Decoded Data Academy Apprenticeship

# MICROSOFT SQL SERVER GUIDE

## BACKGROUND

The British Computer Society (BCS) has requested the use of Microsoft SQL Server, with Adventure Works 2014 Sample Database for the Synoptic Project C. This guide is an introduction to Microsoft SQL Server for those learners using it for the first time.
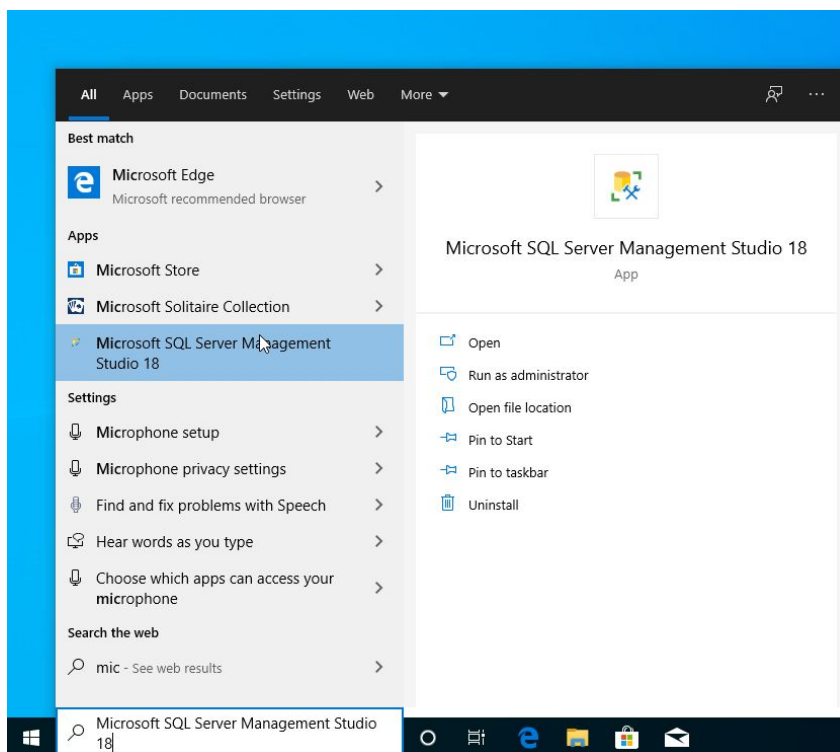
Watch this walkthrough on Youtube | Vimeo
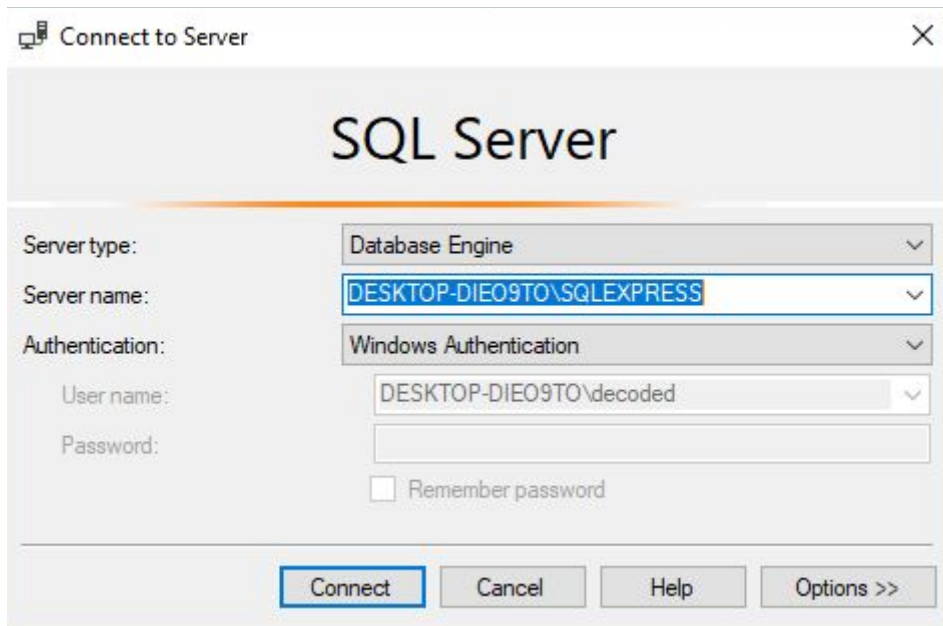
## SERVER AND INTERFACE

