

# Beginners Guide



# LEARN MySQL

for Absolute Beginners

First Edition

PHPBOOTCAMP.COM

EASY TO PRACTISE CODE SAMPLES

## About this Book

MYSQL is a Database Query language that allows web developers to access MySQL database using PHP Libraries. MySQL is database used to store data in table format. This book will help you understand the basics of SQL Language and how to put it in practice to build Websites.

## Audience

This tutorial has been designed to meet the requirements of all those readers who are keen to learn the basics of MySQL.

## Prerequisites

This book assumes you have no prior knowledge on Programming knowledge and assume you are at a beginner level.

## How to use this Book

This book contains SQL Language Basics, Exercises and Examples which are part of the PHP Bootcamp Program. This bootcamp has helped many students to become PHP Full Stack Web Developer in Just 30 days.

[>>>Check out more about this program here...](#)

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# 1. MySQL BASICS

# 1 MySQL Basics

## 1.1 Introduction to Databases and SQL

### What is a Database?

A Database is a structured ways of storing the data on your computer so that it can be easy searched, managed and updated.

Data stored in a file are not easy to search because it is not properly organized this is solved by using Database Software.

Database software helps to store the data in such a way that it can retrieved faster. Even Database software has capacity to hold large amount of data.

### How Data are stored in Database?

Data in the database are stored in one or more tables. Each tables will have data organized in row and column format.

Sample Marks Table will look like this.

ID	SUBJECT	MARKS
1	MATHS	98
2	SCIENCE	56
3	ENGLISH	45
4	SOCIAL	22
5	COMPUTER	19

Table Name: Marks

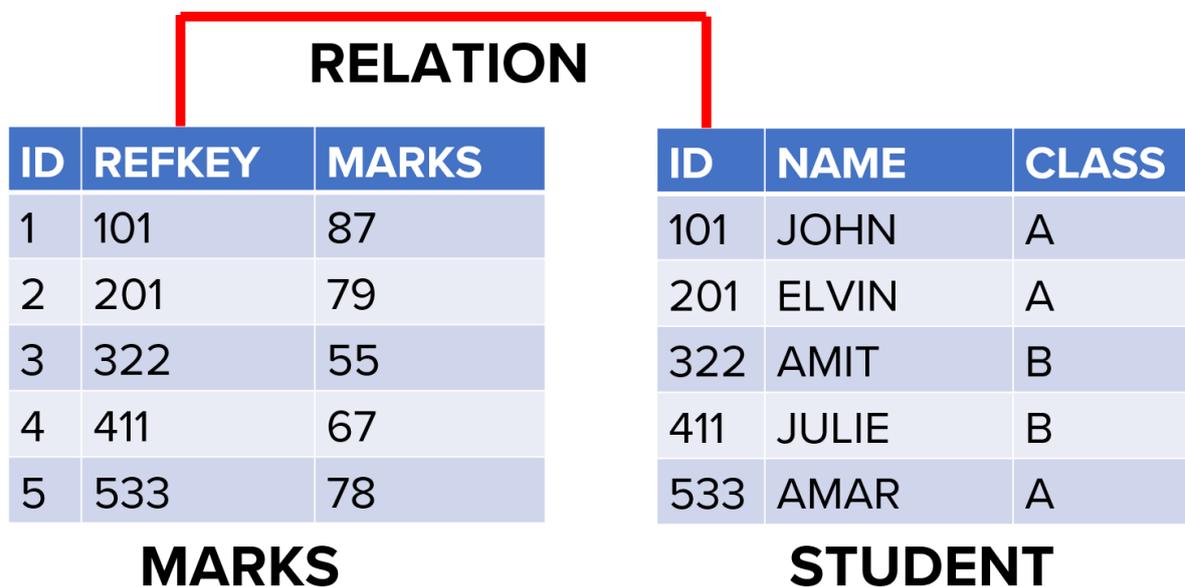
ID, SUBJECT and MARKS are called as Columns.

Value on each line are called as Rows.

### What is Relational Database?

You can create relation between tables and avoid duplicating the data by using references between the tables.

Student ID Reference is used in Marks Table to make a relation between the tables.



Relationship of tables also helps to break a bigger table structure into small tables and link them.

### What is SQL?

SQL Stands for "Structured Query Language" it is a language used to access the data in the database.

SQL is pronounced as 'S-Q-L' or 'sequel'.

SQL Language is predefined with keywords that you can use to do the following things:

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Create a Table

Delete a Table

Search Table with Conditions

Insert Rows

Update Rows

Delete Rows

SQL language can be used to perform such actions on the database.

### **Example:**

To delete a table you can say:

```
DROP TABLE <tablename>
```

### **Usage of Database:**

Instead of storing the data in files and access them. All the data are stored in the Database.

In a Website you can store the following things:

User Information

Product Information

Product Pricing

Orders

Invoice

Enquiry

Contacts

and many more

Every website uses Database to store its information because it is easy and faster to store and access it.

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## 1.2 What is MySQL?

MySQL is a open source relational database management system which is free to use.

Open source means you can even download its source code and change it for your needs.

Relational Database means you can create relation between the tables when you use MySQL.

Download the MySQL from: <https://www.mysql.com/>

With MySQL Database Software, you can

- Insert, Update or Delete the data in Tables.
- Query the Database for a specific row based on unique data condition.
- Use SQL language to access the data in the database.
- handle large amount of data.

You have to download the MySQL database to your local machine to start using it.

MySQL is under maintenance of Oracle. You can even purchase a license from Oracle for business purpose.

It also runs on various platforms like Linux, Unix and Windows and it works pretty well with PHP because PHP has many libraries to access the MySQL Database.

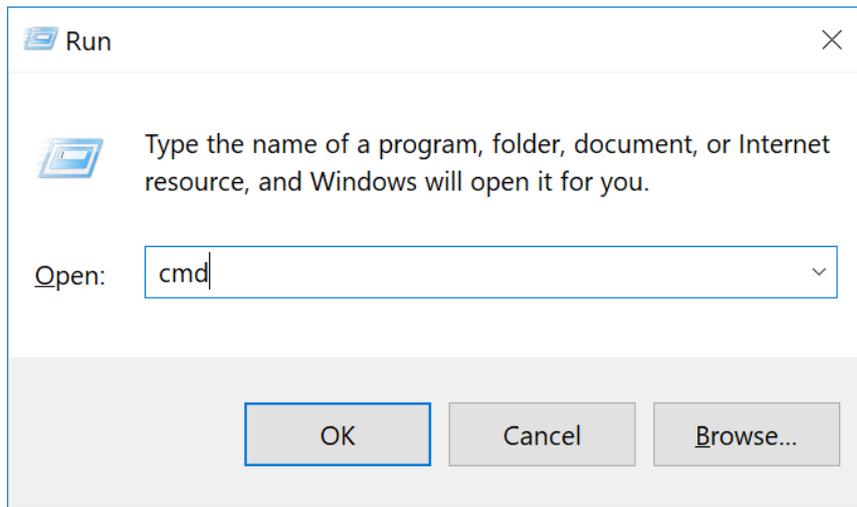
### **How to Access the MySQL from Command Line**

**Step 1:** Make sure you have installed [WAMP Server from this guide.](#)

**Step 2:** Open Command Line with CMD + R and Type cmd.

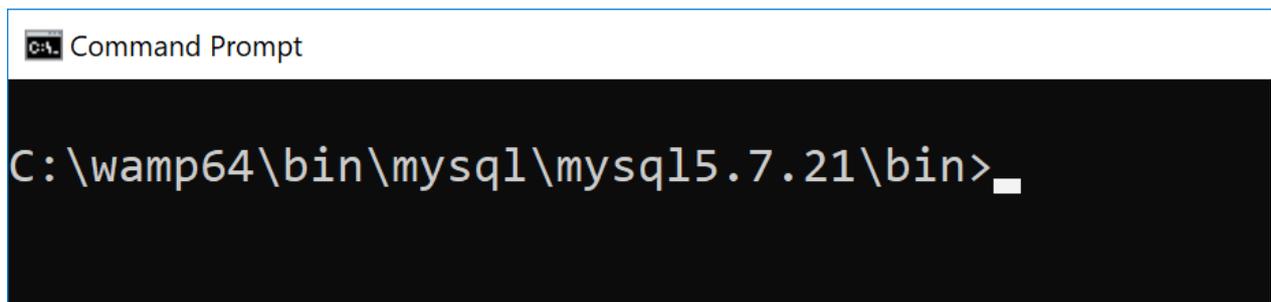
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## 1 MySQL Basics



**Step 3:** Go to folder

`"cd C:\wamp64\bin\mysql\mysql5.7.21\bin"`



**Step 4:** Type `>mysql -u root -p`

Press enter when it ask for password.

There is no password.

**Step 5:** This is your MySQL Database

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# 1 MySQL Basics

```
Command Prompt - mysql -u root -p
C:\wamp64\bin\mysql\mysql5.7.21\bin>mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 5
Server version: 5.7.21 MySQL Community Server (GPL)

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql>
```

**Step 6:** Type 'quit' to exit.

```
mysql> quit
Bye
C:\wamp64\bin\mysql\mysql5.7.21\bin>
```

## 1.3 What is phpMyAdmin?

### How to access the MySQL Database?

Once you install the MySQL database there are three ways to access the database:

- Command Line Client
- Graphical Dashboard called as phpMyAdmin.
- PHP Program

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## What is phpMyAdmin?

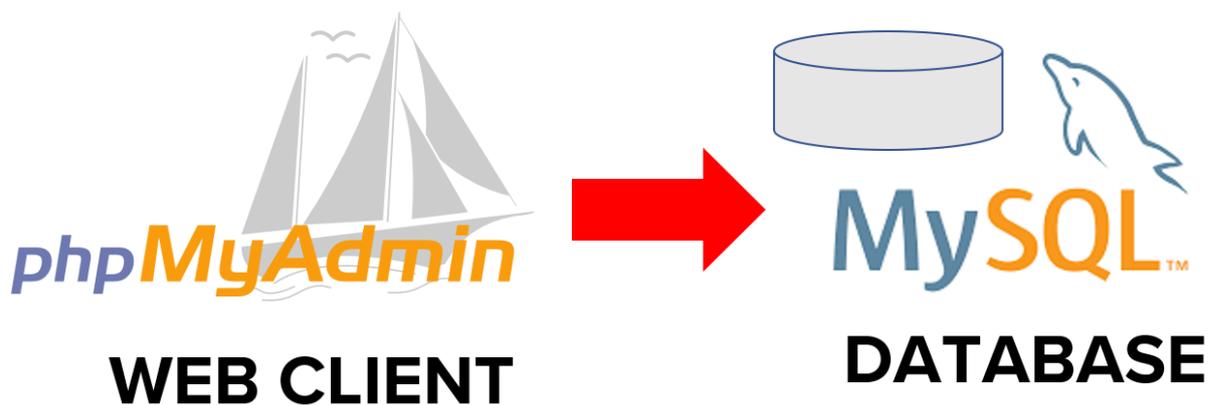
phpMyAdmin is a web based client using which we can access the MySQL Database and Tables.

We can perform the database operations like:

- Creating Users
- Creating Database, Tables
- Inserting, Updating and Deleting the Data

This is a Web based client using which we can perform the database operation on the MySQL.

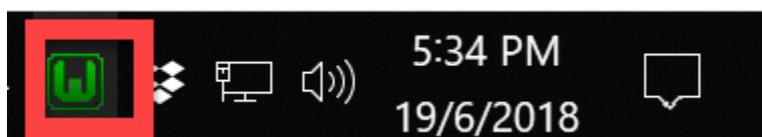
MySQL is the Database and phpMyAdmin is the web Client to access the database.



