



RAYVENTORY®

Technology Asset Inventory

RayVentry Server Installation Guide
12.5



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RayVentory Server Installation Guide

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Introduction

RayVentory Server is a component of the RayVentory HAM / SAM solutions. A RayVentory implementation may use RayVentory Server as a source for RayVentory data where this data is processed by a RayVentory server installation.





Manual Conventions

The following typesetting conventions are used in this manual:

- Cross references to other manuals are shown in italics:
"This can be found in the *RayVentory Server Release Notes*."
- Cross references and external links are shown in blue and are underlined:
"See [RayVentory Server](#) for..."
- Quotations from the computer screen (titles, prompts, and so on) are shown in bold:
"Go to **Devices** screen."
- Code syntax, file samples, directory paths, entries that you may type on screen, and the like are shown in a monospaced font:
"Use `docker compose -up` to set your instance up"
- Large blocks of code are shown in a monospaced font with a grey background:
`version: "3.7"`
`services:`
- Italics may also be used for emphasis: "This manual is *not* intended..."
- Bold may also be used for inline headings: "**Target:** Indicates a target frame..."

Two note formats are used in RayVentory Server documentation

This is the basic format for giving additional information to the current topic.
It can come with four different headings:

	Be aware: This note format contains important information related to your current activity. You should not skip over this text.
	Note: This format is used for items of interest that relate to the current discussion.
	Best practice: If there is a best practice approach to the current topic you can decide if you want to follow it, or stick to your own plan.
	Tip: Tips are designed to help you find the easiest and quickest way to work with RayVentory Server.

The second format is for very serious alerts.

**WARNING**

The information here may save you from data loss. Pay particular attention.

Documentation Requests

We welcome suggestions and input on the various documentation resources available for RayVentry Server and its components. Feedback and other concerns can be forwarded through local Raynet support representative.

Used Libraries

No third-party libraries are used in Raynet. All libraries used are created by Raynet.

System Requirements

The given requirements name prerequisites for devices running the RayVentory Server.

Hardware Requirements

- Disk space: 100 GB
- RAM: 4 GB
- CPU: 2 cores - Increase if SQL Server and/or RayVentory DataHub will also be on same server

Software Requirements

- Operating System: Windows 2012 R2
- .Net Framework: 4.7.2
- IIS: 7.5
- SQL Server: 2016 (Express edition can be used for small environments)

Installation

The installation sources for RayVentory Server are provided as an MSI package.

Installing Prerequisite Software

For successful RayVentory Server setup, there are several prerequisites necessary on the systems.

1. Configure IIS
2. Set-up SQL Server

Configure IIS

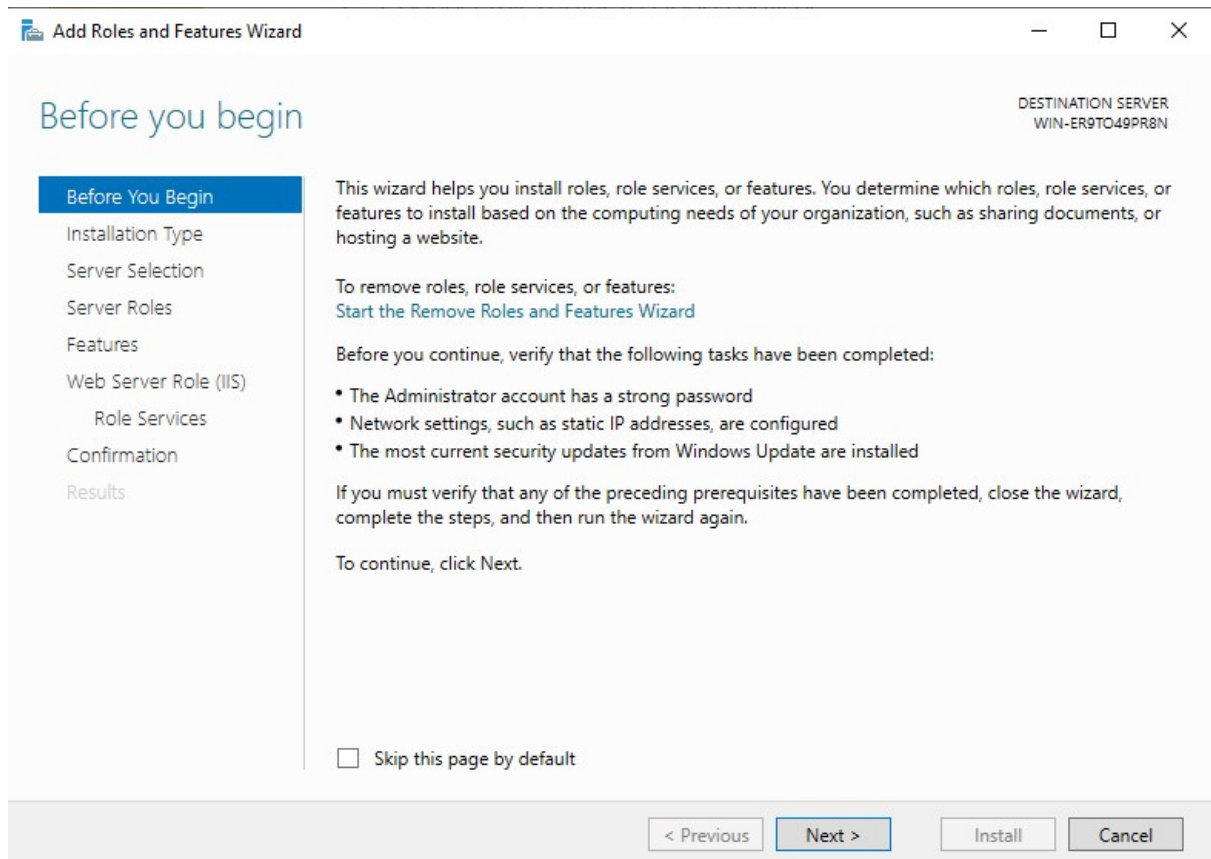
Configure the Web Server Role to support HTTP/HTTPS transfer and web services. In a Windows environment, this is covered by the Internet Information Services (IIS)

To begin a role or feature installation using the server manager interface, launch **Server Manager** first.


Once launched, selecting the **Add Roles and Features** option from the Server Manager Command Bar launches the Roles and Features wizard.

Upon launch, the **Before You Begin** pane displays to administrators to provide an overview of the wizard and the operations it can perform.

1. On **Before You Begin** page, select **Next >**.



2. On the **Installation type** page, select **Role-based or feature-based installation** as the installation type and click **Next >**.

 Add Roles and Features Wizard

DESTINATION SERVER
WINSERVER19

Select installation type

Before You Begin

Installation Type

Server Selection

Server Roles

Features

Confirmation

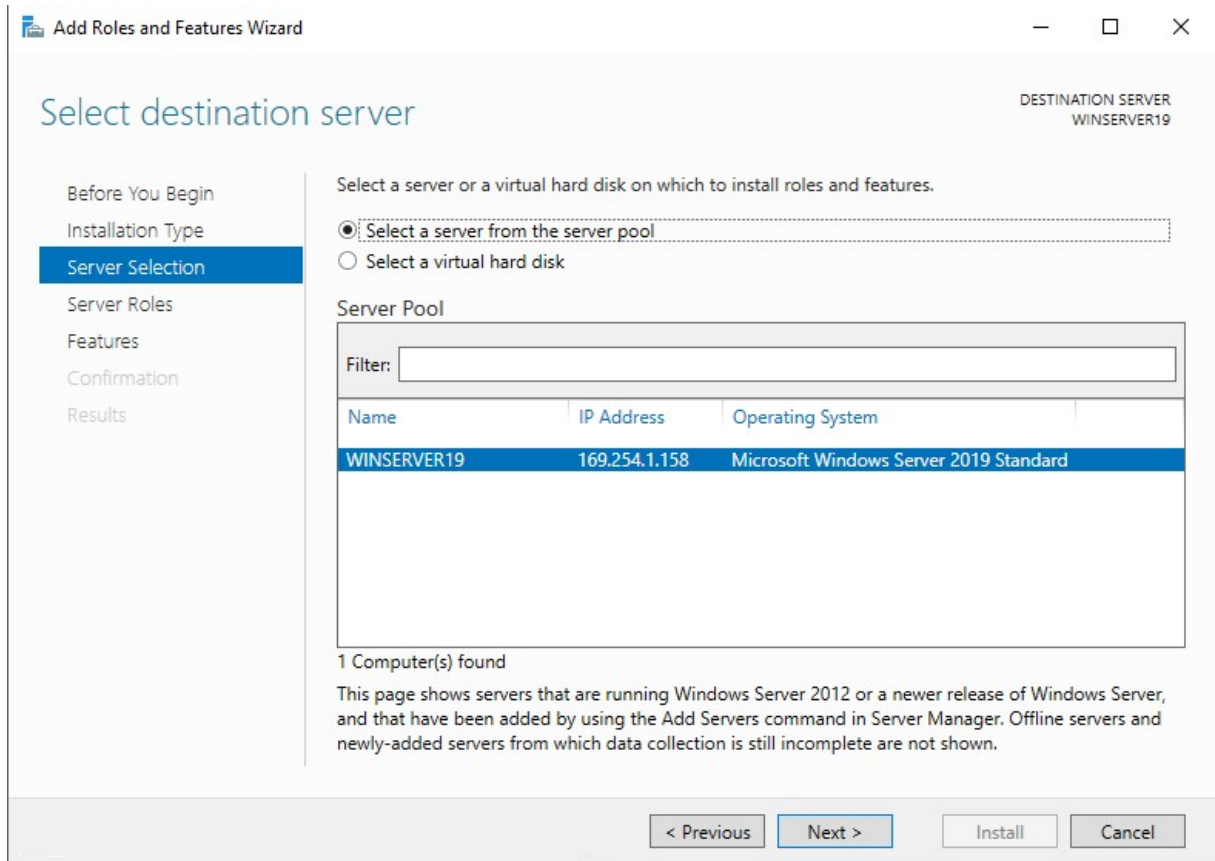
Results

Select the installation type. You can install roles and features on a running physical computer or virtual machine, or on an offline virtual hard disk (VHD).

- ☒ **Role-based or feature-based installation**
Configure a single server by adding roles, role services, and features.
- ☐ **Remote Desktop Services installation**
Install required role services for Virtual Desktop Infrastructure (VDI) to create a virtual machine-based or session-based desktop deployment.

< Previous Next > Install Cancel

3. On the **Server Selection** page select the desired destination server from the **server pool** and click **Next >**.



Add Roles and Features Wizard

Select destination server

DESTINATION SERVER
WINSERVER19

Before You Begin
Installation Type
Server Selection
Server Roles
Features
Confirmation
Results

Select a server or a virtual hard disk on which to install roles and features.

