Getting Started with Microsoft SQL Server

This is a basic starting guide for people new to using Microsoft SQL Server on their home computer. It walks a new user through simple procedures for (1) installing Microsoft SQL Server, (2) installing SQL Server Management Studio (SSMS), (3) connecting to your server, (4) creating a database, and (5) importing a dataset into a database.

Users must be comfortable operating a Windows computer, have internet access, and possess administrator privileges for installing software on their computer. Previous experience installing software on a Windows computer is useful, but not required, as this guide will provide step-by-step instructions through installation and setup of all software.

Installing SQL Server

The first step is to install a server on your computer. Microsoft offers several free options for basic home use. The Express version will be adequate for most home users. To install:

1. Open a browser and go to https://www.microsoft.com/en-us/sql-server/sql-server-downloads
2. Scroll down to the Express version and click **Download now**.
3. Wait for the download to finish, then open it.
4. Click **Yes** if a window appears, asking if you would like to allow this app to make changes to your device.
5. Choose the **Basic** installation type on the next screen.
6. Read the Microsoft SQL Server License Terms and click **Accept**.
7. Continue using the default install location by clicking **Install**.
8. Close out of the installation software when a window appears notifying you that it has completed successfully by clicking **Close**. If a window pops up asking if you are sure you want to exit, select **Yes**. You now have the server installed on your computer.

Installing SQL Server Management Studio

You must then install the SSMS software that will allow you to work in the database you just installed. Microsoft also offers this for free. To install:

1. Open a browser and go to https://learn.microsoft.com/en-us/sql/ssms/download-sql-server-management-studio-ssms?view=sql-server-ver15.

2. Scroll down to where it says Download SSMS and click the link under it to download the most recent version.
3. Wait for the download to finish, then open it.
4. Continue using the default install location by clicking **Install**.
5. Click **Yes** if a window appears, asking if you would like to allow this app to make changes to your device.
6. Close out of the installation software when a window appears notifying you that setup has been completed by clicking **Close**. You now have the Management Studio software installed on your computer.

Connecting SQL Server Management Studio to Server

The next step is to open SSMS and connect to the server you previously downloaded and installed. Open SSMS using the Windows Start menu at the bottom left of your desktop. You can manually scroll down to the **Microsoft SQL Server Tools 19** folder and select **SQL Server Management Studio 19**. See Figure 1 below if you are having trouble finding the application in the Start menu.
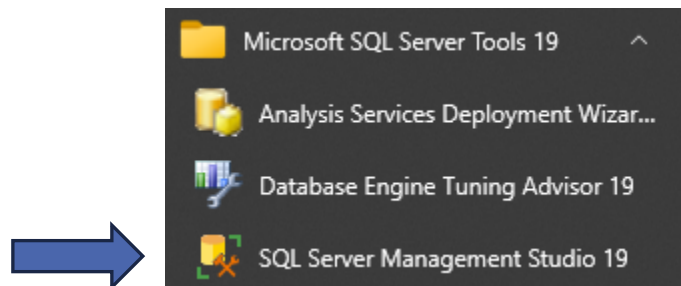

Figure 1. Location of SQL Server Management Studio 19 in Windows Start menu.

Note: SSMS 19 is the most recent version at the time these instructions were written. The version number may be different for you.

Alternatively, type **SQL** into the search box next to the Start menu. One of the first search results should be SQL Server Management Studio 19. For ease of future access, you can drag the SQL Server Management Studio 19 icon to your desktop to create a shortcut to SSMS.

Once you have found and launched SSMS, the program will ask you to connect to a server. To find and connect to your server:

1. Click the Server Name drop-down and select **<Browse for more…>**.
2. Click the **+** sign to the left of Database Engine.