Interactions with Microsoft SQL Server comprise two components:
1. **Microsoft SQL Server** (MSSQL) - the RDBMS itself. For your projects this is installed locally
2. **Microsoft SQL Server Management Studio** (SSMS) - the graphical user interface installed locally

By default MSSQL will be running in the background. To access MSSQL you first need to open SSMS:
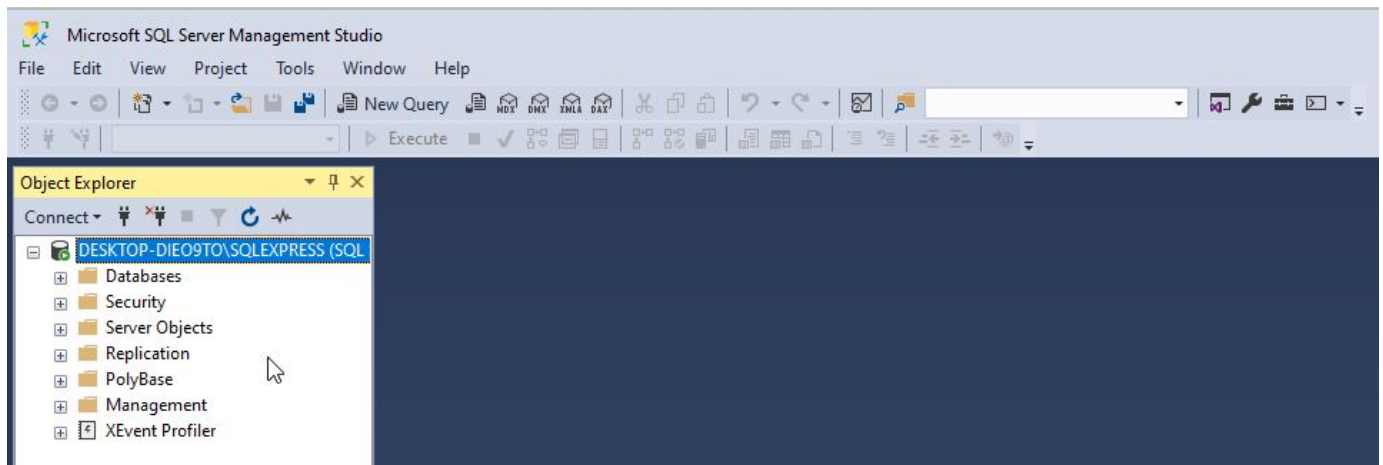


