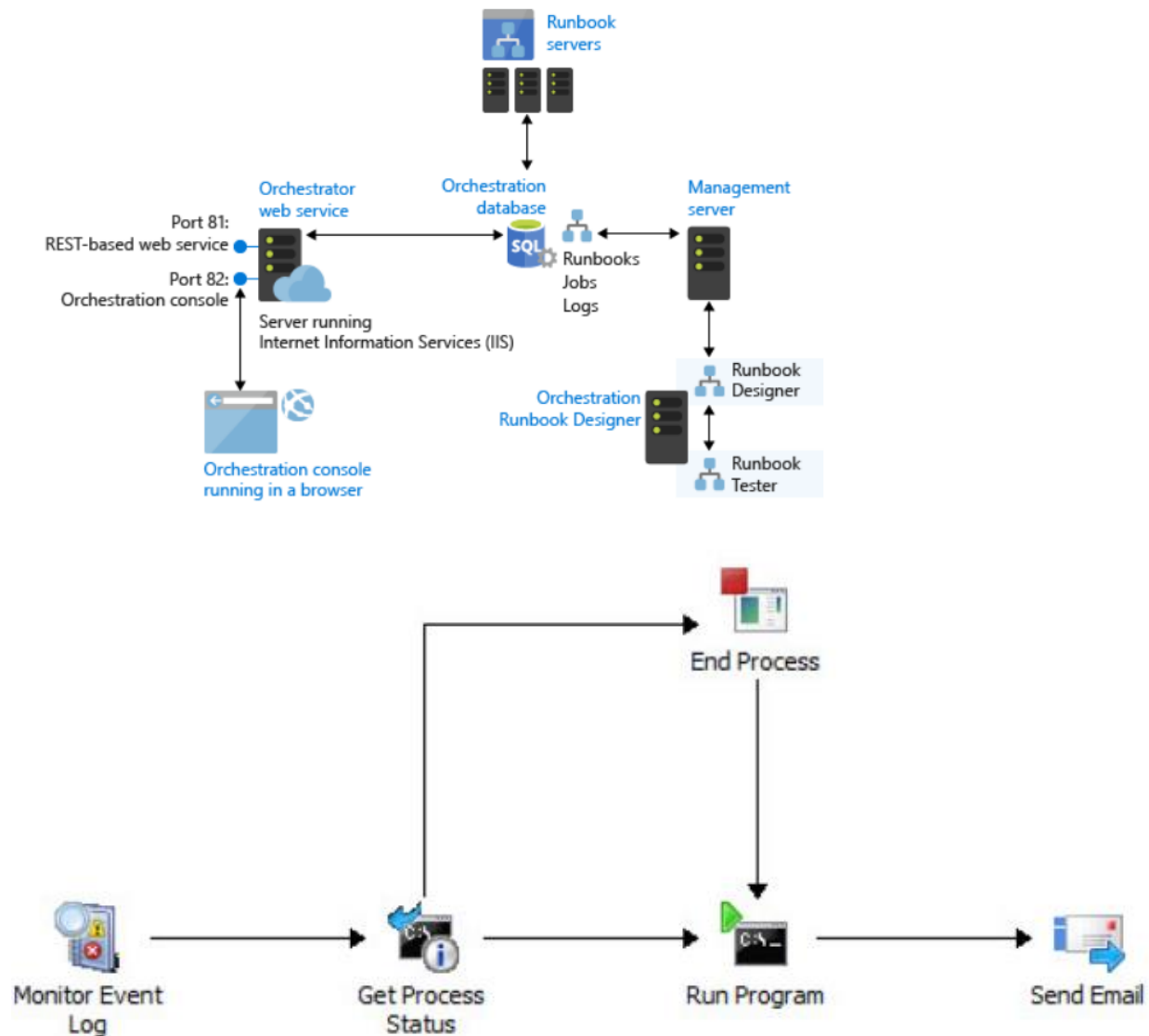


How to install System Center Orchestrator 2019 on Windows Server 2019

In this post, I will show you the steps involved in installing Orchestrator 2019. I will be using virtual machine running Windows Server 2019 + SQL Server 2017. Will install all the updates and restart the server. After that we will take care of pre req.

Orchestrator architecure

The following diagram illustrates each of the Orchestrator features and the communication between each.



<https://docs.microsoft.com/en-us/system-center/orchestrator/learn-about-orchestrator?view=sc-orch-2019>

<https://docs.microsoft.com/en-us/system-center/orchestrator/system-requirements-orch?view=sc-orch-2019>

Pre Req:

Orchestrator Service Accounts






.Net 3.5

SQL Server Native Client - <https://www.microsoft.com/en-us/download/confirmation.aspx?id=50402>

WCF Services

SQL Server 2017 & Management Studio

AD Accounts: Created these accounts in AD

Name	Type	Description
 ORCHADMIN	Security Group - Global	Orchestrator Admins
 ORCH	User	Orchestrator Admin Account
 ORCHMSrv	User	Orchestrator Management Service Account
 ORCHRB	User	Orchestrator Run Book Service Account
 ORCHRBSRV	User	Orchestrator Run Book Server Service Account

.Net 3.5: We will install this from Server Manager


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

Features

- ☒ .NET Framework 3.5 Features
 - ☒ .NET Framework 3.5 (includes .NET 2.0 and 3.0)

SQL Native Client: We will install from the download folder.