☒ Select a server from the server pool
☐ Select a virtual hard disk

Server Pool

Filter:


Name	IP Address	Operating System
WINSERVER19	169.254.1.158	Microsoft Windows Server 2019 Standard

1 Computer(s) found

This page shows servers that are running Windows Server 2012 or a newer release of Windows Server, and that have been added by using the Add Servers command in Server Manager. Offline servers and newly-added servers from which data collection is still incomplete are not shown.

< Previous **Next >** Install Cancel

4. On the **Server Roles** page, select **Web Server (IIS)** in the **Roles** menu and click **Next >** to proceed.


Add Roles and Features Wizard
— □ ×

Select server roles

DESTINATION SERVER
WINSERVER19

Before You Begin

Installation Type

Server Selection

Server Roles

Features

Web Server Role (IIS)

 Role Services

Confirmation

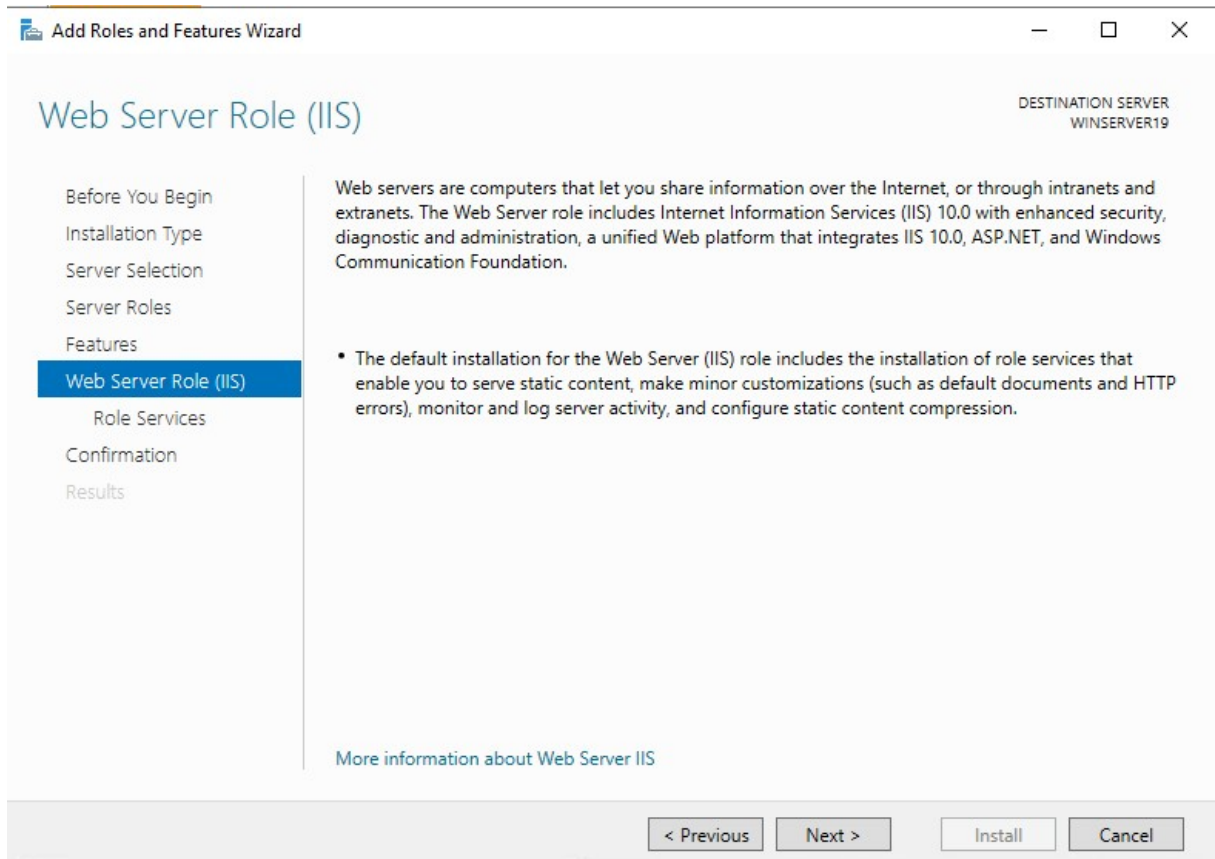
Results

Select one or more roles to install on the selected server.

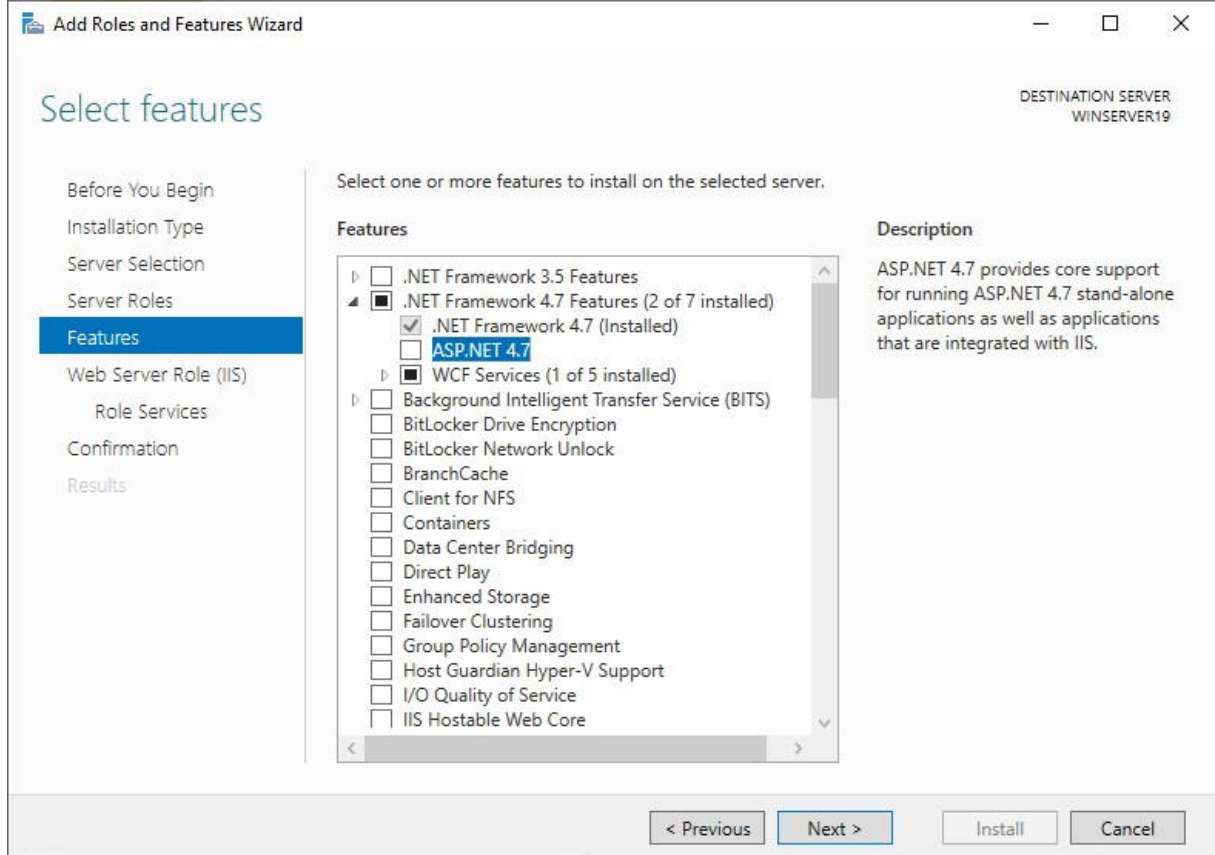
Roles	Description
<input type="checkbox"/> Active Directory Certificate Services	
<input type="checkbox"/> Active Directory Domain Services	
<input type="checkbox"/> Active Directory Federation Services	
<input type="checkbox"/> Active Directory Lightweight Directory Services	
<input type="checkbox"/> Active Directory Rights Management Services	
<input type="checkbox"/> Device Health Attestation	
<input type="checkbox"/> DHCP Server	
<input type="checkbox"/> DNS Server	
<input type="checkbox"/> Fax Server	
<input checked="" type="checkbox"/> File and Storage Services (1 of 12 installed)	
<input type="checkbox"/> Host Guardian Service	
<input type="checkbox"/> Hyper-V	
<input type="checkbox"/> Network Policy and Access Services	
<input type="checkbox"/> Print and Document Services	
<input type="checkbox"/> Remote Access	
<input type="checkbox"/> Remote Desktop Services	
<input type="checkbox"/> Volume Activation Services	
<input checked="" type="checkbox"/> Web Server (IIS)	Web Server (IIS) provides a reliable, manageable, and scalable Web application infrastructure.
<input type="checkbox"/> Windows Deployment Services	
<input type="checkbox"/> Windows Server Update Services	

< Previous
Next >
Install
Cancel

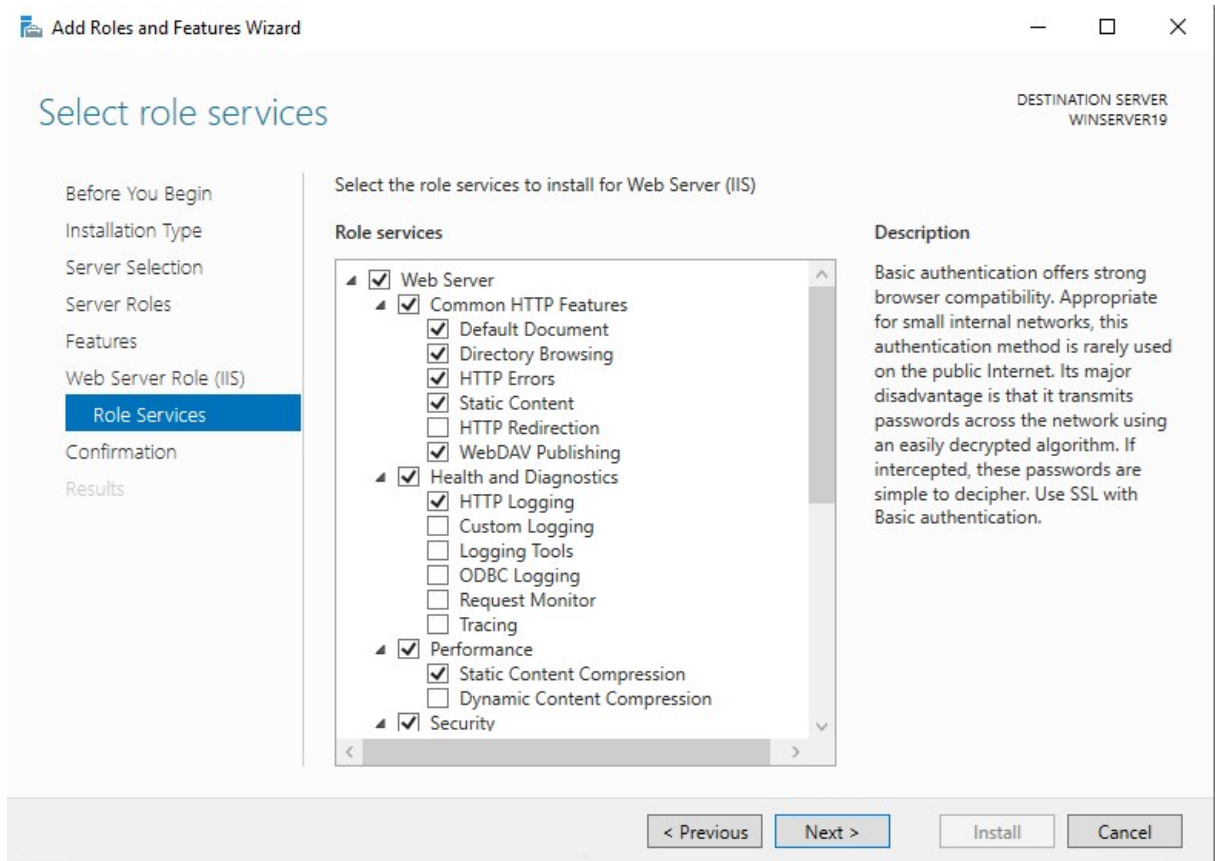
5. Accept the message shown on the **Web Server Role (IIS)** by pressing the **Next >** button.



