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Module 5

PHP Database Handling

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Database Handling

- PHP can connect to
  - MySQL/MySQLi (i-improved)
  - MSSQL
  - Access and other databases like Oracle, Postgre, SQLite etc
- There are separate methods available for connecting to the databases

MySQL

- MySQL is the most popular open-source database system.
  - MySQL is a database server
  - MySQL is ideal for both small and large applications
  - MySQL supports standard SQL

MySQL

- Databases are useful for storing information category wise.
- Data in MySQL is stored in database objects called tables.
- A table is a collection of related data entries and it consists of columns and rows.
- University db may have: “Department”, “Faculty_info”, “Student_info” “Placement_details”….etc.

University Database

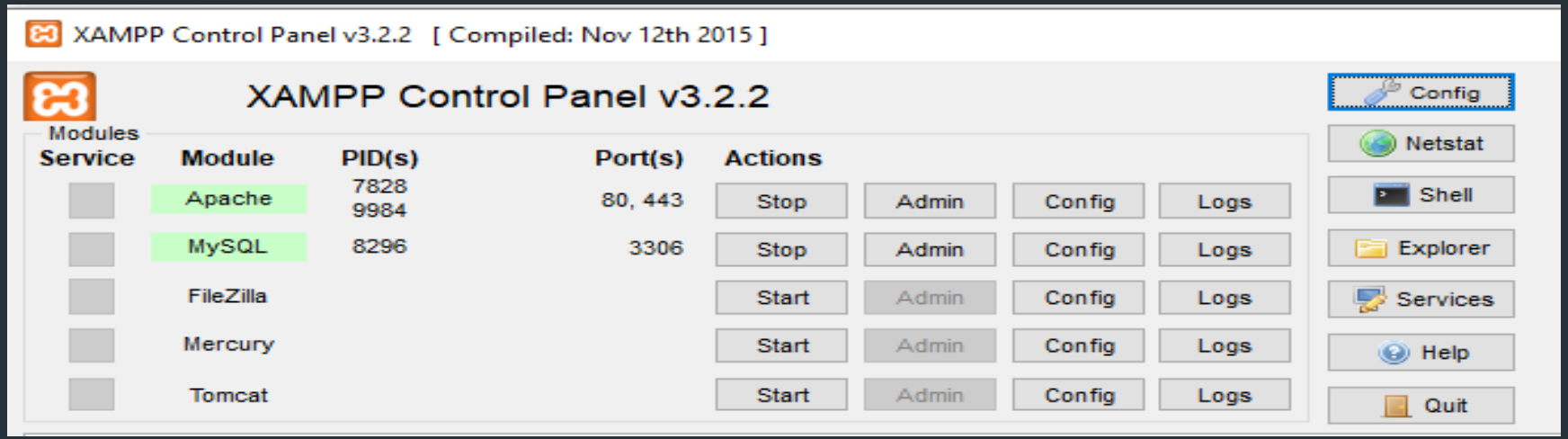
- **Student Table**

RegNo	SName	Mobile
19BCE1001	Rahul	9000333333
19BCE1003	Liana	9000044444
19BAI1001	Harleen	9000044455

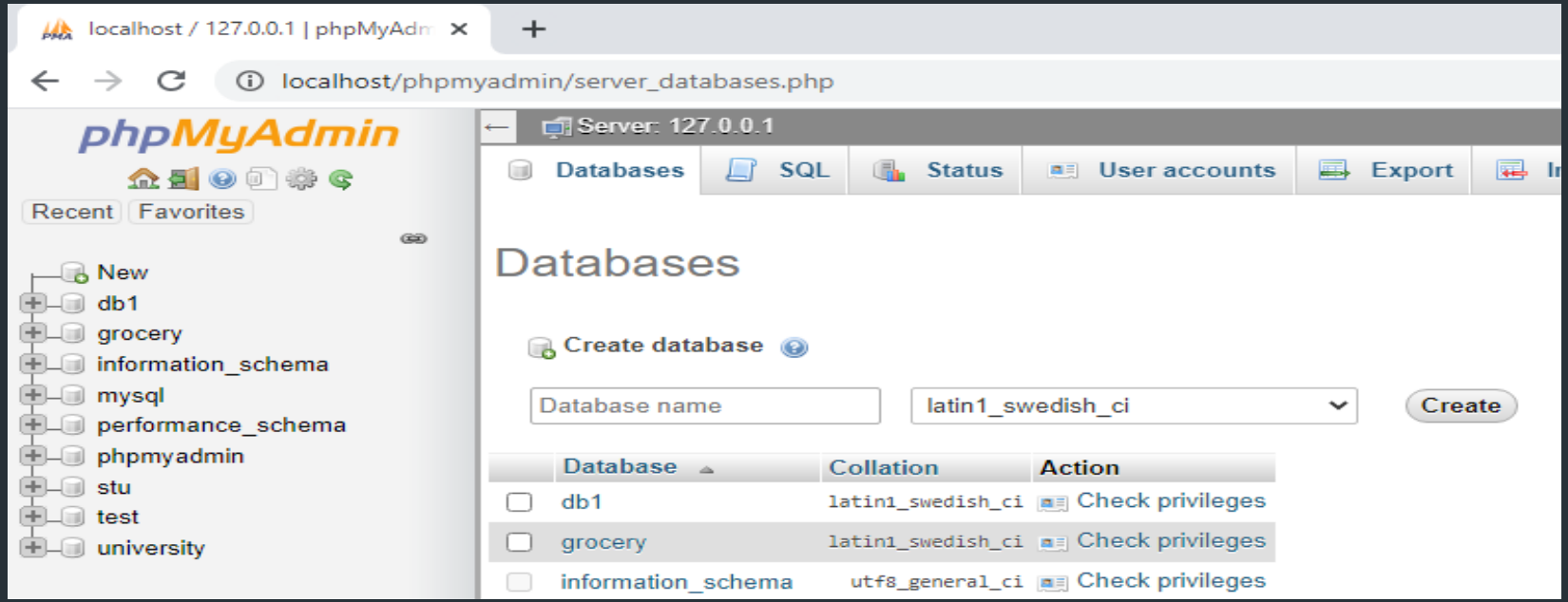
Part A: Steps to handle MySQL DB

1. Start MySQL Server
2. Go to localhost/phpmyadmin
3. Create User Account
4. Create Database
5. Create Tables
6. PHP Coding