ORCH > Downloads

Name	Date modified	Type	Size
 sqlncli	31-Dec-2019 10:32...	Windows Installer ...	4,964 KB

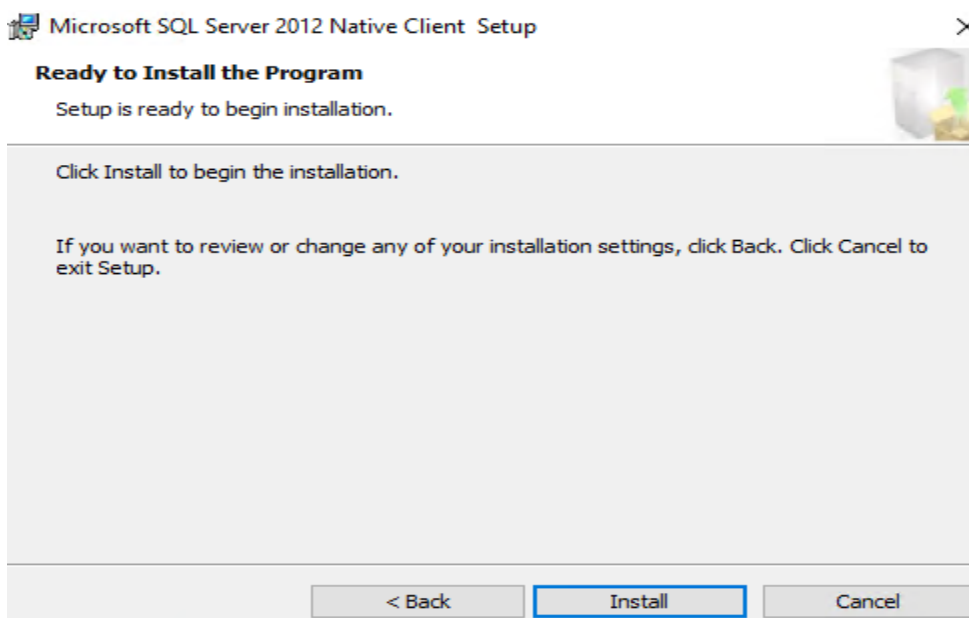
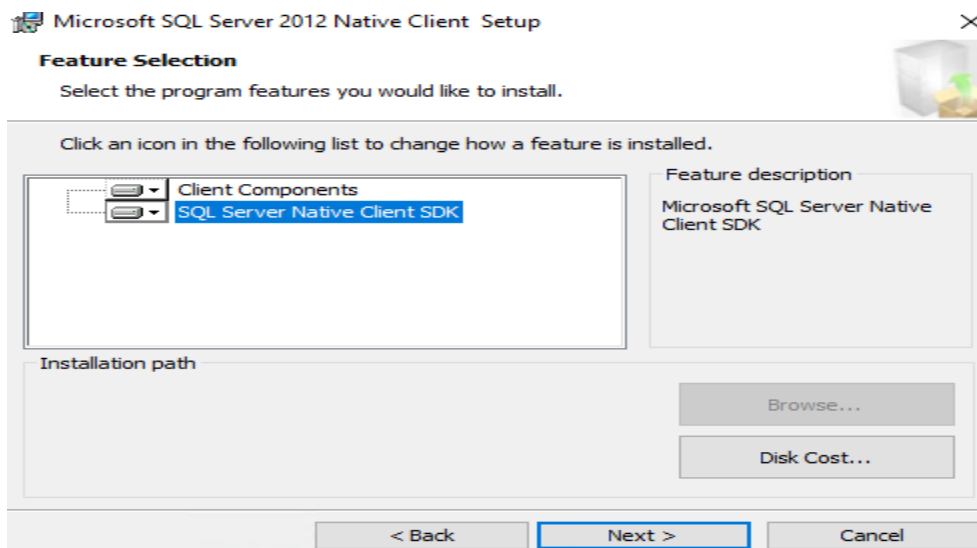
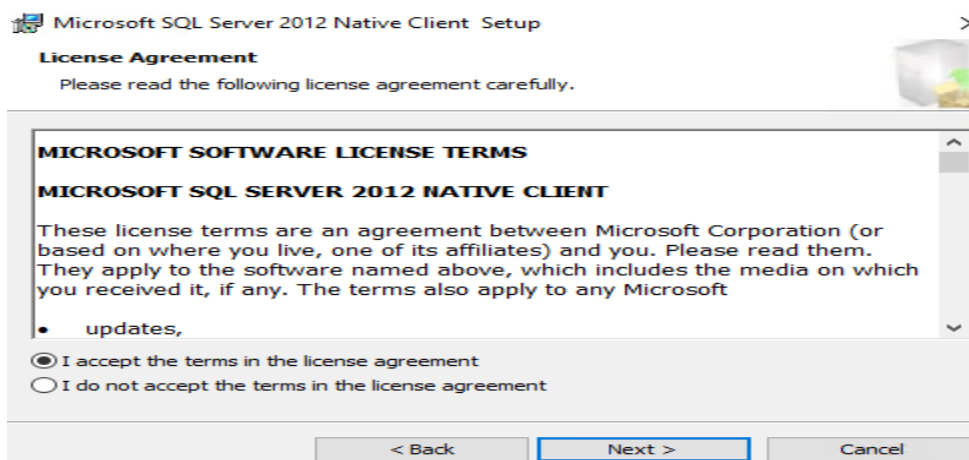
Microsoft SQL Server 2012 Native Client Setup