## How to Access the MySQL from phpMyAdmin

**Step 1:** Make sure you have installed [WAMP Server from this guide.](#)

**Step 2:** Make sure the WAMP Server is running.

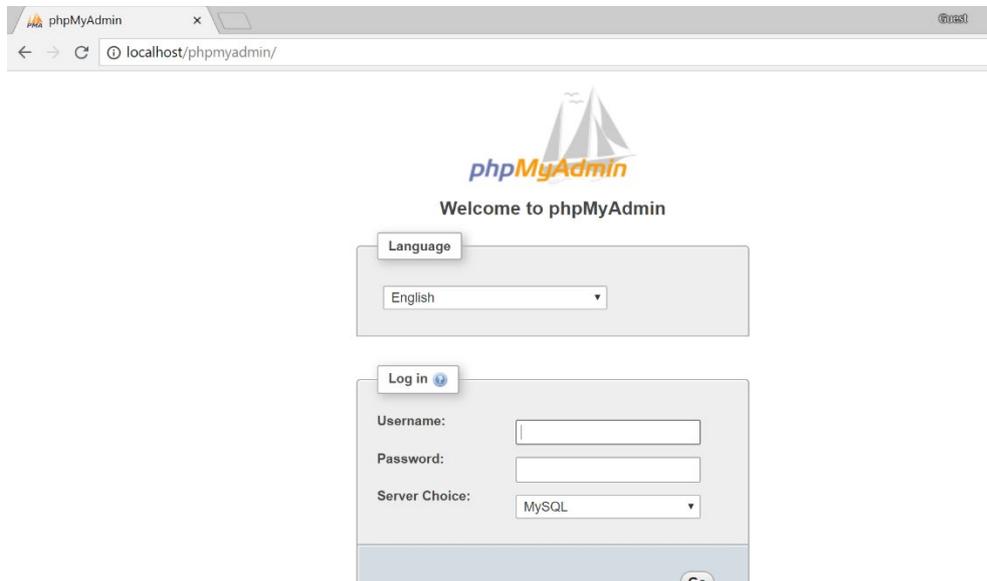


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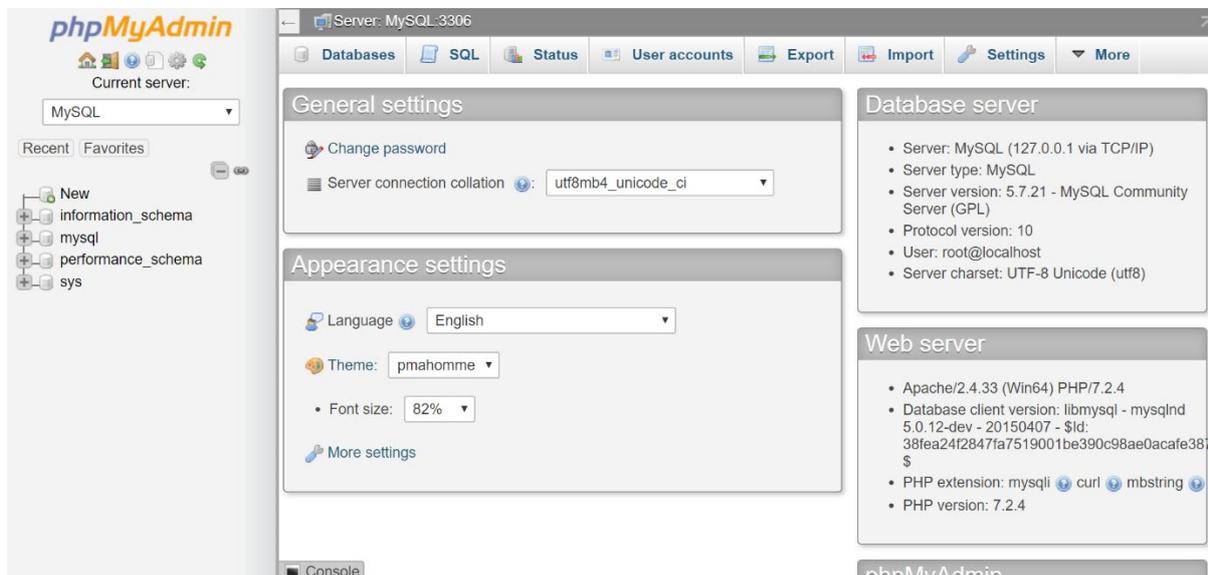
# 1 MySQL Basics

**Step 3:** Open Browser and type this url

http://localhost/phpmyadmin

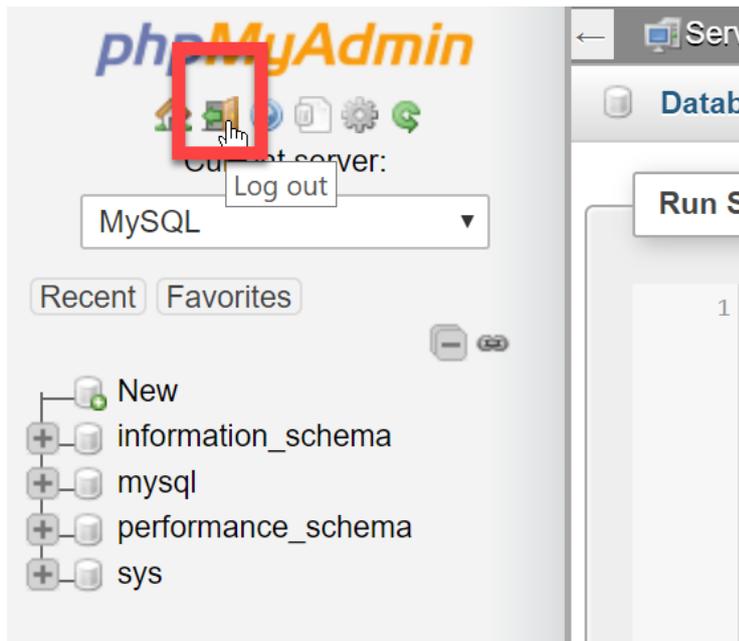


**Step 4:** Username is root and password is blank. Press enter.



**Step 5:** Press the logout button to exit from the application

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### 1.4 Datatypes MySQL

Datatypes in MySQL are divided into this 3 categories:

- Numeric
- Strings
- Date and Time

Numbers in MySQL are:

- INT
- TINYINT
- SMALLINT
- MEDIUMINT
- BIGINT
- FLOAT
- DOUBLE
- DECIMAL

String in MySQL are:

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## 1 MySQL Basics

- CHAR
- VARCHAR
- BLOB (TINYBLOB, MEDIUMBLOB, LONGBLOB)
- TEXT (TINYTEXT, MEDIUMTEXT, LONGTEXT)
- ENUM

Date and Time in MySQL are:

- DATE
- TIME
- DATETIME
- TIMESTAMP

Most Commonly Used Datatypes:

- INT OR FLOAT OR DECIMAL – To Store numbers and decimals
- CHAR OR VARCHAR – To Store String
- DATETIME – To Store Date and Time

## 1.5 Keywords MySQL

Commonly used Keywords in MySQL SQL Statements:

- SELECT
- INSERT
- UPDATE
- DELETE
- AS
- DROP
- DESC
- TABLE
- DATABASE
- WHERE
- ISNULL
- ORDER BY

Complete list is [found here from MySQL](#)

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# 2.phpMyAdmin

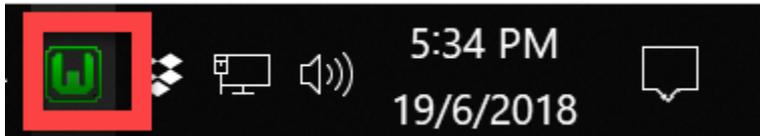
## 2 phpMyAdmin

### 2.1 Login and Logout phpMyAdmin

#### How to Login into phpMyAdmin

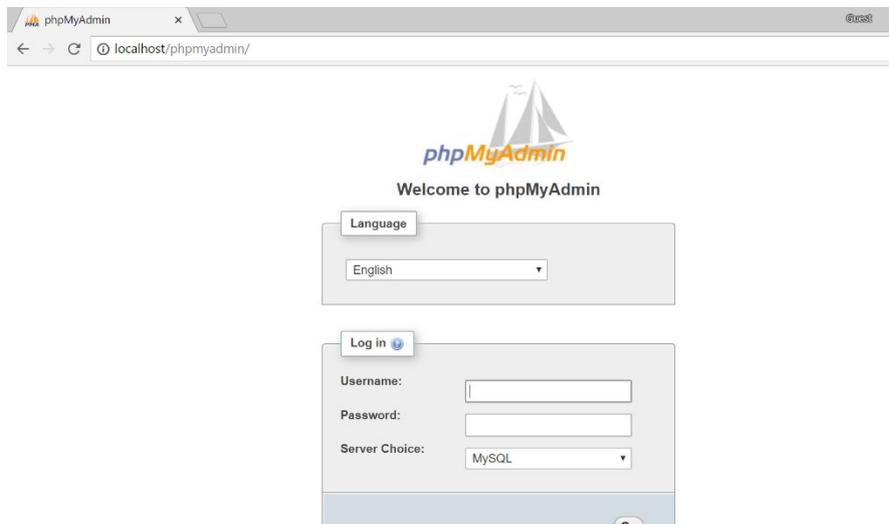
**Step 1:** Make sure you have installed [WAMP Server from this guide](#).

**Step 2:** Make sure the WAMP Server is running.



**Step 3:** Open Browser and type this url

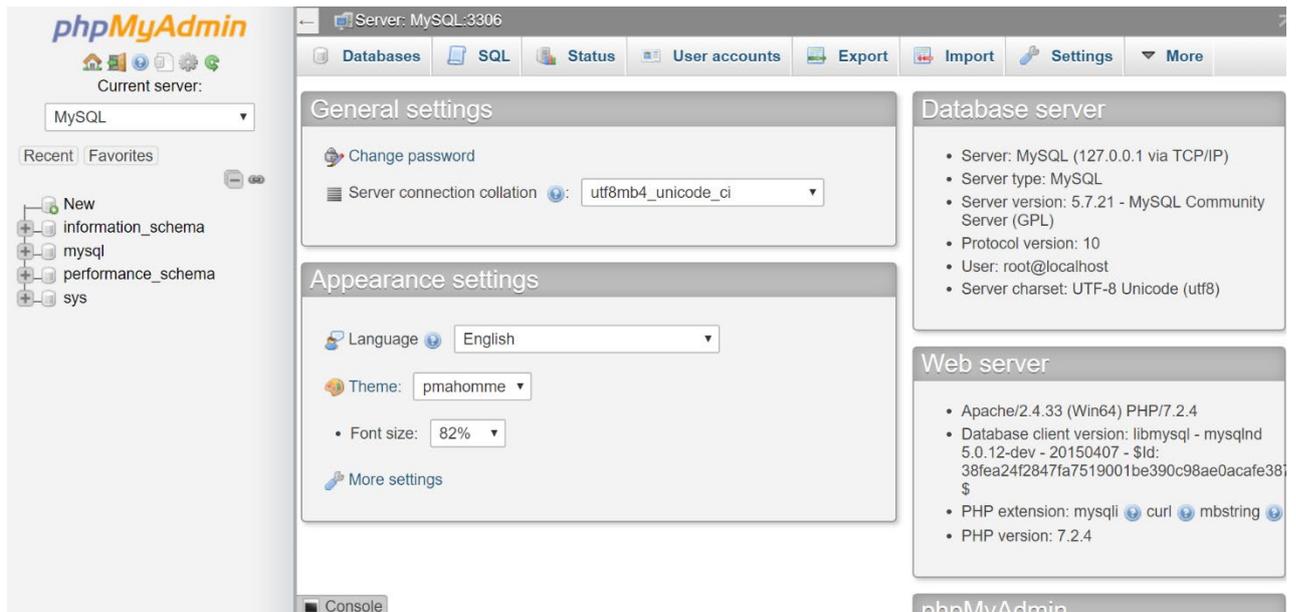
`http://localhost/phpmyadmin`



**Step 4:** Username is root and password is blank. Press enter.

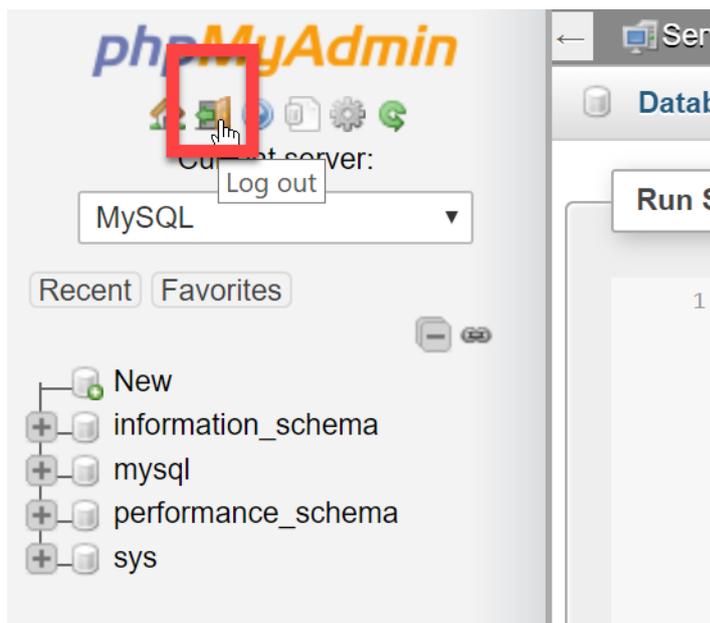
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## 2 phpMyAdmin



