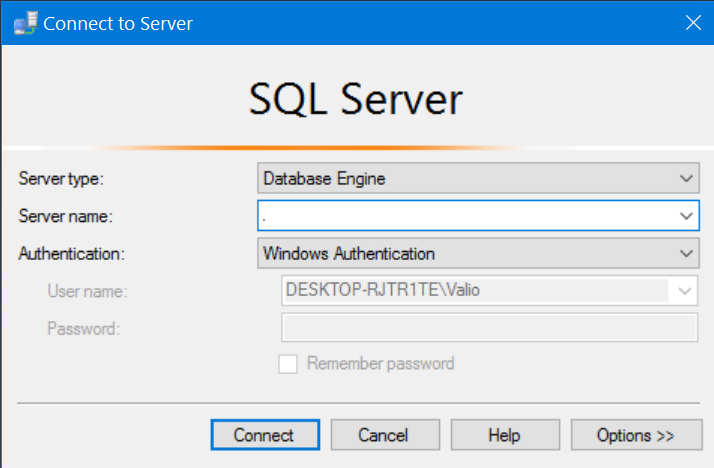
# Exercises: Introduction to Databases

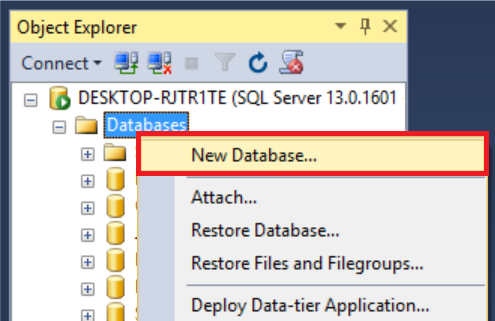
This document defines **exercise assignments** for the ["Databases Basics - MSSQL" course @ Software University.](https://softuni.bg/trainings/1436/databases-basics-mssql-september-2016)

## Create New Database

* Connect to Server with Authentication Mode



* Create a new database

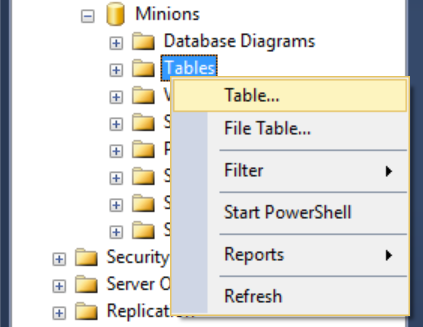


* Type the name of the database and click OK. This will create your database.

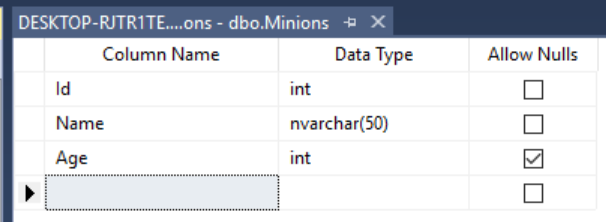


## Create Table

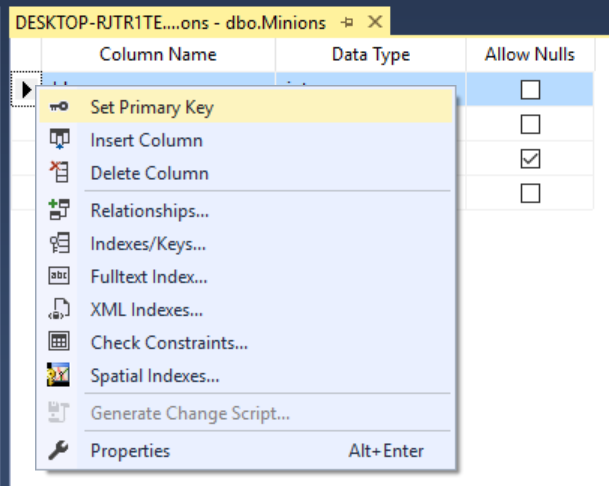
* Create **table** **Minions**



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



* Set the **Id** as **primary key**.



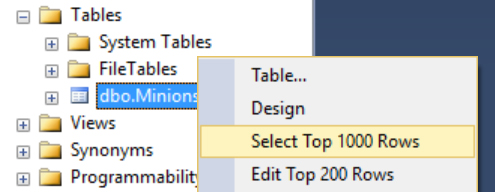
## Insert Data in the Table

Insert data in the table as its show on the picture

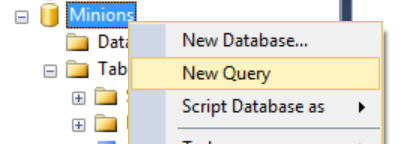


## Select Data from Table

* Select all columns from the Minions table.