Welcome to the Installation Wizard for SQL Server 2012 Native Client

Setup helps you install, modify or remove SQL Server 2012 Native Client . To continue, click Next.

WARNING: This program is protected by copyright law and international treaties.

< Back Next > Cancel





WCF Services:

1. On the Windows Start screen, click the **Server Manager** tile.
2. On the **Manage** menu in the Server Manager console, click **Add Roles and Features**.
3. Go through the wizard until you reach the **Features** page.
4. Expand **.NET Framework 4.5 Features**.
5. Select **.NET Framework 4.5** if it isn't already selected.
6. Expand **WCF Services**.
7. Select **HTTP Activation** if it isn't already selected.
8. Click **Next** and follow the prompts to finish the installation. If you have problems, check the issues covered

SQL Server 2017: We will run the setup.exe to start the install

ORCH > DVD Drive (D:) SqlSetup_x64_ENU >

Name	Date modified	Type	Size
1033_ENU_LP	23-Aug-2017 1:55 ...	File folder	
redist	23-Aug-2017 1:55 ...	File folder	
resources	23-Aug-2017 1:55 ...	File folder	
Tools	23-Aug-2017 1:55 ...	File folder	
x64	23-Aug-2017 5:52 ...	File folder	
autorun	04-Aug-2017 10:0...	Setup Information	1 KB
MedialInfo	23-Aug-2017 1:57 ...	XML Document	1 KB
setup	22-Aug-2017 8:38 ...	Application	107 KB
setup.exe.config	18-Aug-2017 4:41 ...	CONFIG File	1 KB
SqlSetupBootstrapper.dll	22-Aug-2017 8:20 ...	Application extens...	235 KB

Planning

Installation

Maintenance

Tools

Resources

Advanced

Options

**New SQL Server stand-alone installation or add features to an existing installation**

Launch a wizard to install SQL Server 2017 in a non-clustered environment or to add features to an existing SQL Server 2017 instance.

**Install SQL Server Reporting Services**

Launch a download page that provides a link to install SQL Server Reporting Services. An internet connection is required to install SSRS.

**Install SQL Server Management Tools**

Launch a download page that provides a link to install SQL Server Management Studio, SQL Server command-line utilities (SQLCMD and BCP), SQL Server PowerShell provider, SQL Server Profiler and Database Tuning Advisor. An internet connection is required to install these tools.

**Install SQL Server Data Tools**

Launch a download page that provides a link to install SQL Server Data Tools (SSDT). SSDT provides Visual Studio integration including project system support for Azure SQL Database, the SQL Server Database Engine, Reporting Services, Analysis Services and Integration Services. An internet connection is required to install SSDT.

**New SQL Server failover cluster installation**

Launch a wizard to install a single-node SQL Server 2017 failover cluster.

**Add node to a SQL Server failover cluster**

Launch a wizard to add a node to an existing SQL Server 2017 failover cluster.

**Upgrade from a previous version of SQL Server**

Launch a wizard to upgrade a previous version of SQL Server to SQL Server 2017.

**New Machine Learning Server (Standalone) installation**Microsoft SQL Server 2017
SQL Server 2017 Setup**License Terms**

To install SQL Server 2017, you must accept the Microsoft Software License Terms.

Product Key

License Terms

Global Rules

Microsoft Update

Product Updates

Install Setup Files

Install Rules

Feature Selection

Feature Rules

Feature Configuration Rules

Ready to Install

Installation Progress

Complete

MICROSOFT SOFTWARE LICENSE TERMS**MICROSOFT SQL SERVER 2017 ENTERPRISE**

These license terms are an agreement between Microsoft Corporation (or based on where you live, one of its affiliates) and you. Please read them. They apply to the software named above, which includes the media on which you received it, if any. The terms also apply to any Microsoft

- updates,
- supplements,
- Internet-based services, and

☒ I accept the license terms.

