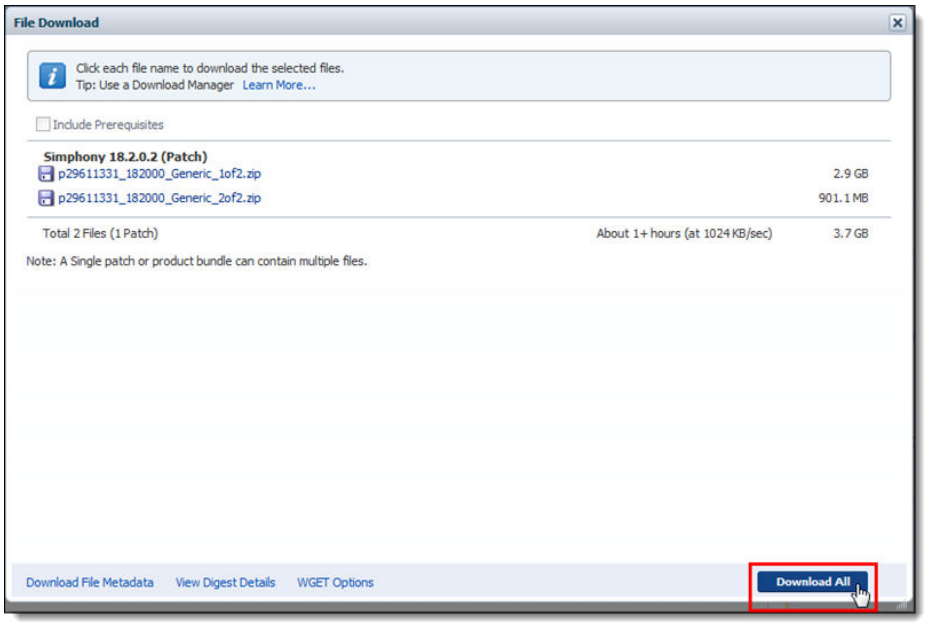
Figure 2-3 MOS Patches and Updates — Simphony Patch Download and Read Me Documentation Access



g. To read about the fixes included in the patch set, click the **Read Me** button.

h. To complete the download process, click the **Download** or **Download All** button.

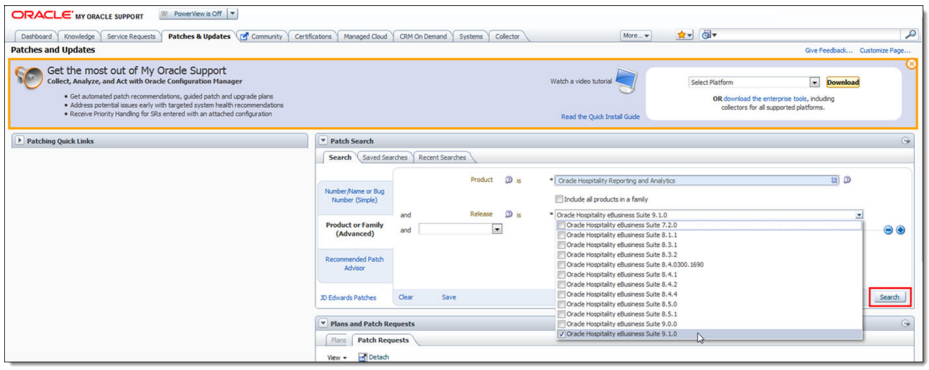
Figure 2-4 MOS — File Download



4. To obtain the latest Reporting and Analytics patch set:

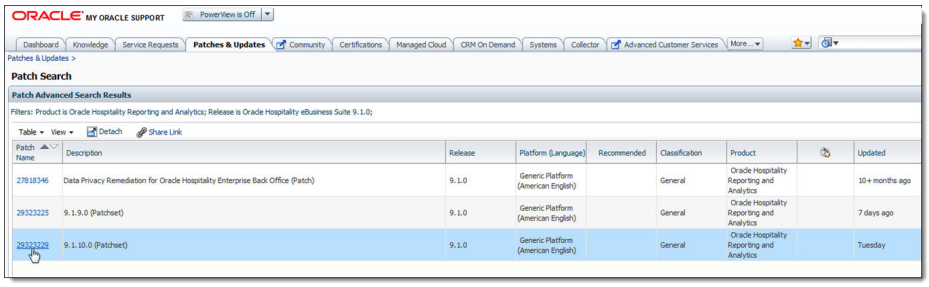
   a. In the **Patch Search** section, on the **Search** tab, enter **Oracle Hospitality Reporting and Analytics** in the **Product** field.

Figure 2-5 MOS Patches and Updates — Reporting and Analytics Patch Search



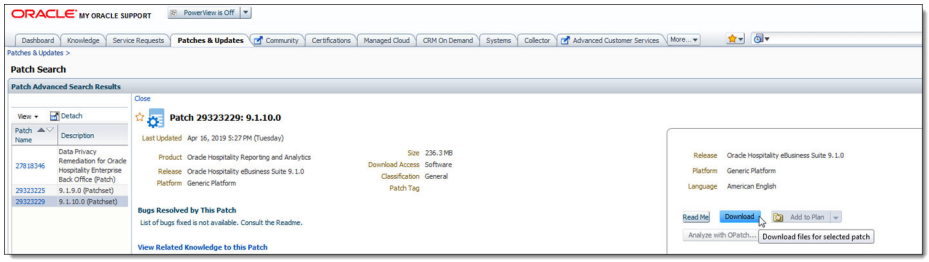
   b. Click the drop-down list from the **Release** field, select the latest patch for that release, and then click **Search**. In the results area, select the latest patch set from the **Patch Name** column.

Figure 2-6 MOS Patches and Updates — Reporting and Analytics Patch Advanced Search Results



c. To obtain the patch set software, click the **Download** button. The **File Download** window appears.

Figure 2-7 MOS Patches and Updates — Reporting and Analytics Patch Download and Read Me Documentation Access



d. To read about the fixes included in the patch set, click the **Read Me** button.

e. To complete the download process, click the **Download** or **Download All** button.

f. After the product installation or patch set software has been downloaded, place the software on the appropriate application server and implement the installation or upgrade.

Installing Microsoft Internet Information Services (IIS) and Windows Communication Foundation (WCF) Features

This section reviews configuring Microsoft Internet Information Services (IIS) and Microsoft Windows Communication Foundation (WCF) Services (if necessary) on Simphony application servers. Microsoft WCF configuration only needs to be performed on servers where the Simphony Web Portal (Import/Export) and API are installed.

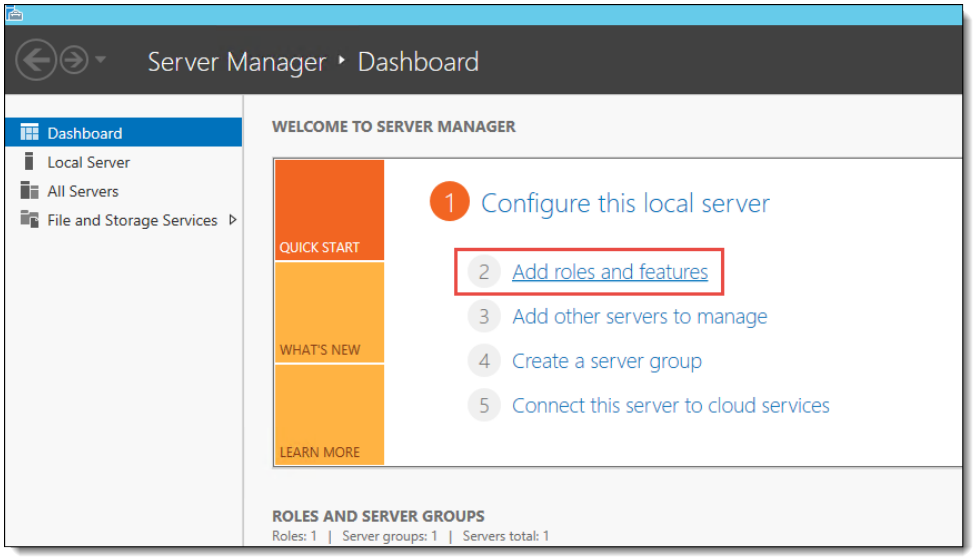
For more information about the Server Manager - Add Roles and Features Wizard, refer to the Microsoft TechNet Library at https://technet.microsoft.com/en-us/.

Access the Simphony application server (running Microsoft Windows Server 2012 R2):

1. Access the **Control Panel**, click **Programs**, and then beneath Programs and Features, click **Turn Windows features on and off**.
2. The Server Manager Dashboard loads and subsequently, the Add Roles and Features Wizard.

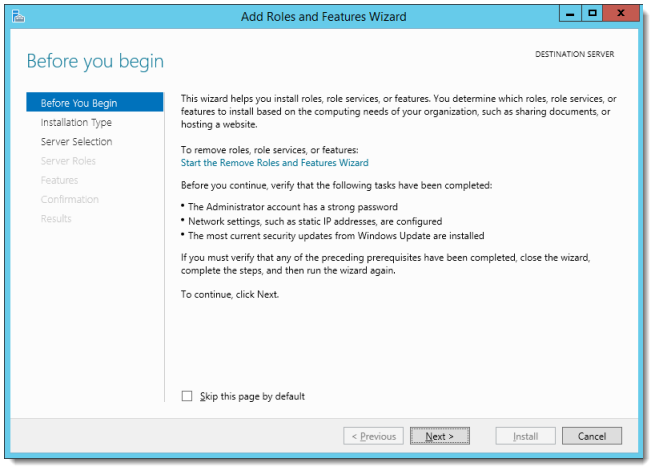
3. Access the Server Manager and select **2 Add roles and features**.

Figure 2-8 Server Manager – Dashboard — Adding Roles and Features



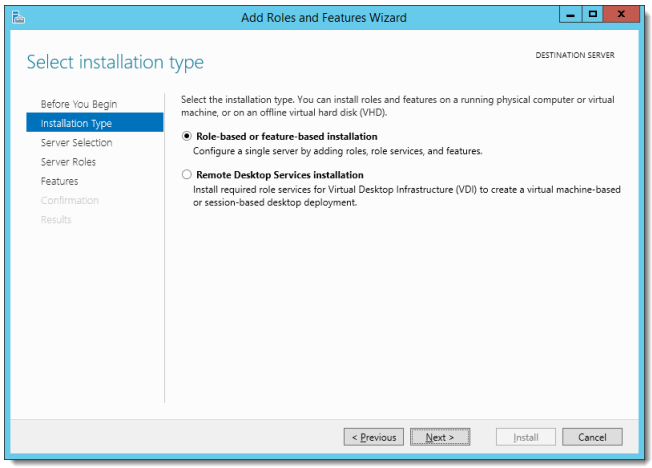
4. Click **Next**.

Figure 2-9 Server Manager — Before You Begin



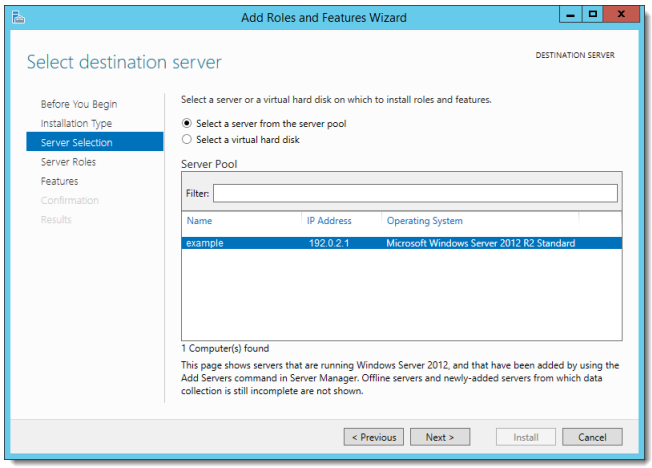
5. Select **Role-based or feature-based installation**, and then click **Next**.

Figure 2-10 Server Manager — Select Installation Type



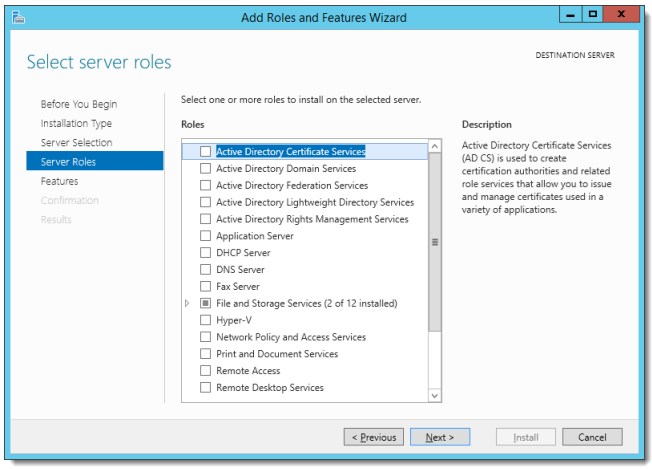
6. Select the **Select a server from the server pool** option.
7. Select the server you are configuring, and then click **Next**.

Figure 2-11 Server Manager – Select Destination Server



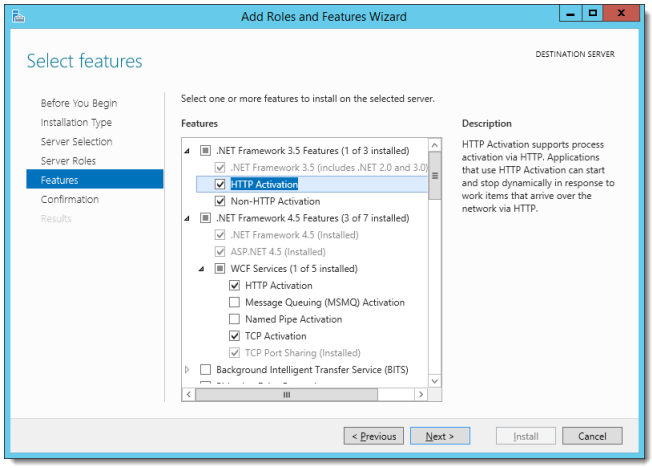
8. Click **Next**.

Figure 2-12 Server Manager – Select Server Roles



9. Expand **.NET Framework 3.5 Features** and ensure that **HTTP Activation** and **Non-HTTP Activation** are selected.

Figure 2-13 Server Manager — Select Features

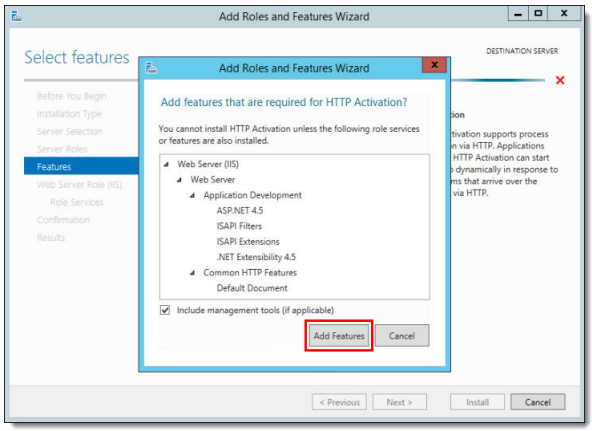


10. Expand **.NET Framework 4.5 Features**, enable **WCF Services**, and then ensure that **HTTP Activation** and **TCP Activation** are selected.

    The WCF Services configuration only needs to be performed on servers where the Simphony Web Portal (Import/Export) and API are installed.

11. Ensure that the **Include management tools (if applicable)** checkbox is selected, and then click **Add Features**.

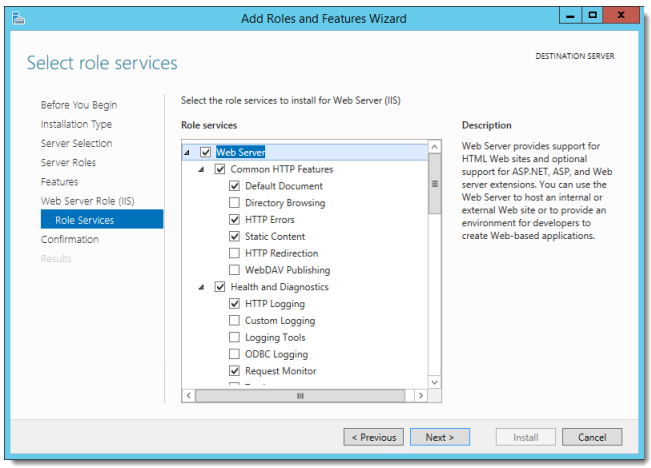
Figure 2-14 Server Manager — Add Roles and Features



12. Expand the **Web Server** role services and options and select the following Common HTTP Features:
    - **Default Document**
    - **HTTP Errors**
    - **Static Content**

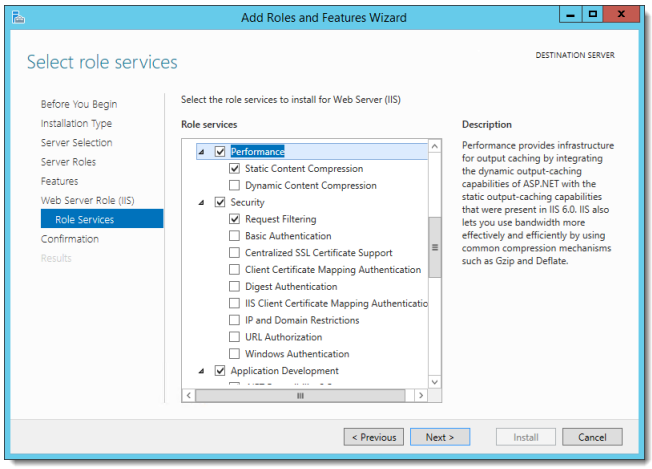
    From a system security standpoint, the **Directory Browsing** role service should not be enabled.

Figure 2-15 Server Manager – Web Server Role Services



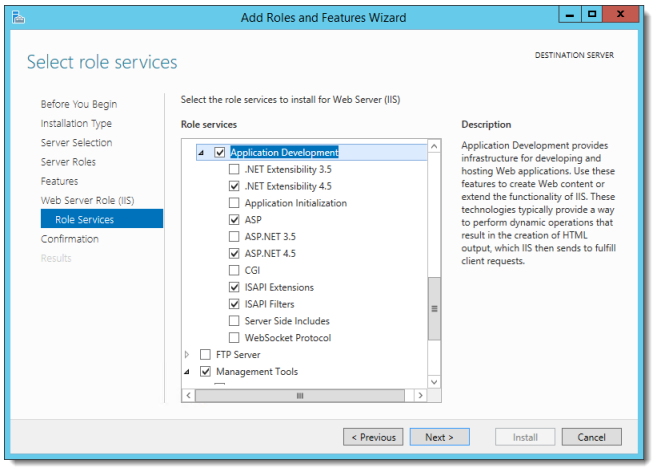
13. Select the following **Health and Diagnostics** options:
    - **HTTP Logging**
    - **Request Monitor**
14. Select the **Performance** option **Static Content Compression**.
15. Select the **Security** option **Request Filtering**.