### How to Logout from phpMyAdmin

**Step 1:** Press the logout button to exit from the application



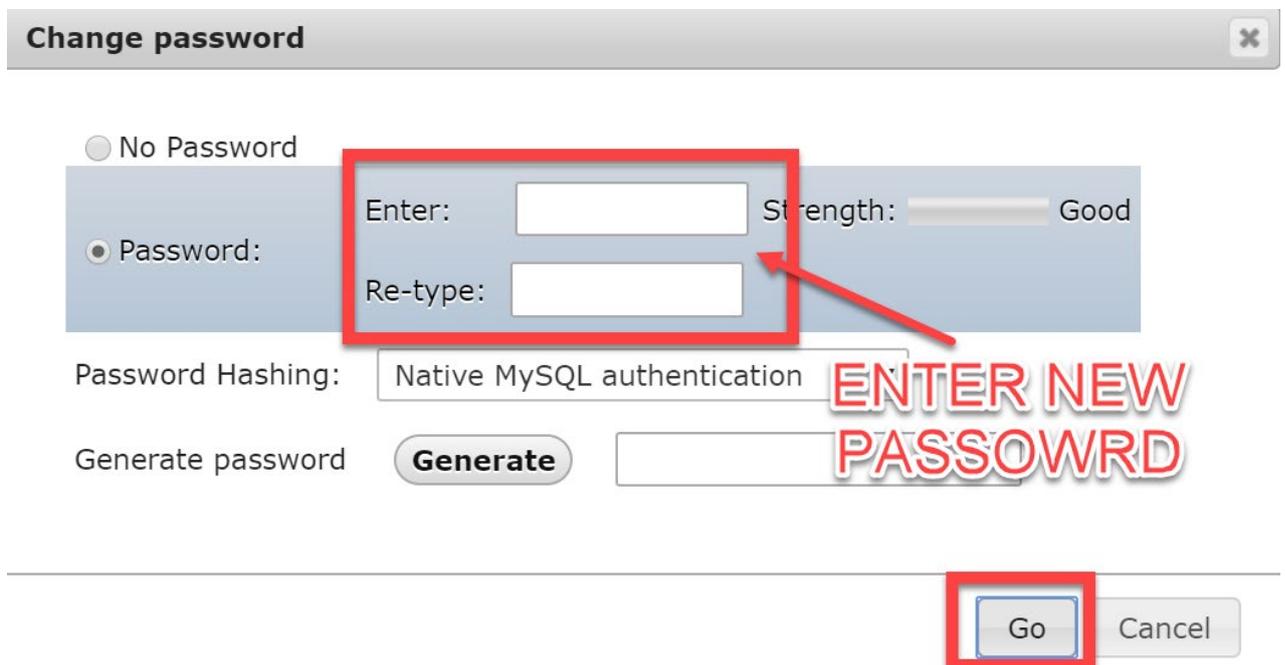
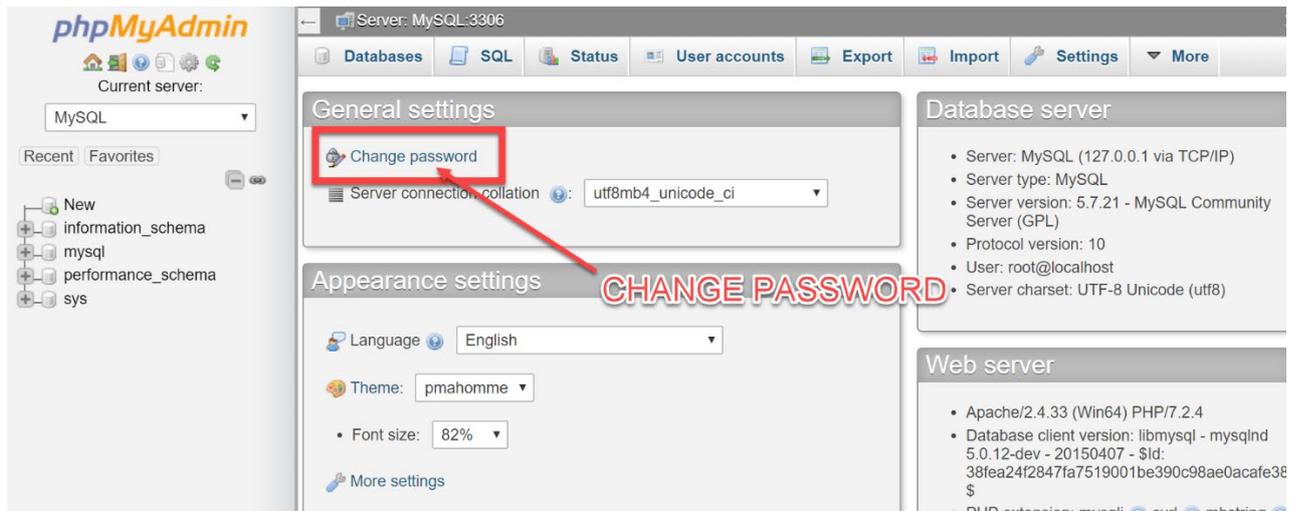
### How to Change Password into phpMyAdmin

**Step 1:** Click on Home Icon 

**Step 2:** Click on the Change Password.

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## 2 phpMyAdmin



**Step 3:** After you change password. Login again with the new password.

## 2.2 Create Users

### How to Create user with phpMyAdmin

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**Step 1:** Login into phpMyAdmin with the url: <http://localhost/phpmyadmin>

**Step 2:** Click on User Accounts -> Add New Account on the Home Page.

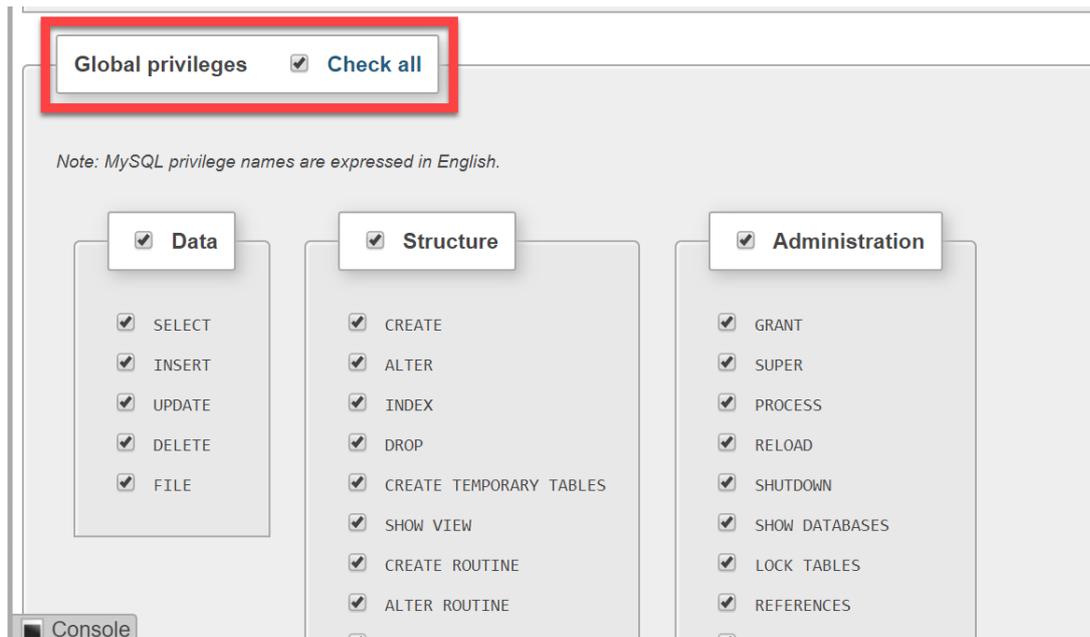


**Step 3:** Add the Username and Password and click on Global Privileges.

The screenshot shows the 'Login Information' form. The 'User name' field is set to 'admin' and is highlighted with a red box. The 'Host name' is set to 'Any host' and the host part is '%'. The 'Password' field is filled with '.....' and is highlighted with a red box. The 'Re-type' field is also filled with '.....' and is highlighted with a red box. The 'Authentication Plugin' is set to 'Native MySQL authentication'. There is a 'Generate password' button and a text input field for the generated password.

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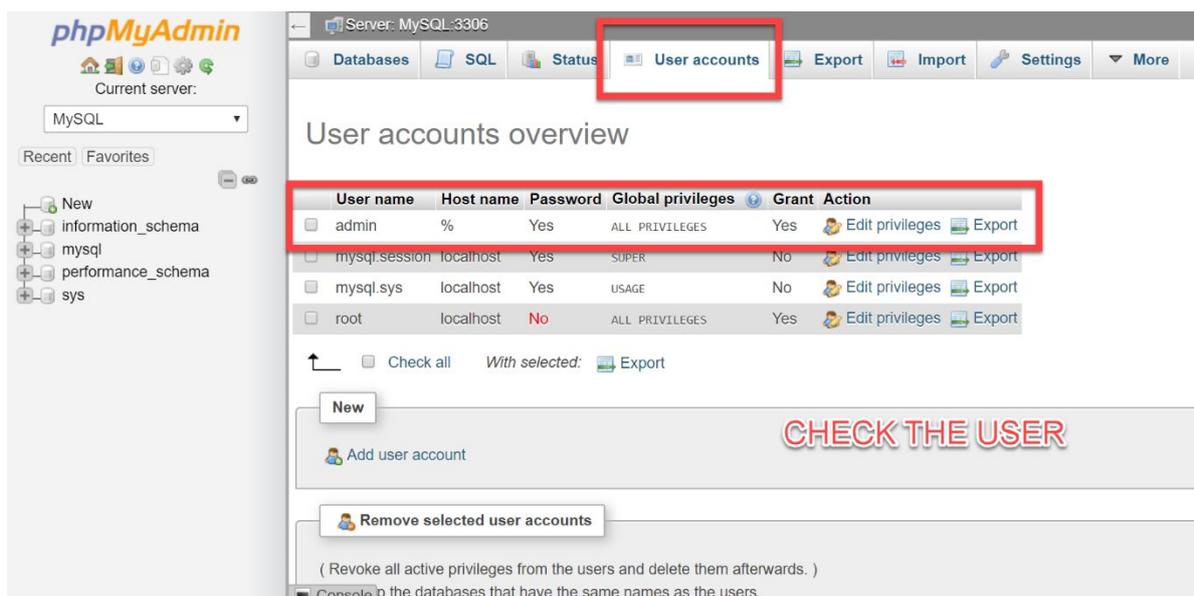
## 2 phpMyAdmin



Click on GO Button at the bottom of the page.

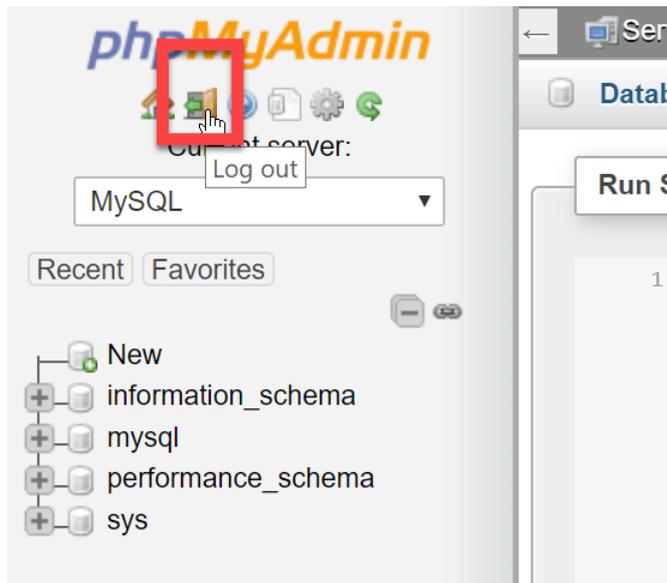


### Step 4: Check the User Created



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**Step 5:** Press the logout button to exit from the application



**Step 6:** Login again with new user credentials.

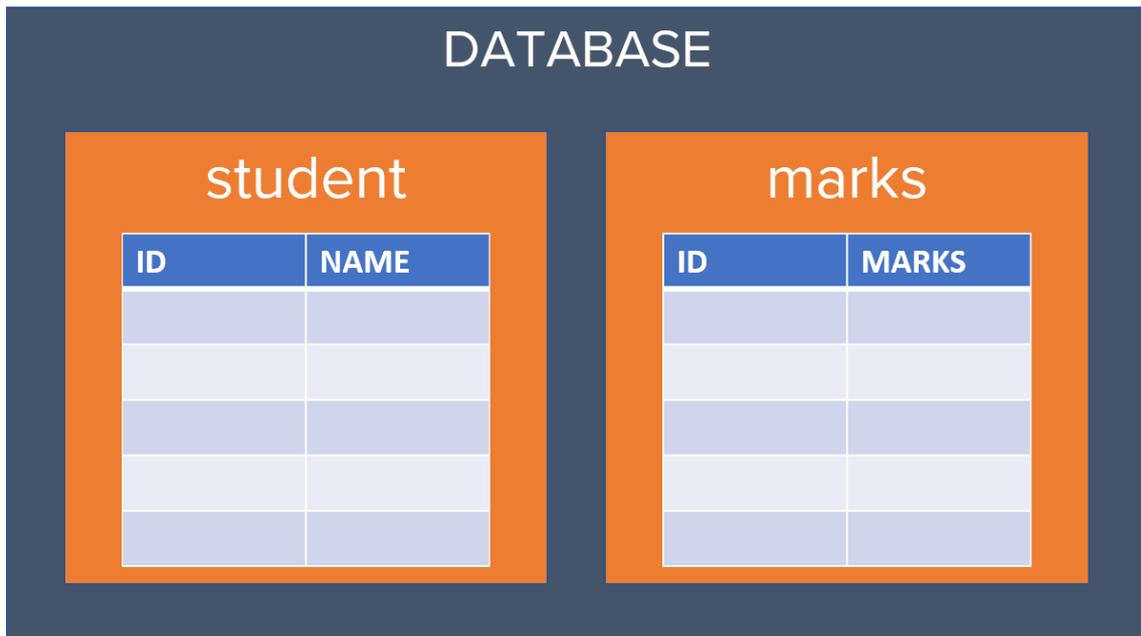
## 2.3 Create Database and Table

### What is Database & Table?

Database is a collection of Tables. One Database can have multiple tables.

One Table can have defined column and all the data is table are stored in each row.