SQL Server 2017 transmits information about your installation experience, as well as other usage and performance data, to Microsoft to help improve the product. To learn more about SQL Server 2017 data processing and privacy controls, please see the [Privacy Statement](#).

< Back

Next >

Cancel

Install Rules

Setup rules identify potential problems that might occur while running Setup. Failures must be corrected before Setup can continue.

Product Key
License Terms
Global Rules
Microsoft Update
Product Updates
Install Setup Files
Install Rules
Feature Selection
Feature Rules
Feature Configuration Rules
Ready to Install
Installation Progress
Complete

Operation completed. Passed: 3. Failed 0. Warning 1. Skipped 0.

Hide details <<

Re-run

[View detailed report](#)

	Rule	Status
✓	Fusion Active Template Library (ATL)	Passed
✓	Consistency validation for SQL Server registry keys	Passed
✓	Computer domain controller	Passed
⚠	Windows Firewall	Warning

< Back

Next >

Cancel

Feature Selection

Select the Enterprise features to install.

Product Key
License Terms
Global Rules
Microsoft Update
Product Updates
Install Setup Files
Install Rules
Feature Selection
Feature Rules
Instance Configuration
Server Configuration
Database Engine Configuration
Feature Configuration Rules
Ready to Install
Installation Progress
Complete

Looking for Reporting Services? [Download it from the web](#)

Features:

Feature description:

Instance Features

- ☒ Database Engine Services
 - ☐ SQL Server Replication
 - ☐ Machine Learning Services (In-Database)
 - ☐ R
 - ☐ Python
 - ☐ Full-Text and Semantic Extractions for Search
 - ☐ Data Quality Services
 - ☐ PolyBase Query Service for External Data
 - ☐ Analysis Services

Shared Features

The configuration and operation of each instance feature of a SQL Server instance is isolated from other SQL Server instances. SQL

Prerequisites for selected features:

Already installed:
... Windows PowerShell 3.0 or higher
... Microsoft .NET Framework 4.6

Disk Space Requirements

Drive C: 1001 MB required, 241281 MB available

Select All

Unselect All

Instance root directory:

C:\Program Files\Microsoft SQL Server\

Shared feature directory:

C:\Program Files\Microsoft SQL Server\

Shared feature directory (x86):

C:\Program Files (x86)\Microsoft SQL Server\

< Back

Next >

Cancel

Instance Configuration

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

Product Key
License Terms
Global Rules
Microsoft Update
Product Updates
Install Setup Files
Install Rules
Feature Selection
Feature Rules
Instance Configuration
Server Configuration
Database Engine Configuration
Feature Configuration Rules
Ready to Install
Installation Progress
Complete

☐ Default instance

☒ Named instance: ORCH

Instance ID: ORCH

SQL Server directory: C:\Program Files\Microsoft SQL Server\MSSQL14.ORCH

Installed instances:

Instance Name	Instance ID	Features	Edition	Version

< Back

Next >

Cancel

Server Configuration

Specify the service accounts and collation configuration.

Product Key
License Terms
Global Rules
Microsoft Update
Product Updates
Install Setup Files
Install Rules
Feature Selection
Feature Rules
Instance Configuration
Server Configuration
Database Engine Configuration
Feature Configuration Rules
Ready to Install
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 Agent	RAMLAN\Administrator	••••••••	Automatic ▼
SQL Server Database Engine	RAMLAN\Administrator	••••••••	Automatic ▼
SQL Server Browser	NT AUTHORITY\LOCAL ...		Automatic ▼

☐ 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

Database Engine Configuration

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

Product Key
License Terms
Global Rules
Microsoft Update
Product Updates
Install Setup Files
Install Rules
Feature Selection
Feature Rules
Instance Configuration
Server Configuration
Database Engine Configuration
Feature Configuration Rules
Ready to Install
Installation Progress
Complete

Server Configuration | Data Directories | TempDB | 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

RAMLAN\Administrator (Administrator)

RAMLAN\ram (Ram)

RAMLAN\ramlan (Ram Lan)

RAMLAN\orch (ORCH)

RAMLAN\orchmsrv (ORCHMSrv)

RAMLAN\orchrb (ORCHRB)

SQL Server administrators
have unrestricted access
to the Database Engine.

Add Current User

Add...

Remove

< Back

Next >

Cancel

Server Configuration

Specify the service accounts and collation configuration.

Product Key
License Terms
Global Rules
Microsoft Update
Product Updates
Install Setup Files
Install Rules
Feature Selection
Feature Rules
Instance Configuration
Server Configuration
Database Engine Configuration
Feature Configuration Rules
Ready to Install
Installation Progress
Complete

Service Accounts | Collation

Database Engine:

SQL_Latin1_General_CP1_CI_AS

Customize...

Latin1-General, case-insensitive, accent-sensitive, kanatype-insensitive, width-insensitive for Unicode Data, SQL Server Sort Order 52 on Code Page 1252 for non-Unicode Data

< Back

Next >

Cancel

Ready to Install

Verify the SQL Server 2017 features to be installed.