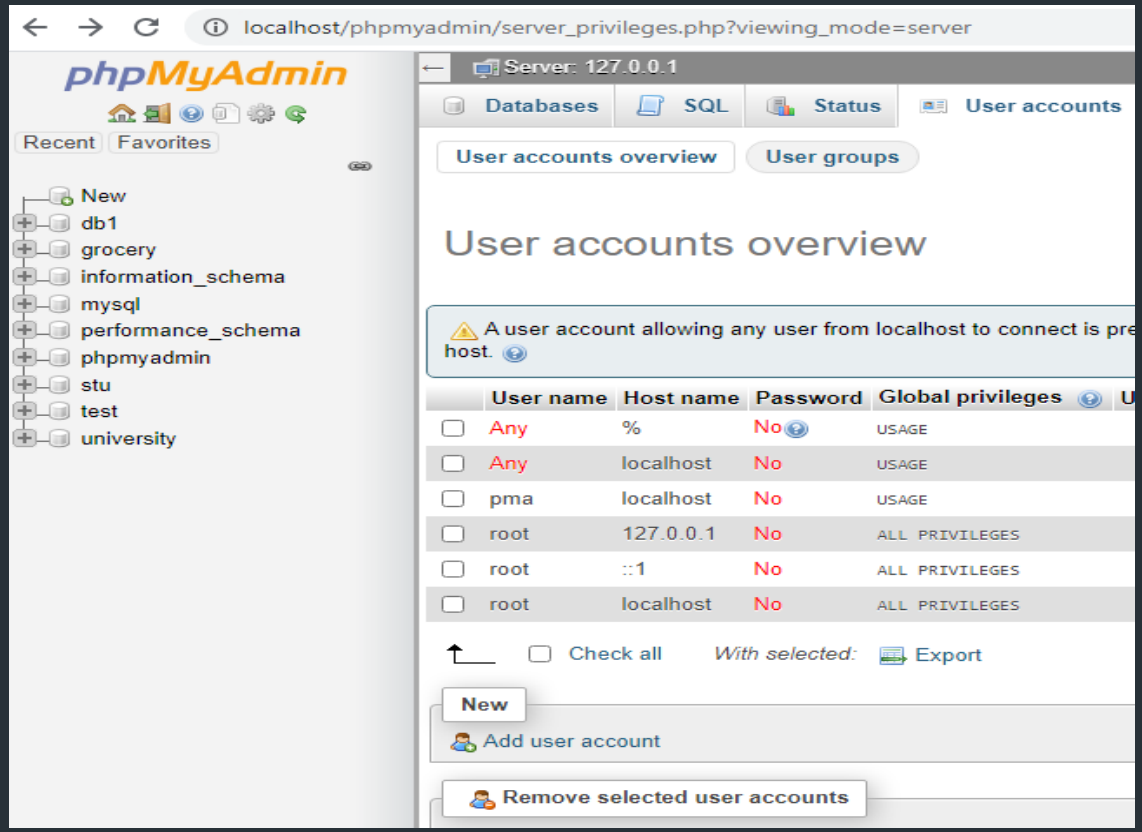
1. Start MySQL server



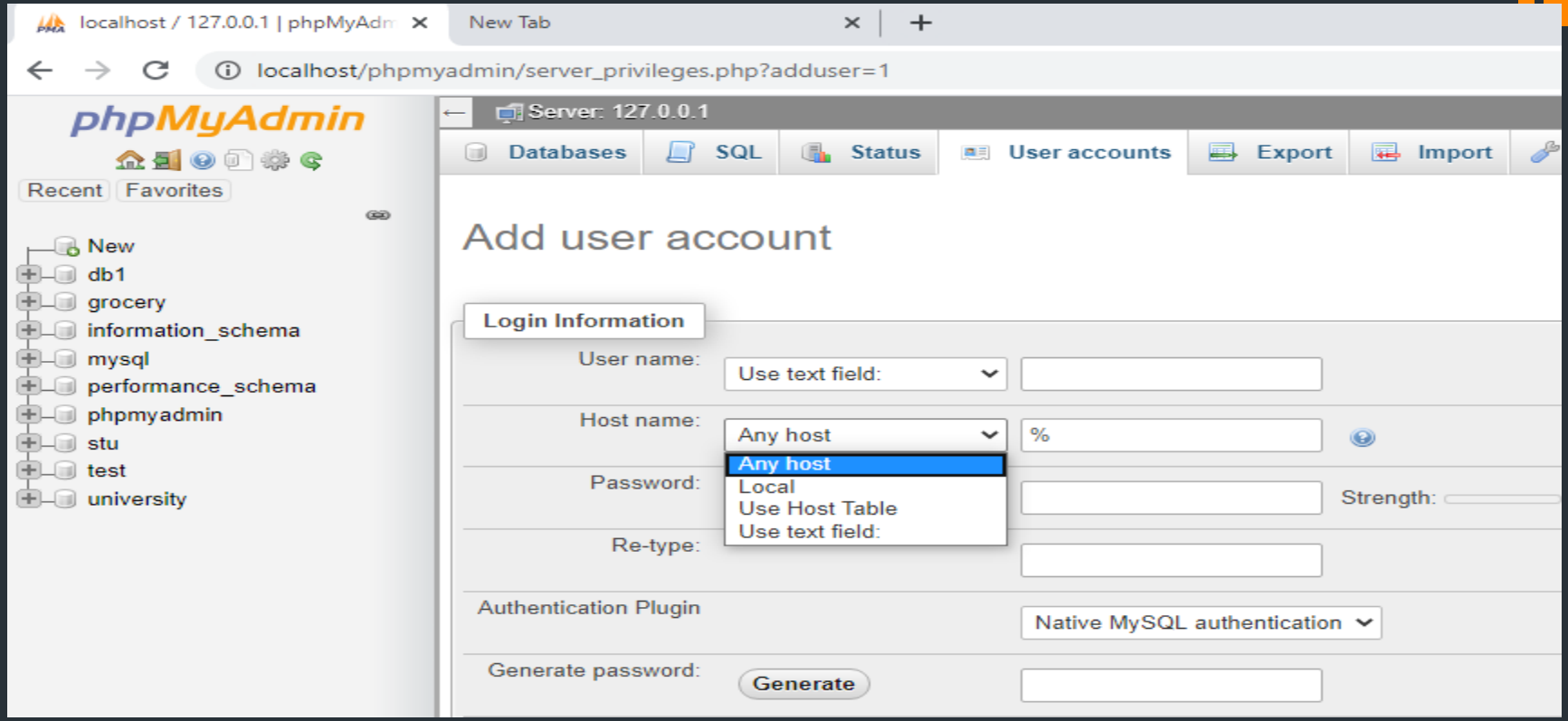
2. localhost/phpmyadmin



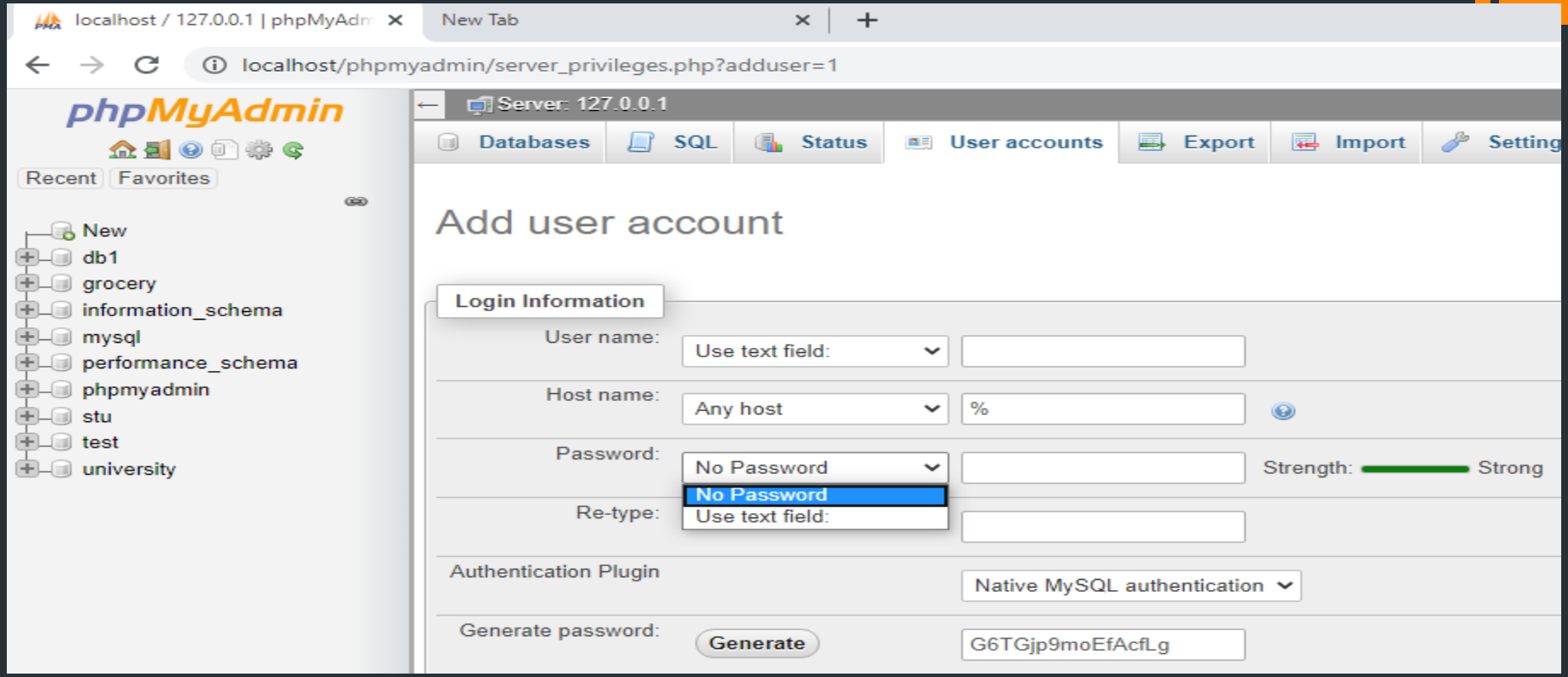
3. Create User Account



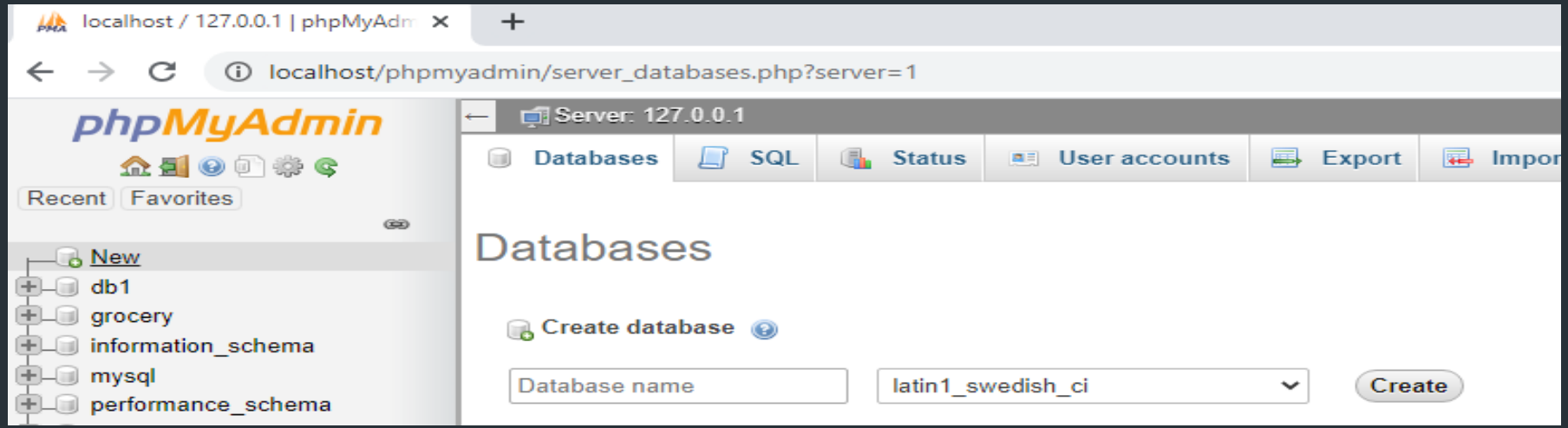
User Account



User Account

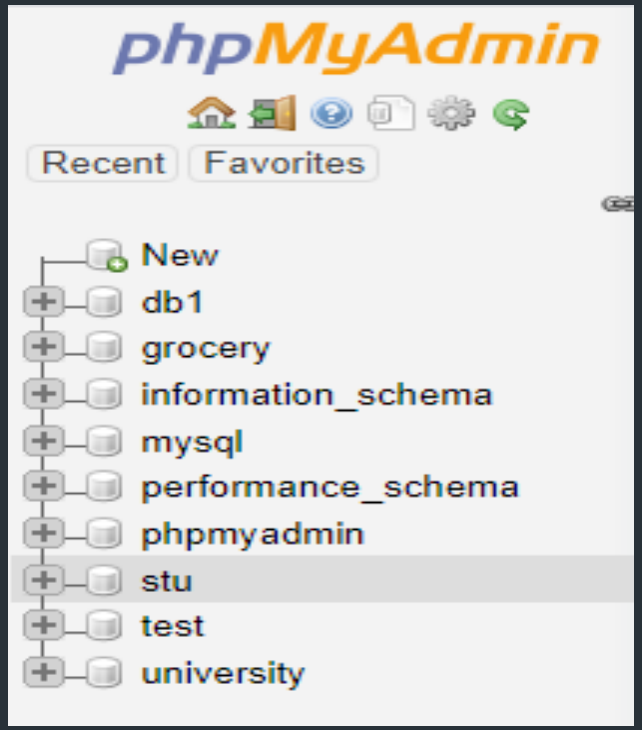


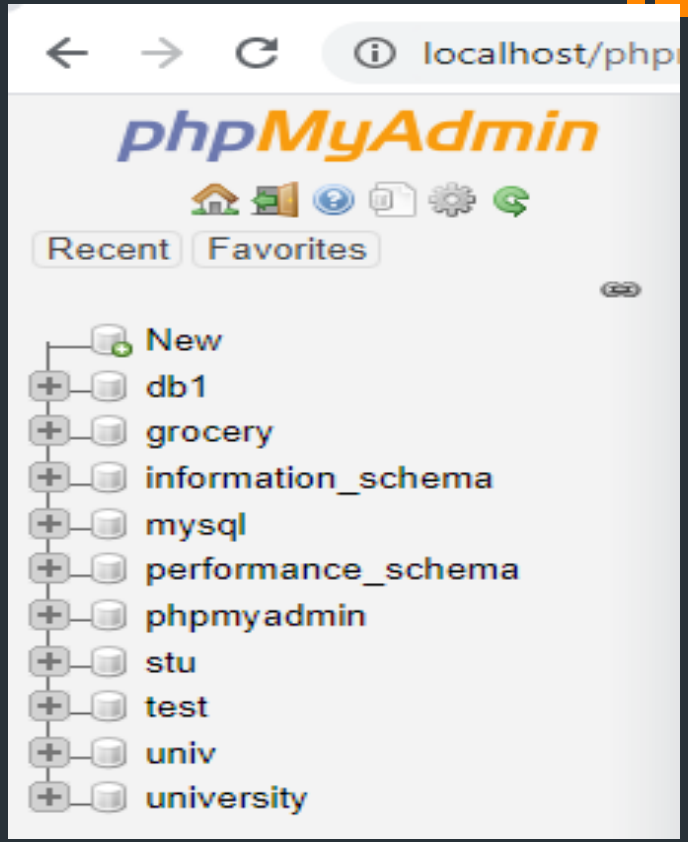
4. Create Database



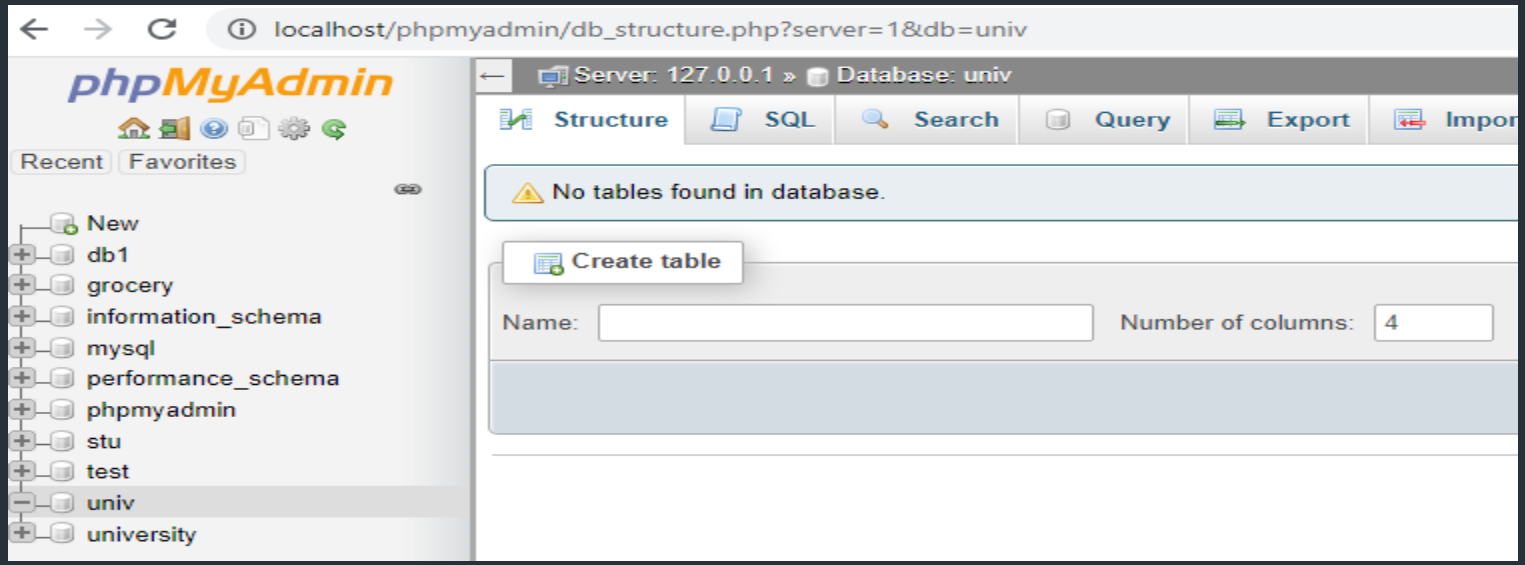
Univ database

- before and after creation

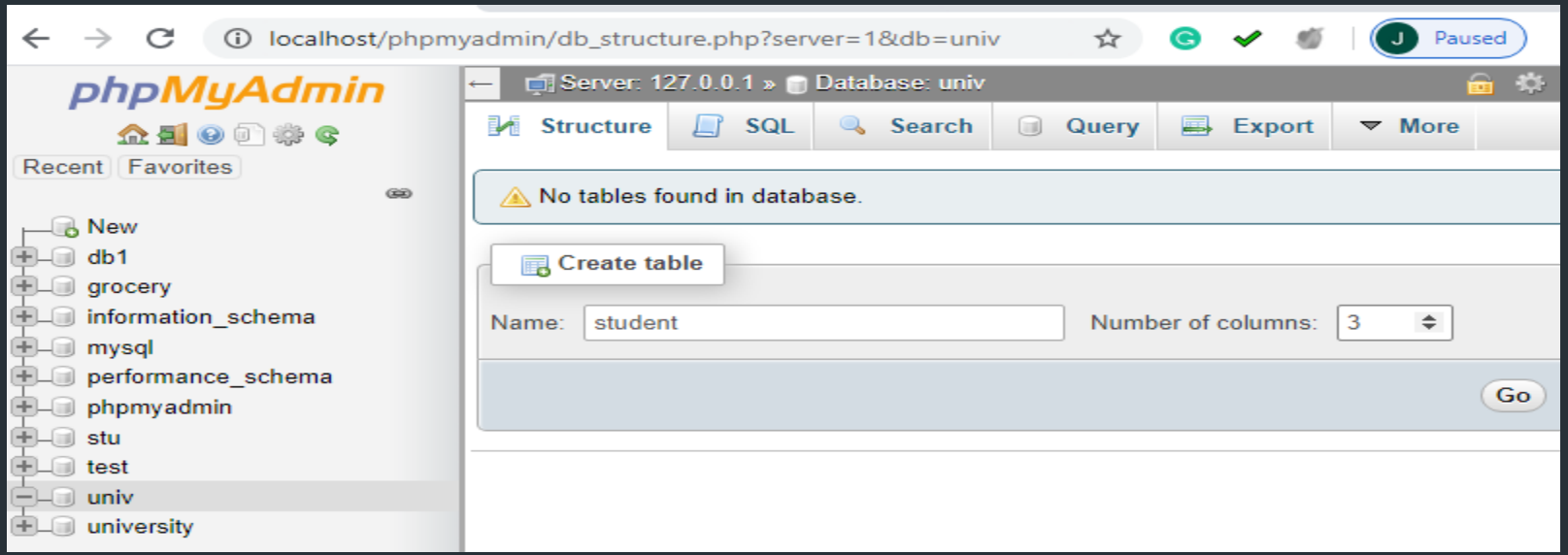




