1 MANUAL STEP-BY-STEP BUILD ON LOCAL MACHINE

- OS: Windows 8.1 or Higher

- SQL Server 2016 (2 Instances)
  - Analysis Services
  - Integration Services
  - Reporting Services
- SQL Server Management Studio
- SQL Server Data Tools

PHASE 01 FILE STRUCTURE BUILD AND OBTAINING THE PROPER SOFTWARE

PHASE OBJECTIVE

In this phase, you will build the file structure and obtain the proper software.

PHASE TOPICS

In this phase, we will:

- Building the File Structure
- Download the ISOs of Windows 10 and SQL Server 2016 to the Created Directories
- Verifying the Correct Files Are in the Proper Location

We use the same file structure for the licensed and evaluation software build, so some folders may be used in one and not the other.

BUILDING THE FILE STRUCTURE

Task: Build the File Structure

1. Start **File Explorer**.
2. Navigate to **C:/**.
3. Create a new folder and name the folder **RonsNotes**.
4. Double-click to open **RonsNotes** folder, and create two more folders:
   - `ISOs`
   - `Labs`
5. Double-click to open **ISOs** folder, and create two more folders:
   - `Windows10`
   - `SQL2016`
6. Back out of the **ISOs** folder, and leave **File Explorer** open.

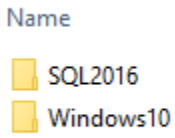
DOWNLOAD THE ISOS OF WINDOWS 10 AND SQL SERVER 2016 TO THE CREATED DIRECTORIES

Task: Download the ISOs of Windows 10 and SQL Server 2016 to the Created Directories, and the Needed Database Files

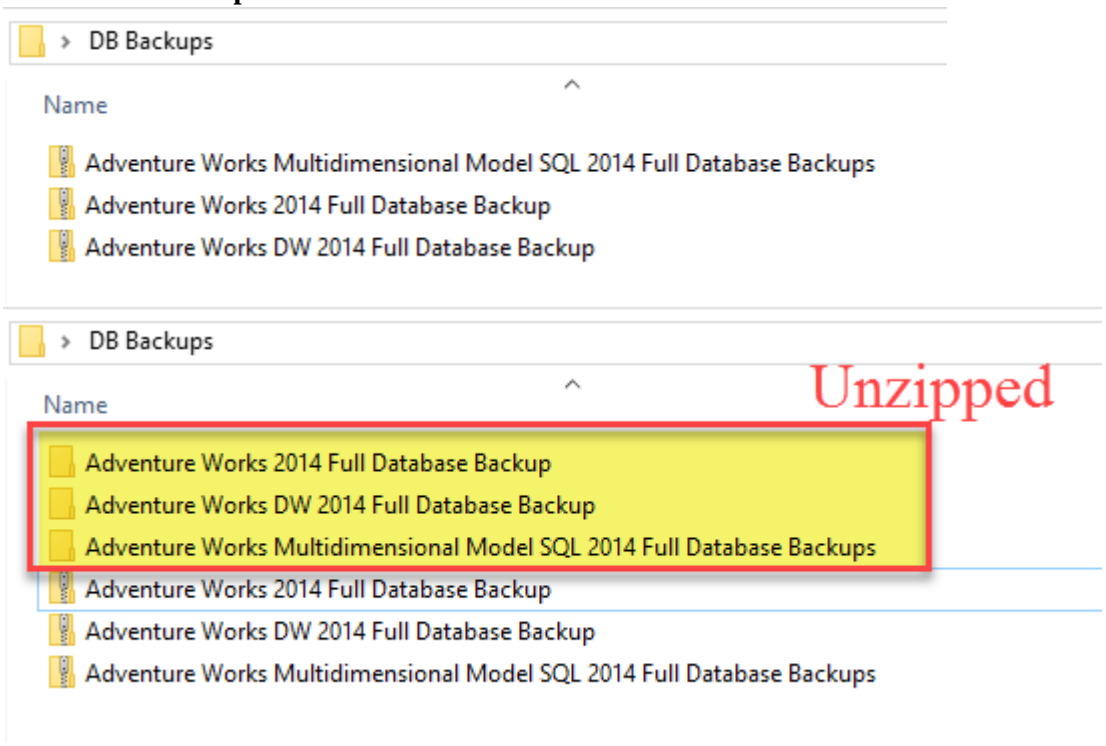
In this task, we will download ISOs for the software we intend to install.

1. Switch back to **File Explorer** and verify you are still viewing **C:\RonsNotes**.

2. Double-click to open the **ISOs** folder, and notice you have two folders listed.



3. Start **Internet Explorer** or the browser of your choice.
4. Using the links provided below:
   - Download the installation files to the appropriate folder (shown above).
   - Download the database files and place them into a folder named `DB Backups`.
     - The files will download as .zip files, which will need to be unzipped within the **DB Backups** folder.



You will need to register in order to download the required ISO files.

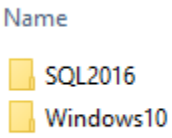
- **Windows 10** – https://www.microsoft.com/en-us/software-download/windows10
- **SQL Server 2016** - https://www.microsoft.com/en-us/evalcenter/evaluate-sql-server-2016
- **AdventureWorks 2014** - https://msftdbprodsamples.codeplex.com/releases/view/125550
  - Adventure Works 2014 Full Database Backup.zip
  - Adventure Works DW 2014 Full Database Backup.zip

Upon completion, you will have the file structure built, and the downloaded ISOs placed into the proper locations, and the database files downloaded into the new **DB Backups** folder.

VERIFYING THE CORRECT FILES ARE IN THE PROPER LOCATION

Task: Verifying the Correct Files Are in the Proper Location

1. Switch to **File Explorer**.
2. Navigate to **C:\RonsNotes\ISOs**.
3. Notice you have two folders listed.



4. Verify you have the following file(s) in the corresponding folder.

Folder	***File Name***
Windows10	14393.0.160715-1616.RS1_RELEASE_CLIENTENTERPRISEEVAL_OEMRET_X64FRE_EN-US.ISO
SQL2016	SQLServer2016-x64-ENU.iso

PHASE 02 SETUP SQL SERVER

PHASE OBJECTIVE

In this phase, we will set up SQL Server on the machine.

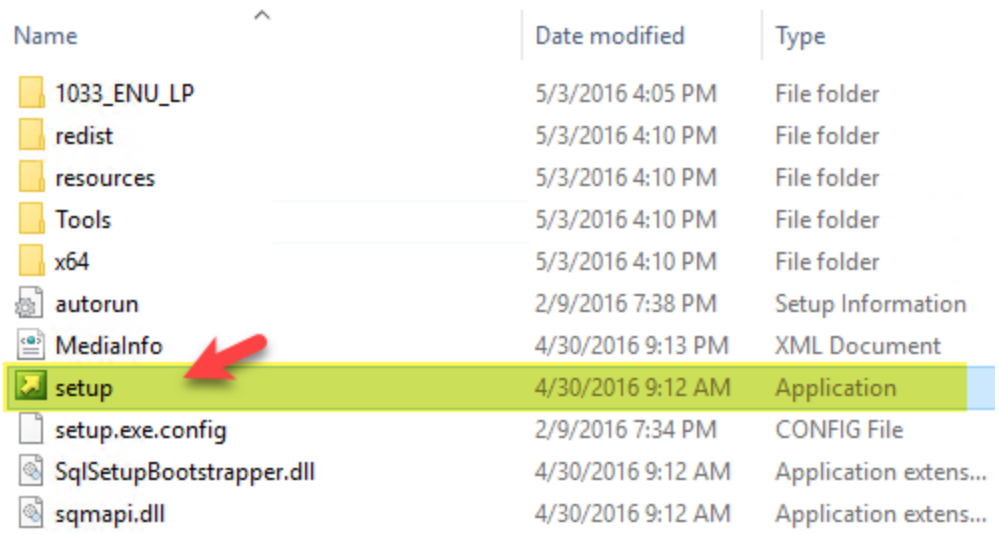
PHASE TOPICS

- Install two instances of SQL Server 2016
- Install SQL Server Management Studio
- Install SQL Server Data Tools

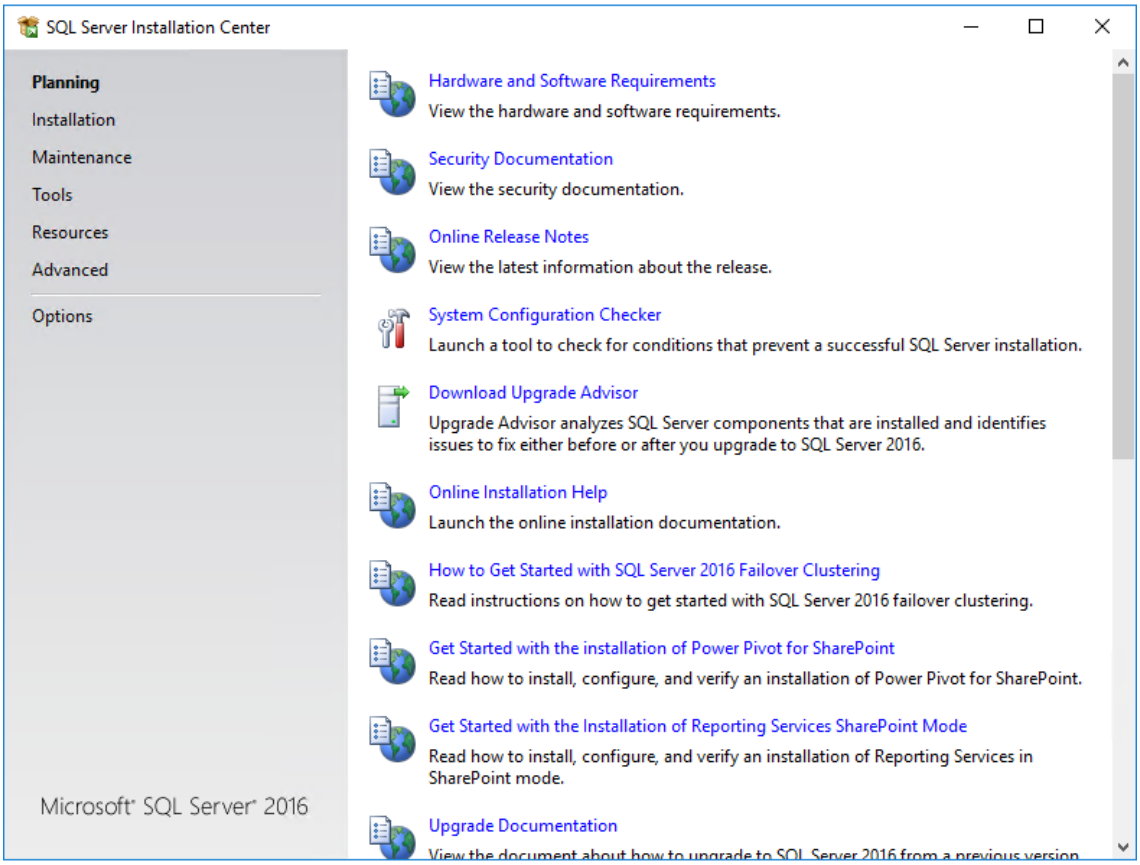
INSTALL TWO INSTANCES OF SQL SERVER 2016

Task Install SQL Server 2016

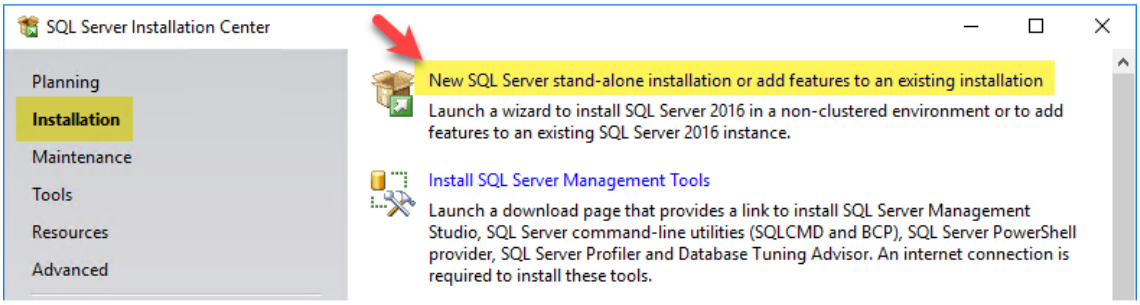
1. Open **File Explorer** and navigate to your downloaded **ISO** files.
2. Right-click the SQL Server 2016 **ISO** file, and click **Extract All…**.
3. In the **Extract Compressed (Zipped) Folders** dialog box asking for you to **Select a Destination and extract Files**, verify the location where the **Files will be extracted** and change this location if needed.
4. Click **Extract**.
5. Navigate to the folder containing the extracted files.
6. Double-click **setup**.