Product Key
License Terms
Global Rules
Microsoft Update
Product Updates
Install Setup Files
Install Rules
Feature Selection
Feature Rules
Instance Configuration
Server Configuration
Database Engine Configuration
Feature Configuration Rules
Ready to Install
Installation Progress
Complete

Ready to install SQL Server 2017:

Summary

- Edition: Enterprise
- Action: Install (Product Update)
- Prerequisites
 - Already installed:
 - Windows PowerShell 3.0 or higher
 - Microsoft .NET Framework 4.6
 - To be installed from media:
 - Microsoft Visual C++ 2015 Redistributable
- General Configuration
 - Features
 - Database Engine Services
 - Instance configuration
 - Instance Name: ORCH
 - Instance ID: ORCH
 - Instance IDs
 - SQL Database Engine: MSSQL14.ORCH

Configuration file path:

C:\Program Files\Microsoft SQL Server\140\Setup Bootstrap\Log\20191231_105505\ConfigurationFile.ini

< Back

Install

Cancel

Complete

Your SQL Server 2017 installation completed successfully with product updates.

Product Key
License Terms
Global Rules
Microsoft Update
Product Updates
Install Setup Files
Install Rules
Feature Selection
Feature Rules
Instance Configuration
Server Configuration
Database Engine Configuration
Feature Configuration Rules
Ready to Install
Installation Progress
Complete

Information about the Setup operation or possible next steps:

Feature	Status
✓ Database Engine Services	Succeeded
✓ SQL Browser	Succeeded
✓ SQL Writer	Succeeded
✓ Setup Support Files	Succeeded

Details:

Install successful.

Summary log file has been saved to the following location:















C:\Program Files\Microsoft SQL Server\140\Setup Bootstrap\Log\20191231_105505\Summary_ORCH_20191231_105505.txt

Close

Restart the server. After that we will do windows update and be ready for Orchestrator install.

ORCHESTRATOR 2019 INSTALL:

> ORCH > OS (C:) > Temp > System Center Orchestrator 2019

Name	Date modified	Type	Size
 Setup	31-Dec-2019 11:17...	File folder	
 SMA	31-Dec-2019 11:17...	File folder	
 SPF	31-Dec-2019 11:17...	File folder	
 sv	31-Dec-2019 11:17...	File folder	
 tr	31-Dec-2019 11:17...	File folder	
 zh-Hans	31-Dec-2019 11:17...	File folder	
 zh-Hant	31-Dec-2019 11:17...	File folder	
 attributions	06-Feb-2019 11:23...	Text Document	7 KB
 autorun	06-Feb-2019 11:25...	Setup Information	1 KB
 mfc100u.dll	06-Feb-2019 11:26...	Application extens...	4,320 KB
 msvcpr100.dll	06-Feb-2019 11:26...	Application extens...	412 KB
 msvcpr100.dll	06-Feb-2019 11:26...	Application extens...	756 KB
 SetupOrchestrator	07-Feb-2019 3:07 ...	Application	102 KB
 thirdpartynotice	06-Feb-2019 11:23...	Text Document	2 KB



Microsoft System Center 2019 Orchestrator Setup

Microsoft

System Center 2019

Orchestrator

Install

-  Restart may be required
-  Before you begin

Standalone installations

Runbook [Designer](#)
Orchestration Console and [Web Service](#)
Runbook [Server](#)

Additional Resources

Release [Notes](#)
[Deployment Guide](#)
[System Center Online](#)
[Obtain Installation Assistance](#)

Service Management

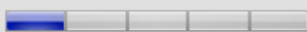
Automation

[Web Service](#)
[Runbook Worker](#)
[PowerShell Module](#)

Standalone installations

[Service Provider Foundation](#)

Getting started



Product registration

Enter your registration information.

Name:

Organization:

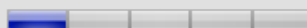
Product Key:



If you don't provide a Product Key during setup, Orchestrator will install as an evaluation edition.

[Previous](#)[Next](#)[Cancel](#)

Getting started



Please read this License Terms

You must accept the license terms before you can install or use the software. If you do not accept the license terms, installation will not proceed. After installation, the license terms are available in the Orchestrator License Terms folder.

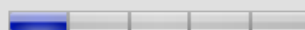
PLEASE NOTE: Your use of this software is subject to the terms and conditions of the license agreement by which you (or your company) acquired the Microsoft server software or gained access to the online service from Microsoft. For instance, if you are:

- ☒ I accept the license terms.
- ☐ I do not accept the license terms.

[Read our privacy statement](#)

[Print License terms...](#)[Previous](#)[Next](#)[Cancel](#)

Getting started



Diagnostic and Usage data

When a program error occurs, information about the error can be anonymously reported to Microsoft. Orchestrator server will be sending the Diagnostic and Usage Data to Microsoft based on the user selection.

