Introduction to MySQL Workbench (LAB Lecture)

Department of Information Technology
Database Systems II (IT216)
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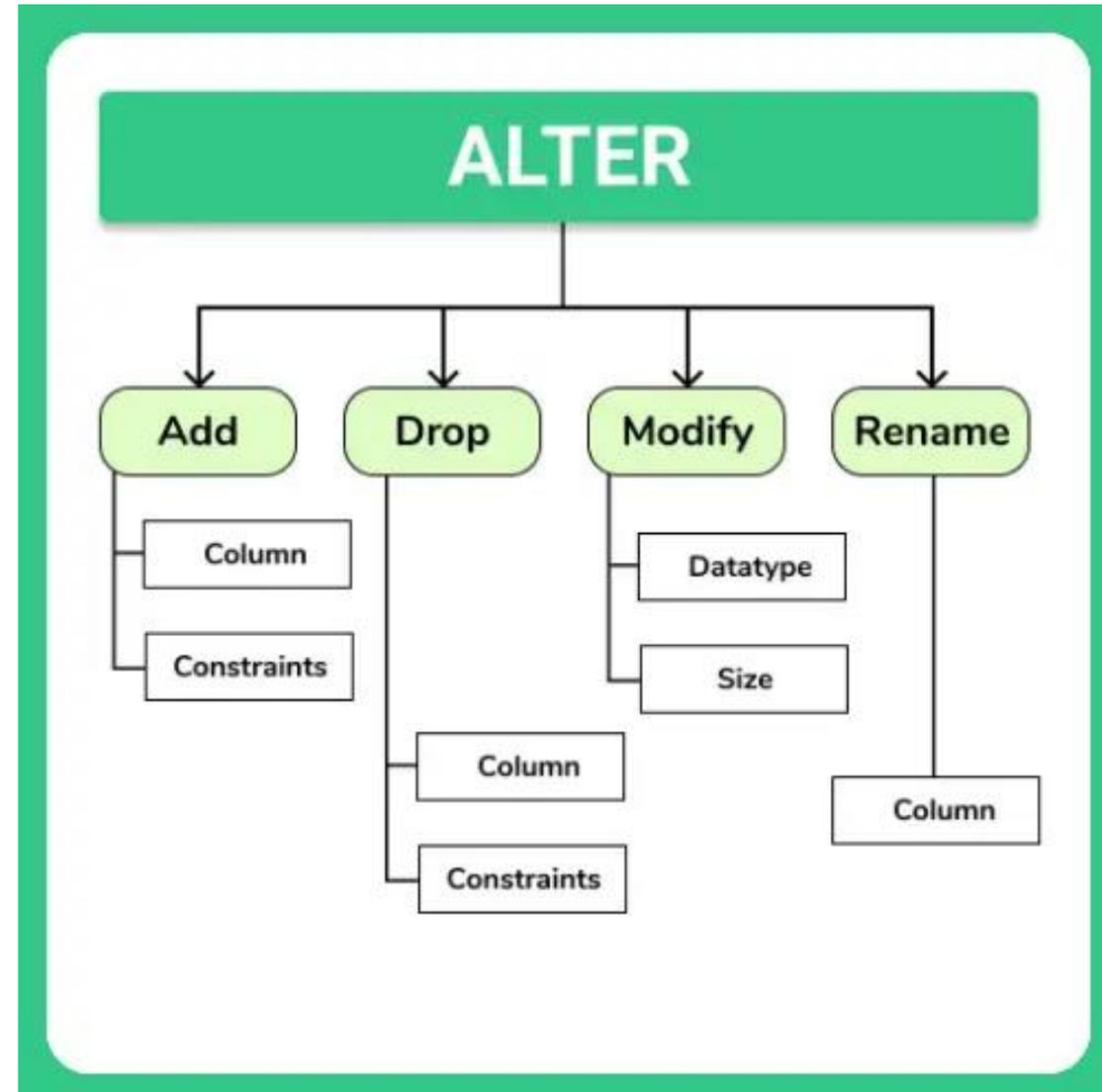# Contents

