

③ Journal → Success ✓

### Objectives

- ① Functional Dependency
- Normalization ✓
  - Errors ✓

② MySQL Features

- ③ ✓ Alter options
- Column
  - Table
  - Constraints

④ Update the Data

- Single / multiple / replace()

## ⑤ Delete option

Assessment ①

Individual

16th - Sept - 22 → Friday

Session ①

100 marks

10:00 AM → 2:00 PM

Document →

place holder

9:55 AM Friday ✓

Assessment ②

7 - Teams

$$7 \times 3 = 21$$

6 Teams - 3

$$18 + 4 = 22$$

7th Team - ⑧

Monday → Batch Details

7 Teams

6 Teams → ③ }  
1 Team → ④ }

Tuesday → Final → Tasks

- Prepare presentation

- Present the same →  
← ↓ ⑯ → Assessment ⑤

16th [2] -sep-22 → Assessment ②  
9:55 AM (group) /  
→ ⑥ → ⑦ → 17-2 ✓

⑧ Assessment ②  
Team 1 -- Team ⑨  
→ ⑦ → Questioning

Assessment ② → Team

✓ Capstone project

① Database

⑤ Attribute

② DBMS

⑥ Datatype

③ Relation

⑦ Constraints

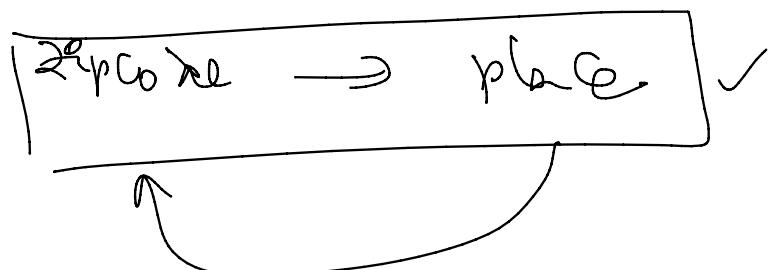
④ log file

⑧ Transaction

functional dependency

tuple

Emp Ensure AddressLine ZipCode



Employees of the Acme Spacecraft Company.

- Acme, located in Huntington Beach, California, manufacturers rockets in Building 1,
- Tests them at the nearby Armstrong Test Range and launches them from the nearby Cape Huntington launch site.

- Manufacturing employees work in Building 1, testing employees work at the Armstrong Range and launch teams work at Cape Huntington.

Employee	Position	Location
Fred Jones	Mfg. Engineer	Building 1
✓ John Smith	Test Engineer	Armstrong Range
Joyce Brown	Launch Engineer	Cape Huntington
Lily Nguyen	Test Engineer	Armstrong Range

✓ John Smith Test Engineer ✓  
 New Employee → John Smith  
A/A Test Engineer

Insert →

## Relational model

→ Records must be Unique

EmployeeID → primary key.

EmployeeID	EmployeeName	Position	Location
1	Fred Jones	Mfg. Engineer	Building 1
2	John Smith	Test Engineer	Armstrong Range
3	Joyce Brown ✓	Launch Engineer	Cape Huntington
4	Lily Nguyen	Test Engineer	Armstrong Range

Deleted EmployeeID → ③ ✓

EmployeeID	EmployeeName	Position	Location
1	Fred Jones	Mfg. Engineer	Building 1
2	John Smith	Test Engineer	Armstrong Range
4	Lily Nguyen	Test Engineer	Armstrong Range

LocationID	Location	Positions	
1	Building 1	Mfg. Engineer	
2	Armstrong Range	Test Engineer	
3	Cape Huntington	Launch Engineer	
EmployeeID	EmployeeName	Position	Location
1	Fred Jones	Mfg. Engineer	Building 1
2	John Smith	Test Engineer	Armstrong Range
3	Joyce Brown	Launch Engineer	Cape Huntington
4	Lily Nguyen	Test Engineer	Armstrong Range

→ Location ✓

→ Employee

MFG → TEST → Launch

MFG → Inspect → TEST

→ Launch

Inspect → Building 2

→ 5 San Inspecting Building

✗ 6 NULL Inspecting Building 2

location

4

Building 2

Inspector

Delete → missing out valuable  
Data

Insert → Employee assigned

$\rightarrow$  Null  
Anomalies  $\rightarrow$  Error

Delete Anomaly }  
Insert Anomaly } Normalization

$\uparrow$   $F_D$ , Split the tables, Adding by  
Normalization

- ① To maintain the data  $\rightarrow$
- ② Easy understanding ✓

$\nearrow$   
 $\rightarrow$   $(F_D)$ ,  
— Standards } ,  
— Quality }

## MySQL Features

- ① Store  $\rightarrow$   Table, Index
- ② Maintain  $\rightarrow$  Schema, Use, Root ✓
- ③ Query  $\rightarrow$  Insert ?

