

How to install SQL Server 2022 step by step

By: [Daniel Calbimonte](#) | Updated: 2023-11-17 | [Comments \(6\)](#) | Related: > [Install and Uninstall](#)

Link: <https://www.mssqltips.com/sqlservertip/7313/install-sql-server-2022/>

Problem

SQL Server 2022 is the latest version of SQL Server, designed to be more integrated with Azure. This new version contains several new features and, in this tutorial, we walk through the SQL Server 2022 installation process.

Solution

In this tutorial, we will show how to install SQL Server 2022 step by step. At the time this tutorial was written, SQL Server 2022 was at version 16.0.4065.3.

Prerequisites

- At least 1 GB of memory (512MB for the Express Edition). However, it is recommended to have 4 GB (1 GB for the Express Edition). If you require [DQS](#), then 2 GB is required.
- At least a x64 Processor of 1.4 GHz (recommended a 2 Ghz processor or higher).
- 6 GB of storage space.
- At least a super VGA 800X600 monitor or better.
- An internet connection.
- At least Windows 10 or at least Windows Server 2016 operating system.




Download and Install Microsoft SQL Server 2022

You can download the installation file from Microsoft.com: [SQL Server 2022 Download](#)

You have several options:

- **SQL Server on Azure** - is the version in the Microsoft cloud. For more information, refer to [this link](#).
- **SQL Server at the edge** - is a SQL Server for the IoT (Internet of Things). This is used to get real-time data with high-performance for IoT solutions.
- **SQL Server on-premises** - is for SQL Server installed on local machines.

Try SQL Server on-premises or in the cloud



 SQL Server on Azure Run SQL Server on Azure SQL with built-in security and manageability. Get started	 SQL Server at the edge Extend SQL to IoT devices for real-time analysis with Azure SQL Edge. Get started	 SQL Server on-premises Get the performance and security of SQL Server 2022, a scalable, hybrid data platform, now Azure-enabled. Download now
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In addition, there are 2 free versions.

- **Developer** - which has all the features of the SQL Server Enterprise edition.
- **Express** - which is also free, but has limited features.

The main differences between the Developer and the Express edition is that you can use the Express edition in production (but it has several feature limitations) whereas the Developer edition can be used only in Development, Testing or for Teaching purposes.

Or, download a free specialized edition

 Developer SQL Server 2022 Developer is a full-featured free edition, licensed for use as a development and test database in a non-production environment. Download now	 Express SQL Server 2022 Express is a free edition of SQL Server, ideal for development and production for desktop, web, and small server applications. Download now
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Finally, you have 3 options:

- **Windows** - to install in your local server in a Windows machine or Virtual Machine with Microsoft Windows.
- **Linux** - to install SQL Server on Linux. For more information about Linux, refer to this article.

- **Docker** - is like a simplified virtual machine that contains the necessary components to run an application without requiring an entire operative system. It is a very portable lightweight container to run applications.

Install SQL Server 2022 on Windows, Linux, and Docker containers



Windows
Run SQL Server on Windows or as a Virtual Machine in Azure
[Choose your installation setup >](#)



Linux
Run SQL Server 2022 on Linux
[Choose your installation setup >](#)



Docker
Run SQL Server 2022 container image with Docker
[Choose your installation setup >](#)

In this example, we will install SQL Server Developer edition on-premises.

Download the installer and once downloaded the installation wizard has 3 options:

- **Basic** - install SQL Server with the default options.
- **Custom** - this option allows you to select the components to install. You will be able to select several other options like SSIS, SSAS, DQS, MDS and other features.
- **Download Media** - this option allows you to download the installer and run the install later.

For this article, we will use **Custom**.

SQL Server 2022



Developer Edition

Select an installation type:

Basic

Select Basic installation type to install the SQL Server Database Engine feature with default configuration.

Custom

Select Custom installation type to step through the SQL Server installation wizard and choose what you want to install. This installation type is detailed and takes longer than running the Basic install.

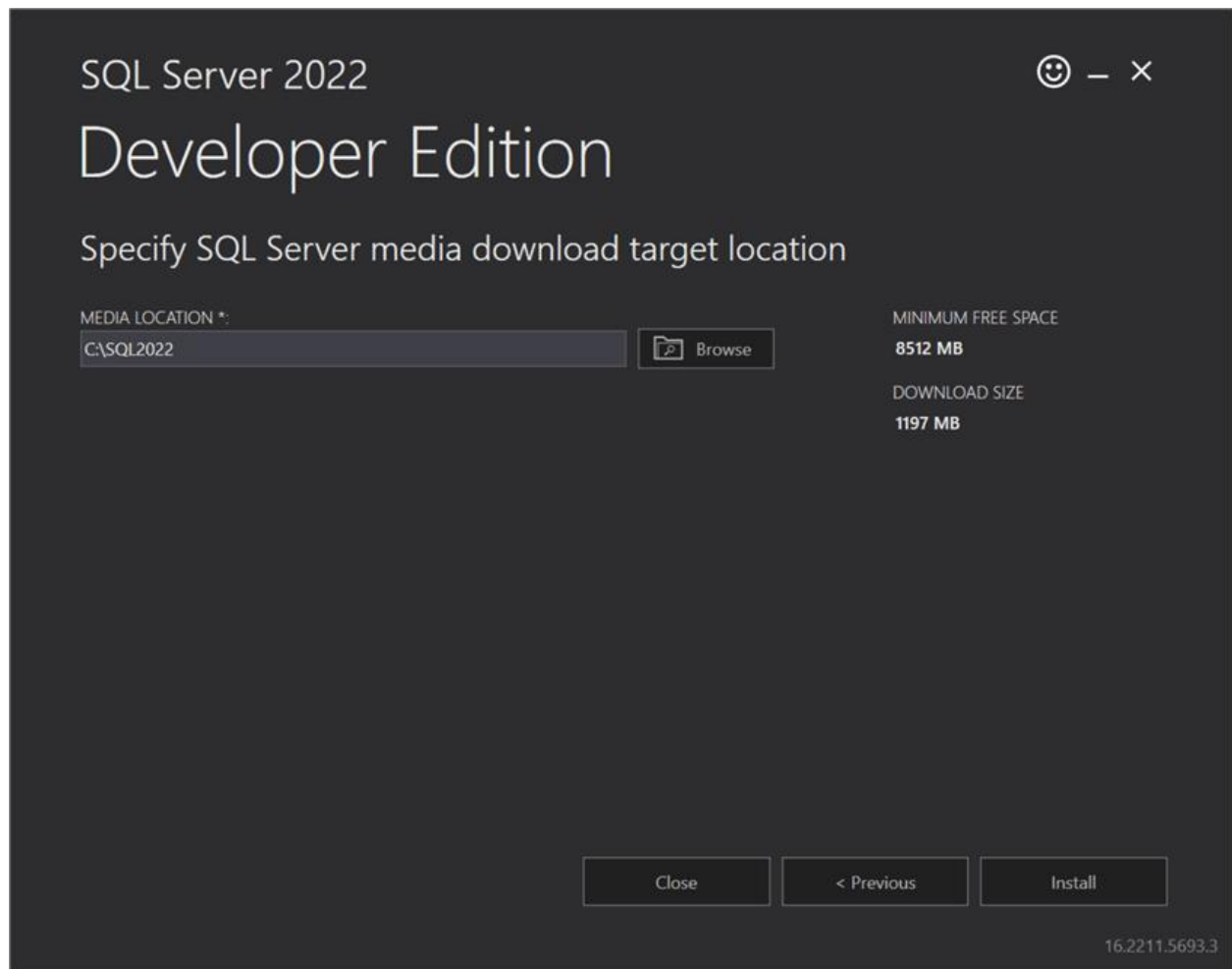
Download Media

Download SQL Server setup files now and install them later on a machine of your choice.