## 2 phpMyAdmin

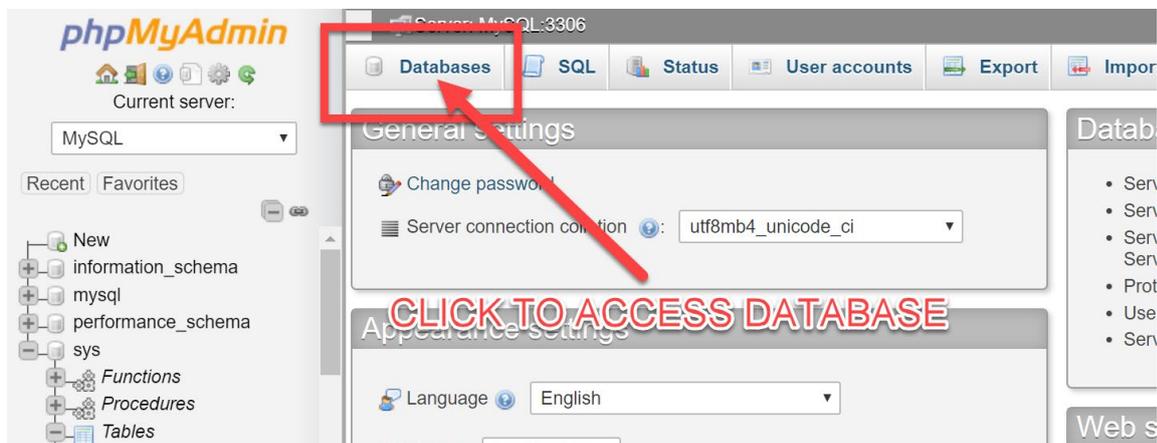


### Create Database in phpMyAdmin

Create Database 'schooldb'

**Step 1:** Open the phpMyAdmin Dashboard

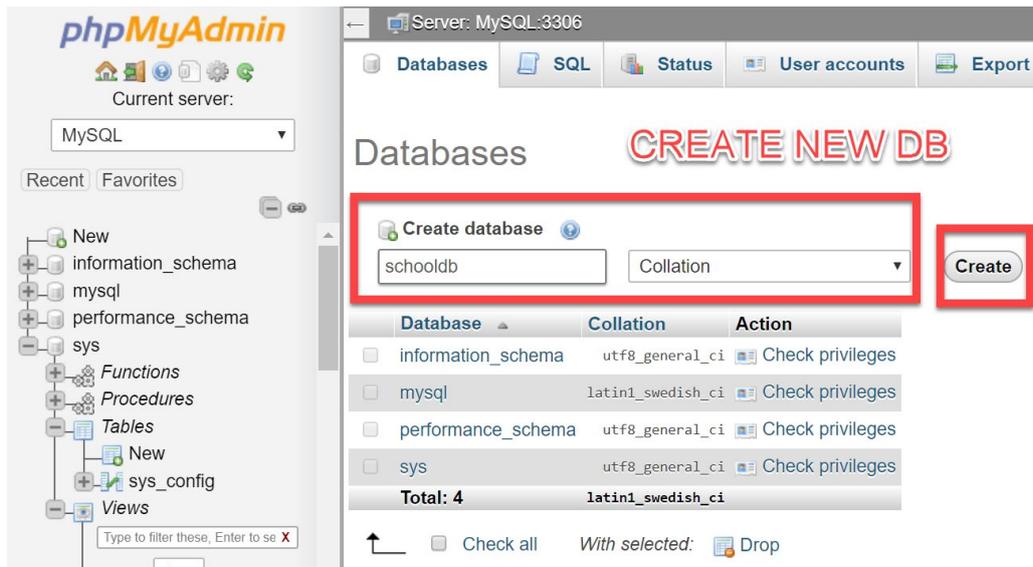
**Step 2:** Click on Database



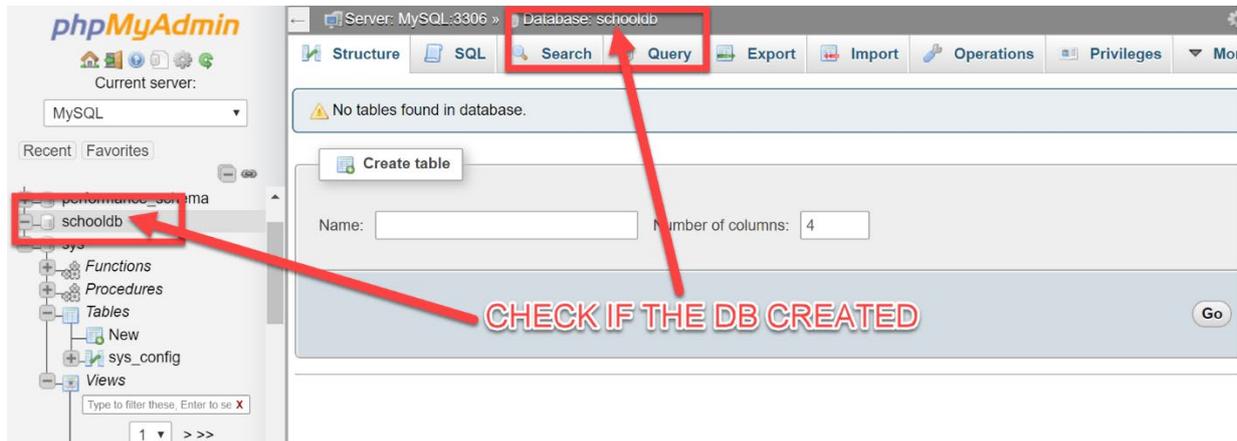
**Step 3:** Enter the new Database Name – **schooldb**

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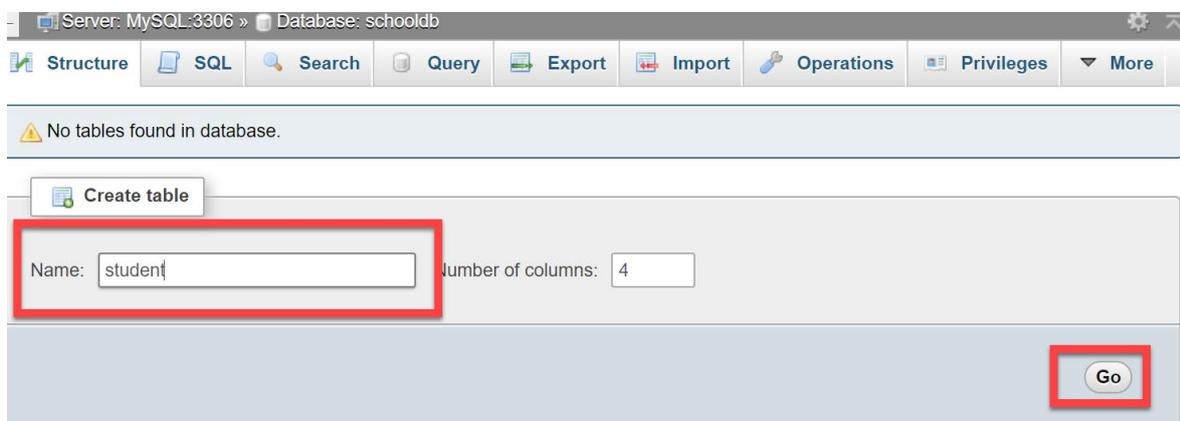
## 2 phpMyAdmin



### Step 4: Check the Database



### Step 5: Create Two tables – student and marks



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**Step 6:** Create Two tables – student

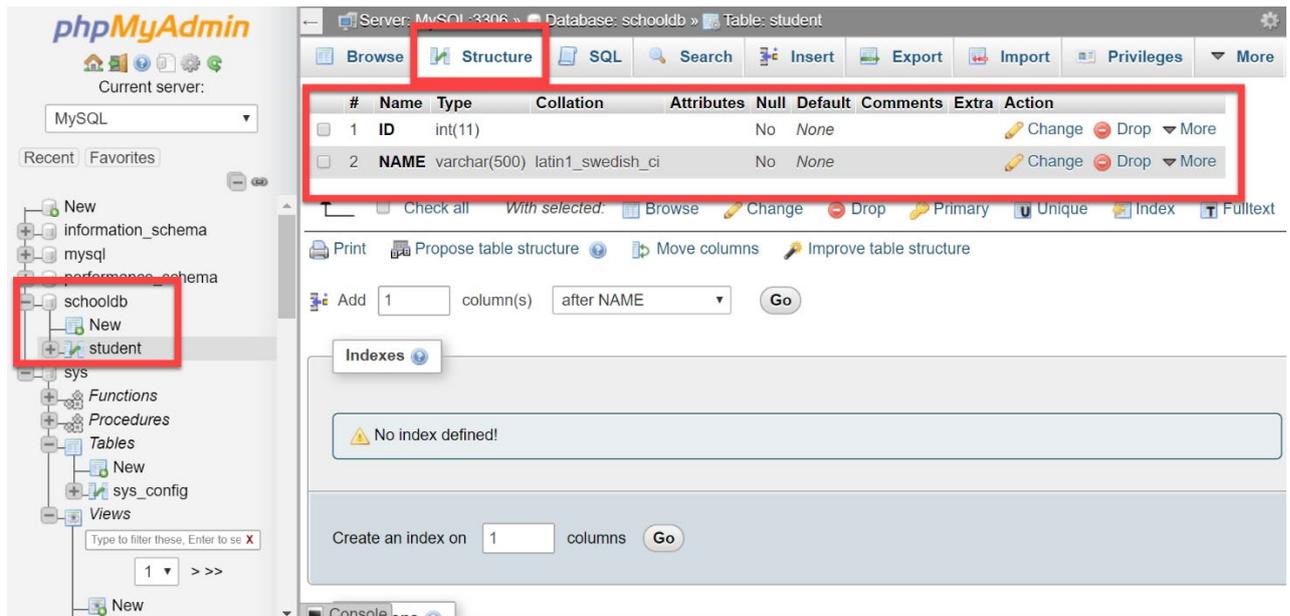
Table name:  Add  column(s)

Name	Type	Length/Values	Default
<input type="text" value="ID"/>	<input type="text" value="INT"/>	<input type="text"/>	<input type="text" value="None"/>
<input type="text" value="NAME"/>	<input type="text" value="VARCHAR"/>	<input type="text" value="500"/>	<input type="text" value="None"/>
<input type="text"/>	<input type="text" value="VARCHAR"/>	<input type="text"/>	<input type="text" value="None"/>
<input type="text"/>	<input type="text" value="INT"/>	<input type="text"/>	<input type="text" value="None"/>

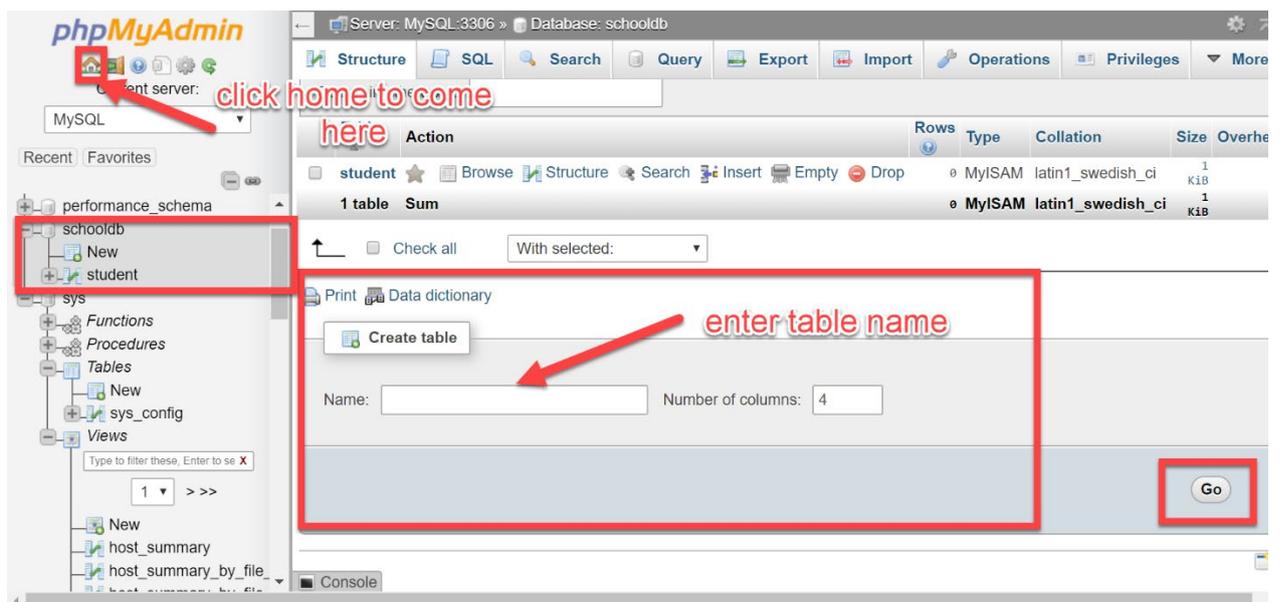
Save Button is bottom right

**Step 7:** Verify the table

## 2 phpMyAdmin



### Step 8: Create the marks table



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## 2 phpMyAdmin

Table name:  Add  column(s)

Name	Type	Length/Values	Default	Collation	Attributes
<input type="text" value="ID"/>	<input type="text" value="INT"/>	<input type="text"/>	<input type="text" value="None"/>	<input type="text"/>	<input type="text"/>
<input type="text" value="marks"/>	<input type="text" value="INT"/>	<input type="text"/>	<input type="text" value="None"/>	<input type="text"/>	<input type="text"/>

Table comments:  Collation:  Storage Engine:

PARTITION definition:

Partition by:  (  )

Partitions:

### Step 9: Verify the Table

Server: MySQL:3306 » Database: schooldb » Table: marks

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	ID	int(11)			No	None		Primary Unique	Change Drop
2	marks	int(11)			No	None		Primary Unique	Change Drop

