Download SQL Server 2019

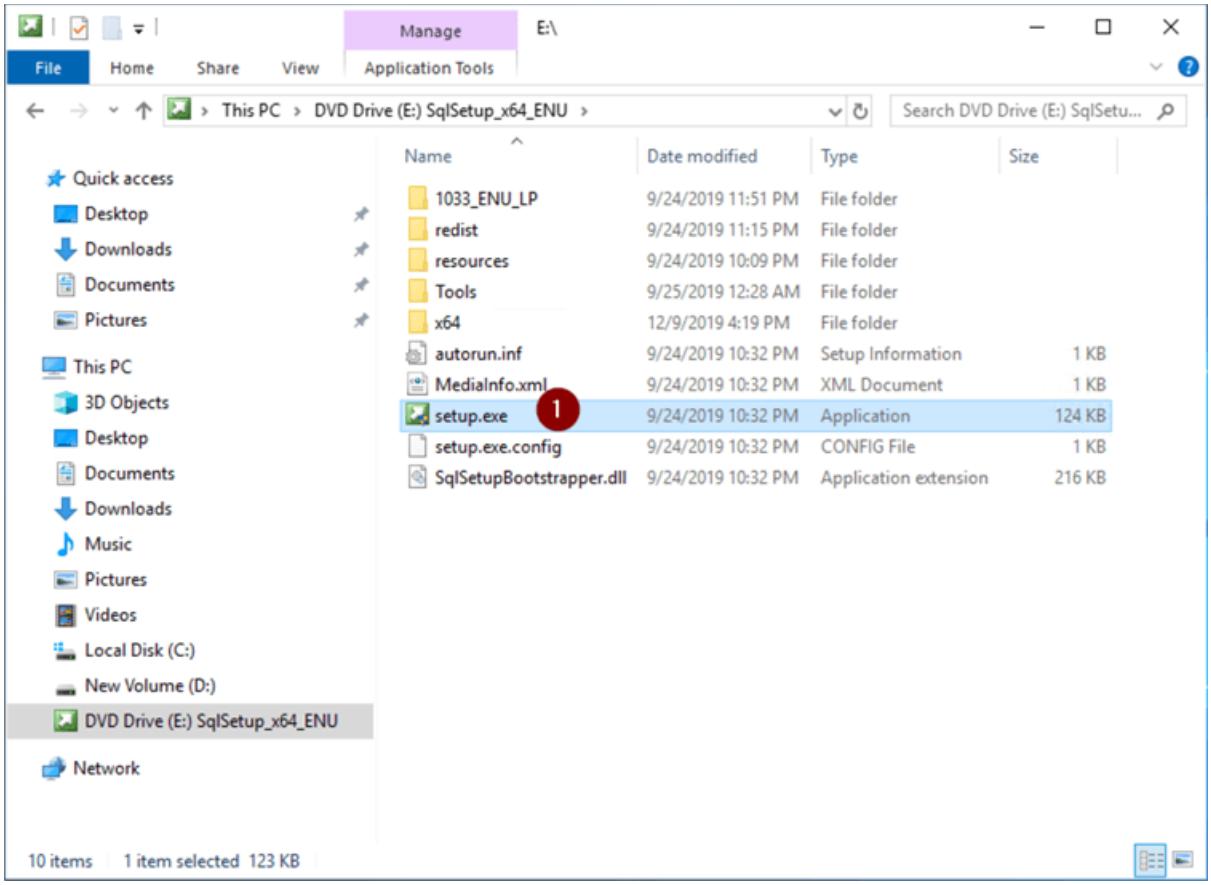
If you don't have a copy of SQL Server 2019, you can find links to download the Developer Edition and other trial versions on this page.

Once you have the files downloaded, we can begin the installation process.