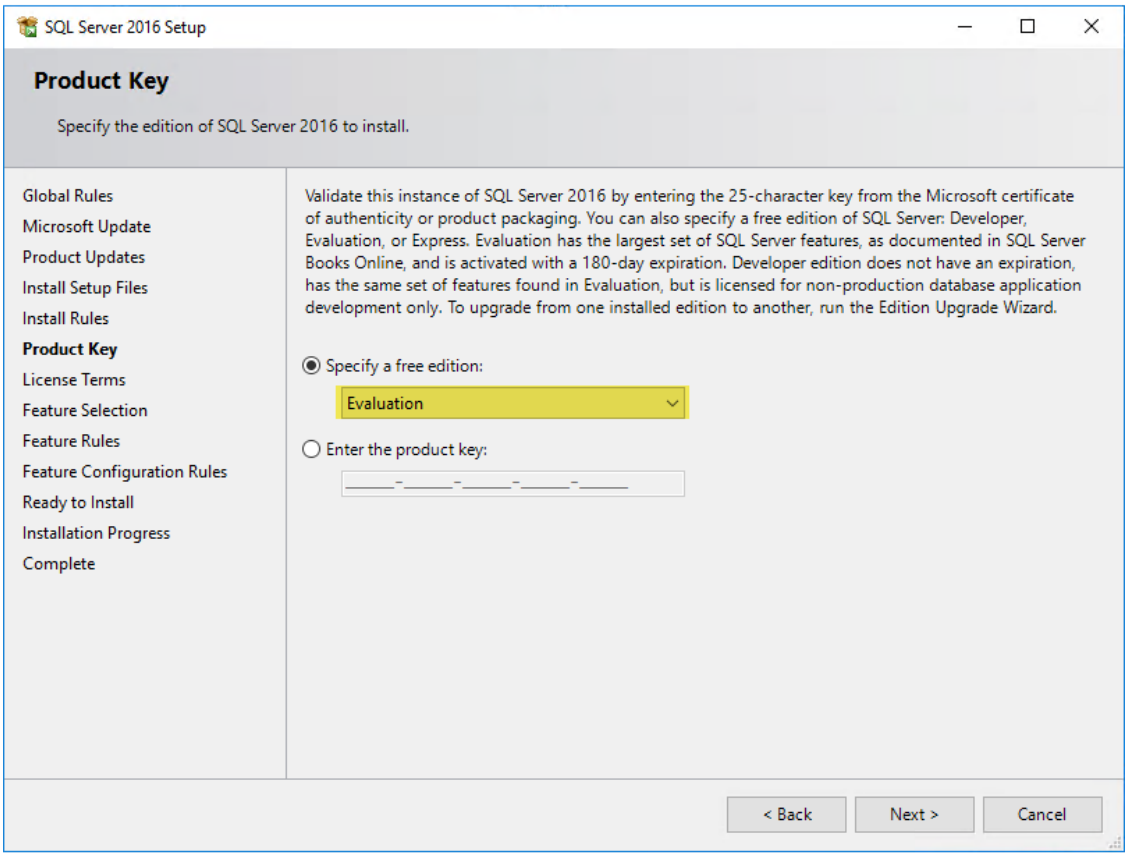
7. In the **User Account Control** dialog box, click **Yes**.
8. In the **SQL Server Installation Center** dialog box, review the options available.



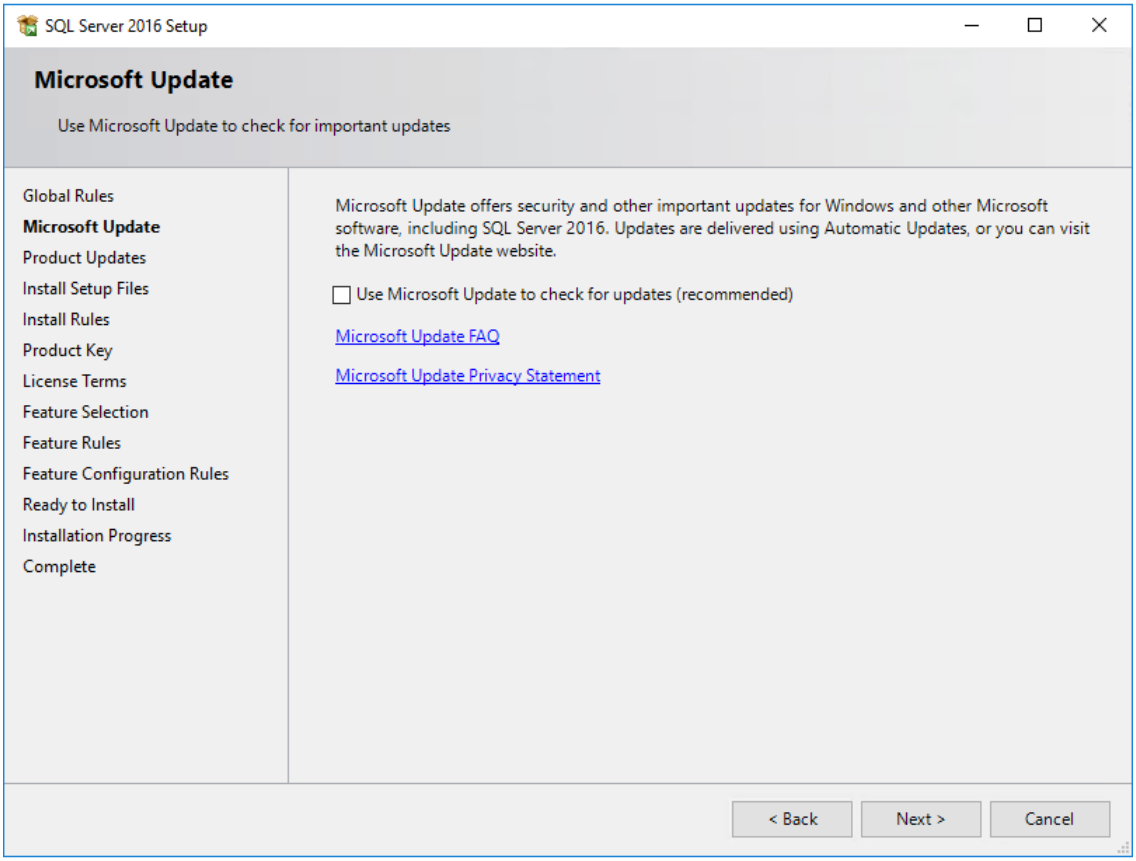
9. Navigate to the pane on the left and click **Installation**.
10. Click the link for a **New SQL Server stand-alone installation or add features to an existing installation**.



11. In the **Product Key** dialog box, verify **Evaluation** is selected, then click **Next**.

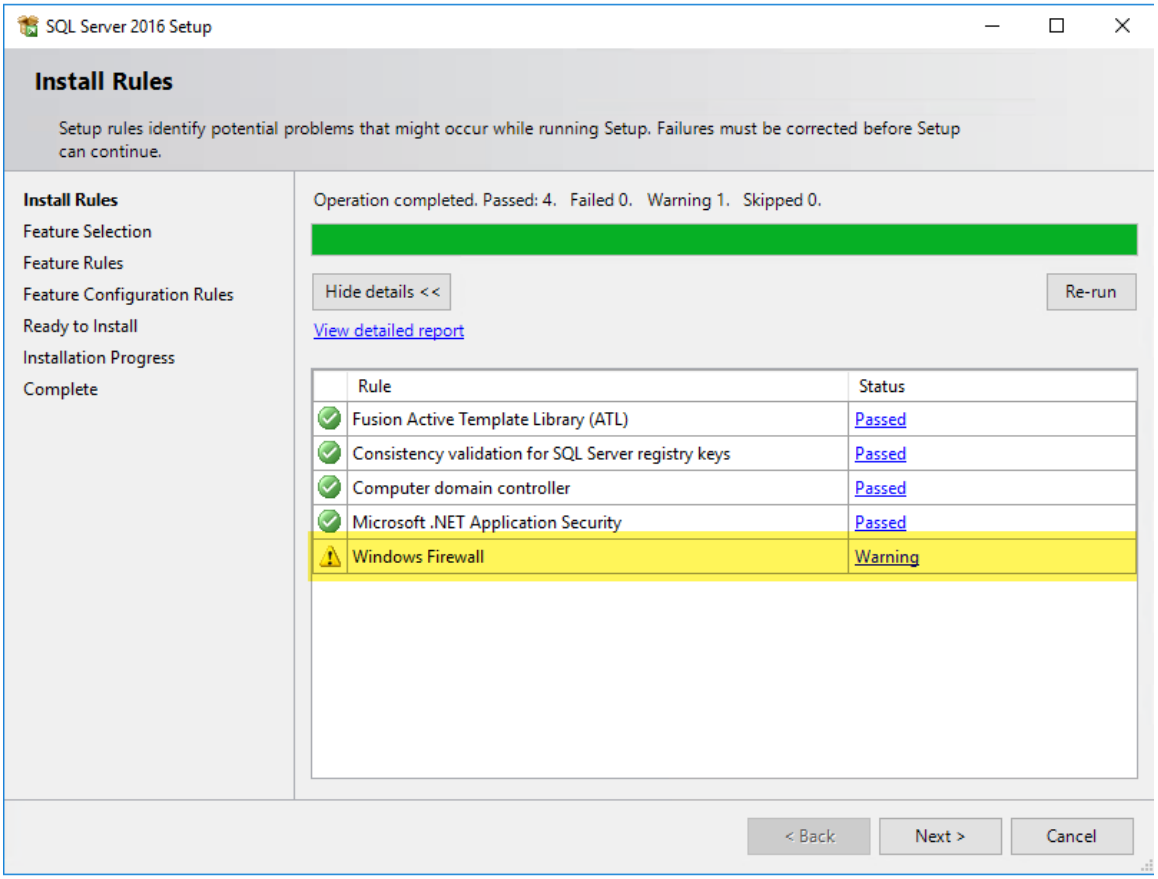


12. In the **License Terms** dialog box, place a check in the **I accept the license terms** check box and click **Next**.
13. In the **Microsoft Update** dialog box, click **Next**.

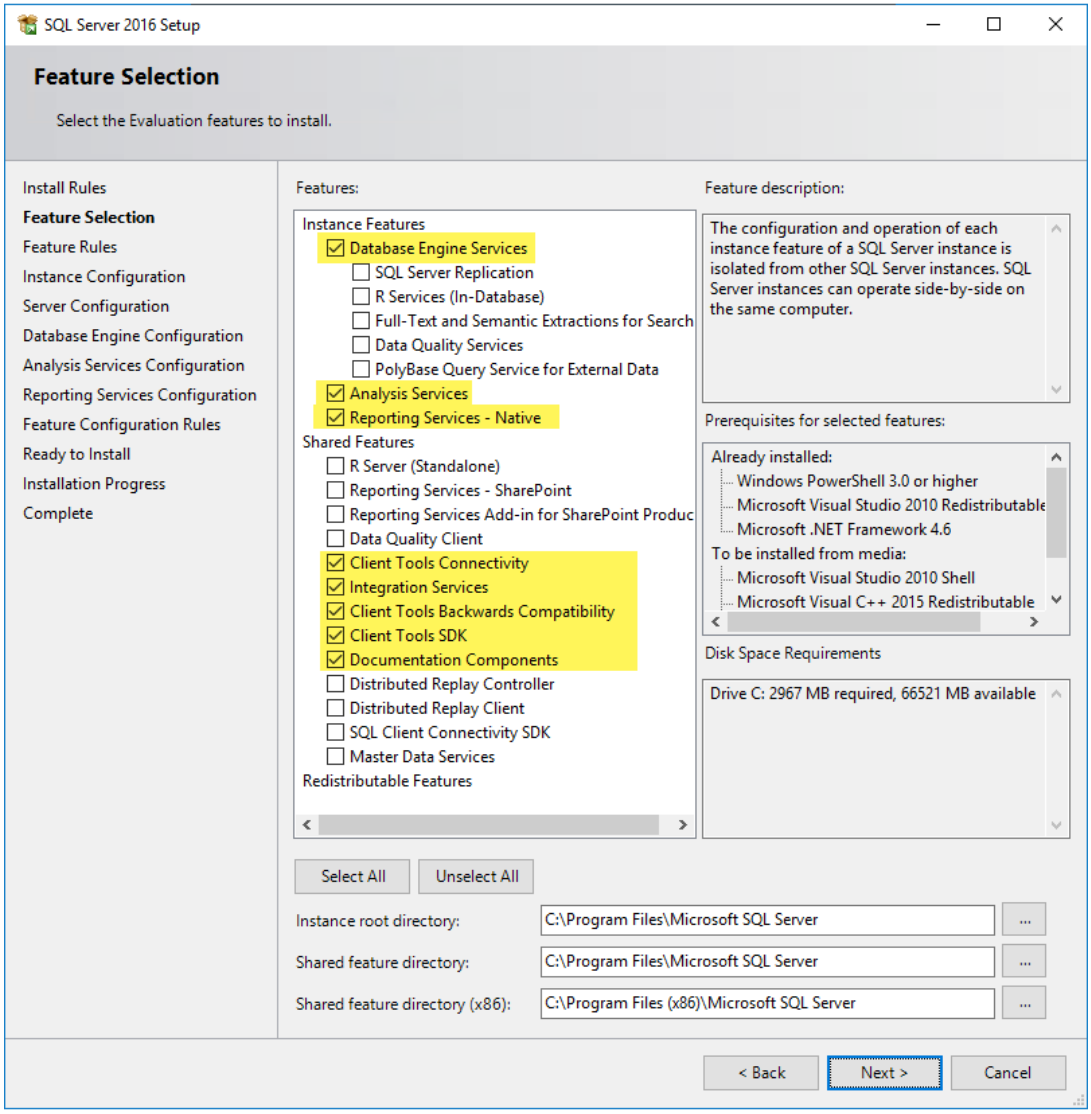


If you encounter a Product Updates dialog box, click Next.

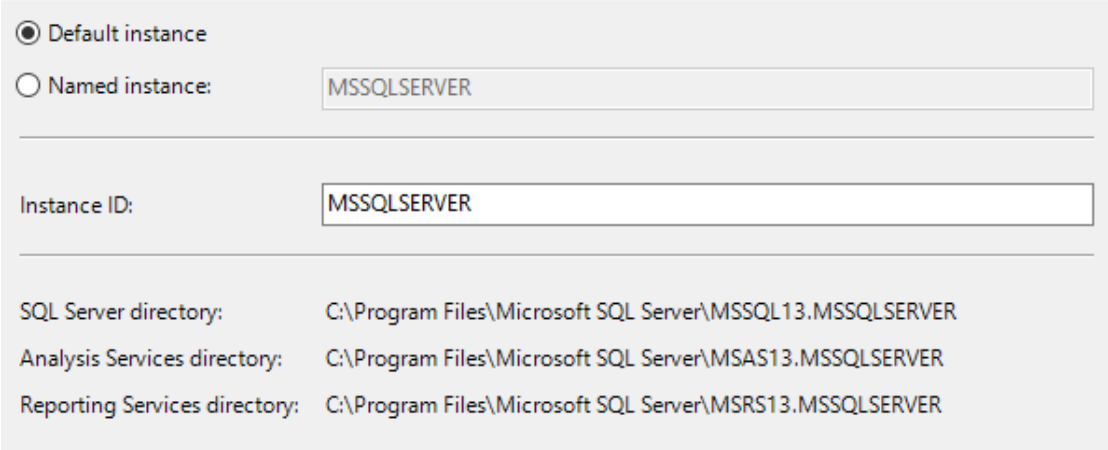
14. When the **Install Rules** dialog box opens, ignore the **Windows Firewall** warning and then click **Next**.