Microsoft automatically collects diagnostics and usage data over the internet ("Data"). Microsoft uses this Data to provide and improve the quality, security and integrity of Microsoft products and services. For example, we analyze performance and reliability, such as what features you use, how quickly the features respond, device performance, version you are currently running and the IP address.

Choice/Control: This feature is on by default. Administrators can turn off this feature anytime by [using the help option in Runbook Designer](#).

For information about the other data collection and Usage, see [Privacy statement for System Center](#).

This notice replaces the Customer Experience Improvement Program (CEIP) description in the Orchestrator section of the Privacy Statement. All other sections of the Privacy Statement apply.

Previous

Next

Cancel

Getting started



Select features to install

Expand all ▼

☒ Management Server ▼☒ Runbook Server ▼☒ Orchestration Console and Web Service ▼☒ Runbook Designer ▼

Previous

Next

Cancel

Configuration



Configure the service account

Enter the user account to use to run runbooks and access remote system resources. This account must have "Log on as a service" rights enabled. Orchestrator will enable this right if it is not already enabled.

As a security best practice, do not use a domain administrator account. To learn more about security best practices and how this account is configured to access Orchestrator database, see the [Orchestrator deployment guide](#).

Username (you may enter domain\username):

Password:

Domain:

✓ Credentials accepted

Configuration



Configure the database server

Specify the database server, instance name, and port number for the Orchestrator database. You must have sufficient permissions on the database instance. To learn more about the database permissions, see the [Orchestrator deployment guide](#).

Server (you may enter server\instance):

Port:

Authentication Credentials

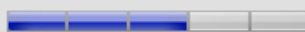
- ☒ Windows Authentication
☐ SQL Authentication

Username:

Password:

✓ Database connection succeeded.

Configuration



Configure the database

Specify a new or existing database. You must have sufficient permissions on the database instance.

If you select Existing Database option, only the SQL server databases compatible with Orchestrator are available for selection. To learn more about Orchestrator compatible databases, see the [Orchestrator deployment guide](#).

Database

Specify a database.

- ☒ New database:
- ☐ Existing database:

[Previous](#)[Next](#)[Cancel](#)

Configuration



Configure Orchestrator users group

Select a group whose members will have access to the Runbook Designer and Deployment Manager. This can be a local group but recommend to be an Active Directory group so that it can be centrally managed. If the group does not exist, then it will be created and the current user account added to it.

Members of this group have administrative access to Orchestrator and have access to all configuration and data stored in the Orchestrator database, including encrypted data.

Orchestrator users group:

[Browse...](#)

Optionally you can grant this group the permission to use the Runbook Designer from a computer other than the Management server. To learn more about the changes that will be made to the Management server, see [Orchestrator Deployment Guide](#).

☒ Grant remote access to the Runbook Designer.

[Previous](#)[Next](#)[Cancel](#)

Configuration



Configure the ports for the web services

Choose an available port on the local computer where the web service is being installed. This port number will be used to create a new website in Internet Information Services (IIS) to host the web service application.

To learn more about how these ports will be used, see the [Orchestrator deployment guide](#).

Web service port:

Orchestration console port:

Configuration



Select the installation location

The recommended location for program files is displayed.

Location:

Help with System Center 2019 Orchestrator



Help improve Microsoft System Center Orchestrator

Error Reporting

When a program error occurs, information about the error can be anonymously reported to Microsoft. This information is used to help identify and resolve common issues with Orchestrator. ([Tell me more about the program](#))

- ☒ Yes, I am willing to participate anonymously. Please automatically send my error reports.
☐ Yes, I am willing to participate anonymously. Please queue the reports so that I can choose when to send them.
☐ No, I am not willing to participate

[Read our privacy statement](#)

[Previous](#)[Next](#)[Cancel](#)

Configuration



Installation summary

Review the selections for the components you are installing. To continue, click Install. To change these selections, click the appropriate Change link or Previous.

Installation location ([change](#))

C:\Program Files (x86)\Microsoft System Center\Orchestrator

Features selected ([change](#))

Management Server
Runbook Server
Runbook Designer
Orchestration Console and Web Service

Configure the service account ([change](#))

RAMLAN\ORCH

Configure the database server ([change](#))

ORCH\ORCH

Configure the database ([change](#))

Orchestrator



Configuration



Installation summary

Review the selections for the components you are installing. To continue, click Install. To change these selections, click the appropriate Change link or Previous.

Configure the database server ([change](#))

ORCH\ORCH

Configure the database ([change](#))

Orchestrator

Configure Orchestrator users group ([change](#))

User or Group selected: RAMLAN\ORCHADMIN

Grant remote access to the Runbook Designer: RAMLAN\ORCHADMIN

Configure the ports for the web services ([change](#))

Web service port: 81, Orchestration console port: 82

Diagnostic and Usage Data and Error Reporting configuration ([change](#))

Yes, I am willing to send data to Microsoft

Send error reports anonymously

[Previous](#)[Install](#)[Cancel](#)

Finished



Setup completed successfully

Review the installation results. In case of failure, please view the log files for detailed information, correct the problem and re-attempt the installation.