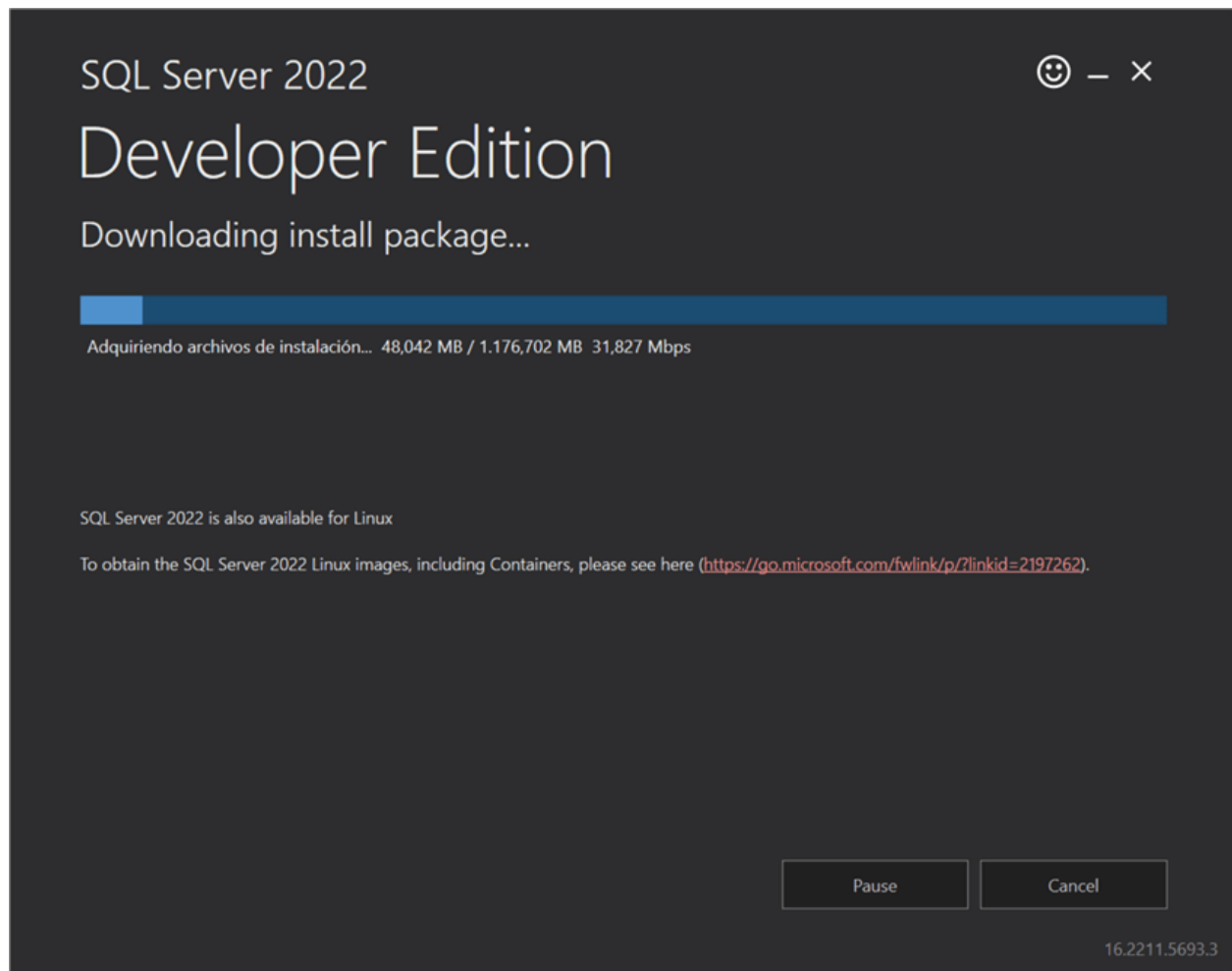
SQL Server transmite a Microsoft información sobre su experiencia de instalación, así como otros datos de uso y rendimiento, con el fin de mejorar el producto. Para obtener más información sobre el procesamiento de datos y los controles de privacidad, y para desactivar la recopilación de esta información después de la instalación, vea [documentación](#)

16.2211.5693.3

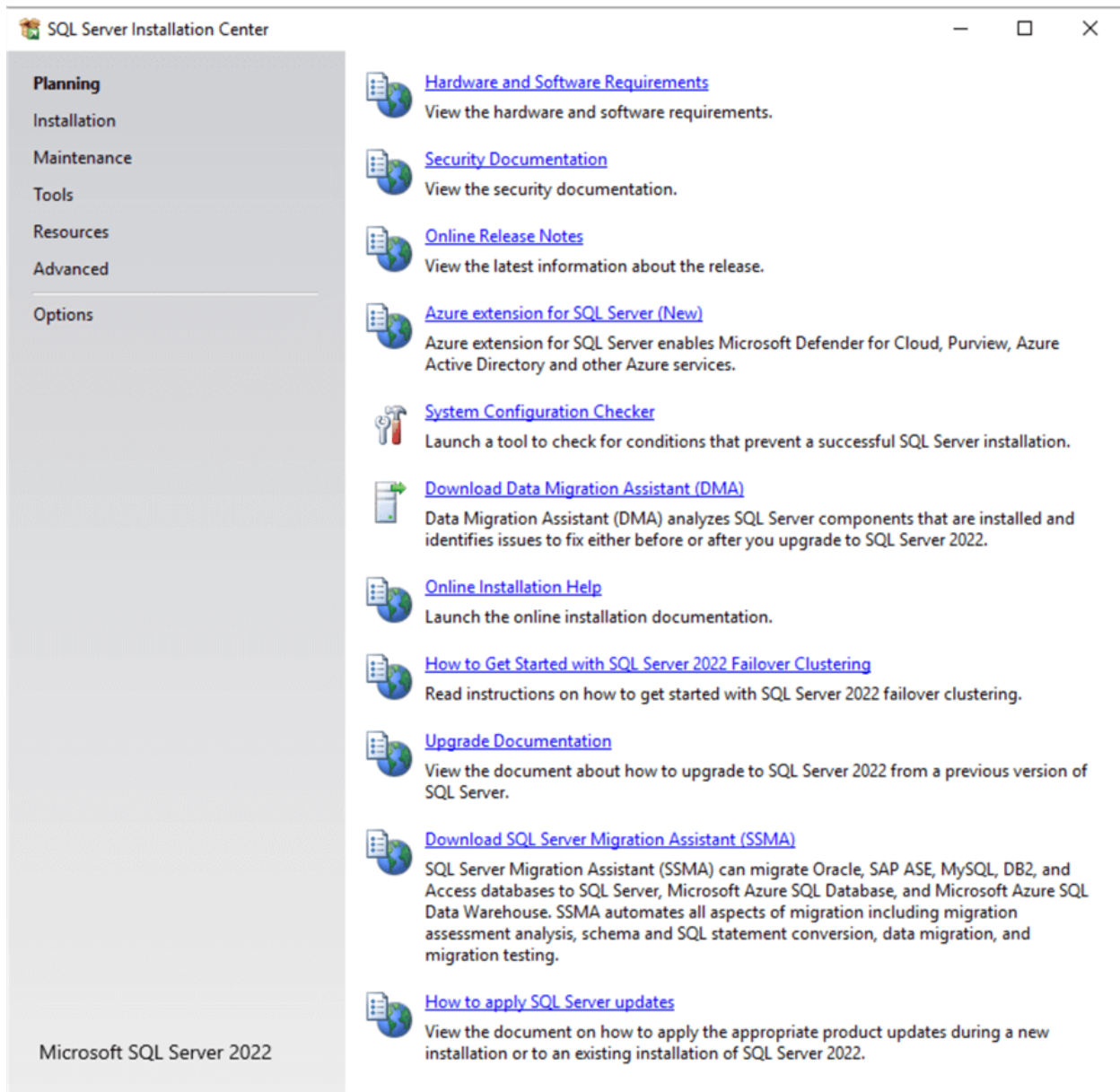
Next, the installer will ask where to save the download, once selected press **Install**.



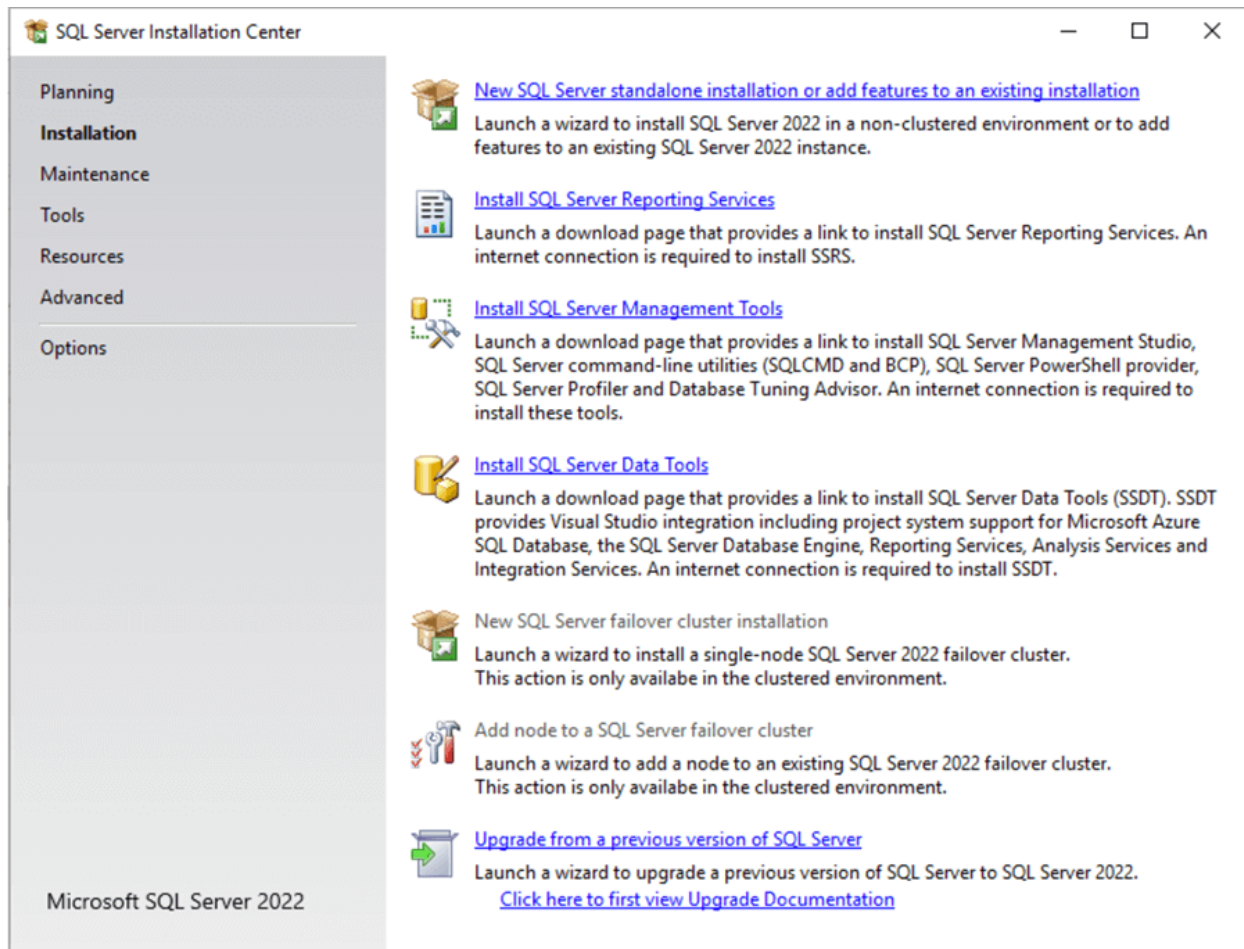
This will download and run the install package.