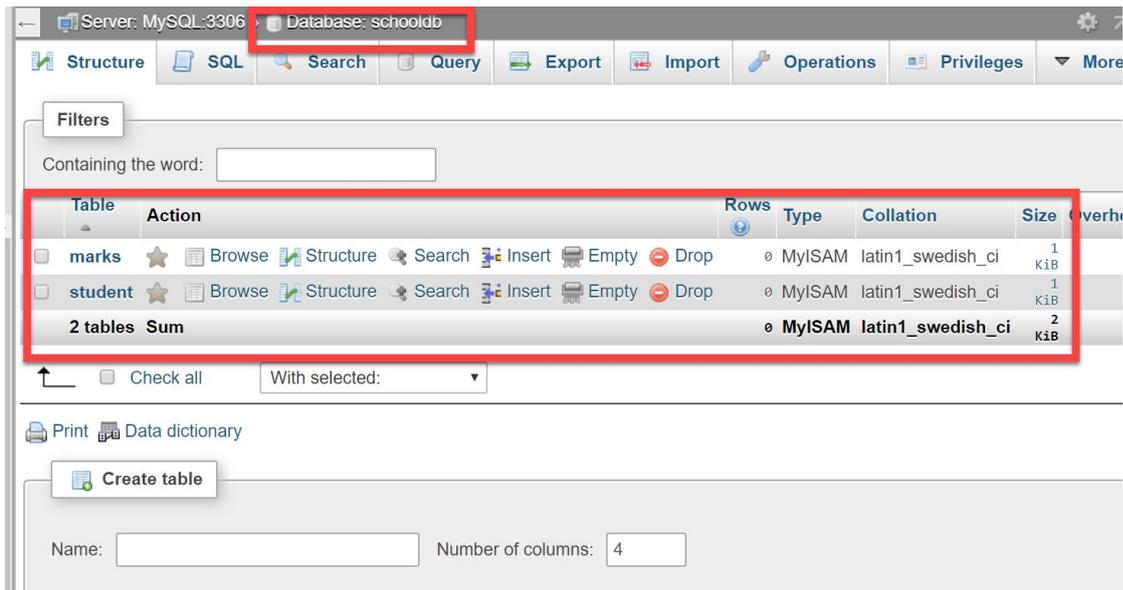
Indexes: No indexes defined

Create an index on  columns

**TWO TABLES**

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## 2 phpMyAdmin



## 2.4 Run Simple SQL Statements

In this exercise, you will

- Create Table
- Insert Data in Table
- View the Table Data

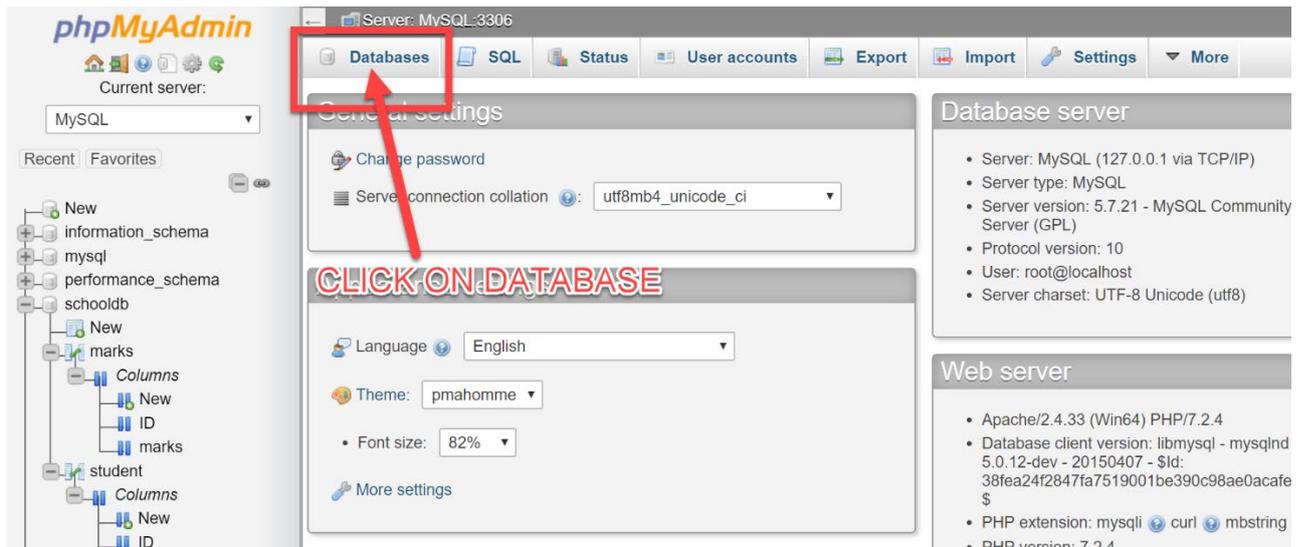
### Step 1: Login into phpMyAdmin

Type the url: <http://localhost/phpmyadmin> in the browser.

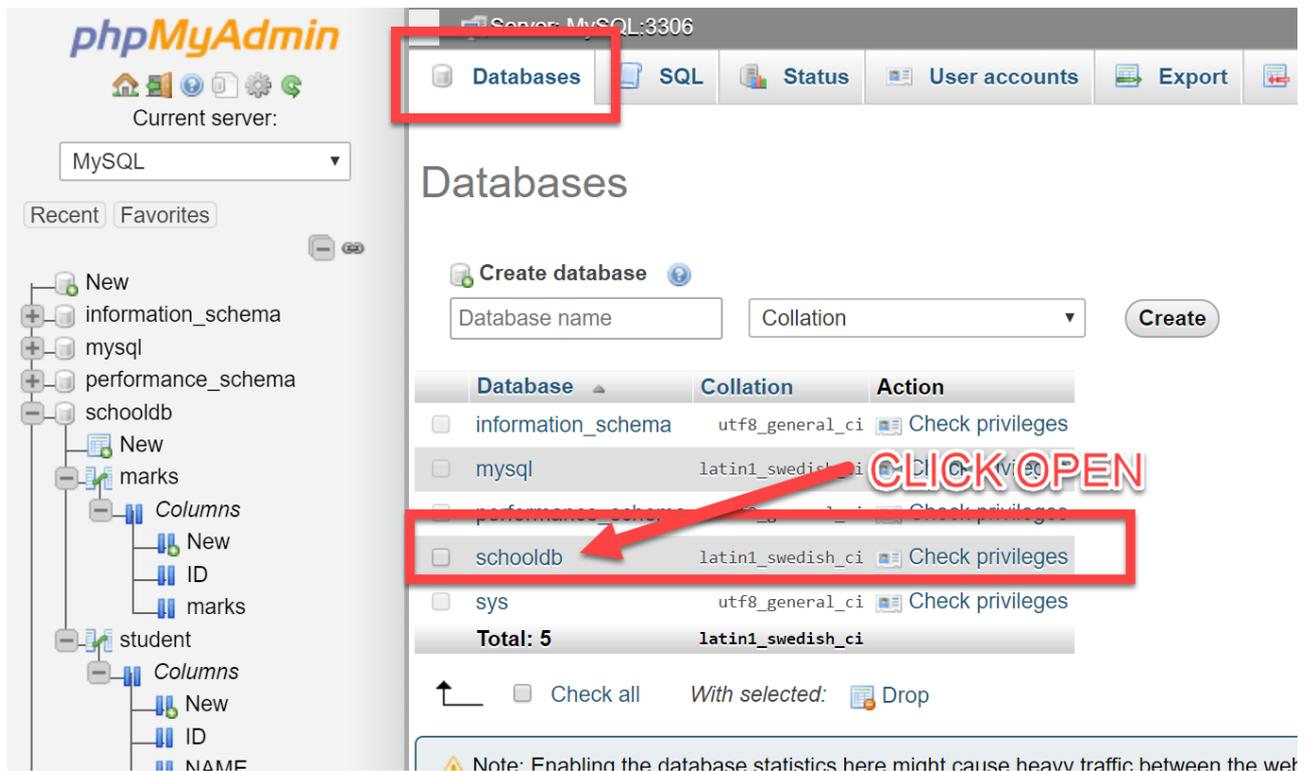
### Step 2: Click on Database

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## 2 phpMyAdmin



### Step 3: Open the Database



### Step 4: Click the insert link

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## 2 phpMyAdmin

The screenshot shows the phpMyAdmin interface for a MySQL server. The current server is 'MySQL' and the database is 'schooldb'. The left sidebar shows the database structure with 'marks' and 'student' tables. The main area shows a table list with columns 'Table', 'Action', 'Rows', 'Type', and 'Collation'. The 'student' table is highlighted with a red box, and a red arrow points to the 'Insert' icon. A red box also highlights the 'Database: schooldb' breadcrumb. Below the table list, there is a 'Create table' section with a 'Name' field and a 'Number of columns' field set to 4. A red arrow points to the 'student' table with the text 'CLICK THE STUDENT TABLE'.

This is a close-up of the table list from the previous screenshot. The 'student' table is highlighted with a red box. A red arrow points to the 'Insert' icon with the text 'click here'.

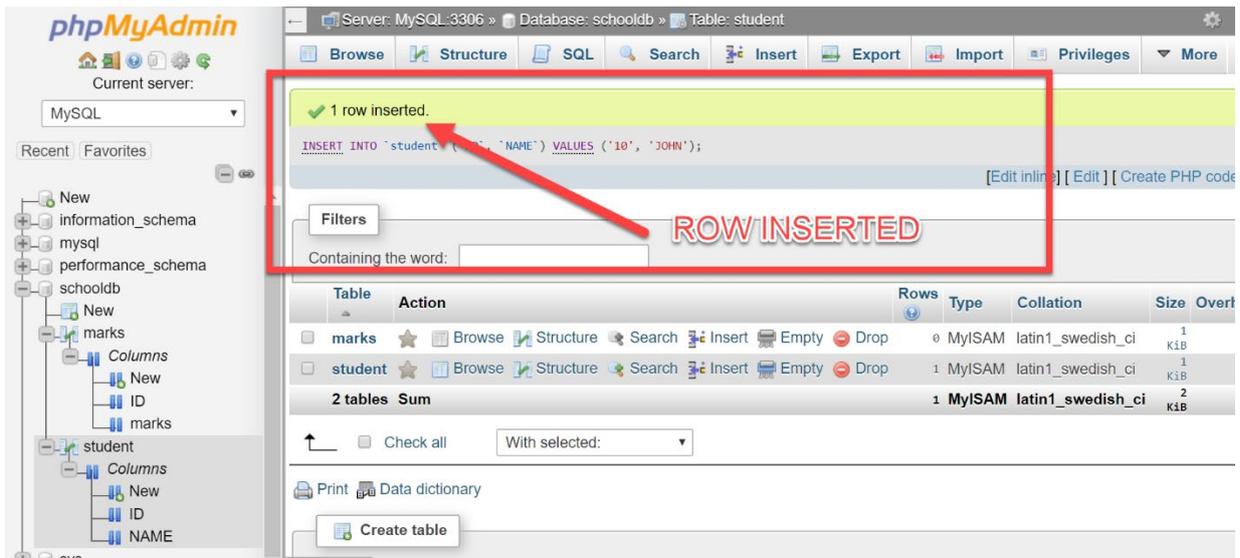
### Step 5: Insert the data

The screenshot shows the 'Insert data' form in phpMyAdmin. The form has columns for 'Column', 'Type', 'Function', 'Null', and 'Value'. The 'ID' column has a value of '10' and the 'NAME' column has a value of 'JOHN'. A red box highlights the 'Value' field for 'ID' and 'NAME'. A red box also highlights the 'Go' button at the bottom right.

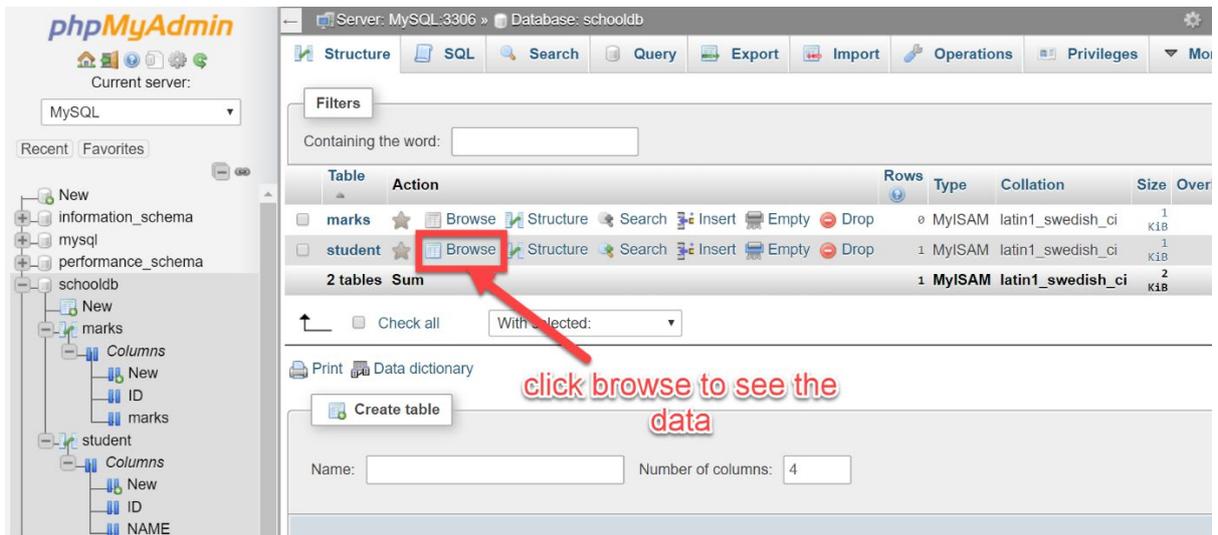
### Step 6: Verify the Rows in the Table

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## 2 phpMyAdmin



Click on the **"Browse"** link beside the table.



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## 2 phpMyAdmin

The screenshot shows the phpMyAdmin interface for the 'student' table in the 'schooldb' database. The table structure is visible on the left, and the main area shows the query results for 'SELECT \* FROM `student`'. The results table has two columns: 'ID' and 'NAME', with one row containing the value '10' for ID and 'JOHN' for NAME. A red box highlights the table structure and the query results, with a red arrow pointing to the text 'TABLE ROWS'.

ID	NAME
10	JOHN

**Step 7: Add the data for 'marks' table and browse it.**

The screenshot shows the phpMyAdmin interface for the 'marks' table in the 'schooldb' database. The table structure is visible on the left, and the main area shows the query results for 'SELECT \* FROM `marks`'. The results table has two columns: 'ID' and 'marks', with one row containing the value '10' for ID and '97' for marks. A red box highlights the table structure and the query results, with a red arrow pointing to the text 'TABLE ROWS'.

ID	marks
10	97

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# 3. MySQL STATEMENTS

## 3 MySQL Statements

### 3.1 Create a Table

Follow this two Guide to create the table:

- [2.3 – Create Database and Table](#)
- [2.4 – Run Simple SQL Statements](#)

#### **Exercise:**

- Create a table name 'fees' with two fields
  - ID – INT
  - MARKS – INT
- Add some data to the fees table.

### 3.2 Drop a Table

Dropping a table means deleting a table.

DROP is a keyword to delete the table.

