

LAB 1 : FUNDAMENTALS OF DATABASE MANAGEMENT SYSTEM

Activity 1A

Identify the Introduction to SQL server 2008:

➤ □ Connection:

First step after opening DBMS is to connect to the DB server; in MSSQL 2008 you have multi choice:

From figure 1.1:

1) Server type: we have 4 type of server:

- Database Engine
- Analysis Services
- Reporting Services
- SQL server- compact edition.
- Integration Services

2) Servername.

3) Authentication:

- Connect using windows authentication (without username and password).
- Connect using SQL server authentication (require username and password).

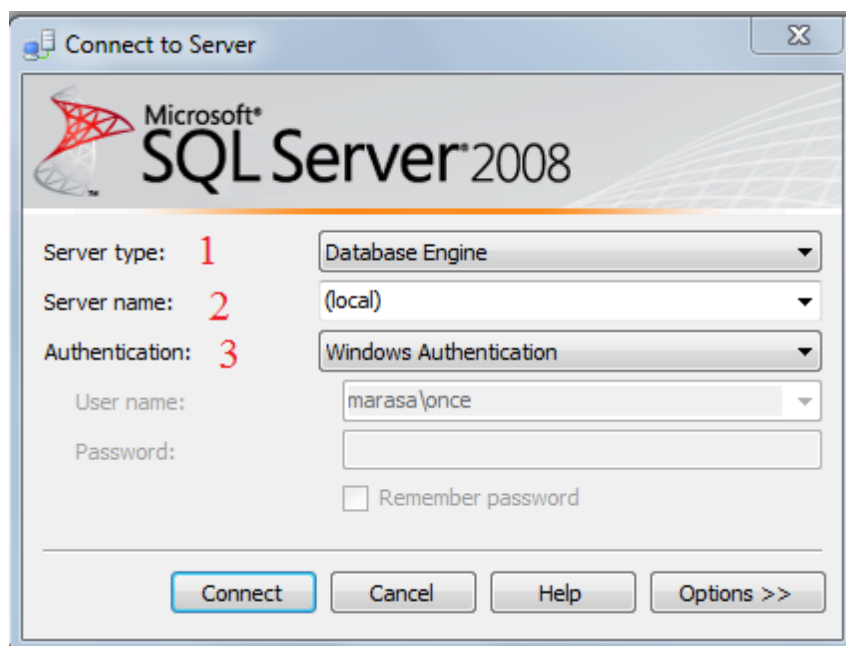


Figure 1.1

➤ □ Object explorer:

Figure 1.2 show the object explorer which contain

- □ Databases: contain
 - o System databases (master, model, msdb, tempdb)
 - o Other databases.
- • □ Security.
 - • □ Server objects
 - • □ Replication.
 - • □ Management.