The **SQL Server Installation Center** will open after the download completes and on the **Installation** page, we have the following options. We will select **Installation** to install SQL Server.



On the installation page we have the following options.



1. New SQL Server stand-alone installation or add features to an existing installation.
 - We will use this option to install a new instance.
2. [Install SQL Server Reporting Services.](#)
 - This software is used to create Reports not only from SQL data, but also from other data sources.
3. Install SQL Server Management Tools
 - Install various tools to work with SQL Server.
4. Install SQL Server Data Tools
 - In the past, you could install Analysis Services, SSRS, and SSIS projects with SSDT, but starting with [Visual Studio 2019, these projects are not included with SSDT.](#)
5. [New SQL Server failover cluster installation](#)
 - Install a new node in a failover cluster used for high availability
6. Add node to a SQL Server failover cluster
 - Add nodes to a failover cluster
7. Upgrade from a previous version of SQL Server
 - Let's you upgrade from a previous SQL Server version

We will pick **New SQL Server stand-alone installation or add features to an existing installation.**

There will be a few screens to go through to check for any updates

Edition

On the next screen, you can enter a product key or use a free edition. You can use 3 options:

- **Evaluation.** The evaluation edition is for 180 days duration.
- **Developer.** The Developer edition is for development purposes, testing or teaching purposes. It cannot be used in Production.
- **Express.** This version can be used in production, but it comes with various feature limitations.

In addition, you can use the pay-as-you-go billing through Microsoft Azure option. This option is great if you want SQL Server for a limited time or if you do not use on weekends. You can scale out or scale down. This option offers an Enterprise and Standard edition. The main differences between these 2 options are the features available. The enterprise edition contains all the features, whereas the Standard edition has some limitations.

Also, you can use the product key. The product key is used to specify the license of your SQL Server. If you purchase a license. Microsoft will provide you license for an Edition of SQL Server. You will need to enter an alphanumeric key in SQL Server.

There are 2 options for the product key.

- I have a SQL Server license with Software Assurance or SQL Subscription. If you have a subscription or a software assurance, your payment will be reduced. The software assurance also includes some benefits during the upgrades, migration and technical support.
- I have a SQL Server license only. This option means that you will enter the license only and you do not have a Software Assurance or a SQL Server Subscription.

SQL Server 2022 Setup

Edition

Select the edition of SQL Server 2022 you want to install.

- Global Rules
- Microsoft Update
- Product Updates
- Install Setup Files
- Install Rules
- Installation Type
- Edition**
- License Terms
- Azure Extension for SQL Server
- Feature Selection
- Feature Rules
- Feature Configuration Rules
- Ready to Install
- Installation Progress
- Complete

Select an edition of SQL Server to install. You can choose to either use a SQL Server license that you have already purchased by entering the product key or choose pay-as-you-go billing through Microsoft Azure. You can also specify a free edition of SQL Server: Developer, Evaluation, or Express. Evaluation has the largest set of SQL Server features, as documented in SQL Server Books Online, and is activated with a 180-day expiration. Developer edition does not have an expiration, has the same set of features found in Evaluation, but is licensed for non-production database application development only. To upgrade from one installed edition to another, run the Edition Upgrade Wizard.

☒ Specify a free edition:

Developer

☐ Use pay-as-you-go billing through Microsoft Azure:

Warning: To enable this option, you must have an active Azure subscription that you will be required to provide along with a resource group, Azure region, and tenant ID later in setup. For more information, see <https://aka.ms/ArcEnabledSqlPAYG>.

Standard

☐ Enter the product key:

- - - -

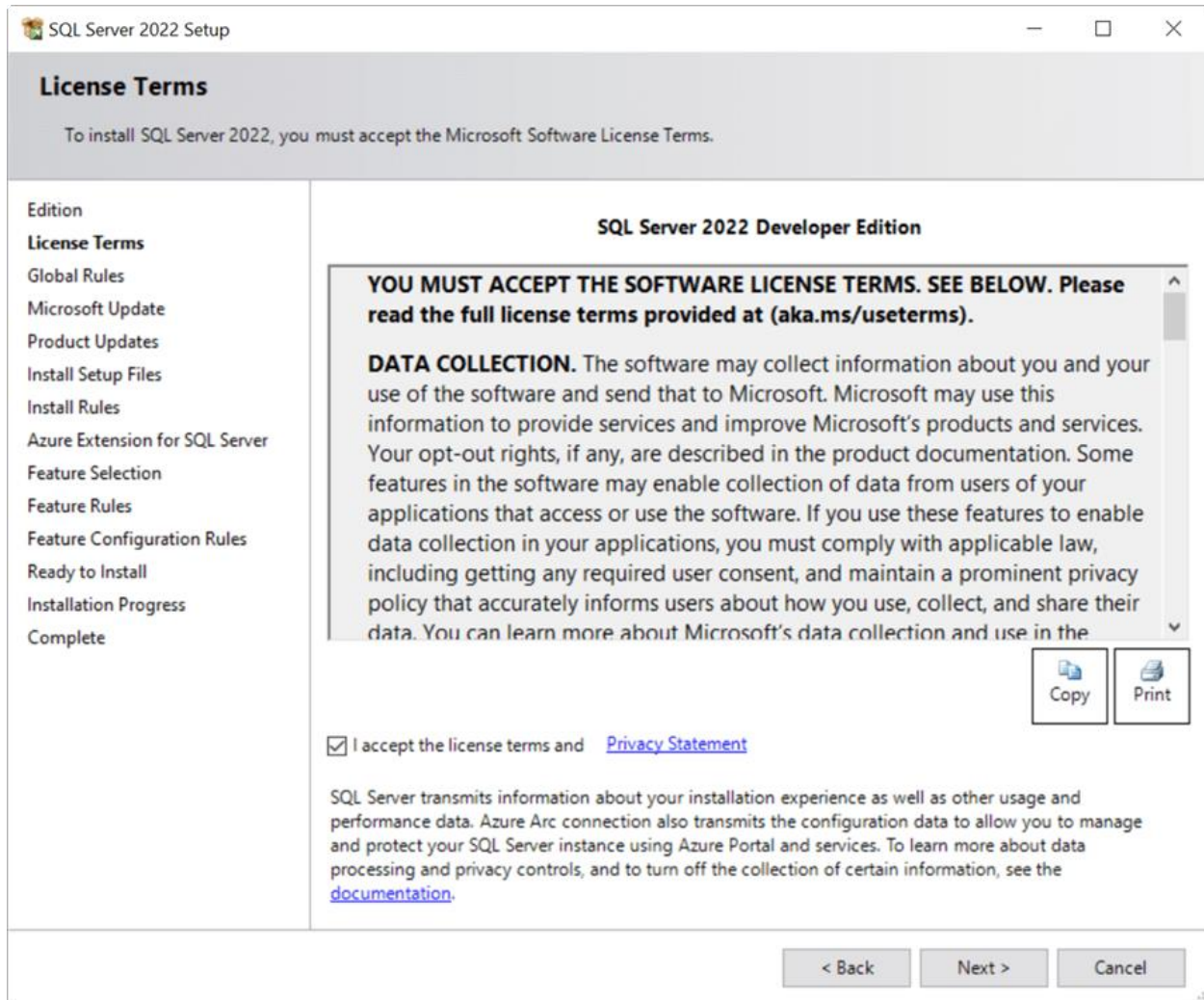
☐ I have a SQL Server license with Software Assurance or SQL Software Subscription

☐ I have a SQL Server license only

< Back Next > Cancel

License Terms

Read the license terms to make sure that you agree and press **Next**.

