

Module 8 - DQL Command in SQL

What is DQL Command in SQL?

DQL stands for **Data Query Language**. It is a part of SQL that is used to **get or retrieve data** from a database.

When you want to look at data stored in a database – like finding a list of employees, or checking customer orders – you use DQL commands.

The main DQL command is SELECT

- It helps you choose which data you want to see.
- You can select one or more columns (pieces of information).
- You can also decide which rows (records) to get based on conditions.

How it works:

- You write a **SELECT** statement.
- You tell it what columns you want.
- You say which table to get the data from.
- You can add conditions to filter the data.
- You can sort or group the data to better understand it.

Simple example:

SELECT name, age FROM employees;

This means: "Give me the names and ages of all employees."

Adding conditions:

SELECT name, age FROM employees WHERE age > 30;

This means: "Give me the names and ages of employees who are older than 30."

Other useful features:

- **ORDER BY:** Sort results by a column, like by age or name.
- **GROUP BY:** Group data, for example, count employees in each department.
- **HAVING:** Filter groups (like departments with more than 5 employees).
- **LIKE:** Find data matching a pattern, like names starting with 'A'.
- **DISTINCT:** Show only unique values, no duplicates.

 CBSE

 ICSE

 NTSE

 Banking & Insurance

 Central Govt. Service

 State Govt. Services

 LAW Entrance

 MBA Entrance

 Railways & Metro Services

...many more

abhyasonline.in

Course & Test Series

Concepts of SQL

[Blank space]

 **CBSE**

[Blank space]

 **ICSE**

[Blank space]

 **NTSE**

[Blank space]

 **Banking & Insurance**

[Blank space]

 **Central Govt. Service**

[Blank space]

 **State Govt. Services**

[Blank space]

 **LAW Entrance**

[Blank space]

 **MBA Entrance**

[Blank space]

 **Railways & Metro Services**

...many more

abhyasonline.in

WHERE Clause

Purpose:
Filter rows based on a condition.

Syntax:

SELECT columns
FROM table_name
WHERE condition;

Example:

SELECT * FROM employees WHERE age > 30;

Gets all employees older than 30.

Example table:

id	name	age	department	Click to Add
1	Amit	28	HR	
2	Priya	35	Sales	
3	Rahul	40	IT	
4	Sneha	25	HR	
*				

Run: **SELECT * FROM employees WHERE age > 30;**

Result of Query:

id	name	age	department
2	Priya	35	Sales
3	Rahul	40	IT
*			

**Course
&
Test Series**



















...many more
abhyasonline.in

Concepts of SQL

LIKE Clause

Purpose:
Search for a pattern in a column.

Syntax:

```
SELECT columns
FROM table_name
WHERE column LIKE pattern;
```

Example:

```
SELECT * FROM employees WHERE name LIKE 'A%';
```

Finds employees whose names start with "A".
(% means any number of characters)

• Important Note for Access:

- Access uses different wildcards than many other SQL databases.
- Use * (asterisk) instead of % to represent **any number of characters**.
- Use? (Question mark) instead of _ to represent **a single character**.

• Example in Access:

```
SELECT * FROM employees WHERE name LIKE 'A*';
```

This finds employees whose names start with "A".

So, in Access, if you want to find names starting with "A", use 'A*' not 'A%'.

Example Table:

id	name	age	department	Click to Add
1	Amit	28	HR	
2	Priya	35	Sales	
3	Rahul	40	IT	
4	Sneha	25	HR	
*				

Run this Query: **SELECT * FROM employees WHERE name LIKE 'A*';**

- Course & Test Series**
-  **CBSE**
-  **ICSE**
-  **NTSE**
-  **Banking & Insurance**
-  **Central Govt. Service**
-  **State Govt. Services**
-  **LAW Entrance**
-  **MBA Entrance**
-  **Railways & Metro Services**
- ...many more
- abhyasonline.in**

Concepts of SQL

Result of Query:

id	name	age	department
	Amit	28	HR
*			

ORDER BY Clause

Purpose:
Sort the result set by one or more columns.

Syntax:

SELECT columns
FROM table_name
ORDER BY column1 [ASC|DESC], column2 [ASC|DESC];

Example:

SELECT name, age **FROM** employees **ORDER BY** age **DESC**;
Sort employees by age in descending order.

