**Database Management System Lab (Week1\_Spring 2023)**

**Department of Computer Science**



**Learning Objectives:**

* Installation of SQL server and SSMS.
* Create a new database

1. Introduction**:**

Database system is a collection of **Database** and **DBMS.**

**Database:**

Collection of *related* data.

For example, Banks have the information of their respective users.

**Database Management Systems (DBMS)**

A system that provides ease to the user to access data and perform operations on it. The operations include:

* Insertion
* Update
* Deletion

**Example:** SQL Server, MySQL, Oracle etc.

In this lab, we will learn about SQL Server and do its installation.

1. Installation guide  
   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Important Note:

* 1. connect your system with internet and download the developer edition using this given link: <https://www.microsoft.com/en-us/sql-server/sql-server-downloads>
  2. Login on window with as Administrator

Graphical user interface, text, application

Description automatically generated

Figure 1: SQL downloading version

* 1. Once downloaded then click on the .exe file and run.

* 1. Then click on Basic version to install.

Graphical user interface

Description automatically generated with medium confidence

Figure 2: Selection of basic version

* 1. Scroll down and then click on accept.

Graphical user interface, text, application

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Figure 3: Terms and conditions for installing SQL Server

* 1. Click on Install and eat pop corns until installation is done. 😊

Graphical user interface, application

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Figure 4: Starting the installation process by clicking on install button

While the installation is going on in the background let us revise a Database, we are familiar with, i.e., **File Handling.**

1. **Write a C++ code to make a file having following data (using File handling)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ID** | **FirstName** | **LastName** | **Age** | **Gender** |
| 1 | Ali | Akram | 24 | Male |
| 2 | Ahmed | Khan | 22 | Male |
| 3 | Ayesha | Batool | 21 | Female |

1. **Retrieve the data having firstName equals to Ali**
   1. After installation is done click on install SSMS

Graphical user interface, text, application

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Figure 5: Installation has completed successfully

* 1. Click on highlighted link. It will download .exe file of SSMS. After downloading run .exe file.

Graphical user interface, text, application, email

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Figure 6: Version of SSMS for installation

* 1. Click on Install and wait until installation is done successfully.

Text

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Figure 7: Installation of SSMS

# Generate Scripts of a schema \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* **Step 1**

Right click on your database and select Task -> generate script.

Graphical user interface

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Figure 8: Database\_Scripts\_With\_Data\_Select\_Option

