



# Database System

Lecture 10

SQL Sub Languages

DDL - Data Definition Language

**TABLE CONSTRAINT**

**NOT NULL Constraint & Default Constraint**

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# SQL Components Or SQL Sub Languages

**DCL:** Data Control Language

Example: Grant, Revoke.

**DDL:** Data Definition Language.

Example: Create, Alter, Drop, Rename and Truncate.

**DML:** Data Manipulation Language

Example: Insert, Update, Delete

**DRL:** Data Retrieval Language

Example: Select

**TCL:** Transaction Control Language

Example : Rollback, Commit, Savepoint

# DDL - TABLE CONSTRAINT

## *Types of constraint*

- Primary Key Constraint.
- Foreign Key constraint.
- Unique constraint.
- Check Constraint.
- Not NULL Constraint.
- Default Constraint.

# DDL - TABLE CONSTRAINT

## ➤ *NOT NULL Constraint*

NOT NULL constraints are in-line constraints that indicate that a column can not contain NULL values.

A Not Null constraint can be defined in either a

CREATE TABLE statement

or

ALTER TABLE statement

# DDL - TABLE CONSTRAINT

## *Using a CREATE TABLE statement*

The Next example of the creation of the **Customer** table contained one column of **NOT NULL** constraint being defined. For example, the **Last\_Name** column is defined as NOT NULL.

```
CREATE TABLE Customer2
(
Customer_id integer ,
First_Name varchar(30),
Last_Name varchar (30) CONSTRAINT "Last_N_NN" NOT NULL
);
```

# DDL - TABLE CONSTRAINT

## *Using an ALTER TABLE statement*

If you need to add a NOT NULL constraint to a table after the fact, simply use the alter table command.

### *Example:*

```
ALTER TABLE customer2  
MODIFY ( customer_id NOT NULL DISABLE) ;
```

```
ALTER TABLE customer2  
ADD C_Email varchar (30) NOT NULL ENABLE;
```

# DDL - TABLE CONSTRAINT

## *Using an ALTER TABLE statement*

you can Modify any column in table to NOT NULL constraint , simply use the alter table command.

### *Example:*

```
ALTER TABLE "CUSTOMER2"  
MODIFY ("FIRST_NAME" CONSTRAINT "FIRST_NAME  
_NN" NOT NULL ENABLE);
```

### **Important Note:**

Its recommended to give Name for any constraint in table even NOT NULL constraints.

# DDL - TABLE CONSTRAINT

## ➤ *Default Constraint*

The DEFAULT constraint is used to provide a default value for a column.

The default value will be added to all new records IF no other value is specified.

A Default constraint can be defined in either a

**CREATE TABLE statement**

or

**ALTER TABLE statement.**



# DDL - TABLE CONSTRAINT

## *Using a CREATE TABLE statement*

```
CREATE TABLE customer2
(
First_Name          char(50) ,
Last_Name           char(50) ,
Address             char(50) default 'Unknown' ,
City                char(50) default 'Mosul' ,
Country             char(25) ,
Birth_Date          date
);
```

# DDL - TABLE CONSTRAINT

*Using a ALTER TABLE statement*

**Syntax :**

```
ALTER TABLE table_name  
MODIFY Column_name DEFAULT Default_Value;
```

**Example :**

```
ALTER TABLE customer2  
MODIFY Country DEFAULT 'Iraq';
```





Thank you

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