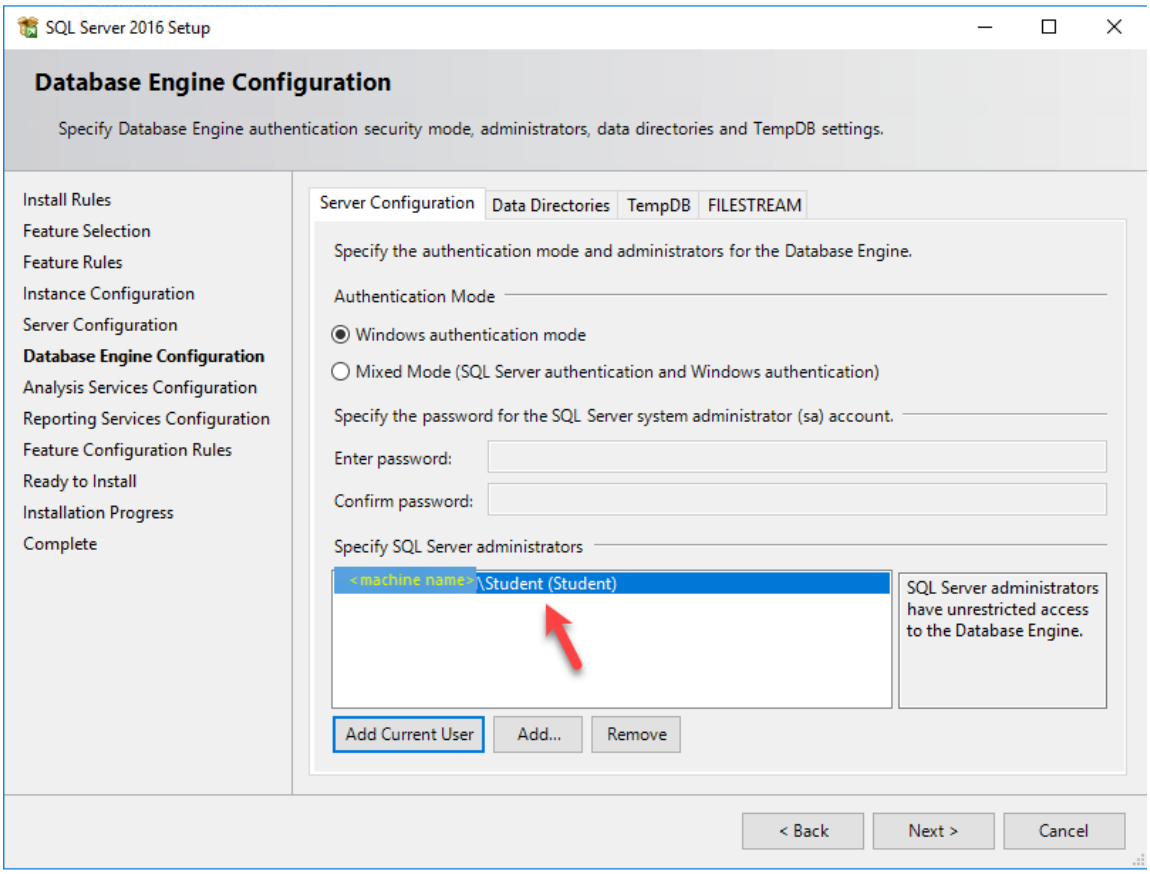
15. In the **Feature Selection** dialog box, place a check in the following check boxes:
    - Database Engine Services
    - Analysis Services
    - Reporting Services – Native
    - Client Tools Connectivity
    - Integration Services
    - Client Tools Backwards Compatibility
    - Client Tools SDK
    - Documentation Components



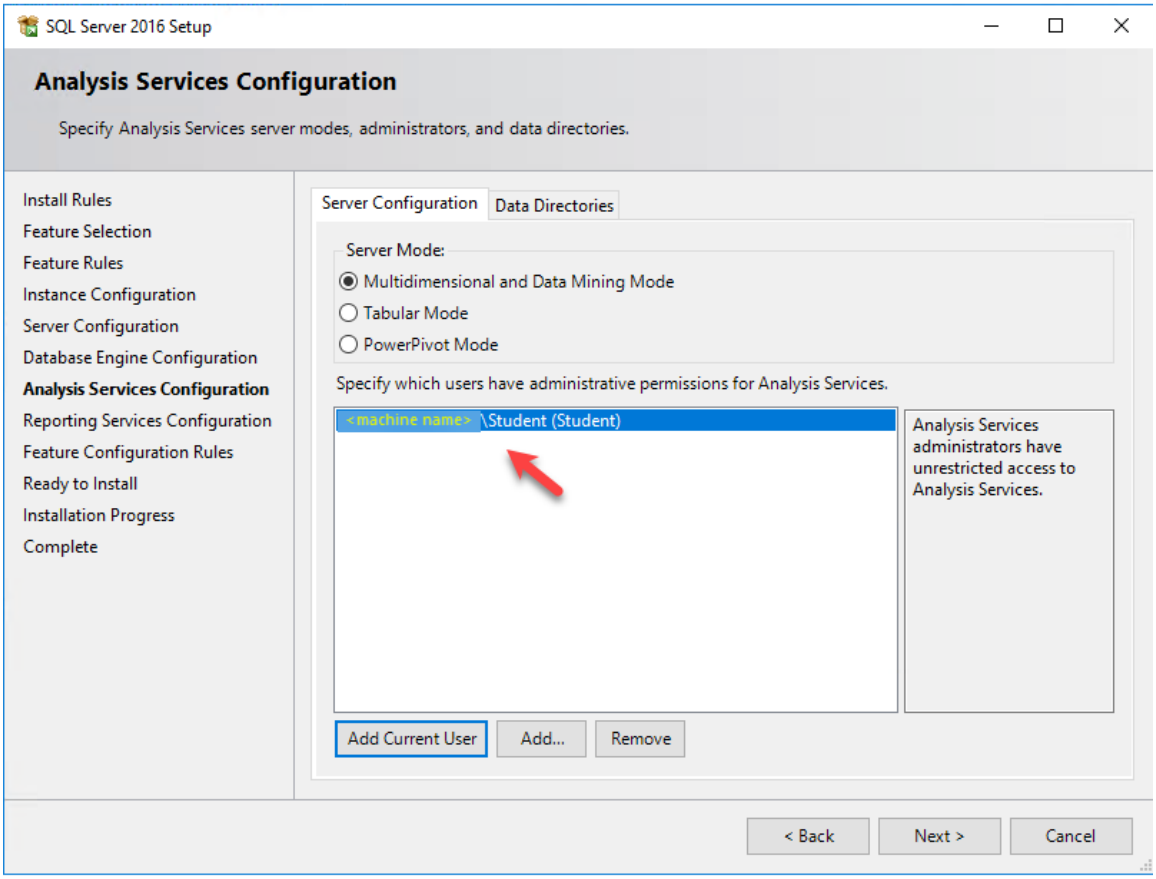
16. Click **Next**.
17. In the **Instance Configuration** dialog box, leave the **Default instance** settings as they are, and click **Next**.



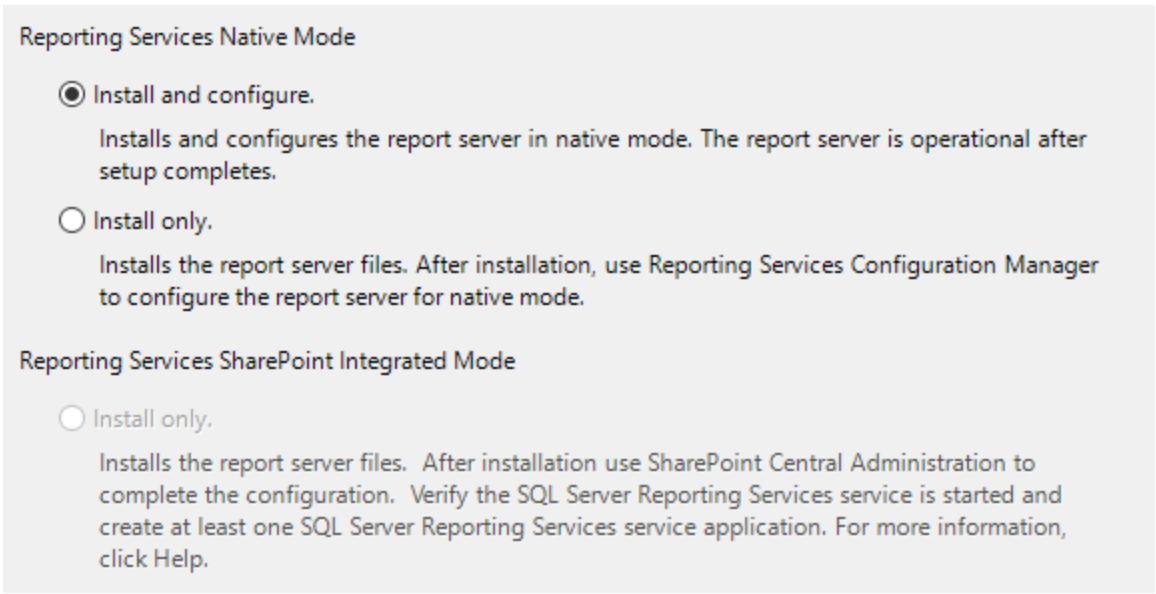
18. In the **Server Configuration** dialog box, click **Next**.
19. In the **Database Engine Configuration** dialog box, review the current settings.
20. Click **Add Current User**.
21. Notice you now see **<your machine name>\Student (Student)** listed in the **Specify SQL Server administrators** text box.



22. Click **Next**.
23. In the **Analysis Service Configuration** dialog box, review the current settings.
24. Click **Add Current User**.
25. Notice you now see **<your machine name>\Student (Student)** listed in the **Specify which users have administrative permissions for Analysis Services** text box.

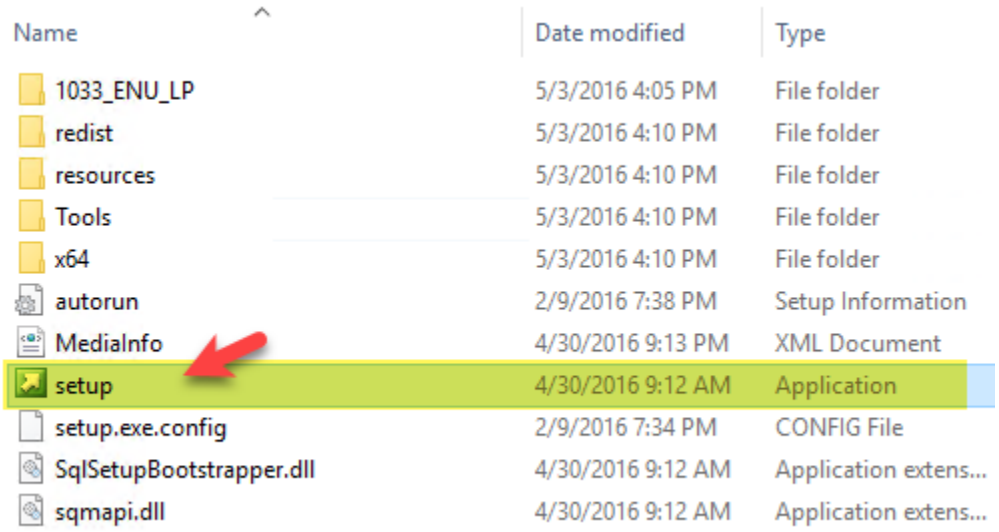


26. Click **Next**.
27. In the **Reporting Services Configuration** dialog box, review the settings, then click **Next**.

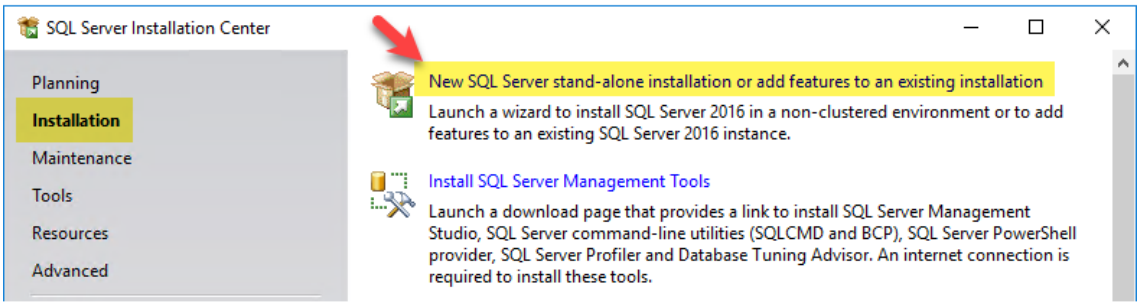


28. Click **Next**.
29. In the **Ready to Install** dialog box, click **Install**.
30. Upon **Success**, click **Close**.
31. Restart your machine.

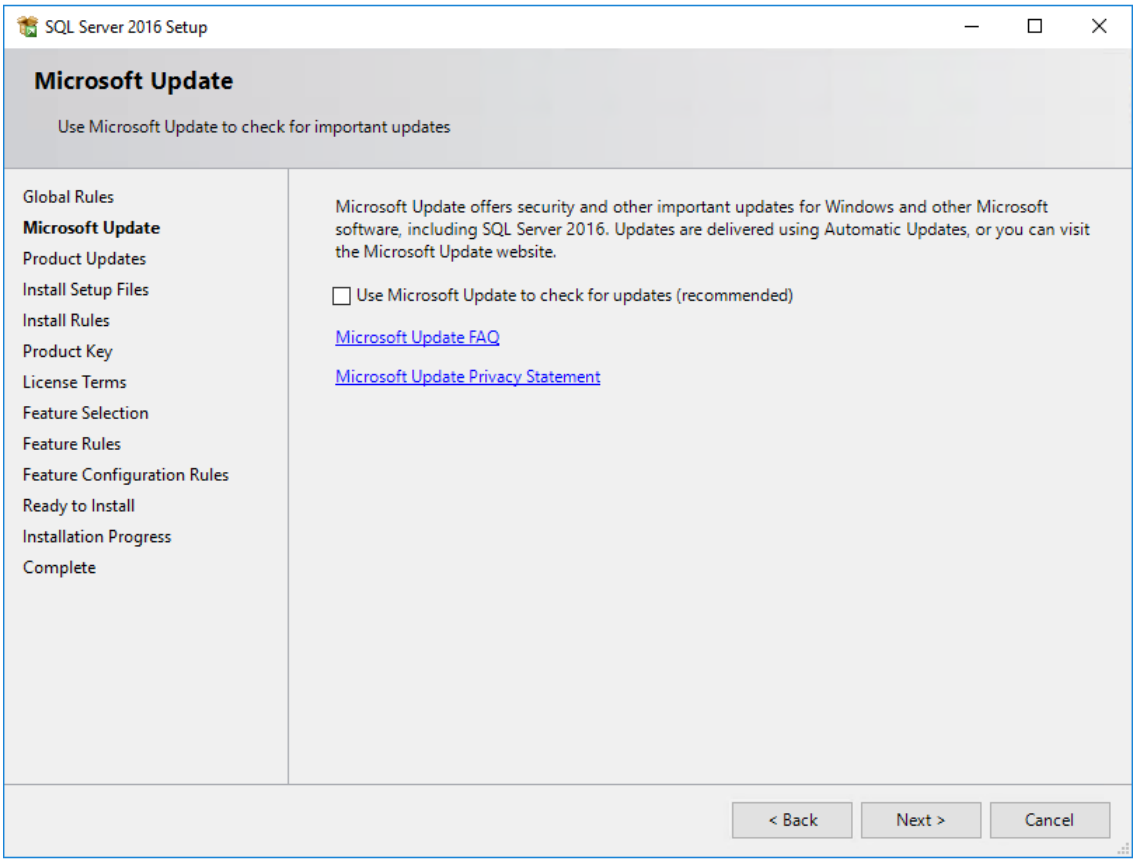
32. Open **File Explorer** and navigate to your downloaded **ISO** files.
33. Navigate to the folder containing the extracted files.
34. Double-click **setup**.