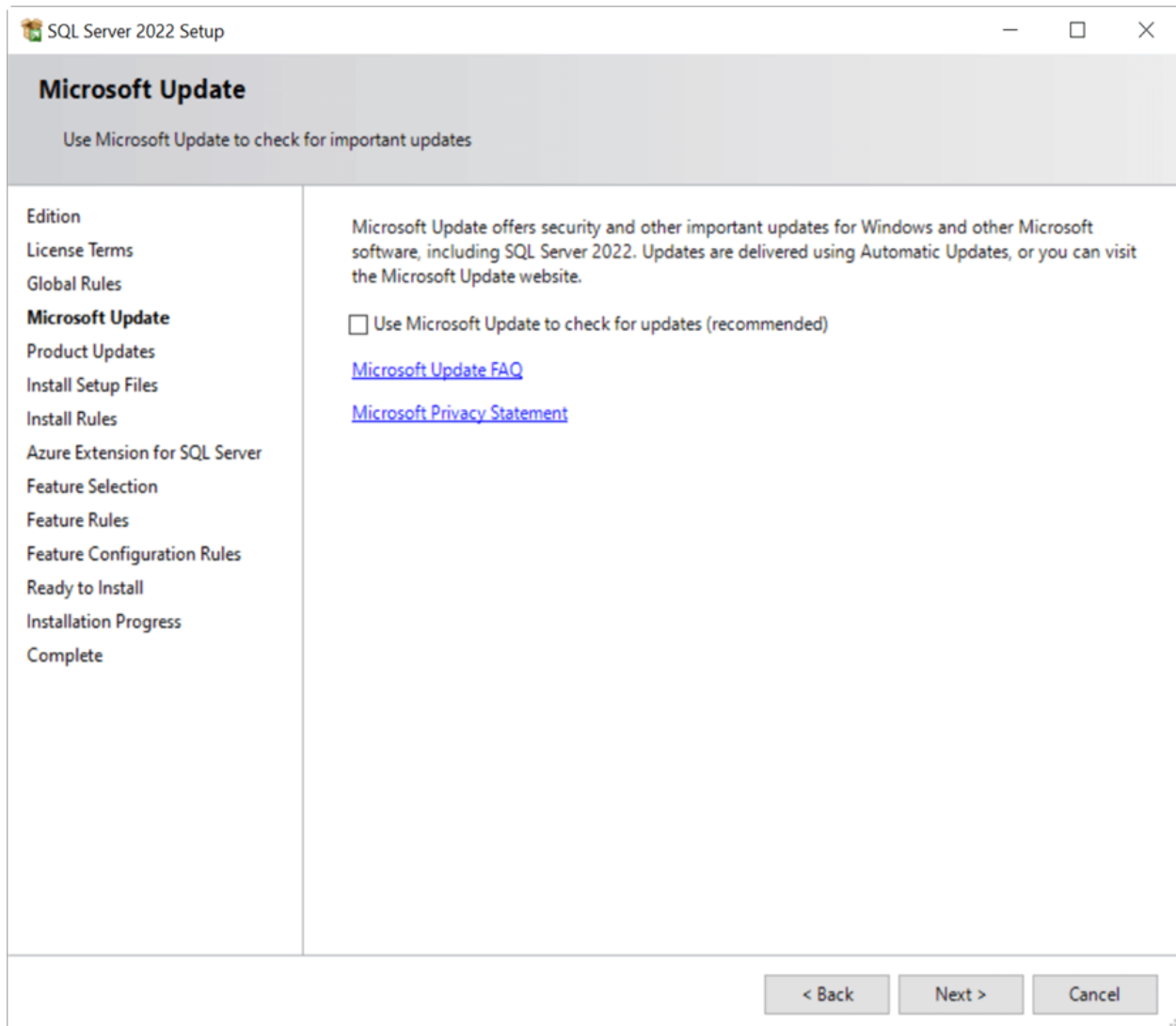


Microsoft Update

The Microsoft Update can check if there are updates. You can enable this option and Microsoft Update will check for updates. Press **Next** to continue.

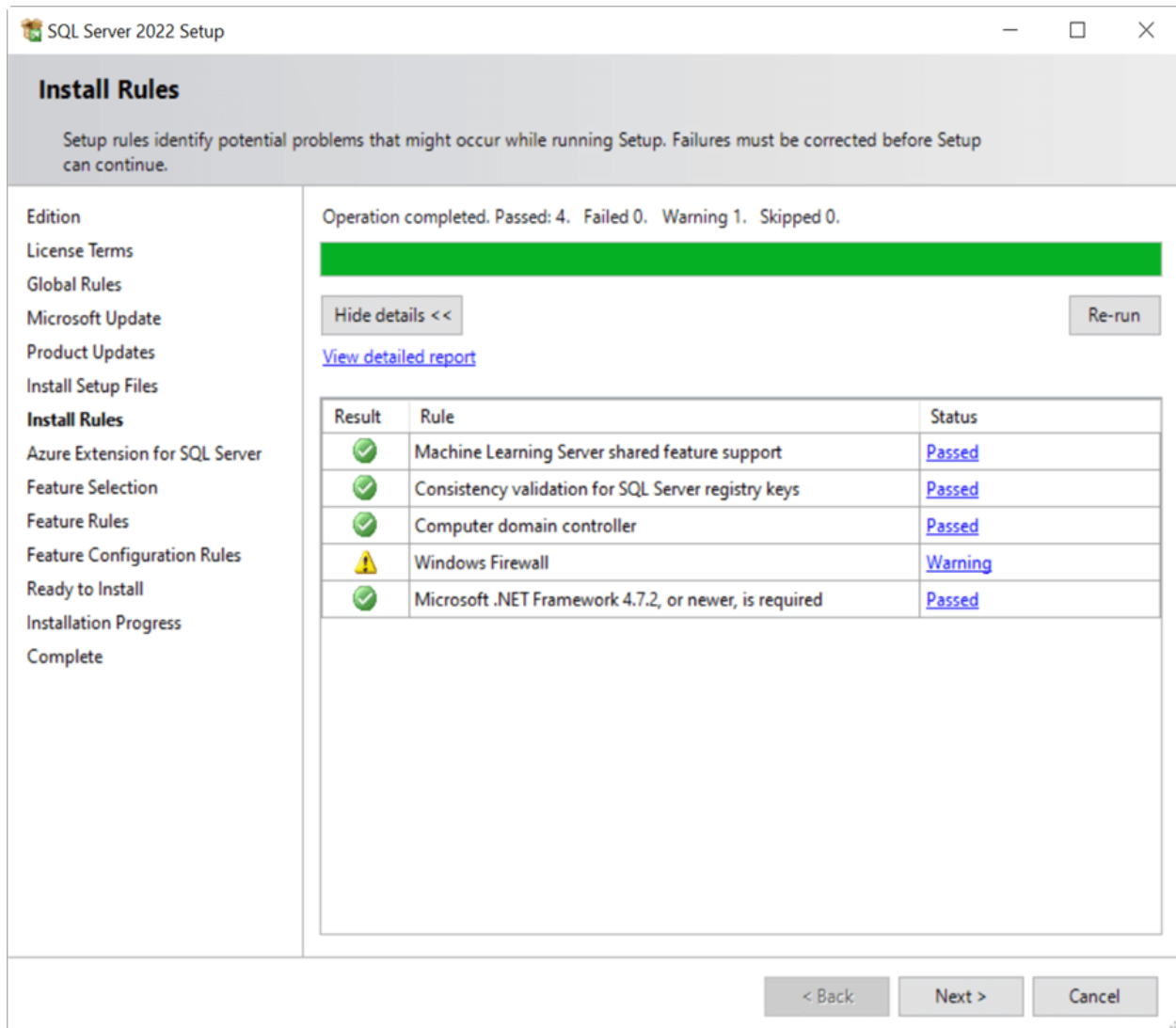
In Microsoft SQL Server, the updates are using the CUs. The CUs are Cumulative Updates. These updates contain patches and fixes to improve the functionality and security of the SQL Server. Make sure to have your CUs updated.

You can see the last CU for SQL Server 2022 [here](#).