Install SQL Server 2019

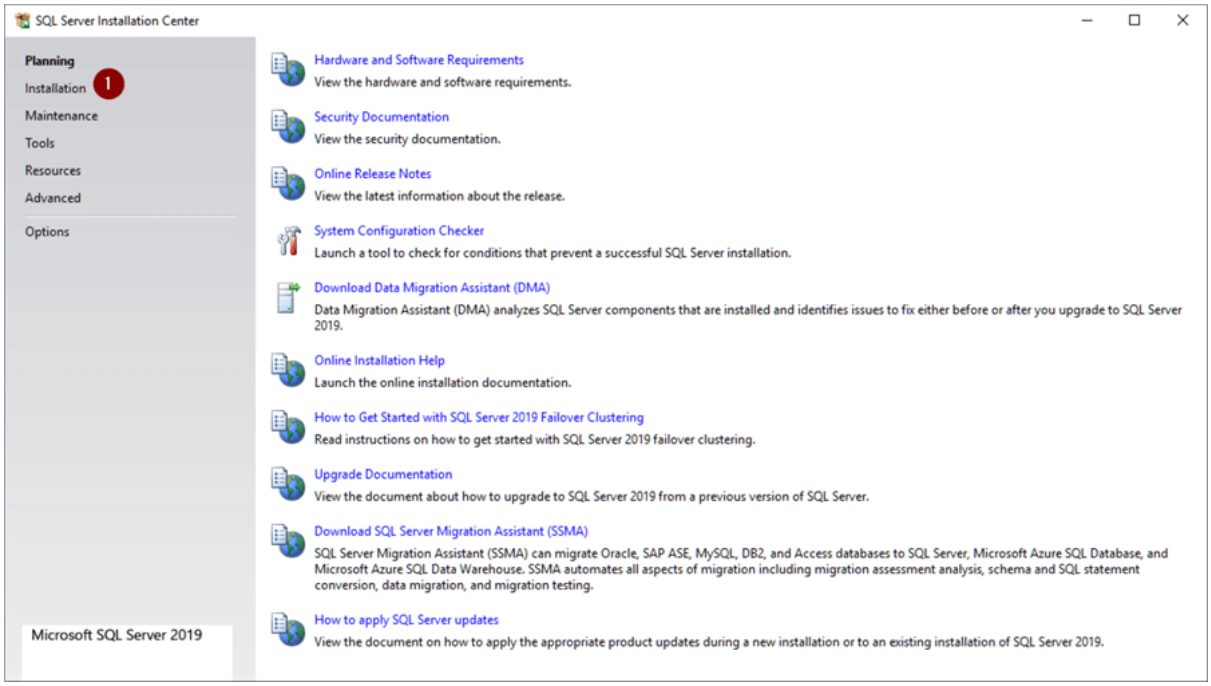
Windows Directory

1. To start the install, double click on **setup.exe** and the first screen will open



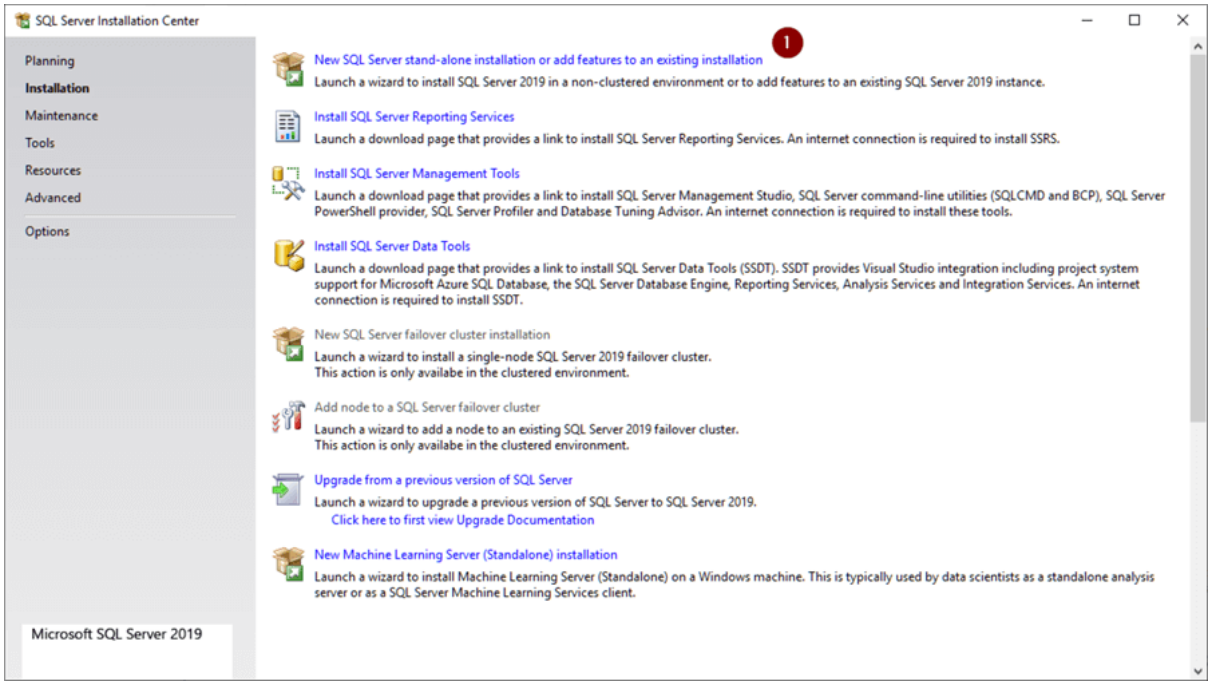
SQL Server Installation Center

1. Choose 'Installation' from the list on the left side to go to the next screen



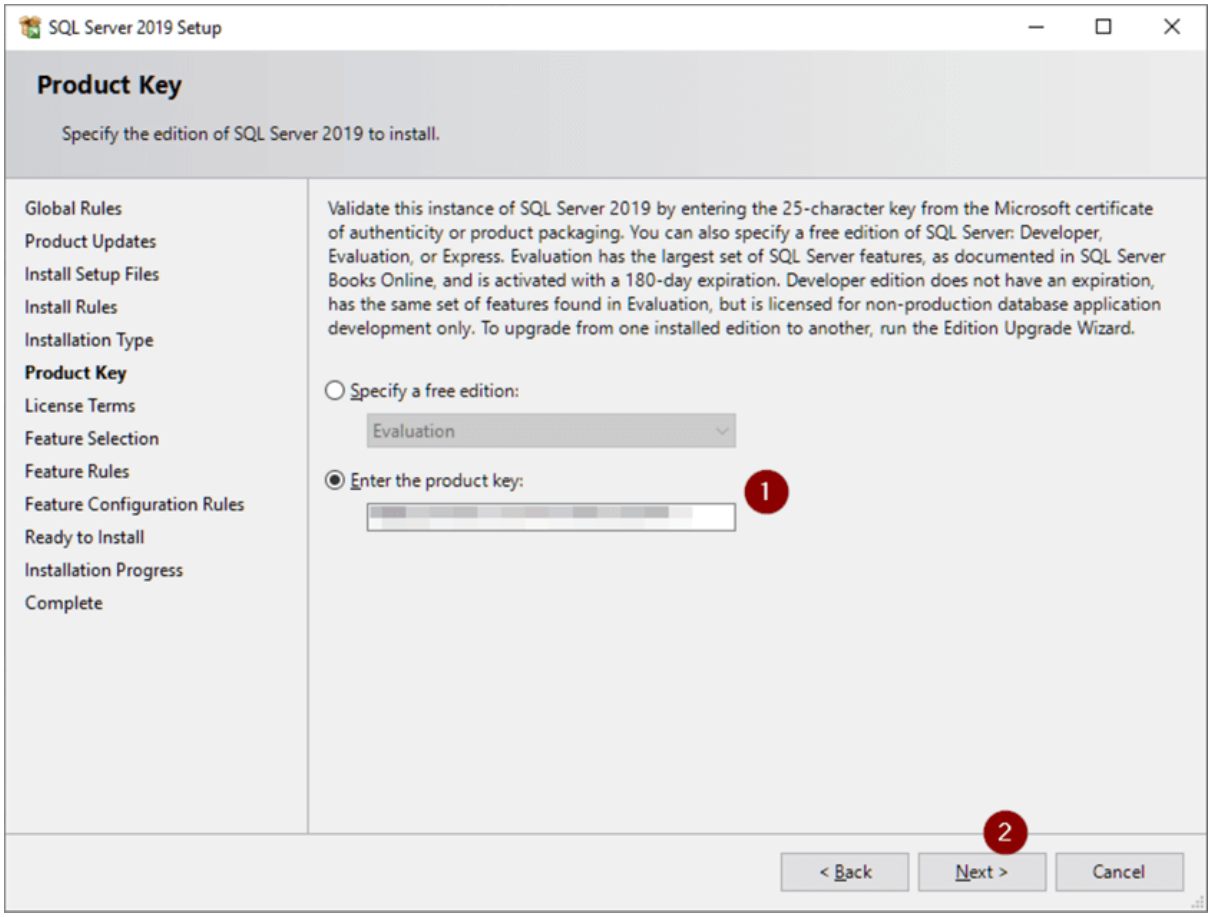
SQL Server Installation 2019 Step by Step

1. Choose ‘New SQL Server stand-alone installation or add features to an existing installation’ from the list on the right side