- Modifying the Structure of Table

- Alter Table

    - Add a New Column

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    - Modifying the Data Type of a Column

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ALTER TABLE

- After creating a table, you can change the table's structure by using **alter table** command.

  alter table **table_name**

  [any modification];

Adding a New Column to the Table

- **Syntax:**

  ALTER TABLE **table_name**

  ADD **column_name data_type;**

- **Example:**

  ALTER TABLE **Student** ← Table name

  ADD **phone_number varchar(10);**

  ↑ New column   ↗ Data Type

	stuId	lastName	firstName	major	credits	phone_number
1	S1001	Smith	Tom	History	90	NULL
2	S1002	Chin	Ann	Mathematics	36	NULL

Modifying Data Type of a Column

- **Syntax:**

  ALTER TABLE table_name

  MODIFY column_name data_type;

- **Example:**

  ALTER TABLE Student ← Table name

  MODIFY credits decima(3,1);

  column   Data Type

	stuId	lastName	firstName	major	credits
1	S1001	Smith	Tom	History	**90.0**
2	S1002	Chin	Ann	Mathematics	**36.0**

Drop an Existing Column from a Table

- **Syntax:**

  ALTER TABLE table_name

  DROP column_name;

- **Example:**

  ALTER TABLE Student ← Table name

  DROP credits;

  ↑ column

	stuId	lastName	firstName	major	credits
1	S1001	Smith	Tom	History	9 ✗
2	S1002	Chin	Ann	Mathematics	3

Renaming a Column

- **Syntax:**

  ALTER TABLE table_name

  RENAME COLUMN old_name **TO** new_name;

- **Example:**

  ALTER TABLE Student

  RENAME COLUMN major **TO** deptName;

	stuId	lastName	firstName	deptName	credits
1	S1001	Smith	Tom	History	90
2	S1002	Chin	Ann	Mathematics	36
3	S1004	Smith	Jack	English	75

Renaming a Table

- **Syntax:**

  ALTER TABLE table_name

  RENAME TO new_table_name;

- **Example:**

  ALTER TABLE Faculty

  RENAME TO Teacher;

Let's Try it!

- Create a database named **university** and **activate** it**.**

- Create the following tables in the **university** database.

  student (**SID** , Sname, age)

  teacher (**TID** , Tname, salary)

- Make **SID** and **TID** auto_increment starting from 1.

- Make sure **Sname** and **Tname** values <u>can not be Null</u>.

Create Tables and Entering Data

- Make **SID** and **TID** auto_increment starting from 1.

- Make sure **Sname** and **Tname** values <u>can not be Null</u>.

student

SID	Sname	age
1	John	20
2	Peter	21

Teacher

TID	Tname	salary
1	Lara	30000
2	James	24000

Create Tables

```sql
create table student
(SID int auto_increment,
SName varchar(100) not null,
age int,
primary key(SID));
```

```sql
create table teacher
(TID int auto_increment,
TName varchar(100) not null,
salary int,
primary key(TID));
```

Entering Data

```sql
insert into student(SName, age)
values ('John',20), ('Peter',21);

insert into teacher(TName, salary)
values ('Lara',30000), ('James',24000);
```

Let's Try Alter Table Command

- Add a new column to **Teacher** table, <u>showing the rank of teacher.</u>

```
alter table teacher
add TeacherRank varchar(100);
```

- Change the data type of **salary** column <u>from **int** to **decimal(7,1)**</u>.

```
alter table teacher
modify salary decimal(7,1);
```

Let's Try Alter Table Command

- Drop **age** column from **student** table.

```
alter table student
drop age;
```

- Rename **salary** column in **teacher** table to **income**.

```
alter table teacher
rename column salary to income;
```

- Rename **teacher** table to **staff** table.

```
alter table teacher
rename to staff;
```