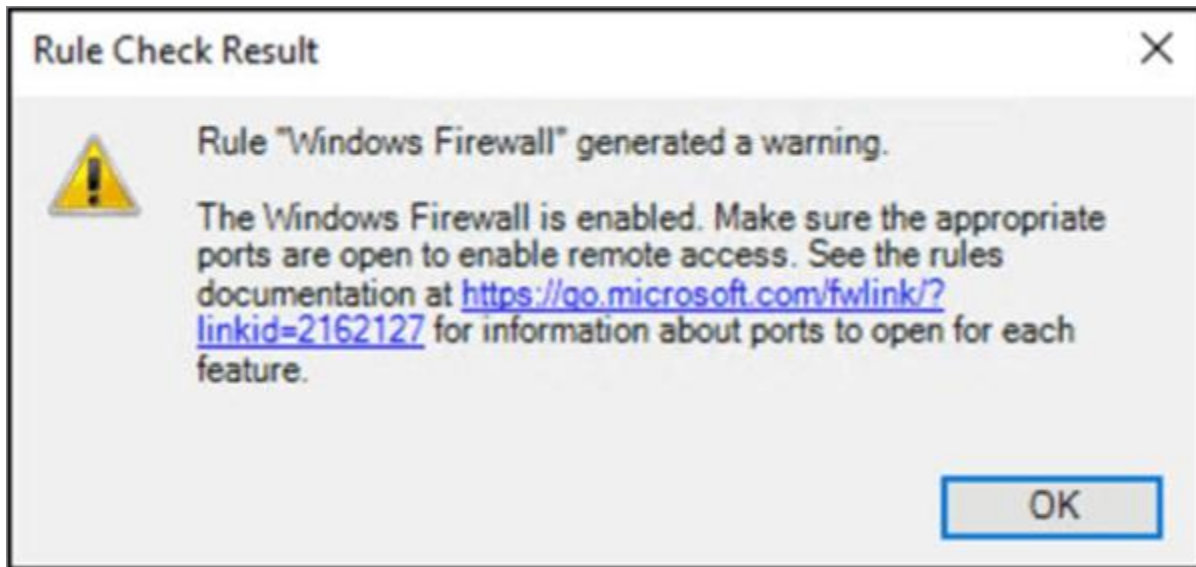
Install Rules

The install rules window verifies possible problems during the installation. For example, the machine may not have the current .NET framework installed, or the firewall may need some ports enabled. In this example, we have two warnings. The firewall and the side-by-side upgrade warnings. You can click view detailed report for more details or on the warning link to get more info. Note, it is not recommended to install the machine on a domain controller and the .NET framework that is recommended is 4.7.2 or later.



Windows Firewall Warning

If the firewall is enabled, you need to check if the required ports are enabled. If they are disabled, your services may not work. If you need more information about SQL Ports, please refer to this link: [SQL Server Ports for Various Components](#). If you need more information to configure the firewall, please refer to this link: [Configure Windows Firewall to Work with SQL Server](#).



Azure Extension for SQL Server

Un-check Azure extensions for SQLserver. (sinh viên bỏ check mục này, không cài tính năng này)

SQL Server 2022 Setup

Azure Extension for SQL Server

Azure Extension for SQL Server is required to enable Microsoft Defender for Cloud, Purview, and Azure Active Directory.

Edition

License Terms

Global Rules

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Product Updates

Install Setup Files

Install Rules

Azure Extension for SQL Serv...

Feature Selection

Feature Rules

Feature Configuration Rules

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Complete

☒ Azure Extension for SQL Server

Bỏ check

☐ Use Azure Login

☒ Use Service Principal

Azure Service Principal ID*

Azure Service Principal Secret*

Azure Subscription ID*

Azure Resource Group*

Azure Region*

Azure Tenant ID*

Proxy Server URL (optional)

To install Azure extension for SQL Server, provide your Azure account or a service principal to authenticate the SQL Server instance to Azure. You also need to provide the Subscription ID, Resource Group, Region, and Tenant ID where this instance will be registered. For more information for each parameter, visit <https://aka.ms/arc-sql-server>.

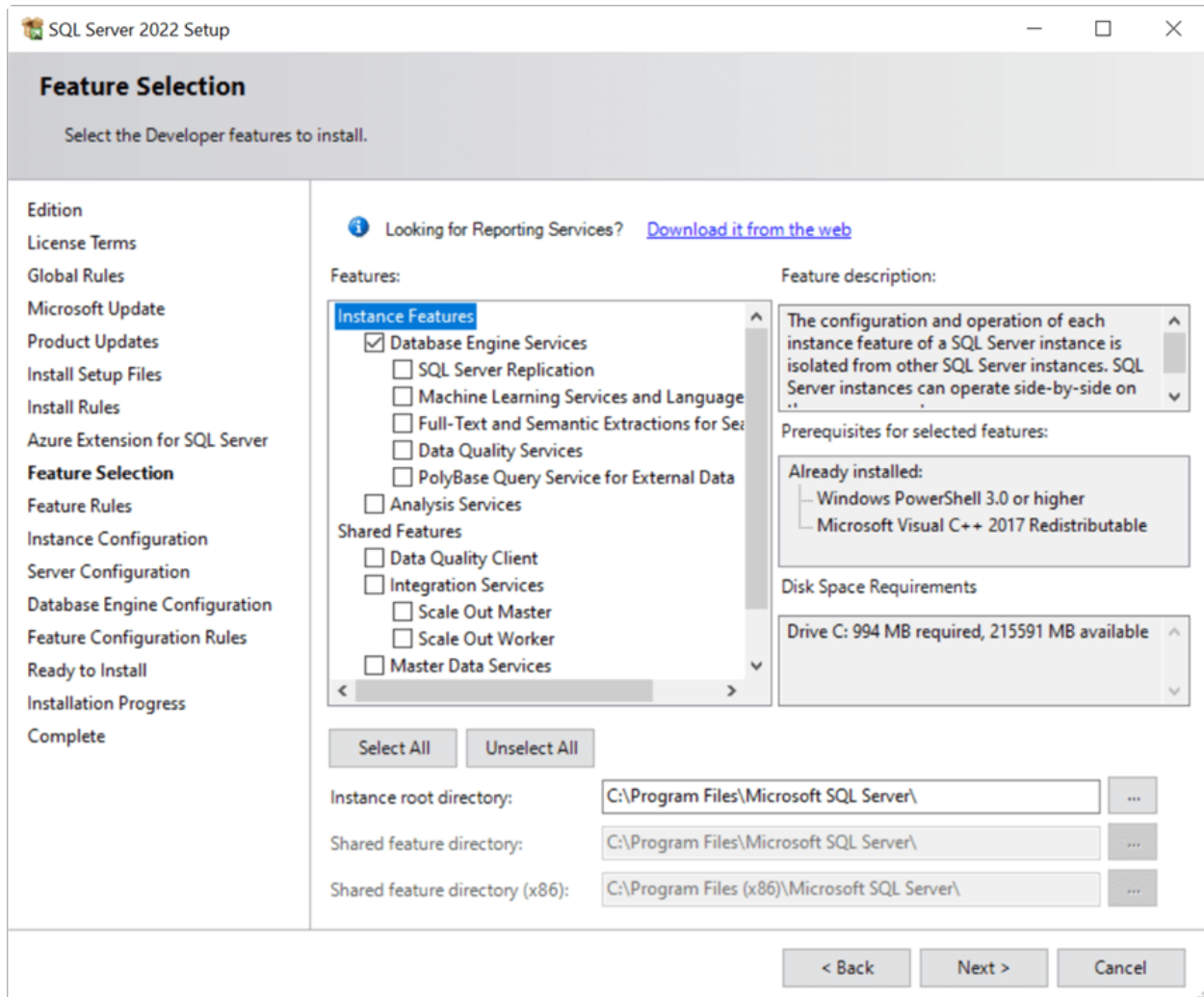
< Back

Next >

Cancel

Feature Selection

The feature selection includes several options as shown below.



- Database Engine Services
 - Main component of SQL Server
- SQL Server Replication
 - Replicate data to different databases or SQL Servers. For more information, please refer to this [replication article](#).
- [Machine Learning Services](#) and Languages Extension
 - Run [R](#) and [Python](#) in your SQL Server database
- [Full Text and Semantics](#)
 - Search large sets of text in the database. This is a powerful search service that can improve performance when searching text data.
- [Data Quality Services](#)
 - Fix, enrich, standardize and check your data.
- [PolyBase](#) Query Service
 - Integrate Big Data Hadoop solutions with SQL Server
- [Analysis Services](#)
 - Service for SQL Server OLAP solutions
- Data Quality Client

- Manage and handle data quality
- [Integration Services](#)
 - Import and export data with custom workflows. You can use the [Scale Out Master](#) or the Scale Out Worker. These configurations are related to the package execution work process and optimize the execution.
- SQL Client Connectivity SDK
 - Additional tools for connectivity to SQL Server
- [Master Data Services](#)
 - Centralize and manage similar data across your databases
- SQL Server Extension for Azure
 - Additional extensions that can be used for Azure

We will just install the database engine.

Instance Configuration

In the instance configuration, we enter a name to be used for the SQL Server instance. In this example, I am creating a new database engine with the instance name of **instance2022**. You could use the default as well.

SQL Server 2022 Setup

Instance Configuration

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

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Install Rules
Azure Extension for SQL Server
Feature Selection
Feature Rules
Instance Configuration
Server Configuration
Database Engine Configuration
Feature Configuration Rules
Ready to Install
Installation Progress
Complete

☐ Default instance
☒ Named instance: *

Instance ID:

SQL Server directory: C:\Program Files\Microsoft SQL Server\MSSQL16.