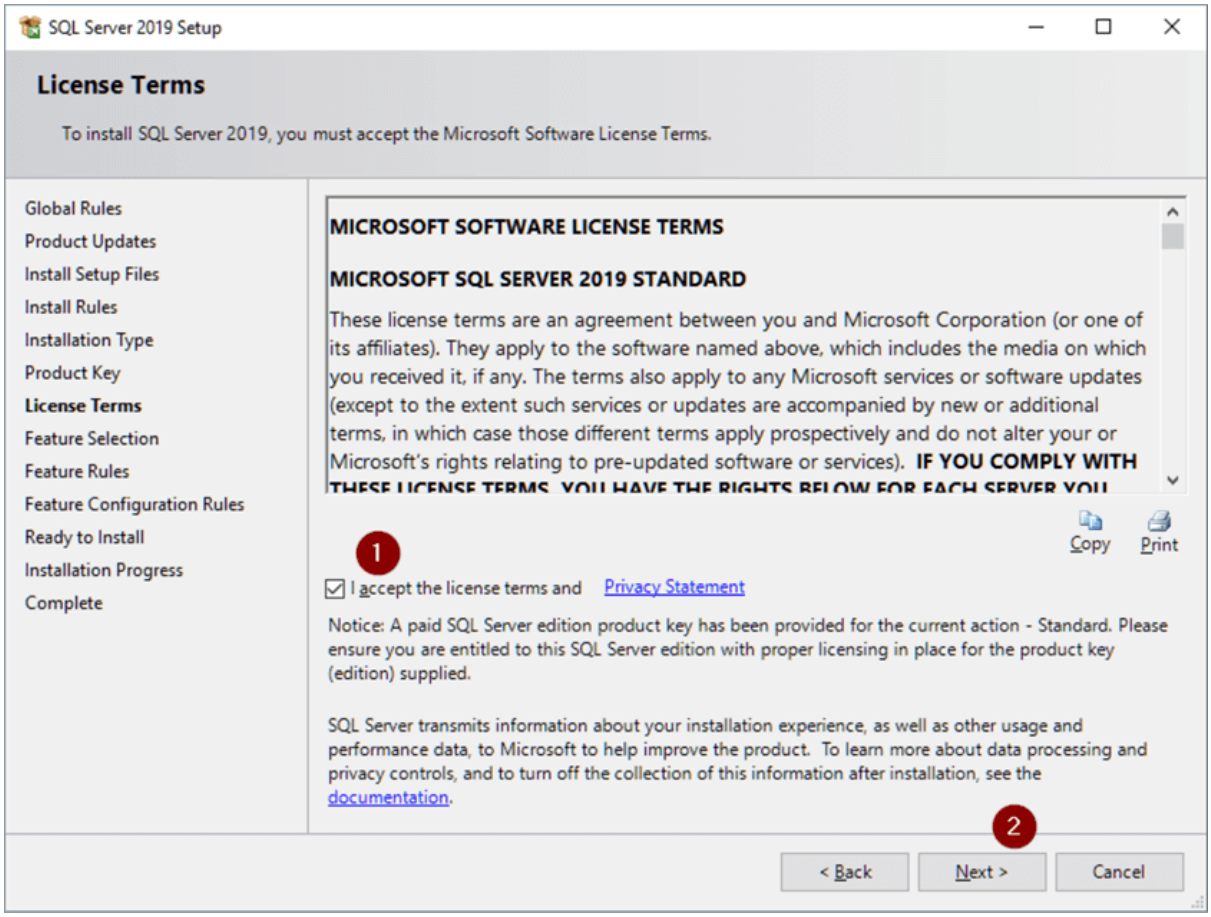
Product Key

1. Enter SQL Server 2019 product key or use the free edition
2. Next



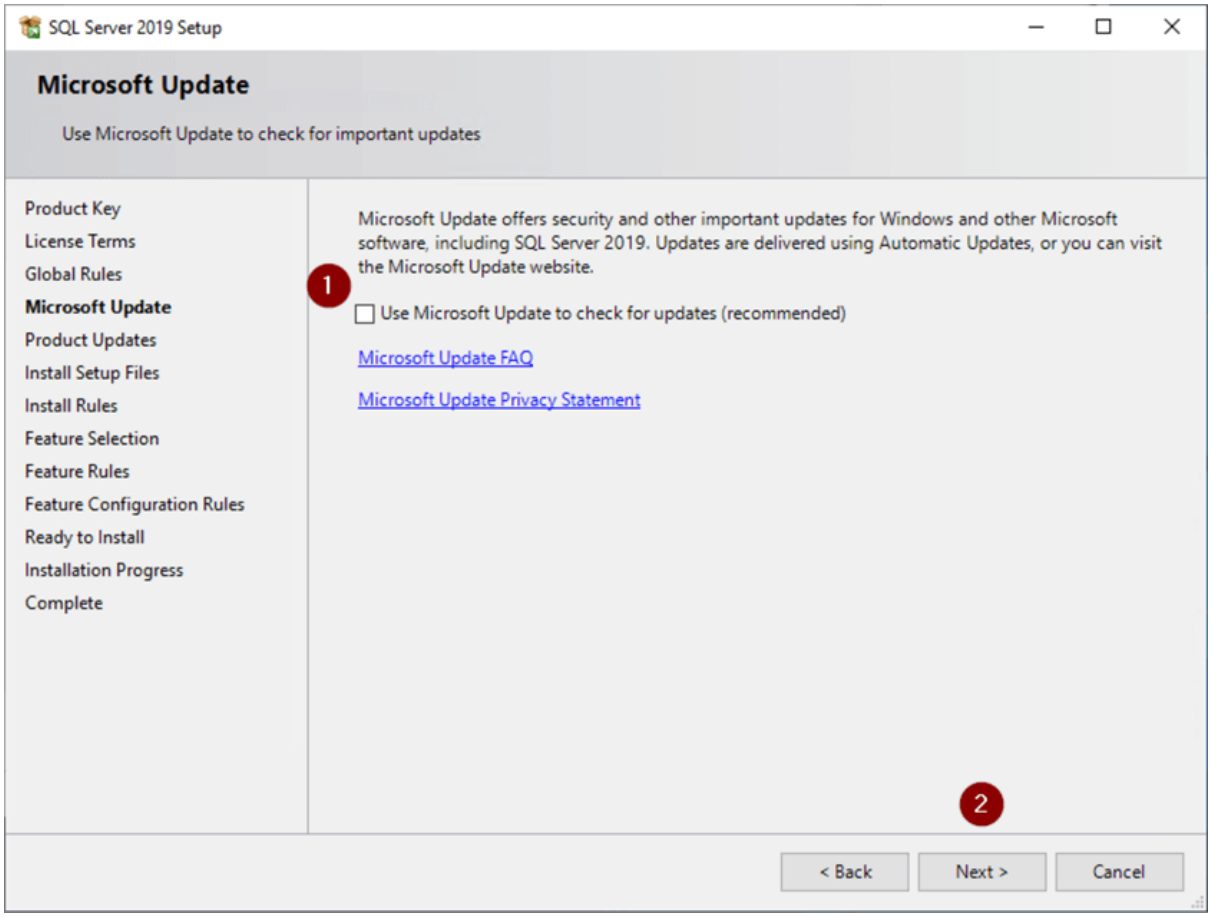
License Terms

1. Check ‘I accept the license terms…’
2. Next



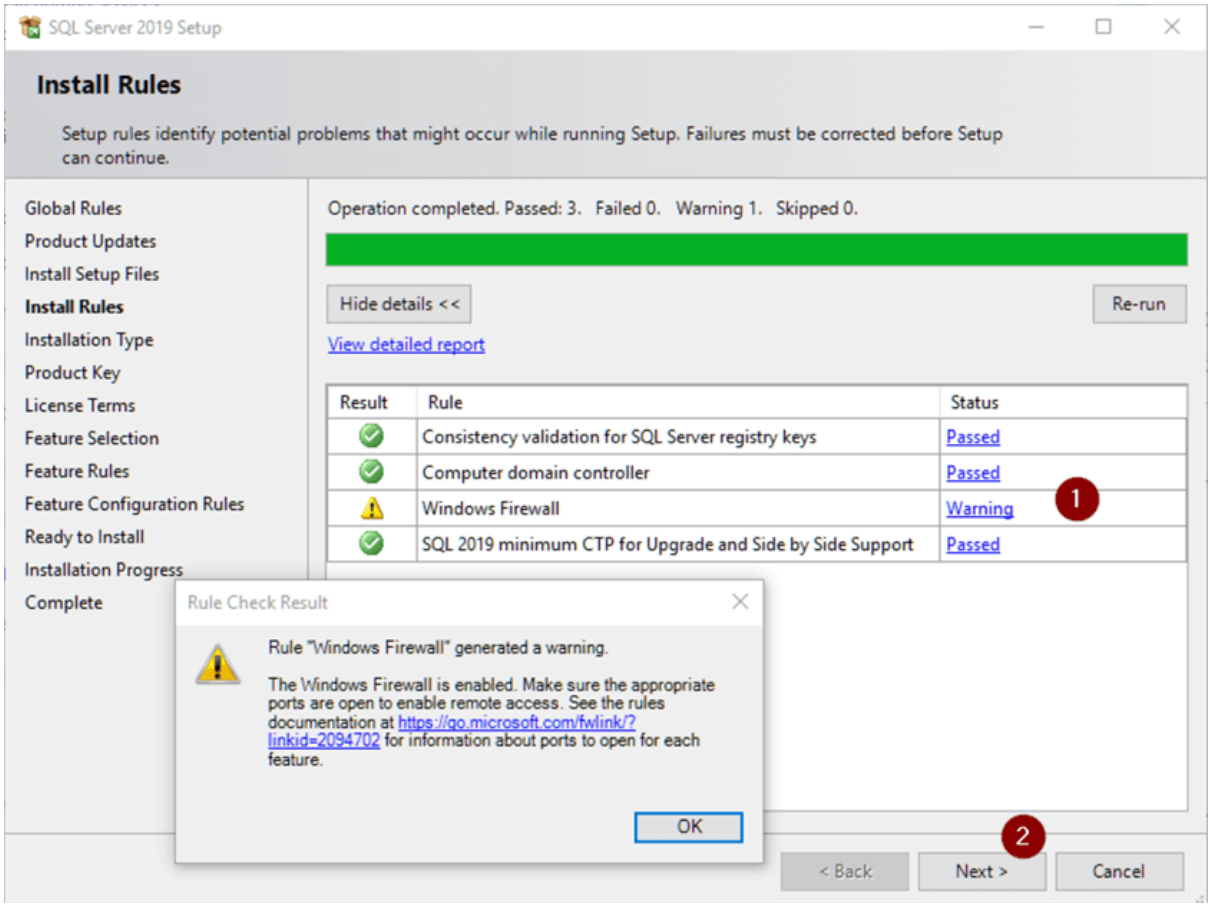
Microsoft Update

1. Check 'Use Microsoft Update to check for updates' if you want to automatically check, otherwise leave unchecked
2. Next



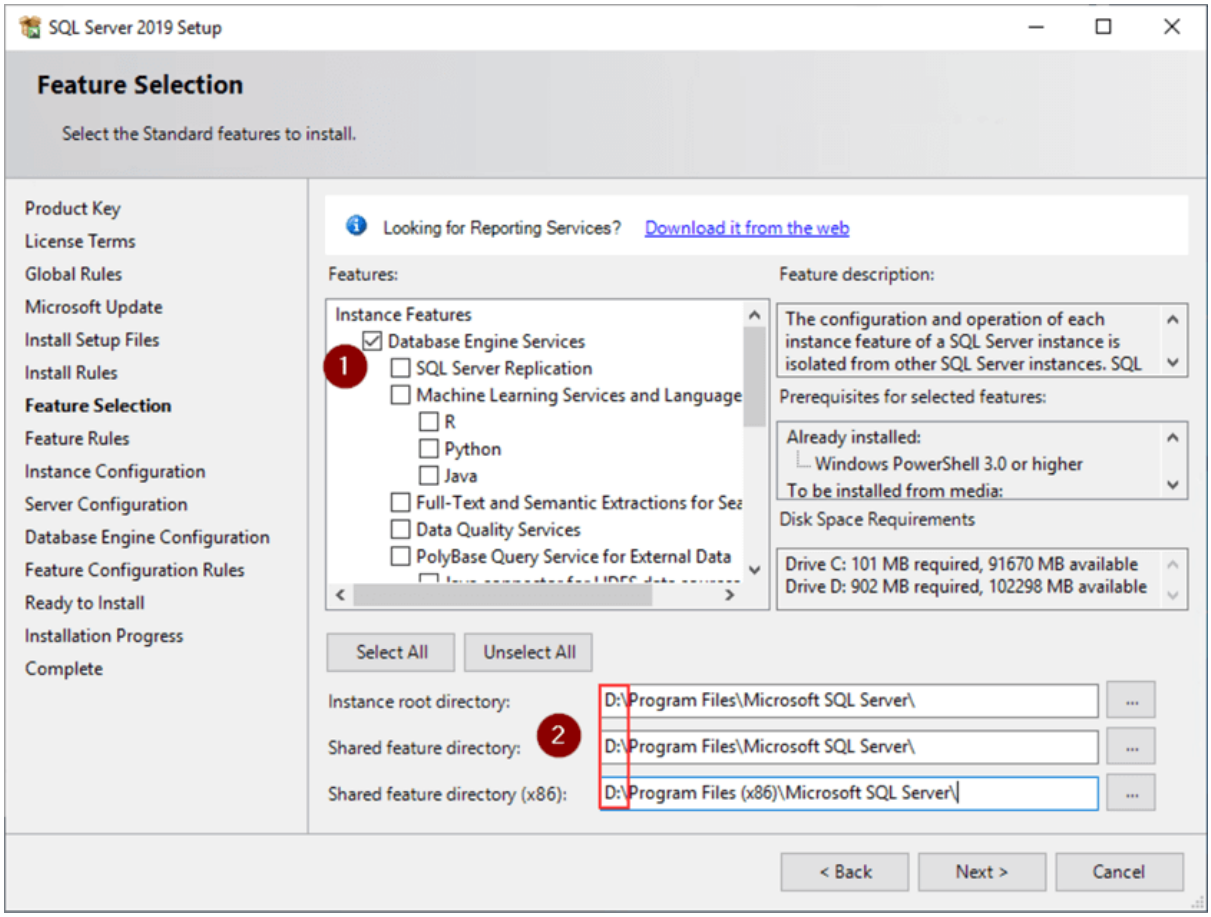
Install Rules

1. If there are any issues, click on Warning to get more information. Below the Warning provides a link to what ports need to be open if the Windows Firewall service is running on the machine that you're installing the SQL Server on
2. Next



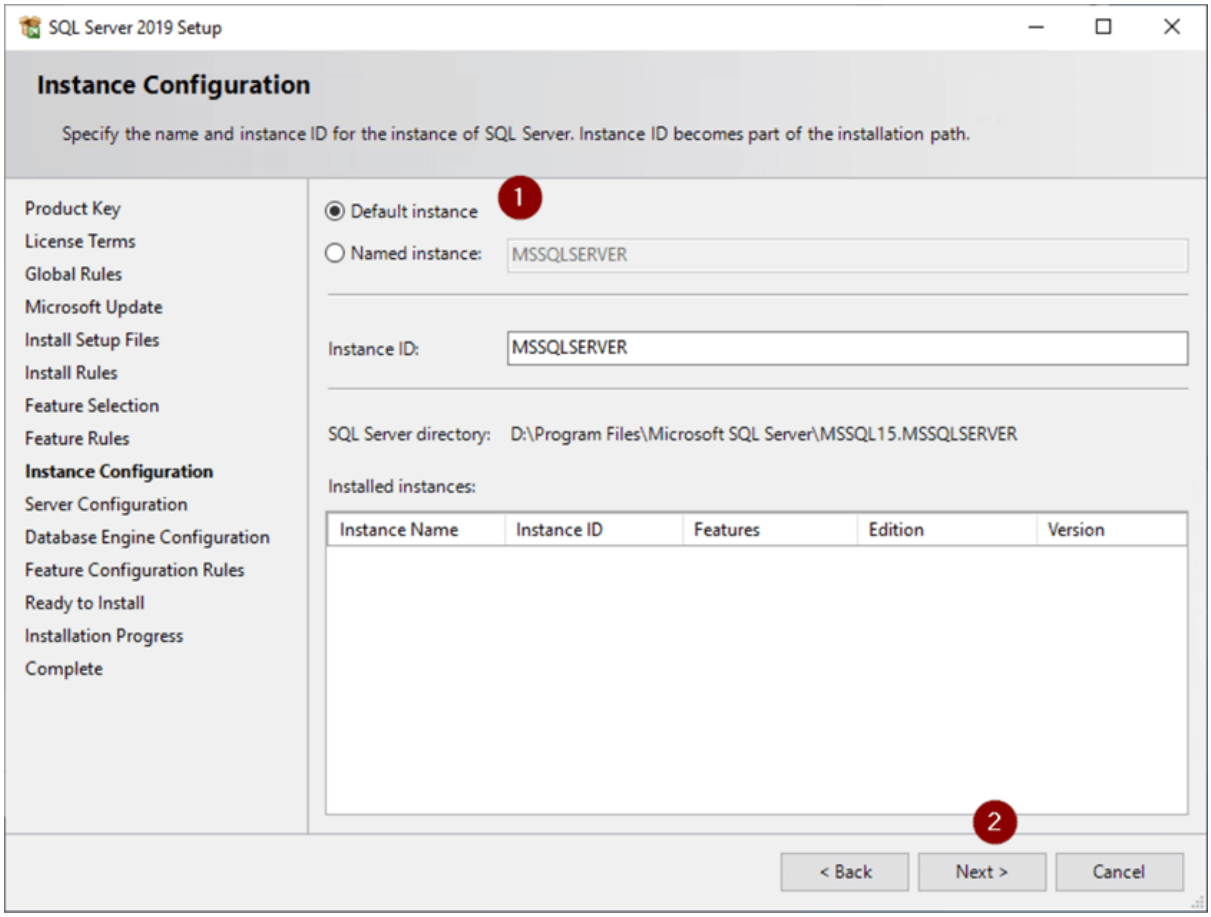
Feature Selection

1. Check off ‘Database Engine Services’ (you would check off any additional features you’re installing here but to keep it simple for this tip we’ll only be installing the database engine)
2. Change drives from the default of C:\ otherwise you’ll end up installing everything on C:\
3. Next