- ✓ Management Server
- ✓ Runbook Server
- ✓ Runbook Designer
- ✓ Orchestration Console and Web Service
- ✓ Database configuration
- ✓ Orchestrator users group configuration

- ☒ Launch Windows Update
- ☒ Visit System Center Orchestrator Online
- ☒ When Setup closes, start the Runbook Designer

[Close](#)



System Center 2019

Orchestrator

Version Information:

Designer: 10.19.40.0

Orchestrator Management Servers:
ORCH: 10.19.40.0

Libraries:

Compression-6-4109999.op4caw: 10.19.40.0
Compression-6-4109999.op4saw: 10.19.40.0
Database-14-40801.op4caw: 10.19.40.0

[Privacy statement](#)

Enter Product Key

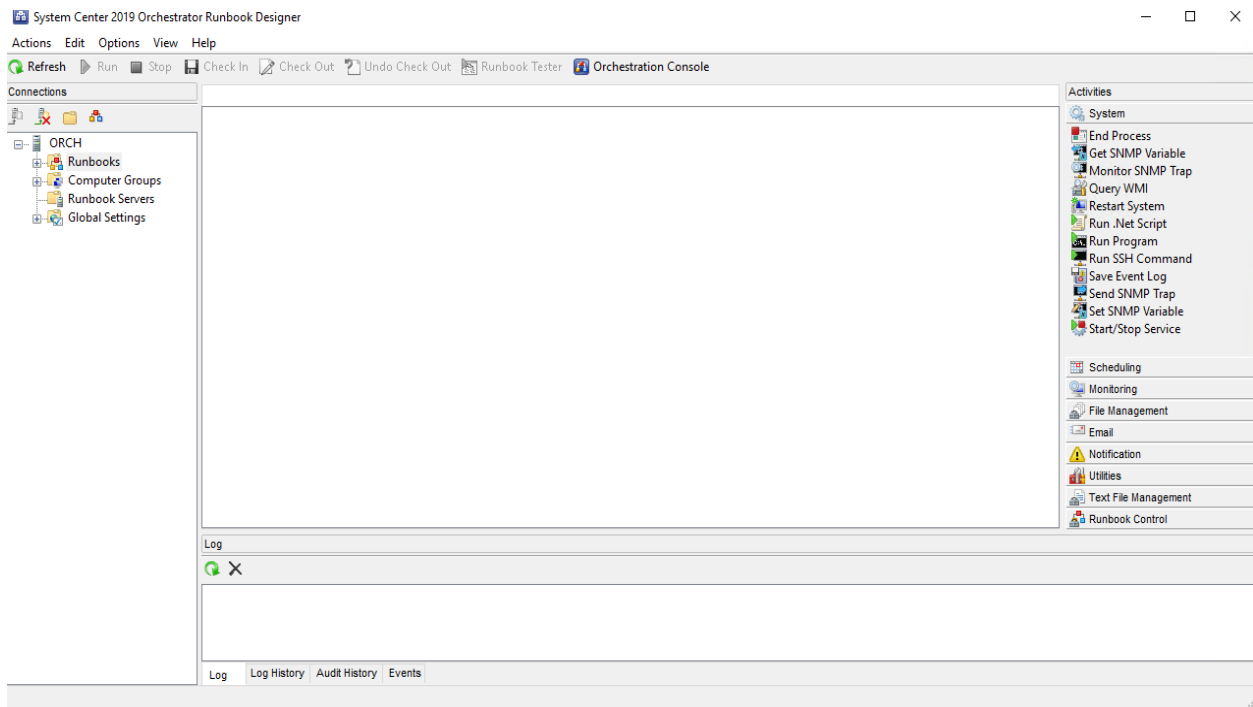
System Center
© Microsoft. All rights reserved.

This software is licensed.