6. On the **Features** page, expand the **.NET Framework 4.7** Features and then select **ASP .NET 4.7**. Press **Next >** to proceed.



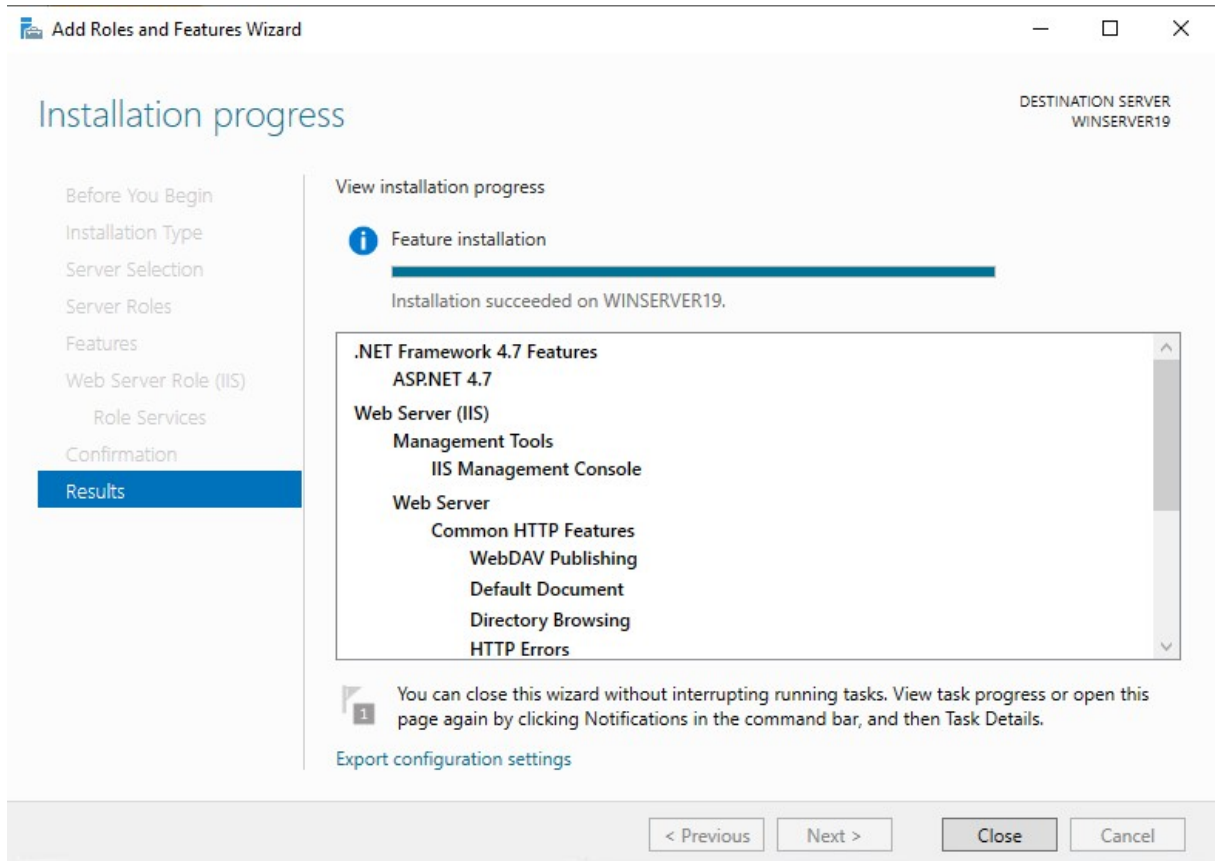
7. On the **Role Services** page customize the installation by selecting following services:



Required services:

- Web Server
 - Common HTTP Features
 - Default Document
 - Directory Browsing
 - HTTP Errors
 - Static Content
 - WebDAV Publishing
 - Health and Diagnostics
 - HTTP Logging
 - Performance
 - Static Content Compression
 - Security
 - Request Filtering
 - Basic Authentication
 - Windows Authentication
 - Management Tools
 - IIS Management Console

8. Click **Install**.



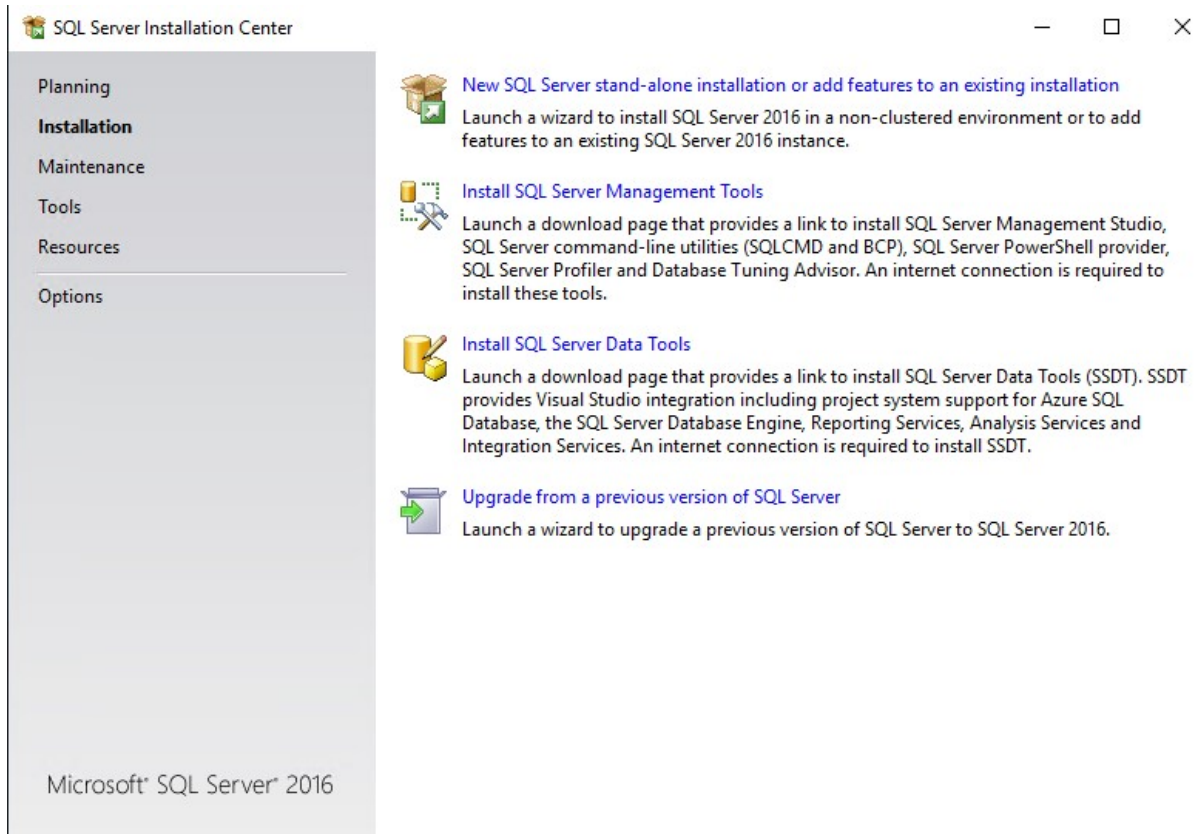
9. When the IIS installation completed, the wizard reflects the installation status.