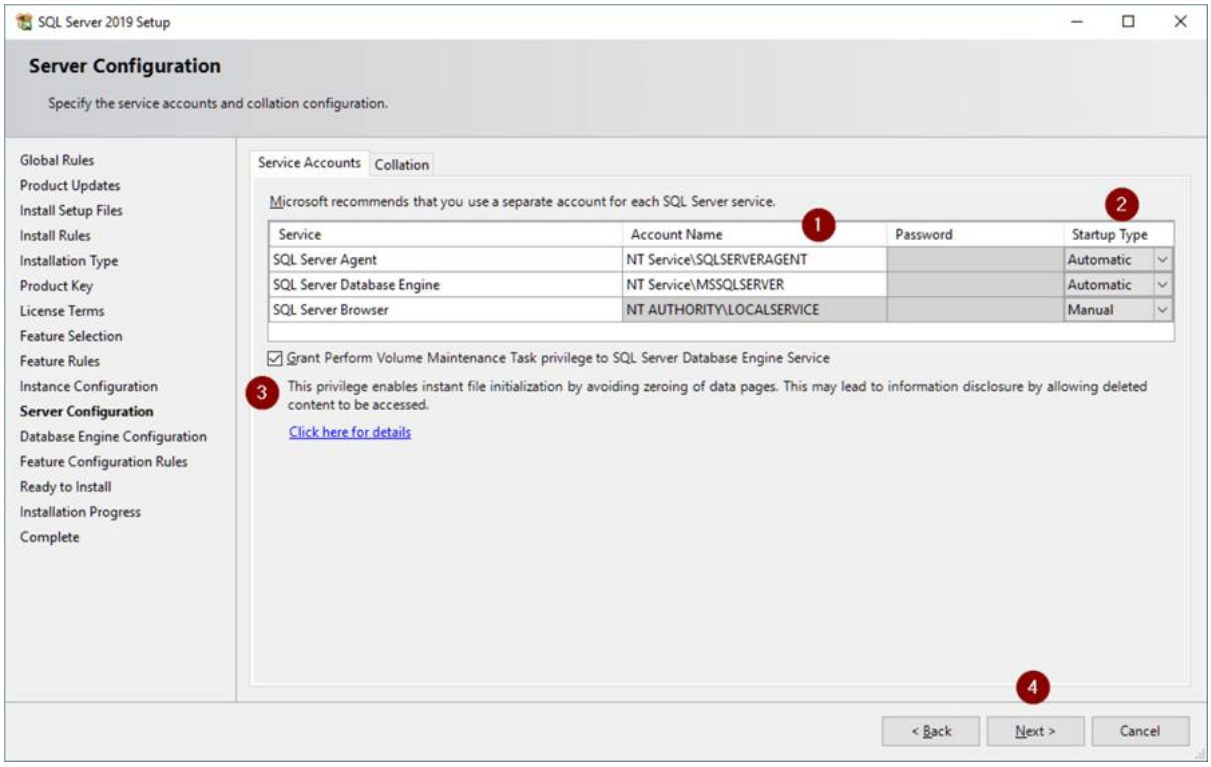
Instance Configuration

1. Leave ‘Default instance’ radio button selected to install as the primary instance
2. Next



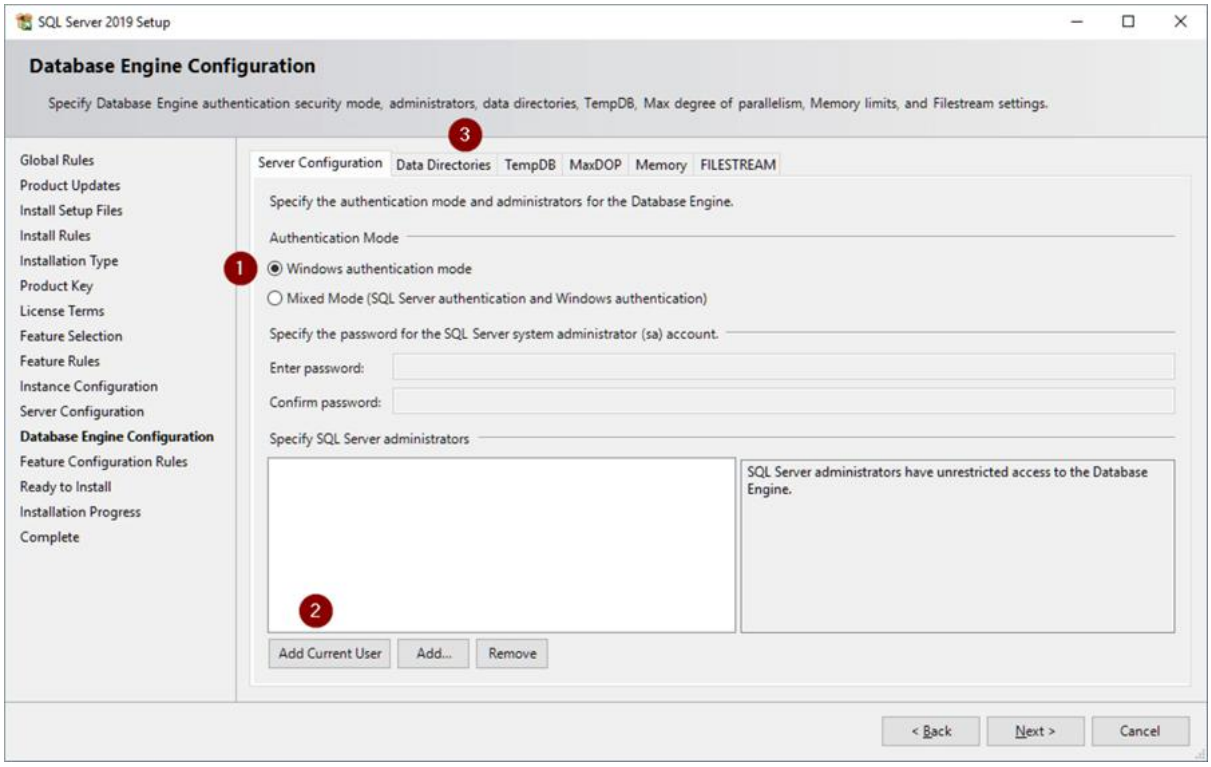
Server Configuration

1. Enter Windows Active Directory service account names you want to run the services as
2. Set SQL Server SQL Agent and SQL Server Database Engine Startup Type to Automatic to avoid the services not starting on a reboot
3. Check on 'Grant Perform Volume Maintenance Task privilege to SQL Server Engine Service' – Instant File Initialization (IFI) speeds up file writes by reclaiming disk space without filling that space with zeros – further information on IFI can be found here: Database Instant File Initialization, here: Check SQL Server Instant File Initialization for all Servers and here: Enable SQL Server Instant File Initialization for Time Saving
4. Next



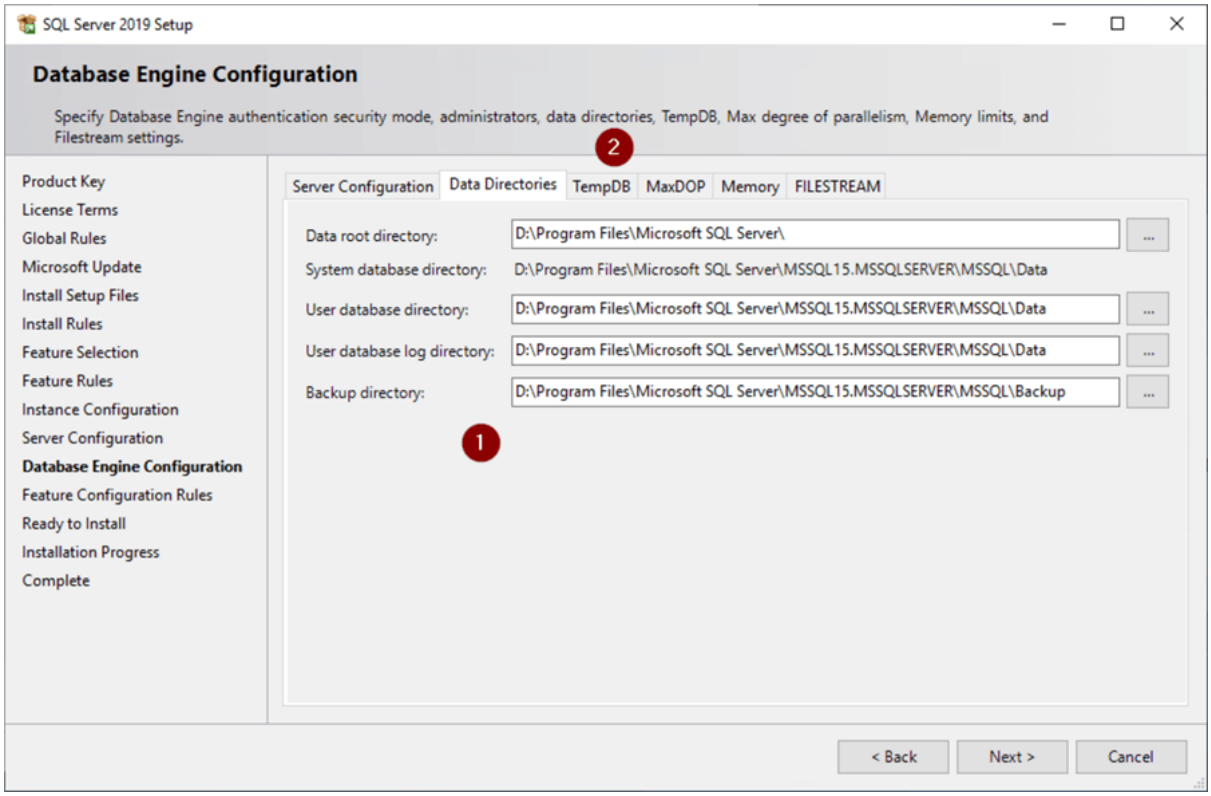
Database Engine Configuration

1. Leave the 'Windows authentication mode' radio button checked unless you're sure you need SQL Authentication logins, otherwise select 'Mixed Mode' and enter and confirm strong password for the sa login – if in doubt, changing to 'Mixed Mode' is easily done after the install – additional information on SQL Server authentication can be found here: Choose an Authentication Mode and here: How to check SQL Server Authentication Mode using T SQL and SSMS
2. 'Add Current User' to make the current Windows account a SQL Server Administrator – Use 'Add…' to add additional logins to the sysadmin security group judiciously as anyone in this group has full rights over the SQL Server and this should not be granted without thought
3. Click 'Data Directories' tab