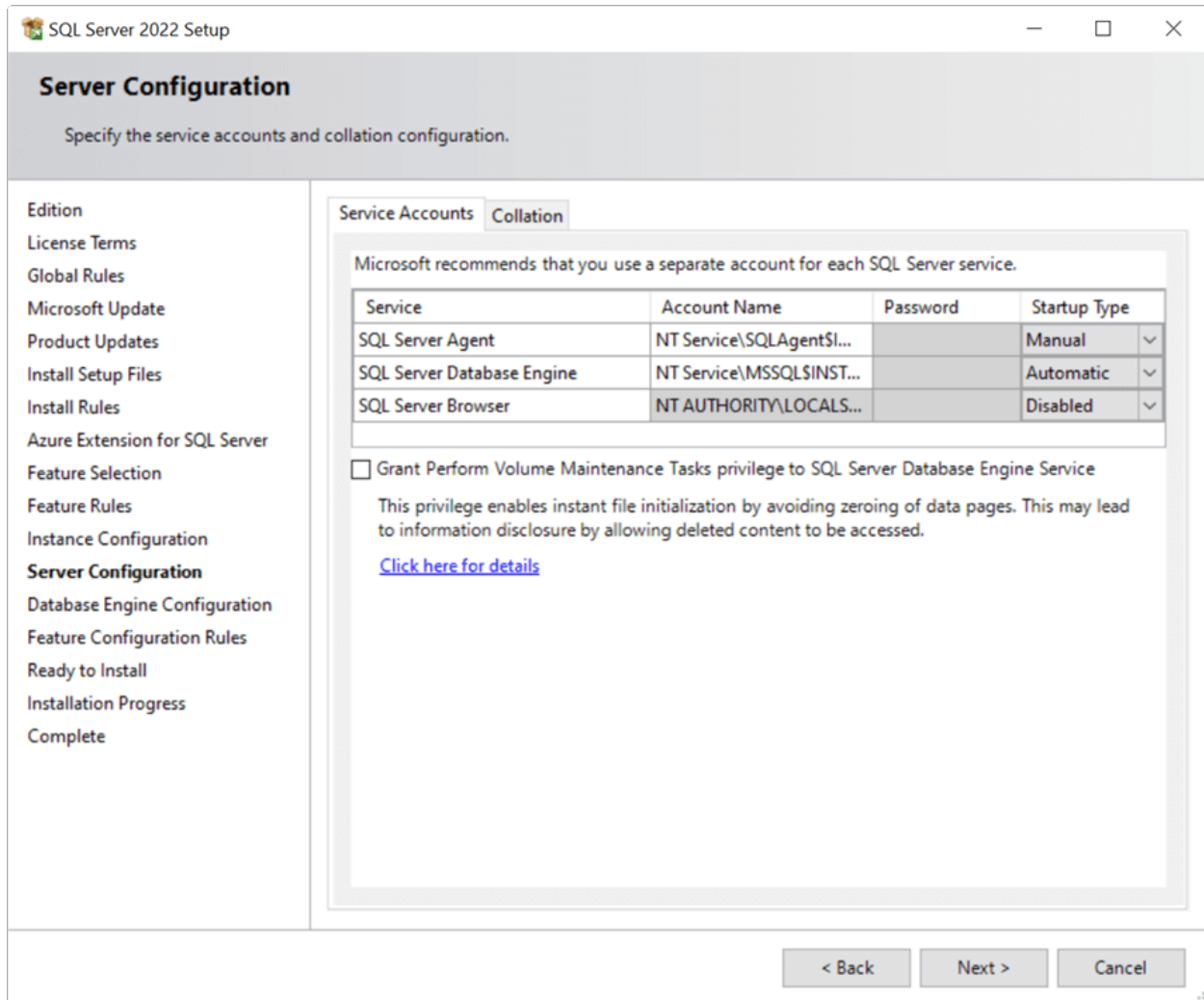
Installed instances:

Instance Name	Instance ID	Features	Edition	Version
MSSQLSERVER	MSSQL15.MSSQLS...	SQLEngine,AS	Developer	15.0.2000.5
MSSQLSERVER01	MSSQL15.MSSQLS...	SQLEngine	Developer	15.0.2000.5
MSSQLSERVER02	MSSQL15.MSSQLS...	SQLEngine	Developer	15.0.2000.5
<Shared Compone...		LocalDB		15.0.4153.1

Server Configuration

The server configuration allows creating or adding service accounts for the different services used by SQL Server. You can use the defaults or create new accounts with custom security and passwords to run the services.

The Grant Perform Volume Maintenance Tasks privilege to SQL Server Database Engine Service. This privilege improves the performance for database operations like database creation, restorations or improves the speed of the file growth.



Database Engine Configuration

The database engine configuration allows you to configure several parts of the installation.

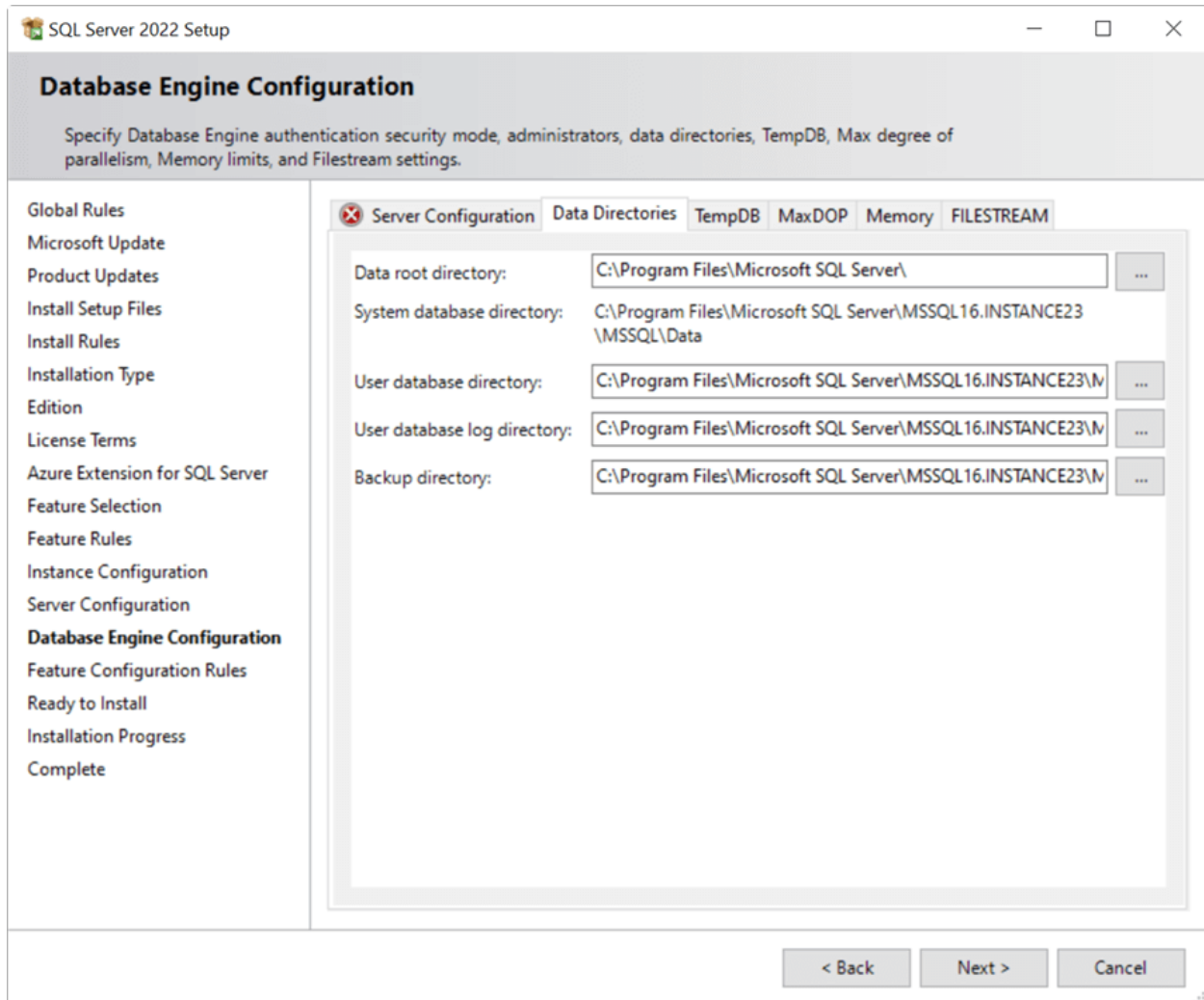
Server Configuration

- Select the type of SQL Server authentication mode to connect the instance, either [mixed mode](#) or [Windows authentication](#). You can also add accounts that should have complete access to SQL Server. The Add Current User, will add the user used during the installation as an administrator.

The screenshot shows the 'Database Engine Configuration' window in the SQL Server 2022 Setup. The window has a title bar with the Microsoft logo and the text 'SQL Server 2022 Setup'. Below the title bar is a header section with the title 'Database Engine Configuration' and a subtitle: 'Specify Database Engine authentication security mode, administrators, data directories, TempDB, Max degree of parallelism, Memory limits, and Filestream settings.' On the left side, there is a vertical list of installation steps: Edition, License Terms, Global Rules, Microsoft Update, Product Updates, Install Setup Files, Install Rules, Azure Extension for SQL Server, Feature Selection, Feature Rules, Instance Configuration, Server Configuration, Database Engine Configuration (which is highlighted), Feature Configuration Rules, Ready to Install, Installation Progress, and Complete. The main area of the window is divided into tabs: Server Configuration (selected), Data Directories, TempDB, MaxDOP, Memory, and FILESTREAM. The 'Server Configuration' tab contains the following options: 'Specify the authentication mode and administrators for the Database Engine.' with a sub-section for 'Authentication Mode' where 'Windows authentication mode' is selected with a radio button, and 'Mixed Mode (SQL Server authentication and Windows authentication)' is unselected. Below this, there is a prompt 'Specify the password for the SQL Server system administrator (sa) account.' followed by 'Enter password:' and 'Confirm password:' text boxes. At the bottom of this section is a 'Specify SQL Server administrators' section with a large empty box and three buttons: 'Add Current User', 'Add...', and 'Remove'. To the right of this box is a text box containing the message: 'SQL Server administrators have unrestricted access to the Database Engine.' At the bottom right of the window are three buttons: '< Back', 'Next >', and 'Cancel'.