10. Click **Close** to exit the wizard and Restart your server.

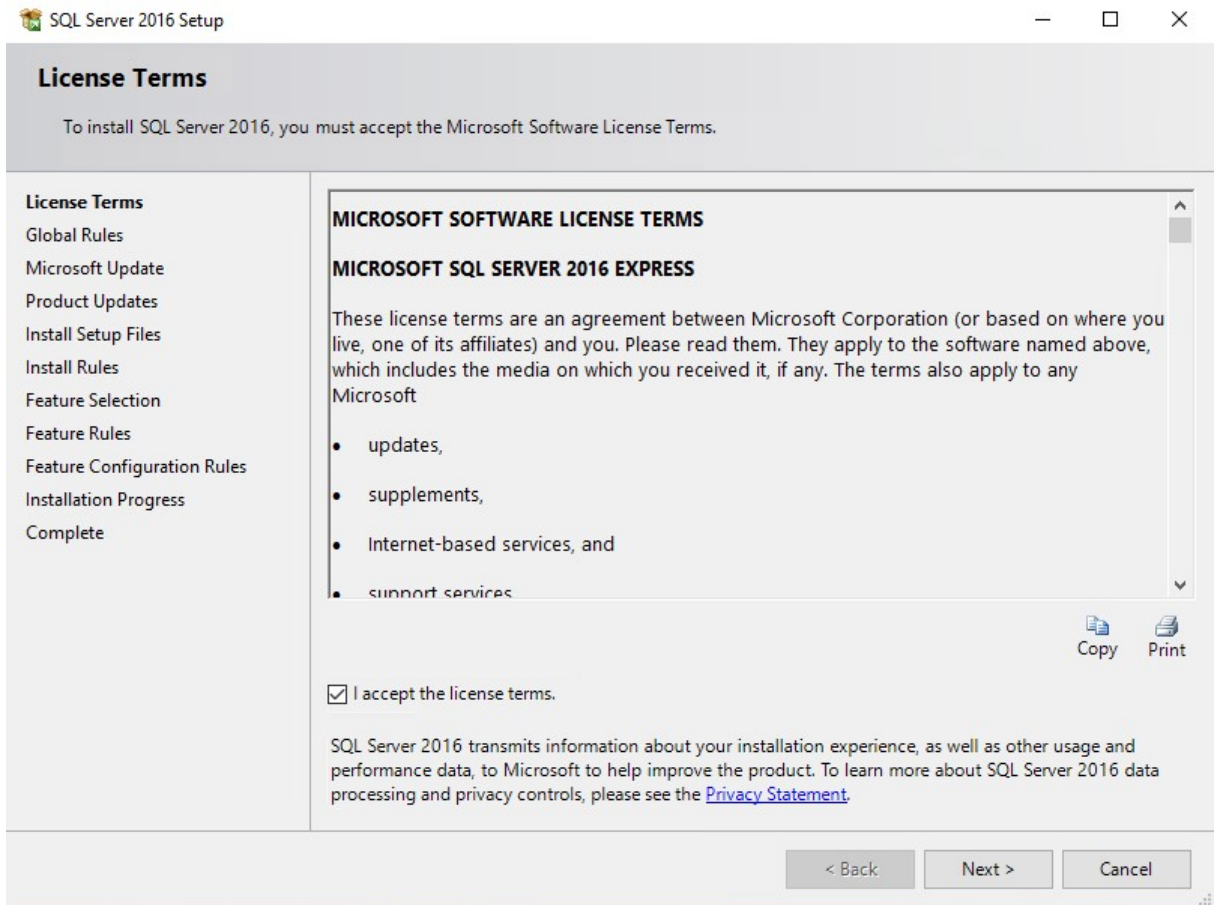
Set-up SQL Server

To initialize the installation, start the `Setup.exe` from DVD/ISO/file share.

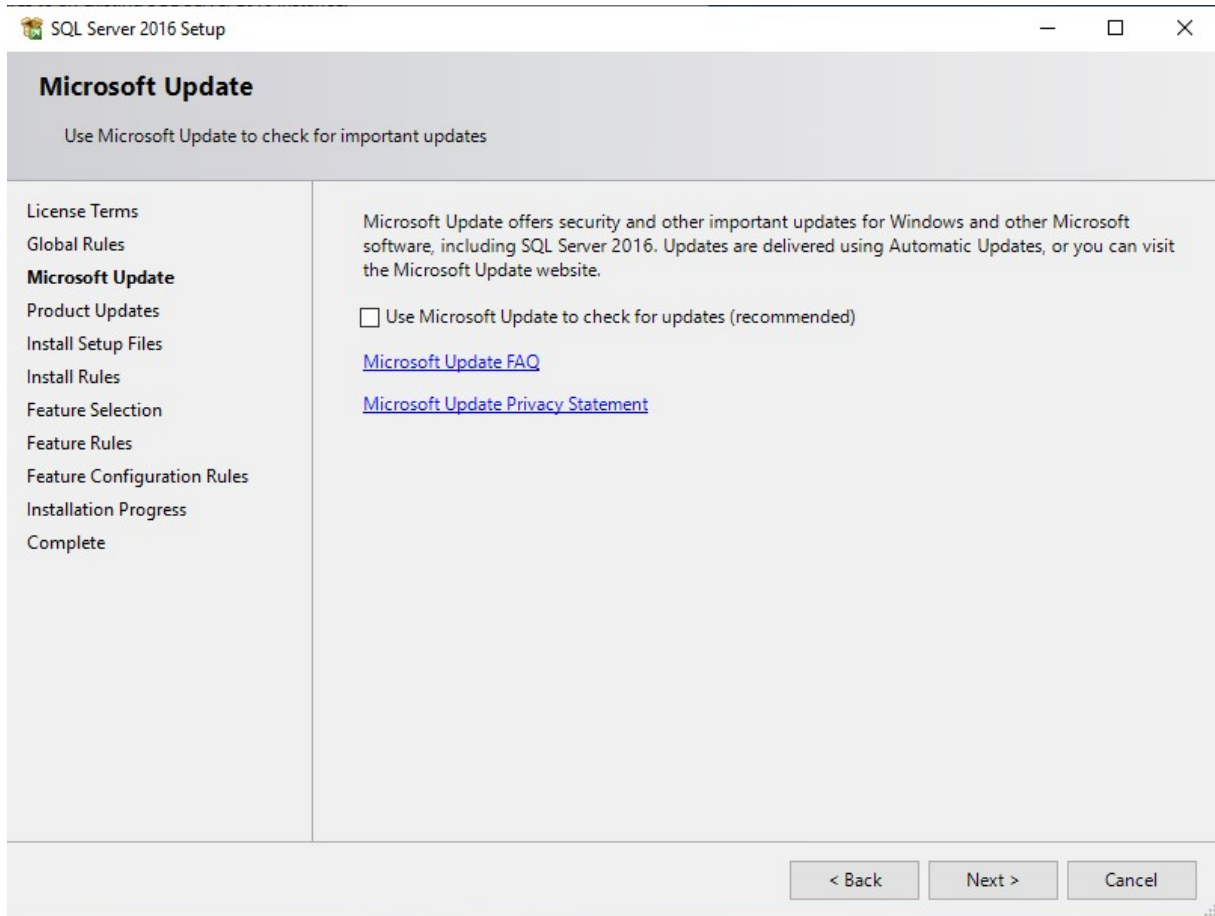
1. Start the installation by selecting the option New SQL Server stand-alone installation or add feature to an existing installation.



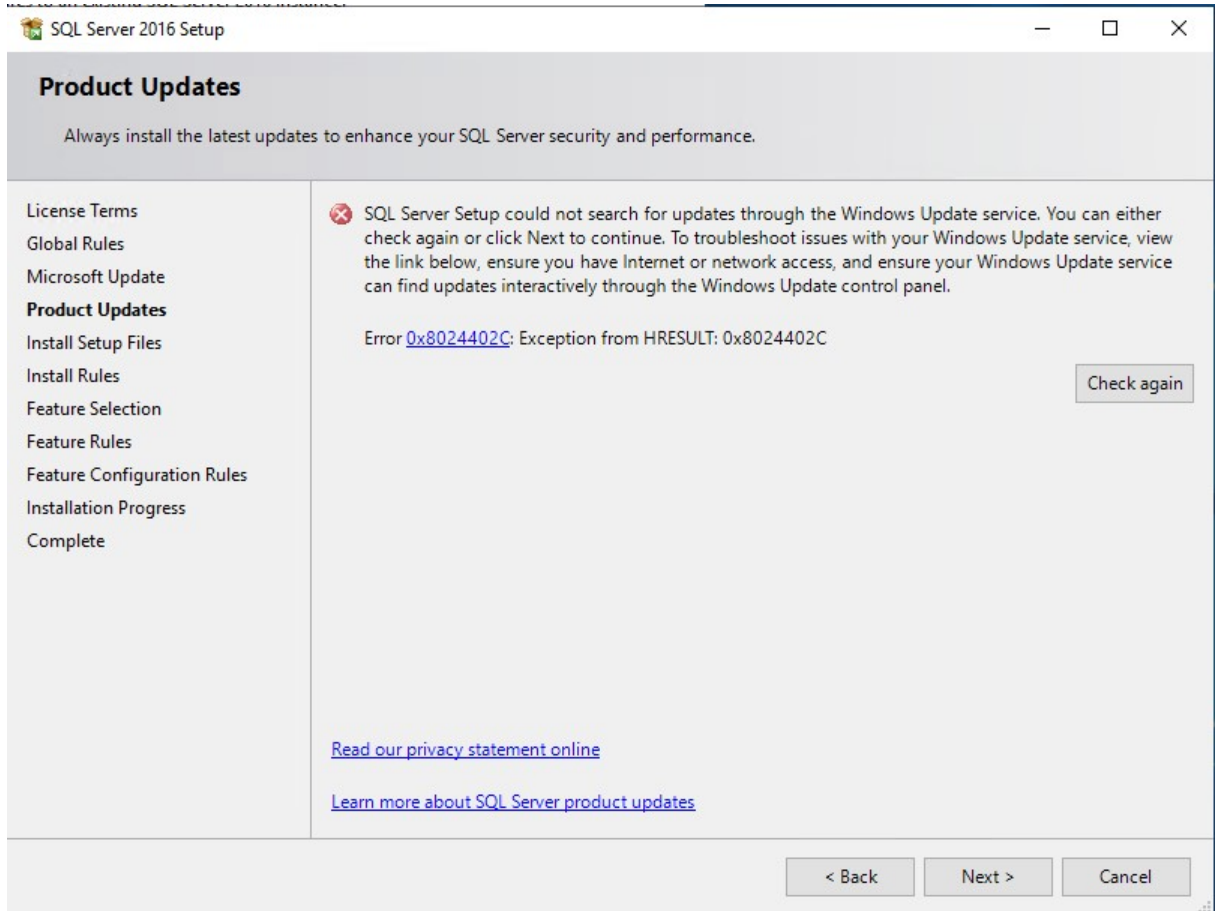
2. Check accept the license terms and click Next >.



