



DAT219x

Provisioning Databases

Lab 02 | Installing SQL Server

Estimated time to complete this lab is 120 minutes

Overview

In this lab, you are preparing to install SQL Server 2017 for the IT department in Adventure Works Cycles. You need to perform installations on Windows and Azure SQL Database.

The labs in this course are accumulative. You cannot complete the following labs if this lab has not been successfully completed.

What You'll Need

To complete this lab, you will need the following:

- High-speed and reliable internet connectivity (for remote connections to the VM)
- A second monitor is recommended (for the Remote Desktop connection)
- A Microsoft account (such as one used for outlook.com, Hotmail, or other Microsoft services)
- A Microsoft Azure subscription
- To have completed the previous labs in this course.

Exercise 1: Install SQL Server on Windows

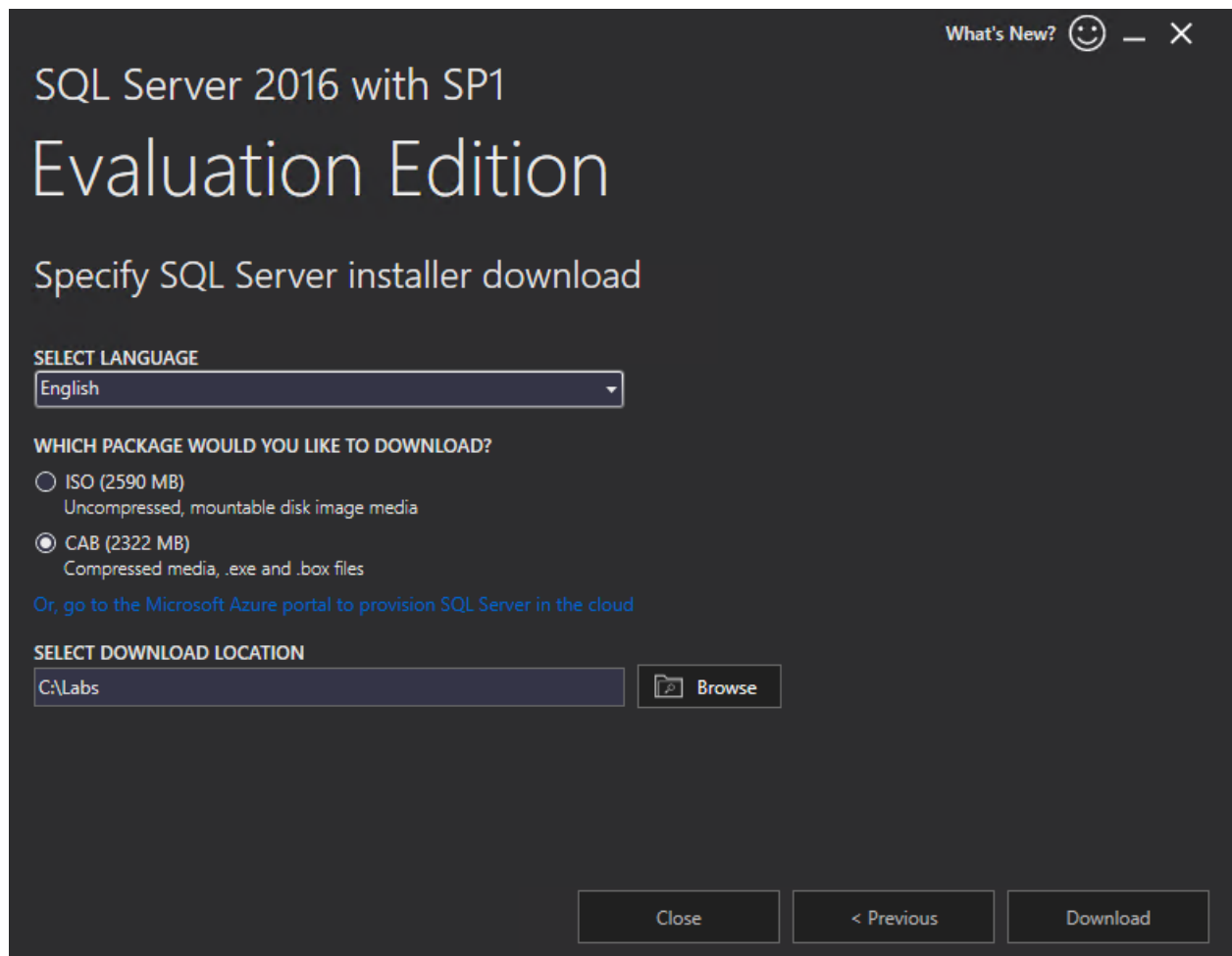
In this exercise, you will install the SQL Server database engine and client tools to access SQL Server.