You will then be asked to connect to the MSSQL instance - accept the default settings and click **'Connect'**:
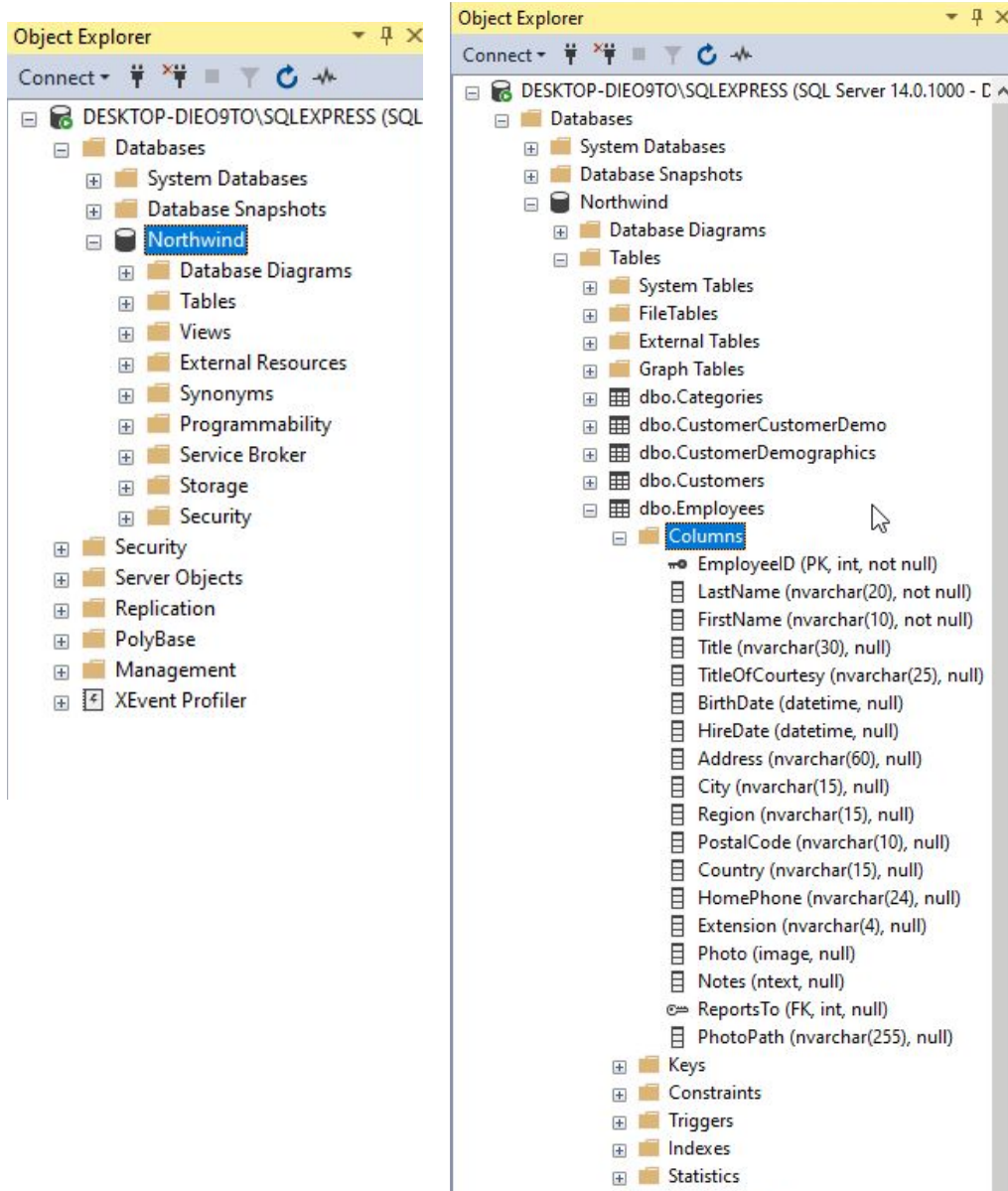
## NAVIGATING SSMS

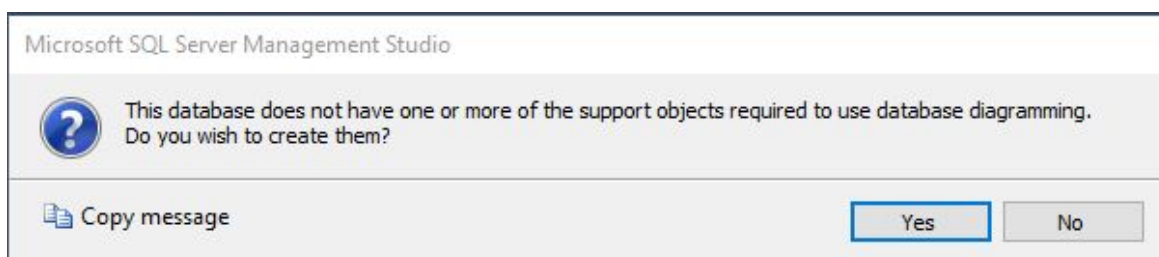Once open you should see a list of objects on the left hand side:



Double click on **'Databases'** and double click on the database you would like to connect to. *Note: in this guide our database is called* **'Northwind'**.