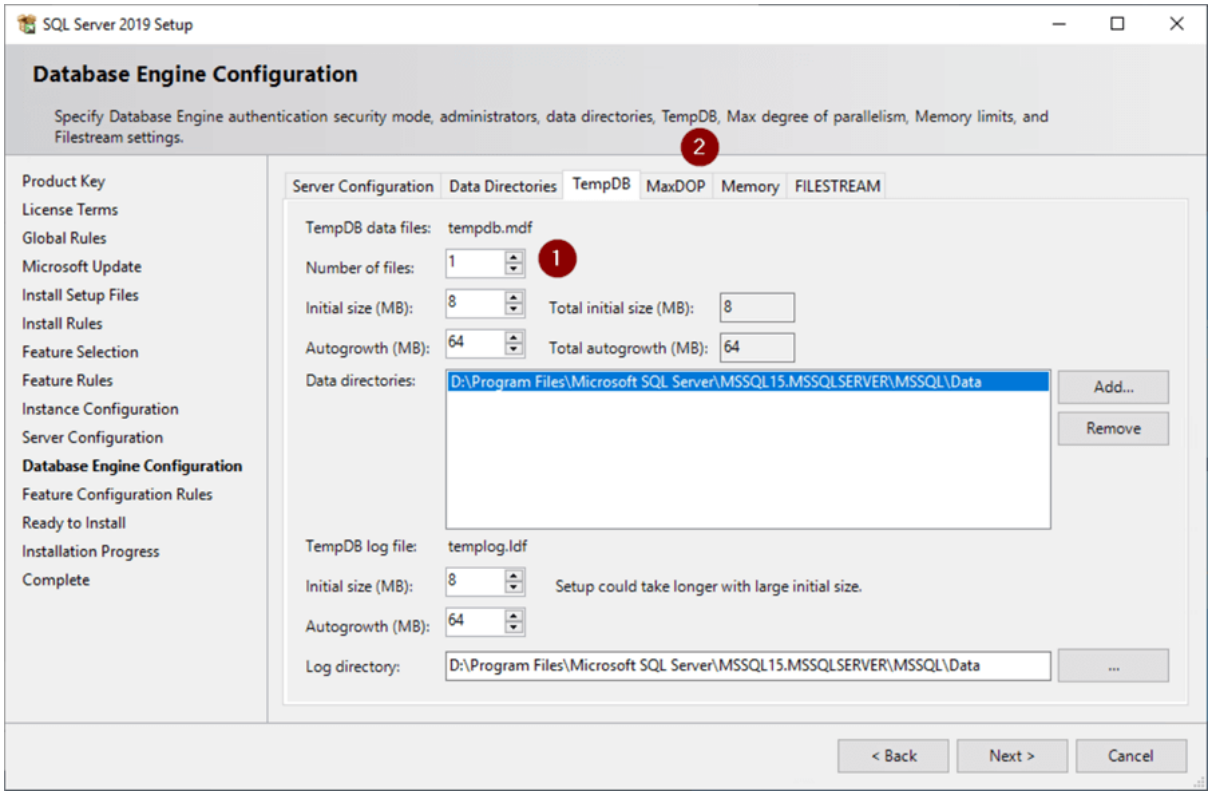
Data and Backup Directories

1. Configure your database and backup directories – ideally these are all on separate drives
2. Click TempDB tab



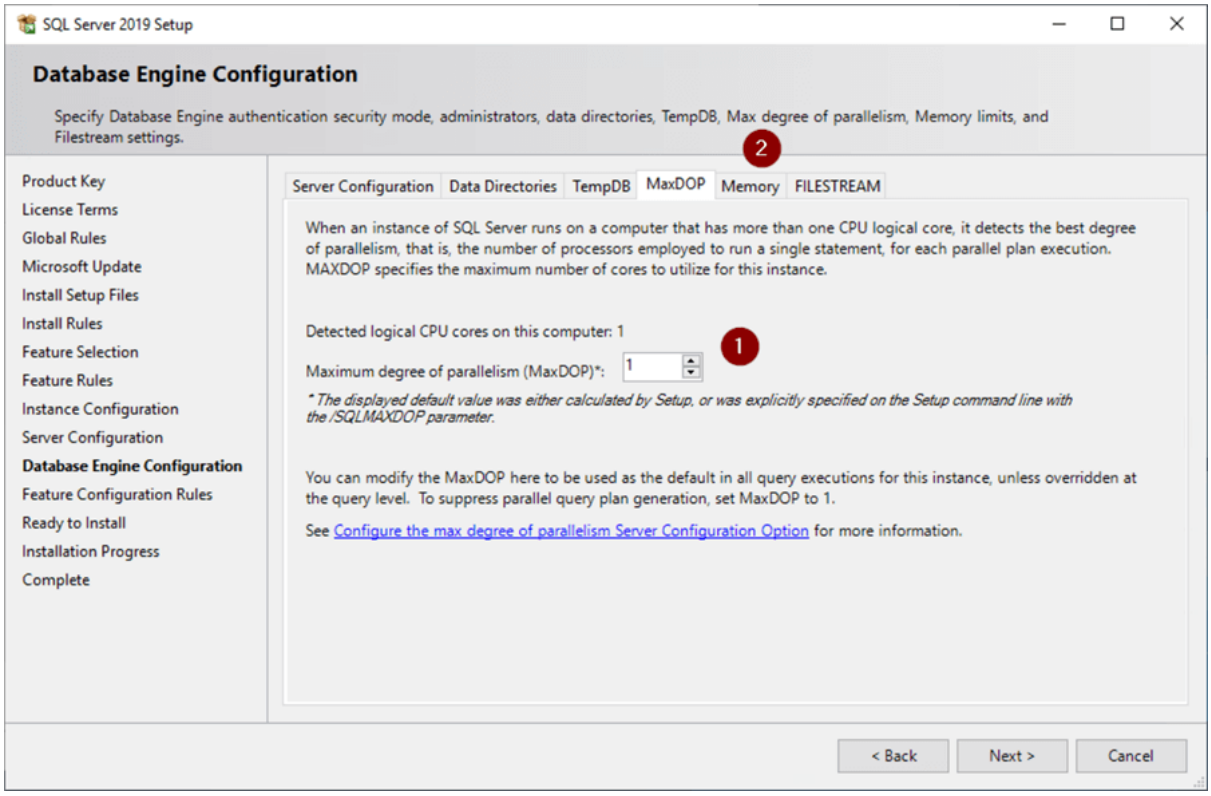
TempDB Configuration

1. User defined database file sizes are somewhat dependent on workload and as in previous steps we're installing this on a laptop, but we would normally want Tempdb data and log files on their own volume
2. Verify 'Number of files' = number of CPU cores in machine up to 8
3. Click MaxDOP tab



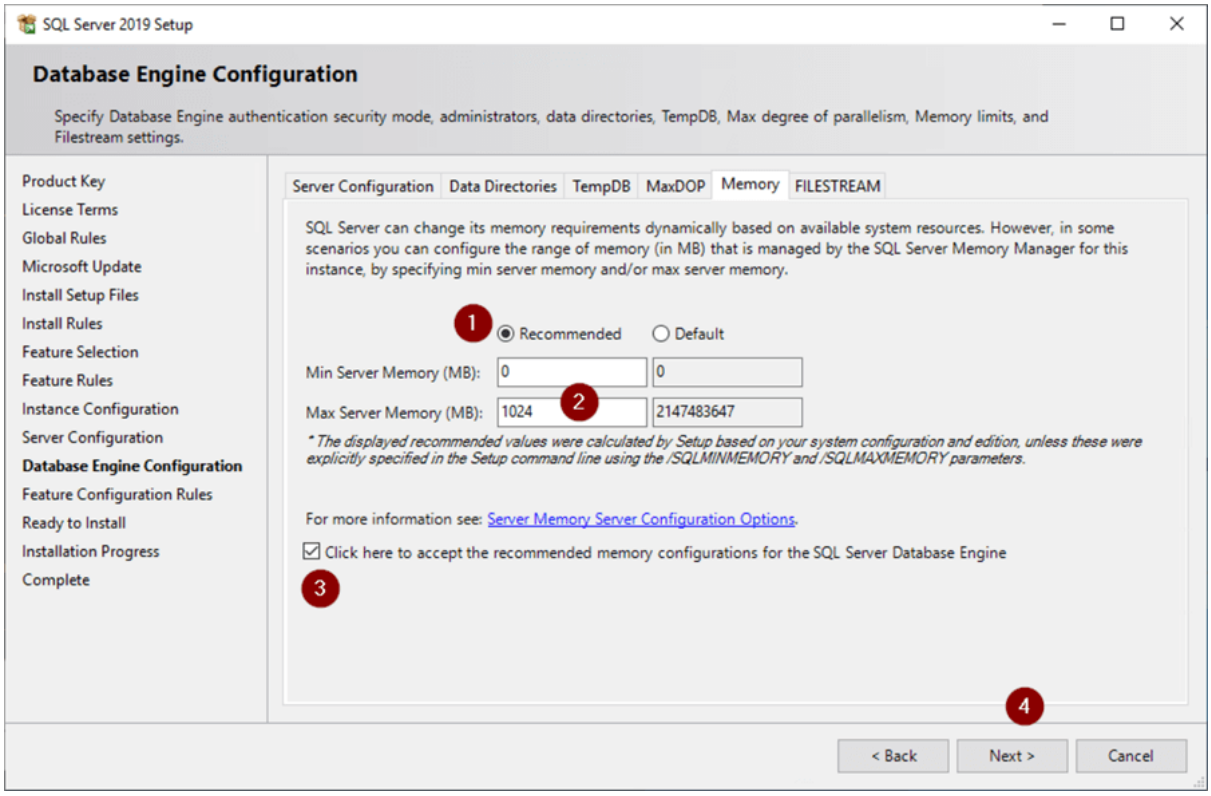
MAXDOP Configuration

1. Verify 'Maximum degree of parallelism (MaxDOP)' = number of CPU cores in machine – additional information on MaxDOP can be found here: Configure the max degree of parallelism Server Configuration Option and here: What MAXDOP setting should be used for SQL Server
2. Click Memory tab



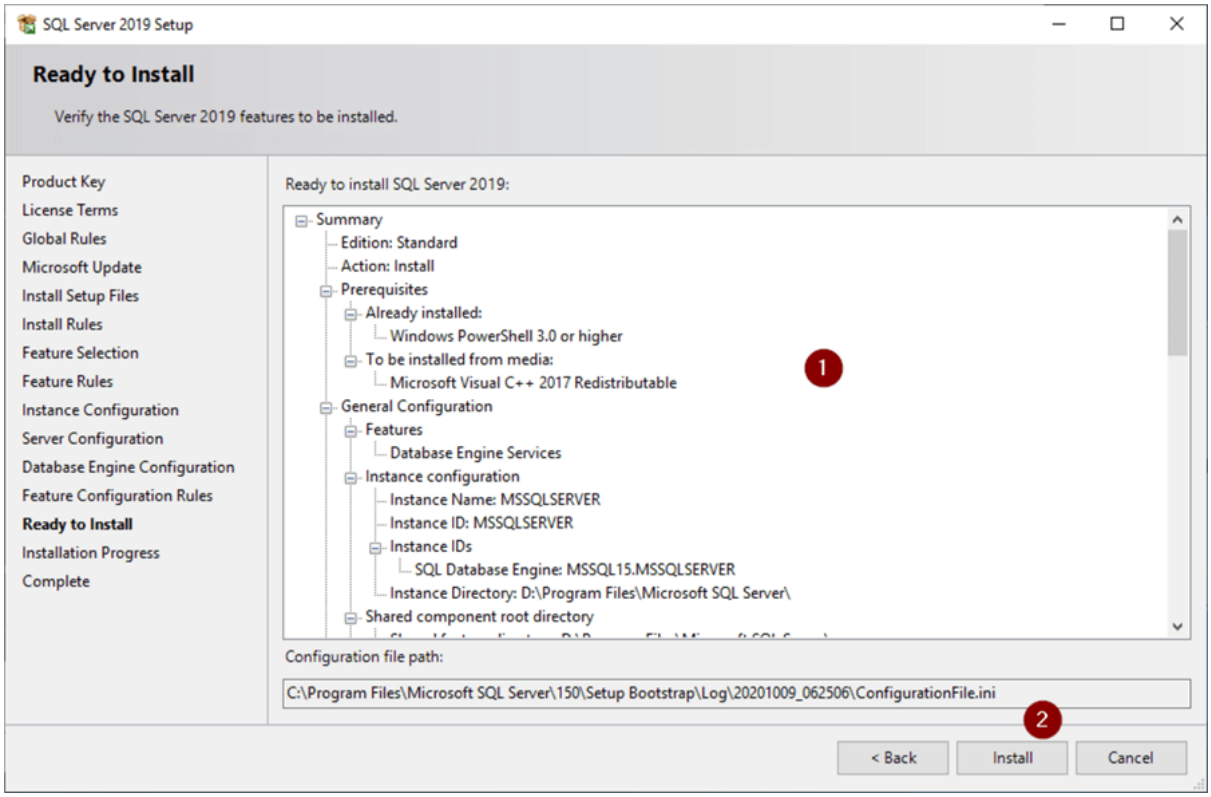
Memory Configuration

1. Select ‘Recommended’ radio button
2. The machine we’re installing this on only has 5,120 MB (5 GB) of memory and the general rule of thumb is to leave 4096 MB (4 GB) for the operating system – 5,120 MB – 4,096 MB = 1,024 MB so we enter 1024 in the ‘Max Server Memory (MB)’ box – SQL Server will try to get as much memory as it thinks it needs and setting this limit on it ensures the operating system won’t starve for memory
3. Check ‘Click here to accept the recommended memory configurations for the SQL Server Database Engine’ box
4. Next



