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Role: Full Stack Web Development

MySQL Cheat Sheet

Connecting to a MySQL Server

- By password
`mysql -u [username] -p`
- Connect to specific database
`mysql -u [username] -p [database]`
- Export data
`mysqldump -u [username] -p [database] > data_backup.sql`

Creating and Displaying Databases

- Create Database `zoo;`
- List of database
`SHOW DATABASES;`
- Use specific database
`USE zoo;`
- Delete a database
`DROP database zoo;`

Creating Tables

```
Create table table1 (  
    id INT,  
    name VARCHAR(10),  
);
```

• Table with key

```
Create table student (  
    id INT PrimaryKey Auto_INCREMENT,  
    name VARCHAR(20),  
    work varchar(60),  
    age INT,  
    stud_id INT,  
    Foreign Key (stud_id)  
    REFERENCES course(id)  
);
```

Modifying Table

- Change table name;
`ALTER TABLE students RENAME BATCH;`
- Add Column
`ALTER Table student
ADD COLUMN Add VARCHAR(60);`
- To change Column data type
`ALTER TABLE student
MODIFY COLUMN name VARCHAR
(128);`
- To delete a table
`DROP TABLE student;`
- To drop/delete a column
`ALTER TABLE student
DROP COLUMN phone-no;`

AGGREGATION and GROUPING

- $AVG(x)$: average value of x for the group
- $COUNT(x)$: count of x values within the group.
- $MAX(x)$: maximum value of x values within the group.
- $MIN(x)$: minimum value of x values within the group.
- $SUM(x)$: sum of x values within the group.

Grouping

SELECT sep, COUNT(id) from animal
GROUP BY sep;

INSERTING DATA

INSERT INTO student VALUES

(1, 'Jasvi');
(2, 'Joydev');

Updating DATA

UPDATE student set

name = 'Duke';

Roll-No = '3'

where id = 4;

DELETING DATA

DELETE FROM student WHERE
id = 1;

CASTING

- Number as signed number.
SELECT CAST(1234.567 AS signed);
- Change a column type
SELECT CAST(column AS double);

NUMERIC FUNCTIONS

SELECT MOD(13, 2);

SELECT ROUND(1234.567);

SELECT CEIL(13.1);

SELECT FLOOR(13.8);

SELECT TRUNCATE(13.56, 0);

SELECT ABS(-12);

SELECT SQRT(9);

MYSQL JOINS

INNER JOIN

It returns all rows from multiple tables where the join condition is satisfied.

LEFT OUTER JOIN

It returns all rows from the left-hand table specified in the ON condition and only those from the other table, if true.

Right outer Join

It returns all rows from the right-hand table specified in the ON condition and only those rows from the other table when the join condition is satisfied

Full Join

It combines the results of both left and right outer joins.

SELF JOIN

when the table is joined with itself.

DATE and TIME

- DATE - stores the year, month and day in the YYYY-MM-DD format
- TIME - stores the hours, minutes and seconds in HH:MM:SS format.
- DATETIME - store the date and time in the YYYY-MM-DD HH:MM:SS format.
The supported range is '1000-01-01 00:00:00' to '9999-12-31 23:59:59'.
- TIMESTAMP - store the date and time. The range is '1970-01-01 00:00:01' UTC to '2038-01-19 03:14:07' UTC. MySQL converts TIMESTAMP values from the current time zone to UTC for storage and vice-versa for retrieval.
- YEAR - stores the year in the YYYY format.

Extracting Parts of Dates

- Year → `SELECT YEAR(CAST('2024-05-11' AS date));`
- Month - `SELECT MONTH(CAST('2024-05-11' AS date));`
- DAY - `SELECT DAY(CAST('2024-05-11' AS date));`

Other date arithmetics

- `ADDDATE('2024-05-11', INTERVAL 2 MONTH);`
- `TIMESTAMPADD(MONTH, 2, '2024-05-11 07:16:00');`
- `ADDTIME('2024-05-11 07:16:00', '12:43:02');`
- `DATEDIFF('2002-08-23', '2024-05-11');`
- `TIMEDIFF('07:16:00', '14:27:18');`
- ~~TIME~~ `TIME`
- `TIMESTAMPDIFF(WEEK, '2024-05-11', '2024-07-11');`