

MODULE 03

BACKEND DEVELOPMENT WITH Node.js AND Database

➤ ASSIGNMENT 02

MySQL Cheat Sheet

◆ Introduction to MySQL

MySQL is a powerful and widely-used relational database management system (RDBMS) designed for efficient data storage and management. This cheat sheet provides a concise overview of essential MySQL concepts, including database creation, table management, CRUD operations, filtering, and sorting. It serves as a quick reference for both beginners and experienced users.

◆ Key Concepts

1. Creating and Managing Databases

• Create Database:

sql

```
CREATE DATABASE database-name;
```

Creates a new database with the specified name.

• Use Database:

sql

```
USE database-name;
```

Selects the specified database for subsequent operations.

• Show Databases:

sql

```
SHOW DATABASES;
```

Lists all databases available in the MySQL server.

• Drop Database:

sql

```
DROP DATABASE database-name;
```

Deletes the specified database and all its contents.

2. Creating and Managing Tools

- Create Table:

sql

```
CREATE TABLE table-name (  
    column1 datatype,  
    column2 datatype,  
    ...  
);
```

Defines a new table with specified columns and data types.

- Show Tables:

sql

```
SHOW TABLES;
```

Displays all tables within the currently selected database.

- Describe Table Structures:

sql

```
DESCRIBE table-name;
```

Provides details about the columns, data types, and constraints of a specified table.

- Drop Table :

sql

```
DROP TABLE table-name;
```

Removes the specified table from the database.

3. CRUD Operations

- Create (Insert Data):

sql

```
INSERT INTO table-name (column1, column2) VALUES (value1, value2);
```

Inserts new records into a specified table.

- Read (Select Data):

sql

```
SELECT * FROM table-name; -- Select all columns
```

```
SELECT column1, column2 FROM table-name WHERE condition; --  
Conditional Selection
```

Retrieves data from one or more tables based on specified conditions.

- Update Data:

sql

UPDATE table-name SET column1=new-value WHERE condition;

Modifies existing records in a specified table based on conditions.

- Delete Data:

sql

DELETE FROM table-name WHERE condition;

Removes records from a specified table that meet certain conditions.

4. Filtering and Sorting Data

- Filtering Results:

sql

SELECT * FROM table-name WHERE column=value;

Retrieves records that match specific criteria.

- Sorting Results:

sql

SELECT * FROM table-name ORDER BY column ASC; -- Ascending order

SELECT * FROM table-name ORDER BY column DESC; -- Descending order

Order the retrieved records based on specified columns in either ascending or descending order.

◆ Conclusion

This cheat sheet encapsulates the fundamental concepts of MySQL, providing a quick reference for creating and managing databases, tables, performing CRUD operations, and filtering and sorting data. Mastery of these concepts is essential for effective database management and is invaluable for software development and data analysis roles. By applying these principles in practice, users can enhance their skills in managing relational databases efficiently.