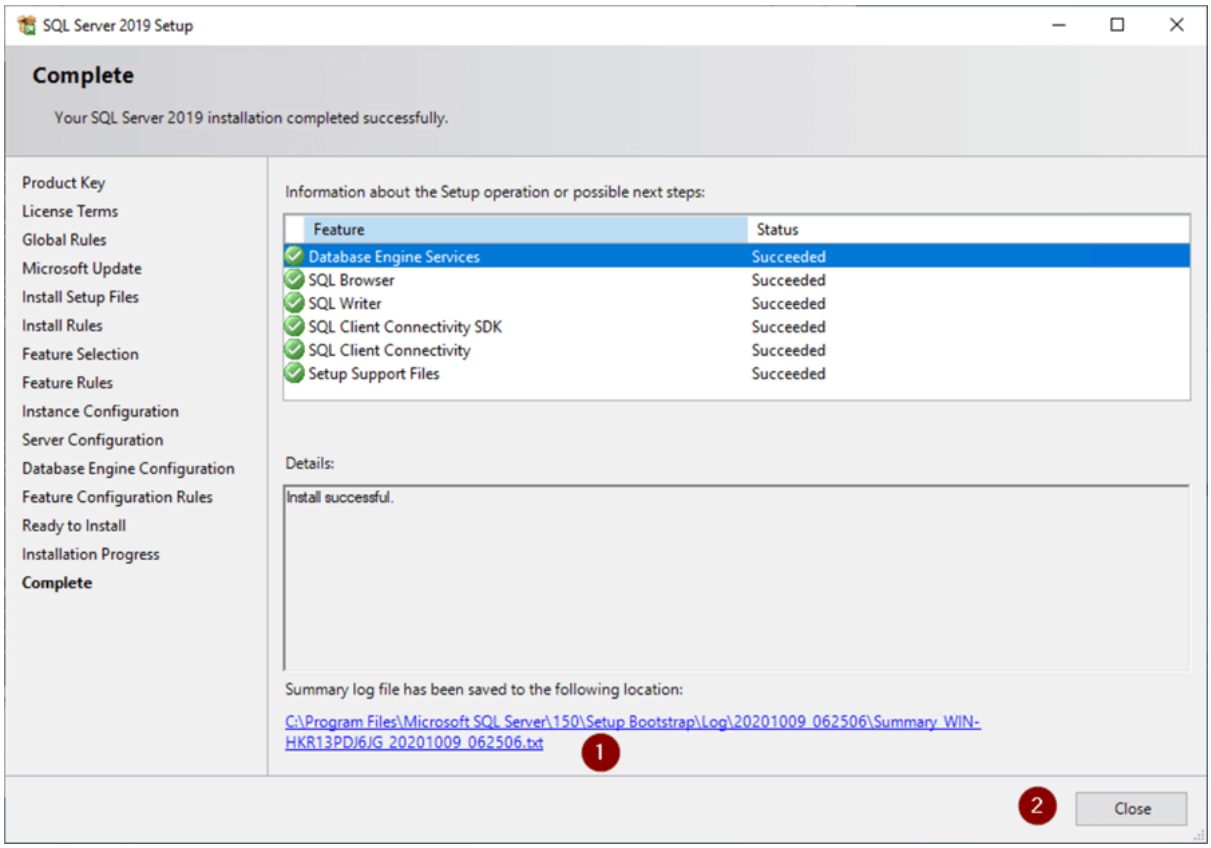
Ready to Install

1. Verify configuration
2. Install



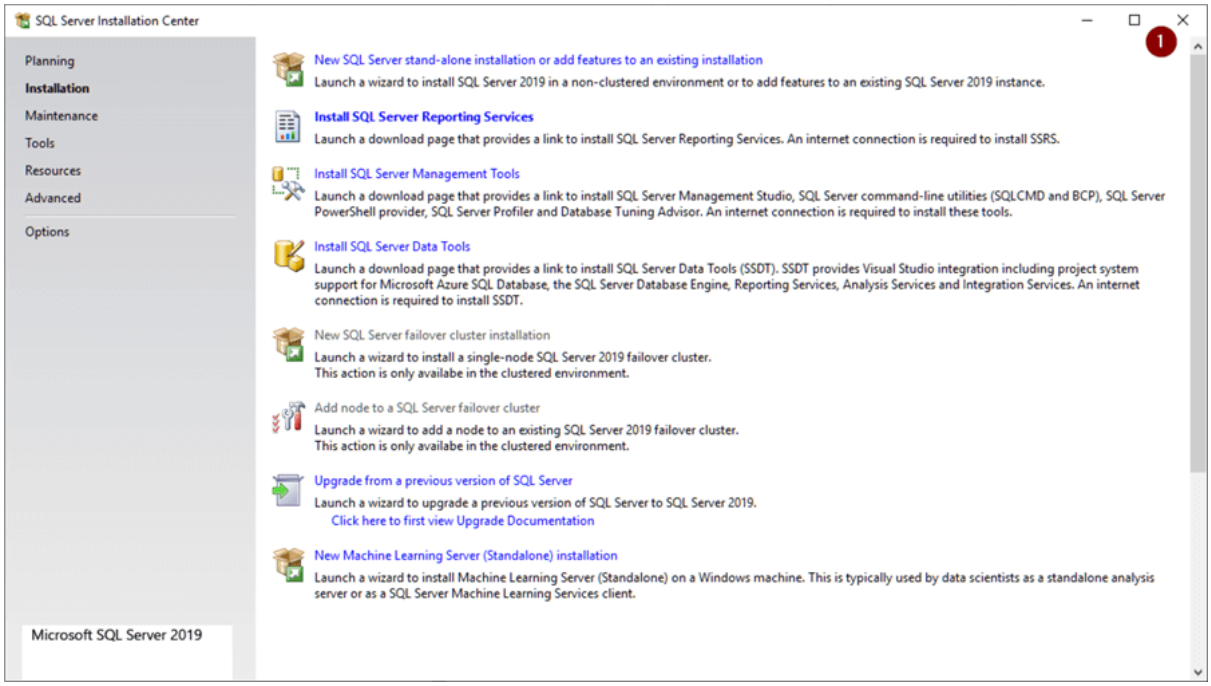
Complete

1. Click link to open setup log file and review for any issues
2. Close



Close SQL Server Installation Center

1. Click the X to close setup screen

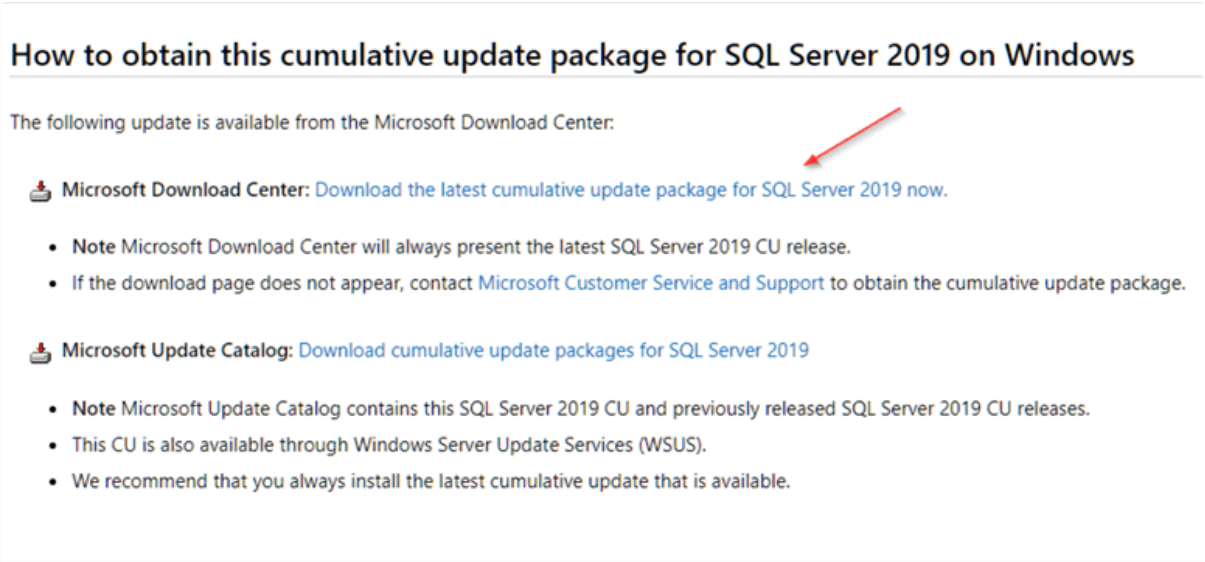


Apply Latest SQL Server Cumulative Update

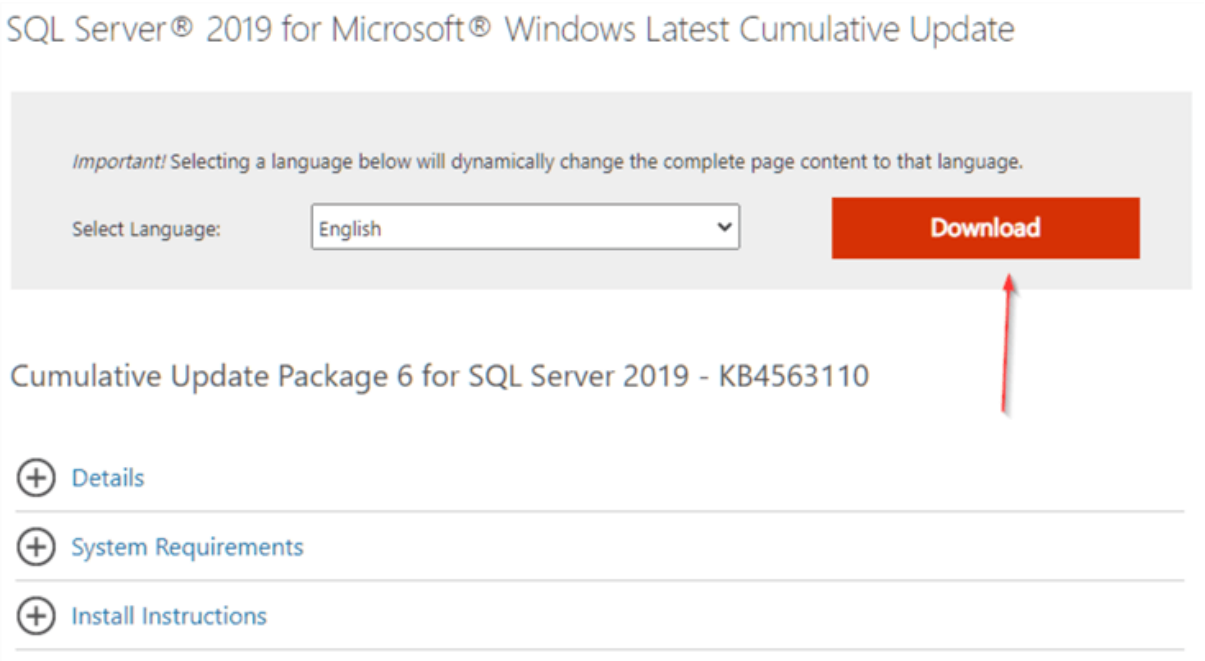
At this point we now have an installed and working SQL Server. However, we are only at the 'Release to Manufacturing' (RTM), or basically unpatched patch level. There have been updates since RTM that need to be installed. Previously SQL Server updates consisted of Service Packs (SP) and Cumulative Updates (CU) that had fixes since the latest Service Pack was of SQL Server 2017 there are no more Service Packs, just GDRs (security patches) and CUs applied to the RTM level SQL Server which makes patching a bit easier.