Figure 2-16 Server Manager – Performance and Security Role Services



16. Select and expand **Application Development**, and then select the following options:
    - **.NET Extensibility 4.5**
    - **ASP**
    - **ASP .NET 4.5**
    - **ISAPI Extensions**
    - **ISAPI Filters**

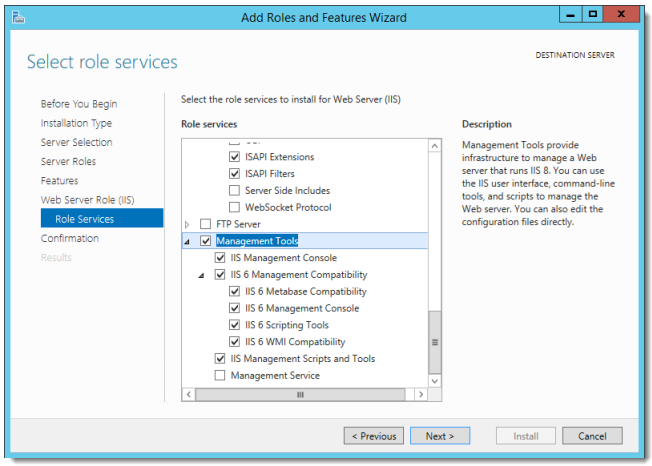
Figure 2-17 Server Manager – Application Development Role Services



17. Select and expand **Management Tools**, and then select the following options:
    - **IIS Management Console**
    - **IIS Management Scripts and Tools**
18. Select **IIS 6 Management Compatibility**, and then select the following options:
    - **IIS 6 Metabase Compatibility**
    - **IIS 6 Management Console**

- **IIS 6 Scripting Tools**
- **IIS 6 WMI Compatibility**

Figure 2-18 Server Manager – Management Tools



19. Click **Next** as needed, and then click **Install**.
    a. If you are performing an upgrade to the Simphony 18.1 release or later from an earlier version, the **ImportExportAppPool** is renamed to **SimphonyAppPool**.
    b. For fresh Simphony 18.1 and later installations, several Application Pools including the **SimphonyAppPool** are created for you.

       Locate the following Application Pools, click each one individually, right-click, and then select **Recycle**.

       - **ImportExportAPIPool**
       - **Simphony2Pool**
       - **SimphonyAppPool**
20. Restart the server for the roles and features to become operative.

Requesting and Installing Secure Certificates

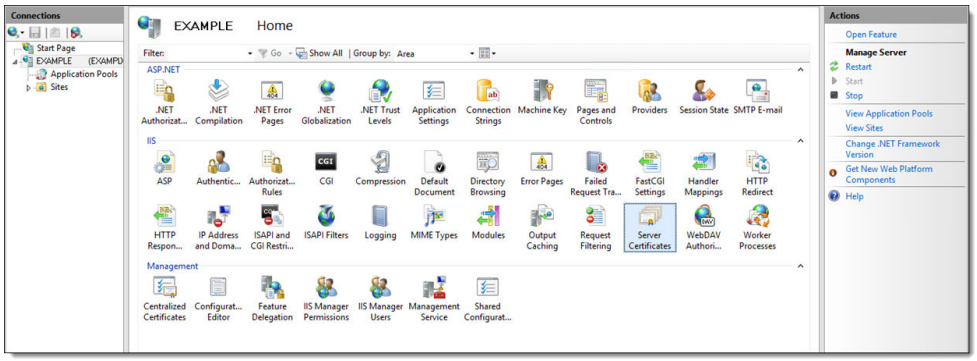
Secure certificates (issued by a Certified Authority) must be installed on Simphony and Reporting and Analytics servers prior to installing these applications. During the Simphony installation, there is an opportunity to load the certificate from the installation wizard. Simphony and Reporting and Analytics do not support self-signed certificates.

This section provides instructions on how to request and complete the installation of secure certificates.

Creating a Certificate Signing Request

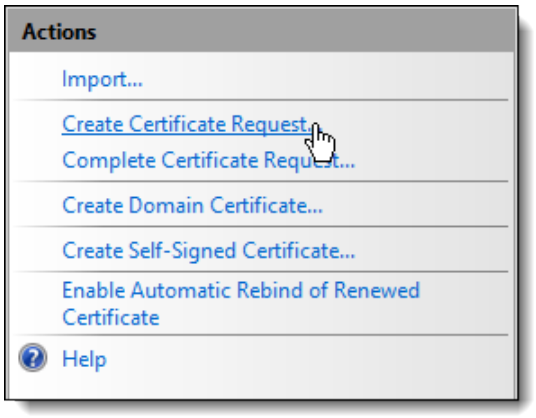
1. From the application server, click the **Start** button, click or search for the **Internet Information Services (IIS) Manager** and open it.
2. In the **Connections** section, click the server name.
3. In the center Home menu, double-click the **Server Certificates** button in the IIS section.

Figure 2-19 Internet Information Services (IIS) Manager - IIS Section



4. Click **Create Certificate Request…** from the Actions menu.

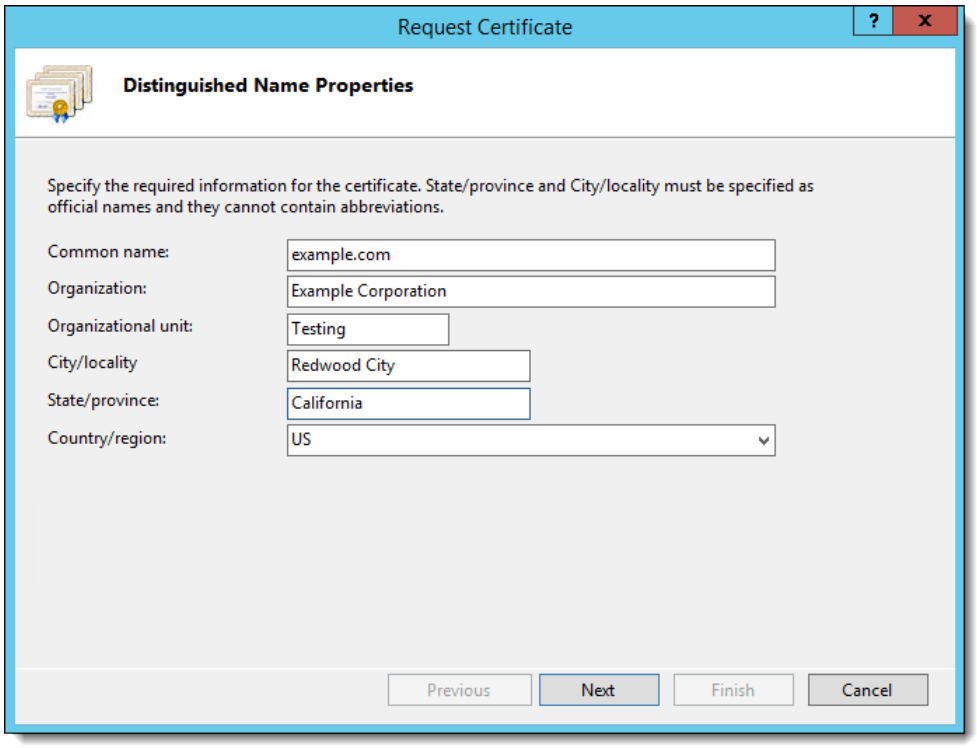
Figure 2-20 Actions - Create Certificate Request Link



5. Enter the appropriate information in the Request Certificate window, and then click **Next**.

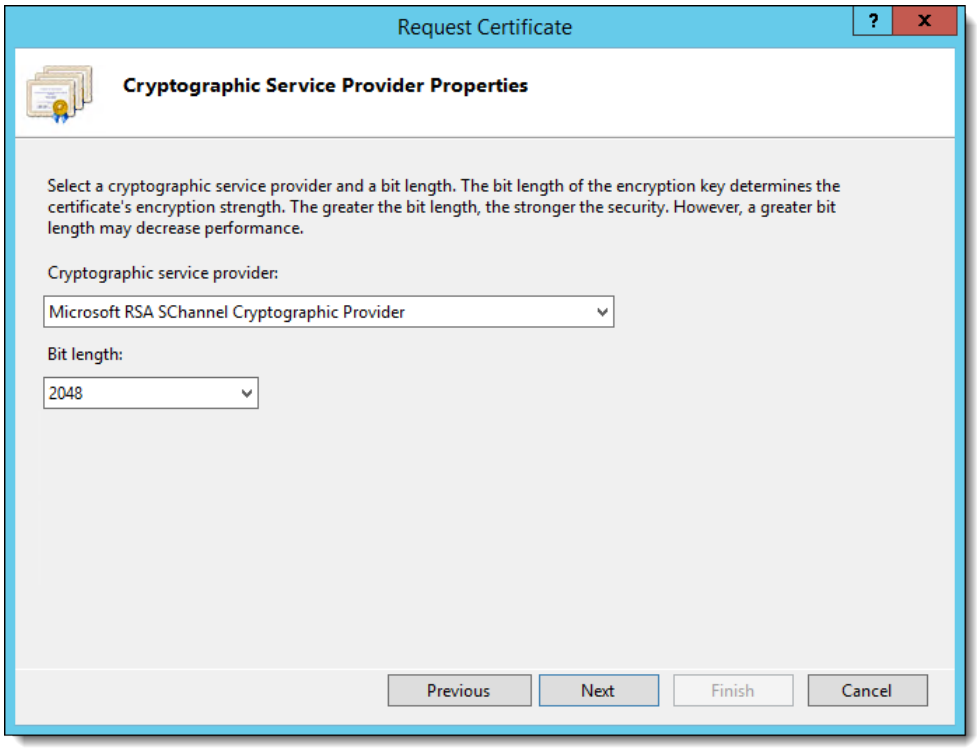
   The **Common name** field (through which the certificate is eventually accessed) is usually the application server's fully qualified domain name (FQDN) (for example, `www.domain.com` or `mail.domain.com`).

Figure 2-21 Request Certificate - Distinguished Name Properties



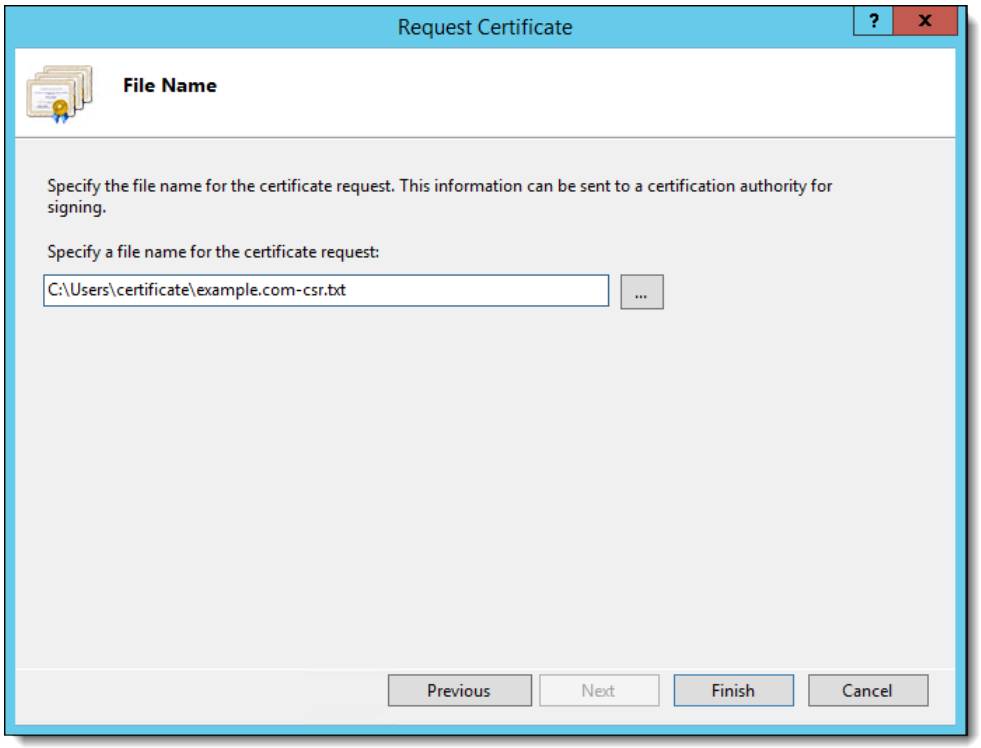
6. Select **Microsoft RSA SChannel Cryptographic Provider** from the **Cryptographic service provider** drop-down list, unless you have a another specific cryptographic provider.
7. Select **2048** (or higher) from the **Bit length** drop-down list, and then click **Next**.

Figure 2-22 Request Certificate - Cryptographic Service Provider Properties



8. Click the ellipsis (**...**) button to browse to a location where you want to save the Certificate Signing Request (CSR) file.
   a. Remember the filename and the location where you save it.

Figure 2-23 Request Certificate - File Name



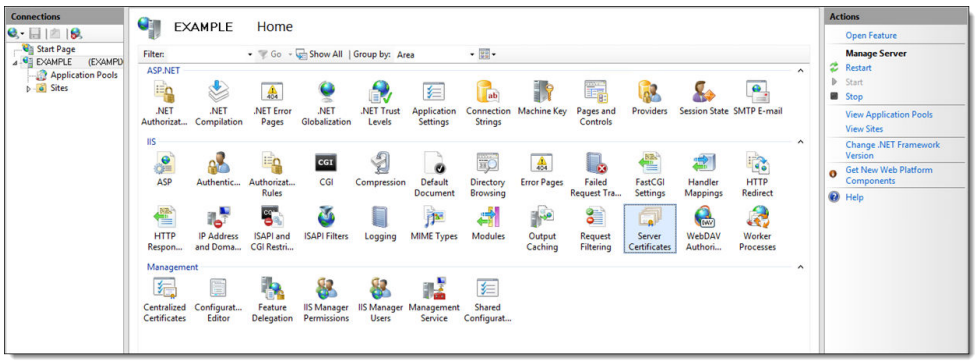
b. Open this file using a text editor and copy the entire body of it (including the **Begin** and **End New Certificate Request** tags) into the CSR order form.

9. After you receive your Secure Sockets Layer (SSL) certificate, save the certificate on the server where you created the CSR, and then you can install it.

Completing a Secure Server Certificate Installation

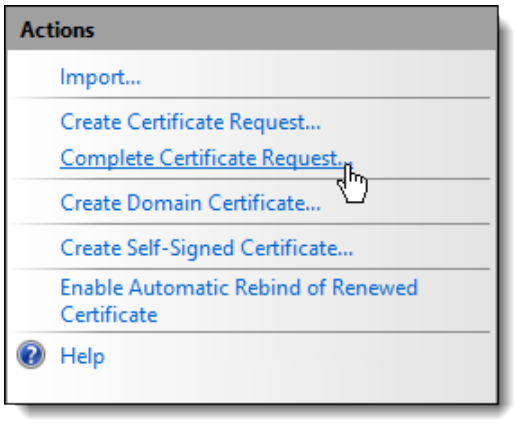
1. From the application server, click the **Start** button, click or search for the **Internet Information Services (IIS) Manager** and open it.
2. In the **Connections** section, click the server name.
3. In the center Home menu, double-click the **Server Certificates** button in the IIS section.

Figure 2-24 Internet Information Services (IIS) Manager - IIS Section



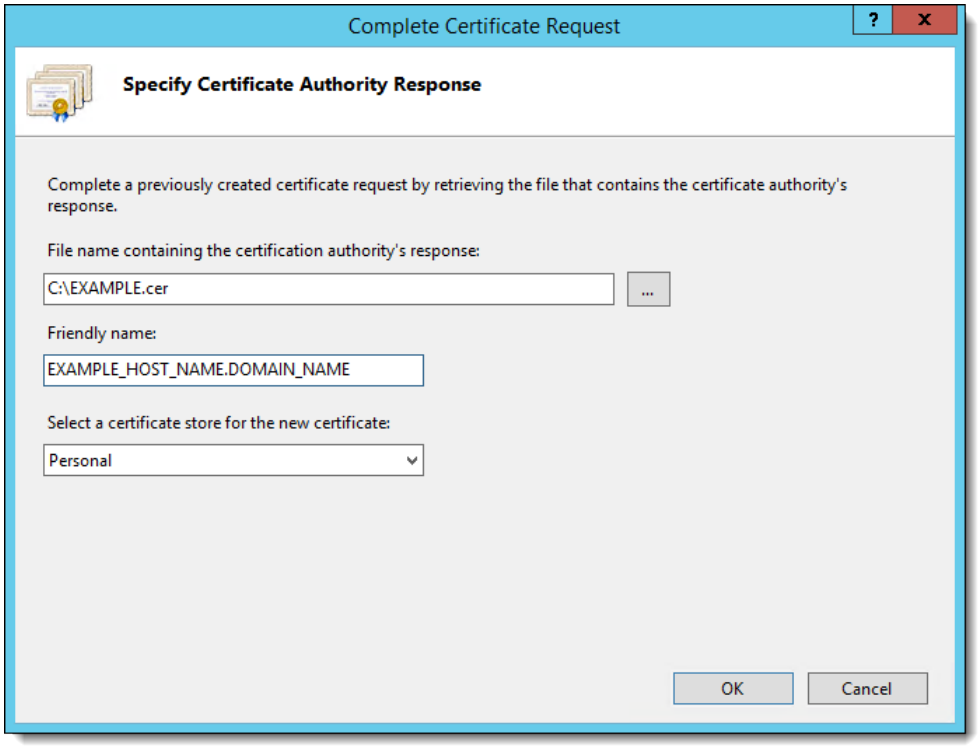
4. Click **Complete Certificate Request…** from the Actions menu.

Figure 2-25 Actions - Complete Certificate Request Link



5. Configure the following in the Complete Certificate Request window:
   a. Browse and select your certificate (in .cer format). This file should be provided to you from the vendor where you purchased your certificate, and in response to your CSR submission.
   b. Enter the **Friendly name**, if it is not already populated. This is the application server's fully qualified domain name (FQDN) (for example, www.domain.com or mail.domain.com).

Figure 2-26 Complete Certificate - Specify Certificate Authority Response



6. Click **OK**.

   If a certificate is installed or changed after installing Simphony, you must perform several steps to bind the certificate to the IIS website. See Binding Secure Server Certificates to IIS for instructions.

Configuring Recycle Settings for the IIS Application Pool

If you configure the application pool to recycle at a scheduled time using the IIS Manager, consider configuring the following recycle settings for the IIS Application Pools:

- Ensure that the specific times you define do not coincide with your Start-of-Day (SOD) or periods of peak sales activity.
- Set the **Memory Based Maximums** to less than half of the available server memory.
- Set the **Simphony2 App Pool Pipeline** mode to **Classic**.
- Set the **Disable Overlapped Recycle** setting to **True** for the Simphony2 App Pool.

In addition to the Simphony2 App Pool, the following IIS App Pools are also installed:

- ImportExportAPIPool: For the Import Export Service.
- SimphonyAppPool: For the Simphony Web Portal.
- WCCPool: For the Engagement feature.