Within your database there are a number of subfolders. Click on the **'Tables'** folder to see the tables and explore each table by clicking through to list the **'Columns'**:
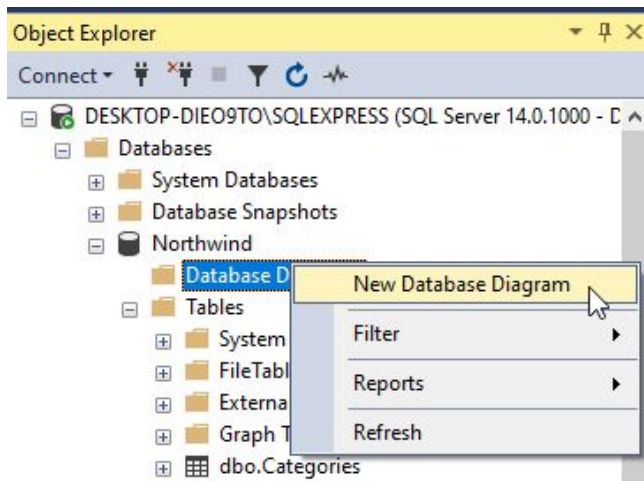
You can now see all the columns, data types and foreign keys (FK). You can also find any pre-configured **'Views'** that have been stored with the database.