#### **SQL SYNTAX:**

DROP TABLE <TABLENAME>

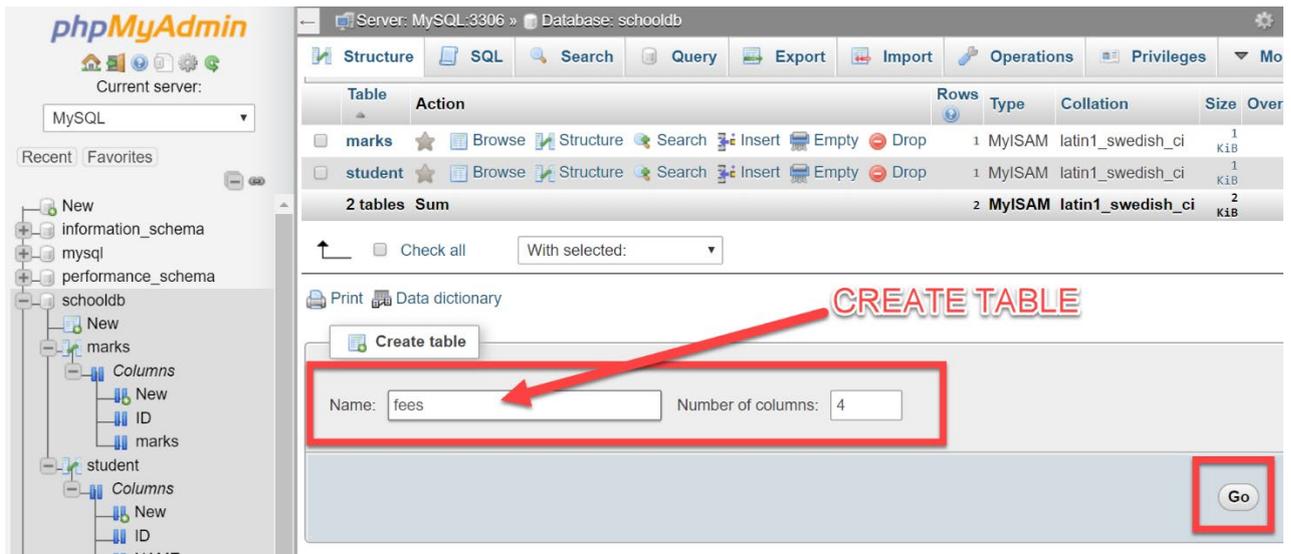
#### **SQL QUERY:**

DROP TABLE 'fees';

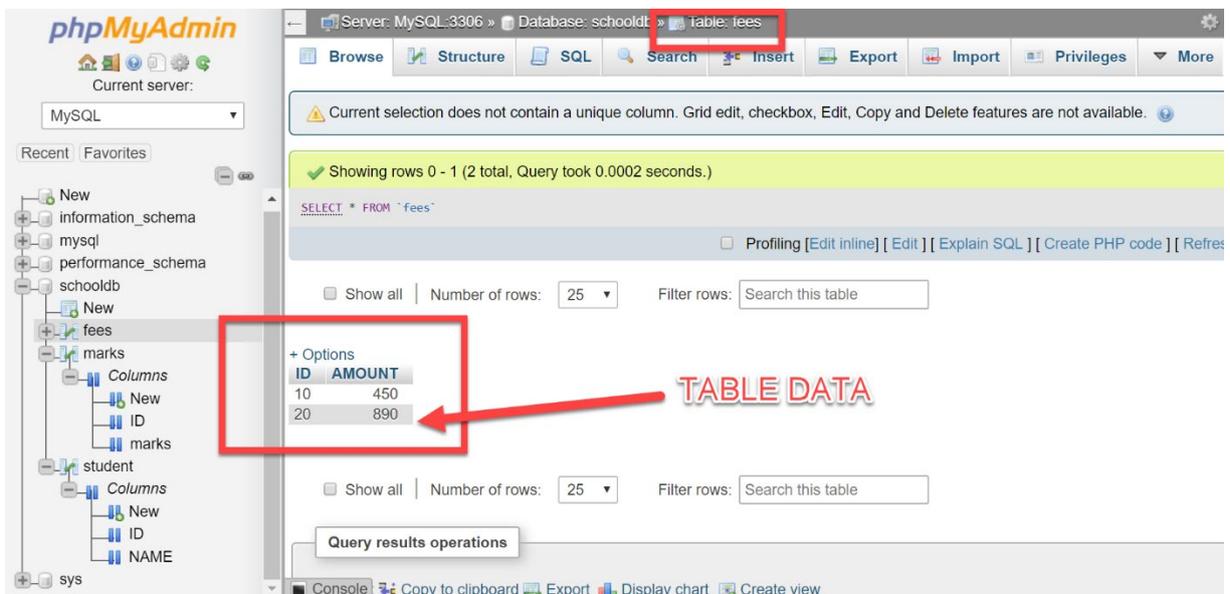
#### **Step 1: Create a new Table 'fees' with ID and Amount Fields**

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### 3 MySQL Statements



### Step 2: Add some Data to the 'fees' Table



### Step 3: Delete the 'fees' table

### 3 MySQL Statements

Filters

Containing the word:

**CLICK THIS TO DELETE THE TABLE**

Table	Action	Rows	Type	Collation	Size
<input type="checkbox"/> fees	★ Browse Structure Search Insert Empty <b>Drop</b>	2	MyISAM	latin1_swedish_ci	1 KiB
<input type="checkbox"/> marks	★ Browse Structure Search Insert Empty Drop	1	MyISAM	latin1_swedish_ci	1 KiB
<input type="checkbox"/> student	★ Browse Structure Search Insert Empty Drop	1	MyISAM	latin1_swedish_ci	1 KiB
<b>3 tables Sum</b>			<b>4 MyISAM</b>	<b>latin1_swedish_ci</b>	<b>3 KiB</b>

Check all    With selected:

**Confirm**

You are about to DESTROY a complete table! Do you really want to execute "DROP TABLE ` fees `"?

Enable foreign key checks

**OK**    Cancel

phpMyAdmin

Server: MySQL\_3306 » Database: schooldb

Structure SQL Search Query Export Import Operations Privileges More

Filters

Containing the word:

Table	Action	Rows	Type	Collation	Size	Over
<input type="checkbox"/> marks	★ Browse Structure Search Insert Empty Drop	1	MyISAM	latin1_swedish_ci	1 KiB	
<input type="checkbox"/> student	★ Browse Structure Search Insert Empty Drop	1	MyISAM	latin1_swedish_ci	1 KiB	
<b>2 table(s) Sum</b>			<b>2 MyISAM</b>	<b>latin1_swedish_ci</b>	<b>2 KiB</b>	

Check all    With selected:

Print Data dictionary

Create table

Name:     Number of columns:

**'fees' table deleted**

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## 3.3 INSERT Statements

INSERT is a keyword to INSERT the data in the table.

### SQL SYNTAX:

```
INSERT INTO table_name VALUES (value1, value2, value3);
```

### SQL QUERY:

```
INSERT INTO fees VALUES(10, 86);
```

### Exercise:

Add some data to the fees table.

## 3.4 SELECT Statements

SELECT is a keyword to select the data from the tables.

### SQL SYNTAX:

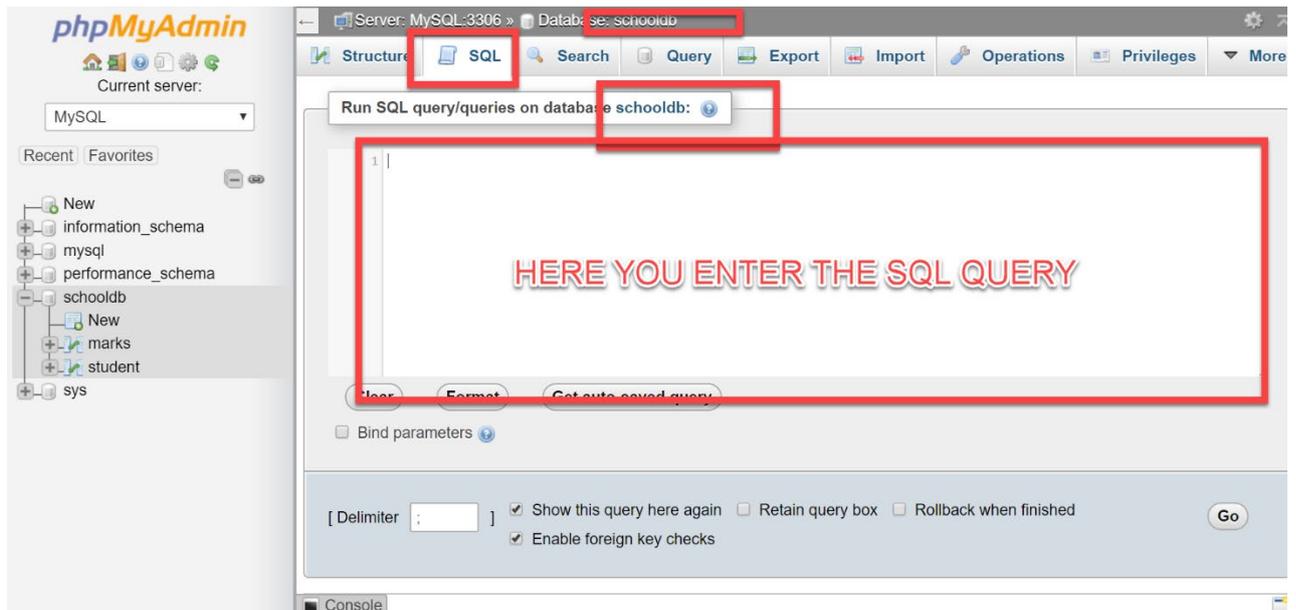
```
SELECT * FROM table_name;
```

### SQL QUERY:

```
SELECT * FROM student;
```

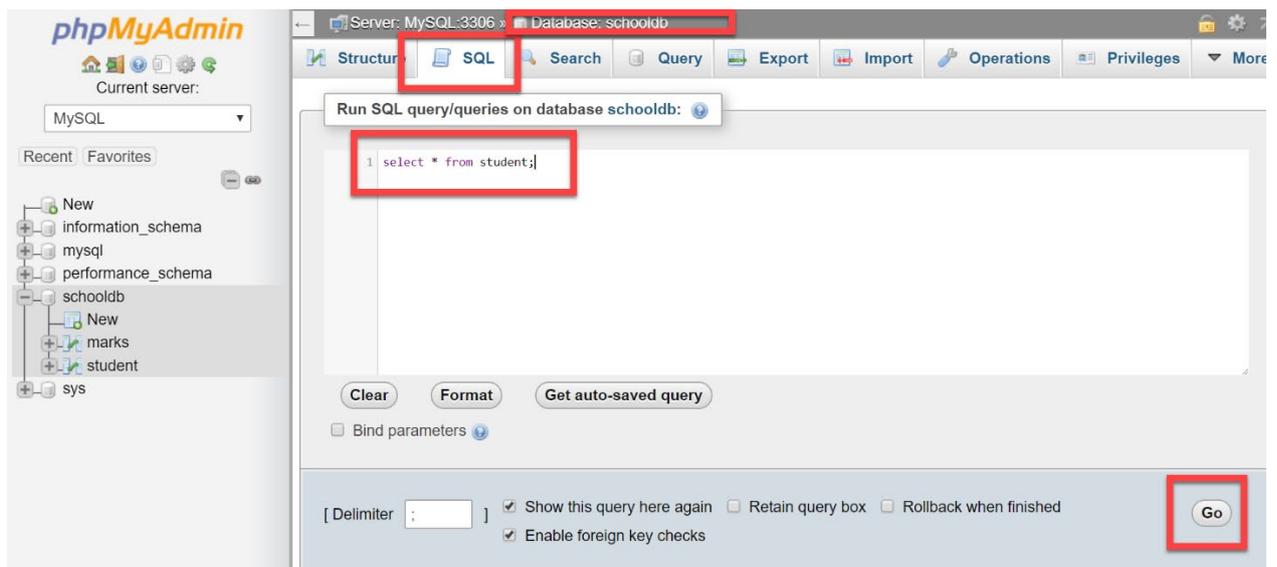
**Step 1:** Login into phpMyAdmin and open the 'studentdb'

### 3 MySQL Statements



**Step 2:** Enter the SELECT SQL Query

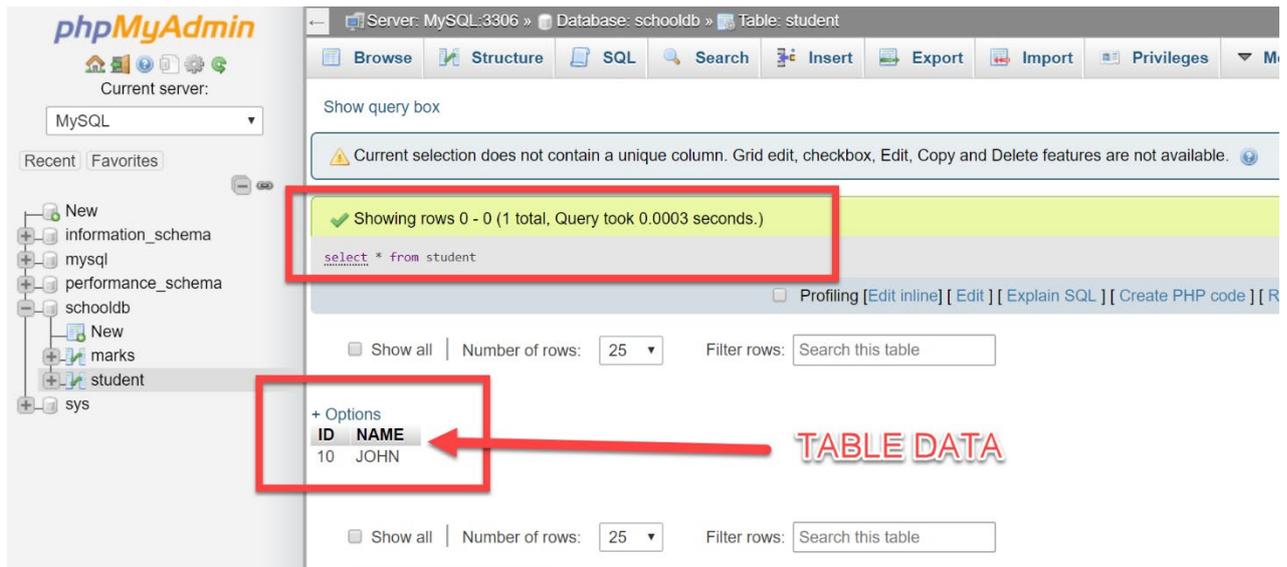
SELECT \* FROM student;



**Step 3:** Verify the Data

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## 3 MySQL Statements



### 3.5 Clause WHERE, LIMIT

WHERE and LIMIT are called as Clause which are used along with SQL statement to apply the condition.