35. In the **User Account Control** dialog box, click **Yes**.
36. In **SQL Server Installation Center**, click **Installation** tab.
37. Click the link for a **New SQL Server stand-alone installation or add features to an existing installation**.

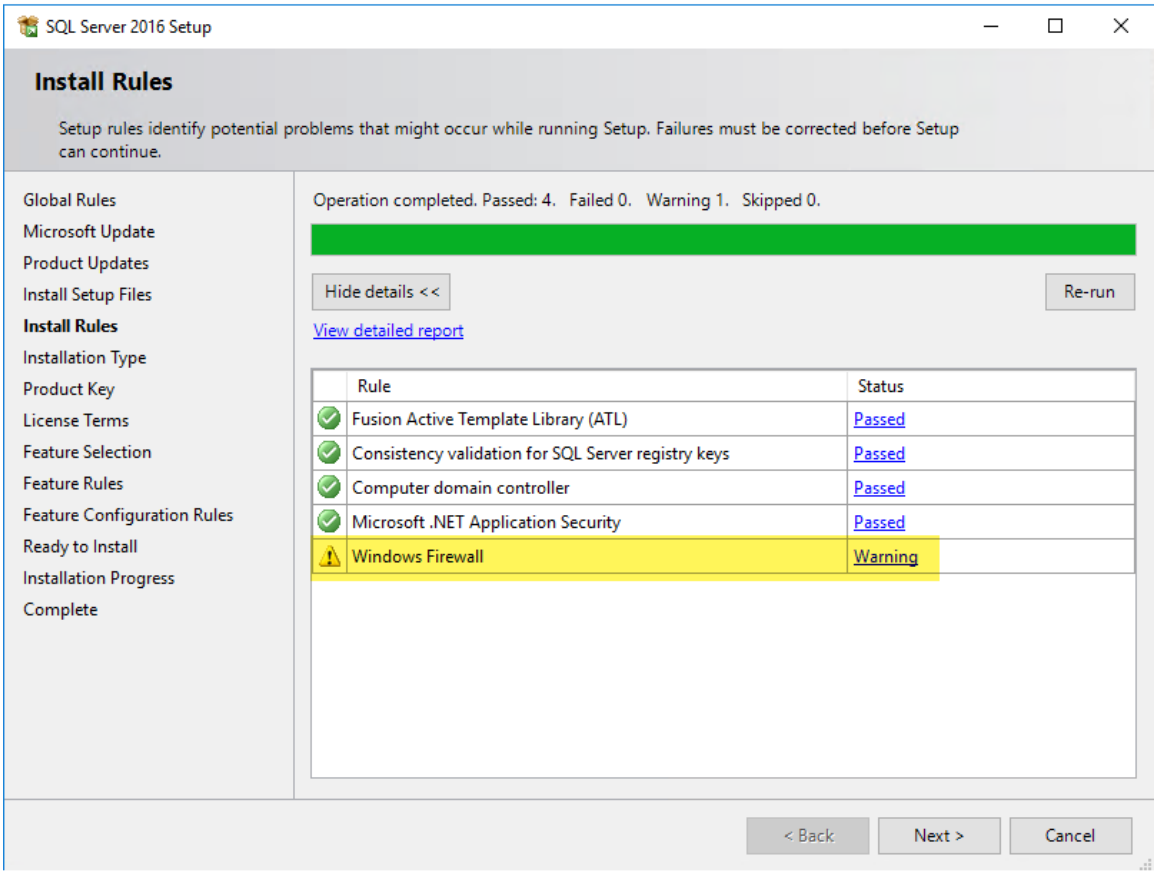


38. In the **Microsoft Update** dialog box, click **Next**.

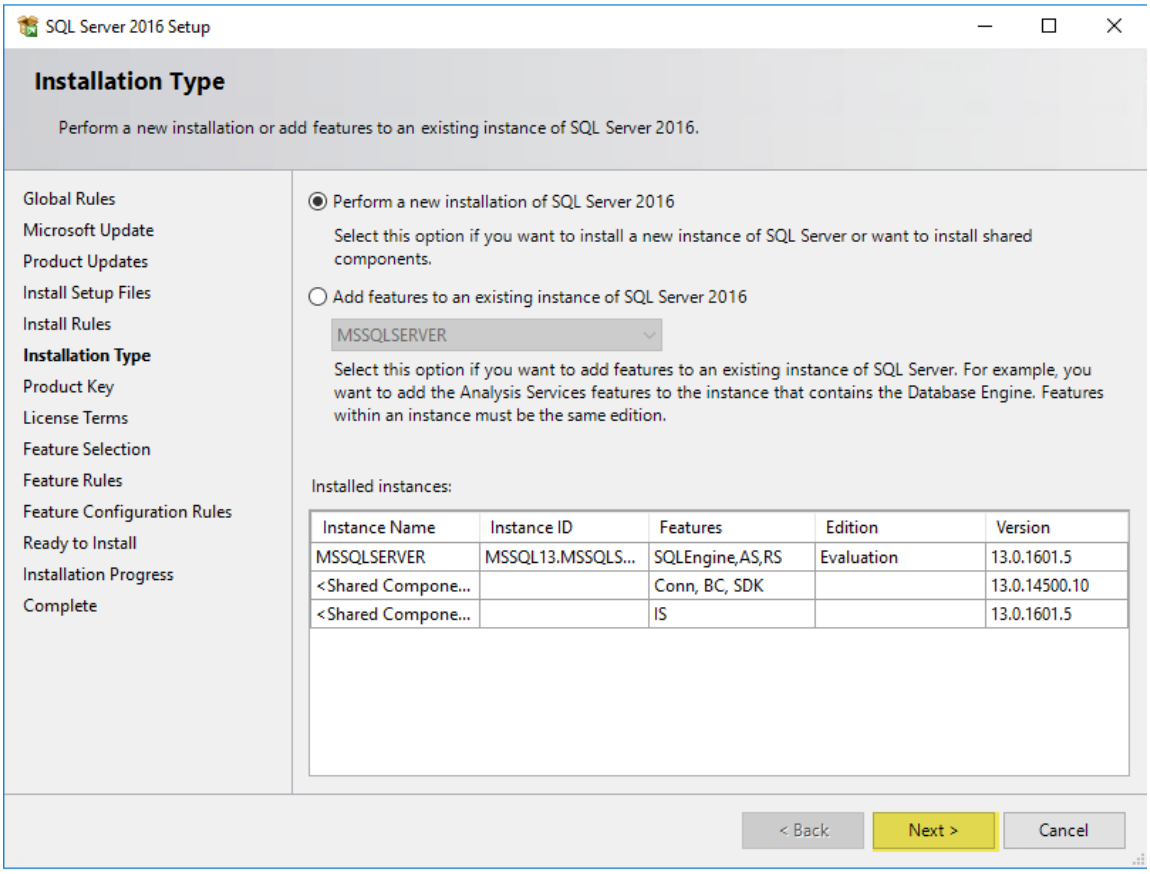


If you encounter a Product Updates dialog box, click Next.

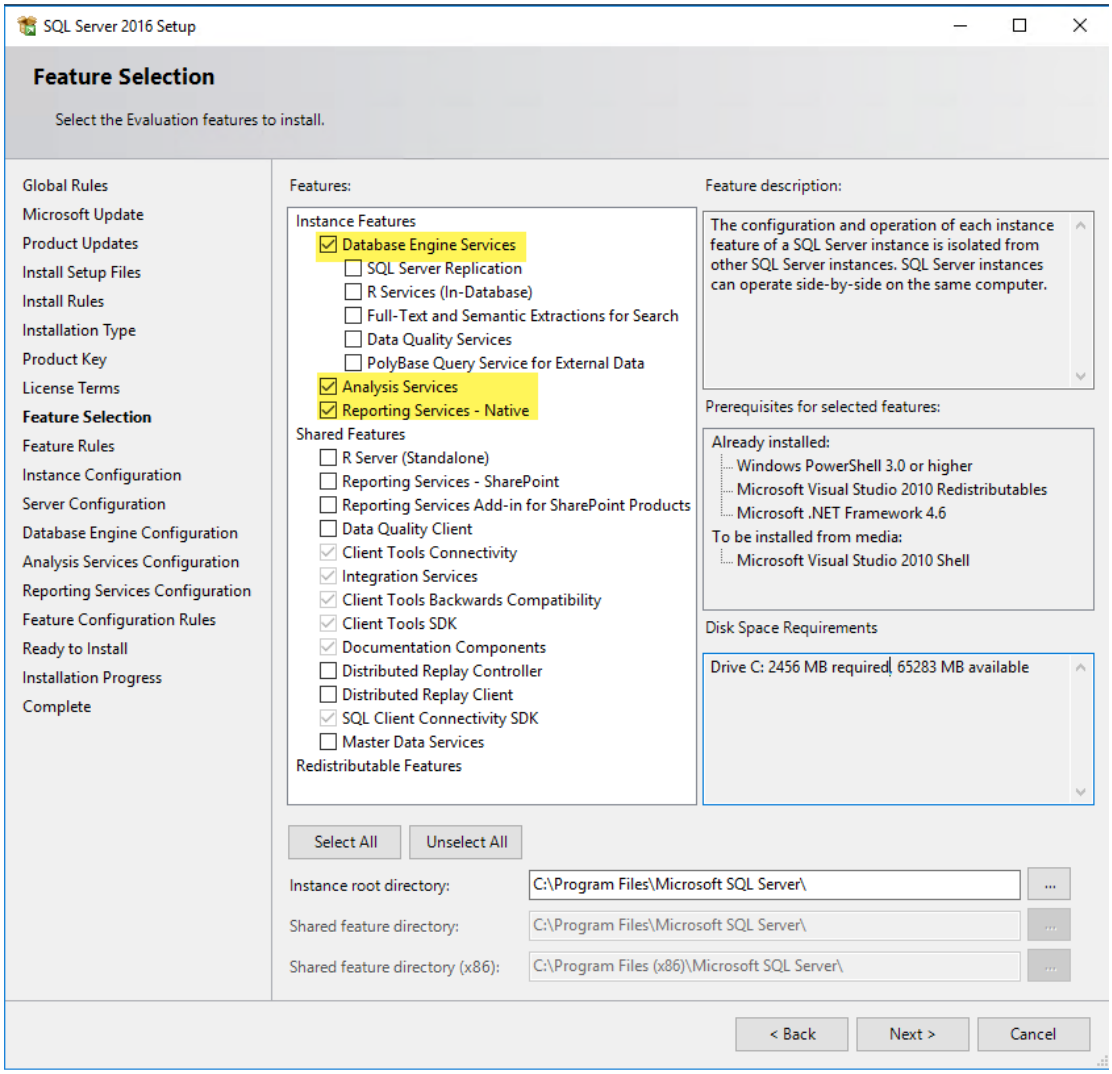
39. When the **Install Rules** dialog box opens, ignore the **Windows Firewall Warning**, then click **Next**.



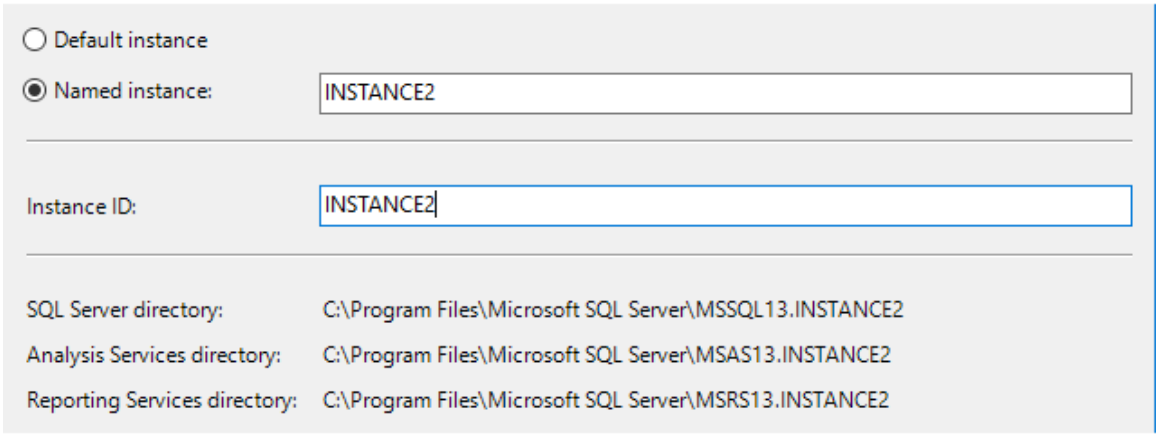
40. In the **Installation Type** dialog box, click **Next**.