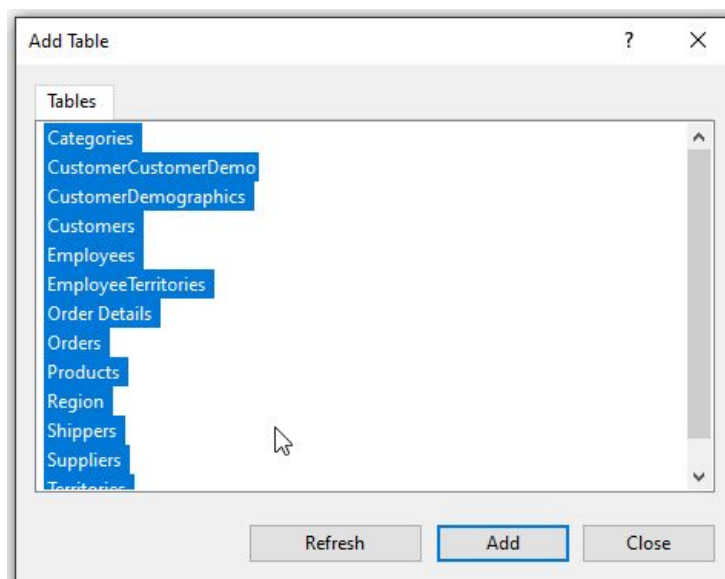
An important feature of SMMS is the '**Database Diagrams**' functionality which can auto-create an Entity Relationship Diagram (ERD) for you. Click on the '**Database Diagrams**' folder and select **'Yes'** if asked to create any support objects:
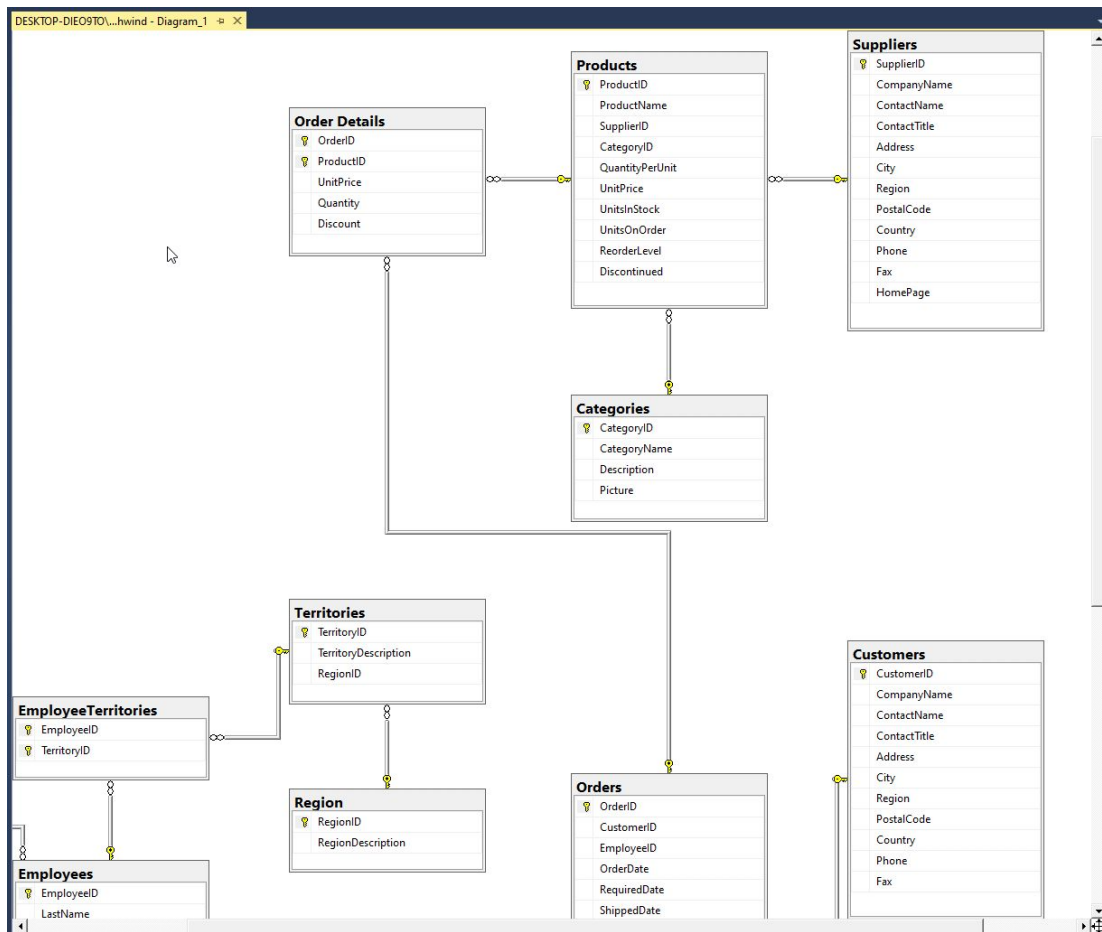