③  $\xrightarrow{\text{run}}$  Insert  
Update  
Delete

④ Alter :

⑤ Update  $\rightarrow$

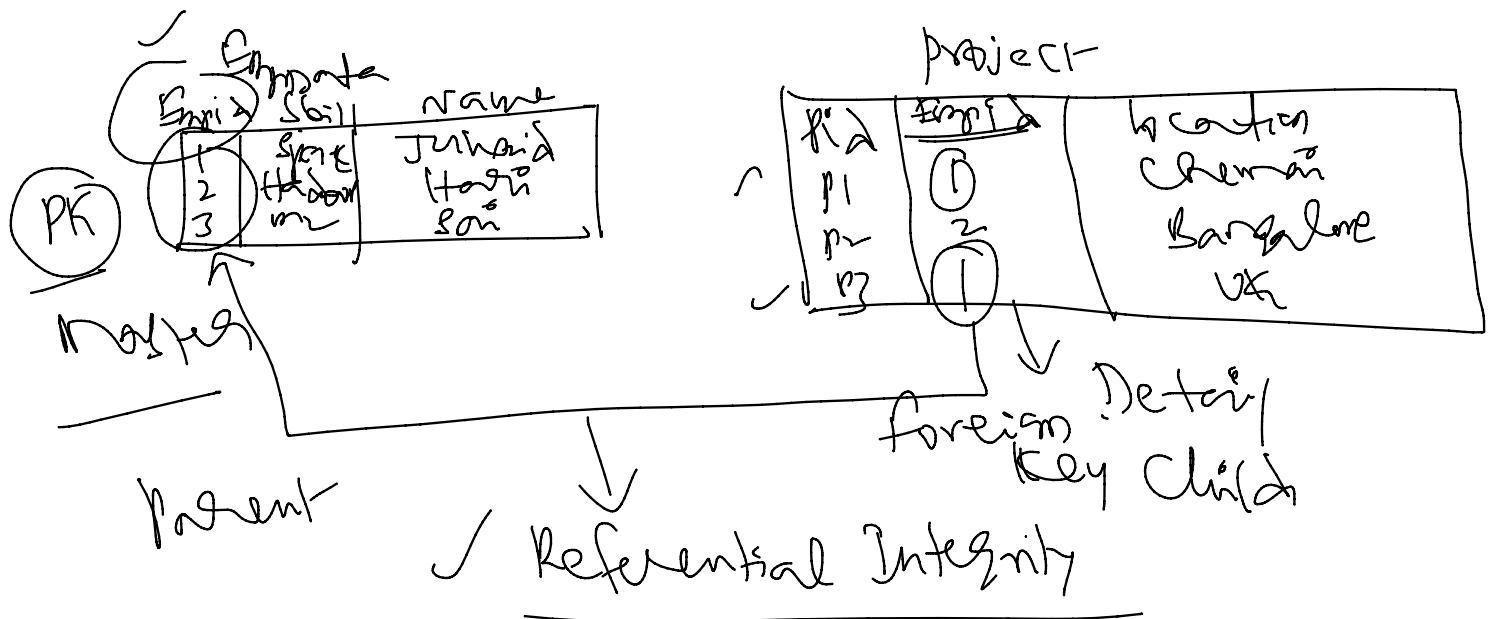
⑥ \*Sal , upload .Sal rec  
↓

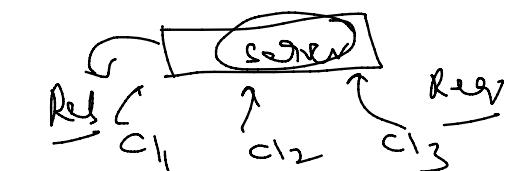
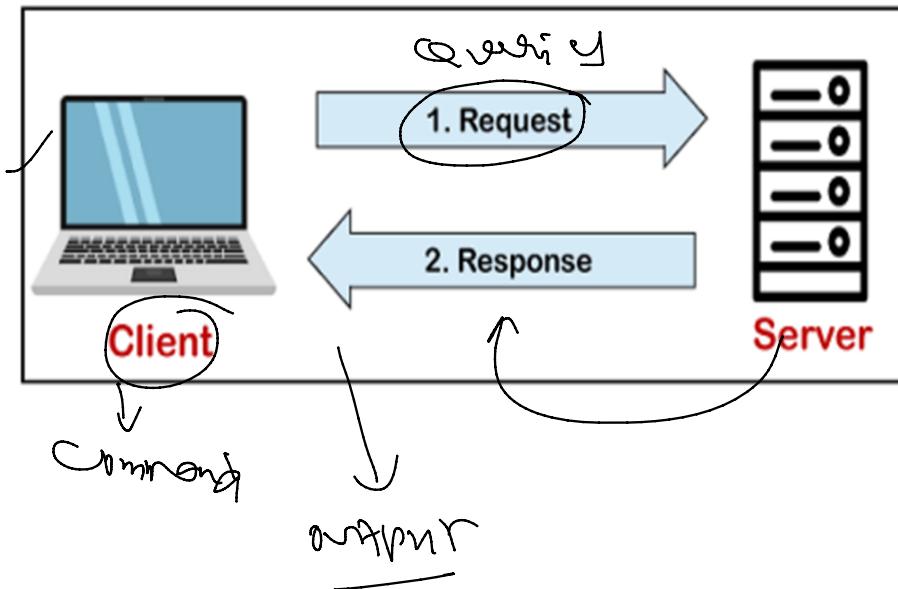
⑦

- MySQL is currently the most popular database management system software used for managing the relational database.
- It is open-source database software, which is supported by Oracle Company.
- It is fast, scalable, and easy to use database management system in comparison with Microsoft SQL Server and Oracle Database.

MySQL is a Relational Database Management System (RDBMS) software that provides many things, which are as follows:

- It allows us to implement database operations on tables, rows, columns, and indexes.
- It defines the database relationship in the form of tables (collection of rows and columns), also known as relations.
- It provides the **Referential Integrity** between rows or columns of various tables.
- It allows us to update the table indexes automatically.
- It uses many SQL queries and combines useful information from multiple tables for the end-users.



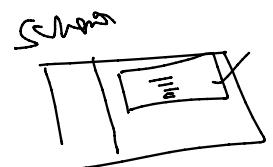


### How MySQL Works?

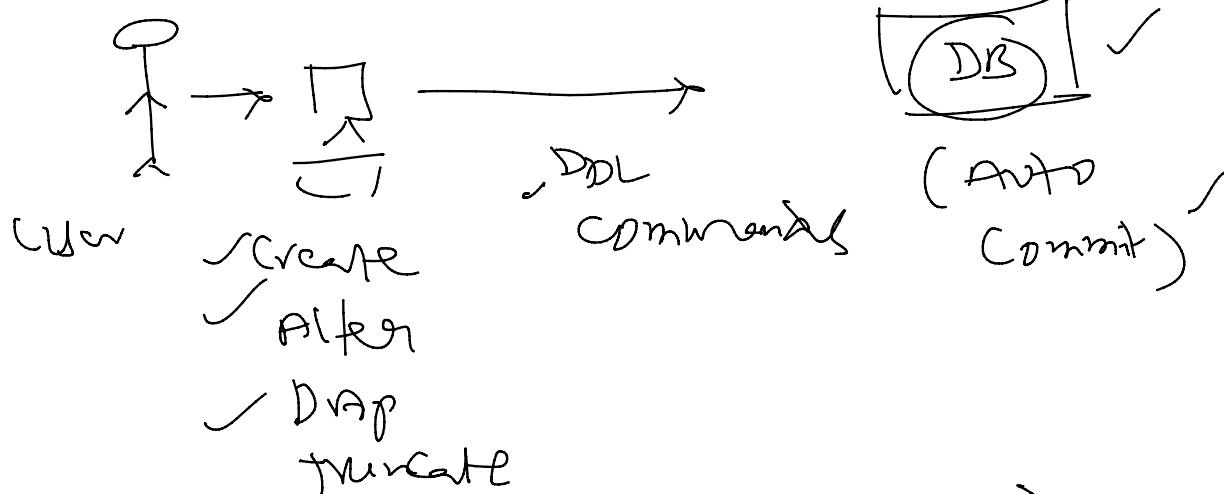
MySQL follows the working of Client-Server Architecture. This model is designed for the end-users called clients to access the resources from a central computer known as a server using network services.