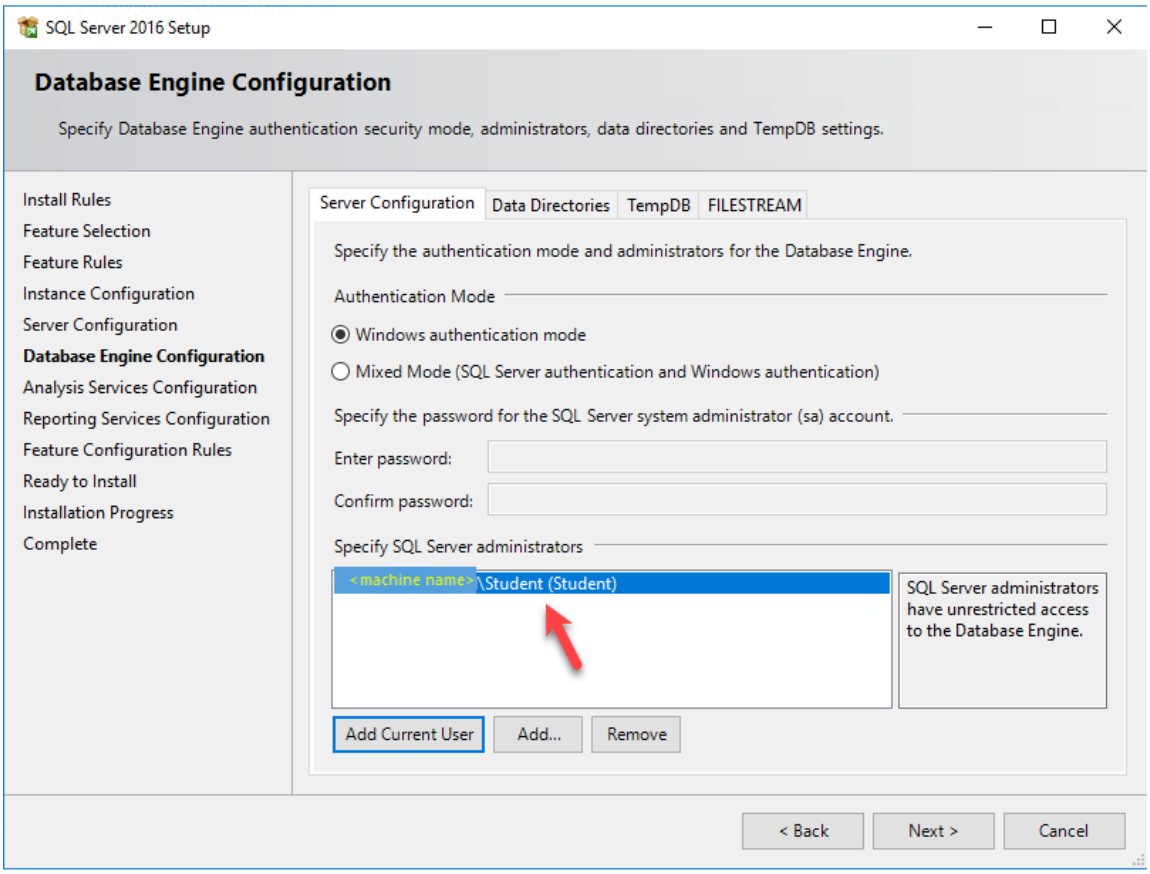
41. In the **Product Key** dialog box, click **Next**.
42. In the **License Terms** dialog box, place a check in the **I accept the license terms** check box and click **Next**.
43. In the **Feature Selection** dialog box, place a check in the following check boxes:
    - Database Engine Services
    - Analysis Services
    - Reporting Services – Native



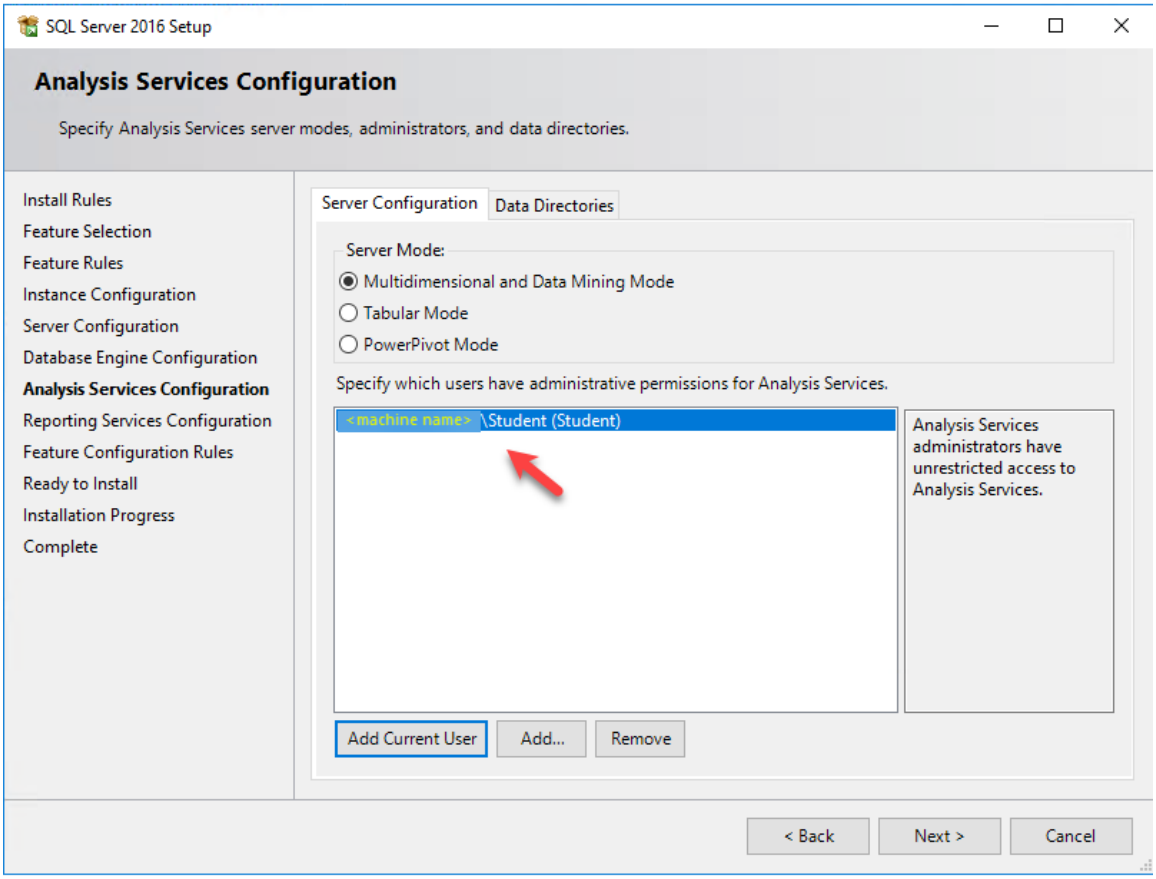
44. Click **Next**.
45. In the **Instance Configuration** dialog box, move to the **Named instance** text box and enter `INSTANCE2`.
46. In the **Instance ID** text box, enter `INSTANCE2` and then click **Next**.



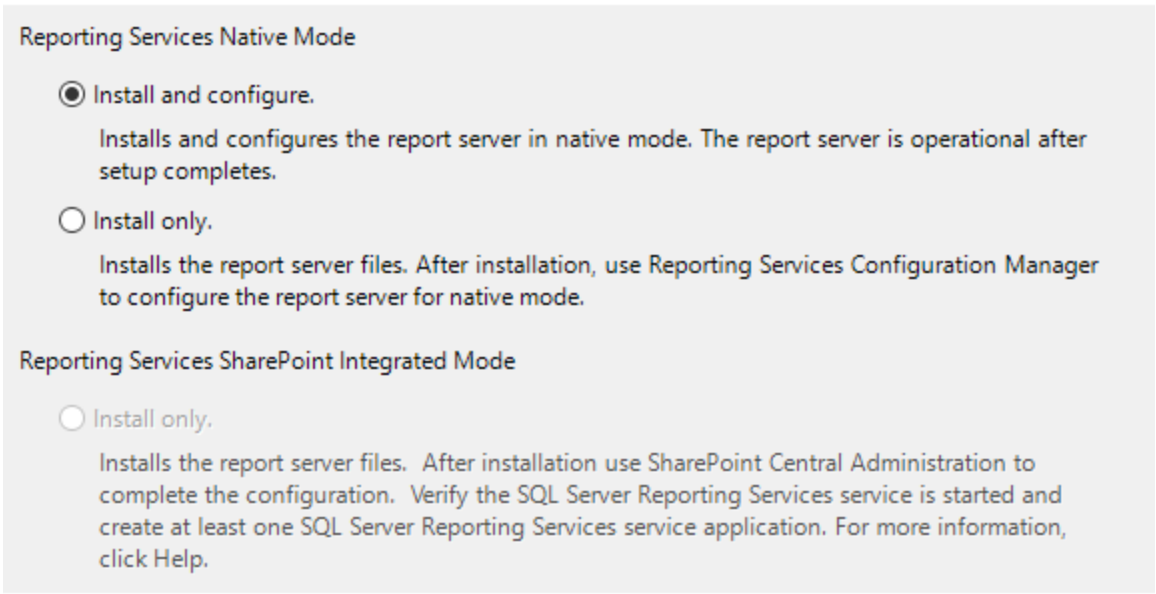
47. In the **Server Configuration** dialog box, click **Next**.
48. In the **Database Engine Configuration** dialog box, review the current settings.
49. Click **Add Current User**.
50. Notice you now see **<your machine name>\Student (Student)** listed in the **Specify SQL Server administrators** text box.



51. Click **Next**.
52. In the **Analysis Service Configuration** dialog box, review the current settings.
53. Click **Add Current User**.
54. Notice you now see **<your machine name>\Student (Student)** listed in the **Specify which users have administrative permissions for Analysis Services** text box.



55. Click **Next**.
56. In the **Reporting Services Configuration** dialog box, review the settings, then click **Next**.

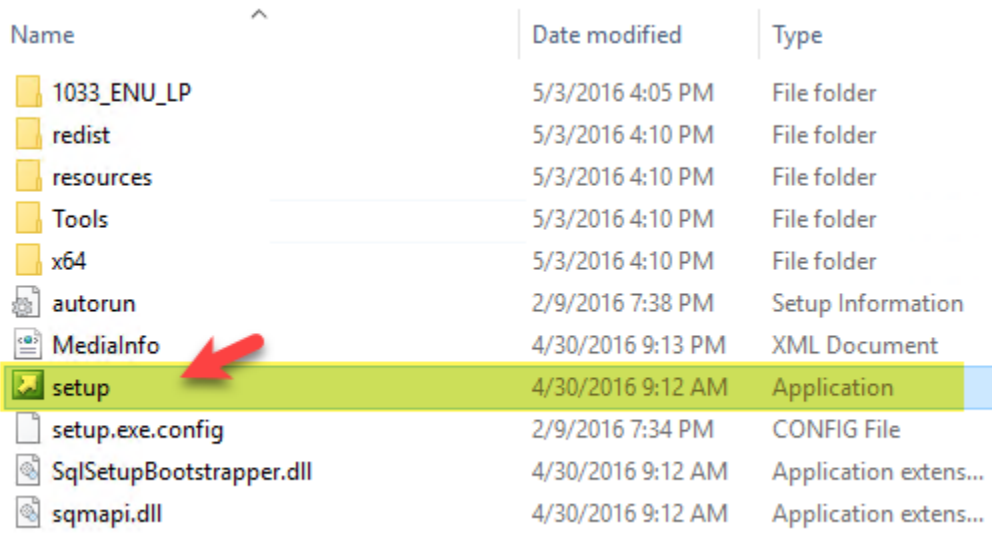


57. Click **Next**.
58. In the **Ready to Install** dialog box, click **Install**.
59. Upon **Success**, click **Close**.
60. Restart your machine.

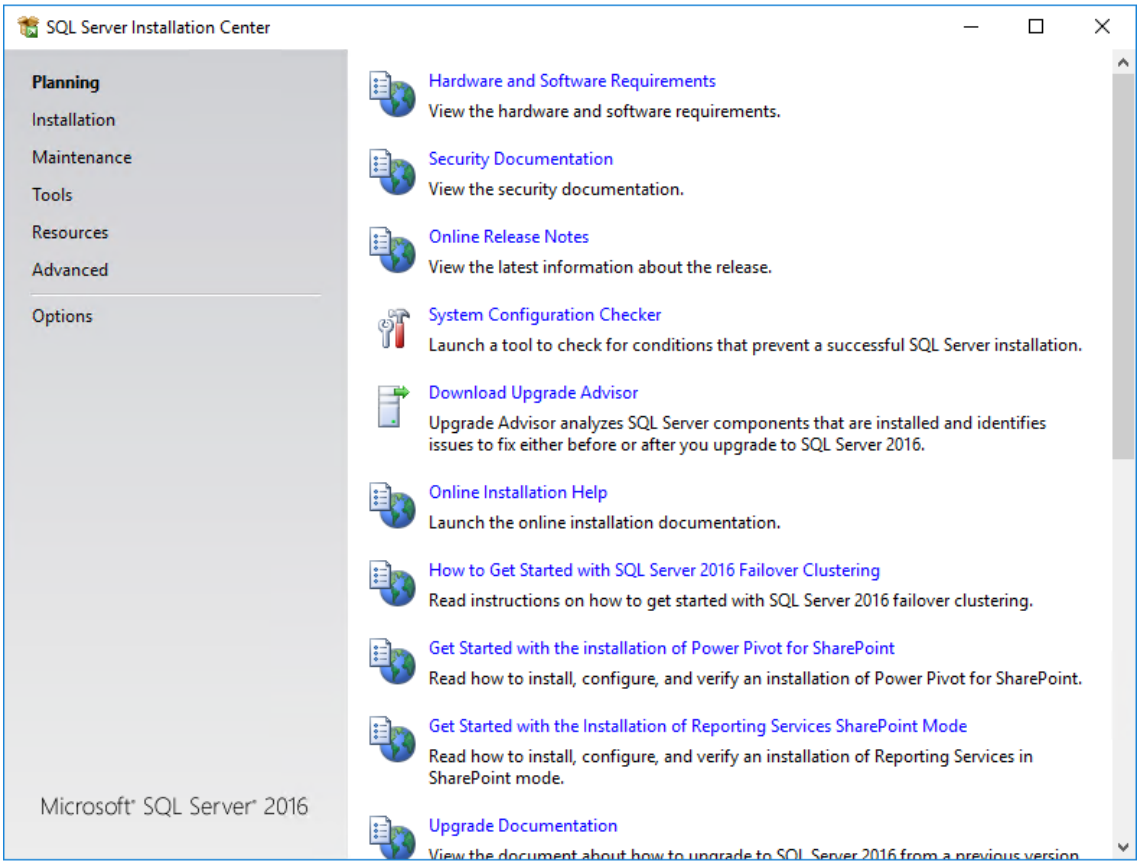
INSTALL SQL SERVER MANAGEMENT STUDIO

Task: Install SQL Server Management Studio

1. Open **File Explorer** and navigate to your downloaded **ISO** files.
2. Navigate to the folder containing the extracted files.
3. When the list of files appears, locate and double-click **Setup**.exe.

