

Setup & Install SQL Server, SSMS & Databases

Downloading Course Materials

The first step is to download the course materials. Everything including the code, presentation slides, and animations is provided in a zip file. After downloading, place the folder somewhere safe and open it. Inside, you will find three main folders:

- **Datasets:** Contains the data and databases used for practicing SQL throughout the course.
- **Documentation:** Includes all visuals and presentation slides presented during the course.
- **Scripts:** Contains all the SQL code used during the course.

Installing SQL Server Express

Next, download and install SQL Server Express. The provided link directs you to the Microsoft page offering different SQL Server editions. There are two main free options:

- **Developer Edition:** Offers all features and services but has a more complex installation.
- **Express Edition:** Easier and faster to install, providing all necessary features for learning and practicing SQL.

For this course, we will use the Express Edition. Click "Download Now" to get the small installation file and start the installation process.

During installation, you will see options: Basic, Custom, and Download Media. Choose **Basic** for the easiest and quickest

installation, accept the terms, and proceed with the install. This process may take some time.

Installing SQL Server Management Studio (SSMS)

After installing SQL Server Express, the next step is to install SQL Server Management Studio (SSMS), which is the client interface to interact with the database.

Use the provided link to navigate to the Microsoft page for SSMS. Scroll down and click the free download link. Once downloaded, start the installation, accept the default location, and click install. After completion, close the setup window.

Starting SSMS and Connecting to the Server

Open SSMS by searching for "SQL Server Management Studio" in your system menu. Upon launching, a connection window appears.

- **Server Name:** This will be your PC name followed by **\SQLExpress**, which is the server installed earlier.
- **Authentication:** Choose **Windows Authentication** to use your current Windows user credentials.

If you are unsure about your PC name or user, open the command prompt and type **whoami** to retrieve this information.

If connection issues occur, ensure that encryption is set to mandatory and check the option to trust server certificates.

Creating Databases

Once connected, you will notice no databases are present initially. To create databases, use the course materials:

- Navigate to the **datasets** folder.
- Inside, you will find folders for MySQL, Postgres, and SQL Server.
- For this course, use the **SQL Server** folder which contains four files with different extensions.

There are two databases:

- **mydatabase**: A simple database.
- **salesdb**: A more complex database with multiple tables.

Method 1: Creating Databases from SQL Scripts

Open the **init_sqlserver_mydatabase.sql** file and copy its contents. In SSMS, click **New Query**, paste the code, and execute it. Refresh the databases list to see **mydatabase**.

Explore the database by expanding tables such as **customers** and **orders**. Right-click a table and select "Select Top 1000 Rows" to view data.

Repeat the process for **init_sqlserver_salesdb.sql** to create the **salesdb** database with tables like **customers**, **employees**, **orders**, and **products**.

Exploring the SSMS Interface

The SSMS interface consists of:

- **Object Explorer (left side):** Displays the server, databases, and their objects.
- **Menu and Toolbar (top):** Provides various options and tools.
- **SQL Editor (center):** Area to write and execute SQL queries.
- **Results and Messages (bottom):** Displays query results and system messages.

Method 2: Creating Databases by Restoring Backup Files

Another way to create databases is by restoring from backup files.

- Locate the backup files (**.bak** extension) in the SQL Server backup folder, typically found under **Program Files\Microsoft SQL Server\MSSQL\SQLExpress\MSSQL\Backup**.
- For example, the **AdventureWorks** backup file is available here.

To restore:

- In SSMS, right-click on **Databases** and select **Restore Database**.
- Choose **Device** as the source and click the browse button.
- Click **Add** and navigate to the backup file location.
- Select the desired **.bak** file and confirm.
- Click **OK** to restore the database.

After restoration, refresh the databases list to see the new database and explore its tables and data.

Summary

You now have three databases:

- **mydatabase**
- **salesdb**
- **AdventureWorks** (restored backup)

The focus of this course will be on the first two databases.

With SQL Server Express installed, SSMS as the client, and databases created, you are ready to start practicing SQL queries.

Next Steps

The first chapter is complete with the setup and installation of SQL Server, SSMS, and databases. The next step is to begin learning how to query data using SQL.

Key Takeaways

- Downloaded and organized course materials including datasets, documentation, and SQL scripts.
- Installed SQL Server Express and SQL Server Management Studio (SSMS) for database management.
- Created databases using SQL scripts and by restoring backup files.
- Explored database structures and queried data using SSMS interface.