#### SQL SYNTAX:

```
SELECT * FROM table_name WHERE ID <= 100;
```

#### SQL QUERY:

```
SELECT * FROM student WHERE ID <= 100 LIMIT 2;
```

This query tell the to MySQL to fetch student record where ID field value is less than 100 and fetch only two rows.

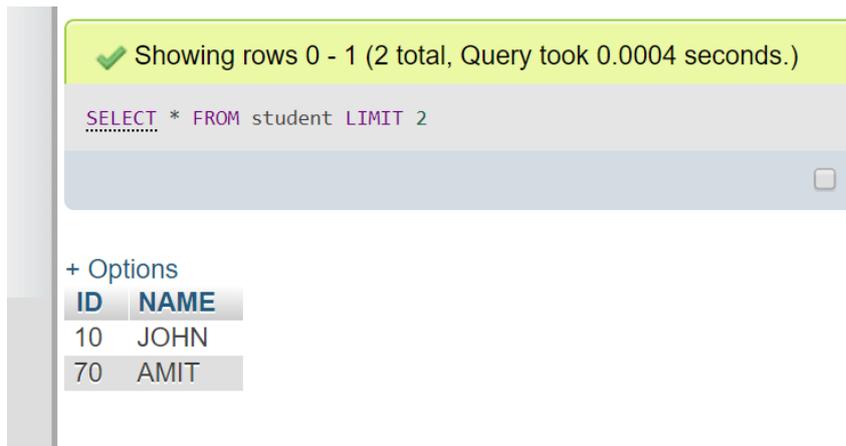
#### EXERCISE 1:

Fetch only 2 records from student table.

```
SELECT * FROM student LIMIT 2;
```

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### 3 MySQL Statements



Showing rows 0 - 1 (2 total, Query took 0.0004 seconds.)

```
SELECT * FROM student LIMIT 2
```

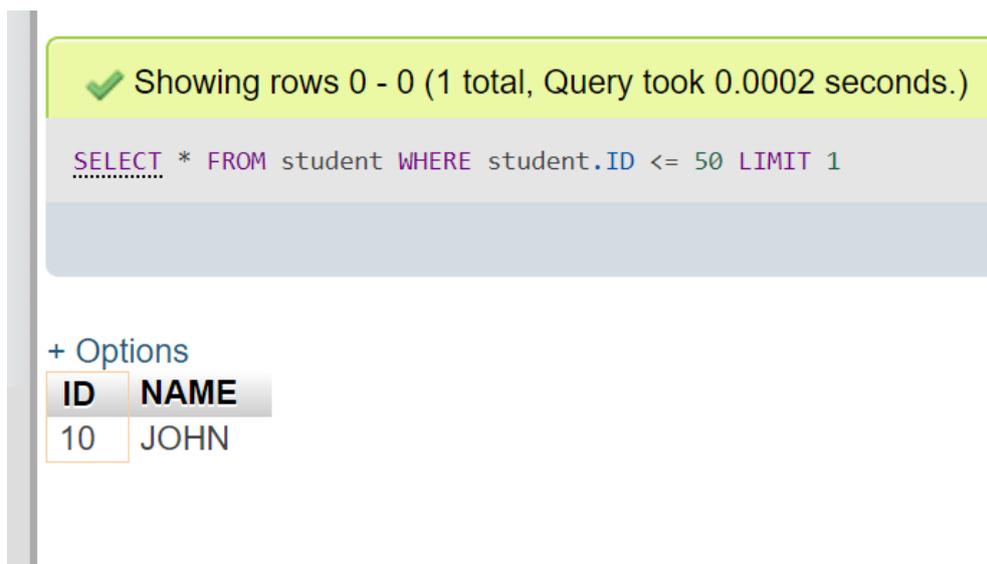
+ Options

ID	NAME
10	JOHN
70	AMIT

#### EXERCISE 2:

Fetch records where ID > 50 and LIMIT to 1 record.

```
SELECT * FROM student WHERE student.ID <= 50 LIMIT 1;
```



Showing rows 0 - 0 (1 total, Query took 0.0002 seconds.)

```
SELECT * FROM student WHERE student.ID <= 50 LIMIT 1
```

+ Options

ID	NAME
10	JOHN

## 3.6 Operators IS NULL, LIKE, ORDER BY

IS NULL, LIKE and ORDER BY are called as operators that you can apply on the condition to check and sort the records.

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### 3 MySQL Statements

IS NULL will check if the field is NULL or NOT.

ORDER BY will order / sort the records based on the field.

LIKE has two wild characters:

- % – The percent sign represents zero, one, or multiple characters
- \_ – The underscore represents a single character

#### **SQL SYNTAX:**

```
SELECT * FROM table_name WHERE columnN IS NOT NULL
```

```
SELECT * FROM table_name WHERE columnN LIKE pattern;
```

```
SELECT * FROM table_name WHERE columnN LIKE pattern ORDER BY  
columnN;
```

#### **SQL QUERY:**

```
SELECT * FROM student WHERE student.NAME IS NOT NULL;
```

This query tell the to MySQL to fetch student record where NAME is not null.

```
SELECT * FROM student WHERE student.NAME LIKE 'j%';
```

This query tell the to MySQL to fetch student record where NAME matches with j.

```
SELECT * FROM student WHERE student.NAME LIKE 'j%' ORDER BY  
student.NAME;
```

This query tell the to MySQL to fetch student record where NAME matches with j and sort the records by NAME.

#### **EXERCISE 1:**

Execute the above 3 Queries.

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## 3.7 UPDATE Statements

UPDATE statement is used to update an existing row in the table based on a condition specified with WHERE clause.

### SQL SYNTAX:

```
UPDATE table_name SET column1 = value1, column2 = value2  
WHERE condition;
```

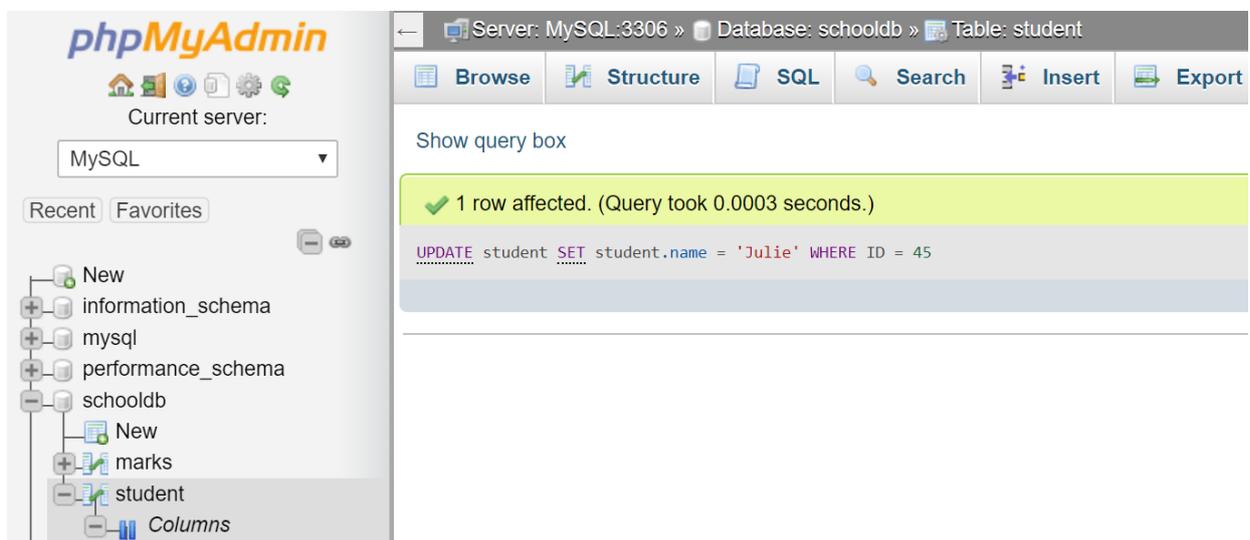
### SQL QUERY:

```
UPDATE student  
SET student.name = 'Julie' WHERE ID = 100;
```

### EXERCISE 1:

Update the record name when ID = 45

```
UPDATE student  
SET student.name = 'Julie' WHERE ID = 45;
```

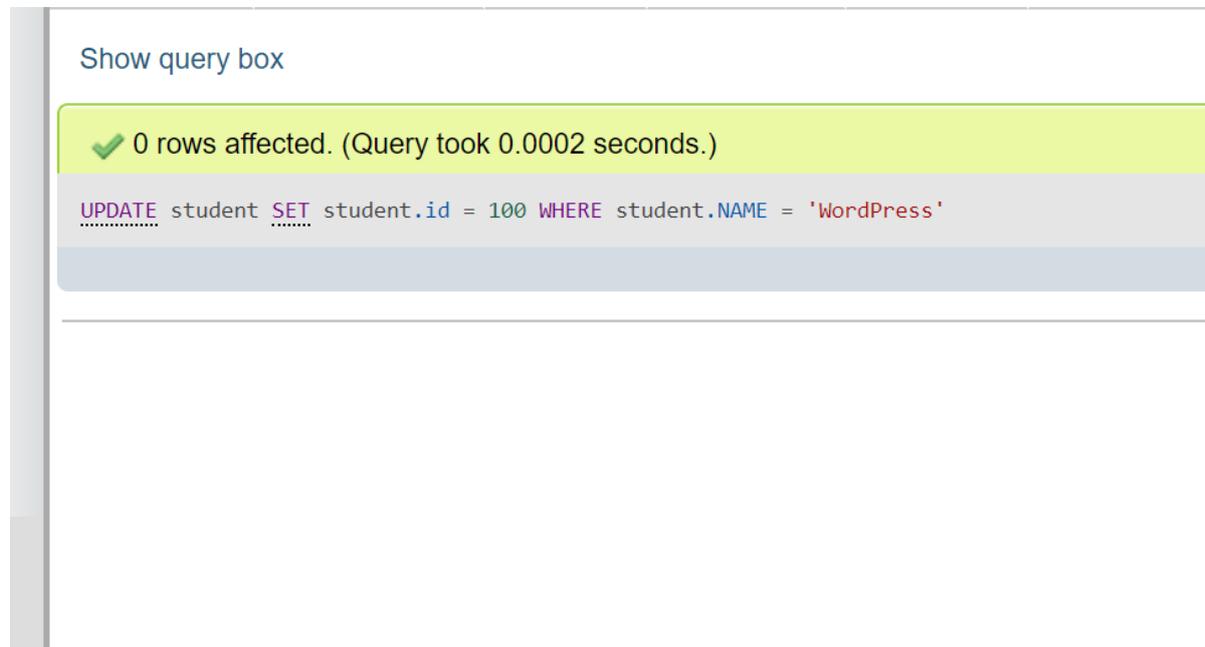


### EXERCISE 2:

Update the record ID = 100 where NAME = 'WordPress'

## 3 MySQL Statements

UPDATE student SET student.id = 100 WHERE student.NAME = 'WordPress'



## 3.8 DELETE Statements

DELETE statement is used to delete an existing row in the table based on a condition specified with WHERE clause.

### SQL SYNTAX:

DELETE from table\_name WHERE *condition*;

### SQL QUERY:

DELETE FROM student WHERE student.name='John';

### EXERCISE 1:

Delete a row where ID = 100 from student table.

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### 3 MySQL Statements

```
DELETE FROM student WHERE student.ID = 100;
```

#### **EXERCISE 2:**

Delete a row where name is NULL

```
DELETE FROM student WHERE student.NAME IS NULL;
```

# 4. MySQL with PDO

# 4 mySQL & PHP with PDO

## 4.1 Database Connectivity

### What is PDO?

PDO stands for PHP Data Objects it is a library that can be used to connect to MySQL from PHP code.

PDO gives a object oriented database functions to perform the database operations on MySQL.

The biggest advantage of using PDO is that you can change database any time from MySQL to Oracle or Microsoft SQL and the underlying PDO code will not change.

### How to Connect to MySQL DB with PDO?

To connect MySQL DB we need following things:

- Hostname / IP of the server on which MySQL is running.
- Database Name
- Userid
- Password

We have seen [how to work with MySQL with phpMyAdmin](#).

### Define the parameters:

```
$dns = 'mysql:host=localhost;dbname=studentdb';
```

```
$username = 'root';
```

```
$password = 'root';
```

```
$db = new PDO($dns, $username, $password);
```

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\$dns will hold the parameters separated by semicolon (;).

mysql is the name of the database

localhost means mysql server is running on local machine.

dbname is the database name that [we created here](#).

\$username and \$password are the user credentials to login into the MySQL.

\$db will hold the connection to the MySQL and then we can execute the SQL query to work on the database tables.

Here are the high level steps to connect to DB:

- Define the DNS variable with hostname and database name
- Create a PDO class with \$dns, user name and password.
- This will create an instance using which we can access the database.