* **Step 2**

Click next in the introduction screen

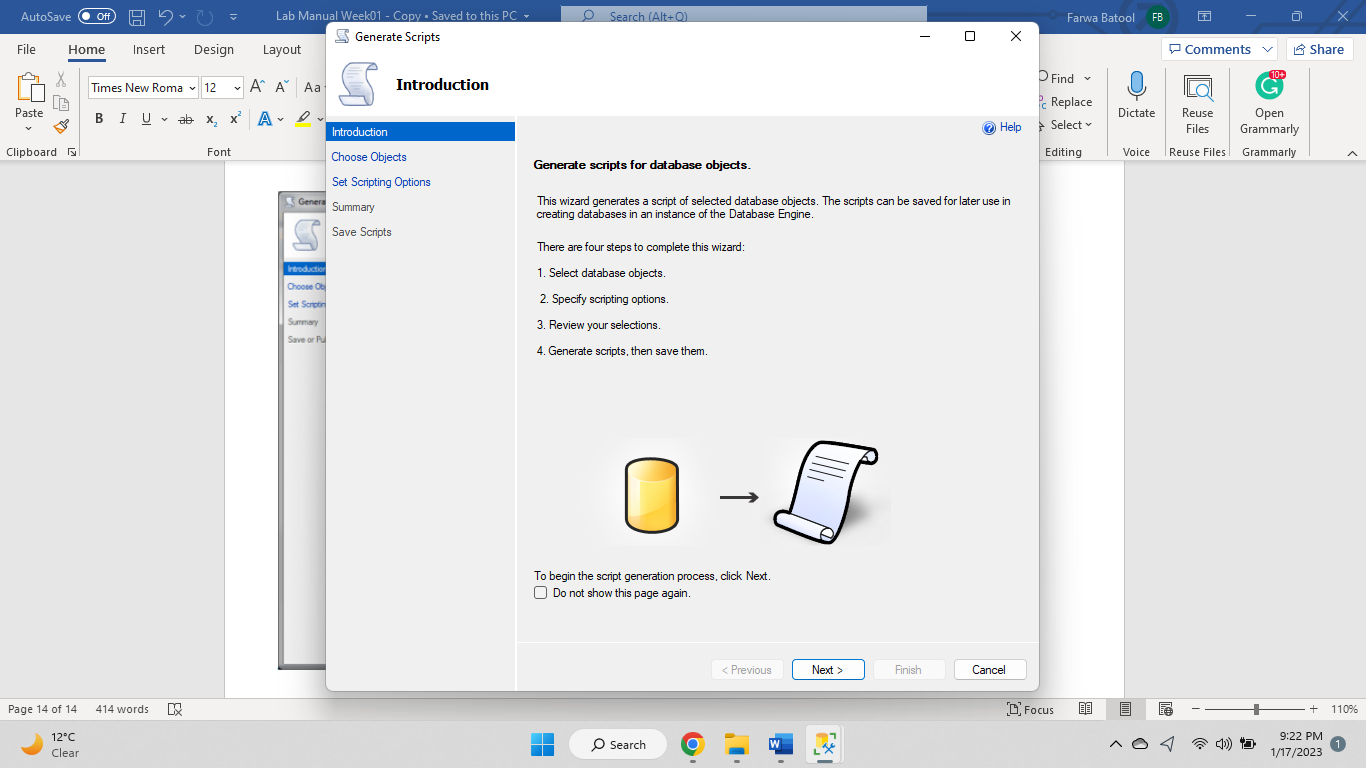


Figure 9: Database\_Scripts\_With\_Data\_Introduction

* **Step 3**

Select the database object which you are all you need and then click next.

Graphical user interface, text, application

Description automatically generated

Figure 10: Selecting database objects

* **Step 4**

Now you will be shown a window which asks you about how your script should be published.