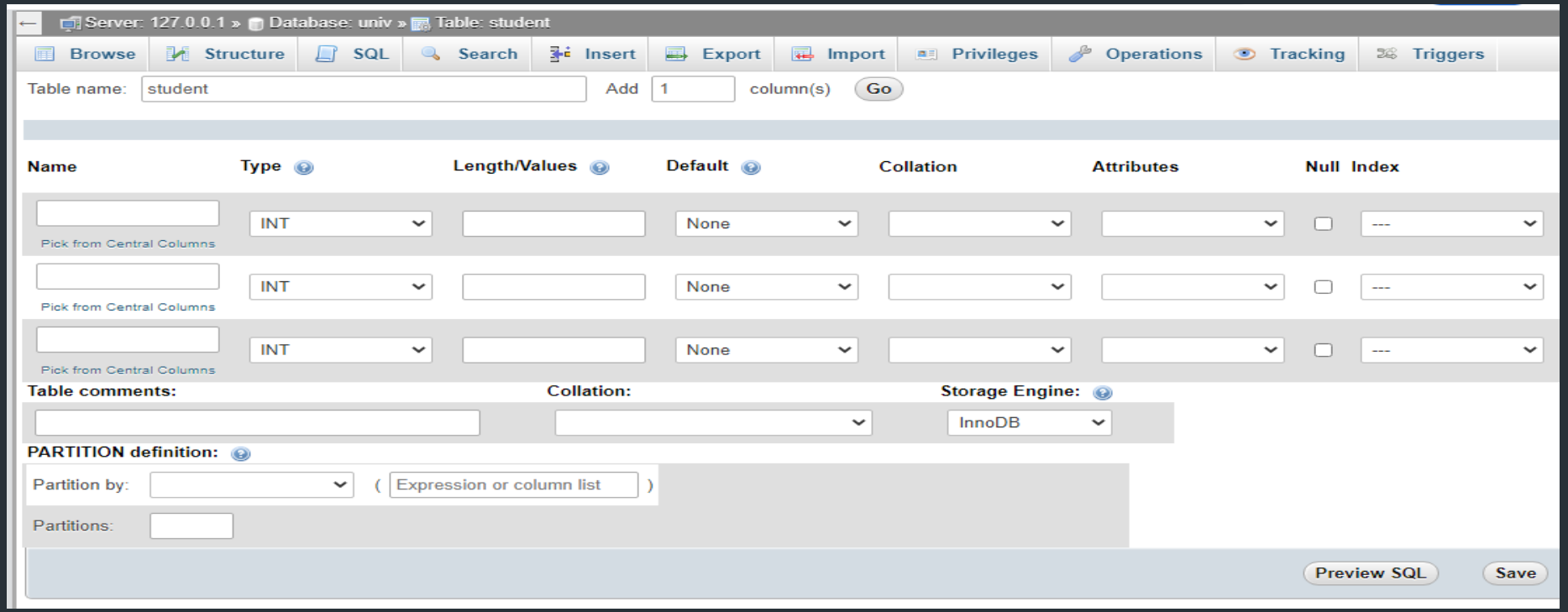
5. Create Table



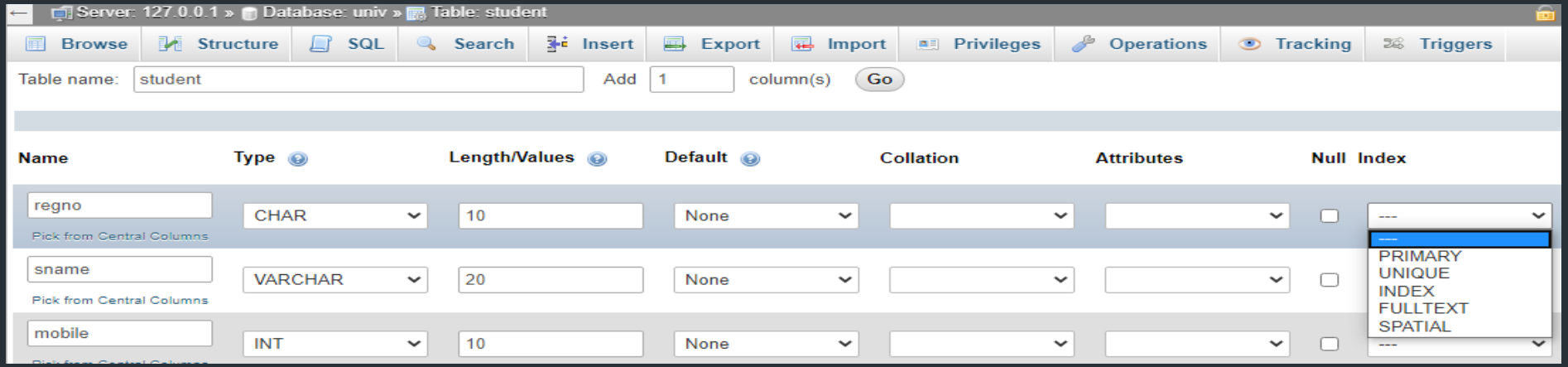
student table



Adding attributes



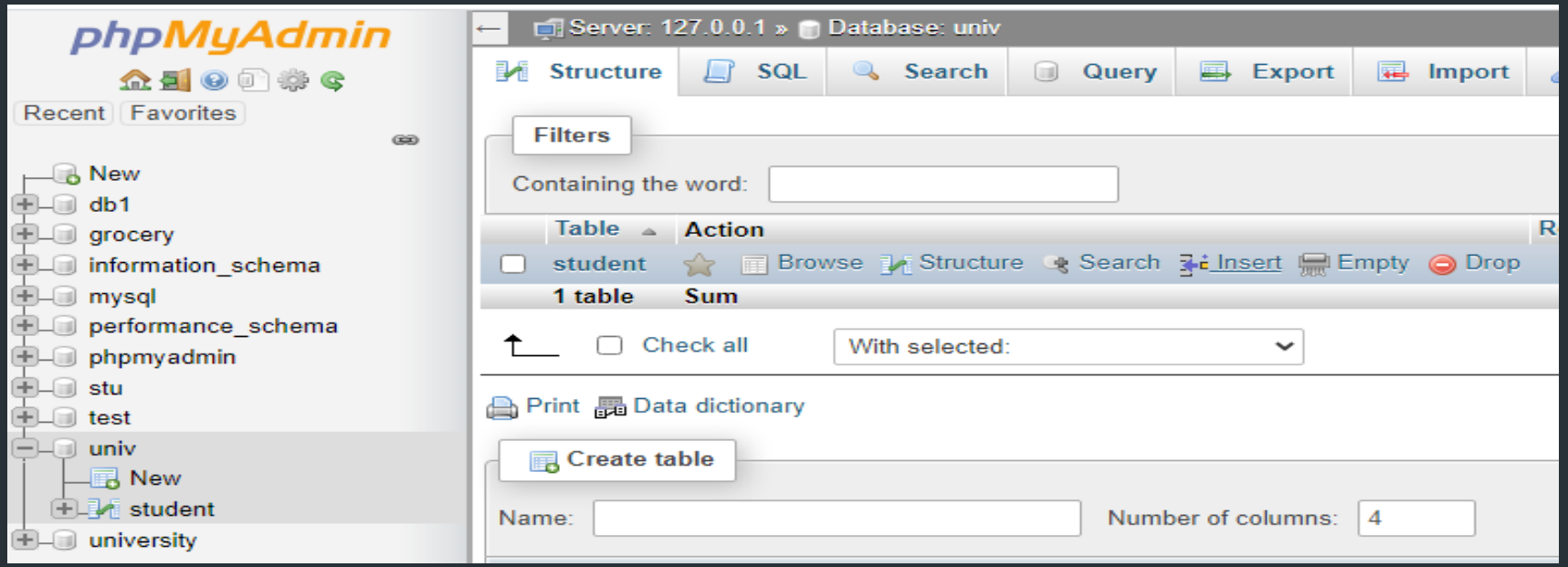
Adding attributes



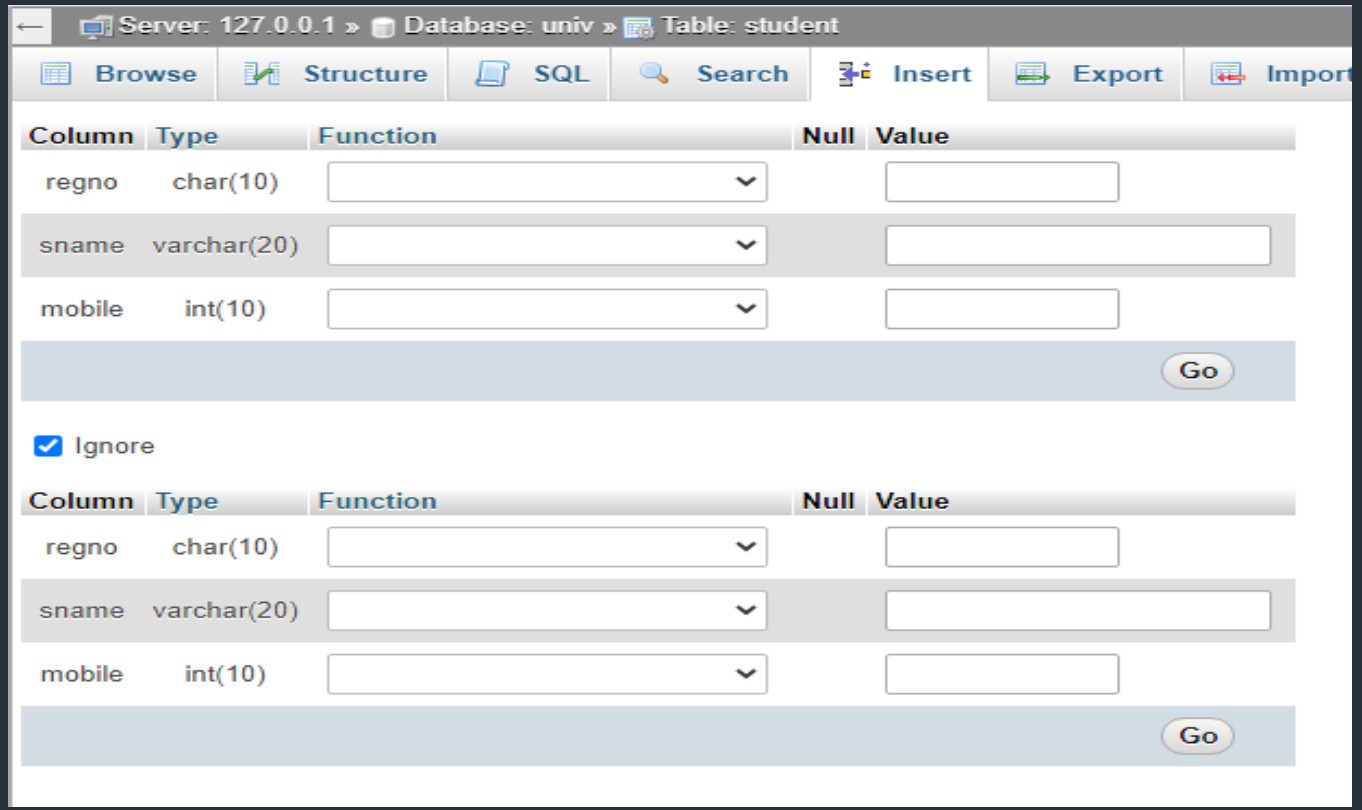
student table schema

	#	Name	Type
☐	1	regno	char(10)
☐	2	sname	varchar(20)
☐	3	mobile	int(11)

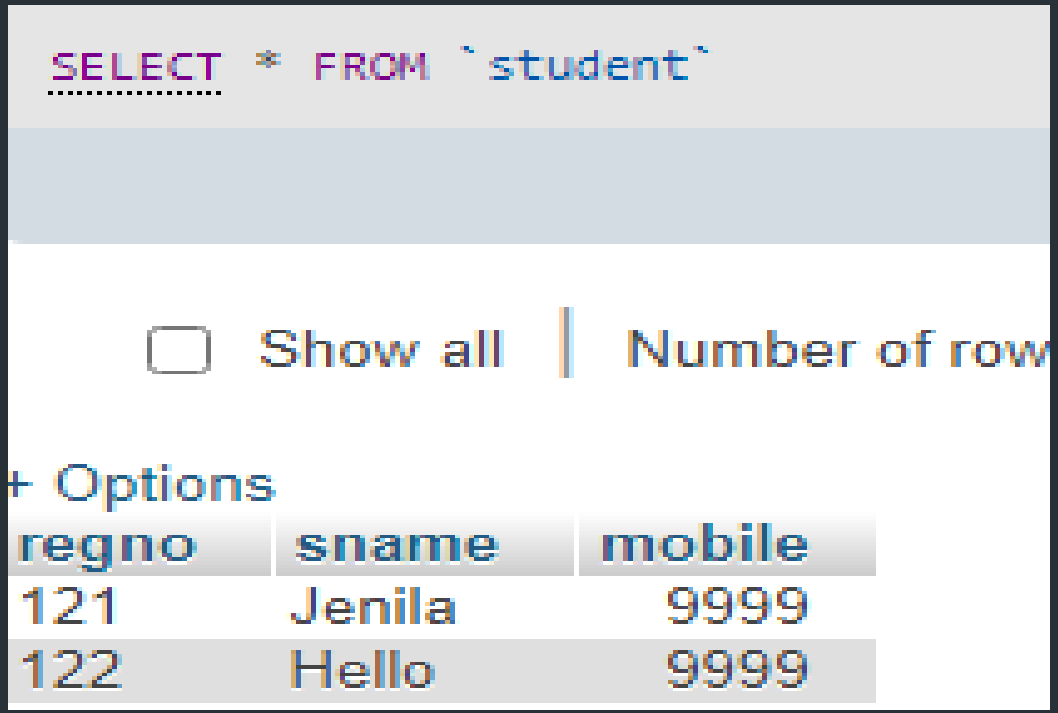
Insert values



Insert values



Student table after data Insertion



6. Coding – db.php


```
<?php
$con = mysqli_connect("localhost","root","");