Example table:

id	name	age	department	Click to Add
1	Amit	28	HR	
2	Priya	35	Sales	
3	Rahul	40	IT	
4	Sneha	25	HR	
*				

Run: **SELECT** name, age **FROM** employees **ORDER BY** age **DESC**;

- Course & Test Series**
-  **CBSE**
 -  **ICSE**
 -  **NTSE**
 -  **Banking & Insurance**
 -  **Central Govt. Service**
 -  **State Govt. Services**
 -  **LAW Entrance**
 -  **MBA Entrance**
 -  **Railways & Metro Services**
 - ...many more**

Concepts of SQL

Result of Query:

name	age
Rahul	40
Priya	35
Amit	28
Sneha	25
*	

GROUP BY Clause

Purpose:

Group rows that have the same values in specified columns. Often used with aggregate functions like COUNT(), SUM(), etc.

Syntax:

SELECT column, aggregate_function(column)
FROM table_name
GROUP BY column;

Example:

SELECT department, COUNT(*) **FROM** employees **GROUP BY** department;

Counts how many employees are in each department.

Example table:

id	name	age	department	Click to Add
1	Amit	28	HR	
2	Priya	35	Sales	
3	Rahul	40	IT	
4	Sneha	25	HR	
*				

Run: **SELECT** department, COUNT(*) **FROM** employees **GROUP BY** department;

Course & Test Series

CBSE

ICSE

NTSE

Banking & Insurance

Central Govt. Service

State Govt. Services

LAW Entrance

MBA Entrance

Railways & Metro Services

...many more

abhyasonline.in

Concepts of SQL

Result of Query:

department	Expr1001
HR	2
IT	1
Sales	1

HAVING Clause

Purpose:
Filter groups created by GROUP BY.

Syntax:

SELECT column, aggregate_function(column)
FROM table_name
GROUP BY column
HAVING condition;

Example:

SELECT department, COUNT(*)
FROM employees
GROUP BY department
HAVING COUNT(*) > 1;

Shows departments with more than 1 employees.

Example table:

id	name	age	department	Click to Add
1	Amit	28	HR	
2	Priya	35	Sales	
3	Rahul	40	IT	
4	Sneha	25	HR	
*				

Run: SELECT department, COUNT(*)
FROM employees
GROUP BY department

- Course & Test Series
-  CBSE
-  ICSE
-  NTSE
-  Banking & Insurance
-  Central Govt. Service
-  State Govt. Services
-  LAW Entrance
-  MBA Entrance
-  Railways & Metro Services
- ...many more
- abhyasonline.in

Concepts of SQL

HAVING COUNT(*) > 1;

Result of Query:

Table1	employees	Query1
department	Expr1001	
HR		2

DISTINCT Keyword

Purpose:
Remove duplicate rows from the result set.

Syntax:

SELECT DISTINCT column1, column2
FROM table_name;

Example:

SELECT DISTINCT department FROM employees;

Gets a list of unique departments.

Example table:

Table1	Query1	employees		
id	name	age	department	Click to Add
1	Amit	28	HR	
2	Priya	35	Sales	
3	Rahul	40	IT	
4	Sneha	25	HR	
*				

Run: SELECT DISTINCT department FROM employees;



- Course & Test Series**
-  **CBSE**
-  **ICSE**
-  **NTSE**
-  **Banking & Insurance**
-  **Central Govt. Service**
-  **State Govt. Services**
-  **LAW Entrance**
-  **MBA Entrance**
-  **Railways & Metro Services**
- ...many more**
- abhyasonline.in**

Concepts of SQL

Result of Query:

department
HR
IT
Sales

AND / OR Operators

Purpose:

Combine multiple conditions in the WHERE or HAVING clause.

Syntax:

SELECT columns
FROM table_name
WHERE condition1 AND condition2;

Or

SELECT columns
FROM table_name
WHERE condition1 OR condition2;

Example with AND:

SELECT * FROM employees WHERE age > 30 AND department = 'HR';

Example table:

id	name	age	department	Click to Add
1	Amit	28	HR	
2	Priya	35	Sales	
3	Rahul	40	IT	
4	Sneha	25	HR	
*				

Run: SELECT * FROM employees WHERE age > 30 AND department = 'Sales';

**Course
&
Test Series**

Concepts of SQL

Result of Query:

id	name	age	department
2	Priya	35	Sales
*			

Example with OR:

SELECT * FROM employees WHERE department = 'HR' OR department = 'Sales';

Example table:

id	name	age	department	Click to Add
1	Amit	28	HR	
2	Priya	35	Sales	
3	Rahul	40	IT	
4	Sneha	25	HR	
*				

Run: SELECT * FROM employees WHERE department = 'HR' OR department = 'Sales';

Result of Query:

id	name	age	department
1	Amit	28	HR
2	Priya	35	Sales
4	Sneha	25	HR
*			

CBSE

ICSE

NTSE

Banking & Insurance

Central Govt. Service

State Govt. Services

LAW Entrance

MBA Entrance

Railways & Metro Services

...many more

abhyasonline.in