* Open new query window, then write the SQL.
  + \* Select **only Names** from Minions table.
  + \*\* **Order** them **ascending by name**



## Update One Record

Change **Stuart’s age** from **NULL** to **10**

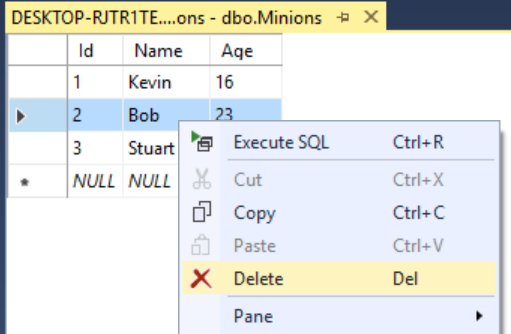


## Update All Records

Change all of the Minions age to be + 1 years.

## Delete Record

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



## Create New Table

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

## \*Connect Tables

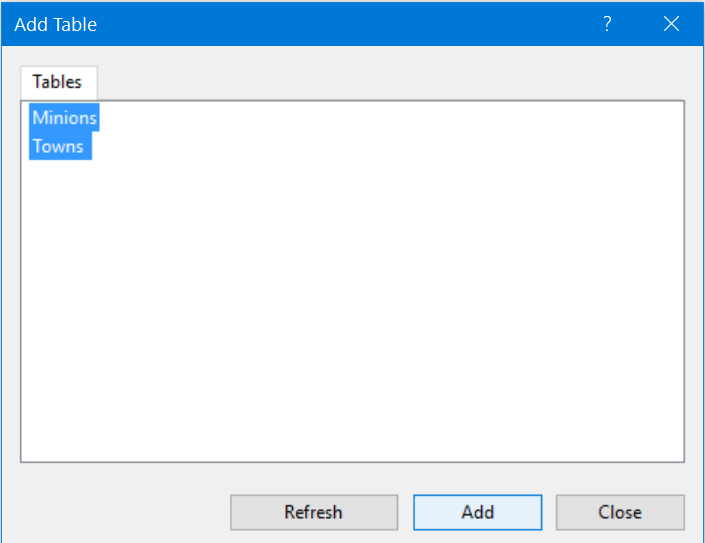
Now let’s make a connection (or relationship) between our two tables. First we need modify our Minions table. Add column **TownId** in it **(IMPORTANT: The type of the column must be the same as the type of the column Id of the Towns table)**.



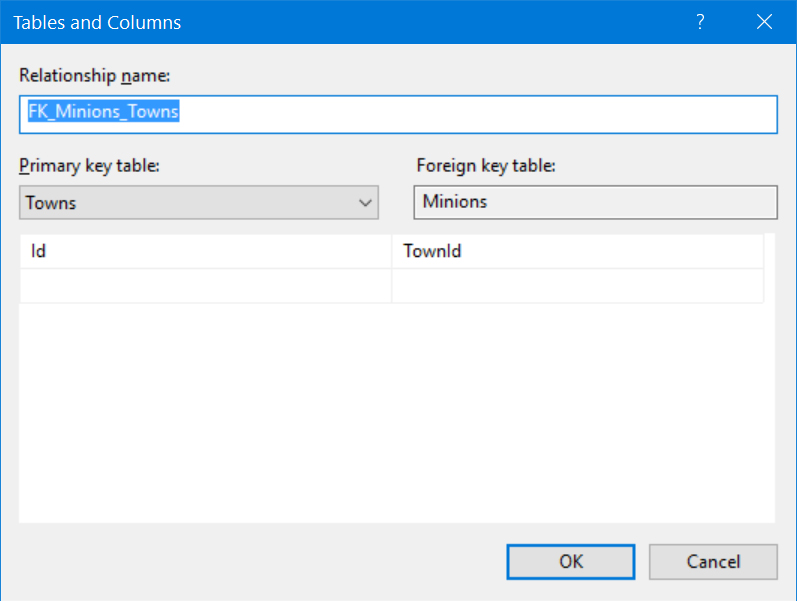
Now we can make new diagram. The diagram shows all tables and the relationships between them.



Select all tables to be on the diagram and click **Add**



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 random content. Then delete and make changes in some records.

## \*Generate SQL Script

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