



Information System Management

Chapter Five – Part 4: Queries and SQL

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HOW DO I BUILD A DATABASE?

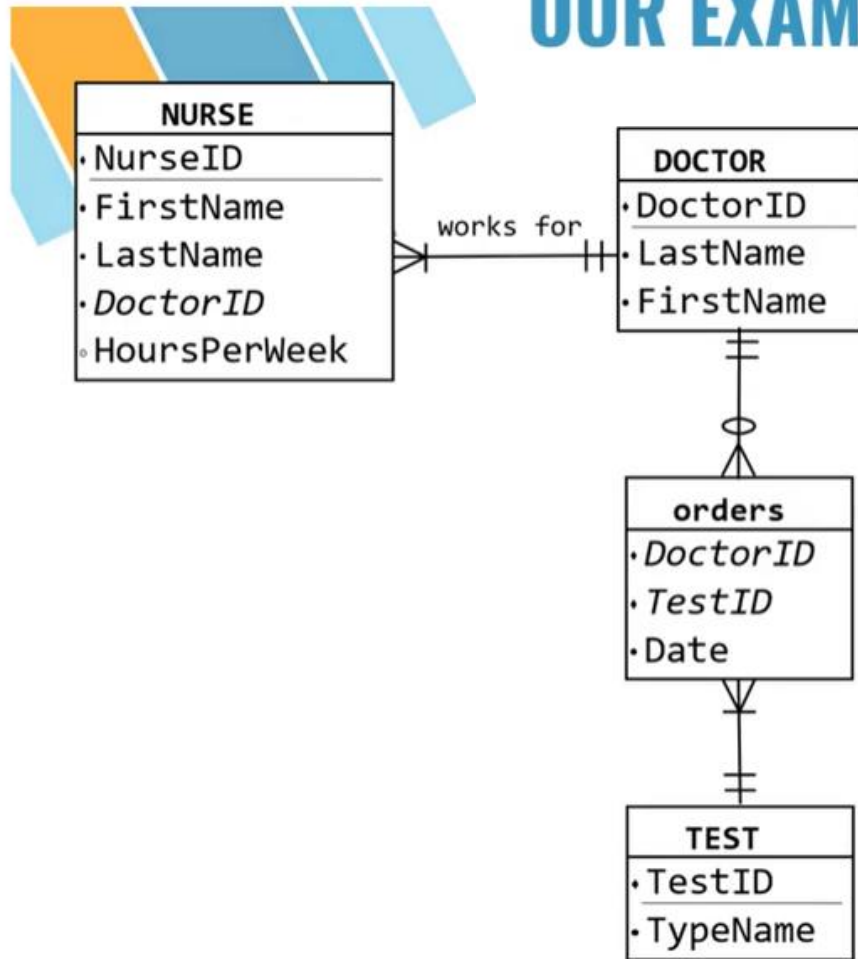
Once the **E-R model** is built, it is used as a **blueprint** to build the real **database**

- Model is mapped to an actual relational database
- **Visualization (diagram) of the data**

Diagrams Used to:

- document a model
- describe structured data

OUR EXAMPLE FROM LAST WEEK



QUERIES AND SQL

SQL: Structured Query Language

لغة خاصة
في حال access للبيانات
بقدر اذن واعمل

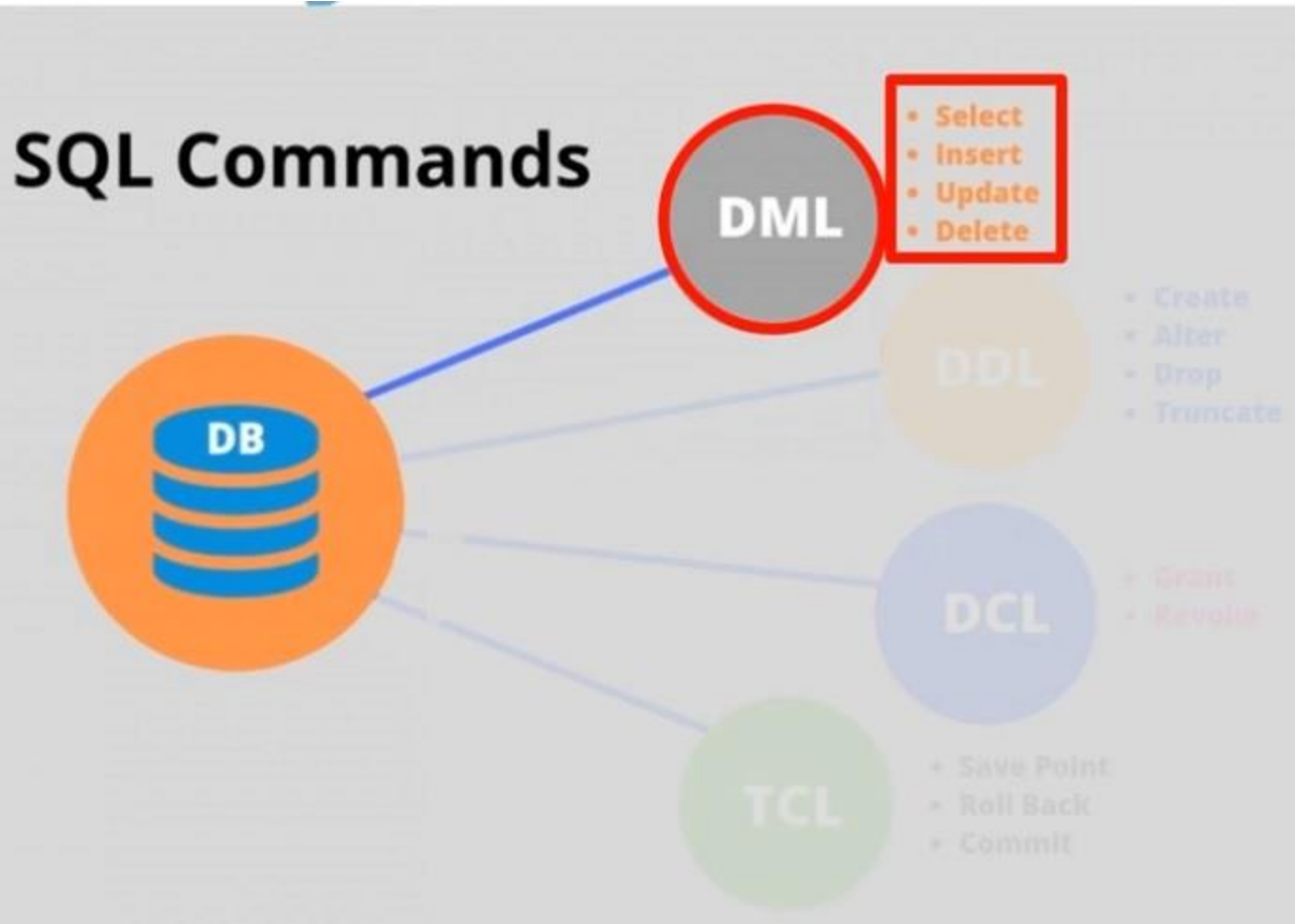
SQL Commands



SQL Commands:

- **DML**: Data Manipulation Language
How to Ask questions to the Data Base (DB)
- **DDL**: Data Description Language
Change the structure of the DB.
- **DCL**: Data Control Language
Access Control policy.
- **TCL**: Transaction –Control Language
Advanced DB topics
Control the transactions

DML: Data Manipulation Language





QUERIES AND SQL

SQL SELECT

SELECT

<a set [list] of fields>

FROM

<a dataset>

WHERE

<a condition or set of conditions are TRUE>

Field من Database و بدي ا خط conditions ال records من ال statement if ← بدي

Ex:

①

SELECT

FirstName, LastName, HoursePerWeek, NURSEID

From

NURSE

WHERE

HOURSEPERWeek > 2

اذا حطينا * عندار select
محتاجه يا خد كل ال records

②

SELECT

FirstName, LastName, HoursePerWeek, NURSEID

From

NURSE

WHERE

HOURSEPERWeek > 2 AND NURSEID > 2

ويفتر نخط
OR

QUERIES AND SQL

SQL SELECT

SELECT

<a set [list] of fields>

FROM

(< dataset_1 >

INNER JOIN

< dataset_2 > ON < some condition is TRUE >)

WHERE

<a condition or set of conditions are TRUE>

بوجود اکثر من column
والجزء record بتوحيدهم
من اكثر من table

من خلال مساوي
ال foreign key
مع primary key

Ex:

①

SELECT

orders.TestID, orders.TestDate, Doctor.LastName, DOCTOR.FirstName

From

(orders

INNER JOIN

DOCTOR ON orders.DOCTORID = DOCTOR.DOCTORID)

②

SELECT

NURSE.LastName, Nurse.FirstName, Doctor.LastName, DOCTOR.FirstName

|

From

(NURSE

INNER JOIN

DOCTOR ON NURSE.DOCTORID = DOCTOR.DOCTORID)

I

COUNT Function

```
SELECT  
    COUNT ([FieldName])  
FROM  
    <database>  
WHERE  
    <criteria>
```

Ex:

1)

SELECT

Count (LastName)

From

NURSE

2)

SELECT

Count (*) As NumNURSE

(أخير اسم
header)

From

NURSE

SELECT

2

SELECT

Count (*) As NumNURSEID

From

NURSE

WHERE

NURSEID > 1

QUERIES AND SQL

INSERT

INSERT INTO **<table dataset>**

(**<column1>**, **<column2>**, **<column3>**, ...)

VALUES

(**<value1>**, **<value2>**, **<value3>**,)

Ex:

```
INSERT INTO NURSE  
( NURSEID, LastName, FirstName)  
VALUES  
(6, 'Amal', 'Ahmad')
```



QUERIES AND SQL

UPDATE

← الفترت من ال insert انه في conditions

UPDATE

<table dataset>

SET

<column1> = <value1>, <column2> = <value2>, .

WHERE

<some condition is TRUE>

Ex:

UPDATE

DOCTOR

SET

FirstName = "Enam", LastName = "Rami"

WHERE

DOCTORID = 4



QUERIES AND SQL

DELETE

Ex

```
1 DELETE  
FROM  
DOCTOR  
WHERE  
DOCTORID = 2
```

DELETE *
FROM

<table dataset>

WHERE

<some condition is TRUE>