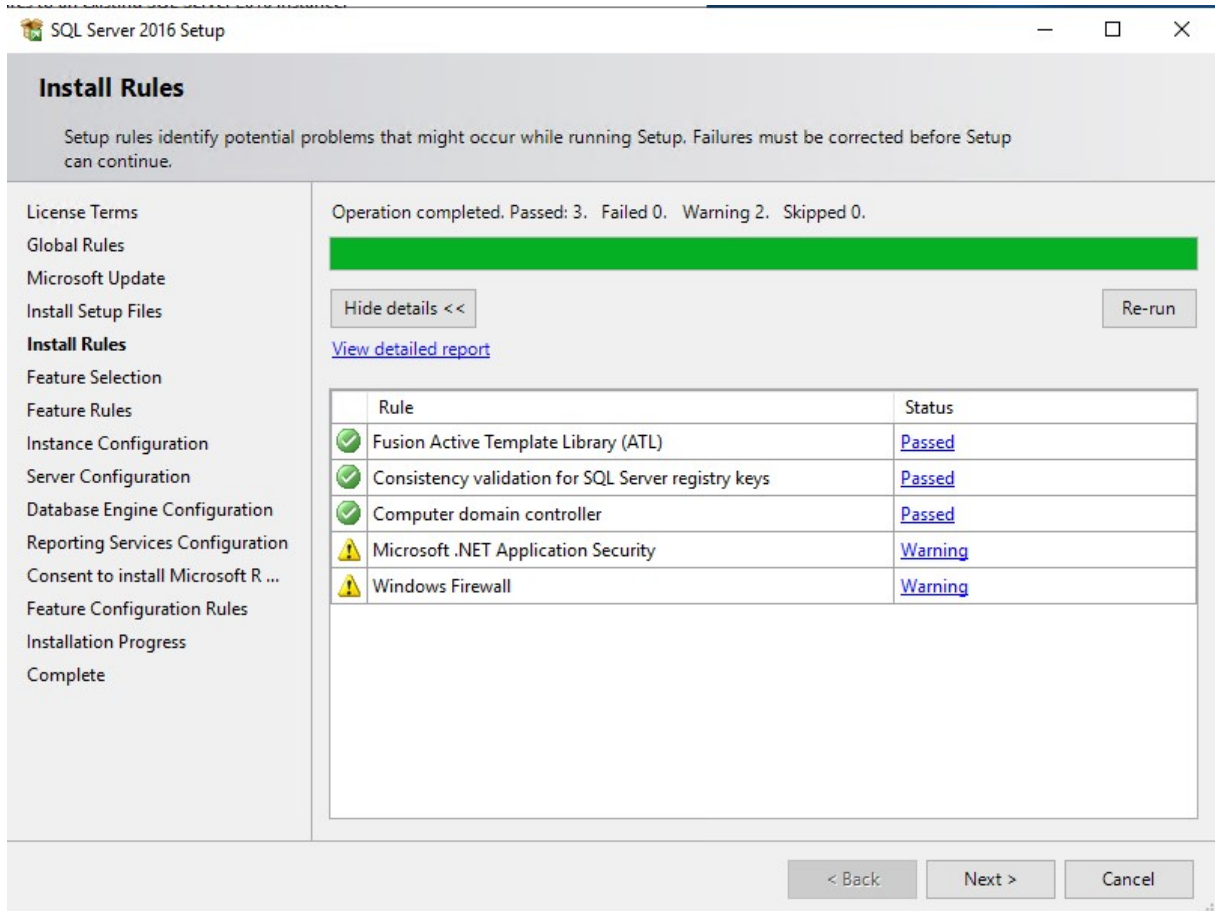
3. Although not mandatory, we recommend to check for any pending Microsoft Updates by ticking the checkbox. Otherwise, proceed by clicking the Next > without opting-in for updates.



If an error is shown on the next page by connecting to the Windows Update service, ignore it by pressing Next >.



4. Ensure that every Support Rule has passed and ignore the Windows Firewall warning. Click on the Next > button.



5. Use Default instance and default directories.

SQL Server 2016 Setup

Instance Configuration

Specify the name and instance ID for the instance of SQL Server. Instance ID becomes part of the installation path.

License Terms

Global Rules

Microsoft Update

Install Setup Files

Install Rules

Feature Selection

Feature Rules

Instance Configuration

Server Configuration

Database Engine Configuration

Reporting Services Configuration

Feature Configuration Rules

Installation Progress

Complete

☒ Default instance

☐ Named instance:

Instance ID:

SQL Server directory: C:\Program Files\Microsoft SQL Server\MSSQL13.MSSQLSERVER

Reporting Services directory: C:\Program Files\Microsoft SQL Server\MSRS13.MSSQLSERVER

Installed instances:

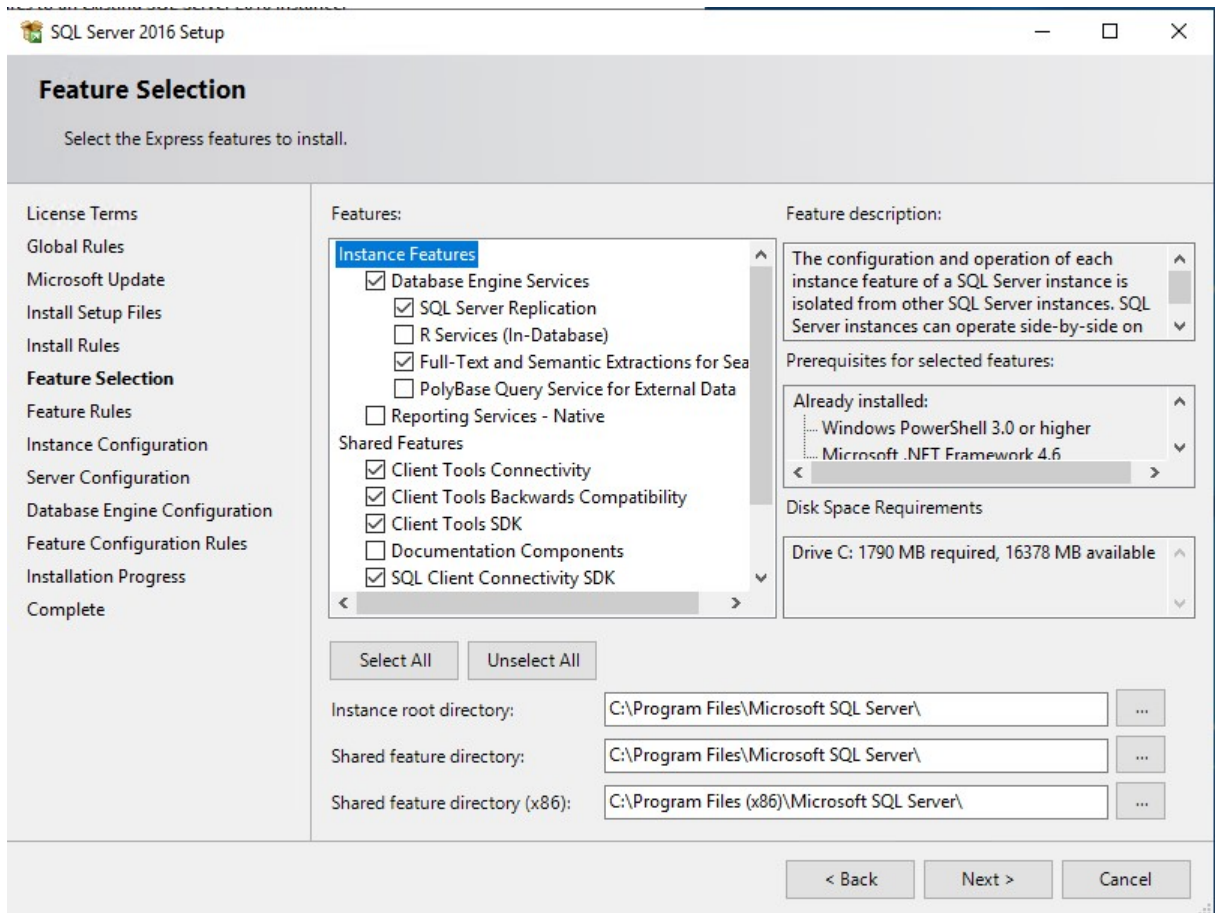
Instance Name	Instance ID	Features	Edition	Version

< Back

Next >

Cancel

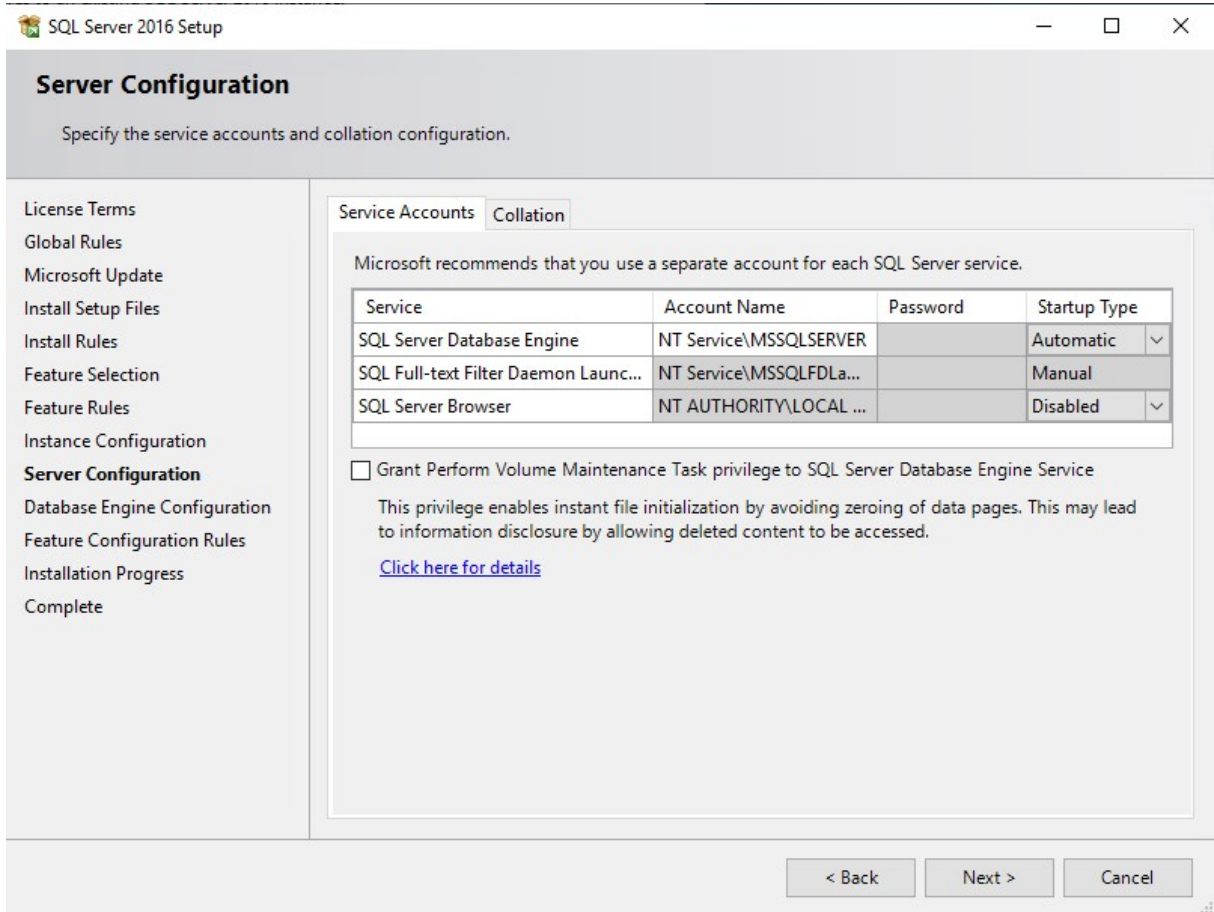
6. Specify the directory for your installation and click Next > to proceed with the installation.



- Instance Features
 - Database Engine Services
 - SQL Server Replication
 - Full-Text and Semantic Extractions for Search
- Shared Features
 - Client Tools Connectivity
 - Client Tools Backwards Compatibility
 - Client Tools SDK
 - SQL Client Connectivity SDK
- Database Engine Collation Latin1_General_CI_AS

On the next page verify the installation Rules for Passed or Not Applicable and go on with the Next > to the Instance Configuration.