These App Pool's Pipeline mode settings can remain on their default settings.

For instructions on configuring an application pool to recycle at a scheduled time, refer to the Microsoft TechNet Library at https://technet.microsoft.com/en-us/.

Binding Secure Server Certificates to IIS

If a certificate is installed or changed after installing Simphony, you must perform the following steps to bind the secure certificate to the IIS website.

1. Click **Start**, and then click **Control Panel**.
2. If you are using Windows Server 2012 R2, click **System and Security**, and then click **Administrative Tools**.
3. In the Administrative Tools window, double-click **Internet Information Services (IIS) Manager**.
4. Under **Connections**, **Sites**, select the site to be secured with the SSL Certificate.
5. From the **Actions** menu (on the right), click **Bindings...**. The Site Bindings windows opens.
6. In the Site Bindings window, click **Add...**. The Edit Site Bindings window opens.
7. From the **Type** drop-down list, select **https**.
8. Enter the IP address of the site or select **All Unassigned**.
9. Enter the port number in the **Port** field.

   The port over which traffic is secured by SSL is usually 443. The SSL Certificate field should specify the installed certificate.

10. Click **OK**.

Database Platform Installation

A database platform must be selected and installed prior to installing Simphony or Reporting and Analytics. See the Oracle Food and Beverage Compatibility Matrix for more information about supported databases.

See Installing Oracle Database 18c for Oracle Database installation instructions for a Simphony system.

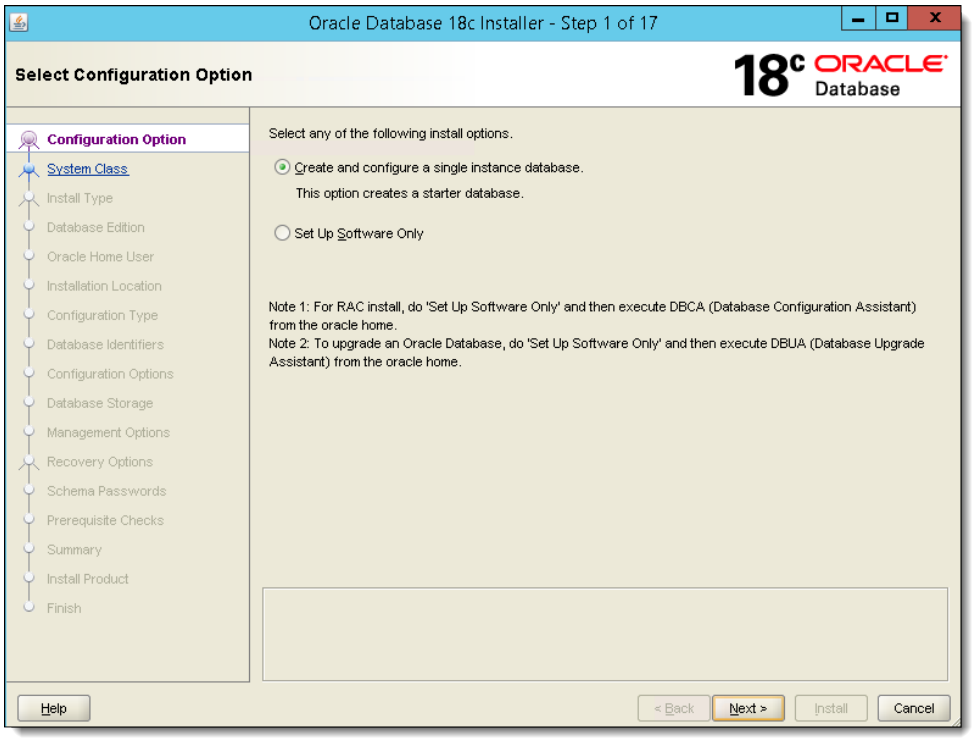
- Installing Oracle Database 18c
- After Installing Oracle Database 18c
- Oracle Client Installation

Installing Oracle Database 18c

To download and install Oracle Database, refer to the Oracle Technology Network (OTN) website at http://www.oracle.com/technetwork/database/enterprise-edition/downloads/index.html.
To install Oracle Database 18c for a Simphony installation, from the database server:

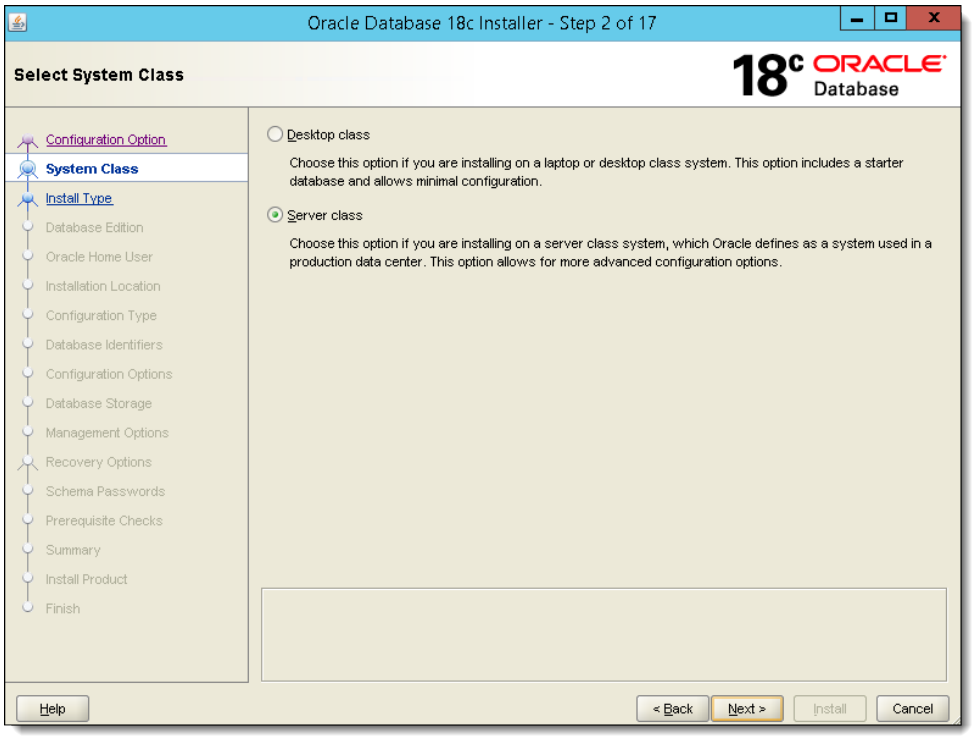
1. Select the **Accept License Agreement** option to download the software.
2. Select the servers's compatible operating system, typically **Microsoft Windows x64 (64–bit)**.
3. Since the downloaded file is compressed, beginning with Oracle Database 18c, **Image Based Installation** has been introduced. Previously, with Oracle Database 11g or 12c, you were allowed to select the location of your db_home directory. With Oracle Database 18c, via Image Based Installation, the Oracle Universal Installer takes the location of the **setup.exe** file and assigns its db_home location.
    a. Prior to performing the Oracle Database 18c software download, create a new folder on the database server's 'C' drive named: **Oracle18c** (with no spaces in the folder name).
    b. Logon as an Windows Administrator and, download and extract the Oracle 18c installation file into the newly created Oracle18c folder. Since the file is nearly 10GB in size, the extraction takes some time.
4. Once extracted, locate and right-click on the **setup.exe** and select **Run as administrator**.
5. Select **Create and configure a single instance database. This option creates a starter database.**, and then click **Next**.

Figure 2-27 Select Configuration Option



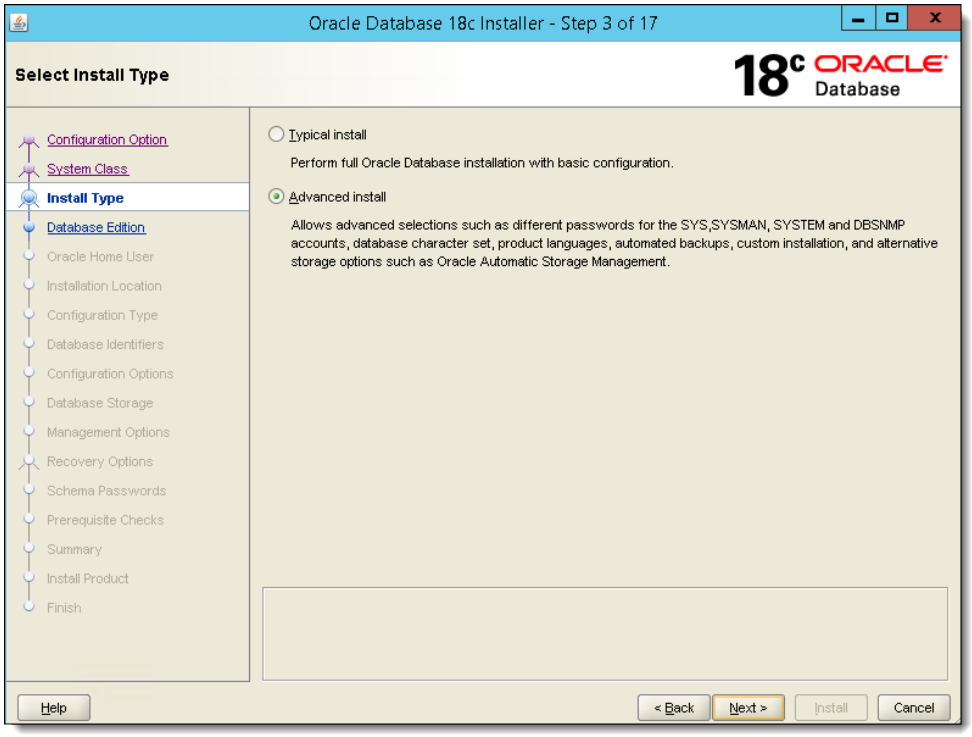
6. Select **Server class**, and then click **Next**.

Figure 2-28 Select System Class



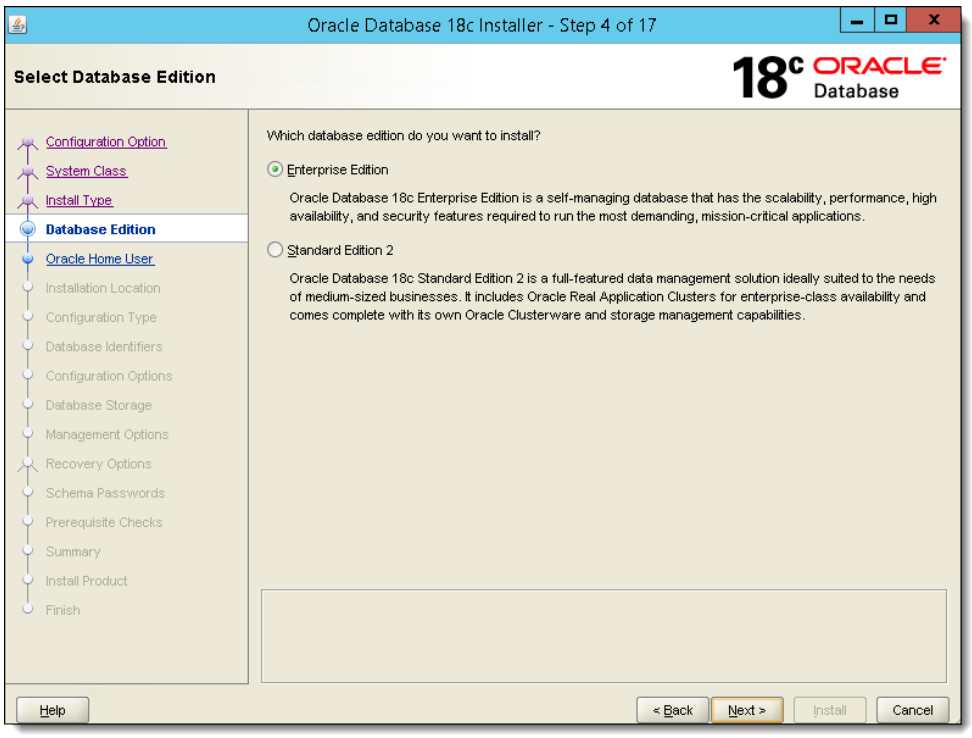
7. Select **Advanced install**, and then click **Next**.

Figure 2-29 Select Install Type



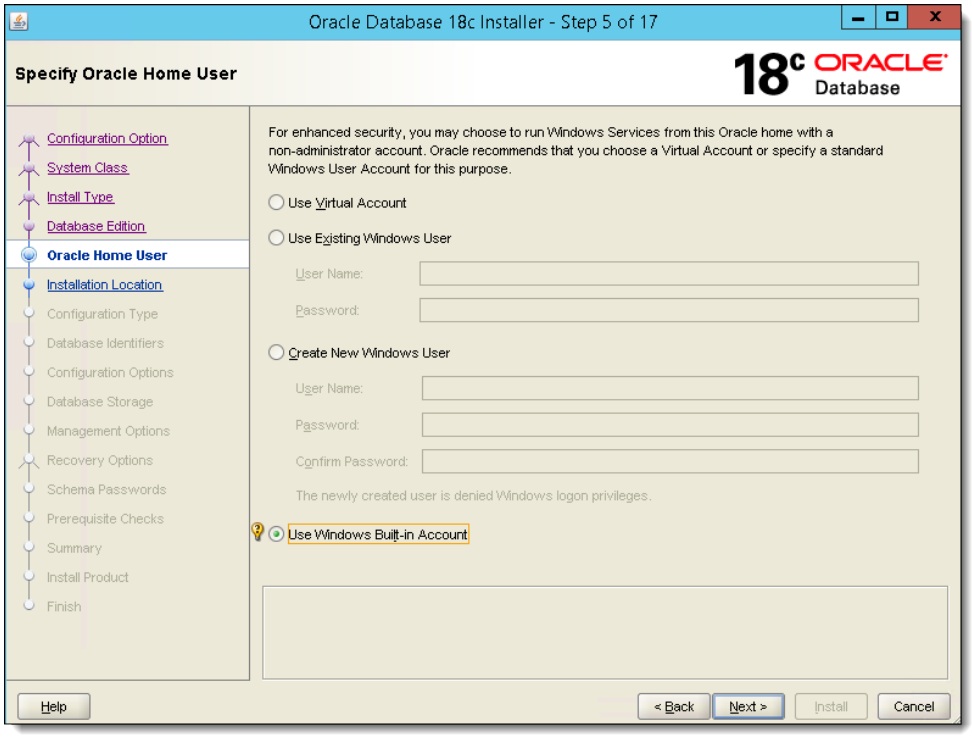
8. Select **Enterprise Edition** and then click **Next**.

Figure 2-30 Specify Database Edition



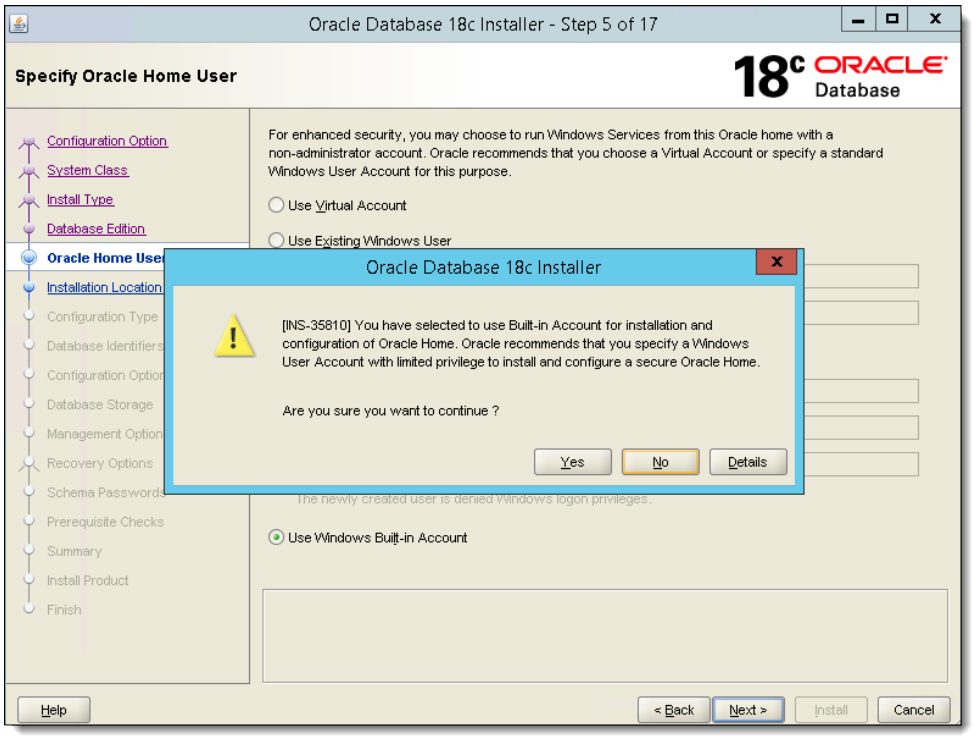
9. Select **Use Windows Built-in Account**, and then click **Next**.

Figure 2-31 Specify Oracle Home User



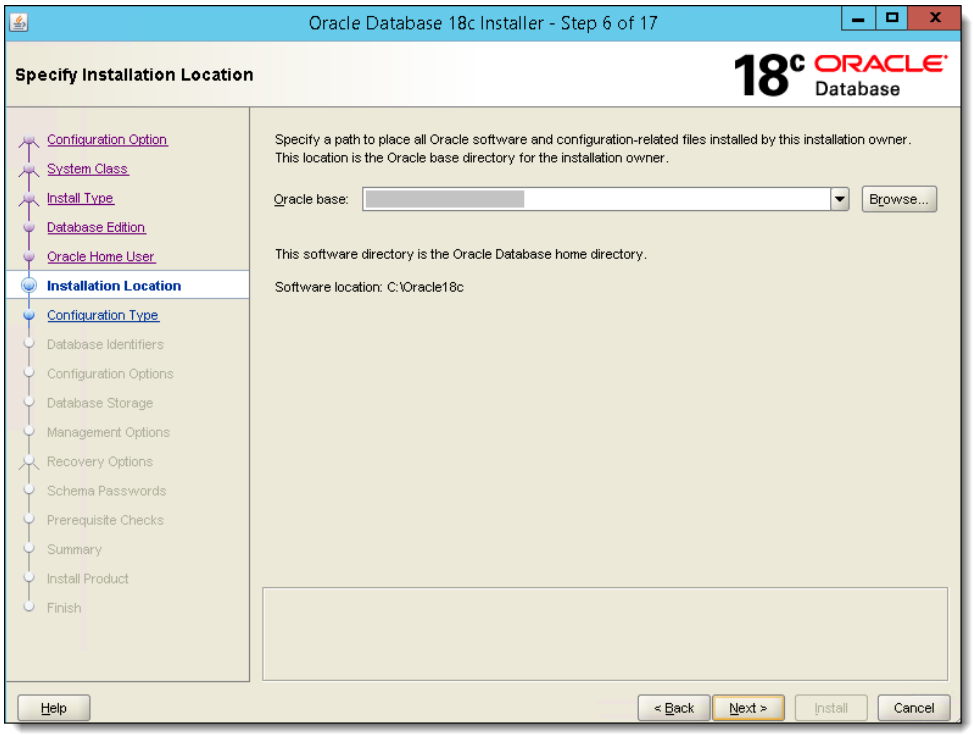
10. Confirm the Built-in Account selection by responding to the message prompt by clicking **Yes**, and then click **Next**.