You can now **right-click** on '**Database Diagrams**' and select '**New Database Diagram**':

When asked which Tables to include, hold down **shift** and **click** to select all tables in the database:



Click '**Add**' and wait until the ERD is automatically positioned:
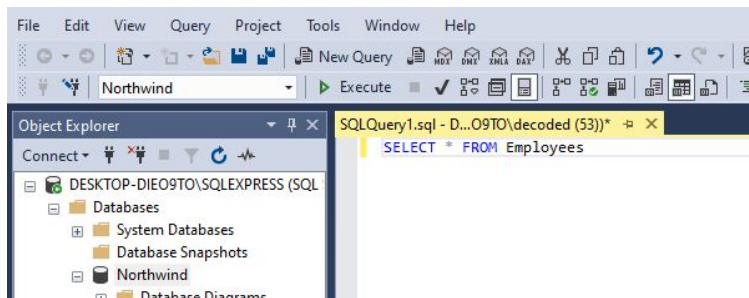
You can now visually explore your database before writing your queries.

# EXECUTING QUERIES

Once you are ready to write your SQL code, click the '**New Query**' button in the toolbar:



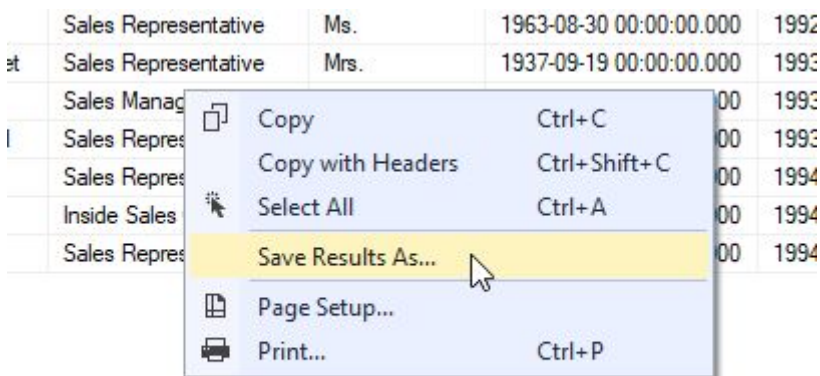You can now write your query in the main area - note the database selected in the dropdown in the top left:

Execute the using either the **'F5'** shortcut or by clicking on the **'Execute'** button in the toolbar:
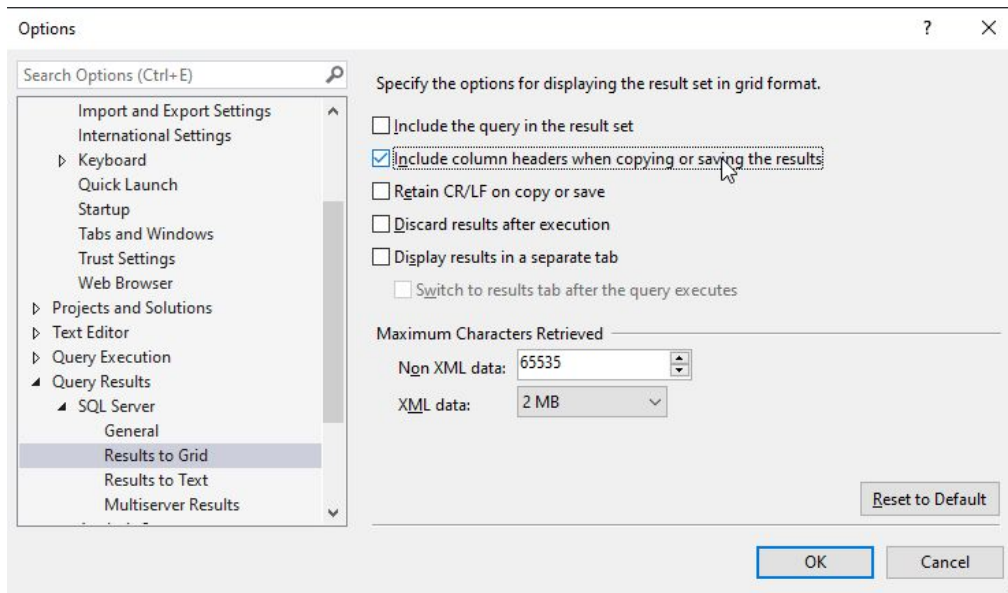


# EXPORTING CSV

If you would like to export the results of a query to csv, **right-click** on the results grid and select '**Save Results As...**'



You can then select the location and filename of the .csv file.

By default, SSMS will not save the column headers to csv. To enable this, navigate to **'Tools'**, **'Options'**, '**Query Results**', '**SQL Server**', '**Results to Grid**' and select '**Include column headers when copying or saving the results**':

**Restart SSMS** and your csv file will now include headers.