

## ANSI SQL (American National standard institute)

### ❖ **Microsoft:** Transact SQL

- RDBMS (tools) → Access, SQLServer
  - DDL → Structure
    - ✓ Create table
    - ✓ Create function,
    - ✓ Create view
    - ✓ Alter
    - ✓ Drop
    - ✓ Select into
  - DML → Data
    - ✓ Insert
    - ✓ Update
    - ✓ Delete
    - ✓ merge
  - DCL → permission
    - ✓ Grant
    - ✓ Deny
    - ✓ Revoke
  - DQL → display
    - ✓ Select
    - ✓ Joins
    - ✓ Union
    - ✓ Subquery
    - ✓ Grouping
    - ✓ Aggregation function
  - TCL → DB consistency
    - ✓ Begin Transaction
    - ✓ Commit
    - ✓ Rollback

### ❖ **Oracle:** PL SQL

### ❖ **IBM:** IBM PI-SQL

### ❖ **MySQL:** Open source

- **SQL** is the language used to interact with databases.
- **SQL Server** is a database management system that stores, manages, and retrieves data.
- **SQL Server Management Studio (SSMS)** is a tool for managing SQL Server instances and.

### Let's do it practically 😊

**Database:** it's a page on hard disk

What is the tool that will help me to create the database → management studio

- **Open any place you want**

Create new folder with name database on it

- **Copy the path of that folder → because I want to save all the database**
- **Click on the Database → create new database → give it name**

### The database has 2 file → mdf and log file

**Mdf** → all our database and the relationship will be here

**Log** → actions and transaction that happened to database for example someone insert one row, this file will register this action "fatma insert row in table x and this is the insertion that happen ...." it's like archive file

- **Write the path of the folder that you created on the path section**
- **Check the place you create the database**

All the previous step to create the new database

### But what if we want to bring our database?

- **Right click on the database → task → backup → remove the default path → add → select the file → write the name of the database → name.bak**
- **To restore the database, go again to the database click and chose restore → from device → choose the database → add → ok**

### Is it okay to do copy and paste ?

No! why → service

Let's try on excel and CMD → `sqlcmd -s "." -d "ITI" GO select .... etc`

- **Create table → new table → right click to PK → if you forgot to add PK click design**
- **If composite PK click ctrl to highlight**
- **Ctrl + s to save the table**

إذا نسينا مثلا كولوم ونريد نضيفه، م مسموح لأنه أنت تغير في الستركتشر تبع الجدول، بس بما انه نحن نتعلم لازم نفعل الخاصية الي تخلينا نغلط ونجرب 😊

**Tool → options → designer → remove the prevent saving change**

- For the FK → click on DB diagram → new diagram → select all table
- Drag PK to FK
- This is not ERD this is → DB diagram
- To add data → click edit

طبعا لازم اعرف اكتب الكود تبع انشاء الجداول لأنه بحتاج بعددين اكتبهم باستخدام الجافا الحين انا م معي الابليكيشن ف عشان كذا افتح

**New query** → clint → الشركة

يكتب كوري عشان يتعامل مع الداتابيس

- **Select \* from Emp**

لكن قبلها لازم

- **Use [name of the DB]**