Data Directories

You can specify the system database path by configuring your Data root Directory. Also, you can define where to store the Data directory and the Database Log. The backup directory can also be specified. It is a best practice to store the databases, log files and backups in different disks for security and performance best practices.



TempDB

- The TempDB is an important system database used to store temporary data. The configuration and values specified can improve the performance.

SQL Server 2022 Setup

Database Engine Configuration

Specify Database Engine authentication security mode, administrators, data directories, TempDB, Max degree of parallelism, Memory limits, and Filestream settings.

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Server Configuration Data Directories TempDB MaxDOP Memory FILESTREAM

TempDB data files: tempdb.mdf, tempdb_mssql_#.ndf

Number of files: 4

Initial size (MB): 8 Total initial size (MB): 32

Autogrowth (MB): 64 Total autogrowth (MB): 256

Data directories: C:\Program Files\Microsoft SQL Server\MSSQL16.INSTANCE23\N

Add... Remove

TempDB log file: templog.ldf

Initial size (MB): 8 Setup could take longer with large initial size.

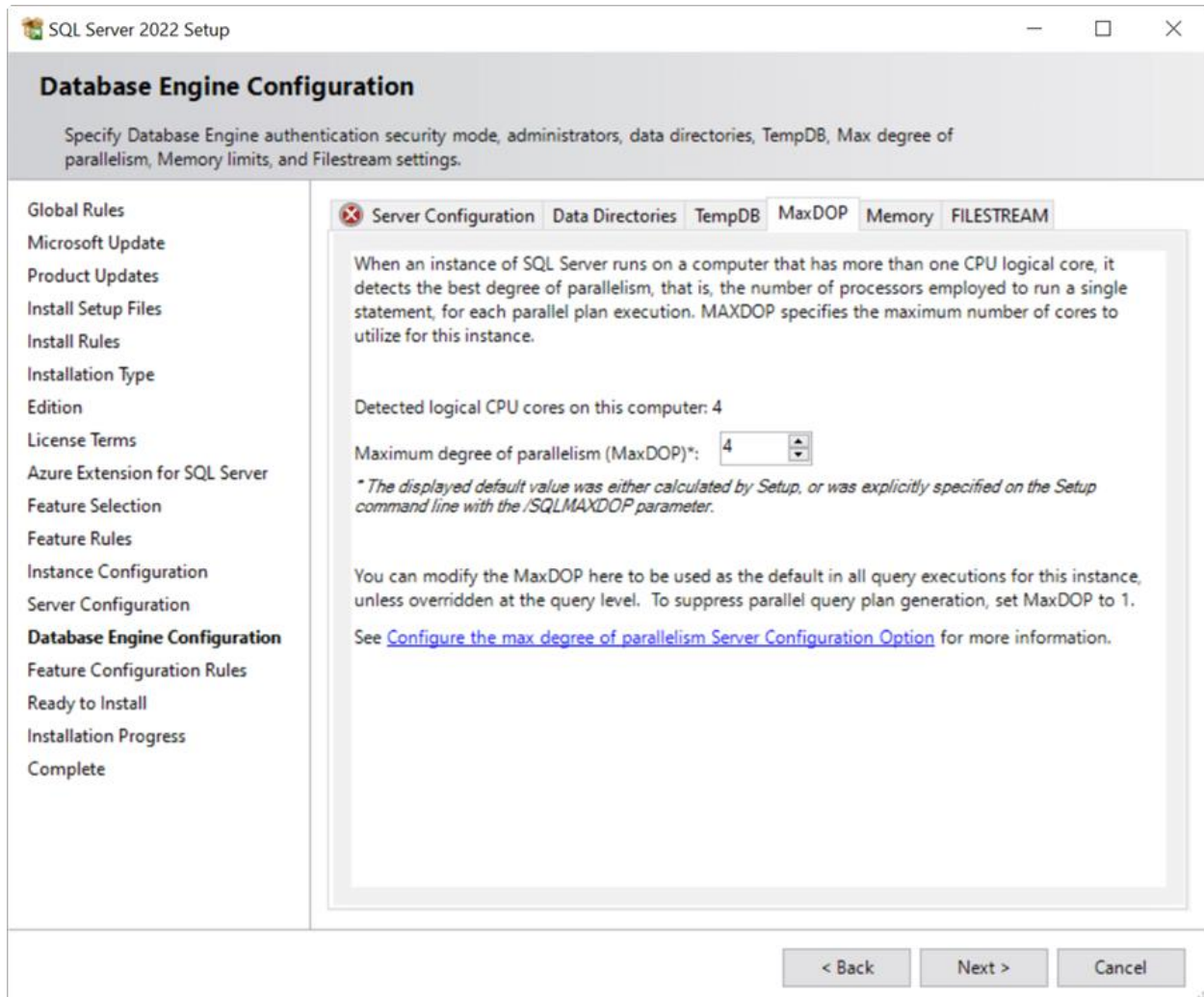
Autogrowth (MB): 64

Log directory: C:\Program Files\Microsoft SQL Server\MSSQL16.INSTANCE23\N

< Back Next > Cancel

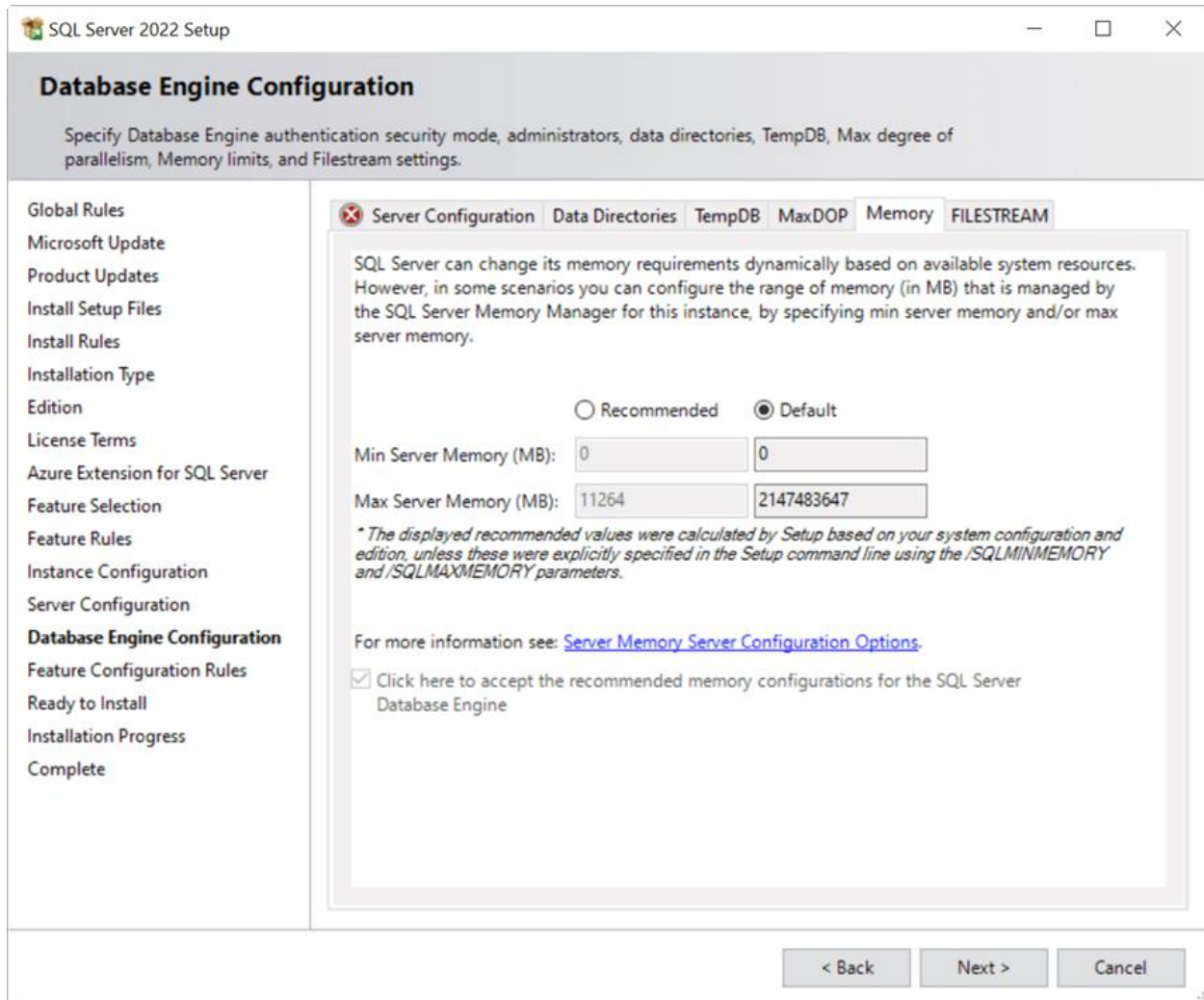
MaxDOP

- MaxDOP is important to have a good performance. For more information, please check out this [MAXDOP settings](#) article.