Here, the clients make requests through a graphical user interface (GUI), and the server will give the desired output as soon as the instructions are matched. The process of MySQL environment is the same as the client-server model.

- A database is used to store the collection of records in an organized form.
- It allows us to hold the data into tables, rows, columns, and indexes to find the relevant information frequently.
- We can access and manage the records through the database very easily.

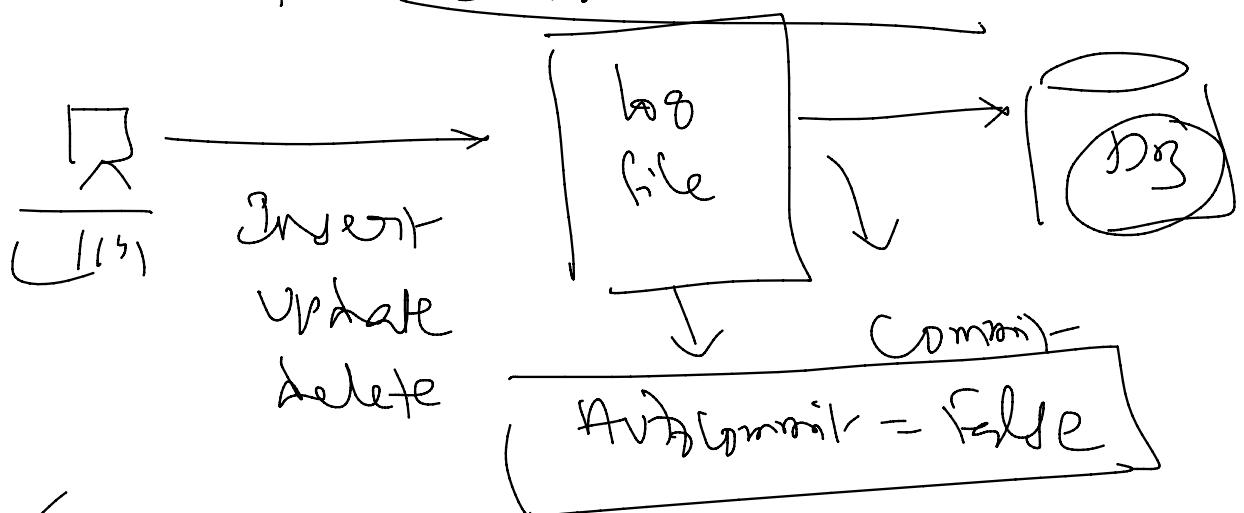


### DDL



DDL are auto committed. →

DML → Not auto committed



```
#savepoint ✓
start transaction;
savepoint sp1;
delete from Employee where EmployeeID = 6; ↗
savepoint sp2;
delete from Employee where EmployeeID = 5; ✓
select * from Employee;
```

(6, 5)

Transaction  
\* Logical unit of

delete from Employee  
where EmployeeID = 7  
rollback ✓

Work  
Insert → v1  
Delete → v2  
update → v3

Day-04

Key take aways

- ① Functional dependency [ anomalies ] ✓
- ② MySQL features [ client (query Gr) ]
- ③ Alter options [ Drop  
Column, add, update ]

- ③ Alter options [column, add, update  
 Null → not null]
- ④ Update options [xml → col, replace]
- ⑤ Delete → [transaction, savepoint]
- ⑥ transaction, savepoint)
- ⑦ DML [insert, delete, update]
- ⑧ Selection & projection
- ⑨ Assessment\_01 → [1 AM - 2 PM  
 placeholder [100 marks]
- ⑩ Assessment\_02 (group)

Form the Teams

7 groups

$$6 \times 3 = 18$$

$$1 \times 4 = 4$$

$$\frac{22}{22} \text{ members}$$

[23<sup>th</sup> scr] - 22