The Azure VM should be stopped when you have completed a lab so that your subscription is not charged (for free trial subscriptions, this will ensure you will have sufficient credits left to complete the labs over the duration of the course).

View Hardware and Software Requirements

In this task, you will view the hardware and software requirements of SQL Server.

1. In the C:\Labs folder, run SQLServer2016-SSEI-Eval.exe. In the **Security Warning** dialog box, click **Run**.
2. Click **Download Media**.
3. Select **CAB** and, in **SELECT DOWNLOAD LOCATION**, type **C:\Labs**.



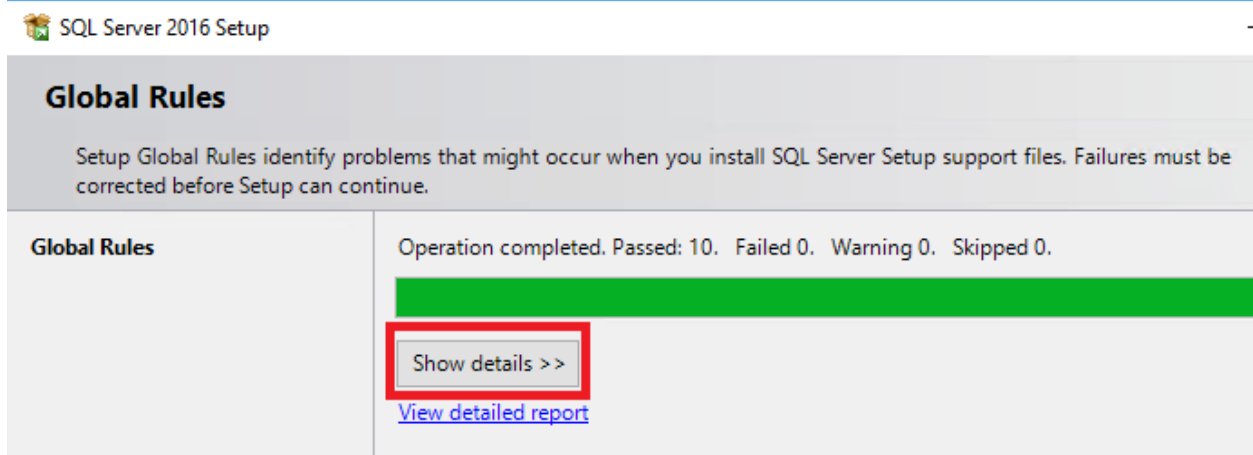
4. Click **Download**.
5. When the download had completed, click **Open folder**.
6. Double-click **SQLServer2016SP1-FullSlipstream-x64-ENU**.

7. In the **Choose Directory For Extracted Files** dialog box, click **Ok**.
8. In the **SQL Server Installation Center**, on the **Planning** page, click **Hardware and Software Requirements**.
9. In Internet Explorer, note that the documentation provides detailed information about hardware and software requirements for SQL Server 2016. Close Internet Explorer.

Run the System Configuration Checker

In this task, you will check that the system is suitable to have SQL Server installed.

1. In the SQL Server Installation Center, on the **Tools** page, click **System Configuration Checker**, and wait for the tool to start.
2. When the tool has run, review the checks that were performed. (If the checks are not visible, click **Show details**.)



Lab Check – You will need these answers for the module quiz – write them down!