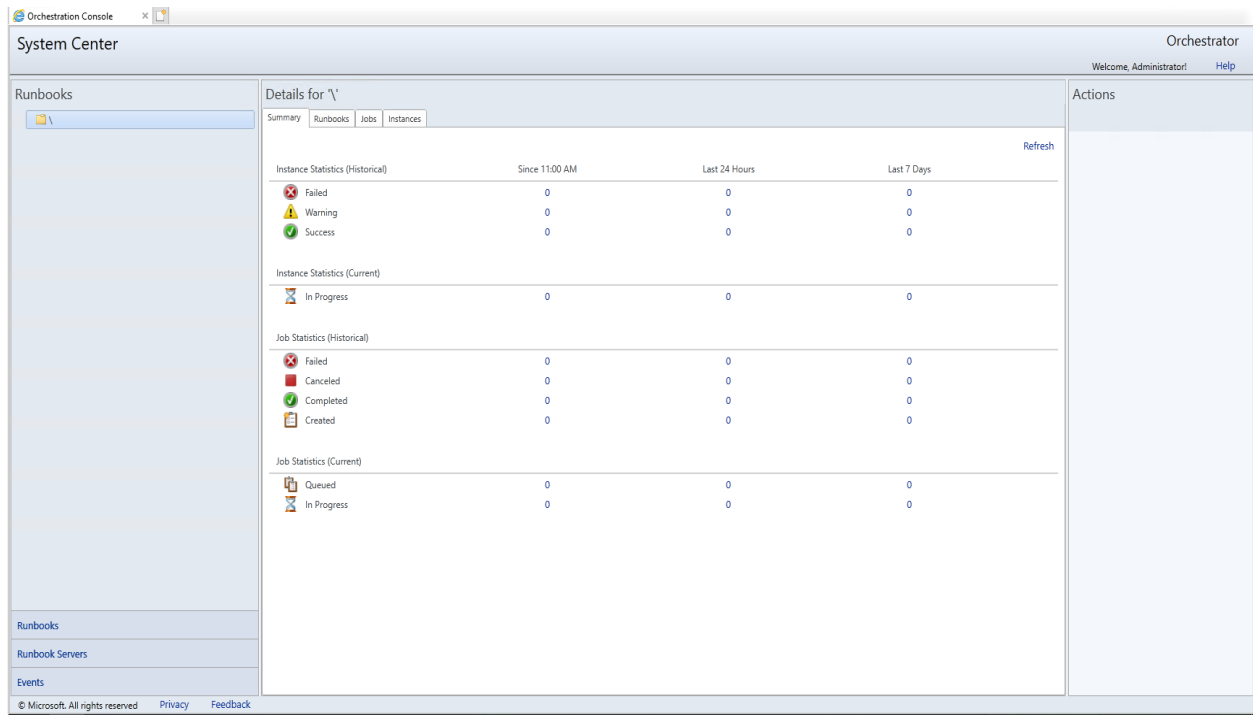
OK



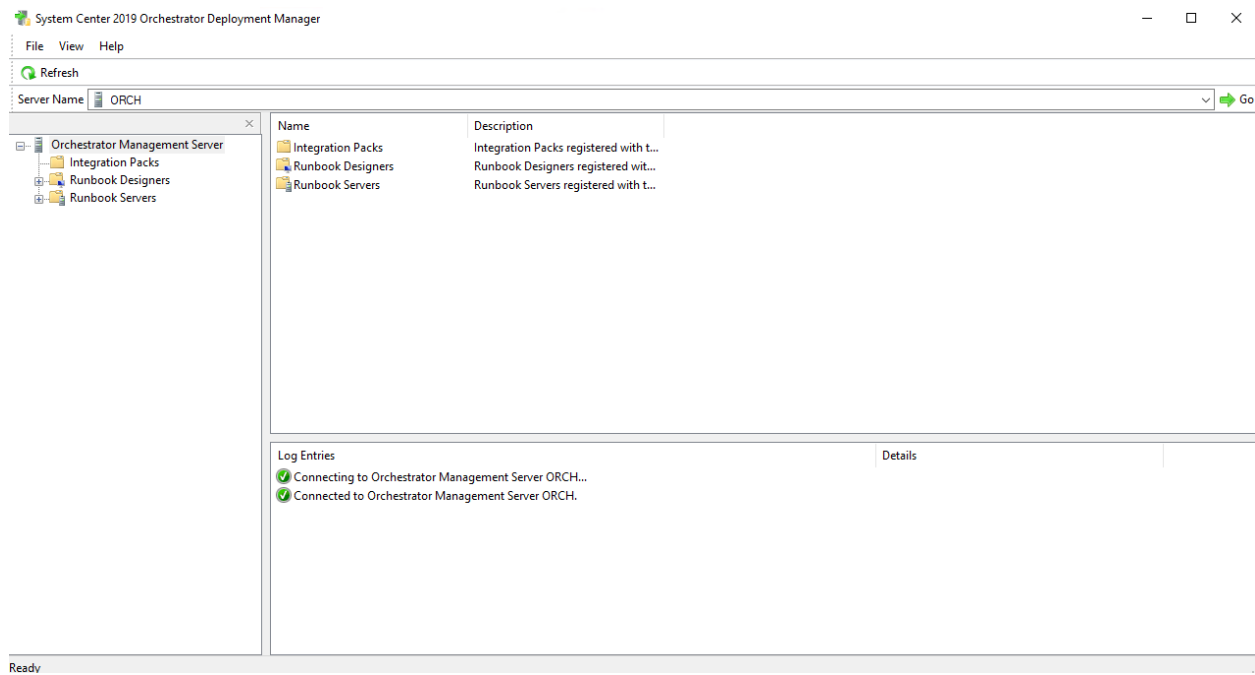
Runbook Designer:



Orchestrator Console:



Orchestrator Deployment Manager:



This concludes the install process for Orchestrator 2019. In the next article, I will write about creating and deploying runbooks and others. Stay tuned...

Thanks

Ram Lan
31st Dec 2019