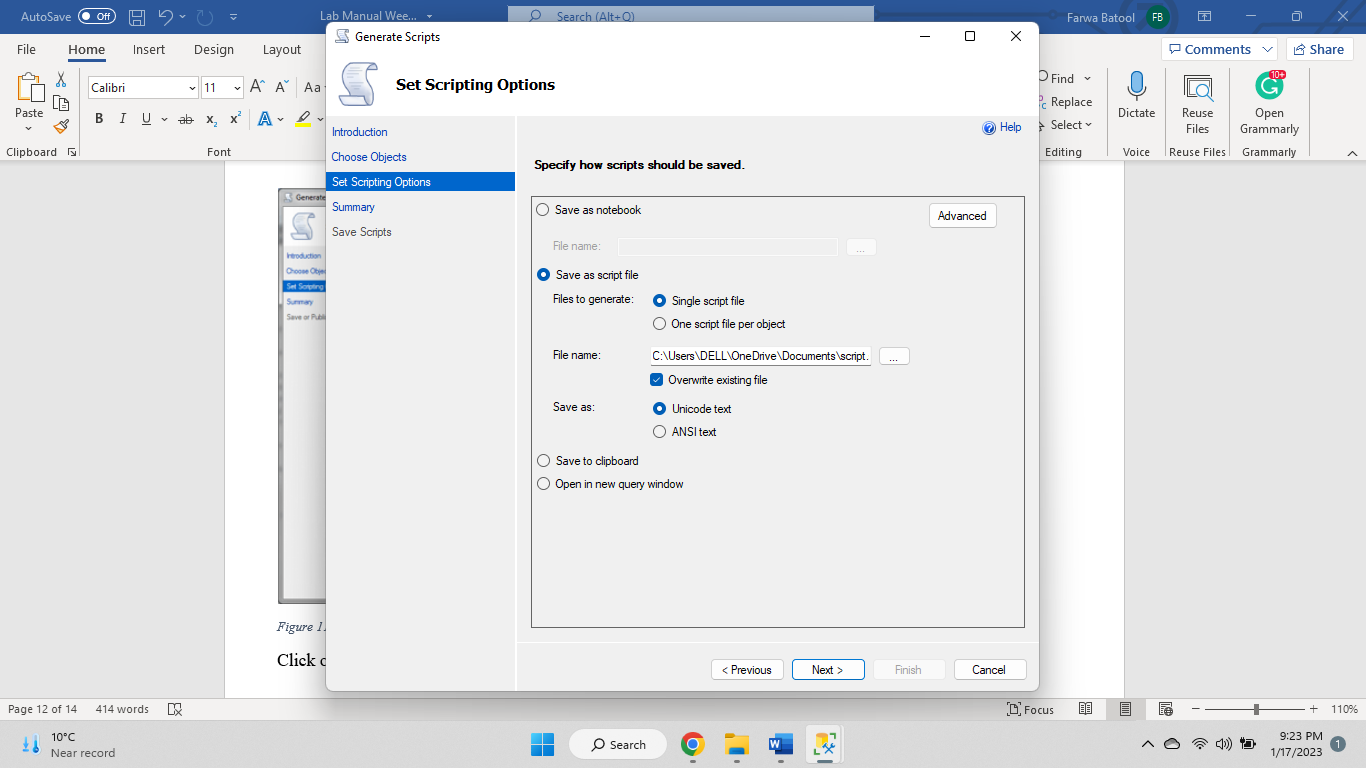


Figure 11: Database\_Scripts\_With\_Data\_Publish\_Options

Click on advanced in that window.

* **Step 5**

Select ‘Schema and data’ from type of data to script option and then click OK.

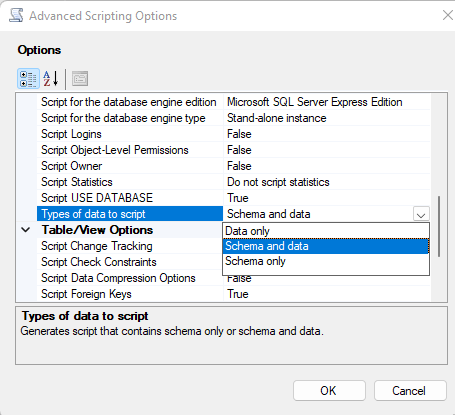


Figure 12: Database\_Scripts\_With\_Data\_Advanced

Click on Next.

* **Step 6**

Click finish, now check the script file, it must be having the insert queries too.

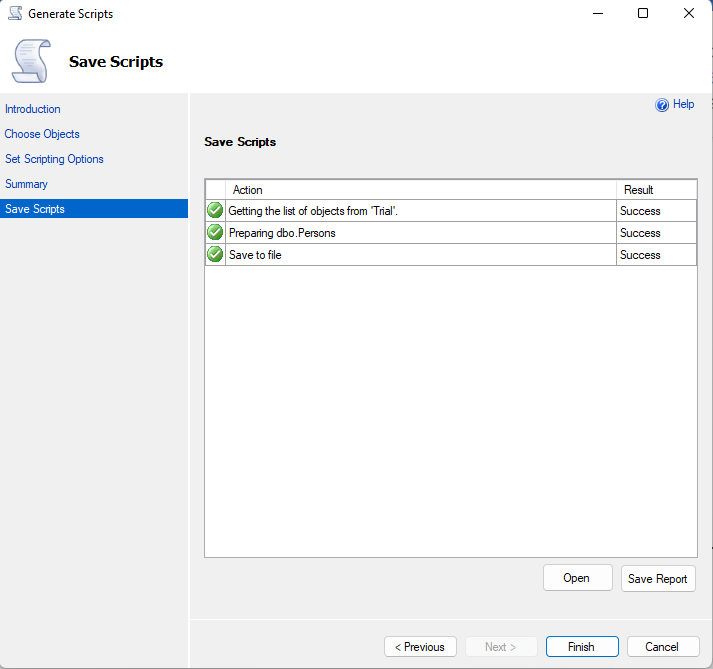


Figure 13: Database\_Scripts\_With\_Data\_Finish

Now what else is pending, go ahead and run your script.

# 4. Lab Tasks \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Install Microsoft SQL server

2. Install SSMS

3. Create a new database named TestDB\_2021\_SE\_X

*X being your registration number*