

MySQL

Connecting to a MySQL Server

- mysql -u[username] -p
- specific database
mysql -u[username] -p[database]
- export data
mysqldump -u[username] -p[database] > data-backup.sql
- to exit the client: quit or exit

Creating tables

- To create table
Create table bat (id INT,
name varchar(60));
- To create table with Primary key
Create table animal (
id Int Primary key,
name varchar(20),
species varchar(20));

Group By
Select habit-id, Avg(age), Min(age),
Max(age), From animal
group by habit-id

Updating Data
Update animal Set species='Duck',
name='Quack' where id=10;

Casting

we use Cast() function to change the type of a value.

In MySQL, we can cast to these data types

Char Nchar Binary Date Datetime Decimal Double Float
Real Signed Unsigned Time Year Tson spatial type

Select CAST(123.46 As signed);

- result : 123

Creating & Displaying Databases

- to create database
create Database Zoo; Desc animal;
- to list all database on server
SHOW DATABASES;
- To use specified database.
Use Zoo;
- to delete specific database
Drop Database Zoo;
- To list all tables: Show tables;

Modifying tables

- change table name
Alter table animal Rename pet;
- to add column to a table
Alter table animal
Add column name varchar(24);
- to change column name
Alter table animal Modify column
~~id~~ id to ident;
- to change column datatype
Alter table animal Modify column
name varchar(128);
- To delete a column
Alter table animal
Drop column id;
- To delete a table
Drop table animal;

Inserting Data

Insert INTO habit values
(1, 'river'), (2, 'Forest');

Deleting Data

Delete From animal
where id = 6;

Text Functions

Filtering the output
Select name From city
where name != 'Berlin';

Concatenation

Select concat('Hi', 'there');
Select concat_ws(' ', 1,
'olivi', 'Norris');

Text operators

Select name From city
where name like '_ubli_';

Other Text functions

Select length('SQL');
Select lower('SQL');
Select upper('SQL');
Select substring('PLSQL', 2);

Numeric Functions

Select Mod(13, 2);
Select Round(123.45);
Select Round(123.45, 2);
Select ceil(13.1);
Select Ceil(-13.1);
Select floor(13.8);
Select floor(-13.2);
Select truncate(13.56, 1);
Select Abs(-12);
Select SQRT(9);

Null Functions

Select name From city
where salary IS NOT NULL;

Coalesce(u, y, ...)
Select domain,
Coalesce(domain,
'domain missing')
From contacts;

NULLIF (u, y)

Select last_name, first_name,
Salary * 12 An_sal
/ NULLIF(last_name, 0)
AS better From videos;

Date and time

Date → stores a year, month &
day in YYYY-MM-DD
Time → stores hours, minutes,
seconds in HH:MM:SS.
Datetime → stores the date & time
in YYYY-MM-DD
HH:MM:SS format
Timestamp → store date and time.
1970-01-01 00:00:01 UTC
Year → store the year in YYYY format

Intervals

An interval is the duration
between two points in time.
To define an interval: Interval 1 Day
Intervals using the + or -.
Interval 1 Year + Interval 3 month
standard SQL query.
Interval '1-3' Year - Month.
Interval '3-12' hour - Minute.

What time it is?

To answer this question, use:

- CURRENT_TIME or CURTIME - to get the current time.
- CURRENT_DATE or CURDATE - to get the current date.
- NOW() or CURRENT_TIMESTAMP - to get the current timestamp with both of the above.

CREATING VALUES

To create a date, time or datetime, write the value as a string and Cast it to the proper type.

```
SELECT CAST('2021-12-31' AS date),  
CAST('15:31' AS time),  
CAST('2021-12-31 23:59:29' AS datetime);
```

You may skip casting in simple conditions, the database knows what you mean.

```
SELECT airline, flight_no, departure_time  
FROM airport-schedule  
WHERE departure_time < '12:00';
```

Extracting Parts of Dates

To Extract a part of a date, use the functions YEAR, MONTH, WEEK, DAY, HOUR, and so on.

```
SELECT YEAR(CAST('2021-12-31' AS date));  
-- result: 2021
```

```
SELECT MONTH(CAST('2021-12-31' AS date));  
-- result: 12
```

```
SELECT DAY(CAST('2021-12-31' AS date));  
-- result: 31
```

DATE ARITHMETICS

To add or subtract an interval from a DATE, use the ADDDATE()

```
ADDDATE('2021-10-31', Interval 2 month)  
-- result: '2021-12-31'
```

```
ADDDATE('2014-04-05', Interval 3 Day)  
-- result: '2014-04-02'
```

To add or subtract an interval from a Timestamp or DATETIME, use the TIMESTAMPAADD() function:

```
TimestampAdd(Month, 2,  
'2014-06-10 07:55:00');  
-- result: '2014-08-10 07:55:00'
```

```
TimestampAdd(Month, -2,  
'2014-06-10 07:55:00');  
-- result: '2014-04-10 07:55:00'
```

To add or subtract time from a DATETIME, use the ADDTIME() function:

```
ADDTIME('2018-02-12 10:20:24',  
'12:43:02');
```

To Find the difference between two dates, use the DATEDIFF() function:

```
DATEDIFF('2015-01-01',  
'2014-01-02');
```

To Find the difference between two times,

```
SELECT TIMEDIFF  
('09:30:00', '07:55:00');  
-- result: '01:35:00'
```