## 4.2 Simple Query from PHP to mySQL

### **Write a Simple SELECT query using PDO**

#### **Credentials:**

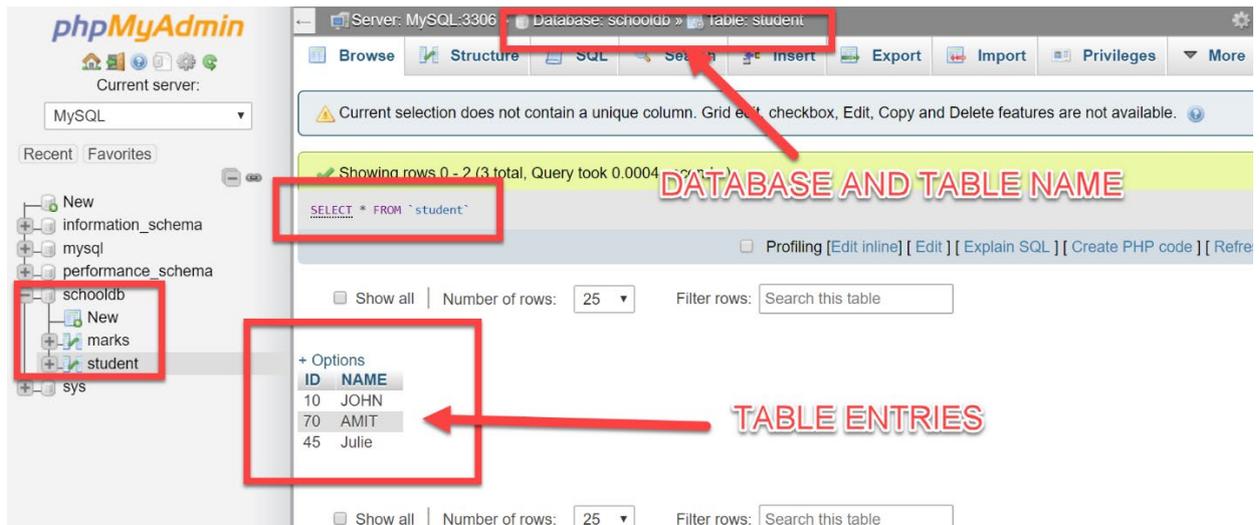
Database Name: studentdb

Table Name: student

Username: root

password: root

## 4 MySQL & PHP with PDO



The screenshot shows the phpMyAdmin interface. The top navigation bar indicates the server is MySQL:3306, the database is schooldb, and the table is student. The SQL query editor contains the query: `SELECT * FROM `student``. The results table shows three rows of data:

ID	NAME
10	JOHN
70	AMIT
45	Julie

Red boxes and arrows highlight the database and table name in the breadcrumb, the SQL query, and the table entries.

### Sample Example

[Download the Example](#)

```
<!DOCTYPE html>
<html>
<head>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <meta name="description" content="Page Description">
  <title>PDO - SELECT Query</title>
</head>

<body>
<h1>PDO - SELECT Query</h1>
<?php

  $query = "SELECT * FROM student;";
  $dns = 'mysql:host=localhost;dbname=schooldb';
  $username = 'root';
  $password = 'root';
  try{

    $db = new PDO($dns, $username, $password);

    //Prepared Statement
    $statement = $db->prepare($query);

    //Execute the Query
    $statement->execute();

    //Loop all the records using fetch records
    while ($student = $statement->fetch()) {
      echo "ID: " . $student['ID']."<br />\n";
      echo "NAME: " . $student['NAME']."<br />\n";
    }
  }
```

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## 4 MySQL & PHP with PDO

```
//close the connection to DB
$stmt->closeCursor();

} catch (Exception $e)
{
    $error_message = $e->getMessage();
    echo "<p>Error message: $error_message </p>";
}

?>
</body>
</html>
```

---

# PDO - SELECT Query

ID: 10  
NAME: JOHN  
ID: 70  
NAME: AMIT  
ID: 45  
NAME: Julie

[Live Preview](#)

### Exercise 1

[Download the Exercise 1](#)

**Exercise 1:** Write a Select query to fetch student where ID > 50.

```
SELECT * FROM student where ID > 50;
```

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# PDO - SELECT Query

ID: 70

NAME: AMIT

[Live Preview](#)

## Exercise 2

[Download the Exercise 2](#)

**Exercise 1:** Write a Select query to fetch student and sort in ascending order by name field.

```
SELECT * FROM student order by name;
```

# PDO - SELECT Query

ID: 70

NAME: AMIT

ID: 10

NAME: JOHN

ID: 45

NAME: Julie

[Live Preview](#)

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## 4.3 Form to Add, Edit, Update and Delete

**Write a Student form to Add, Edit and Delete the Entries from MySQL DB.**

### Credentials:

Database Name: studentdb

Table Name: student

Username: root

password: root



### Sample Example

[Download the Example](#)

## PDO - Table

---

### DISPLAY - TABLE ENTRIES

ID NAME  
100 ELLY  
70 JULIE  
45 AMIT  
40 TEST  
12 HENRY

---

### ADD - TABLE ENTRIES

Student Form

ID: <input type="text"/>
Name: <input type="text"/>

---

### EDIT - TABLE ENTRIES

#	ID	NAME	OPERATION
100	ELLY	<input type="text"/>	<input type="button" value="Edit"/>
70	JULIE	<input type="text"/>	<input type="button" value="Edit"/>
45	AMIT	<input type="text"/>	<input type="button" value="Edit"/>
40	TEST	<input type="text"/>	<input type="button" value="Edit"/>
12	HENRY	<input type="text"/>	<input type="button" value="Edit"/>

---

### DELETE - TABLE ENTRIES

#	ID	NAME	OPERATION
100	ELLY	<input type="text"/>	<input type="button" value="Delete"/>
70	JULIE	<input type="text"/>	<input type="button" value="Delete"/>

[Live Preview](#)

### Exercise 1

**Exercise 1:** Create you own form and do the Add, Edit and Delete Operation.

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# 5. MySQLi with PHP

# 5 MySQL & PHP with mysqli

## 5.1 Database Connectivity

### What is mysqli?

mysqli is a library that can be used to connect to MySQL from PHP code.

mysqli is the just the extension of the mysql library ( *i* stands for improved).

mysqli is has more features and function to work with mysql and it very specific to mysql.

The disadvantage of using mysqli is that you cannot change database once your code written with this library.

### How to Connect to MySQL DB with mysqli?

To connect MySQL DB we need following things:

- Hostname / IP of the server on which MySQL is running.
- Database Name
- Userid
- Password

We have seen [how to work with MySQL with phpMyAdmin](#).

### Define the parameters:

```
$hostname = 'localhost';
```

```
$db_name = 'schooldb';
```

```
$username = 'root';
```

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```
$password = 'root';
```

```
@ $db = mysqli_connect($hostname, $username, $password,  
$db_name);
```

@ is the error suppressor operator that is used to suppress any error throw by that statement.

localhost means mysql server is running on local machine.

\$db\_name is the database name that [we created here](#).

\$username and \$password are the user credentials to login into the MySQL.

\$db will hold the connection to the MySQL and then we can execute the SQL query to work on the database tables.

Here are the high level steps to connect to DB:

- Define the DNS variable with hostname and database name
- Create a mysqli class with host, database, user name and password.
- This will create an instance using which we can access the database.

## 5.2 Simple Query from PHP to MySQL

### **Write a Simple SELECT query using PDO**

#### **Credentials:**

Database Name: studentdb

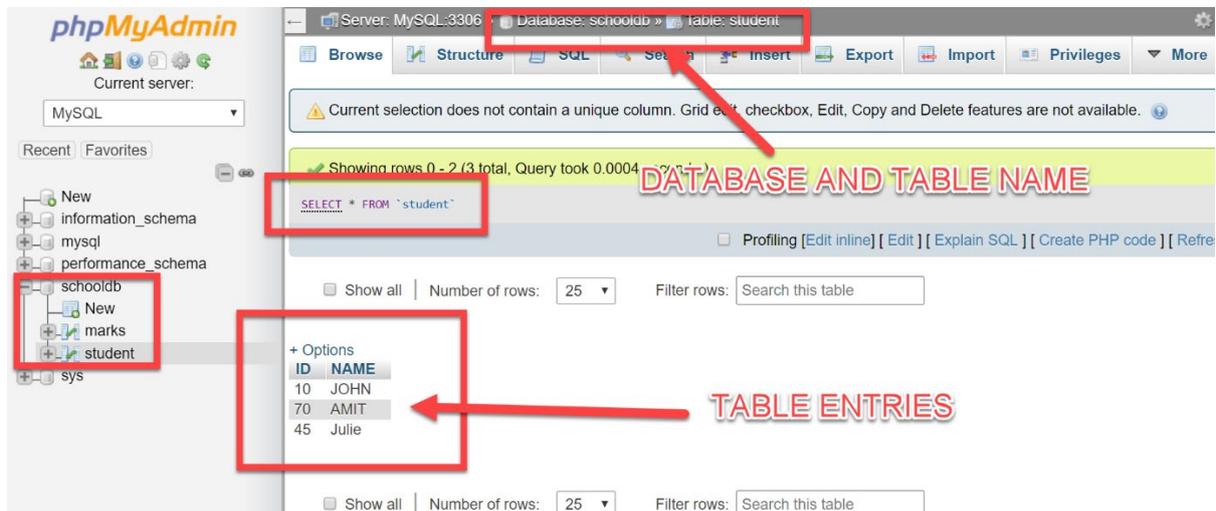
Table Name: student

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## 5 MySQL & PHP with mysqli

Username: root

password: root



### Sample Example

#### [Download the Example](#)

```
<!DOCTYPE html>
<html>
<head>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <meta name="description" content="Page Description">
  <title>mysqli - SELECT Query</title>
</head>

<body>
<h1>mysqli - SELECT Query</h1>
<?php

  $query = "SELECT * FROM student";
  $hostname = 'localhost';
  $db_name = 'schooldb';
  $username = 'root';
  $password = 'root';

  try{

    $db = new mysqli($hostname, $username, $password, $db_name);

    // Check connection
    if ($db->connect_error) {
      die("Connection failed: " . $db->connect_error);
```

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## 5 MySQL & PHP with mysqli

```
    }

    //Select Query
    $result = $db->query($query);

    //Loop all the records using fetch records
    while ($student = $result->fetch_assoc()) {
        echo "ID: " . $student['ID']."<br />\n";
        echo "NAME: " . $student['NAME']."<br />\n";
    }

    //close the connection to DB
    $db->close();

} catch (Exception $e)
{
    $error_message = $e->getMessage();
    echo "<p>Error message: $error_message </p>";
}

?>
</body>
</html>
```

# mysqli - SELECT Query

```
ID: 45
NAME: AMIT
ID: 100
NAME: ELLY
ID: 12
NAME: HENRY
ID: 70
NAME: JULIE
ID: 40
NAME: TEST
```

[Live Preview](#)

### Exercise 1

[Download the Exercise 1](#)

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**Exercise 1:** Write a Select query to fetch student where ID > 50.

```
SELECT * FROM student where ID > 50;
```

## mysqli - SELECT Query

ID: 100

NAME: ELLY

ID: 70

NAME: JULIE

[Live Preview](#)

### Exercise 2

[Download the Exercise 2](#)

**Exercise 1:** Write a Select query to fetch student and sort in ascending order by name field.

```
SELECT * FROM student order by name;
```

# mysqli - SELECT Query

ID: 45  
NAME: AMIT  
ID: 100  
NAME: ELLY  
ID: 12  
NAME: HENRY  
ID: 70  
NAME: JULIE  
ID: 40  
NAME: TEST

[Live Preview](#)

## 5.3 Form to Add, Edit, Update and Delete

**Write a Student form to Add, Edit and Delete the Entries from MySQL DB.**

**Credentials:**

Database Name: studentdb

Table Name: student

Username: root

password: root

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## 5 MySQL & PHP with mysqli

The screenshot shows the phpMyAdmin interface. The top navigation bar indicates the server is MySQL\_3306, the database is schooldb, and the table is student. The main content area displays a SQL query: `SELECT * FROM `student``. Below the query, the results are shown in a table format:

ID	NAME
10	JOHN
70	AMIT
45	Julie

Red boxes and arrows highlight the following elements:

- The database and table name: `Database: schooldb » Table: student`
- The SQL query: `SELECT * FROM `student``
- The table entries: `ID NAME`, `10 JOHN`, `70 AMIT`, `45 Julie`

### Sample Example

[Download the Example](#)

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## mysqli - Table

---

### DISPLAY - TABLE ENTRIES

ID NAME  
100 ELLY  
70 JULIE  
40 TEST  
12 HENRY

---

### ADD - TABLE ENTRIES

Student Form

ID: <input type="text"/>
Name: <input type="text"/>

---

### EDIT - TABLE ENTRIES

#	ID	NAME	OPERATION
100	<input type="text"/>	<input type="text" value="ELLY"/>	<input type="button" value="Edit"/>
70	<input type="text"/>	<input type="text" value="JULIE"/>	<input type="button" value="Edit"/>
40	<input type="text"/>	<input type="text" value="TEST"/>	<input type="button" value="Edit"/>
12	<input type="text"/>	<input type="text" value="HENRY"/>	<input type="button" value="Edit"/>

---

### DELETE - TABLE ENTRIES

#	ID	NAME	OPERATION
100	<input type="text"/>	<input type="text" value="ELLY"/>	<input type="button" value="Delete"/>
70	<input type="text"/>	<input type="text" value="JULIE"/>	<input type="button" value="Delete"/>
40	<input type="text"/>	<input type="text" value="TEST"/>	<input type="button" value="Delete"/>
12	<input type="text"/>	<input type="text" value="HENRY"/>	<input type="button" value="Delete"/>

---

[Live Preview](#)

### Exercise 1

**Exercise 1:** Create your own form and do the Add, Edit and Delete Operation.

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