3. Select the server name that appears there. There should only be one option to choose. If you do not see any servers listed, refer back to the steps for Installing SQL Server. With the server's name highlighted, click **OK**.
4. Check that your server name is selected on the Server Name drop-down. Click the **Options** button and ensure that **Trust Server Certificate** is checked.
5. Click the **Connect** button. You should now see your server displayed in the Object Explorer on the left side of the screen like in Figure 2 below. Your server is now ready for use in SSMS.
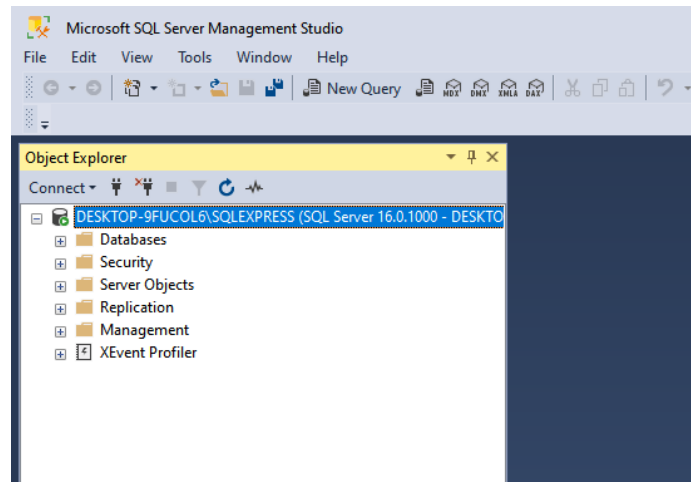

Figure 2. A server successfully set up in SSMS.

Create a Database

Now that you have SSMS connected to your server, you can create a database on that server. If you have some knowledge of SQL (Structured Query Language), you can write a query to create a database. However, this is not necessary in SSMS. To create a database:

1. In the Object Explorer, right-click the **Databases** folder underneath your server name and select **New Database**.
2. Enter the name you would like for your database into the **Database Name** field on the next page. Click **OK**.
3. Check that your named database is showing under the Databases folder in the Object Explorer like in Figure 3 below. If it does not immediately appear, right-click on the Databases folder and click **Refresh**. Once you can see it, your database is ready for use in SSMS.
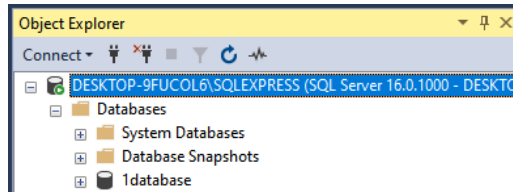
Figure 3. A database successfully set up in SSMS.

Import a Dataset

If you have a dataset in an Excel file, you can now upload it to your database for use. Before uploading, check that the data is arranged the way you want it to appear in a table in your database. It is much easier to do this in Excel before uploading than to do it in SSMS.

Caution:
Make sure your data file is saved in the Excel Workbook format. This process may not work if your file is saved in a different format.

To upload your Excel file:

1. Right-click on your database in the Object Explorer and select **Tasks,** then select **Import Data.**
2. Click **Next** on the page that appears.
3. Select **Microsoft Excel** from the Data Source drop-down. Click the **Browse** button to find where your data file is saved, then click the **Open** button. Leave the Excel Version drop-down as it is. If the first row of your data file contains column names, make sure the **First Row has Column Names** box is checked. Click **Next.**
4. Select **Microsoft OLE DB Provider for SQL Server** from the Destination drop-down. Check that the Server Name drop-down shows the name of your server. Under Authentication, **Use Windows Authentication** should be selected. Check that the Database drop-down shows the name of the database you have created and wish to upload to. Click **Next.**
5. Make sure **Copy Data from One or More Tables or Views** is selected. Click **Next.**
6. Put a check next to each of the Worksheets from your Excel file that you wish to add to your database. Each Worksheet will be imported as a table in your database. When you are finished, click **Next.**
7. Make sure the **Run Immediately** option is selected. No other options should be selected. Click **Next.**
8. Click **Finish.**
9. Close out of the installation software when a window appears notifying you that the execution was successful by clicking **Close.**
10. Check that each Worksheet from your Excel data file is now listed as a table under the Tables folder for your database like in Figure 4 below. You now have one or multiple tables ready to use.
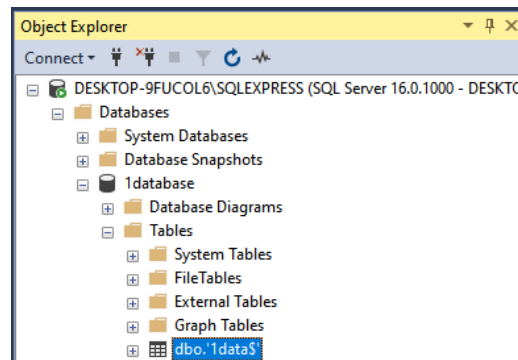
Figure 4. A table successfully set up in SSMS