Lab 01 ► Exploring the Lab Solution

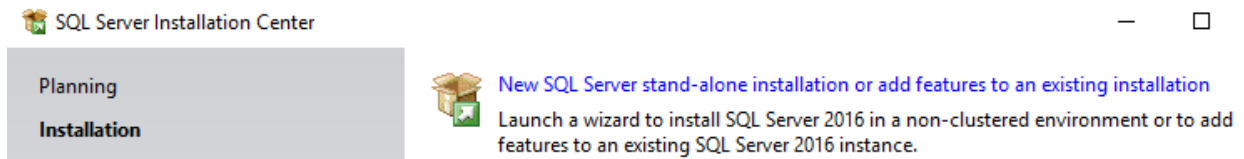
What is the status of **Setup Administrator**? _____

3. Click **OK** to close SQL Server 2016 Setup.
4. Keep the SQL Server Installation Center window open. You will use it again in the next task.

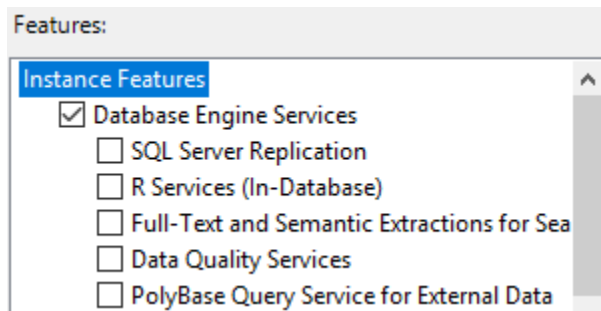
Install the SQL Server Database Engine on Windows

In this task, you will install the SQL Server database engine in a Windows virtual machine.

1. In the **SQL Server Installation Center** window, on the **Installation** page, click **New SQL Server stand-alone installation or add features to an existing installation** and wait for SQL Server setup to start.



2. On the **Product Key** page, in the **Specify a free edition** box, select **Evaluation**, and then click **Next**.
3. On the **License Terms** page, note the Microsoft Software License Terms, select **I accept the license terms**, and then click **Next**.
4. On the **Microsoft Update** page ensure that **Use Microsoft Update to check for updates** is not selected and click **Next**. Note that this is to save time in the lab and, in a normal installation, you should select the checkbox.
5. On the **Install Rules** page note that there is a warning that you will need to configure your firewall and click **Next**.
6. On the **Feature Selection** page, under **Instance Features**, select **Database Engine Services**, and then click **Next**.



7. On the Instance Configuration page, ensure that **Default instance** is selected and click **Next**.
8. On the **Server Configuration** page click **Next**.
9. On the **Database Engine Configuration** page, on the **Server Configuration** tab, in the **Authentication Mode** section, select **Mixed Mode (SQL Server authentication and Windows authentication)**. Then enter and confirm the password, **Pa\$\$w0rd**.
10. Click **Add Current User**; this will add the user that you set up for the virtual machine.

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

DemoServer\Student (Student)	SQL Server administrators have unrestricted access to the Database Engine.

Add Current User | Add... | Remove

11. On the **FILESTREAM** tab, ensure that **Enable FILESTREAM for Transact-SQL access** is not selected, and then click **Next**.
12. On the **Ready to Install** page, review the summary, then click **Install** and wait for the installation to complete.
13. On the **Complete** page, click **Close**.
14. Close the **SQL Server Installation Center** window and any other open windows.

Install SQL Server Operations Studio

In this task, you will install SQL Server Operations Studio on your client computer. The following steps should be performed on your local client computer, not in Azure.

1. Start Microsoft Edge browser.
2. In the URL bar, type <https://aka.ms/edx-dat219x-sql1> and press Enter.

3. Click **SQL Operations Studio (preview) installer for Windows**

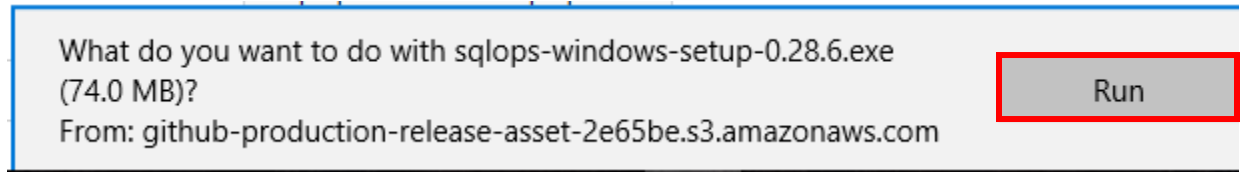
Get SQL Operations Studio (preview) for Windows

