



MySQL - RDBMS

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SELECT – DQL

- Select all columns (in fixed order).
 - `SELECT * FROM table;`
- Select specific columns / in arbitrary order.
 - `SELECT c1, c2, c3 FROM table;`
- Column alias
 - `SELECT c1 AS col1, c2 col2 FROM table;`
- Computed columns.
 - `SELECT c1, c2, c3, expr1, expr2 FROM table;`
`SELECT c1,`
`CASE WHEN condition1 THEN value1,`
`WHEN condition2 THEN value2,`
`...`
`ELSE valuen`
`END`
`FROM table;`



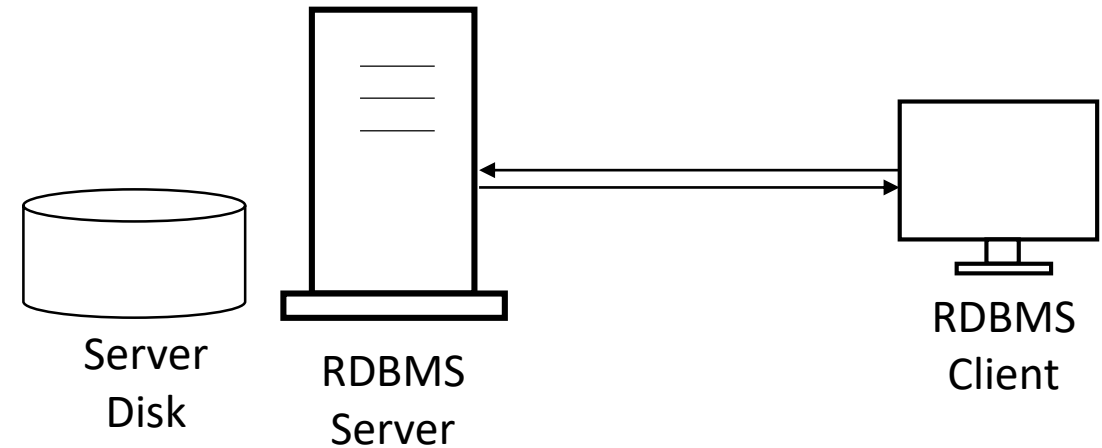
SELECT – DQL

- Distinct values in column.
 - `SELECT DISTINCT c1 FROM table;`
 - `SELECT DISTINCT c1, c2 FROM table;`
- Select limited rows.
 - `SELECT * FROM table LIMIT n;`
 - `SELECT * FROM table LIMIT m, n;`



SELECT – DQL – ORDER BY

- In db rows are scattered on disk. Hence may not be fetched in a fixed order.
- Select rows in asc order.
 - `SELECT * FROM table ORDER BY c1;`
 - `SELECT * FROM table ORDER BY c2 ASC;`
- Select rows in desc order.
 - `SELECT * FROM table ORDER BY c3 DESC;`
- Select rows sorted on multiple columns.
 - `SELECT * FROM table ORDER BY c1, c2;`
 - `SELECT * FROM table ORDER BY c1 ASC, c2 DESC;`
 - `SELECT * FROM table ORDER BY c1 DESC, c2 DESC;`
- Select top or bottom n rows.
 - `SELECT * FROM table ORDER BY c1 ASC LIMIT n;`
 - `SELECT * FROM table ORDER BY c1 DESC LIMIT n;`
 - `SELECT * FROM table ORDER BY c1 ASC LIMIT m, n;`



SELECT – DQL – WHERE

- It is always good idea to fetch only required rows (to reduce network traffic).
- The WHERE clause is used to specify the condition, which records to be fetched.
- Relational operators
 - <, >, <=, >=, =, != or <>
- NULL related operators
 - NULL is special value and cannot be compared using relational operators.
 - IS NULL or <=>, IS NOT NULL.
- Logical operators
 - AND, OR, NOT



SELECT – DQL – WHERE

- BETWEEN operator (include both ends)
 - c1 BETWEEN val1 AND val2
- IN operator (equality check with multiple values)
 - c1 IN (val1, val2, val3)
- LIKE operator (similar strings)
 - c1 LIKE 'pattern'.
 - % represent any number of any characters.
 - _ represent any single character.



UPDATE – DML

- To change one or more rows in a table.
- Update row(s) single column.
 - UPDATE table SET c2=new-value WHERE c1=some-value;
- Update multiple columns.
 - UPDATE table SET c2=new-value, c3=new-value WHERE c1=some-value;
- Update all rows single column.
 - UPDATE table SET c2=new-value;



DELETE – DML vs TRUNCATE – DDL vs DROP – DDL

- DELETE

- To delete one or more rows in a table.
- Delete row(s)
 - DELETE FROM table WHERE c1=value;
- Delete all rows
 - DELETE FROM table

- TRUNCATE

- Delete all rows.
 - TRUNCATE TABLE table;
- Truncate is faster than DELETE.

- DROP

- Delete all rows as well as table structure.
 - DROP TABLE table;
 - DROP TABLE table IF EXISTS;
- Delete database/schema.
 - DROP DATABASE db;



DUAL table

- A dummy/in-memory a table having single row & single column.
- It is used for arbitrary calculations, testing functions, etc.
 - `SELECT 2 + 3 * 4 FROM DUAL;`
 - `SELECT NOW() FROM DUAL;`
 - `SELECT USER(), DATABASE() FROM DUAL;`
- In MySQL, DUAL keyword is optional.
 - `SELECT 2 + 3 * 4;`
 - `SELECT NOW();`
 - `SELECT USER(), DATABASE();`





Thank you!

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