Figure 2-32 Specify Oracle Home User



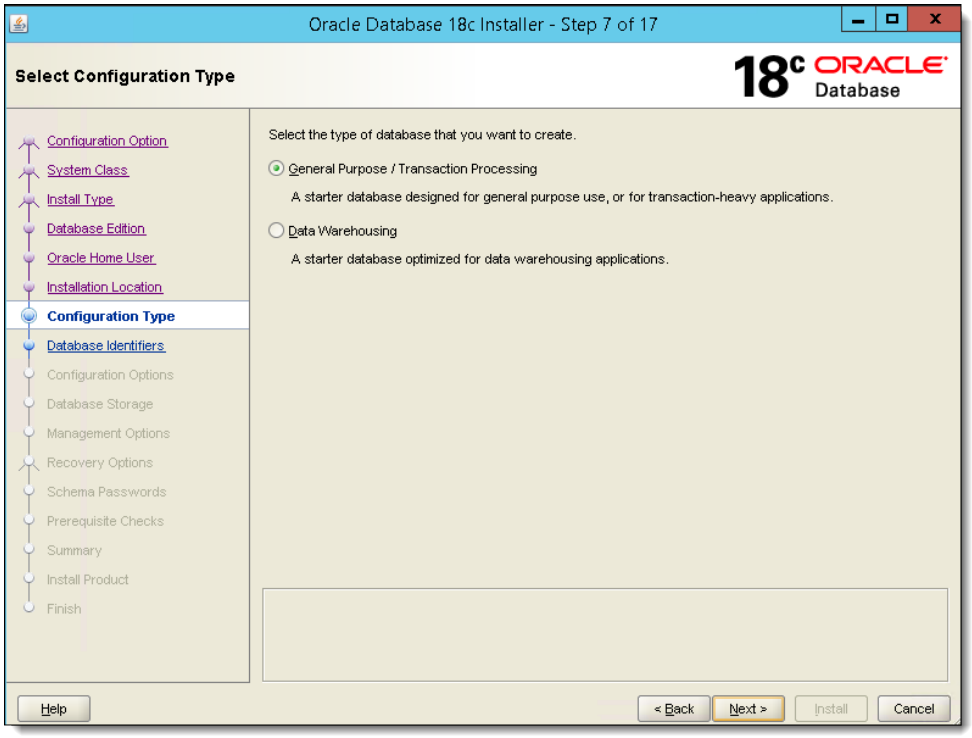
11. Enter (or browse to) the path to place the Oracle software and configuration files in the **Oracle base** field, and then click **Next**.

Figure 2-33 Specify Installation Location



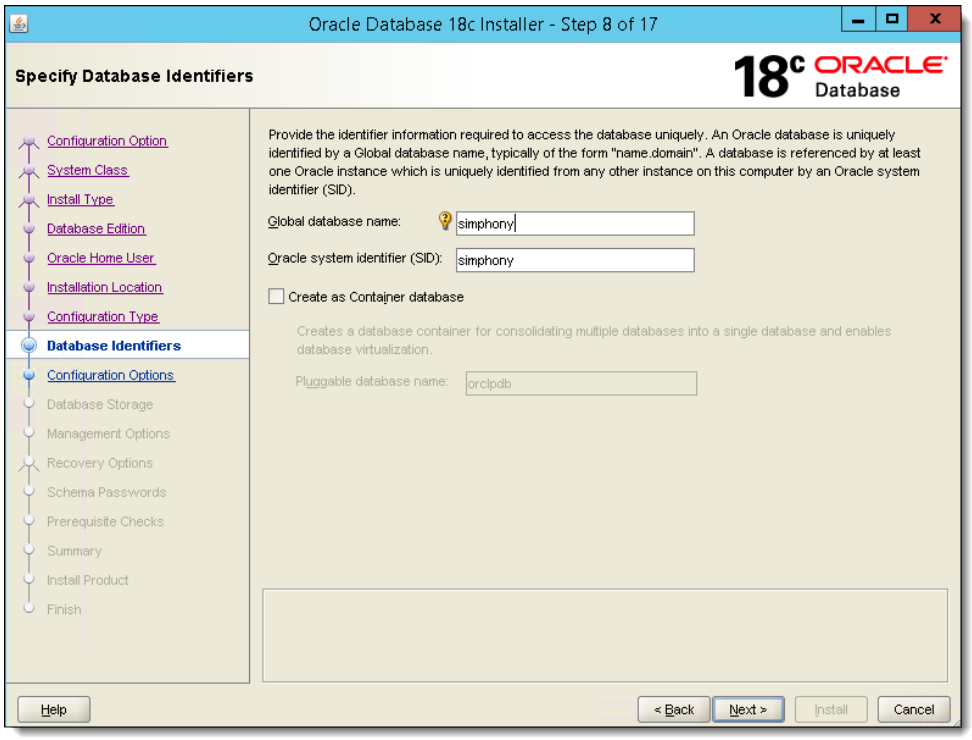
12. Select the **General Purpose / Transaction Processing** database type, and then click **Next**.

Figure 2-34 Select Configuration Type



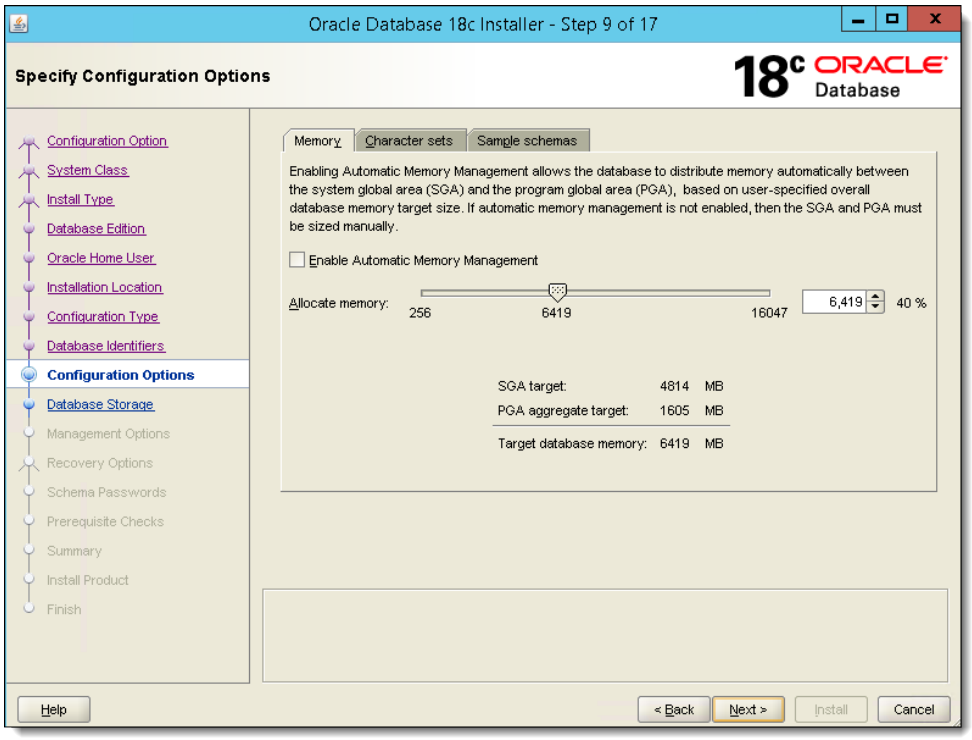
13. Enter the database name and system identifier in the **Global database name** and **Oracle system identifier (SID)** fields respectively, and then click **Next**.

Figure 2-35 Specify Database Identifiers



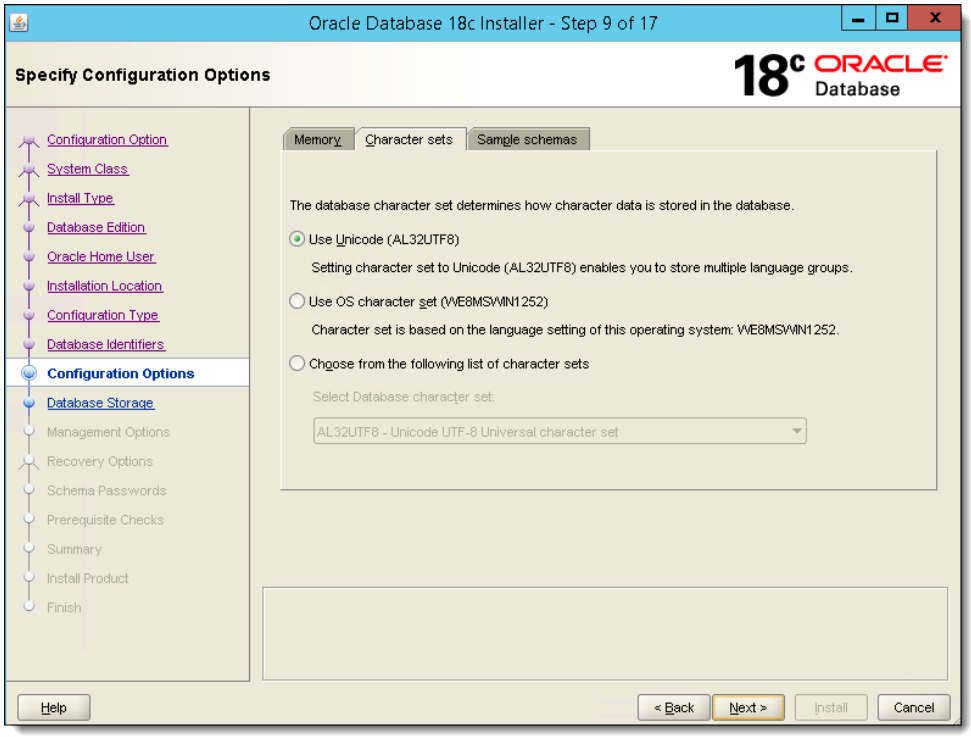
14. Configure the Memory allocation for your system, and then click the **Character sets** tab.

Figure 2-36 Specify Configuration Options



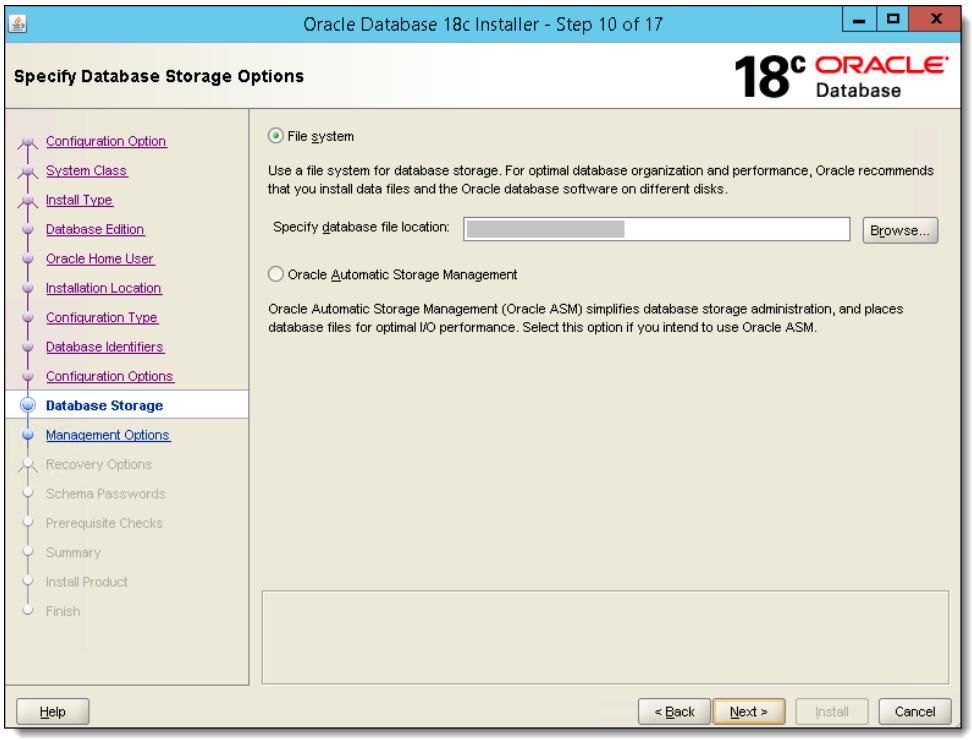
15. From the Character sets tab, select **Use Unicode (AL32UTF8)** as the character set. *(Optional) You can click the **Sample schemas** tab and install a sample schema in the starter database, and then click **Next**.

Figure 2-37 Specify Configuration Options — Character Sets



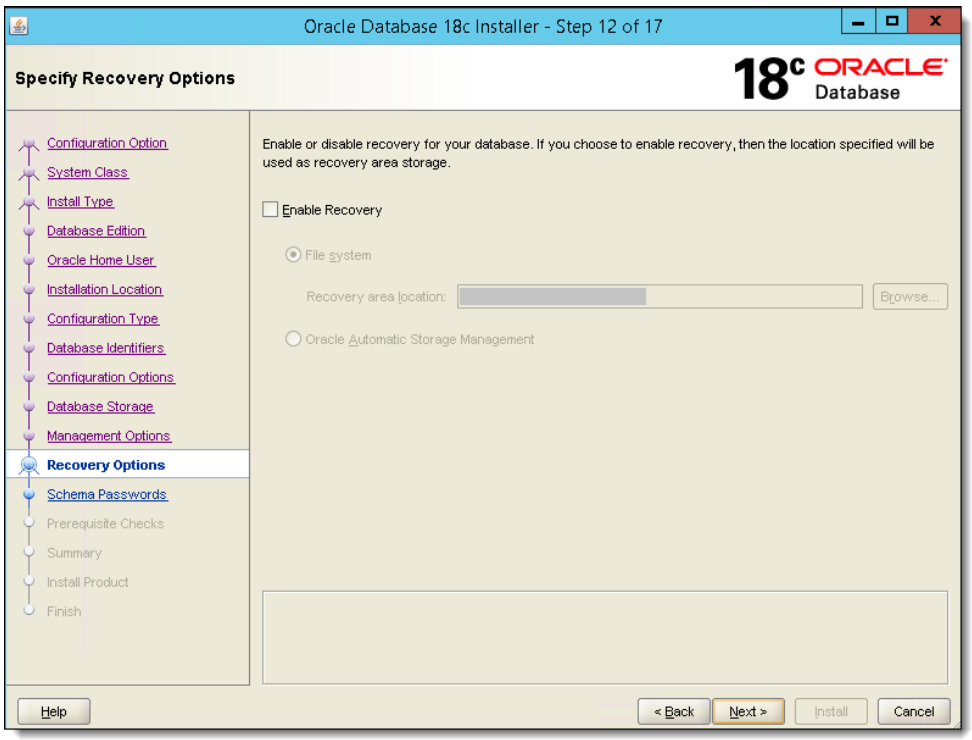
16. Select **File system** as the database storage option, and enter (or browse to) the database file path in the **Specify database file location** field, and then click **Next**. From the next *(Optional) installation window, you can register for the Oracle Enterprise Manager 12c Cloud Control for your Oracle 18c database, and then click **Next**.

Figure 2-38 Specify Database Storage Options



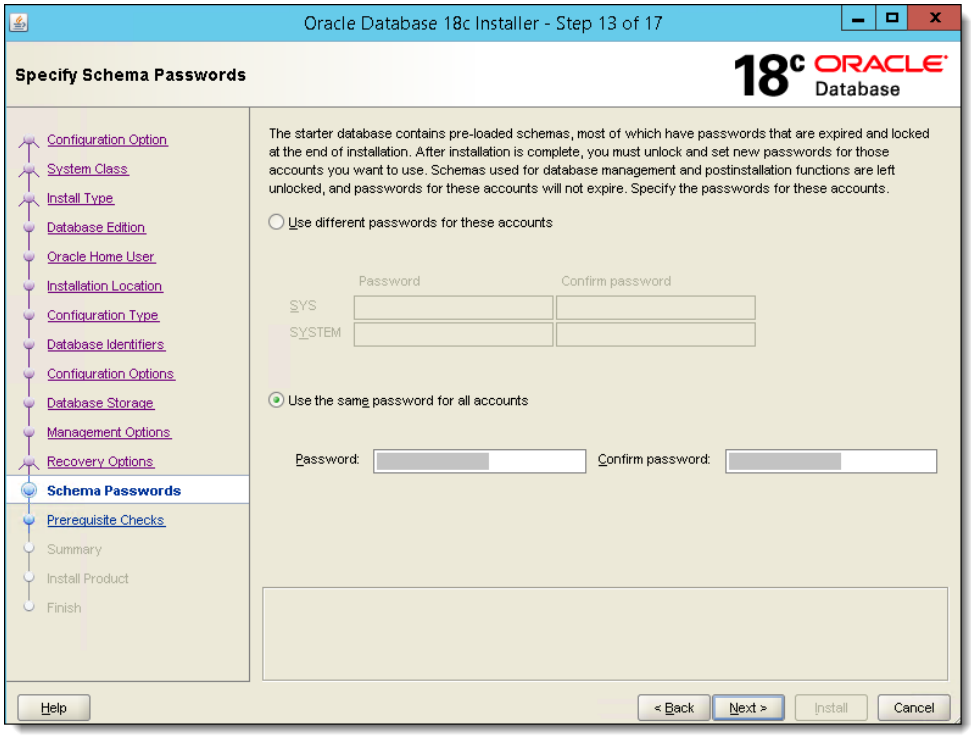
17. *(Optional) Enable or disable recovery for your database.