This release of SQL Operations Studio (preview) includes a standard Windows installer experience, and a .zip:

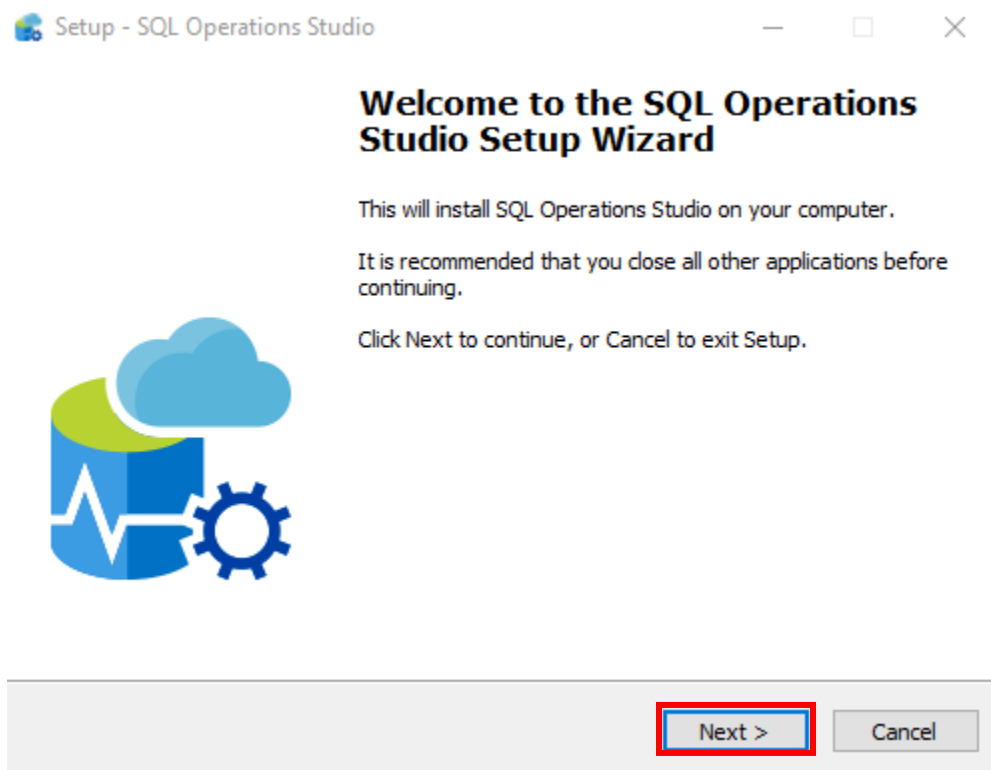
Installer

1. Download and run the [SQL Operations Studio \(preview\) installer for Windows](#).
2. Start the SQL Operations Studio (preview) app.

