SQL

DATA DEFINITION LANGAUGE

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Constraints

SQL constraints are used to specify rules for the data.
The following constraints are commonly used in SQL:

- NOT NULL - Ensures that a column cannot have a NULL value
- UNIQUE - Ensures that all values in a column are different
- PRIMARY KEY - A combination of a NOT NULL and UNIQUE. Uniquely identifies each row in a table
- FOREIGN KEY - Prevents actions that would destroy links between tables
- DEFAULT - Sets a default value for a column if no value is specified

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Creating database.

```
create database demonstration ;
```

Creating a database with name “demonstration”.

However if database already exists with this name, it will throw an error.
To avoid this situation, we add “if not exist” phrase in the script.

```
create database if not exist
demonstration ;
```

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Using database.

```
use demonstration ;
```

One of the simplest command but equally important. It’s used to determine which database is to be used for upcoming script lines.

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Creating table

```
create table customers (
name varchar(32));
```

This is basic structure to create table. While using this function, you have to specify atleast one column name and it’s constraint to create a table.

On the next page I have put the script for table creation and explained the different columns.

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Creating table

```
create table customers (
ID int not null ,
NAME varchar(32) not null ,
time timestamp default
current_timestamp not null ,
age int,
address varchar(32) ,
salary int
) ;
```

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Creating table

The table “customers” has 7 columns with following constraints:

- **ID**: Integer data type. ‘*not null*’ to refrain from taking null values.
- **Name**: Character datatype, ‘*not nul*l’ to refrain from taking null values.
- **time**: timestamp data type. *default* value defined as current_timestamp. ‘*not null’* to refrain from taking null values
- **age**: integer data type.
- **address**: character datatype with length limit of 32 characters.
- **salary**: integer data type.

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Describing table

```
desc customers ;
```

desc is used to retrieve information about the structure of a table.. It includes all the column names along their data type and other constraints.

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Field	Type	Null	Key	Default	Extra
ID	int	NO		NULL	
NAME	varchar(32)	NO		NULL	
time	timestamp	NO		CURRENT_TIMESTAMP	DEFAULT_GENERATED
age	int	YES		NULL	
address	varchar(32)	YES		NULL	
salary	int	YES		NULL	

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Drop table

```sql
drop table customers ;
```

Used to drop (i.e. delete) an entire table from the database.

This function should be used very carefully as the dropped table is irretrievable.

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Drop database

```
drop database demonstration ;
```

Used to drop (i.e. delete) an entire database.

This function should be used very carefully as the dropped database is irretrievable and all the schemas, tables and everything inside database also ceases to exist.

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Alter table - I

```
alter table customers add column
employer varchar(32) ;
```

the ALTER statement is used to make modifications to existing database objects, such as tables, columns, constraints, and indexes.

In this case we are adding a new column named “employer” in the table “customers” with varchar data type.

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Alter table - II

```
alter table customers drop column
employer ;
```

In this case we are dropping a column named “employer” from the table “customers”

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Truncate database

```
truncate table customers ;
```

The result of truncate quickly removes all data from a table, but not the table itself.

It is used to mark the extent of a table for deallocation (empty for reuse).

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These were the basic of DDL statement. In the next post we will cover DML statements.

THANK YOU