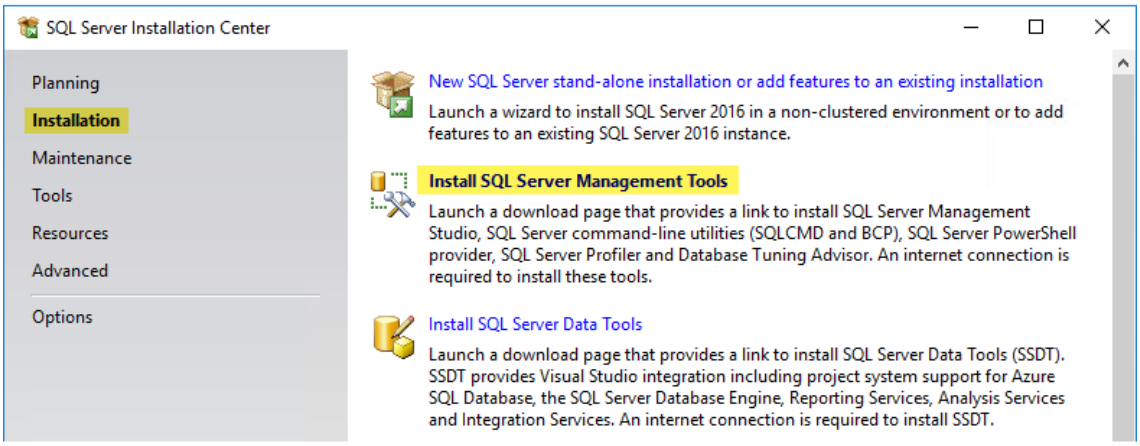


4. In the **User Account Control** dialog box, click **Yes**.
5. In the **SQL Server Installation Center** dialog box, review the options available.



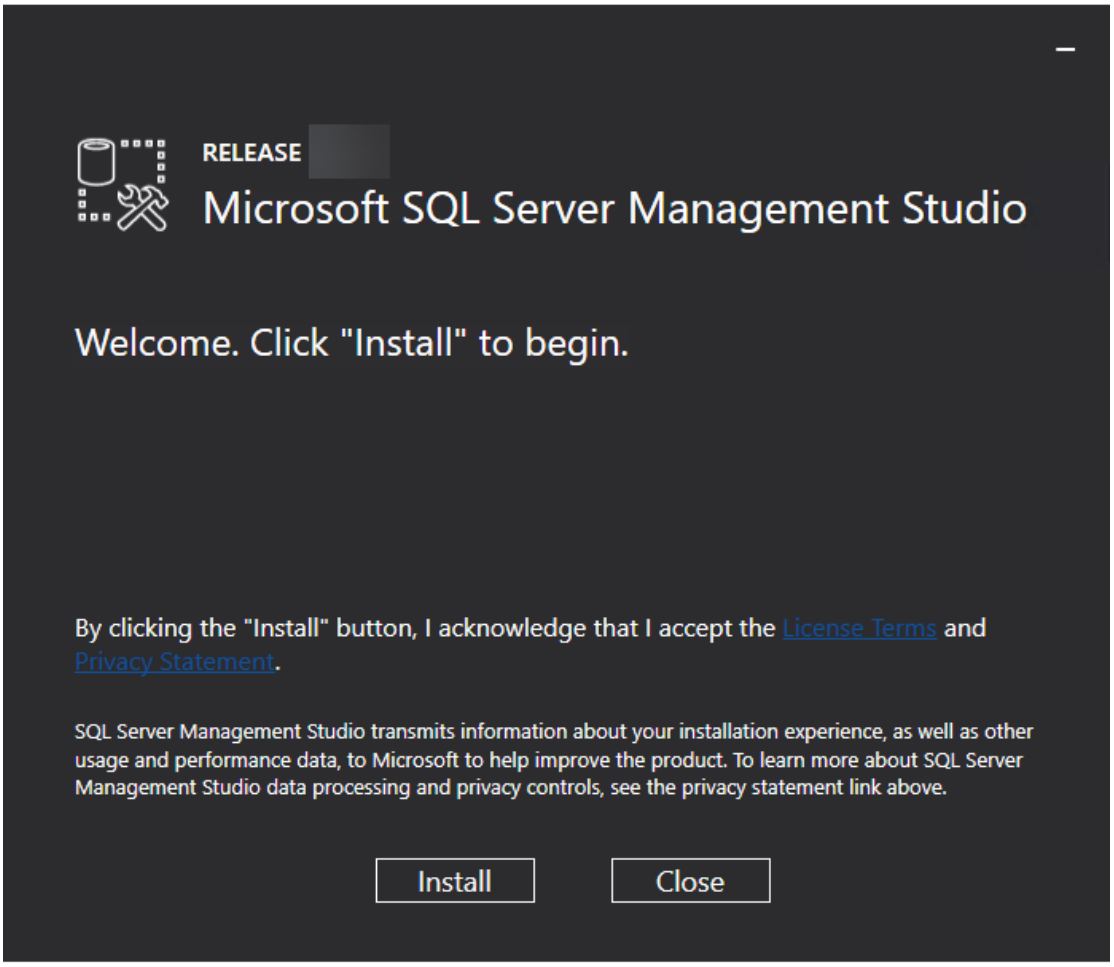
6. Navigate to the pane on the left and click **Installation**.
7. Click **Install SQL Server Management Tools** link.

If you receive the Internet Explorer settings dialog box, move the radio button to Don't use recommended settings and click OK.



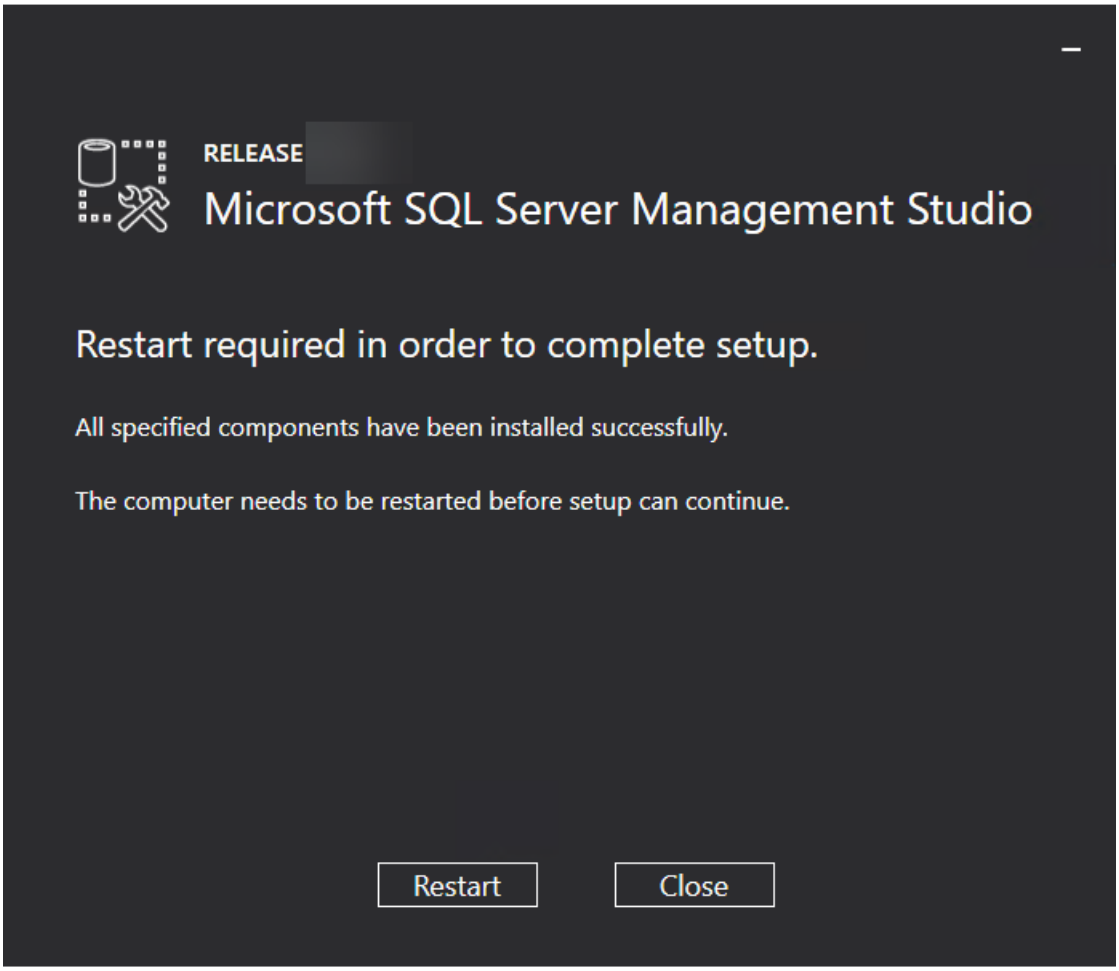
8. Click the **Download SQL Server Management Studio** (**Current release for production use**) link.
9. In the prompt below asking **Do you want to run or save SSMS-Setup-ENU.exe**, click **Save** (just in case).
10. Wait for the download to complete.
11. Once the download completes, move to the **SSMS-Setup-ENU.exe download has completed** prompt, and click **Run**.

12. In the **Welcome** dialog box, review the information, then click **Install**.

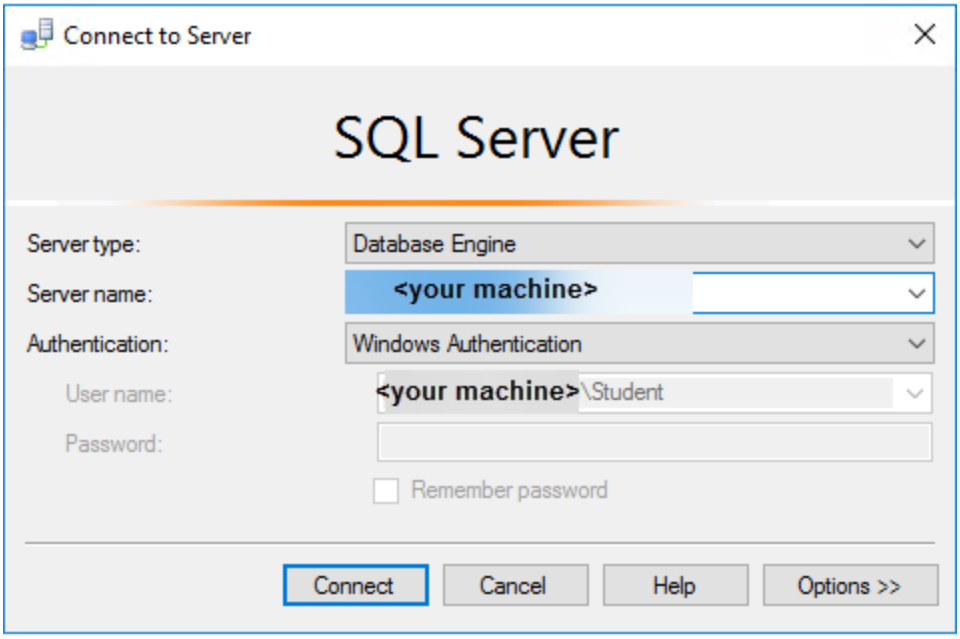


13. In the **User Account Control** dialog box, click **Yes**.

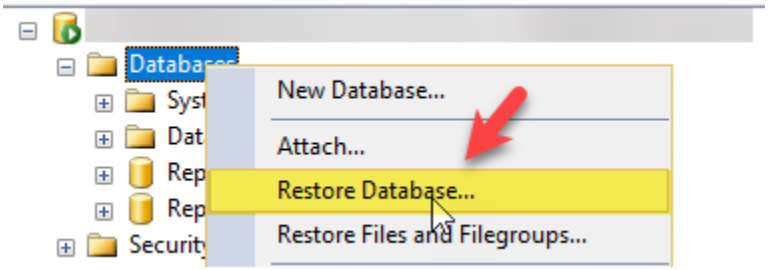
14. Once the installation completes, you will see a **Restart required in order to complete setup** dialog box, then click **Restart**.



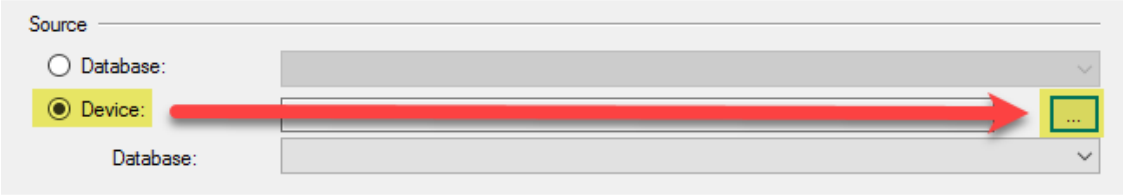
15. When the machine comes back up, log in as **Student** by entering `Passw0rd` (the 0 is numeric).
16. Press the **Windows** key, then enter `SQL Server`.
17. Right-click **Microsoft SQL Server Management Studio**, then click **Pin to taskbar**.
18. Press **Esc** to return to desktop view.
19. Right-click the **Microsoft SQL Server Management Studio** icon in the taskbar, right-click the new **SQL Server Management Studio** icon showing, and click **Run as administrator**.
20. In the **User Account Control** dialog box, click **Yes**.
21. In the **Connect to Server** dialog box, review the current settings, then click **Connect**.