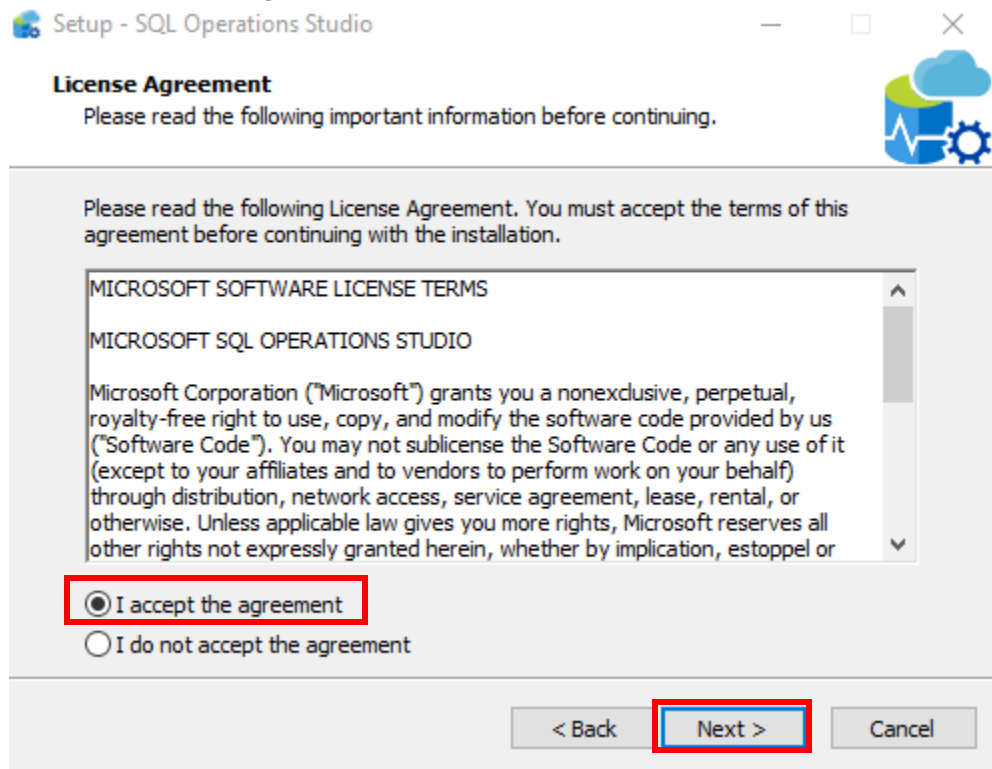
4. Click **Run**.



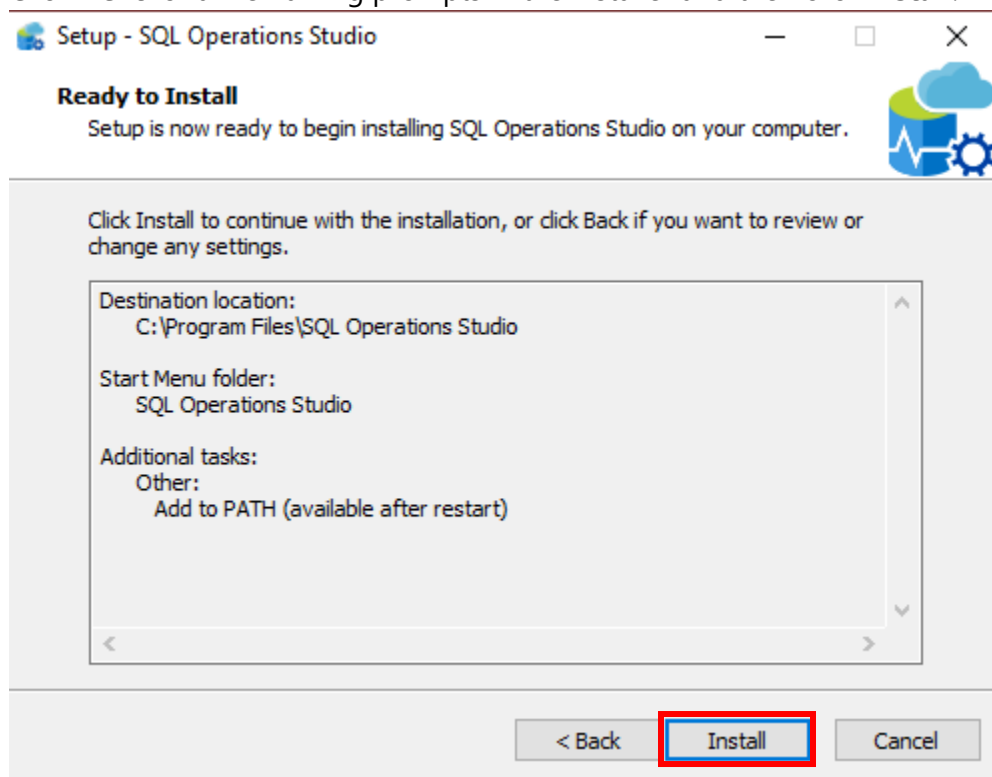
5. When asked whether you want to allow this app to make changes to your device, click **Yes**.
6. Click **Next**.