Figure 2-39 Specify Recovery Options



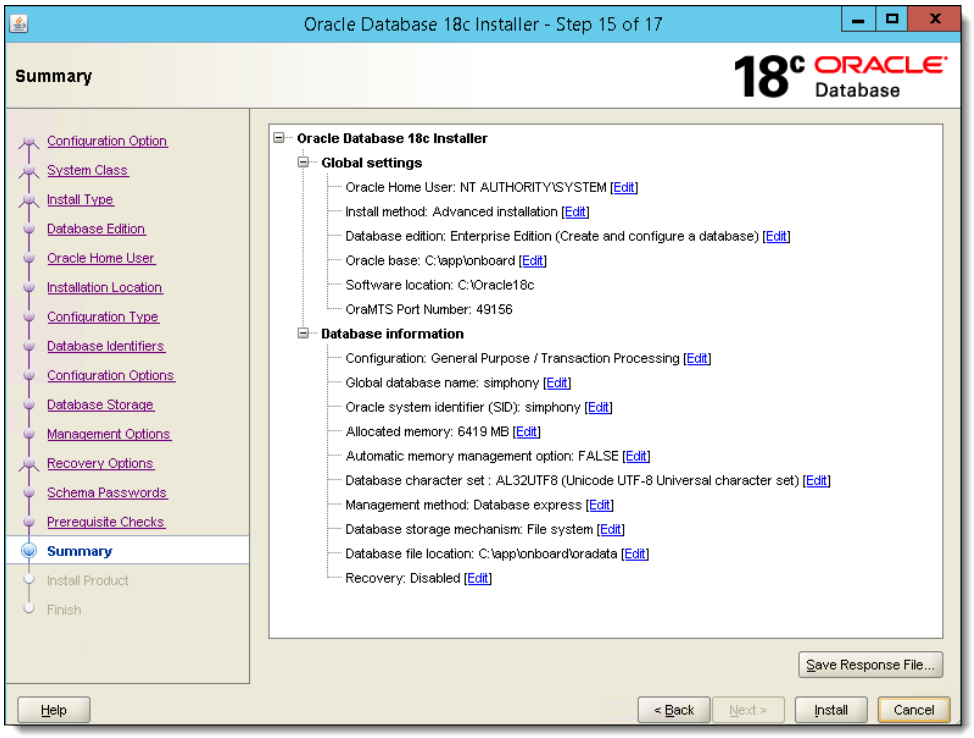
18. Select **Use the same password for all accounts**. Enter your password in the **Password** field, re-enter it in the **Confirm password** field, and then click **Next**.

Figure 2-40 Specify Schema Passwords



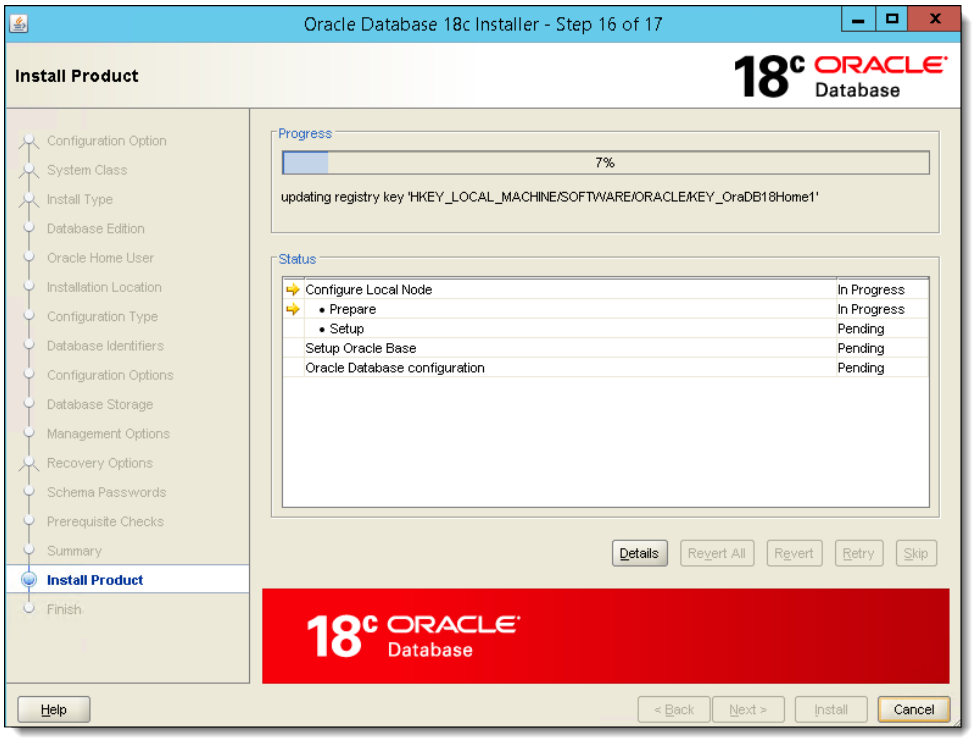
19. Review the **Summary** window to ensure that your previous selections are correct. If edits are required, click **Back** until you reach the window that contains the setting that needs to be changed. If no edits are necessary, click **Install**.

Figure 2-41 Summary



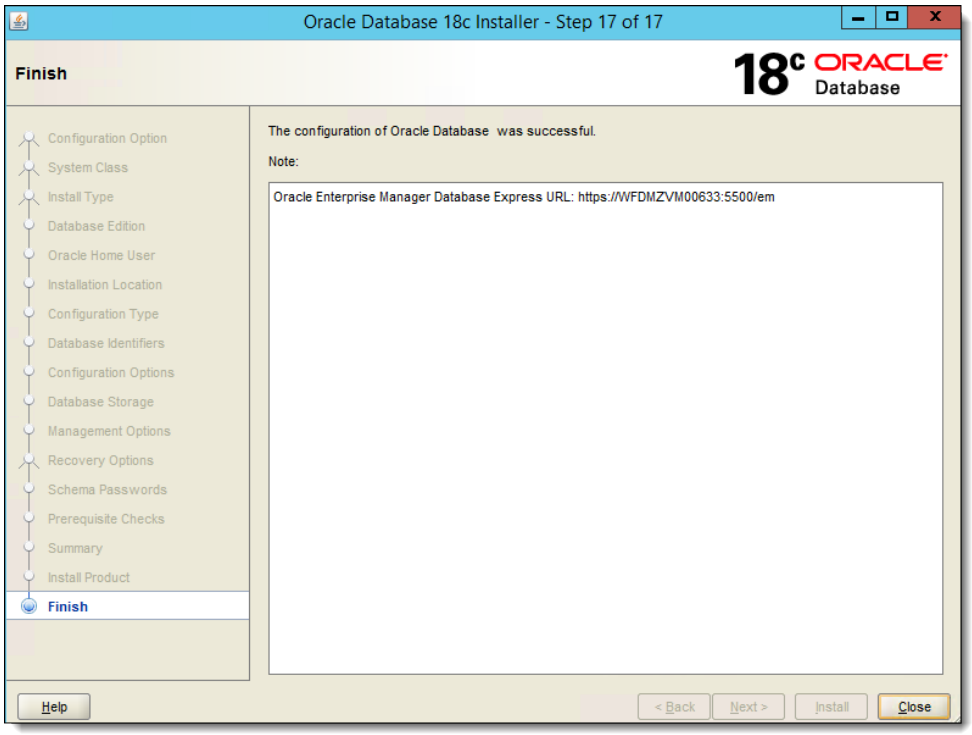
20. An installation **Progress Page** appears that allows you to track the ongoing database creation.

Figure 2-42 Install Product — Progress Window



21. Once complete, the **Finish** window appears and indicates a successful installation. Click **Close** to exit the installation program.

Figure 2-43 Finish



After Installing Oracle Database 18c

The Oracle Database version that is installed on your database server must match the one on your Oracle Database Client. Oracle Client Installation contains more information about installing Oracle Database Clients.

Creating Oracle Database Tablespaces

When using an Oracle database, ensure that the Simphony database Tablespaces are created on your server.

Create the following Oracle database Tablespaces on the database server or servers:

- MCRSPOS
- MCRSCACHE

Appendix A: Sample Script for Creating Oracle Tablespaces contains a sample script to create the database Tablespaces. The Database Administrator's Guide contains more information about creating database Tablespaces. The Administrator's Reference for Linux and UNIX-Based Operating Systems contains information about administering an Oracle Database on these platforms.

Increasing Database Process Count

Run the `ALTER SYSTEM SET processes=300 SCOPE=SPFILE;` command on the Oracle Database and restart the Oracle Database Service. If you are using the Oracle

Linux operating system, run the `shutdown immediate;` command and then run the `STARTUP pfile=init.ora;` command to restart the service. The *Oracle Database Platform Guide for Microsoft Windows* and the *Oracle Database Administrator's Reference for Linux and UNIX-Based Operating Systems* contain more information about restarting the Oracle Database Service.

If you are using a Microsoft Windows Server, restart the `OracleServiceSIMPHONY` service using the Windows Services dialog. The *Platform Guide for Microsoft Windows* contains more information about restarting the Oracle Database Service on Microsoft Windows Servers.

Oracle Client Installation

The Simphony installation media automatically installs the Oracle Database Client onto the application servers. Ensure that the Oracle Database Client version matches the version of Oracle Database that is installed on your database server.

Depending on the version of Oracle Database you are running, here are manual installation instructions for various versions of the Oracle Database Client:

1. For the Oracle Database 11g Release 2 client for Microsoft Windows 64-bit, click here.
2. For the Oracle Database 11g Release 2 client for Microsoft Windows 32-bit, click here.
3. For the Oracle Database 12c Release 1 client for Microsoft Windows 64-bit and 32-bit, click here.
4. For the Oracle Database 12c Release 2 client for Microsoft Windows 64-bit, click here.
5. For the Oracle Database 18c Release 1 client for Microsoft Windows 64-bit and 32-bit, click here.

Installing Reporting and Analytics

Install Reporting and Analytics (R&A) separately from Simphony using the Back Office R&A installation application. If you are upgrading from a release prior to Simphony 2.9, upgrade to Reporting and Analytics release 8.5.1 Patch 3 prior to installing or upgrading to Simphony release 2.9. The *Oracle Food & Beverage Compatibility Matrix* provides more information on compatibility between R&A and Simphony.

The Oracle Hospitality Enterprise Back Office Installation Guide contains more information about installing reports for Simphony.

Enabling Communication Between the Enterprise and Workstations

To allow workstations at the property to communicate with the Enterprise, you must add Firewall exceptions for the following services on the Simphony application servers using either the default ports or the ports you assign when installing Simphony release 19.1.

- Internet Information Services (IIS): By default uses Transmission Control Protocol (TCP) port 8080 or port 443 for HTTPS connections.

- Oracle Hospitality Labor Management: By default uses TCP port 81.

You may need to open extra ports for additional Simphony features. Contact your local support representative or Oracle Hospitality Support Services for assistance.

For instructions on opening a port in Windows Firewall, refer to the Microsoft TechNet Library at https://technet.microsoft.com/en-us/library.

List of Simphony Database Configuration Fields

The following table describes the fields that appear on the Simphony installation application when configuring the Simphony databases.

Table 2-2 List of Database Configuration Fields

Field	Description
Server Name	Enter the database server name. For example, `example.databaseservername.example.com`
Service Name	Enter the name of the remote Oracle service (TNS alias) to install the Simphony database.
Username	Enter a strong username for the database.
Password	Enter a strong password for the user defined in the Username field to use to connect to the database.
Database Name	Enter a name for the database if you want to use a name other than the default.
Database Port	To use a port other than the default, enter the port number to use to connect to the database.

3
Simphony Installation

This chapter contains instructions to install Simphony using the Simphony POS Installation application.

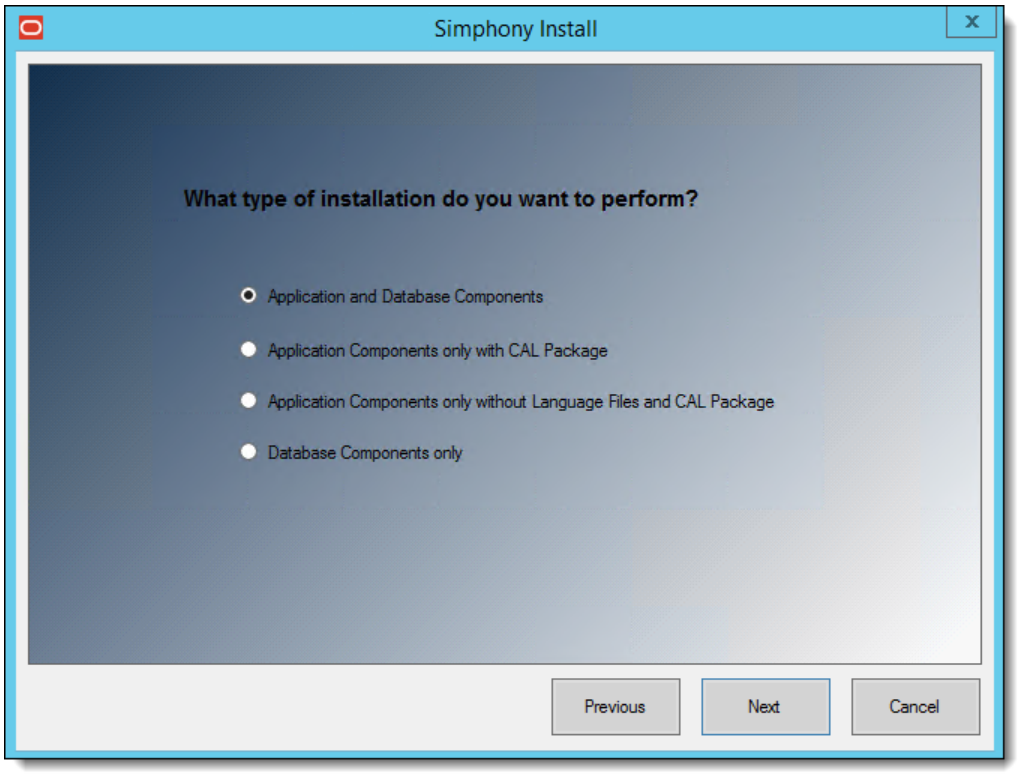
- Simphony Installation for an All-in-One Server
- Installing Simphony on Multiple Servers
- List of Simphony Components and Services
- MFA Configuration During the Installation of Simphony

Simphony Installation for an All-in-One Server

The *Oracle Food & Beverage Compatibility Matrix* provides more information on compatibility between R&A and Simphony.

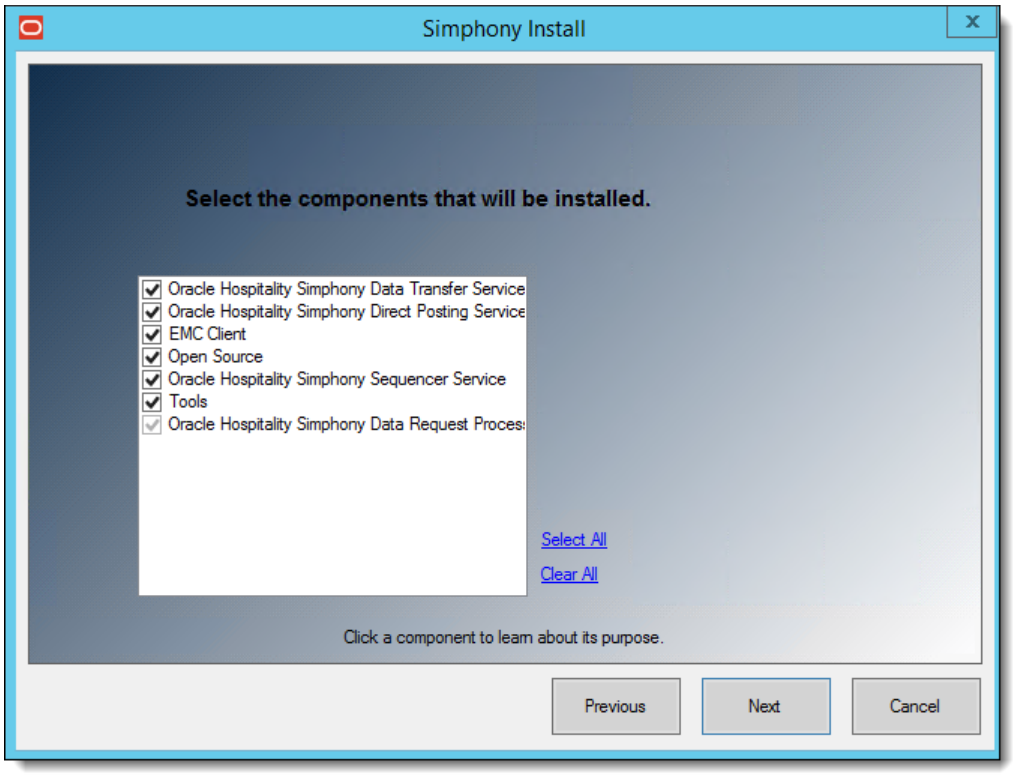
1. Log in and download the Simphony release 19.1 installation application from the Oracle Technology Network (OTN) website at https://edelivery.oracle.com/.
2. Run the **Setup** file, and then click **Next** to continue the installation.
3. Select **Application and Database Components**, and then click **Next**. List of Simphony Components and Services contains more information.

Figure 3-1 Simphony Installation Application



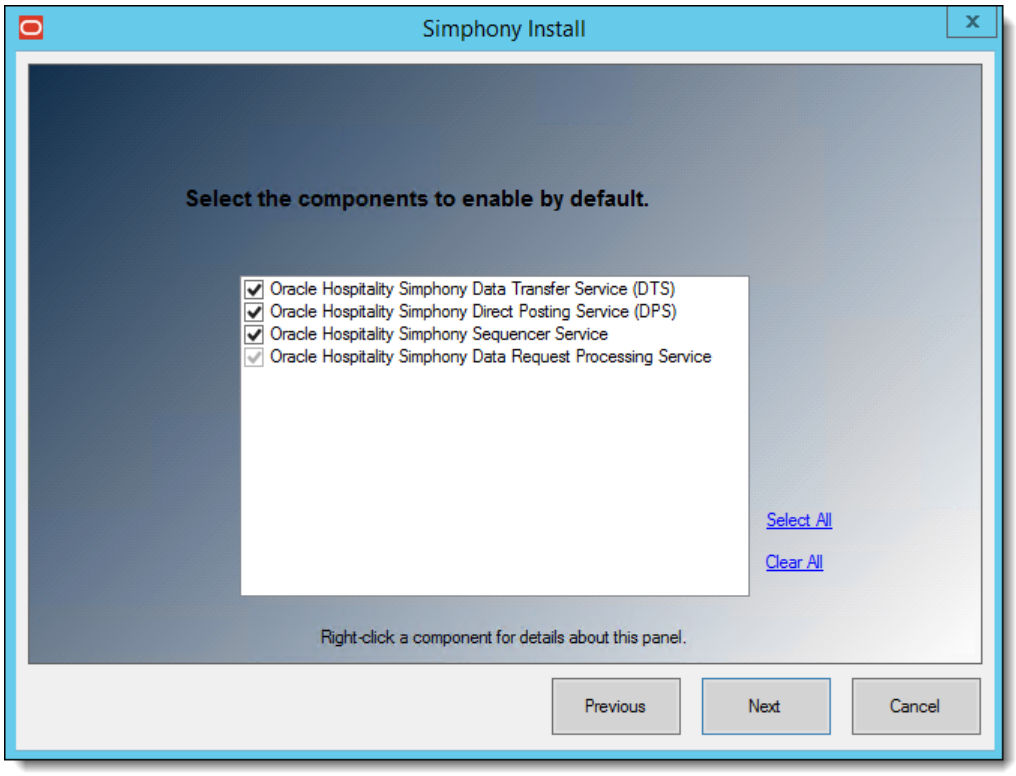
4. Select all of the components, and then click **Next**. The Simphony Data Request Processing Service is installed by default, and is used for Import/Export tasks.