To obtain the latest CU we start here: Latest updates for Microsoft SQL Server and this brings us to the Latest updates for Microsoft SQL Server page. Scrolling down to the 'Latest updates' section we find our version then go over to 'Latest cumulative update' which is CU6 as of this writing and click on the link.

The link brings us to options for obtaining the CU. I chose the Microsoft Download Center by clicking on that link.



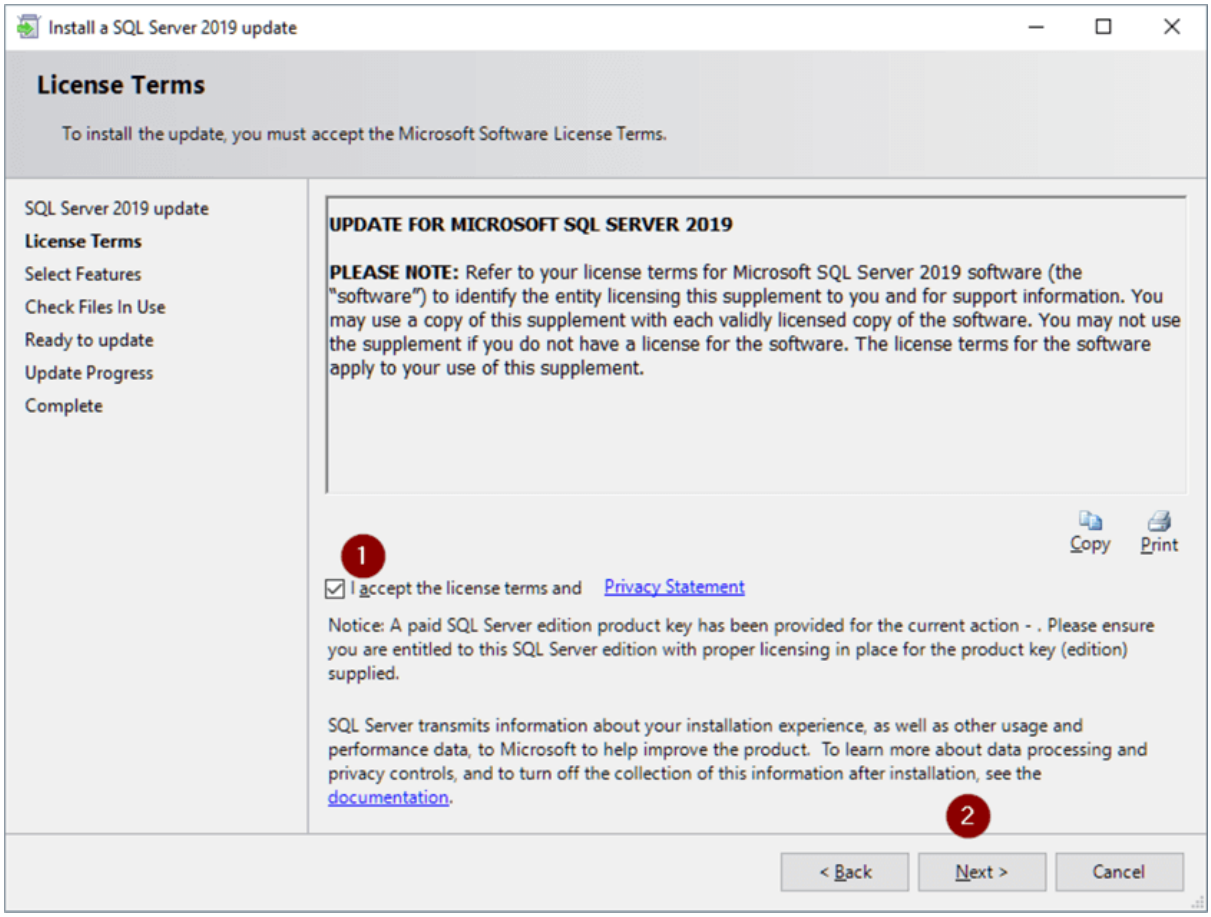
Which in turn brought me to the download page where you click on the Download button.



Wait for the download to complete and double click on the click on the downloaded .exe file to start the CU update.