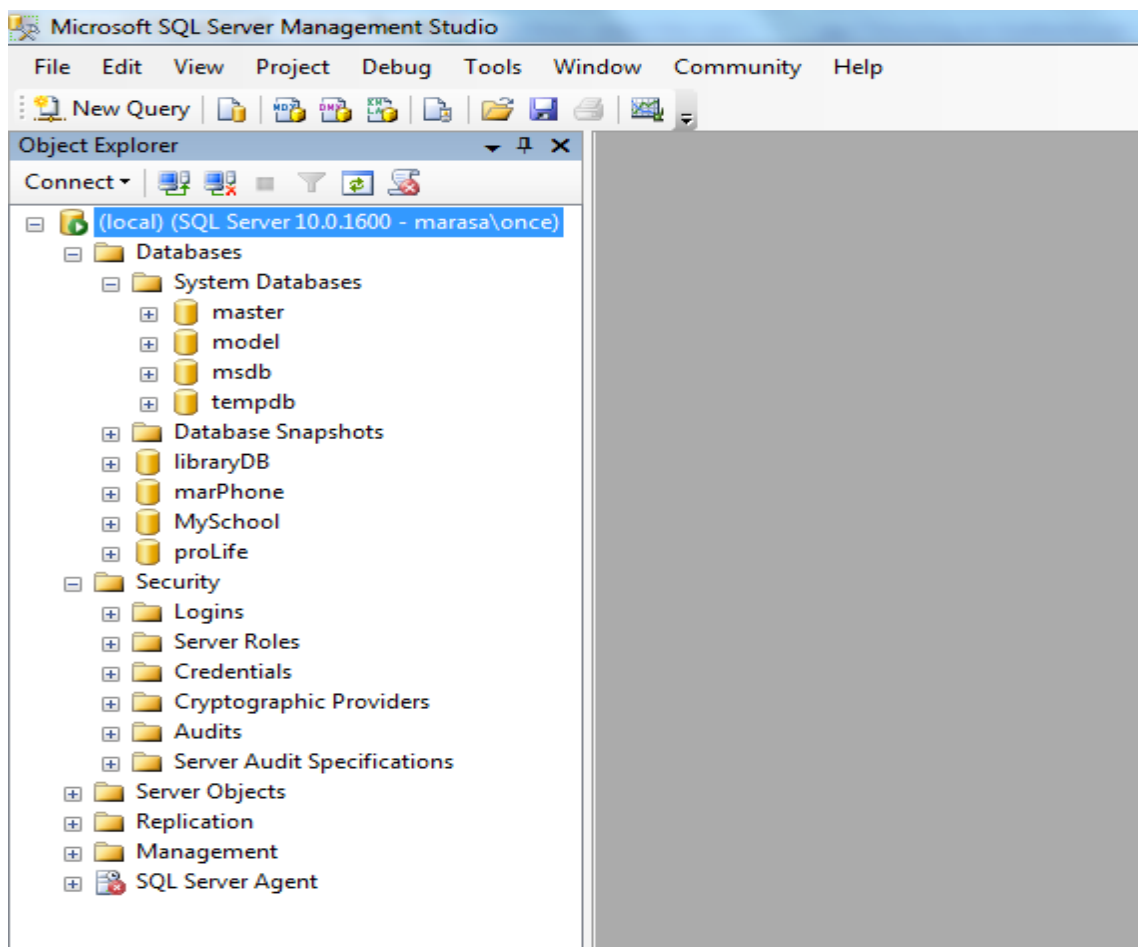


Figure1.2

➤ □ New Login

By default SQL server has a few login account, and you can add new login with new roles and authority, as follow.

From object explorer > security > login / right click > new Login

From the dialog windows in the figure 1.3 fill the name, type of authentication, server roles, databases mapping ...etc.

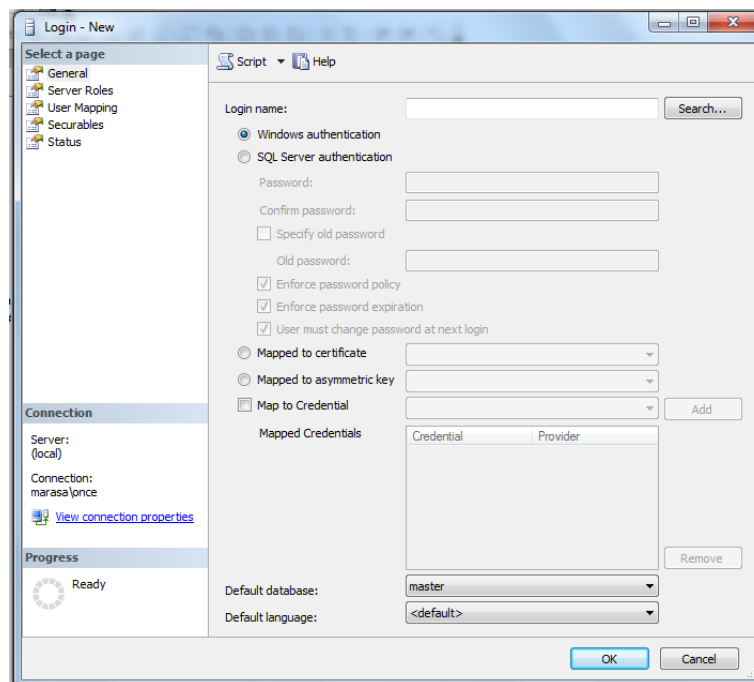


Figure 1.3

- □ Query windows
- □ Next two figures show how to make new query editor:

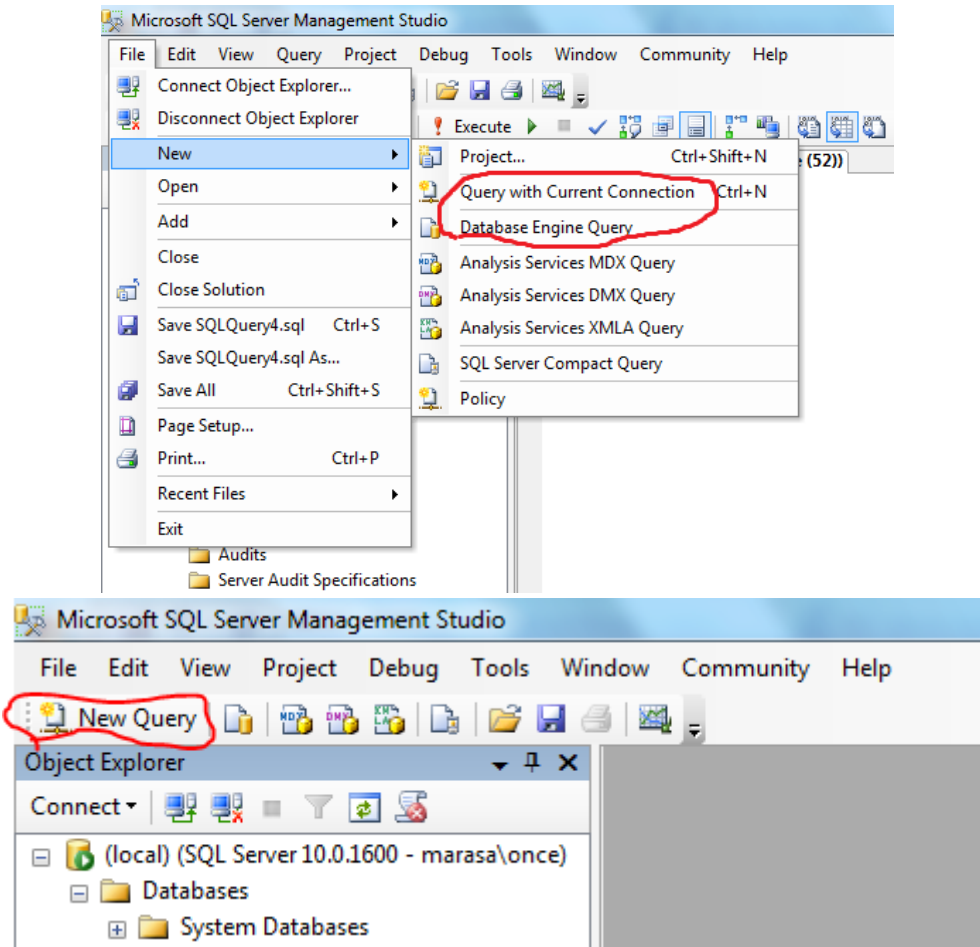


Figure1.4

Query execution done with two method:

- o Press F5.
- o From SQL editor toolbar press (! Execute)



Activity 1B Introduction to SQL Language:

1. Introduction:

SQL stands for Structured Query Language, it has multi category of languages some of it:

- DDL: Data Definition Language, statements are used to define the database structure or schema like:

CREATE: to create objects in the database.

ALTER: alters the structure of the database.

DROP: delete objects from the database.

- DML: Data Manipulation Language, It is used to create and modify the structure of database objects in database like:

SELECT: retrieve data from the a database

INSERT: insert data into a table

UPDATE: updates existing data within a table

DELETE: deletes all records from a table, the space for the records remain

2. Language data type:

There is many data type in SQL language next some of it:

CHAR (n): fixed width n character string, padded with spaces as needed.

VARCHAR (n): variable width string with a maximum size of n characters.

NCHAR (n): fixed width string supporting an international character set.

NVARCHAR (n): variable width of NCHAR string.

INT: Integer.

FLOAT: floating-point number, which means it is a number that has a decimal place.

MONEY: double.

DECIMAL (n, m): number with n digit in the left of the dot and m digit to the right.

DATE: Year, month, and day fields, conforming to the rules of the Gregorian calendar.

TIME (p): Hour, minute, and second fields, with valid values for hours of 00 to 23, valid values for minutes of 00 to 59, and valid values for seconds of 00 to 61. Precision p indicates the seconds' precision.

BIT: binary bit true or false.

Activity 1C Lab exercises:

1. Create new database:
 - Name it TDT_SManage.
 - Name the primary file TDT_SManage.mdf.
 - Name the log file TDT_SManage_log.
 - Save it on 'd:\database\'
2. Create relations for the database:

Department (Dep_id, Dep_name, Year)

Student (Name, St_id, Birth, Dep_id)

Courses (coursename, course_id, credit, dep_id)

Condition (course_id, precourse_id)

Results (St_id, course_id, mark)