7. Setup the Service Accounts and click Next.



SQL Server 2016 Setup

Server Configuration

Specify the service accounts and collation configuration.

License Terms
Global Rules
Microsoft Update
Install Setup Files
Install Rules
Feature Selection
Feature Rules
Instance Configuration
Server Configuration
Database Engine Configuration
Feature Configuration Rules
Installation Progress
Complete

Service Accounts Collation

Microsoft recommends that you use a separate account for each SQL Server service.

Service	Account Name	Password	Startup Type
SQL Server Database Engine	NT Service\MSSQLSERVER		Automatic
SQL Full-text Filter Daemon Launc...	NT Service\MSSQLFDLa...		Manual
SQL Server Browser	NT AUTHORITY\LOCAL ...		Disabled

☐ Grant Perform Volume Maintenance Task privilege to SQL Server Database Engine Service

This privilege enables instant file initialization by avoiding zeroing of data pages. This may lead to information disclosure by allowing deleted content to be accessed.

[Click here for details](#)

< Back Next > Cancel

8. In the Database Engine Configuration set the SQL Server Administrators to Domain Admins and local System Admins, enable Mixed Mode, and click Next to proceed.

SQL Server 2016 Setup

Database Engine Configuration

Specify Database Engine authentication security mode, administrators, data directories and TempDB settings.

License Terms
Global Rules
Microsoft Update
Install Setup Files
Install Rules
Feature Selection
Feature Rules
Instance Configuration
Server Configuration
Database Engine Configuration
Feature Configuration Rules
Installation Progress
Complete

Server Configuration | Data Directories | TempDB | User Instances | FILESTREAM

Specify the authentication mode and administrators for the Database Engine.

Authentication Mode

☐ Windows authentication mode

☒ Mixed Mode (SQL Server authentication and Windows authentication)

Specify the password for the SQL Server system administrator (sa) account.

Enter password:

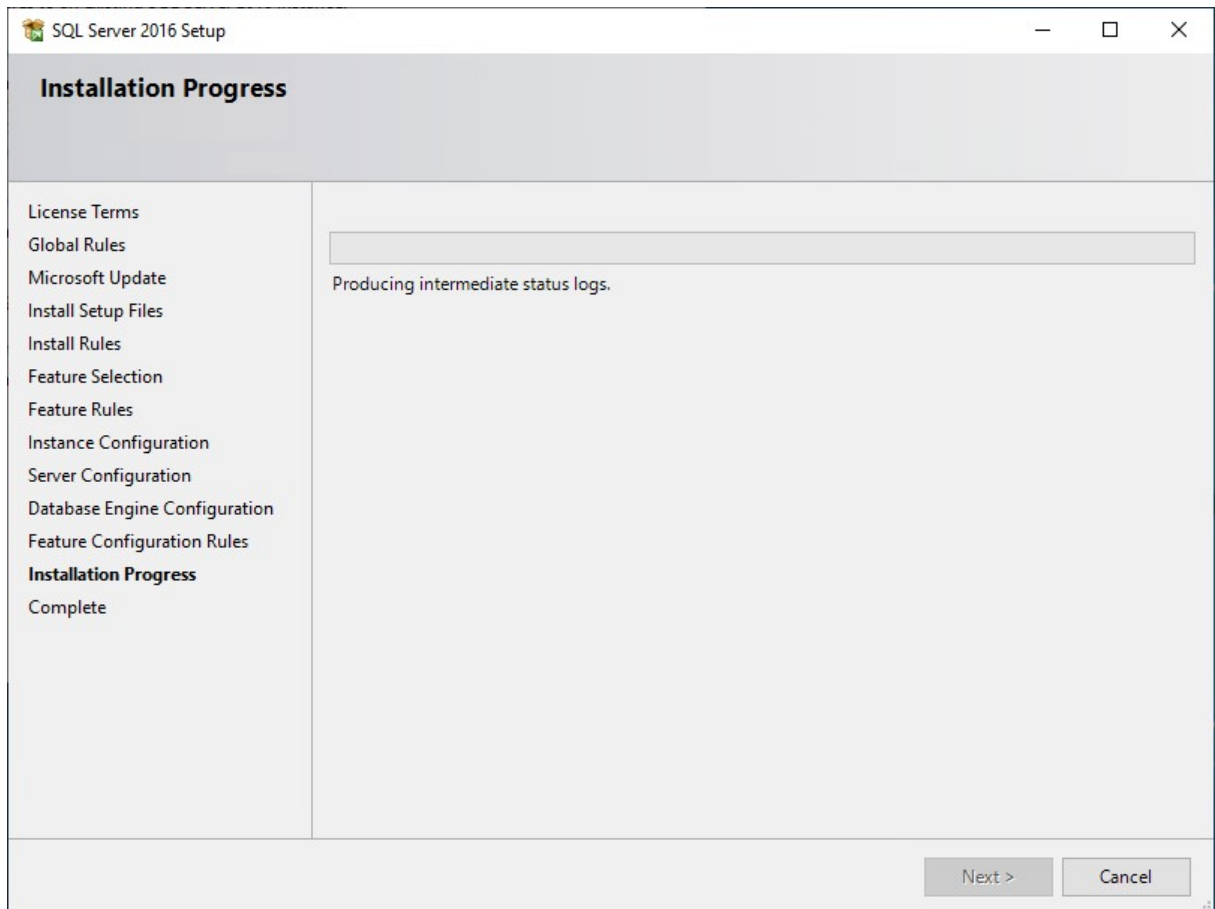
Confirm password:

Specify SQL Server administrators

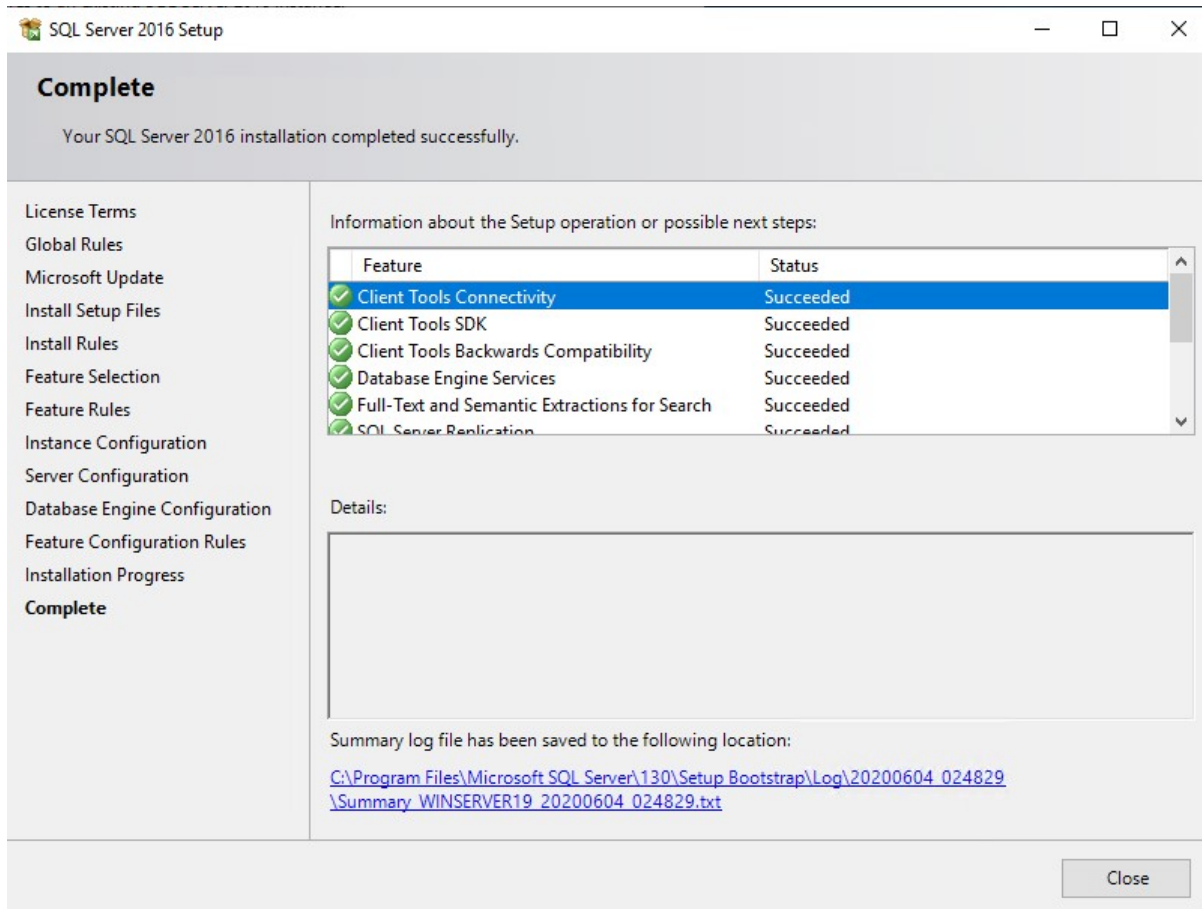
BUILTIN\Administrators (Administrators)	SQL Server administrators have unrestricted access to the Database Engine.