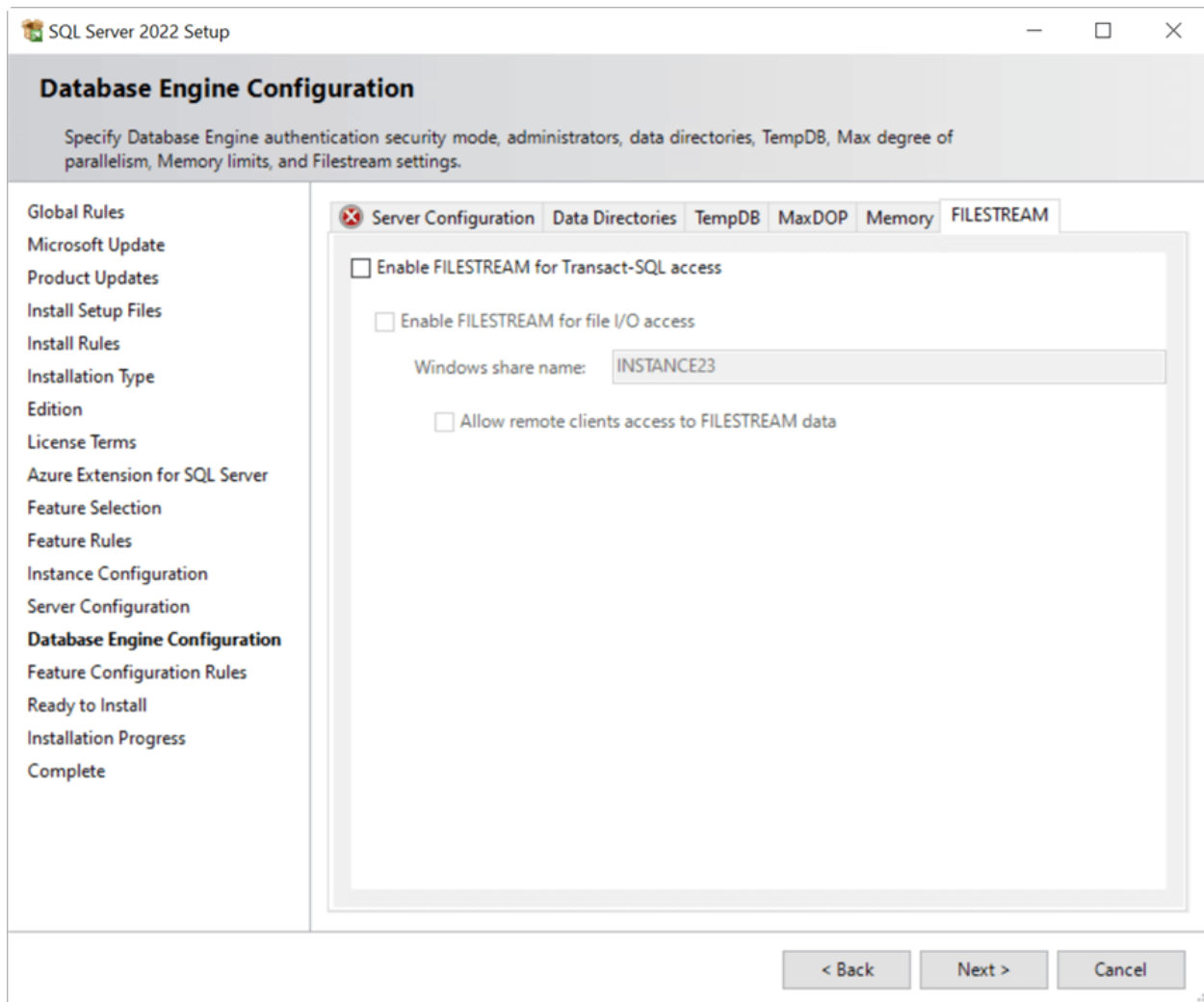
Memory

- The memory settings let you specify the maximum server memory used by SQL Server. For more information about setting the max value, please refer to [setting a fixed amount of memory for the SQL Server article](#).



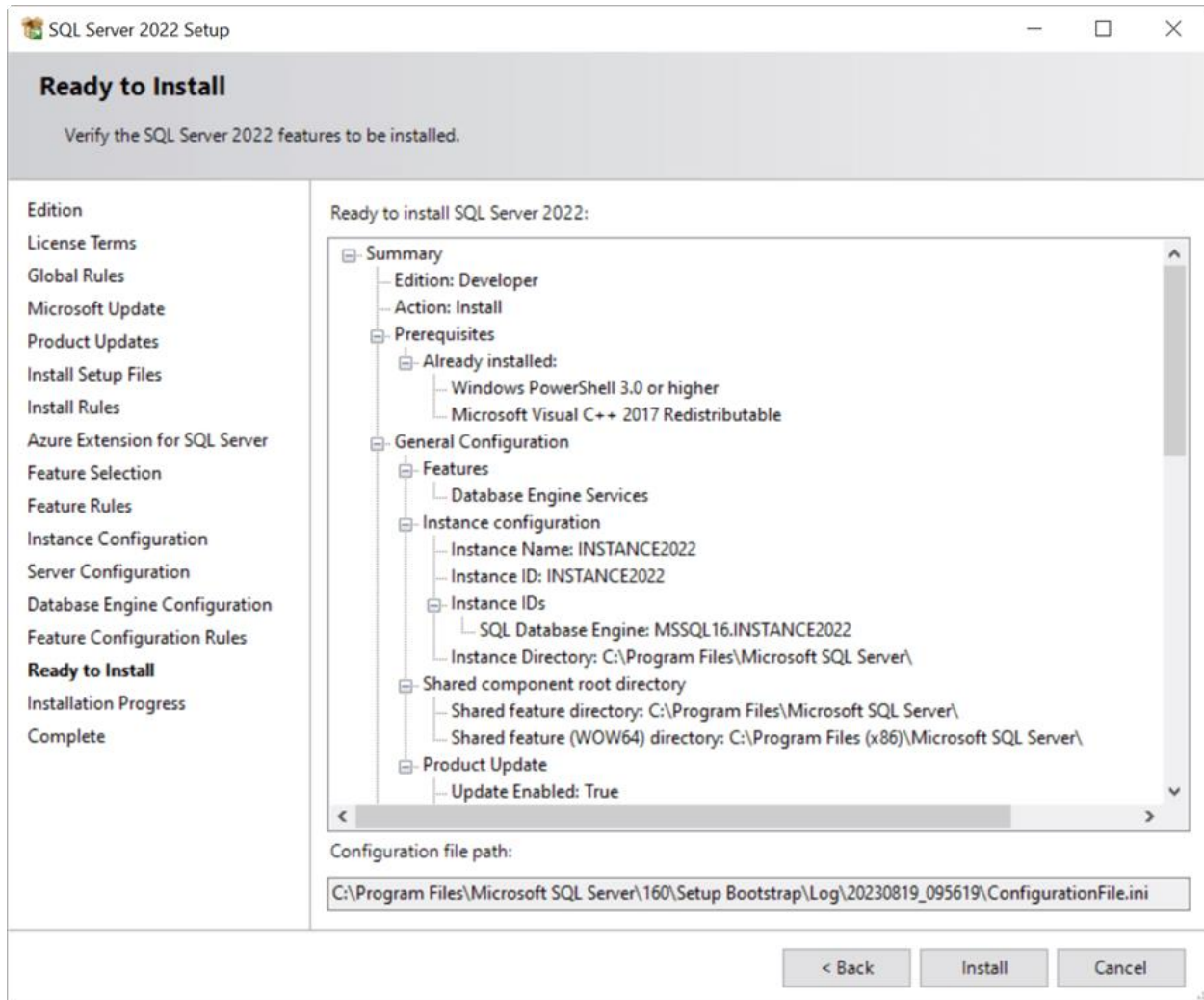
Filestream

- [FILESTREAM](#) is used to store files outside of the database like videos, PDFs, Word files, Excel files, and others.



Ready to Install

Once everything is configured, you can check the configuration and press the **Install** button to continue. You will now go to the **Installation Progress** windows and finally go to the Complete page.



Complete

If everything is successful, MS SQL Server 2022 will be installed, and the relational database management system is ready for use.

The installation time takes between 15 and 30 minutes depending on the components installed.



Complete

Your SQL Server 2022 installation completed successfully with product updates.

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Azure Extension for SQL Server

Feature Selection

Feature Rules

Instance Configuration

Server Configuration

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Feature Configuration Rules

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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\160\Setup Bootstrap\Log\20230819_095619\Summary_DESKTOP-4KUSV17_20230819_095619.txt

Close