mysqli_select_db($con,“univ");
$sel='select * from student';
$sq=mysqli_query($con,$sel);

while ($row=mysqli_fetch_array($sq))
{
echo $row['regno']." ".
        $row['sname']." ".
        $row['mobile'].'<br>';
}
?>
```

Part B: MySQLi Functions

1. mysqli_connect()
2. mysqli_close()
3. mysqli_select_db()
4. mysqli_query()
5. mysqli_fetch_array()
6. mysqli_num_rows()

1. MySQL dbserver Connection (mysqli_connect)

This method is used for connecting to MySQLi using a userid and password

Syntax:

```
mysqli_connect(dbserver,userid,password)
```

Example:

```
$con = mysqli_connect("localhost","root","root");
```

- This gets a connection to the local mysql server using the credentials root and root

```
$con = mysqli_connect("localhost","root","");
```

Parameters

Parameter	Description
servername	**Optional.** Specifies the server to connect to. **Default** value is "localhost"
username	**Optional.** Specifies the username to log in with. **Default** value is the name of the user that owns the server process
password	**Optional.** Specifies the password to log in with. **Default** is ""

Example

We store the connection in a variable ($con) for later use in the script. The "die" part will be executed if the connection fails.

```
<?php
$con = mysqli_connect("localhost",“jenila",“leni");
if (!$con)
{
die('Could not connect: ' . mysqli_error());
}
?>
```

Mysql_error()

- If server cannot be connected, it will throw an error stating the problem

- 1049: Unknown database

  1046: No database selected

2. MySQLi Close

- To close a db connection we have close method
  - mysqli_close(connection);
- Example:
  - mysqli_close($con);

3. Connect Database (mysqli_select_db)

- **Syntax:**

mysqli_select_db(connection,dbname)

mysqli_select_db($con,”univ”);

This will select the univ db under the server localhost

4. Working with Queries

To get PHP to execute the SQL statements we must use the mysql_query() function. This function is used to send a query or command to a MySQL connection.