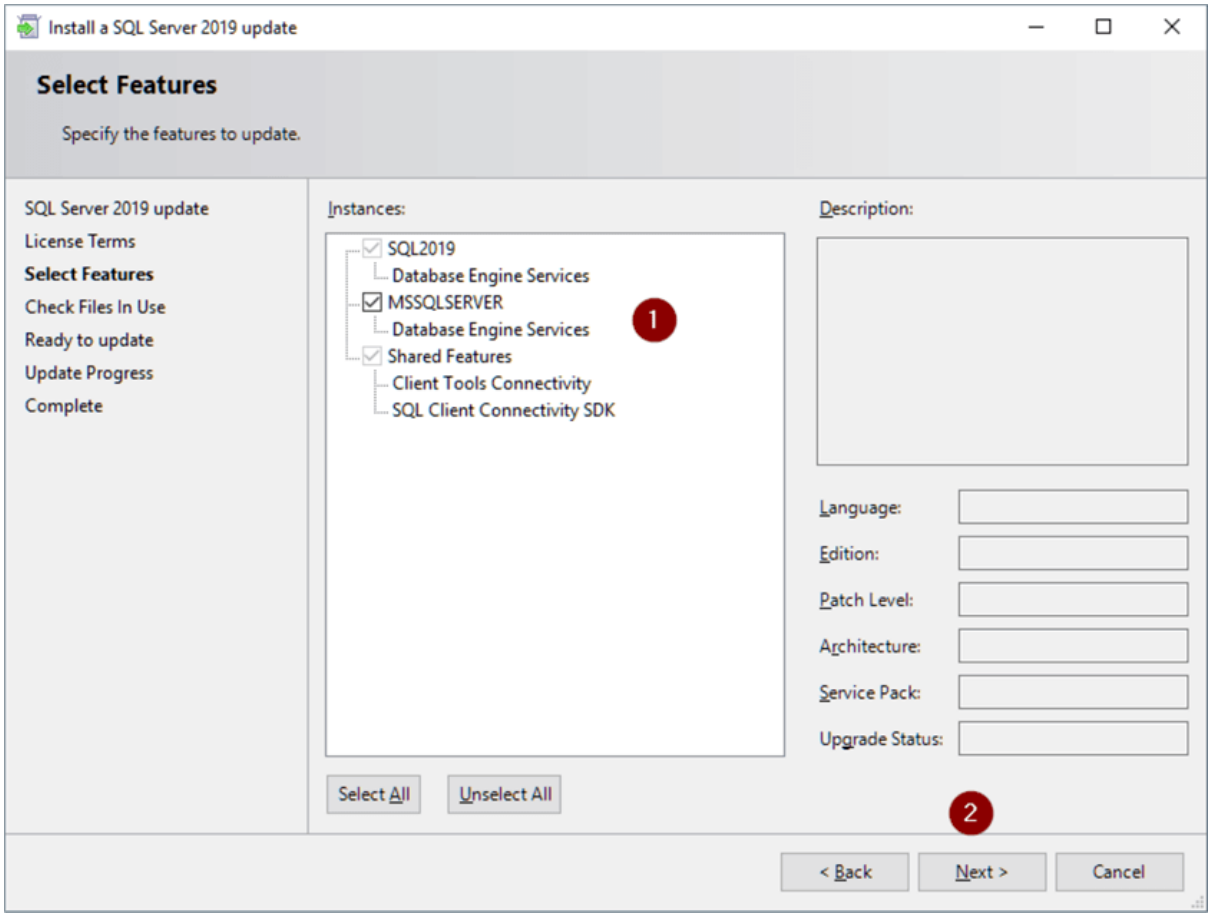
License Terms

1. Check off 'I accept the license terms…'
2. Click Next



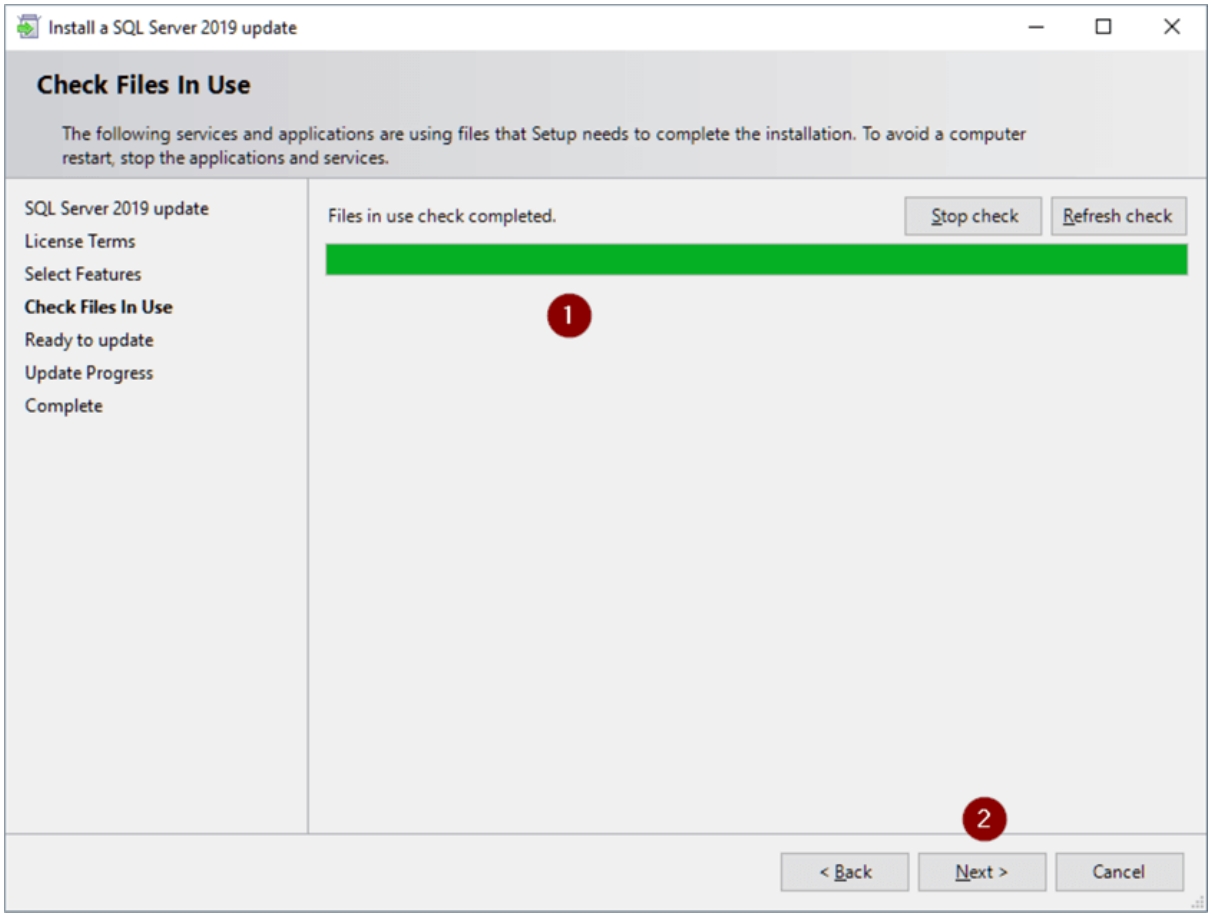
Select Features

1. Select Instance you're updating (if there are other instances of the same version of SQL Server that are below the CU level you're applying you would see those here)
2. Click Next



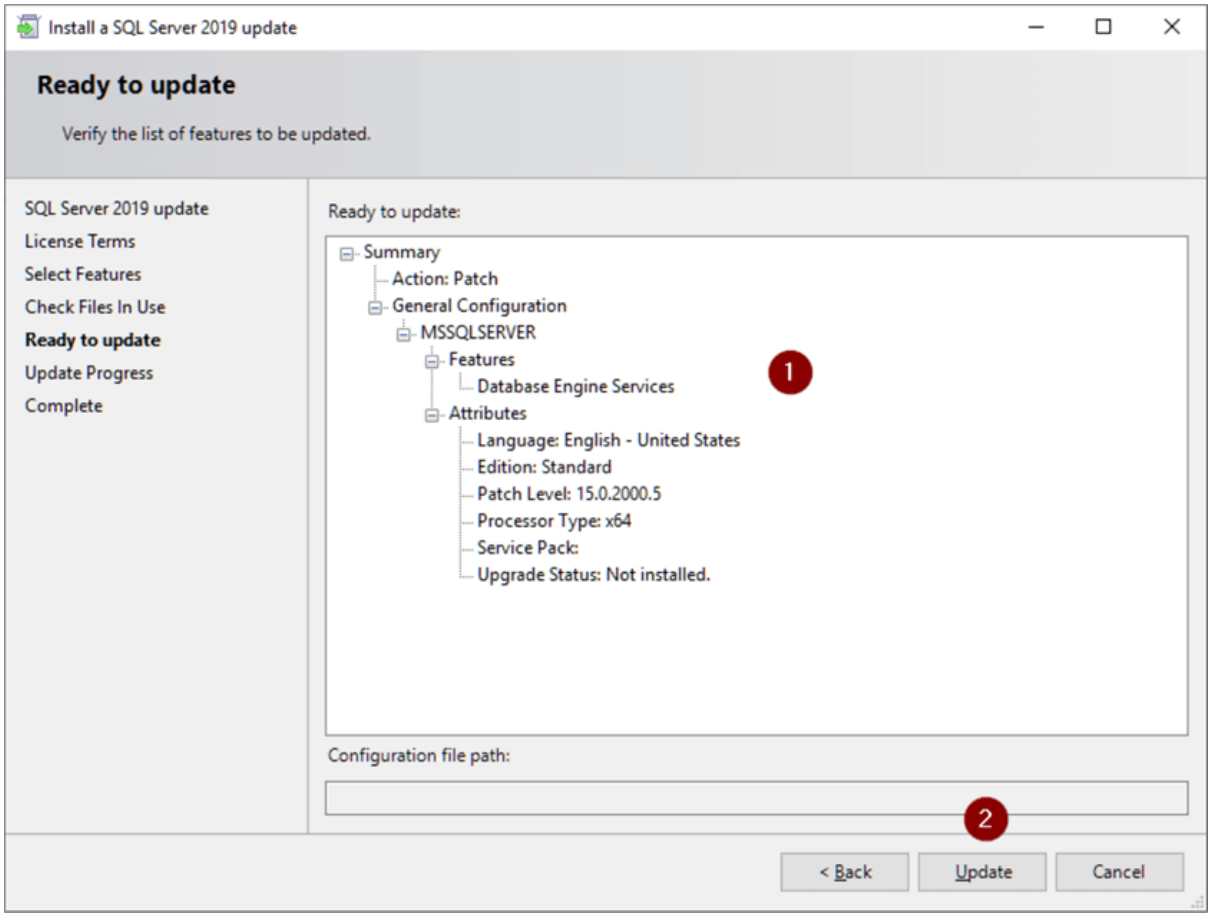
Check Files In Use

1. Let 'Check Files in Use' complete
2. Click Next



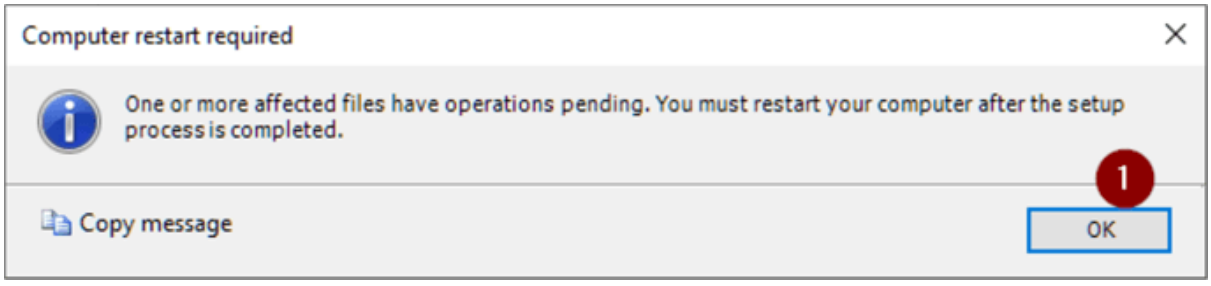
Ready to Update

1. Verify configuration
2. Click Update



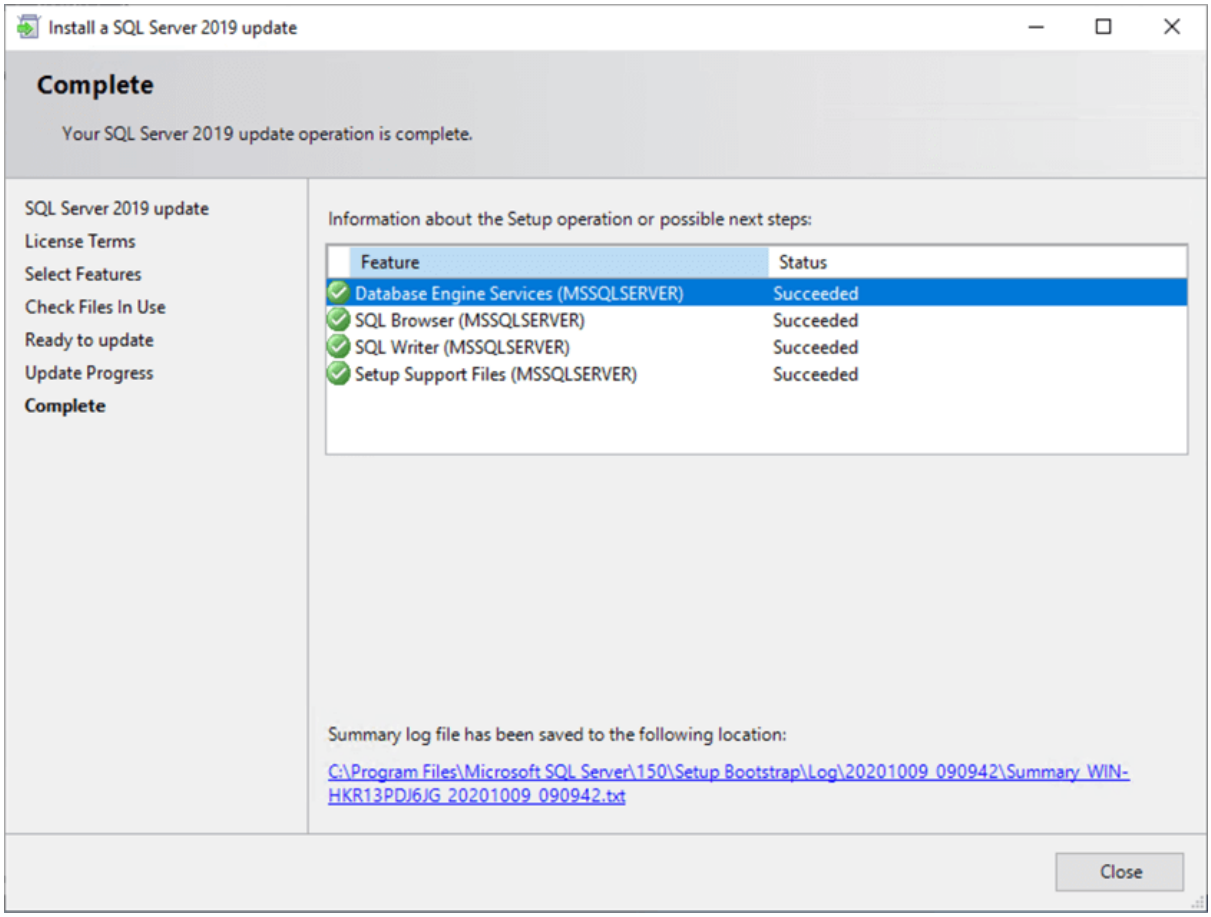
Computer Restart Required

1. If you get this box, click OK and reboot after you're done



Complete

1. Click link to open setup log file and review for any issues
2. Close


Install a SQL Server 2019 update
Complete
Your SQL Server 2019 update operation is complete.
SQL Server 2019 update
License Terms
Select Features
Check Files In Use
Ready to update
Update Progress
Complete
Information about the Setup operation or possible next steps:
Feature
Status
Database Engine Services (MSSQLSERVER)
Succeeded
SQL Browser (MSSQLSERVER)
Succeeded
SQL Writer (MSSQLSERVER)
Succeeded
Setup Support Files (MSSQLSERVER)
Succeeded
Summary log file has been saved to the following location:
C:\Program Files\Microsoft SQL Server\150\Setup Bootstrap\Log\20201009_090942\Summary_WIN-HKR13PDJ6JG_20201009_090942.txt
Close