Figure 3-2 Simphony Install Component Selections



5. Select all of the components that are to be enabled by default, and then click **Next**.

Figure 3-3 Simphony Install Components to Enable by Default

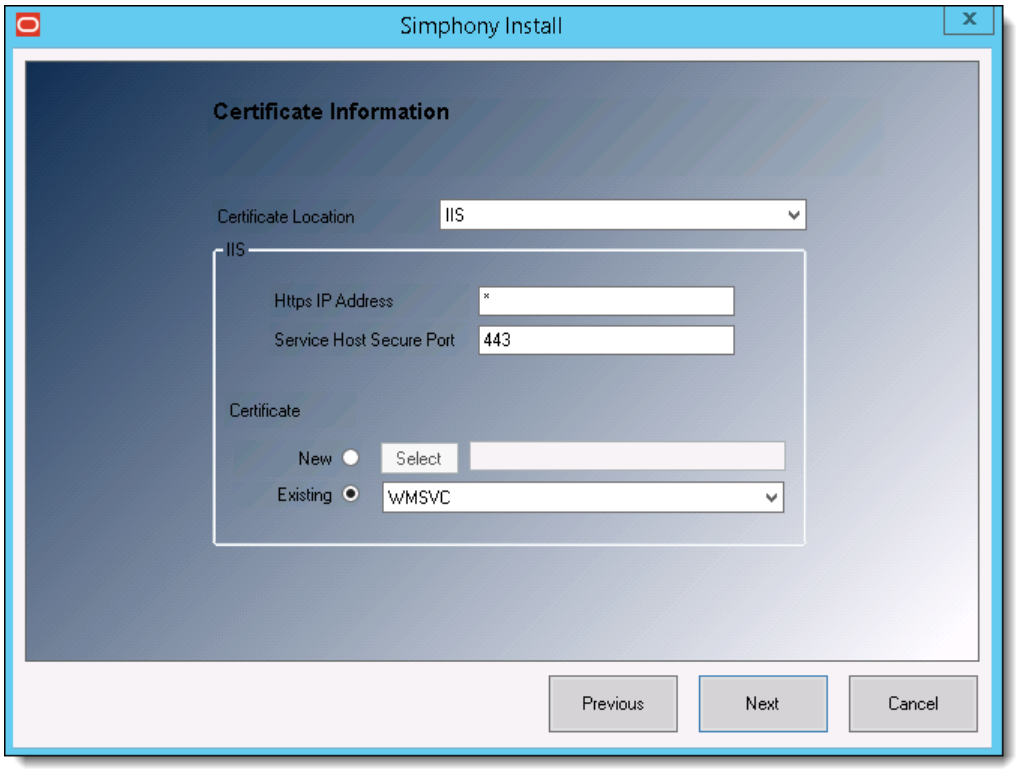


6. If you are not using a Load Balancing server and are using the Import/Export feature or plan to use the Simphony Engagement Cloud Service:
   a. Select **IIS** for the **Certificate Location** field.
   b. To add a new certificate, select **New**, click **Select**, enter or select the certificate location, and then enter the **Password** for the certificate.
   c. To add an existing certificate, select **Existing**, and then select the certificate from the drop-down list.
   d. Enter the port number in the **Service Host Secure Port** field.

      See Requesting and Installing Secure Certificates for more information about requesting and installing secure certificates.

      If you define a Service Host Secure Port number other than the default of 443, you need to configure the IIS Bindings of each Application Pool to the new port. To add IIS Bindings, refer to Binding Secure Server Certificates to IIS and the Microsoft TechNet Library at https://technet.microsoft.com/en-us/ for more information.
7. Enter the IP address of the server for the **Service Host Name** (computer name) in the **Https IP Address** field. If the server is using a Domain Name System (DNS) or Host file mapping, you can enter the name of the server instead of the IP address.

Figure 3-4 Simphony Install Certificate Information



8. Click **Next**.

   For the **All-in-One Server** installation scenario, skip Steps 9, 10, and 11.

9. If you are using the Import/Export Service or plan to use the Simphony Engagement Cloud Service, on Oracle RAC or a Load Balancing server, select **LoadBalancer** for the **Certificate Location** field.

10. Enter the port number in the **Service Host Secure Port** field.

    - If you define a Service Host Secure Port number other than the default of 443, you need to enable that port on the Load Balancer server.
    - If you define a Service Host Secure Port number other than the default of 443, you need to configure the IIS Bindings of each Application Pool to the new port. To add IIS Bindings, refer to Binding Secure Server Certificates to IIS and the Microsoft TechNet Library at https://technet.microsoft.com/en-us/ for more information.
    - You can define any free port number for the Service Host Port. If you define a port number other than the default 443, you must manually change the port number when you install subsequent services.
    - If you plan to install Reporting and Analytics on the same server as Simphony, do not assign port number 8081 for the Service Host Port. This is the default port number assigned to the Red Hat JBoss server for Back Office Reports.

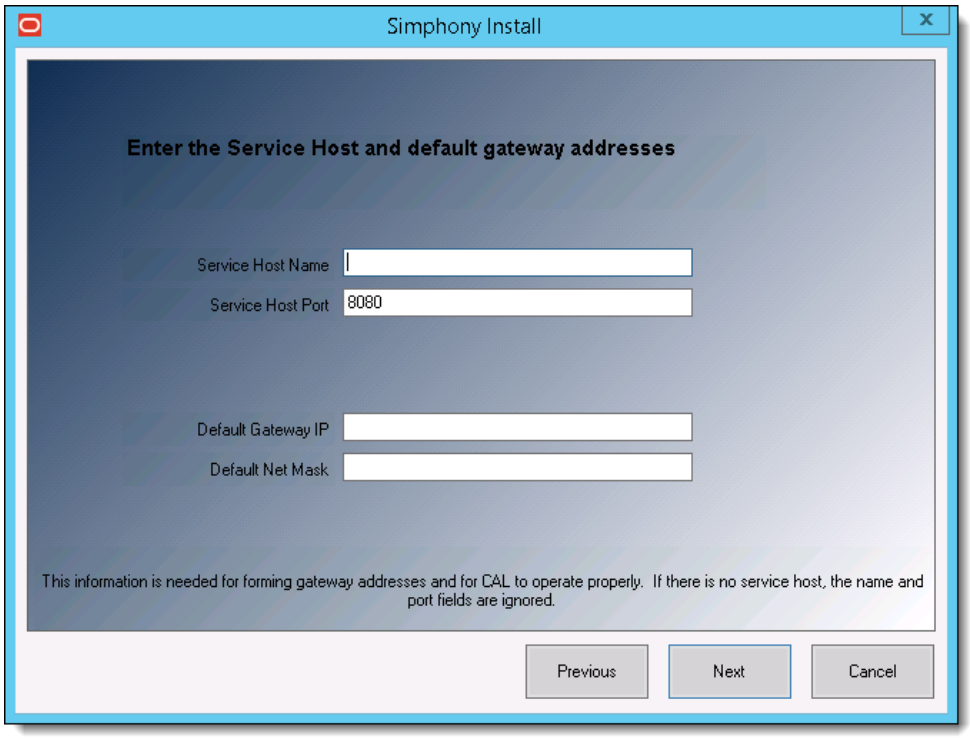
    a. Select **IIS** in the **Certificate Location** field.

    b. To add a new certificate, select **New**, click **Select**, enter or select the certificate location, and then enter the **Password** for the certificate.

c. To add an existing certificate, select **Existing**, and then select the certificate from the drop-down list.

11. Click **Next**.

Figure 3-5 Service Host and Default Gateway Addresses



12. Enter the **Service Host Name** and **Service Host Port** number, as well as the **Default Gateway IP** and **Default Net Mask** IP addresses, and then click **Next**.
13. Select the database platform type of Oracle Database, and then click **Next**:
    a. For an Oracle Database, select **Oracle**.

       For All-in-One installation scenarios, the installation application installs an Oracle 18c client (even if you are using Oracle Database 12c as a platform). If you are using Oracle Database 18c, the installer does not install an Oracle 18c client.

    b. Click **OK** to install the 18c client if prompted to do so.
14. Enter or select the location to install Simphony, and then click **Next** twice.

    Oracle Food and Beverage recommends that you install the Simphony application on a separate partition from where the Microsoft Windows or Oracle Linux for MICROS operating system resides (usually the C:\ drive).
15. To install Simphony with a blank database:
    a. Select **Blank Database**.
    b. Enter a strong **Username** and **Password** to comply with Payment Card Industry (PCI) security guidelines. The credentials that you enter here are used to create the Simphony super user to access the EMC.

c. Confirm the password, and then click **Next**.

16. For **Oracle** as the database platform type:

    a. Enter the information to create the transaction database, and then click **Next**. List of Simphony Database Configuration Fields contains more information on the database setup options.

    b. Enter the login credentials for the default `sys` user, and then click **OK**.

    c. Enter the information to create the security database, and then click **Next**.

    Oracle Food and Beverage recommends separating the Transaction and Security databases onto different servers for additional security.

17. Enter the following information that is used to connect to the existing security database, and then click **Next**.

    a. **Server Name**: Enter the name of the database server.

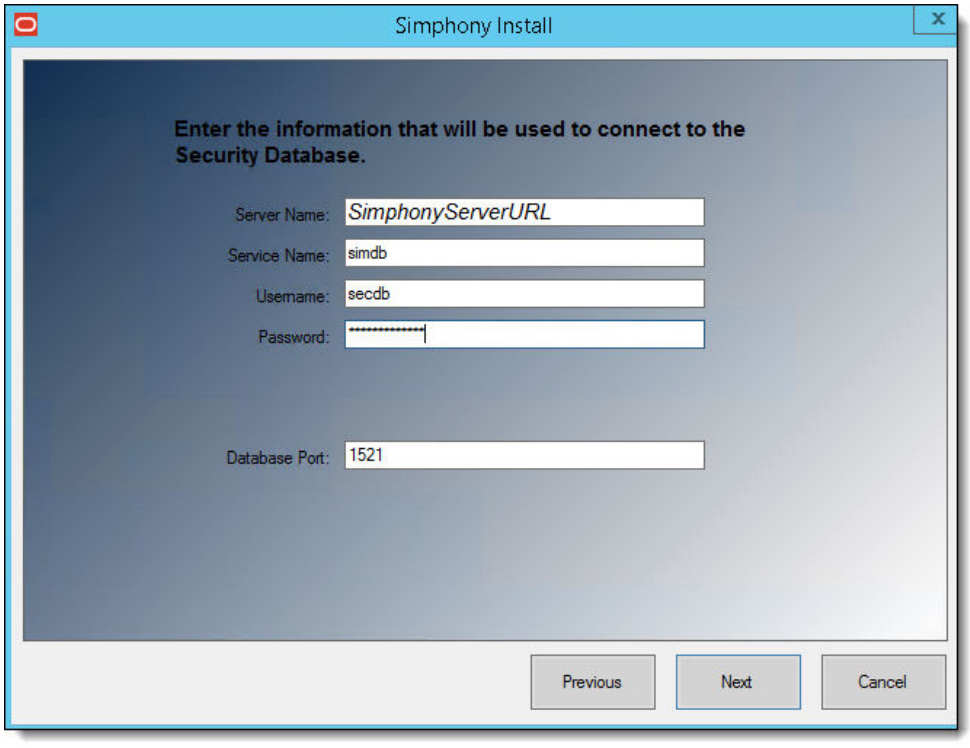
    b. **Service Name**: (Oracle Database users) Enter the name of the service (TNS alias).

    c. **Username**: Enter your security database access user name.

    d. **Password**: Enter your security database access password.

    e. **Database Port**: Enter the port number used to access the security database server, and then click **Next**.

Figure 3-6 Security Database Connection Information



18. Enter the following information to connect to the reporting database.

    a. **Server Name**: Enter the name of the reporting database server.

b. **Service Name**: (Oracle Database users) Enter the name of the service (TNS alias).

c. **Username**: Enter (or verify) your reporting database access user name.

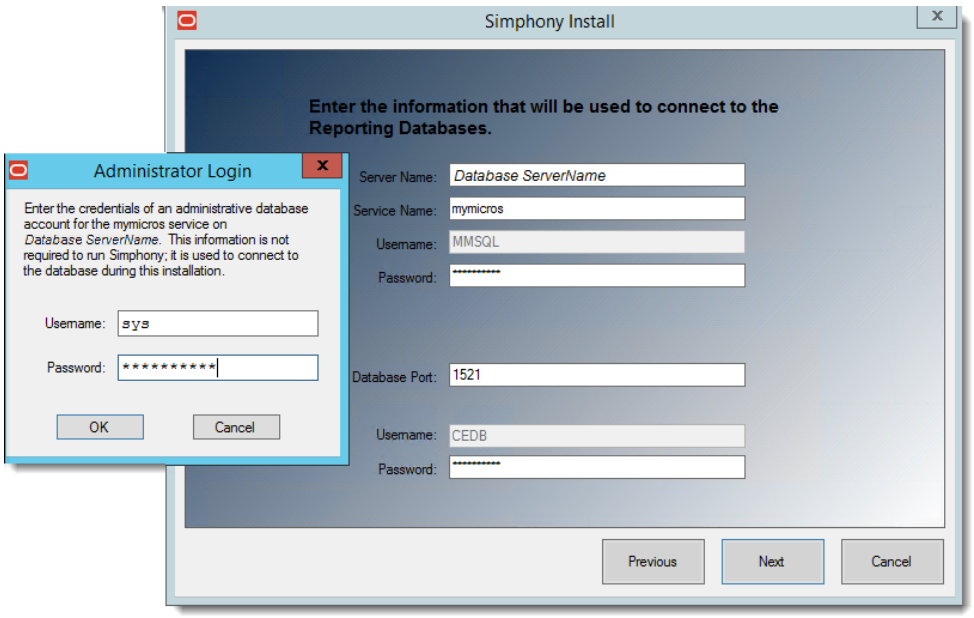
d. **Password**: Enter your reporting database access password.

e. **Database Port**: Enter the port number used to access the reporting database.

f. **Username**: Enter (or verify) your reporting database access user name.

g. **Password**: Enter your reporting database access password, and then click **Next**.

Figure 3-7 Simphony Install Reporting Database Connection



19. You have the option to configure Multi-Factor Authentication (MFA) if you already have your SMTP email servers set up and validated. MFA Configuration During the Installation of Simphony contains instructions about configuring MFA during the installation process.

20. Click **Confirm**.

21. After the installation completes, click **Finish** to exit the Simphony setup.

22. Click **Yes** to restart the computer.

23. Proceed to Post-Installation Tasks to continue.

Installing Simphony on Multiple Servers

In a multi-server installation, you can install the Simphony application and database components on separate servers.

The following table outlines the process for installing Simphony:

Table 3-1 Multiple Server Installation

Database Type	Description
Oracle Database	When installing Simphony with an Oracle database, you can install Simphony database components on separate database servers from a remote machine while installing Simphony on the application servers. For properties using separate servers for the Simphony application and databases, install an Oracle 18c Client on all application servers so that it can connect to the remote database server.

Ensure all of the pre-installation tasks have been completed as outlined in the Pre-Installation Tasks chapter.

- Using the Simphony installation media, select and install **Database Component Only** on the database servers.
  1. After setting up the database components on the database servers, access the Simphony application server. Using the Simphony installation media, select and install **Application Components Only**.
  2. Select all components, and then click **Next**.

     List of Simphony Components and Services contains more information.
  3. If you are installing all Simphony application components on a single server, select all the services, and then click **Next**.
  4. If you are installing Simphony application components on more than one server:
     - On the primary application server, select all services, and then click **Next**.
     - On all other application servers, deselect **Sequencer Service**, and then click **Next**.
  5. Follow the instructions in Simphony Installation for an All-in-One Server to complete the installation. When configuring the databases, enter the Server Host Name or IP Address, Service Host Name, and Login Credentials for the Simphony database servers.
  6. Run the Simphony installation application to install the Oracle 18c Client on all Simphony application servers.

List of Simphony Components and Services

You can install the following components and services by running the Simphony installation application.

Table 3-2 List of Application and Database Services

Component	Description
Data Transfer Service (DTS)	Moves point of sale (POS) definitions and journal data to Reporting and Analytics. This is typically installed on each Simphony application server.

Table 3-2 (Cont.) List of Application and Database Services

Component	Description
Direct Posting Service (DPS)	Posts sales data to the Simphony Reports database. This is typically installed on each Simphony application server.
Enterprise Management Console (EMC) Client	Contains all of the files necessary to run the EMC.
Open Source	This is typically installed on each Simphony application server.
Sequencer Service	Responsible for running the Start of Day Autosequences. This is typically installed on each Simphony application server, but is only enabled on one server
Tools	Installs the tools required for import/export, encryption, and so on. This is typically installed on each Simphony application server.
Data Request Processing Service	Installs the Import Export Web API and the Web Application Data Request Processing Service. This is typically installed on each Simphony application server. The Web Application Data Request Processing Service processes Simphony Data Import/ Export requests and scheduled Import/ Export requests.

MFA Configuration During the Installation of Simphony

When running the Simphony installation application, you are prompted to configure Multi-Factor Authentication (MFA). You can either bypass or configure the MFA configuration.

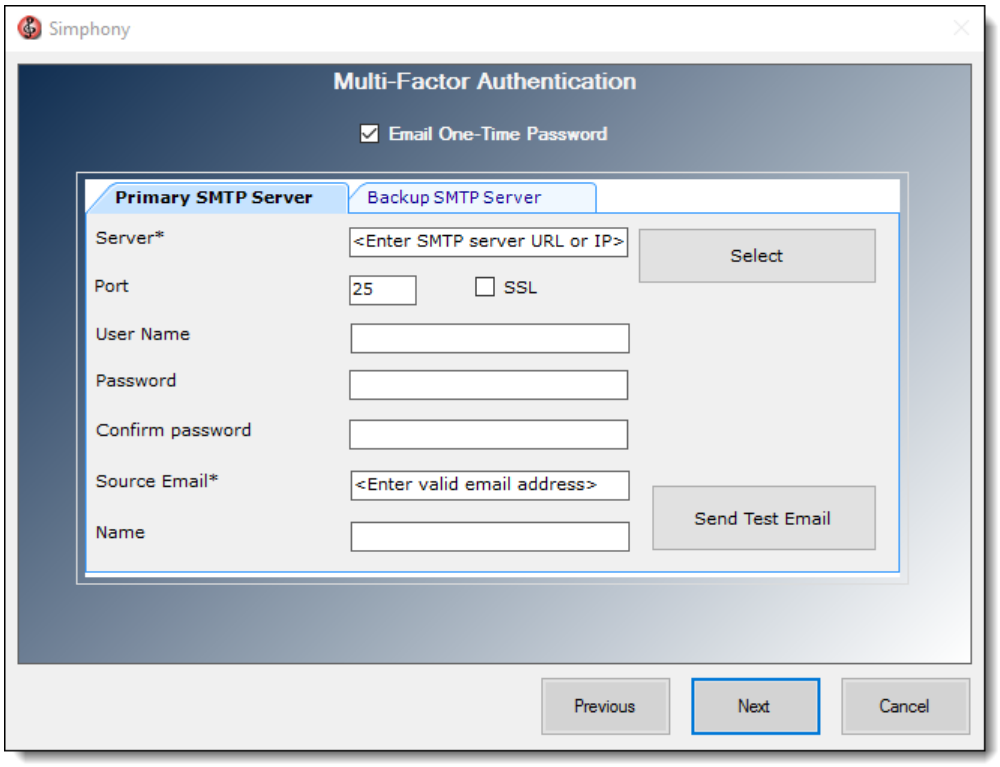
1. To bypass the MFA configuration until after Simphony has been installed, deselect the **Email One-Time Password** checkbox, and then click **Next**.