Syntax:

- **mysqli_query($con,"sqlquery");**

  or

- **$sql="Any SQL Query";**
  mysqli_query($con,$sql);

Grocery Database

Product Table

Productcode	ProductName	Cost	Manufacturer
P001	Cheese	150	Creamcenter
P002	Salt	15	Tata
P003	Butter	40	XYZ

4.1 Create database

- The CREATE DATABASE statement is used to create a database in MySQL.

Syntax:

```
$sql=CREATE DATABASE database_name;
$result=mysqli_query($con,$sql)
```

Create a Database

Example :The following example creates a database called "grocery"

```
$sql="CREATE database grocery";
$result=mysqli_query($con,$sql) or
    die(mysqli_error());
if ($result)
    echo "database created successfully";
```

4.2 Create a Table

- **The CREATE TABLE statement is used create a table in MySQL.**

  Syntax:

```
CREATE TABLE table_name
(
column_name1   data_type,   column_name2
data_type, column_name3      data_type,
....
)
```

- **We must add the CREATE TABLE to the statement mysql_query() function to execute the command.**

Create a Table

Example:

```
$sql="create table product(productcode char(7),
productname varchar(20),cost int, Manufacturer
varchar2(15))";

mysqli_query($con,$sql);
```

4.3 Insert Data into a Table

- The INSERT INTO statement is used to add new records to a database table.

Syntax:

- INSERT INTO statement is in two forms.
- The first form doesn't specify the column names where the data will be inserted, only their values:

```
INSERT INTO table_name VALUES (value1, value2, ...)
```

- The second form specifies both the column names and the values to be inserted:

```
INSERT INTO table_name (column1, column2, ...)
VALUES (value1, value2, ...)
```

Insert Data into a Table

Example:

```
sql= "insert into product
        (productcode,productname,cost)
values (‘P001','Cheese',150)";

mysqli_query($con,$sql)
```

Insert Data from a Form

Create an HTML form that can be used to add new records to the "product" table.

```
<html> <body>
<form action="fromform.php" method="post">
Product Code: <input type="text" name="pcode">
Product Name: <input type="text" name="pname">
Cost: <input type="text" name="cost">
<input type="submit">
</form> </body>
</html>
```

Insert values from a form


```
$sql="insert into product
        (productcode,productname,cost)
        values('$_POST[pcode]',
                    '$_POST[pname]',
              '$_POST[cost]')";

mysqli_query ($con,$sql);
echo "No. of records added: 1";
```

4.4 Update data in a Table

- The UPDATE statement is used to update existing records in a table.
- Syntax:

```
UPDATE table_name
SET column1=value, column2=value2,...
WHERE some_column=some_value
```

- Example:

```
mysqli_query($con,"update product set
cost=300 where productcode='P001'");
```

4.5 Delete data from a table

- The DELETE FROM statement is used to delete records from a database table.
- Syntax:

```
DELETE FROM table_name WHERE column_name = value
```

- Example:

```
mysqli_query($con,"delete from product
where productcode='P002'");
```

4.6 Select Data from a Table

- **The SELECT statement is used to select data from a table.**

- **Syntax:**

SELECT column_name(s) FROM table_name;

SELECT column_name(s) FROM table_name where condition;

5. Select Data from a Table (mysqli_fetch_array)

- $rs=mysqli_query($con,select stmt);
- The rows of select statement will be stored in $rs
- $row = mysqli_fetch_array($rs);
  - This will fetch a row and store in $row
  - Values can be accessed like - $row[“ID”] – returns value of column ID in the fetched row.

Using Associative array


```
$result=mysqli_query($con,"select * from product where
    productcode='P001'");
while ($row=mysqli_fetch_array($result))
{
echo $row['productcode']." ".
        $row['productname']." ".
        $row['cost'].'<br>';
}
```

Using Numerical array


```
$result=mysqli_query($con,"select * from products where
prodcode='CHE'");

while ($row=mysqli_fetch_array($result))
{
 echo $row[0]. "".$row[1]."".$row[2].'<br>';
}
```

Using orderby


```
$result=mysqli_query("select * from product
    order by cost desc");
while ($row=mysqli_fetch_array($result))
{
 echo $row['productcode']."".
        $row['prodname']." ".
        $row['cost'].'<br>';
}
```

DB program


```
<?php
$con = mysqli_connect("localhost","root","");
mysqli_select_db($con,“univ");
$sel='select * from student';
$sq=mysqli_query($con,$sel);
while ($row=mysqli_fetch_array($sq))
{  echo $row['regno']." ".
          $row['sname']." ".
          $row['mobile'].'<br>';
}
?>
```

6. mysqli_num_rows

- Return the number of rows in a result set:

- Syntax:

```
$rowcount=mysqli_num_rows($result);
```

Functions Covered

- mysqli_connect()
- mysqli_select_db()
- mysqli_close()
- mysqli_query()
- mysqli_fetch_array()
- mysqli_num_rows()

Part C:
Write the table data into a file

- Write the table data into a file
- Write the file data into a table

To write the table data into a file – dbdisplayoutput.php

- $result=mysqli_query($con,"select * from products into outfile 'D:/products.txt'");

To write the data file data into table - dbdisplaywrite.php


```
$result=mysqli_query($con,"load data local infile
'D:\products.txt' into table abc");

$result=mysqli_query($con,"load data local infile
'D:\products.txt' into table abc(productname,productcode,cost)”;
```


Thank
You!