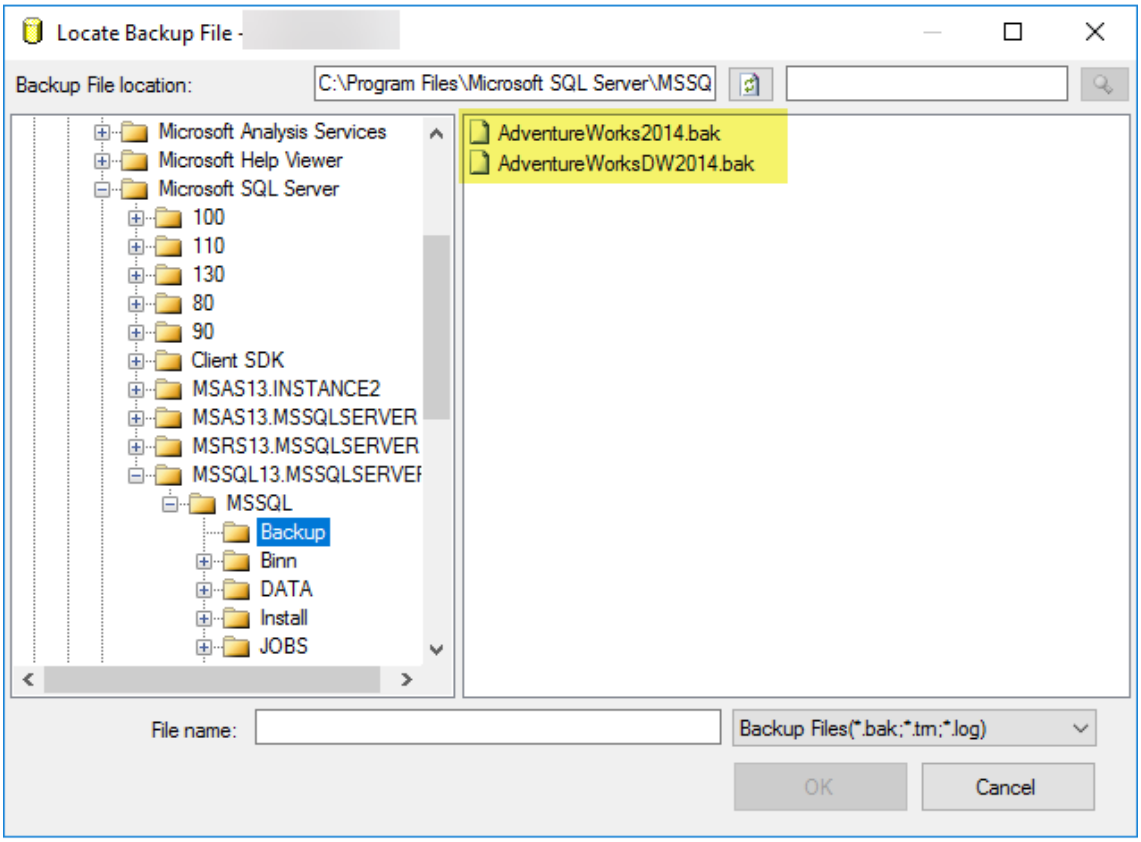
22. Minimize **Microsoft SQL Server Management Studio**.
23. Navigate to the downloaded database backup files (**DB Backups** folder).
24. Double-click to open **DB Backups** folder.
25. Open a new instance of **File Explorer**, navigate to **C:\Program Files\Microsoft SQL Server\MSSQL13.MSSQLSERVER\MSSQL\Backup**.
26. In the **you don't currently have permission to access this folder** dialog box, click **Continue**.
27. Back in **DB Backups** folder, double-click to open the **Adventure Works 2014 Full Database Backup** folder.
28. Click to select **AdventureWorks2014.bak**, then right-click the file and click **Copy**.
29. Paste the files in **C:\Program Files\Microsoft SQL Server\MSSQL13.MSSQLSERVER\MSSQL\Backup.**
30. Switch back to **DB Backups** folder, double-click to open the **Adventure Works DW 2014 Full Database Backup** folder.
31. Click to select **AdventureworksDW2014.bak**, then right-click the file and click **Copy**.
32. Paste the files in **C:\Program Files\Microsoft SQL Server\MSSQL13.MSSQLSERVER\MSSQL\Backup.**
33. Switch back to **Microsoft SQL Server Management Studio**, navigate to the **Object Explorer** pane, right-click **Databases** and click **Restore Database ….**



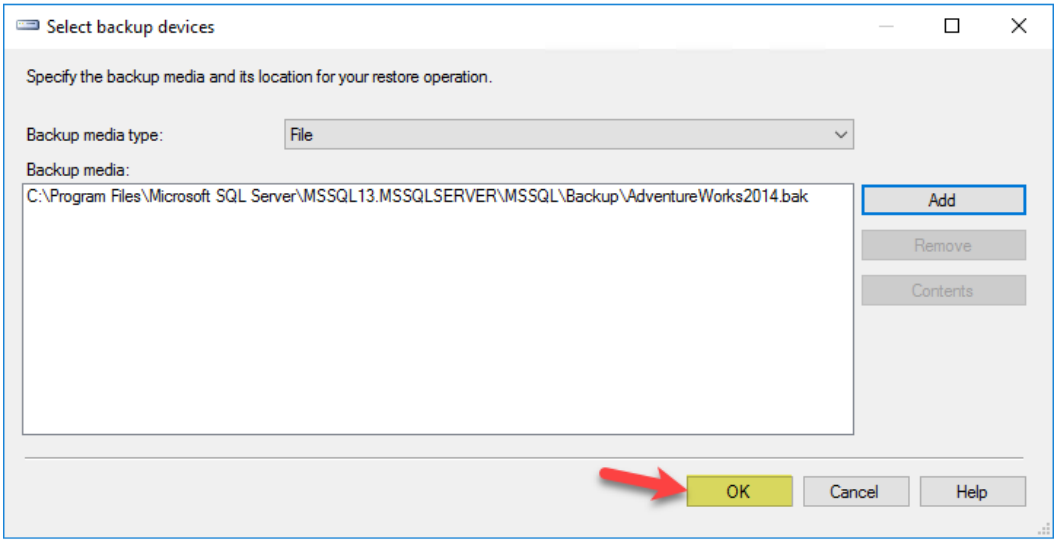
34. In the **Restore Database** dialog box, click the **Device** radio button and the corresponding ellipses.



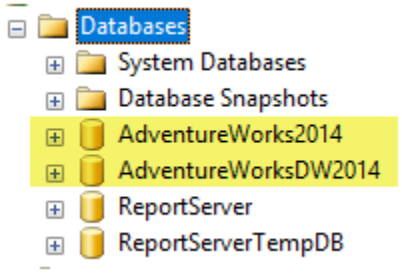
35. In the **Select backup devices** dialog box, click **Add**.
36. In the **Locate Backup File**… dialog box, notice both files are listed.



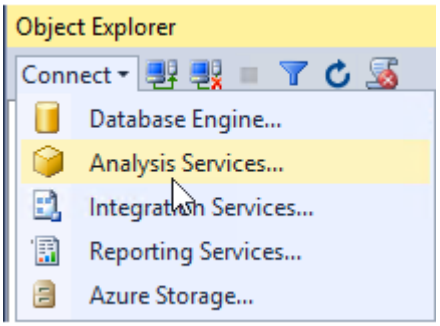
37. Double-click **AdventureWorks2014.bak** and in the **Select backup devices** dialog box, click **OK**.



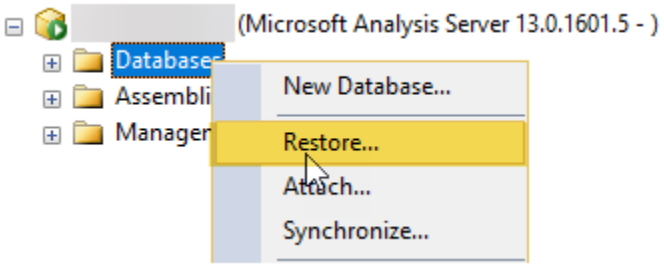
38. In the **Restore Database-AdventureWorks2014** dialog box, click **OK**.
39. In the dialog box stating **Database 'AdventureWorks2014' restored successfully**, click **OK**.
40. Move back to **Microsoft SQL Server Management Studio**, navigate to the **Object Explorer** pane, right-click **Databases** and click **Restore Database ….**
41. In the **Restore Database** dialog box, click the **Device** radio button and the corresponding ellipses.
42. In the **Select backup devices** dialog box, click **Add**.
43. In the **Locate Backup File**… dialog box, double-click **AdventureWorksDW2014**.
44. In the **Select backup devices** dialog box, click **OK**.
45. In the **Restore Database-AdventureWorksDW2014** dialog box, click **OK**.
46. In the dialog box stating **Database 'AdventureWorksDW2014' restored successfully**, click **OK**.
47. In the **Object Explorer** pane, expand **Databases** folder and notice you now see both databases listed.



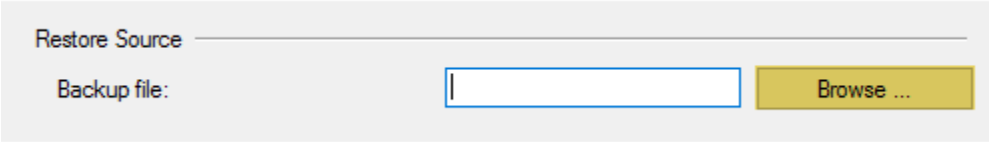
48. In a new instance of **File Explorer**, navigate to **C:\Program Files\Microsoft SQL Server\MSAS13.MSSQLSERVER\OLAP\Backup**.
49. In the **You don't currently have permission to access this folder** dialog box, click **Continue**.
50. Back in **C:\DB Backups**, double-click the **Adventure Works Multidimensional Model SQL 2014 Full Database Backups** folder.
51. Right-click **AdventureWorksDW2014Multidimensional-EE.abf** and click **Copy**.
52. Paste the file into **C:\Program Files\Microsoft SQL Server\MSAS13.MSSQLSERVER\OLAP\Backup**.
53. Switch back to **Microsoft SQL Server Management Studio** and in the **Object Explorer** pane, click **Connect**.
54. In the drop-down, **click Analysis Services.…**



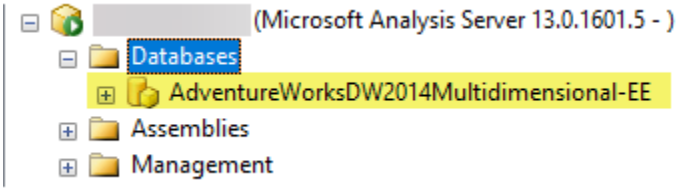
55. In the **Connect to Server** dialog box, click **Connect**.
56. In the **Object Explorer** pane, locate the **Databases** folder under **<your machine name> (Microsoft Analysis Services)**, right-click and click **Restore…**.



57. In the **Restore Database** dialog box, move to the **Restore Source** section and click the corresponding **Browse…**.



58. In the **Locate Database Files** dialog box, expand the first folder listed, double-click **AdventureWorksDW2014Multidimensional-EE.abf** and click **OK**.
59. Back in the **Restore Database** dialog box, click **OK**.
60. Upon completion (this may take some time), right-click **Databases** under **<your machine name> (Microsoft Analysis Services)**, and click **Refresh**.
61. Expand **Databases** under **<your machine name> (Microsoft Analysis Services)**, expand **AdventureWorksDW2014Multidimensional-EE.abf** and expand **Cubes**.
62. Notice **Adventure Works** is listed.



63. Minimize **SSMS**.

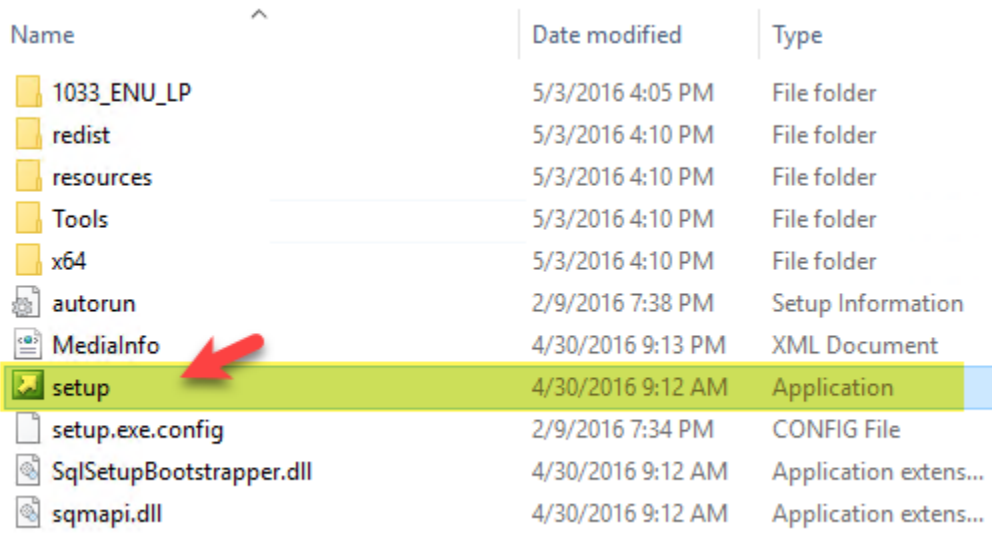
INSTALL SQL SERVER DATA TOOLS

Task: Install SQL Server Data Tools

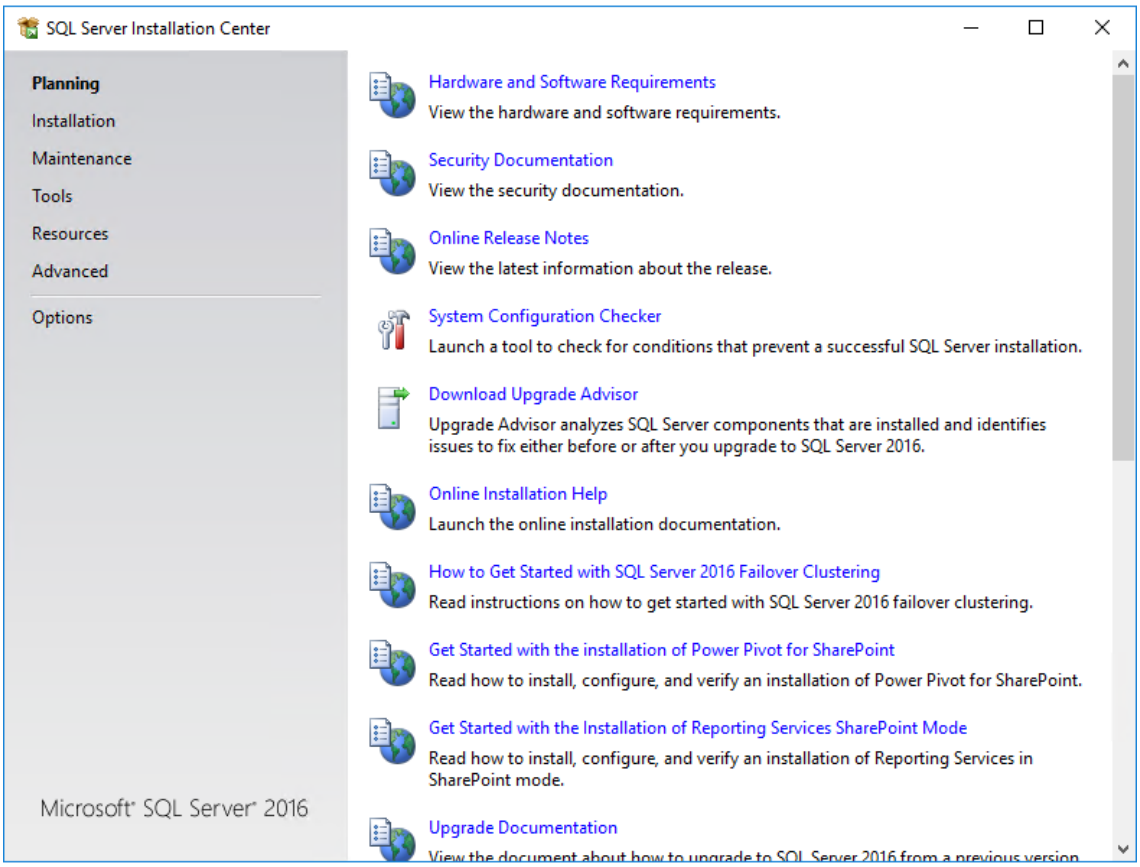
There is no PowerShell script equivalent to this task.

