

Week-08 Research

1. Besides the creation and dropping of tables and columns (Data Definition Requests or DDL), what other types of requests can you make to a MySQL database? How is data retrieved from a MySQL database? What clauses exist for restricting the data that is returned to the user? Please include the syntax for this type of request, and examples.

Structured Query Language (SQL) can be divided into five areas:

- a) DDL – Data Definition Language
- b) DQL – Data Query Language
- c) DML – Data Manipulation Language
- d) DCL – Data Control Language
- e) TCL – Transaction Control Language

<https://www.geeksforgeeks.org/sql-ddl-dql-dml-dcl-tcl-commands/>

The DQL allows for the retrieval of data from the database by use of the SELECT command. The SELECT command had the following syntax:

```
SELECT
  [ALL | DISTINCT | DISTINCTROW ]
  [HIGH_PRIORITY]
  [STRAIGHT_JOIN]
  [SQL_SMALL_RESULT] [SQL_BIG_RESULT] [SQL_BUFFER_RESULT]
  [SQL_NO_CACHE] [SQL_CALC_FOUND_ROWS]
  select_expr [, select_expr] ...
  [into_option]
  [FROM table_references
   [PARTITION partition_list]]
  [WHERE where_condition]
  [GROUP BY {col_name | expr | position}, ... [WITH ROLLUP]]
  [HAVING where_condition]
  [WINDOW window_name AS (window_spec)
   [, window_name AS (window_spec)] ...]
  [ORDER BY {col_name | expr | position}
   [ASC | DESC], ... [WITH ROLLUP]]
  [LIMIT {[offset,] row_count | row_count OFFSET offset}]
  [into_option]
  [FOR {UPDATE | SHARE}
   [OF tbl_name [, tbl_name] ...]
   [NOWAIT | SKIP LOCKED]
   | LOCK IN SHARE MODE]
  [into_option]
```

into_option: {

```

    INTO OUTFILE 'file_name'
        [CHARACTER SET charset_name]
        export_options
| INTO DUMPFILE 'file_name'
| INTO var_name [, var_name] ...
}

```

<https://dev.mysql.com/doc/refman/8.0/en/select.html>

The WHERE clause is used for restricting the number of rows returned to a set that matches its boolean conditions. For example:

```

SELECT *
FROM FlightAvailability
WHERE business_seats_taken IS NULL

```

<https://docs.oracle.com/javadb/10.6.2.1/ref/rrefsqlj33602.html>

2. Research different constructs that are available in MySQL when retrieving data. What types of constructs can be put into the WHERE clause? Please include the syntax for this type of request, and examples.

WHERE clauses can use the Boolean operators, AND, OR, or NOT. Example:

```

SELECT city, country
FROM offices
WHERE country = 'UK'
    OR country = 'France';

```

In addition, the IN operator is also available. Example:

```

SELECT city, country
FROM offices
WHERE country IN ('UK', 'France');

```

<https://learnsql.com/blog/where-clause-in-sql/>

3. List 3-5 interesting facts that you have learned about MySQL from your research?
 - a) SQL is made up of four (though most say, five) languages that perform the major tasks of a RDBMS.
 - b) The SELECT command is the only command in the DQL.
 - c) The WHERE clause can not have aggregate functions directly inside of it.

4. What is your favorite thing you learned this week?

Using SQL scripts to create MySQL databases.