SQL

SQL follows some unique set of rules and guidelines called **Syntax**. Some basic guidelines related to SQL Syntax are given below;

* SQL is not case sensitive. Commonly SQL keywords are written in uppercase.
* You can write SQL statements in one line or in multiple lines.
* SQL are depends on relational algebra and tuple are relational calculus.

**SQL statement**

SQL statements are started with any of the SQL commands/keywords like SELECT, INSERT, UPDATE, DELETE, ALTER, DROP etc. and the statement ends with a semicolon (;).

## Syntax

SELECT \* FROM table\_name;

### Why use semicolon after SQL statements ?

Semicolon is used to separate SQL statements. It is a standard way to separate SQL statements in a database system in which more than one SQL statements are used in the same call.

## Some Basic Commands

* **SELECT:**It is used for Retrive data from a database.
* **UPDATE:**It is used for updates data in database.
* **DELETE:**It is used for deletes data from database.
* **CREATE TABLE:**It is used for creates a new table.
* **ALTER TABLE:**It is used to modify the table.
* **DROP TABLE:**It is used for deletes a table.
* **CREATE DATABASE:**It is used for creates a new database.
* **ALTER DATABASE:**It is used to modify a database.
* **INSERT INTO:**It is used for inserts new data into a database.
* **CREATE INDEX:**It is used to create an index (search key).
* **DROP INDEX:**It is used for deletes an index.

## Steps to get start with SQL

* Run SQL
* First connect with database.
* For connect with database type: connect system and type password system
* Now you can create table.

## Create table

## Syntax

CREATE TABLE table\_name

(

column\_name1 data\_type(size),

column\_name2 data\_type(size),

column\_name3 data\_type(size),

....

);

## Example

CREATE TABLE Employee

(

emp\_id number(5),

name varchar(20),

salary number(10)

);

**Employee table**

|  |  |  |
| --- | --- | --- |
| **emp\_id** | **name** | **salary** |
|  |  |  |

## SQL Select Command

**Select** command is used to retrieved the data from the existing table in the database.

* Using Select command you can retrieve all the records from the table in the database.
* Using Select command you can retrieve specific records from the table "using where clause"

## Syntax

select \* from table\_name;

**Note:**In the above syntax \* represent all columns.

## Example

select \* from Employee;

## Employee table

Using this table i will show you how to select employee record whose salary is greater than 30000.

|  |  |  |
| --- | --- | --- |
| **emp\_id** | **name** | **salary** |
| 101 | Amit | 24000 |
| 102 | Gaurav | 26000 |
| 103 | Hitesh | 35000 |
| 104 | Rahul | 34000 |
| 103 | Sultan | 54000 |

## Example

SELECT emp\_id, name FROM Employee

Result after using Select Command

|  |  |
| --- | --- |
| **emp\_id** | **name** |
| 101 | Amit |
| 102 | Gaurav |
| 103 | Hitesh |
| 104 | Rahul |
| 103 | Sultan |

## Select command with where clause

When you need to select some specific record from table you can use where clause with select command, in below example i will select those employee records who have more than 30000 salary.

## Example

SELECT \* from Employee

WHERE salary>30000;

Result after using Execute above query.

|  |  |  |
| --- | --- | --- |
| **emp\_id** | **name** | **salary** |
| 105 | Hitesh | 35000 |
| 102 | Rahul | 34000 |
| 103 | Sultan | 54000 |

## SQL Distinct

**Select Distinct**statement is used to retrieve only distinct or unique data. Select Distinct command is used with Select keyword.

**Note:** SQL Select Unique and SQL Select Distinct statements both are same.

## Syntax

SELECT DISTINCT column\_name, column\_name

FROM table\_name;

## Employee table

|  |  |  |
| --- | --- | --- |
| **emp\_id** | **name** | **salary** |
| 101 | Amit | 24000 |
| 102 | Rahul | 34000 |
| 103 | Hitesh | 24000 |
| 104 | Gaurav | 26000 |
| 105 | Hitesh | 35000 |

## Example

SELECT DISTINCT name

FROM Employee;

Result after Execute above query.

|  |
| --- |
| **name** |
| Amit |
| Rahul |
| Gaurav |
| Hitesh |

## SQL Insert Command

**Insert Command**is used to insert new record in table. Using Insert Command you can insert a single or a multiple records in a table.

Insert data in table in two form, which is given below.

* Insert data without speficying column name
* Insert data by specifies both the column names and the values to be inserted

Insert data without speficying column name

## Syntax

INSERT INTO table\_name

VALUES (value1,value2,value3,...);

Insert data by specifies both the column names and the values to be inserted

## Syntax

INSERT INTO table\_name (column1,column2,column3,...)

VALUES (value1,value2,value3,...);

## Employee table

Here you can insert data in Employee table by using Insert Command

|  |  |  |
| --- | --- | --- |
| **emp\_id** | **name** | **salary** |
|  |  |  |

## Example

INSERT INTO Employee

VALUES (101, 'amit', 24000);

Result after Execute above query.

|  |  |  |
| --- | --- | --- |
| **emp\_id** | **name** | **salary** |
| 101 | Amit | 24000 |

## SQL Delete Command

**Delete** command is used to delete the record from the table.

* Using Delete command you can delete all the records from the table without delete table.
* Using Delete command you can delete specific records from the table "using where clause"

## Syntax

DELETE FROM table\_name

WHERE some\_column=some\_value;

## Employee table

|  |  |  |
| --- | --- | --- |
| **emp\_id** | **name** | **salary** |
| 101 | Amit | 24000 |
| 102 | Rahul | 34000 |
| 103 | Sultan | 54000 |
| 104 | Gaurav | 26000 |
| 105 | Hitesh | 35000 |

## Example

DELETE FROM Employee

WHERE salary<30000;

Result after Execute above query.

|  |  |  |
| --- | --- | --- |
| **emp\_id** | **name** | **salary** |
| 102 | Rahul | 34000 |
| 103 | Sultan | 54000 |
| 105 | Hitesh | 35000 |