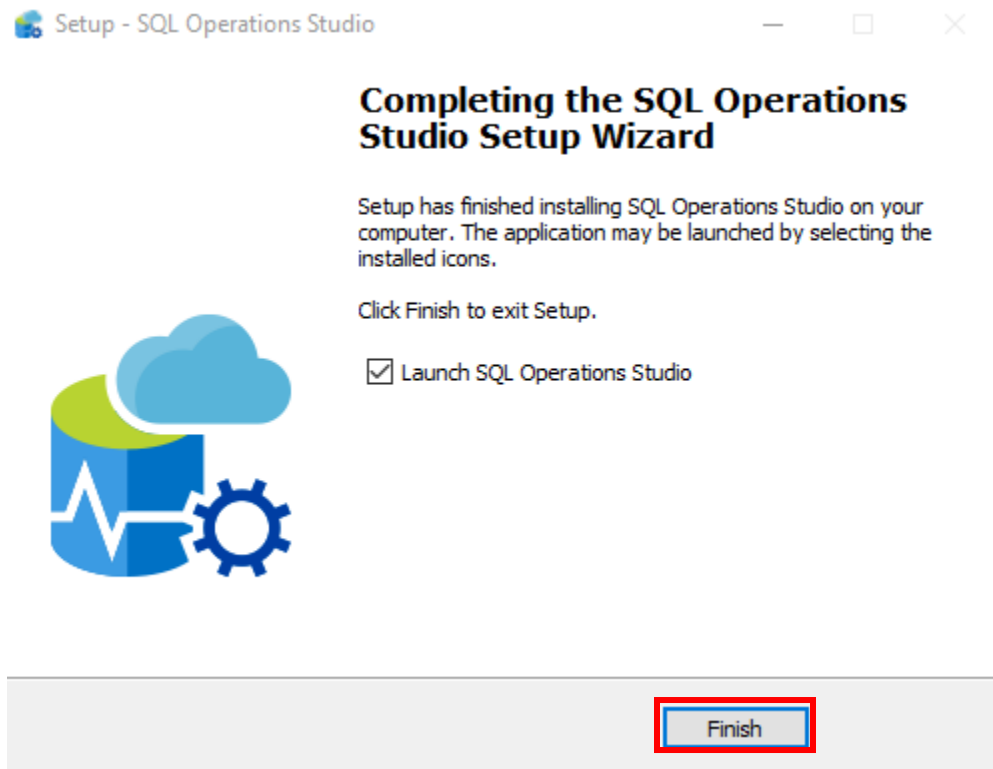
7. Click **I accept the agreement** and click **Next**.



8. Click **Next** for all remaining prompts in the installer and then click **Install**.



9. When the installation is complete, click Finish.



10. Right-click the server and click **New Query**.
11. Type `SELECT @@VERSION` and click **Run**.
12. Note down the first line of the response.

Lab Check – You will need these answers for the module quiz – write them down!

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Note down the first four words of the response _____

Exercise 2: Provisioning an Azure SQL Database

In this exercise, you will create an Azure SQL Database.

Azure SQL databases cannot be stopped, but use minimal credit when not in use because there is only the cost of the storage.

Install an Azure SQL Database

In this task, you will sign in to the Azure Portal, and then provision an Azure SQL Database.

1. Open Internet Explorer, navigate to <https://portal.azure.com> and sign in to the **Azure Portal** by using your subscription.
2. In the left pane, select **SQL Databases**.
3. Click **Add**.



4. In the **Database name** box, type **LabAdventureWorks**.
5. In the **Resource Group** box, select **Create new** and type **SQLLab**.
6. In **Select source**, select **Sample (AdventureWorksLT)**.
7. Click **Server** and click **Create a new server**.
8. In **Server name** enter a globally unique name (e.g. your initials and today's date). Note down your server name.
9. In **Server admin login**, type **Student**.
10. In **Password** and **Confirm password** type **Pa\$\$w0rd**.
11. In **Location** select a location that is close to you and click **Select**.
12. Ensure that your new server is selected.
13. Click **Pricing tier**, select **Basic** and click **Apply**.

Lab Check – You will need these answers for the module quiz – write them down!