   After you deselect **Email One-Time Password**, you receive a message that indicates your system is not in compliance with Payment Card Industry (PCI) standards.

2. If you choose to configure MFA at this time, the configuration instructions are outlined in the *Simphony Post-Installation or Upgrade Guide*, specifically in the chapter named **EMC Access Security**. Search for the **Configuring the SMTP and Backup SMTP Servers in the EMC** section.

   If you are performing a Simphony Standard Cloud Service installation, MFA configuration that is completed during the installation of Simphony is duplicated for each enterprise. After Simphony is installed, you can go back and make edits in the EMC for individual enterprises (or organizations) that might have differing SMTP servers or settings from each other.

Figure 3-8 Enabling Multi-Factor Authentication



4
Post-Installation Tasks

Perform all post-installation tasks to ensure that the Simphony components and the database are configured correctly.

Logging Onto the EMC

The Enterprise Management Console (EMC) is the primary configuration application in Simphony. A shortcut for accessing EMC is installed on the application server during the installation.

1. Open the **EMC** from the shortcut on the desktop or **Start** menu.
2. Enter the Host Name or IP address of the Simphony application server or the Load Balanced address.

> **Note:**
>
> To determine the Host Name of a machine, open a Command prompt session and execute the `hostname` command. Make note of the returned host name value.

3. If you installed the blank database, enter the logon credentials for the Simphony super user that you created when installing Simphony.
4. Click **Login**.
5. Click **OK** for the EMC Database Credentials Non-Compliance message.

   If you can launch and see that the EMC and the Simphony Gateway are running, Simphony is successfully installed.

Setting the Start-Of-Day Sequencer Machine and the App Server Time Zone

1. In the EMC, select the Enterprise level, click the **Setup** tab, and then click **Enterprise Parameters**.
2. From the machine running the **Oracle Hospitality Simphony Sequencer Service**, open a Command prompt session and execute the `hostname` command. Make note of the returned host name value.
3. From the EMC, click the **Miscellaneous** tab, and enter the previously returned hostname value in the **SOD Sequencer Machine Name** field.

> **Note:**
>
> An IP address or Fully Qualified Domain Name (FQDN) are not valid entries for this field.

4. Select the **App Server Time Zone**.

   If you are deploying Simphony on multiple servers, the date, time, and the time zone settings of each application server and database server must correspond. Additionally, the servers' time zone must correspond with the application server time zone setting in the EMC.

   You can synchronize the time settings between the servers by configuring one of the servers to be a Network Time Protocol (NTP) server and then point the rest of the servers to the NTP server. For information on configuring a Network Time Protocol server, refer to the Microsoft TechNet Library at https://technet.microsoft.com/en-us/.

5. Click **Save**.

6. If you installed Simphony on multiple application servers, disable the **Oracle Hospitality Simphony Sequencer Service** on all servers other than the SOD Sequencer Machine.

   In the event the application server that is running the Oracle Hospitality Simphony Sequencer Service has performance issues, start the Oracle Hospitality Simphony Sequencer Service on another Simphony application server if the main application server is going to be down for multiple days.

   The Oracle Hospitality Simphony Sequencer Service on the original server must be stopped prior to it being started on the alternate one. Also, when changing where the Oracle Hospitality Simphony Sequencer Service is running, the designation of the SOD Sequencer Machine Name must be updated in the EMC.

Connecting Reporting and Analytics to Simphony

With Simphony release 2.10 or later (which includes the Simphony 18.2 and 19.1 releases), if you use Reporting and Analytics (R&A) release 9.0 Patch 8 or later, the steps outlined below are no longer required. Core Simphony reports are now available to set up by default from within the R&A application.

If you are using R&A release 8.5.1, complete the following steps. Before you connect to R&A, you need to have:

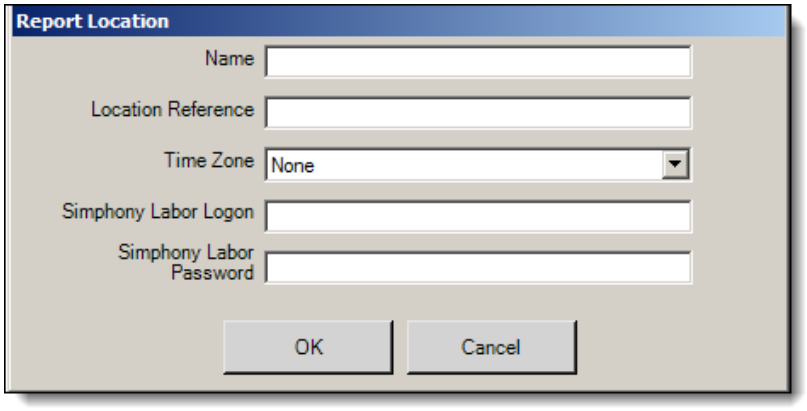
- At least one property in the Enterprise. The *Oracle Hospitality Simphony Configuration Guide* contains more information about adding properties to the Enterprise.
- Organizations and report locations created in R&A for your properties in the Enterprise. The Hospitality Enterprise Back Office Installation Guide contains more information about the prerequisite configurations that are required when creating organizations and report locations.

To identify the location of R&A on the system, perform the following steps:

1. In the EMC, select the Enterprise level, click the **Setup** tab, click **Enterprise Parameters**, and then click the **Reporting and Analytics** tab.

2. In the **Reporting and Analytics Machine Name** field, enter the name of the computer that is running the **MICROS Portal Service**.
3. Select the Enterprise level, click the **Setup** tab, and then click **Properties**.
4. Double-click a property to open it.
5. Select the **Report Location** for the property.
6. If the Report Location is not available in the drop-down list:
    a. Click **New**, and then create a Report Location.
    b. Complete each field (required) as described below:
        - **Name**: Enter the property name.
        - **Location Reference**: Enter the Property ID. This must be unique.
        - **Time Zone**: Select the time zone from the drop-down list that matches the property's time zone.
        - **Simphony Labor Logon**: Enter a unique user name.
        - **Simphony Labor Password**: Enter a unique password.
7. Click **OK**, and then click **Save**.

Figure 4-1 Report Location Configuration



8. Repeat Steps 4 through 7 for all properties in the Enterprise.

5

Removing POS and Reporting

Uninstalling Simphony and Reporting and Analytics

Uninstalling removes the Simphony application only. To completely remove Simphony from the servers, you must manually delete the Simphony database components from the database after uninstalling the application.

1. Run the Simphony release 19.1 installation application, and click **Next**.

   If you have the application and the database on separate servers, run the installation application on the application server.

2. Enter the credentials for a database administrator, and then click **OK**.
   - For an Oracle database, enter the credentials for the `sys` user.
3. Select **Uninstall Simphony**, and then click **Next**.
4. Click **Confirm**.

   To uninstall Reporting and Analytics see the Hospitality Enterprise Back Office Installation Guide for more information.

