LAB REPORT

CSE312: Database Management System Lab

Submitted To

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LAB REPORT

01

[Report Number]

Topic: Lab Setup

Date of Assignment Distribution : 17.09.2024
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Experiment No: 01	Experiment Name: Lab Setup

Experiment Details:

1. Hardware Setup

- **PC or Server**: Ensure you have a computer or server with sufficient RAM and storage space. A minimum of 4GB RAM is recommended, though more is preferred for complex databases.
- **Network**: Ensure the network infrastructure supports client-server connections, especially if working with a multi-user DBMS environment.

2. Software Setup

DBMS Software

You need to install a DBMS software. Popular options include:

- **MySQL** (open-source and widely used)
- **PostgreSQL** (advanced open-source)
- **Oracle Database** (enterprise-level)
- **SQL Server** (by Microsoft)

Choose one based on your needs, and download it from the official website.

Installation Steps for MySQL (Example):

- **Windows/Linux**:
    1. Download MySQL from the official website MySQL Downloads.
    2. Run the installer and choose the server version (MySQL Server) along with any tools you want.
    3. Follow the installation wizard. Set up root password and default settings for easy configuration.
    4. After installation, open MySQL Workbench (optional) for graphical interface management.
- **PostgreSQL**:
    - Follow a similar installation process by downloading it from the official PostgreSQL site.

SQL Clients:

You can use various clients for interaction:

- **MySQL Workbench**
- **pgAdmin** (for PostgreSQL)
- **HeidiSQL** (supports multiple DBMS)

These tools provide a graphical interface to interact with the database, run queries, and manage tables.

LAB REPORT

02
[Report Number]

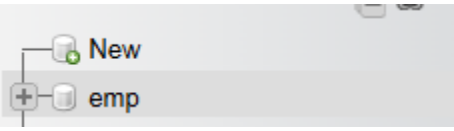
Experiment No: 02	Experiment Name: DDL (Create, Alter, Truncate, Drop)

Experiment Details:

*CREATE DATABASE

We have to create a database first

```
CREATE DATABASE emp
```



1. CREATE TABLE

This command is used to create a new table in a database.

```
CREATE TABLE employees (
    id INT PRIMARY KEY,
    name VARCHAR(40),
    department VARCHAR(35),
    salary DECIMAL(10, 2)
);
```

Table structure | Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id	int(11)			No	*None*			Change Drop More
2	name	varchar(40)	utf8mb4_general_ci		Yes	*NULL*			Change Drop More
3	department	varchar(35)	utf8mb4_general_ci		Yes	*NULL*			Change Drop More
4	salary	decimal(10,2)			Yes	*NULL*			Change Drop More

2. ALTER TABLE

This command is used to modify an existing table structure, like adding a new column

```
ALTER TABLE employees
ADD hire_date DATE;
```

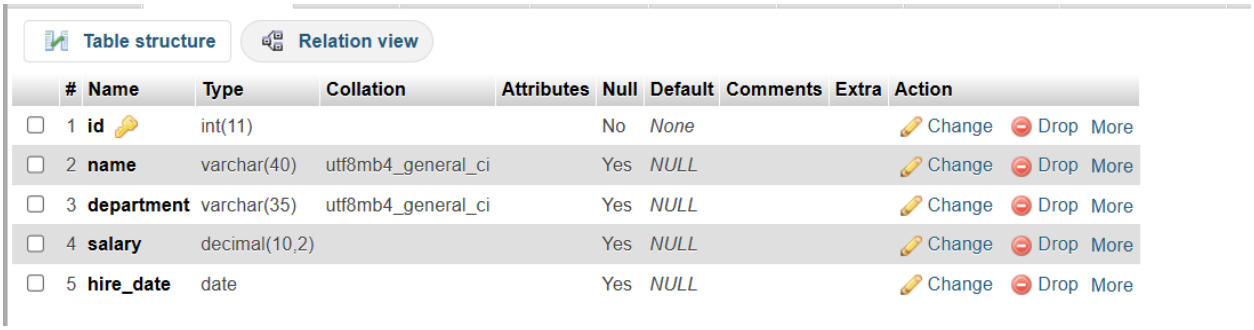


Table structure | Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
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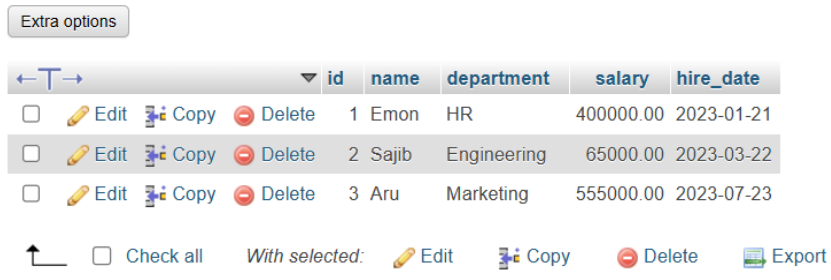
2	name	varchar(40)	utf8mb4_general_ci		Yes	NULL			Change Drop More
3	department	varchar(35)	utf8mb4_general_ci		Yes	NULL			Change Drop More
4	salary	decimal(10,2)			Yes	NULL			Change Drop More
5	hire_date	date			Yes	NULL			Change Drop More

3. INSERT DATA

This command is used to insert new records into the table.

```
INSERT INTO employees (id, name, department, salary, hire_date) VALUES
(1, 'Emon', 'HR', 400000.00, '2023-01-21'),
(2, 'Sajib', 'Engineering', 65000.00, '2023-03-22'),
(3, 'Aru', 'Marketing', 555000.00, '2023-07-23');
```



Extra options

	id	name	department	salary	hire_date
Edit Copy Delete	1	Emon	HR	400000.00	2023-01-21
Edit Copy Delete	2	Sajib	Engineering	65000.00	2023-03-22
Edit Copy Delete	3	Aru	Marketing	555000.00	2023-07-23

Check all *With selected:* Edit Copy Delete Export

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4. TRUNCATE TABLE

This command removes all data from a table but retains the table structure.

```
TRUNCATE TABLE employees;
```

5. DROP TABLE

This command removes a table entirely from the database, including its structure and data.

```
DROP TABLE employees;
```