< Back Next > Cancel

9. The Installation progress will be shown.



10. Verify if the Installation of various SQL Server features succeeded.

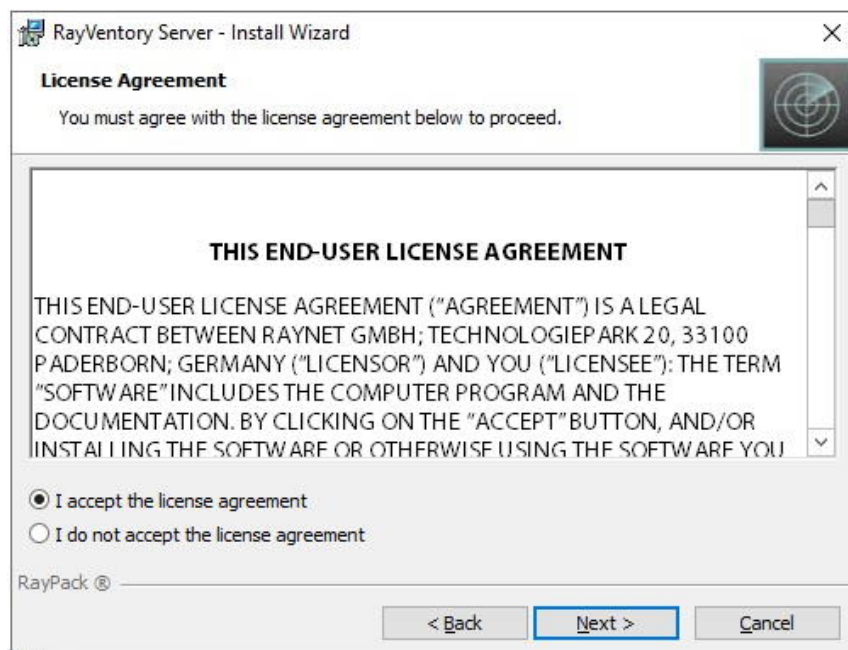


Installing RayVentory Server

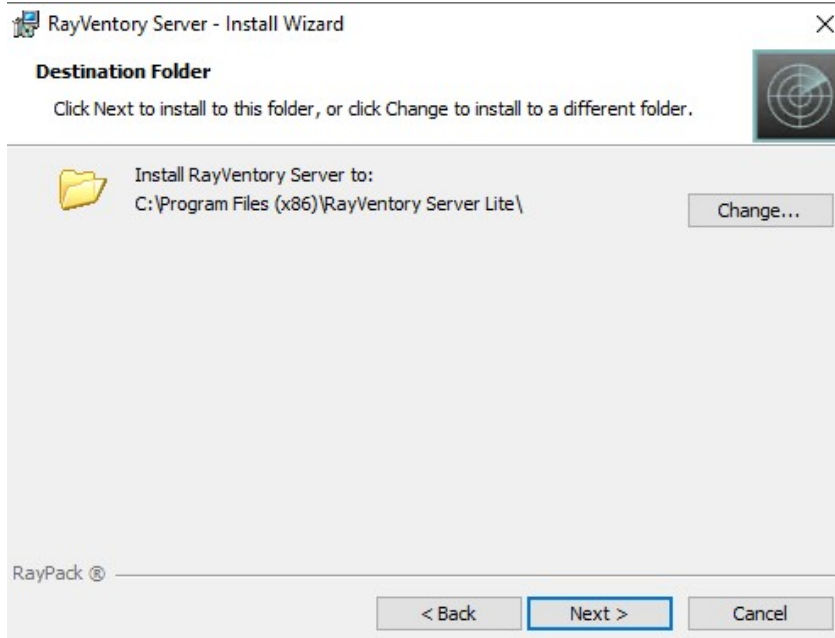
1. Click **Next >**.



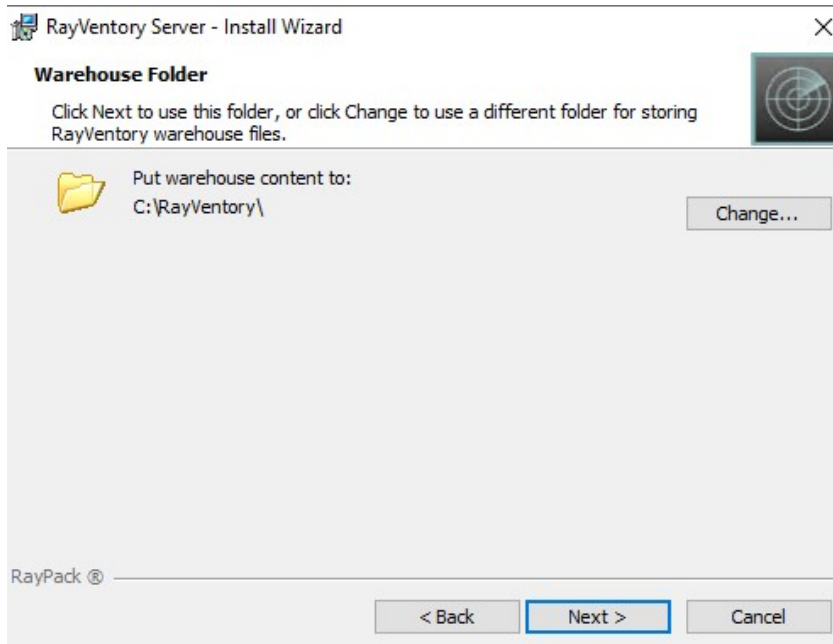
2. Check I accept the license agreement and click **Next >**.



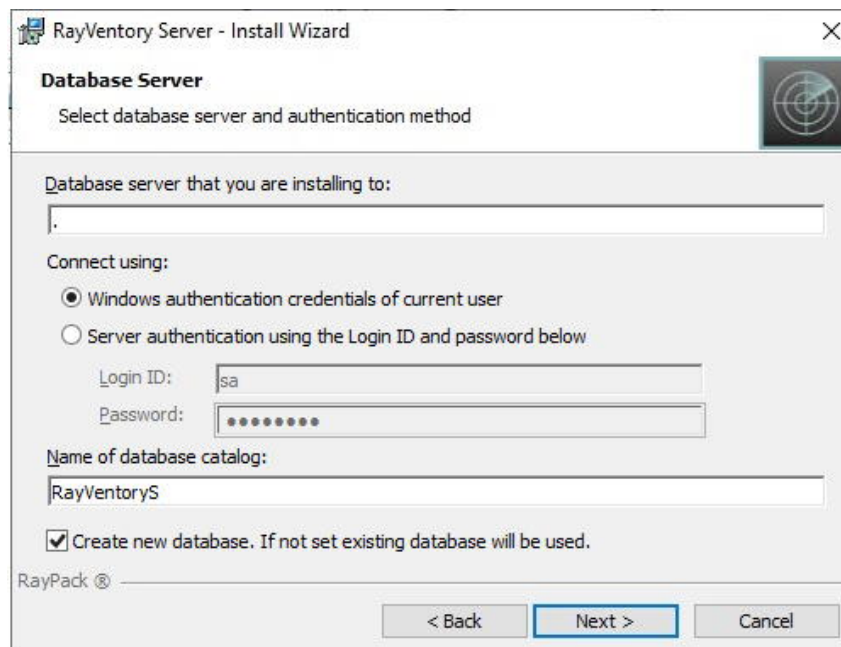
3. Select the Installation Destination folder for RayVentory Server and click **Next >**.



4. Set the Warehouse Destination Folder and click **Next >**.



5. Input the Database server and the name of the Database and click **Next >** to proceed.



6. Specify in which context the schedules should be running and click **Next >**.

RayVentory Server - Install Wizard

Scheduled tasks

Please choose a user to run tasks

It is expected that scheduled tasks may access the Database and will use trusted authentication. Please choose a user to run scheduled tasks.

☒ Run scheduled tasks as the SYSTEM

☐ Run scheduled tasks as a specific user (login as service permission is required):

User Name:

MyDomain\MyLogin

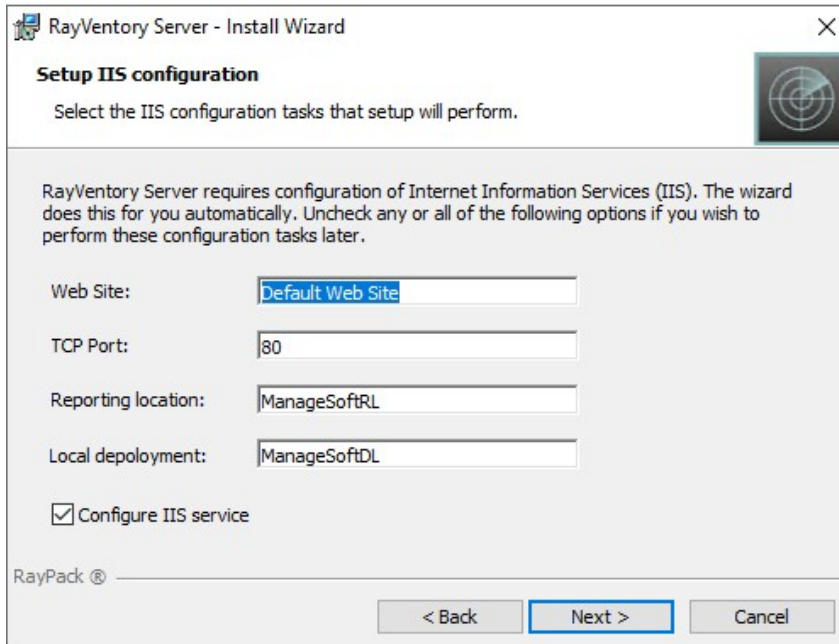
Password:

••••••••

RayPack ®

< Back Next > Cancel

7. Setup the IIS configuration and click **Next >**.



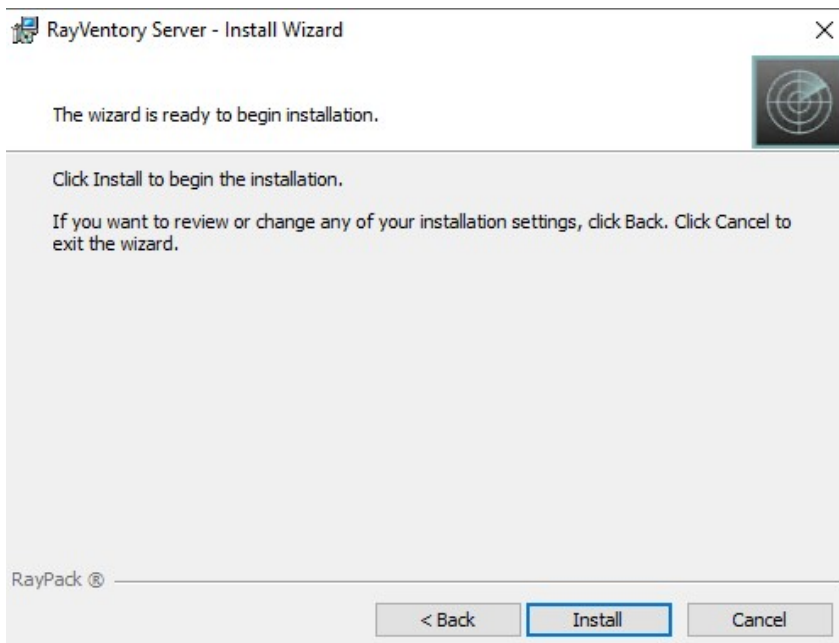
The screenshot shows the 'Setup IIS configuration' step of the RayVentory Server installation wizard. The window title is 'RayVentory Server - Install Wizard'. The main heading is 'Setup IIS configuration' with a sub-instruction: 'Select the IIS configuration tasks that setup will perform.' Below this, a paragraph states: 'RayVentory Server requires configuration of Internet Information Services (IIS). The wizard does this for you automatically. Uncheck any or all of the following options if you wish to perform these configuration tasks later.' There are four input fields: 'Web Site:' with 'Default Web Site', 'TCP Port:' with '80', 'Reporting location:' with 'ManageSoftRL', and 'Local deployment:' with 'ManageSoftDL'. A checkbox labeled 'Configure IIS service' is checked. At the bottom, there are three buttons: '< Back', 'Next >' (highlighted with a blue border), and 'Cancel'. The RayPack logo is in the bottom left corner.