1. Open **File Explorer** and navigate to your downloaded **ISO** files.

2. Navigate to the folder containing the extracted files.
3. When the list of files appears, locate and double-click **Setup**.exe.

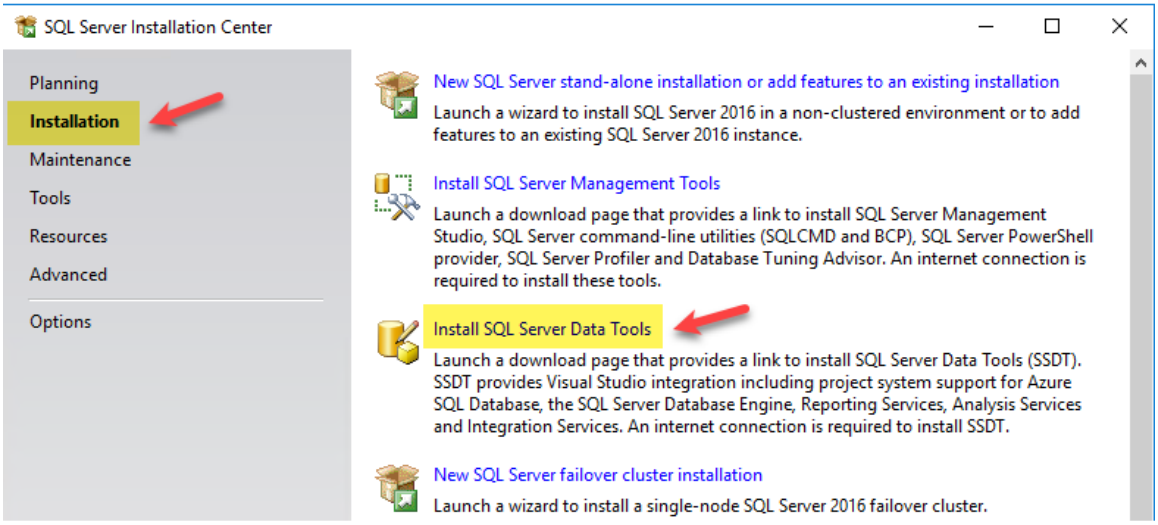


4. In the **User Account Control** dialog box, click **Yes**.
5. In the **SQL Server Installation Center** dialog box, review the options available.



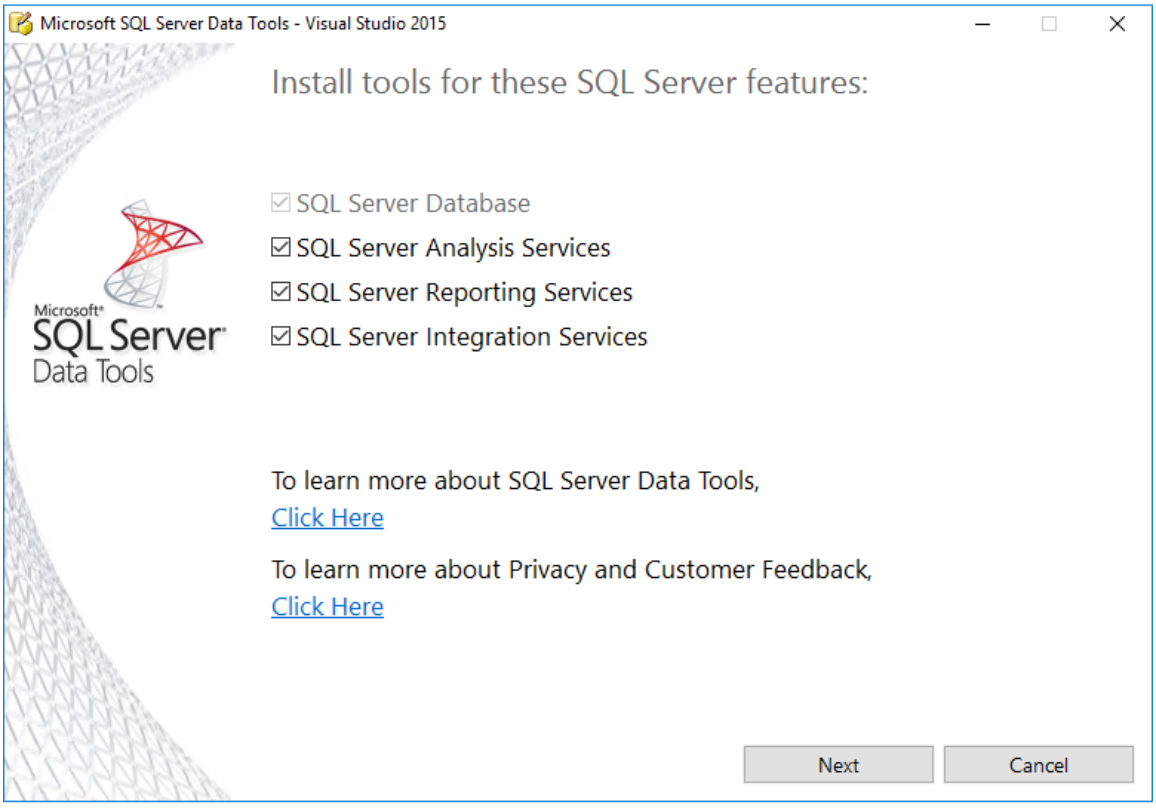
6. Navigate to the pane on the left and click **Installation**.
7. Click **Install SQL Server Data Tools** link.

If you receive the Internet Explorer settings dialog box, move the radio button to Don't use recommended settings and click OK.

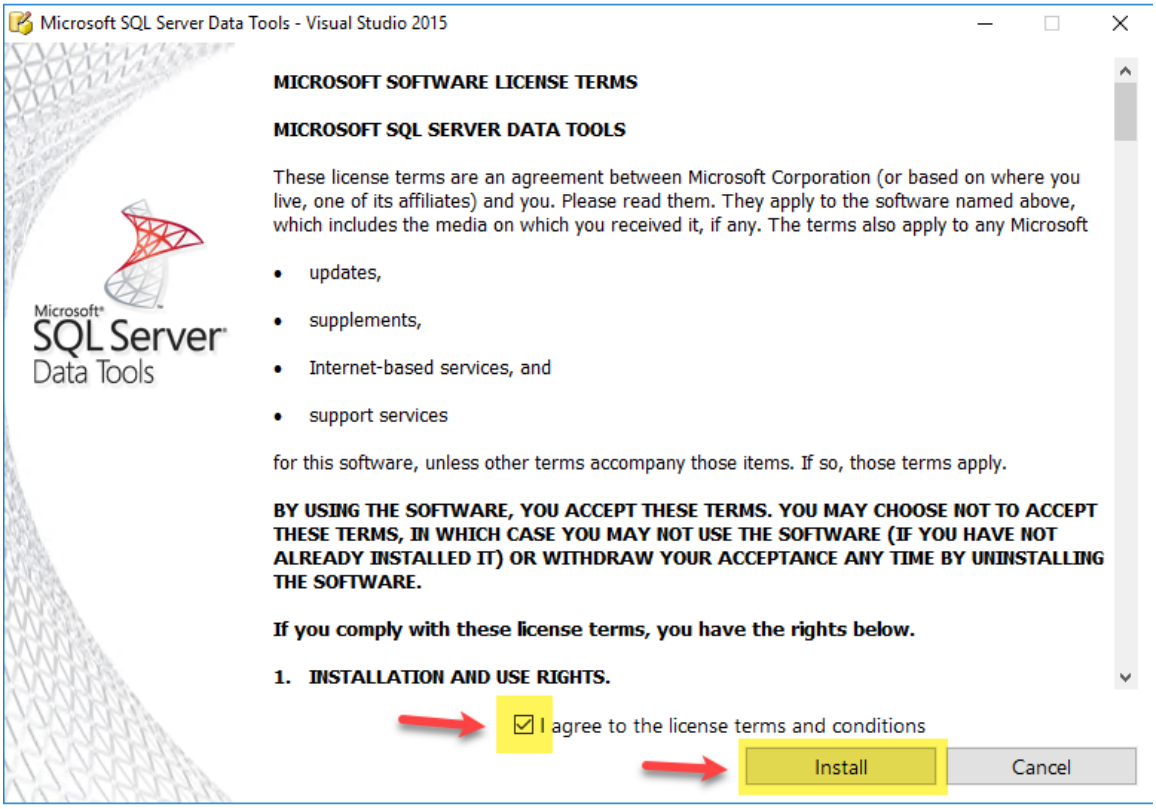


8. Click the **Download SQL Server Data Tools** (**Current release for production use**) link.
9. Click **Download SQL Server Data Tools**.
10. In the prompt below asking **Do you want to run or save SSDTSetup.exe**, click **Save** (just in case).
11. Wait for the download to complete.
12. Once the download completes, move to the **SSDTSetup.exe download has completed** prompt, and click **Run**.

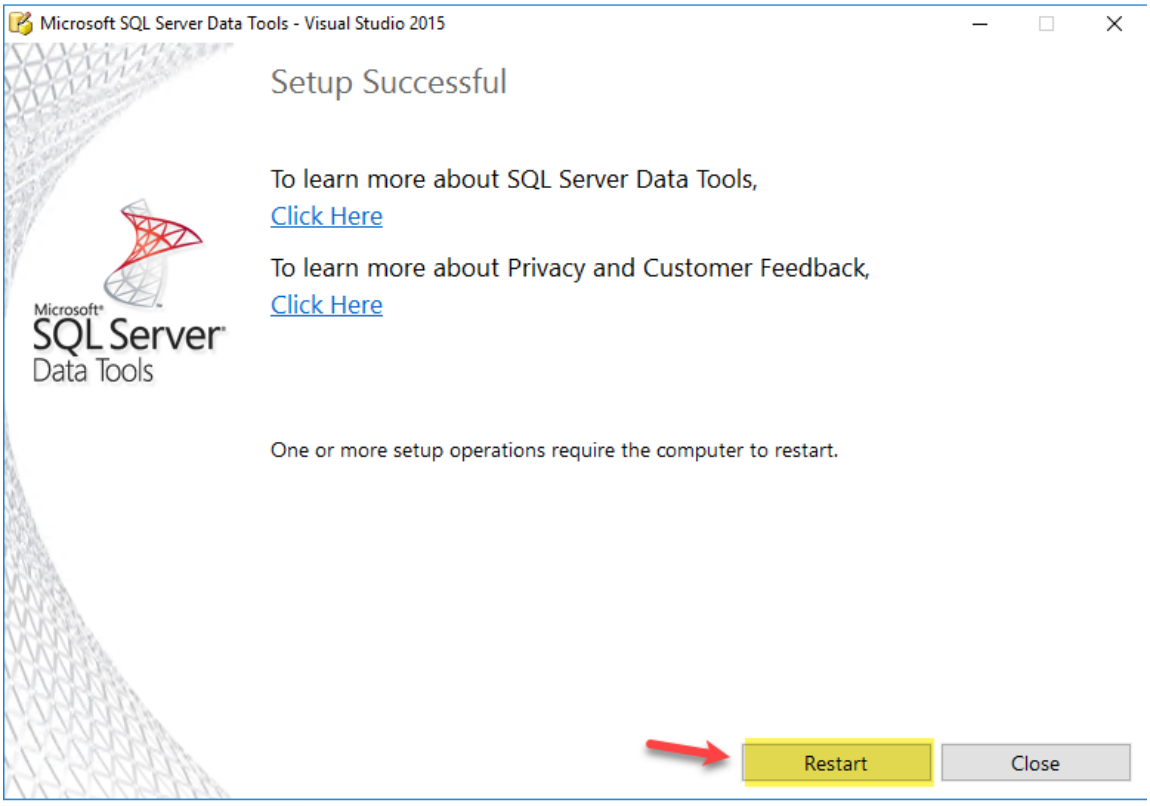
13. In the **Install tools for these SQL Server features** dialog box, review the information and click **Next**.



14. In the **Microsoft Software License Terms** dialog box, place a check in the **I agree to the license terms and conditions** check box.
15. Click **Install**.



16. In the **User Account Control** dialog box, click **Yes**.
17. In the **Setup Successful** dialog box, click **Restart**.



18. At the logon screen, log in as **Student** by entering `Passw0rd` (the 0 is numeric).
19. Press the **Windows** key, then enter `SQL Server Data`.
20. Right-click **SQL Server Data Tools 2015**, then click **Pin to taskbar**.
21. Press **Esc** to return to desktop view.

Lab Files

Switch to your host machine, navigate to the downloaded/cloned repository files, then copy the **Lab Files** folder and paste it into **C:** drive on the local machine.