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What steps in the Progress page mention extracting the schema? _____

14. Select **Pin to Dashboard** and click **Create**.

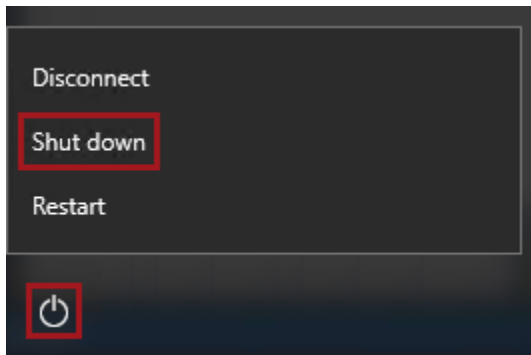
You have now completed the lab.

*If you are not immediately continuing with the next lab, you should complete the **Finishing Up** exercise to shut down and stop the VM.*

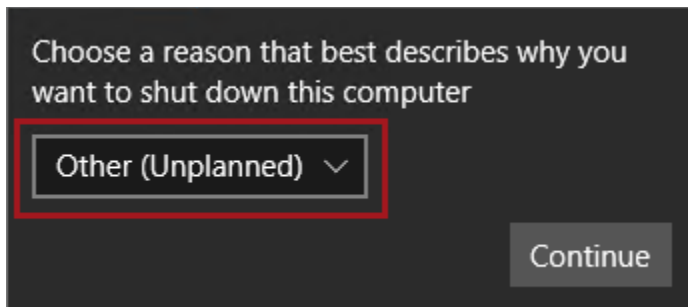
Finishing Up

In this exercise, you will shut down and stop the VMs.

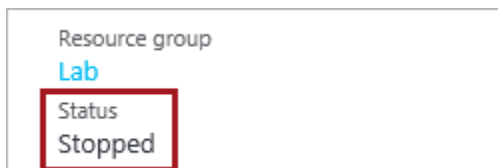
1. In the Windows virtual machine, close all open applications.
2. Press the **Windows** key, and then in the **Start** page, located at the bottom-left, click the **Power** button, and then select **Shut Down**.



3. When prompted to choose a reason, to accept the default.



4. Click **Continue**.
5. In the **Azure Portal** Web browser page, wait until the status of the VM updates to **Stopped**.



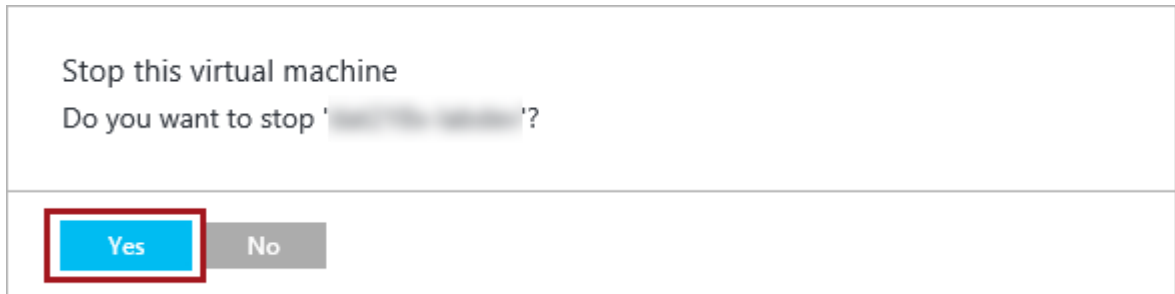
In this state, however, the VM is still billable.

6. Optionally, to deallocate both the Windows and Linux VMs, for both VMs, click **Stop**.

Deallocation will take some minutes to complete, and also extends the time required to restart the VM. Consider deallocating the VM if you want to reduce costs, or if you choose to complete the next lab after an extended period.

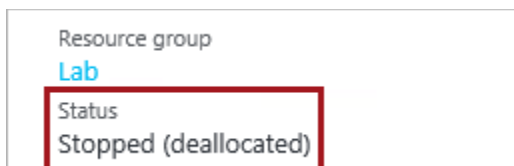


7. When prompted to stop the VM, click **Yes**.



The deallocation can take several minutes to complete.

8. Verify that the VM status updates to **Stopped (Deallocated)**.



In this state, the VM is now not billable—except for a relatively smaller storage cost.

Note that a deallocated VM will likely acquire a different IP address the next time it is started.

9. Sign out of the **Azure Portal**.