6

Appendix A: Sample Script for Creating Oracle Tablespaces

Create the following Simphony Oracle Database Tablespaces on the database server or servers:

```
/* MCRSPOS */
DECLARE
    CURSOR mcrspos_tablespace_check IS
    SELECT tablespace_name
    FROM dba_tablespaces
    WHERE tablespace_name = 'MCRSPOS';

    CURSOR mcrspos_platform_check_w IS
    SELECT substr(platform_name, 1, 9)
    FROM gv$database;

    CURSOR mcrspos_platform_check_l IS
    SELECT substr(platform_name, 1, 5)
    FROM gv$database;

    CURSOR mcrspos_rac_check IS
    select value from gv$parameter
    where name = 'cluster_database';

    CURSOR mcrspos_asm_check IS
    select substr(file_name, 1,1)
    from dba_data_files;

    v_tablespace   VARCHAR2(40);
    v_path         VARCHAR2(100);
    sql_stmt       VARCHAR2(10000);
    v_platform_w   VARCHAR2(40);
    v_platform_l   VARCHAR2(40);
    v_rac          VARCHAR2(10);
    v_asm          VARCHAR2(10);

BEGIN
    OPEN mcrspos_tablespace_check;
    OPEN mcrspos_platform_check_w;
    OPEN mcrspos_platform_check_l;
    OPEN mcrspos_rac_check;
    OPEN mcrspos_asm_check;
    FETCH mcrspos_tablespace_check INTO v_tablespace;
    FETCH mcrspos_platform_check_w INTO v_platform_w;
    FETCH mcrspos_platform_check_l INTO v_platform_l;
    FETCH mcrspos_rac_check INTO v_rac;
    FETCH mcrspos_asm_check INTO v_asm;
```

```
    IF mcrspos_tablespace_check%NOTFOUND AND v_platform_w = 'Microsoft'
THEN
        SELECT substr(file_name, 1,((instr(file_name, '\', - 1, 1)))) INTO
v_path FROM dba_data_files WHERE ROWNUM < 2;

        sql_stmt := 'CREATE TABLESPACE MCRSPOS LOGGING DATAFILE ' || ''''
|| v_path || 'MCRSPOS01.dbf' || '''' || ' SIZE 512M AUTOEXTEND ON NEXT
128M MAXSIZE UNLIMITED EXTENT MANAGEMENT LOCAL SEGMENT SPACE MANAGEMENT
AUTO';
        EXECUTE IMMEDIATE sql_stmt;
     ELSE
        IF mcrspos_tablespace_check%NOTFOUND AND v_platform_l = 'Linux'
AND v_rac <> 'TRUE' THEN
            SELECT substr(file_name, 1,((instr(file_name, '/', - 1, 1))))
INTO v_path FROM dba_data_files WHERE ROWNUM < 2;

            sql_stmt := 'CREATE TABLESPACE MCRSPOS LOGGING DATAFILE ' ||
'''' || v_path || 'MCRSPOS01.dbf' || '''' || ' SIZE 512M AUTOEXTEND ON
NEXT 128M MAXSIZE UNLIMITED EXTENT MANAGEMENT LOCAL SEGMENT SPACE
MANAGEMENT AUTO';
            EXECUTE IMMEDIATE sql_stmt;
     ELSE
        IF mcrspos_tablespace_check%NOTFOUND AND v_platform_l = 'Linux'
AND v_rac = 'TRUE' AND v_asm = '+' THEN

            sql_stmt := 'CREATE TABLESPACE MCRSPOS DATAFILE ''+DATA'' SIZE
512M AUTOEXTEND ON NEXT 128M MAXSIZE UNLIMITED LOGGING ONLINE PERMANENT
BLOCKSIZE 8192 EXTENT MANAGEMENT LOCAL AUTOALLOCATE ENCRYPTION USING
''AES256'' DEFAULT NOCOMPRESS STORAGE(ENCRYPT) SEGMENT SPACE MANAGEMENT
AUTO';
            EXECUTE IMMEDIATE sql_stmt;
     ELSE
        IF mcrspos_tablespace_check%NOTFOUND AND v_platform_l = 'Linux'
AND v_rac = 'TRUE' AND v_asm = '/' THEN
            SELECT substr(file_name, 1,((instr(file_name, '/', - 1, 1))))
INTO v_path FROM dba_data_files WHERE ROWNUM < 2;

            sql_stmt := 'CREATE TABLESPACE MCRSPOS LOGGING DATAFILE ' ||
'''' || v_path || 'MCRSPOS01.dbf' || '''' || ' SIZE 512M AUTOEXTEND ON
NEXT 128M MAXSIZE UNLIMITED EXTENT MANAGEMENT LOCAL SEGMENT SPACE
MANAGEMENT AUTO';
            EXECUTE IMMEDIATE sql_stmt;
        END IF;
        END IF;
        END IF;
    END IF;
    CLOSE mcrspos_tablespace_check;
    CLOSE mcrspos_platform_check_w;
    CLOSE mcrspos_platform_check_l;
    CLOSE mcrspos_rac_check;
    CLOSE mcrspos_asm_check;
END;
/
/* MCRSCACHE */
DECLARE
```

```
    CURSOR mcrscache_tablespace_check IS
    SELECT tablespace_name
    FROM dba_tablespaces
    WHERE tablespace_name = 'MCRSCACHE';

    CURSOR mcrscache_platform_check_w IS
    SELECT substr(platform_name, 1, 9)
    FROM gv$database;

    CURSOR mcrscache_platform_check_l IS
    SELECT substr(platform_name, 1, 5)
    FROM gv$database;

    CURSOR mcrscache_rac_check IS
    select value from gv$parameter
    where name = 'cluster_database';

    CURSOR mcrscache_asm_check IS
    select substr(file_name, 1,1)
    from dba_data_files;

    v_tablespace   VARCHAR2(40);
    v_path         VARCHAR2(100);
    sql_stmt       VARCHAR2(10000);
    v_platform_w   VARCHAR2(40);
    v_platform_l   VARCHAR2(40);
    v_rac          VARCHAR2(10);
    v_asm          VARCHAR2(10);

BEGIN
    OPEN mcrscache_tablespace_check;
    OPEN mcrscache_platform_check_w;
    OPEN mcrscache_platform_check_l;
    OPEN mcrscache_rac_check;
    OPEN mcrscache_asm_check;
    FETCH mcrscache_tablespace_check INTO v_tablespace;
    FETCH mcrscache_platform_check_w INTO v_platform_w;
    FETCH mcrscache_platform_check_l INTO v_platform_l;
    FETCH mcrscache_rac_check INTO v_rac;
    FETCH mcrscache_asm_check INTO v_asm;
    IF mcrscache_tablespace_check%NOTFOUND AND v_platform_w = 'Microsoft'
THEN
        SELECT substr(file_name, 1,((instr(file_name, '\', - 1, 1)))) INTO
v_path FROM dba_data_files WHERE ROWNUM < 2;

        sql_stmt := 'CREATE TABLESPACE MCRSCACHE LOGGING DATAFILE ' ||
'''' || v_path || 'MCRSCACHE01.dbf' || '''' || ' SIZE 512M AUTOEXTEND ON
NEXT 128M MAXSIZE UNLIMITED EXTENT MANAGEMENT LOCAL SEGMENT SPACE
MANAGEMENT AUTO';
        EXECUTE IMMEDIATE sql_stmt;
     ELSE
        IF mcrscache_tablespace_check%NOTFOUND AND v_platform_l = 'Linux'
AND v_rac <> 'TRUE' THEN
            SELECT substr(file_name, 1,((instr(file_name, '/', - 1, 1))))
INTO v_path FROM dba_data_files WHERE ROWNUM < 2;
```

```
            sql_stmt := 'CREATE TABLESPACE MCRSCACHE LOGGING DATAFILE ' ||
'''' || v_path || 'MCRSCACHE01.dbf' || '''' || ' SIZE 512M AUTOEXTEND ON
NEXT 128M MAXSIZE UNLIMITED EXTENT MANAGEMENT LOCAL SEGMENT SPACE
MANAGEMENT AUTO';
            EXECUTE IMMEDIATE sql_stmt;
     ELSE
        IF mcrscache_tablespace_check%NOTFOUND AND v_platform_l = 'Linux'
AND v_rac = 'TRUE' AND v_asm = '+' THEN

            sql_stmt := 'CREATE TABLESPACE MCRSCACHE DATAFILE ''+DATA''
SIZE 512M AUTOEXTEND ON NEXT 128M MAXSIZE UNLIMITED LOGGING ONLINE
PERMANENT BLOCKSIZE 8192 EXTENT MANAGEMENT LOCAL AUTOALLOCATE ENCRYPTION
USING ''AES256'' DEFAULT NOCOMPRESS STORAGE(ENCRYPT) SEGMENT SPACE
MANAGEMENT AUTO';
            EXECUTE IMMEDIATE sql_stmt;
     ELSE
        IF mcrscache_tablespace_check%NOTFOUND AND v_platform_l = 'Linux'
AND v_rac = 'TRUE' AND v_asm = '/' THEN
            SELECT substr(file_name, 1,((instr(file_name, '/', - 1, 1))))
INTO v_path FROM dba_data_files WHERE ROWNUM < 2;

            sql_stmt := 'CREATE TABLESPACE MCRSCACHE LOGGING DATAFILE ' ||
'''' || v_path || 'MCRSCACHE01.dbf' || '''' || ' SIZE 512M AUTOEXTEND ON
NEXT 128M MAXSIZE UNLIMITED EXTENT MANAGEMENT LOCAL SEGMENT SPACE
MANAGEMENT AUTO';
            EXECUTE IMMEDIATE sql_stmt;
        END IF;
        END IF;
        END IF;
    END IF;
    CLOSE mcrscache_tablespace_check;
    CLOSE mcrscache_platform_check_w;
    CLOSE mcrscache_platform_check_l;
    CLOSE mcrscache_rac_check;
    CLOSE mcrscache_asm_check;
END;
/
/* MCRSPOS_PAR */
DECLARE
    CURSOR mcrspos_par_tablespace_check IS
    SELECT tablespace_name
    FROM dba_tablespaces
    WHERE tablespace_name = 'MCRSPOS_PAR';

    CURSOR mcrspos_par_platform_check_w IS
    SELECT substr(platform_name, 1, 9)
    FROM gv$database;

    CURSOR mcrspos_par_platform_check_l IS
    SELECT substr(platform_name, 1, 5)
    FROM gv$database;

    CURSOR mcrspos_par_rac_check IS
    select value from gv$parameter
```

```
    where name = 'cluster_database';

    CURSOR mcrspos_par_asm_check IS
    select substr(file_name, 1,1)
    from dba_data_files;

    v_tablespace   VARCHAR2(40);
    v_path         VARCHAR2(100);
    sql_stmt       VARCHAR2(10000);
    sql_stmt2       VARCHAR2(10000);
    v_platform_w   VARCHAR2(40);
    v_platform_l   VARCHAR2(40);
    v_rac          VARCHAR2(10);
    v_asm          VARCHAR2(10);

BEGIN
    OPEN mcrspos_par_tablespace_check;
    OPEN mcrspos_par_platform_check_w;
    OPEN mcrspos_par_platform_check_l;
    OPEN mcrspos_par_rac_check;
    OPEN mcrspos_par_asm_check;
    FETCH mcrspos_par_tablespace_check INTO v_tablespace;
    FETCH mcrspos_par_platform_check_w INTO v_platform_w;
    FETCH mcrspos_par_platform_check_l INTO v_platform_l;
    FETCH mcrspos_par_rac_check INTO v_rac;
    FETCH mcrspos_par_asm_check INTO v_asm;
    IF mcrspos_par_tablespace_check%NOTFOUND AND v_platform_w =
'Microsoft' THEN
        SELECT substr(file_name, 1,((instr(file_name, '\', - 1, 1)))) INTO
v_path FROM dba_data_files WHERE ROWNUM < 2;

        sql_stmt := 'CREATE TABLESPACE MCRSPOS_PAR LOGGING DATAFILE ' ||
'''' || v_path || 'MCRSPOS_PAR01.dbf' || '''' || ' SIZE 512M AUTOEXTEND ON
NEXT 128M MAXSIZE UNLIMITED EXTENT MANAGEMENT LOCAL SEGMENT SPACE
MANAGEMENT AUTO';
        EXECUTE IMMEDIATE sql_stmt;
        sql_stmt2 := 'ALTER TABLESPACE MCRSPOS_PAR ADD DATAFILE ' || ''''
|| v_path || 'MCRSPOS_PAR02.dbf' || '''' || ' SIZE 512M AUTOEXTEND ON NEXT
128M MAXSIZE UNLIMITED';
        EXECUTE IMMEDIATE sql_stmt2;
     ELSE
        IF mcrspos_par_tablespace_check%NOTFOUND AND v_platform_l =
'Linux' AND v_rac <> 'TRUE' THEN
            SELECT substr(file_name, 1,((instr(file_name, '/', - 1, 1))))
INTO v_path FROM dba_data_files WHERE ROWNUM < 2;

            sql_stmt := 'CREATE TABLESPACE MCRSPOS_PAR LOGGING DATAFILE '
|| '''' || v_path || 'MCRSPOS_PAR01.dbf' || '''' || ' SIZE 512M AUTOEXTEND
ON NEXT 128M MAXSIZE UNLIMITED EXTENT MANAGEMENT LOCAL SEGMENT SPACE
MANAGEMENT AUTO';
            EXECUTE IMMEDIATE sql_stmt;
            sql_stmt2 := 'ALTER TABLESPACE MCRSPOS_PAR ADD DATAFILE ' ||
'''' || v_path || 'MCRSPOS_PAR02.dbf' || '''' || ' SIZE 512M AUTOEXTEND ON
NEXT 128M MAXSIZE UNLIMITED';
            EXECUTE IMMEDIATE sql_stmt2;
```

```
     ELSE
        IF mcrspos_par_tablespace_check%NOTFOUND AND v_platform_l =
'Linux' AND v_rac = 'TRUE' AND v_asm = '+' THEN

            sql_stmt := 'CREATE TABLESPACE MCRSPOS_PAR DATAFILE ''+DATA''
SIZE 512M AUTOEXTEND ON NEXT 128M MAXSIZE UNLIMITED EXTENT MANAGEMENT
LOCAL SEGMENT SPACE MANAGEMENT AUTO';
            EXECUTE IMMEDIATE sql_stmt;
            sql_stmt2 := 'ALTER TABLESPACE MCRSPOS_PAR ADD DATAFILE
''+DATA'' SIZE 512M AUTOEXTEND ON NEXT 128M MAXSIZE UNLIMITED';
            EXECUTE IMMEDIATE sql_stmt2;
     ELSE
        IF mcrspos_par_tablespace_check%NOTFOUND AND v_platform_l =
'Linux' AND v_rac = 'TRUE' AND v_asm = '/' THEN
            SELECT substr(file_name, 1,((instr(file_name, '/', - 1, 1))))
INTO v_path FROM dba_data_files WHERE ROWNUM < 2;

            sql_stmt := 'CREATE TABLESPACE MCRSPOS_PAR LOGGING DATAFILE '
|| '''' || v_path || 'MCRSPOS_PAR01.dbf' || '''' || ' SIZE 512M AUTOEXTEND
ON NEXT 128M MAXSIZE UNLIMITED EXTENT MANAGEMENT LOCAL SEGMENT SPACE
MANAGEMENT AUTO';
            EXECUTE IMMEDIATE sql_stmt;
            sql_stmt2 := 'ALTER TABLESPACE MCRSPOS_PAR ADD DATAFILE ' ||
'''' || v_path || 'MCRSPOS_PAR02.dbf' || '''' || ' SIZE 512M AUTOEXTEND ON
NEXT 128M MAXSIZE UNLIMITED';
            EXECUTE IMMEDIATE sql_stmt2;
        END IF;
        END IF;
        END IF;
    END IF;
    CLOSE mcrspos_par_tablespace_check;
    CLOSE mcrspos_par_platform_check_w;
    CLOSE mcrspos_par_platform_check_l;
    CLOSE mcrspos_par_rac_check;
    CLOSE mcrspos_par_asm_check;
END;
/
/* MCRSPOS_NDX */
DECLARE
    CURSOR mcrspos_ndx_tablespace_check IS
    SELECT tablespace_name
    FROM dba_tablespaces
    WHERE tablespace_name = 'MCRSPOS_NDX';

    CURSOR mcrspos_ndx_platform_check_w IS
    SELECT substr(platform_name, 1, 9)
    FROM gv$database;

    CURSOR mcrspos_ndx_platform_check_l IS
    SELECT substr(platform_name, 1, 5)
    FROM gv$database;

    CURSOR mcrspos_ndx_rac_check IS
    select value from gv$parameter
    where name = 'cluster_database';
```

```
    CURSOR mcrspos_ndx_asm_check IS
    select substr(file_name, 1,1)
    from dba_data_files;

    v_tablespace   VARCHAR2(40);
    v_path         VARCHAR2(100);
    sql_stmt       VARCHAR2(10000);
    sql_stmt2       VARCHAR2(10000);
    v_platform_w   VARCHAR2(40);
    v_platform_l   VARCHAR2(40);
    v_rac          VARCHAR2(10);
    v_asm          VARCHAR2(10);

BEGIN
    OPEN mcrspos_ndx_tablespace_check;
    OPEN mcrspos_ndx_platform_check_w;
    OPEN mcrspos_ndx_platform_check_l;
    OPEN mcrspos_ndx_rac_check;
    OPEN mcrspos_ndx_asm_check;
    FETCH mcrspos_ndx_tablespace_check INTO v_tablespace;
    FETCH mcrspos_ndx_platform_check_w INTO v_platform_w;
    FETCH mcrspos_ndx_platform_check_l INTO v_platform_l;
    FETCH mcrspos_ndx_rac_check INTO v_rac;
    FETCH mcrspos_ndx_asm_check INTO v_asm;
    IF mcrspos_ndx_tablespace_check%NOTFOUND AND v_platform_w =
'Microsoft' THEN
        SELECT substr(file_name, 1,((instr(file_name, '\', - 1, 1)))) INTO
v_path FROM dba_data_files WHERE ROWNUM < 2;

        sql_stmt := 'CREATE TABLESPACE MCRSPOS_NDX LOGGING DATAFILE ' ||
'''' || v_path || 'MCRSPOS_NDX01.dbf' || '''' || ' SIZE 512M AUTOEXTEND ON
NEXT 128M MAXSIZE UNLIMITED EXTENT MANAGEMENT LOCAL SEGMENT SPACE
MANAGEMENT AUTO';
        EXECUTE IMMEDIATE sql_stmt;
        sql_stmt2 := 'ALTER TABLESPACE MCRSPOS_NDX ADD DATAFILE ' || ''''
|| v_path || 'MCRSPOS_NDX02.dbf' || '''' || ' SIZE 512M AUTOEXTEND ON NEXT
128M MAXSIZE UNLIMITED';
        EXECUTE IMMEDIATE sql_stmt2;
     ELSE
        IF mcrspos_ndx_tablespace_check%NOTFOUND AND v_platform_l =
'Linux' AND v_rac <> 'TRUE' THEN
            SELECT substr(file_name, 1,((instr(file_name, '/', - 1, 1))))
INTO v_path FROM dba_data_files WHERE ROWNUM < 2;

            sql_stmt := 'CREATE TABLESPACE MCRSPOS_NDX LOGGING DATAFILE '
|| '''' || v_path || 'MCRSPOS_NDX01.dbf' || '''' || ' SIZE 512M AUTOEXTEND
ON NEXT 128M MAXSIZE UNLIMITED EXTENT MANAGEMENT LOCAL SEGMENT SPACE
MANAGEMENT AUTO';
            EXECUTE IMMEDIATE sql_stmt;
            sql_stmt2 := 'ALTER TABLESPACE MCRSPOS_NDX ADD DATAFILE ' ||
'''' || v_path || 'MCRSPOS_NDX02.dbf' || '''' || ' SIZE 512M AUTOEXTEND ON
NEXT 128M MAXSIZE UNLIMITED';
            EXECUTE IMMEDIATE sql_stmt2;
     ELSE
```

```
        IF mcrspos_ndx_tablespace_check%NOTFOUND AND v_platform_l =
'Linux' AND v_rac = 'TRUE' AND v_asm = '+' THEN

            sql_stmt := 'CREATE TABLESPACE MCRSPOS_NDX DATAFILE ''+DATA''
SIZE 512M AUTOEXTEND ON NEXT 128M MAXSIZE UNLIMITED EXTENT MANAGEMENT
LOCAL SEGMENT SPACE MANAGEMENT AUTO';
            EXECUTE IMMEDIATE sql_stmt;
            sql_stmt2 := 'ALTER TABLESPACE MCRSPOS_NDX ADD DATAFILE
''+DATA'' SIZE 512M AUTOEXTEND ON NEXT 128M MAXSIZE UNLIMITED';
            EXECUTE IMMEDIATE sql_stmt2;
     ELSE
        IF mcrspos_ndx_tablespace_check%NOTFOUND AND v_platform_l =
'Linux' AND v_rac = 'TRUE' AND v_asm = '/' THEN
            SELECT substr(file_name, 1,((instr(file_name, '/', - 1, 1))))
INTO v_path FROM dba_data_files WHERE ROWNUM < 2;

            sql_stmt := 'CREATE TABLESPACE MCRSPOS_NDX LOGGING DATAFILE '
|| '''' || v_path || 'MCRSPOS_NDX01.dbf' || '''' || ' SIZE 512M AUTOEXTEND
ON NEXT 128M MAXSIZE UNLIMITED EXTENT MANAGEMENT LOCAL SEGMENT SPACE
MANAGEMENT AUTO';
            EXECUTE IMMEDIATE sql_stmt;
            sql_stmt2 := 'ALTER TABLESPACE MCRSPOS_NDX ADD DATAFILE ' ||
'''' || v_path || 'MCRSPOS_NDX02.dbf' || '''' || ' SIZE 512M AUTOEXTEND ON
NEXT 128M MAXSIZE UNLIMITED';
            EXECUTE IMMEDIATE sql_stmt2;
        END IF;
        END IF;
        END IF;
    END IF;
    CLOSE mcrspos_ndx_tablespace_check;
    CLOSE mcrspos_ndx_platform_check_w;
    CLOSE mcrspos_ndx_platform_check_l;
    CLOSE mcrspos_ndx_rac_check;
    CLOSE mcrspos_ndx_asm_check;
END;
/
/* MCRSPOS_LOB */
DECLARE
    CURSOR mcrspos_lob_tablespace_check IS
    SELECT tablespace_name
    FROM dba_tablespaces
    WHERE tablespace_name = 'MCRSPOS_LOB';

    CURSOR mcrspos_lob_platform_check_w IS
    SELECT substr(platform_name, 1, 9)
    FROM gv$database;

    CURSOR mcrspos_lob_platform_check_l IS
    SELECT substr(platform_name, 1, 5)
    FROM gv$database;

    CURSOR mcrspos_lob_rac_check IS
    select value from gv$parameter
    where name = 'cluster_database';
```

```
    CURSOR mcrspos_lob_asm_check IS
    select substr(file_name, 1,1)
    from dba_data_files;

    v_tablespace   VARCHAR2(40);
    v_path         VARCHAR2(100);
    sql_stmt       VARCHAR2(10000);
    sql_stmt2       VARCHAR2(10000);
    v_platform_w   VARCHAR2(40);
    v_platform_l   VARCHAR2(40);
    v_rac          VARCHAR2(10);
    v_asm          VARCHAR2(10);

BEGIN
    OPEN mcrspos_lob_tablespace_check;
    OPEN mcrspos_lob_platform_check_w;
    OPEN mcrspos_lob_platform_check_l;
    OPEN mcrspos_lob_rac_check;
    OPEN mcrspos_lob_asm_check;
    FETCH mcrspos_lob_tablespace_check INTO v_tablespace;
    FETCH mcrspos_lob_platform_check_w INTO v_platform_w;
    FETCH mcrspos_lob_platform_check_l INTO v_platform_l;
    FETCH mcrspos_lob_rac_check INTO v_rac;
    FETCH mcrspos_lob_asm_check INTO v_asm;
    IF mcrspos_lob_tablespace_check%NOTFOUND AND v_platform_w =
'Microsoft' THEN
        SELECT substr(file_name, 1,((instr(file_name, '\', - 1, 1)))) INTO
v_path FROM dba_data_files WHERE ROWNUM < 2;

        sql_stmt := 'CREATE TABLESPACE MCRSPOS_LOB LOGGING DATAFILE ' ||
'''' || v_path || 'MCRSPOS_LOB01.dbf' || '''' || ' SIZE 512M AUTOEXTEND ON
NEXT 128M MAXSIZE UNLIMITED EXTENT MANAGEMENT LOCAL SEGMENT SPACE
MANAGEMENT AUTO';
        EXECUTE IMMEDIATE sql_stmt;
        sql_stmt2 := 'ALTER TABLESPACE MCRSPOS_LOB ADD DATAFILE ' || ''''
|| v_path || 'MCRSPOS_LOB02.dbf' || '''' || ' SIZE 512M AUTOEXTEND ON NEXT
128M MAXSIZE UNLIMITED';
        EXECUTE IMMEDIATE sql_stmt2;
     ELSE
        IF mcrspos_lob_tablespace_check%NOTFOUND AND v_platform_l =
'Linux' AND v_rac <> 'TRUE' THEN
            SELECT substr(file_name, 1,((instr(file_name, '/', - 1, 1))))
INTO v_path FROM dba_data_files WHERE ROWNUM < 2;

            sql_stmt := 'CREATE TABLESPACE MCRSPOS_LOB LOGGING DATAFILE '
|| '''' || v_path || 'MCRSPOS_LOB01.dbf' || '''' || ' SIZE 512M AUTOEXTEND
ON NEXT 128M MAXSIZE UNLIMITED EXTENT MANAGEMENT LOCAL SEGMENT SPACE
MANAGEMENT AUTO';
            EXECUTE IMMEDIATE sql_stmt;
            sql_stmt2 := 'ALTER TABLESPACE MCRSPOS_LOB ADD DATAFILE ' ||
'''' || v_path || 'MCRSPOS_LOB02.dbf' || '''' || ' SIZE 512M AUTOEXTEND ON
NEXT 128M MAXSIZE UNLIMITED';
            EXECUTE IMMEDIATE sql_stmt2;
     ELSE
        IF mcrspos_lob_tablespace_check%NOTFOUND AND v_platform_l =
```

```
'Linux' AND v_rac = 'TRUE' and v_asm = '+' THEN

            sql_stmt := 'CREATE TABLESPACE MCRSPOS_LOB DATAFILE ''+DATA''
SIZE 512M AUTOEXTEND ON NEXT 128M MAXSIZE UNLIMITED EXTENT MANAGEMENT
LOCAL SEGMENT SPACE MANAGEMENT AUTO';
            EXECUTE IMMEDIATE sql_stmt;
            sql_stmt2 := 'ALTER TABLESPACE MCRSPOS_LOB ADD DATAFILE
''+DATA'' SIZE 512M AUTOEXTEND ON NEXT 128M MAXSIZE UNLIMITED';
            EXECUTE IMMEDIATE sql_stmt2;
     ELSE
        IF mcrspos_lob_tablespace_check%NOTFOUND AND v_platform_l =
'Linux' AND v_rac = 'TRUE' AND v_asm = '/' THEN
            SELECT substr(file_name, 1,((instr(file_name, '/', - 1, 1))))
INTO v_path FROM dba_data_files WHERE ROWNUM < 2;

            sql_stmt := 'CREATE TABLESPACE MCRSPOS_LOB LOGGING DATAFILE '
|| '''' || v_path || 'MCRSPOS_LOB01.dbf' || '''' || ' SIZE 512M AUTOEXTEND
ON NEXT 128M MAXSIZE UNLIMITED EXTENT MANAGEMENT LOCAL SEGMENT SPACE
MANAGEMENT AUTO';
            EXECUTE IMMEDIATE sql_stmt;
            sql_stmt2 := 'ALTER TABLESPACE MCRSPOS_LOB ADD DATAFILE ' ||
'''' || v_path || 'MCRSPOS_LOB02.dbf' || '''' || ' SIZE 512M AUTOEXTEND ON
NEXT 128M MAXSIZE UNLIMITED';
            EXECUTE IMMEDIATE sql_stmt2;
        END IF;
        END IF;
        END IF;
    END IF;
    CLOSE mcrspos_lob_tablespace_check;
    CLOSE mcrspos_lob_platform_check_w;
    CLOSE mcrspos_lob_platform_check_l;
    CLOSE mcrspos_lob_rac_check;
    CLOSE mcrspos_lob_asm_check;
END;
/
```

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Appendix B: Troubleshooting

Insufficient System Privileges

The Insufficient System Privileges message appears when the prerequisite, Internet Information Services (IIS), was not installed.

Installing Microsoft Internet Information Services (IIS) and Windows Communication Foundation (WCF) Features contains instructions to install Microsoft IIS.

Cannot Connect to the Database Server During the Simphony Installation

The Simphony installation application may not connect to the database server due to the following reasons:

- Windows Firewall is running
- Simphony and SimphonyXDB instances are not running

Adding Simphony to the Windows Firewall Exceptions

The Microsoft Windows Firewall that is enabled by default on your operating system could prevent the Simphony installation application from connecting to the database server. You must set up an exception rule on your firewall setting for the Simphony server and the database server to continue with the installation. For instructions setting up exception rules in Microsoft Windows Firewall, refer to the Microsoft TechNet Library at https://technet.microsoft.com/en-us/library.

Installing Simphony on Separate Servers

If you are using a separate database server, you must set up an incoming rule to allow connections from Simphony, depending on your database platform, using either the default port or the port you assign during Installation. By default, the Oracle database server uses port 1521 and Microsoft SQL Server uses port 1443. For instructions on opening a port in Microsoft Windows Firewall, refer to the Microsoft TechNet Library at https://technet.microsoft.com/en-us/library.

Starting the Oracle Listener

If the Oracle Listener is not running, Simphony services cannot start. Ensure that the Oracle Listener is running.

- If you are using Oracle Linux, run the command `$ lsnrctl status`. If the Listener is running, you will see the listener configuration settings and the services summary.

- If you are using Microsoft Windows, make sure that the Oracle TNS Listener service (for example, `OracleOraDb11g_home1TNSListener`) is set to **Started** in the Microsoft Windows Services utility.

If the Oracle Listener is not running, you need to manually restart the Listener using the Linux command = `lsnrctl start`. The *Platform Guide for Microsoft Windows* and the *Administrator's Reference for Linux and UNIX-Based Operating Systems* contain more information about manually starting Oracle services.