Be aware:

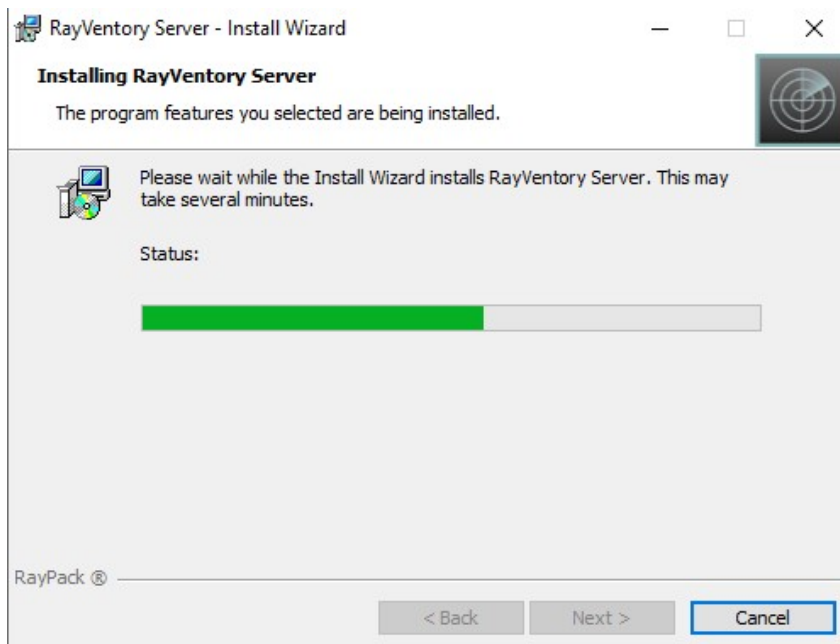
The TCP port option is for the HTTP protocol only. The HTTPS bindings need to be created after the installation using the IIS Manager.

8. Click Install to start the installation process.

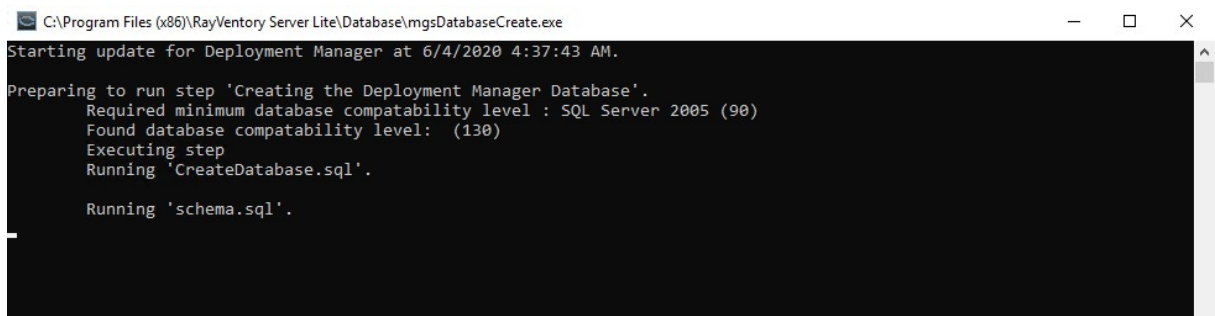


The screenshot shows the 'Ready to begin installation' step of the RayVentory Server installation wizard. The window title is 'RayVentory Server - Install Wizard'. The main heading is 'The wizard is ready to begin installation.' Below this, a paragraph states: 'Click Install to begin the installation. If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.' At the bottom, there are three buttons: '< Back', 'Install' (highlighted with a blue border), and 'Cancel'. The RayPack logo is in the bottom left corner.

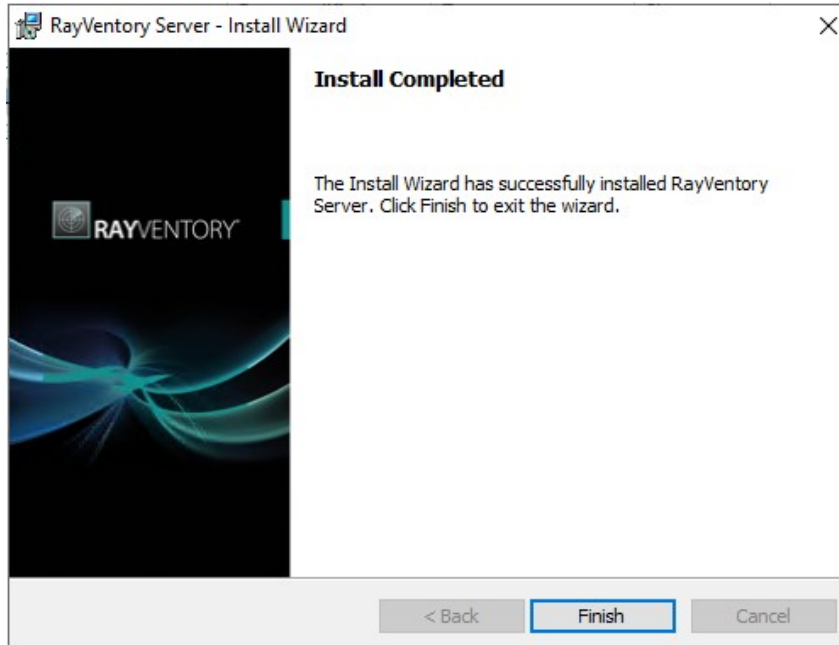
9. The installation is running.



10.The Database gets created.



11.The installation has finished.



Installing RayVentory Server Without SYS Admin

In order to install RayVentory Server without SYS Admin access, the following steps must be executed:

Create a new database and add the scheduled tasks user of the RayVentory Server to that database as DBO.

During the [installation of RayVentory Server using the MSI](#) leave the [create database option](#) unchecked.



Be aware:

It is still necessary to provide the database server and the database name values!

Once the installation process has been completed the following steps are necessary:

1. Modify the `DeploymentManagerDatabaseCreation.xml` that can be found at `INSTALLDIR\Database\` and remark out steps 0 and 3.
2. Open a command window using the scheduled tasks user of RayVentory Server.
3. Use the `cd` command to go to `INSTALLDIR\Database\` and run the `mgsDatabaseCreate.exe` file with its required parameters.

Configuration

Data Upload User

Create a local Windows user and assign it Write permissions to the "DRIVE\RayVentory\Incoming\" directory

Windows Authentication

By default, the ManageSoftRL IIS virtual directory is configured with Basic Authentication. If Windows authentication is required instead, do the following:

Disable Basic Authentication and enable Windows Authentication for the ManageSoftRL IIS virtual directory

RayVentory Scan Engine

Create a Windows credential for RayVentory Server 12.0's data uploader local Windows user. Assign that credential to the *HTTP Services > Upload Location > Credentials* via its drop down menu after enabling this option

Encrypted Password

If either ndtrack or the standalone agent will be used, then an encrypted version of the RayVentory Server 12.0's data uploaded local Windows user password can be created for use within either a command line or the registry.

1. Run the `DRIVE\Program Files (x86)\RayVentoryServer\DotNet\Bin\credstoregui.exe` file
2. Fill in the Username and Password fields within the File tab, select to either empty/overwrite or append the credential store, and then press the [Save] button
3. Go to the String tab, enter the password in the Value: field and then press the [Encrypt] button
4. Copy the result for use within either a command line or the registry

Migration

As RayVentory Server is a major release and is now a very light weight server, we recommends that customers build a new server instead of uninstalling their existing Server 11.4.1 or earlier instances. (refer to Appendix A for uninstall instructions).

Be aware that migrating to RayVentory Server will remove the ability for you to centrally manage your RV Agents as well as distribute their related package types throughout your hierarchy. Distribution Servers will also need to be replaced with the DS Lite product due to there being no replication hierarchy anymore.

User

The user needs to have local admin access on the server in order to install RayVentory Server, and should be DBO of the database.

Existing Database

If the Server 11.4.1 or earlier was installed via its automated process including SQL Server Express, then move the LDF & MDF files either to the new server or to a dedicated SQL Server.

`DRIVE\ManageSoft\Repository\Database\`

or

`DRIVE\RayVentory\Repository\Database\`

Database Migration

1. Backup the database
2. Open an administrative command window
3. Navigate to the Database Migration folder
4. Run `mgsDatabaseUpdate.exe` with the relevant command line parameters that suit your environment
5. Re-index the database by running the `ReIndexAll.sql` query against it

Parameter	Value	Comment
-d	Database name	If not supplied, ManageSoft will be used
-f		Forces the database into single user mode
-i	DeploymentManagerMigration.xml	Configuration file describing the migration tasks
-l	Log file name	If not specified, DeploymentManagerMigration.log will be used
-s	Server name	SQL Server name + instance name if required
-u	User name	Only required if SQL authentication is being used
-p	Password	Required by the -u command

Installation

After the database has been migrated, run the RayVentory Server 12.0 MSI file from within an administrative command window, and follow its wizard.

The MSI installation process should also upgrade the migrated database; however, if it fails to do so or if applications are not allowed to perform such actions, navigate to the Database Creation folder from within an administrative command window and then run

`mgsDatabaseCreate.exe:`

```
mgsDatabaseCreate.exe -I DeploymentManagerDatabaseCreation.xml -s  
<Server name> -a WindowsNT
```

Appendix A

1. Uninstall 'Deployment Manager for administration servers' from 'Programs and Features'
2. Uninstall 'RayVentory Portal' from 'Programs and Features' if it was installed as part of the RayVentory Server automated installation
3. Uninstall 'Java 8 Update 111' from 'Programs and Features'
4. Uninstall 'Microsoft Office 2003 Web Components' from 'Programs and Features'
5. Uninstall 'WinPcap 4.1.2' from 'Programs and Features'
6. Delete "DRIVE\Program Files (x86)\ManageSoft\" or "DRIVE\Program Files (x86)\RayVentory\" depending how RayVentory was installed
7. Delete "C:\Windows\Temp\ManageSoft\"
8. Delete all "C:\Users\<username>\AppData\Local\Temp\ManageSoft\" folders
9. Delete "C:\ProgramData\ManageSoft Corp\"
10. Delete "HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\ManageSoft Corp\"
11. Remove the ManageSoftAppPool and ManageSoftWebServiceAppPool IIS application pools
12. Remove the ManageSoftREA IIS virtual directory
13. Delete the 'Import ManageSoft application usage logs', 'License Counting recalculate' and 'Rollout Waves control' scheduled tasks
14. Restart the server
15. Clean-up "DRIVE\ManageSoft\" or "DRIVE\RayVentory\" where necessary depending how RayVentory was installed (".\Repository\Database\" should be retained if ldf & mdf files exist)

RayVentory Server is part of the RaySuite

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