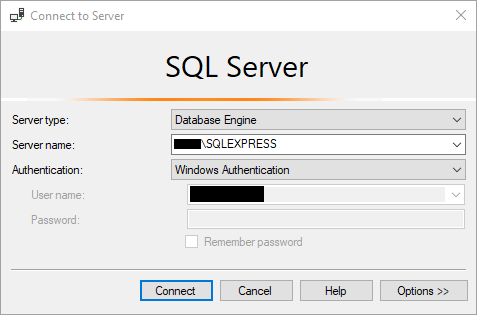
# Exercises: Introduction to Databases

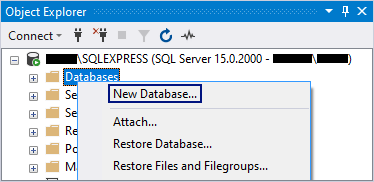
This document defines the **exercise assignments** for the ["Databases Basics - MSSQL" course @ Software University](https://softuni.bg/trainings/4182/ms-sql-september-2023).

## Create New Database

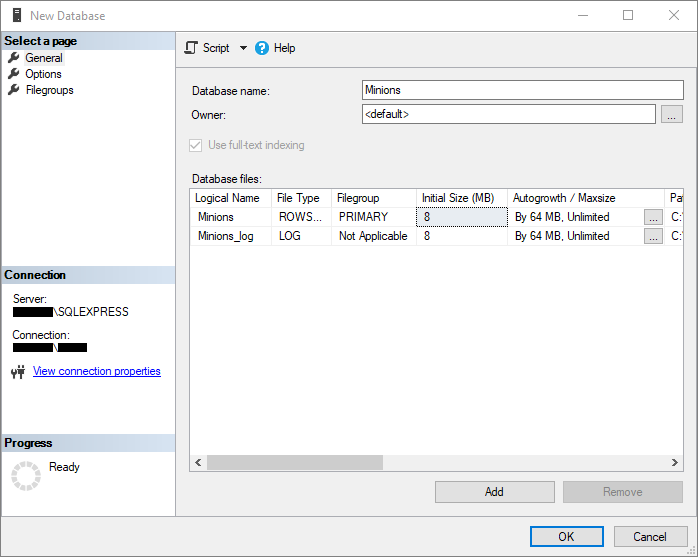
Connect to the Server with Authentication Mode:



Create a new database:

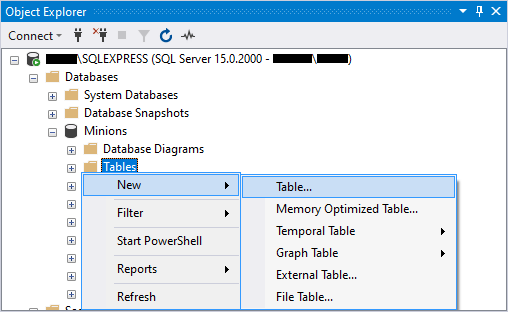


Type the name of the database and click **[OK]**. This will create your database.

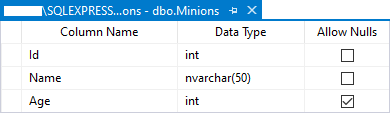


## Create Table

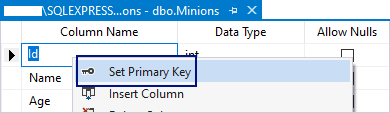
Create **table** **Minions:**



Create columns **Id**, **Name** and **Age**. **Id** and **Name** are **required**; **Age** should **allow null values**.

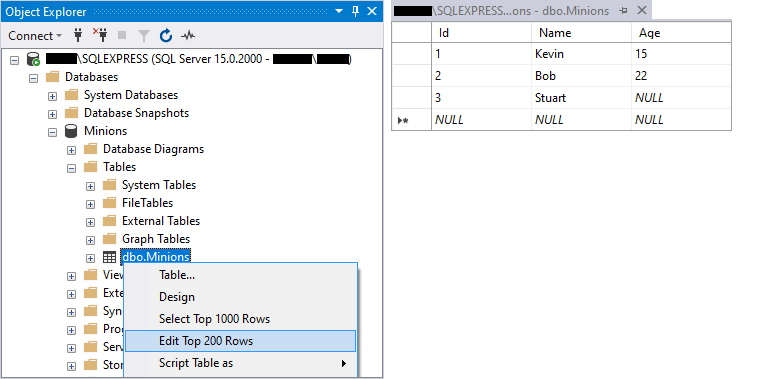


Set the **Id** as a **primary key**:



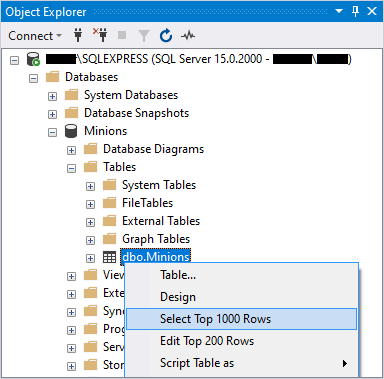
## Insert Data in the Table

Insert data in the table as shown on the picture below:



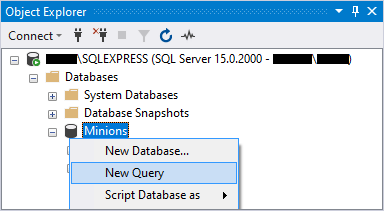
## Select Data from Table

Select all columns from the **Minions** table:



Open a new query window, then write the SQL.

* Select **only Names** from the **Minions** table.
* **Order** them **ascending by Name.**



## Update One Record

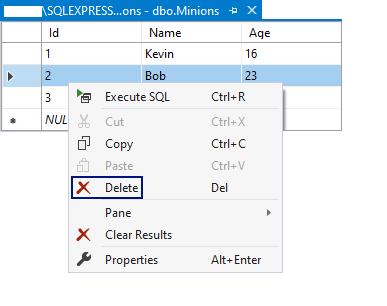
Change **Stuart's age** from **NULL** to **10**.

## Update All Records

Change the **age** of all **Minions** to be **+1** year.

## Delete Record

Open the table in **Edit Mode**, **right click** on the row where **Bob** is situated and **delete** it.

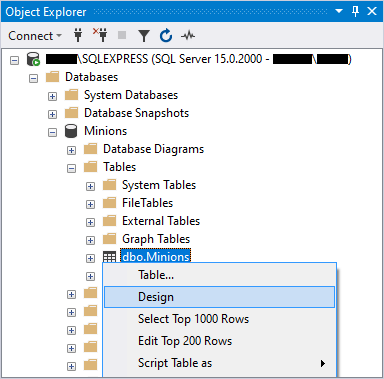


## Create New Table

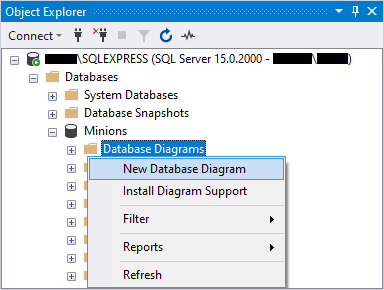
Create a new table **Towns**. Every town has **Id (int)** and **Name (text)**. Make the **Id** column a **primary key**.

## \*Connect Tables

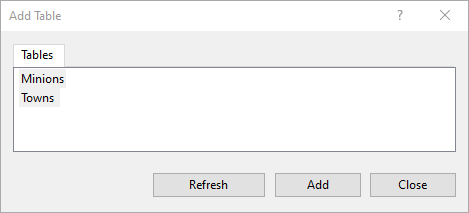
Now let's make a connection (a relationship) between our two tables. First we need to modify our **Minions** table. Add a column **TownId** in it **(IMPORTANT: The type of the column must be the same as the type of the column Id of the Towns table)**.



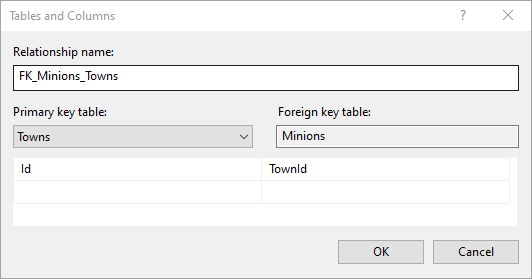
Now we can make a new diagram. The diagram shows all tables in the database and the relationships between them.



Select all tables to be on the diagram and click on the **[Add] button.**



Finally, simply drag the **TownId** column and drop it on the **Id** column in **Towns**. Then make sure the window looks like this and click **[OK]**.

****

That's all. Now the two tables have a relationship between them.

## Create New Database

Now, on your own, create a new database **School**. Add a few tables to the database: **Students (Id**, **Name**, **Age**, **PhoneNumber)**, **Classes (Id**, **Name**, **MaxStudents)**, **Teachers(Id**, **Name**, **Class)**. Add columns for the tables. Populate the tables with some random content. Then delete and make changes in some records.

## \*Generate SQL Script

Generate SQL script for the **School** database. View the script file and try to understand the different commands. Execute the script.