

PHP MySQL

PHP MySQL Database

- MySQL is the most popular database system used with the PHP language.

PHP Connect to MySQL

- The PHP `mysqli_connect()` *function is used to connect to the MySQL server.*

```
mysqli_connect(host, username, password, dbname);
```

PHP Connect to MySQL

- The PHP *mysqli_connect()* function is used to connect to the MySQL server.

```
mysqli_connect(host, username, password, dbname);
```

- The parameters in the above syntax have the following meanings:

Parameter	Description
host	Either a host name or an IP address
username	The MySQL user name
password	The MySQL password to get access
dbname	The name of the MySQL database to use

- The PHP *mysqli_close()* function is used to close the connection to the MySQL server.

Example:

- Connecting to the MySQL server.

The diagram illustrates the connection parameters in the PHP code. Four callout boxes with red text are connected to the code by blue lines: 'Server name' points to 'localhost', 'User name' points to 'root', 'User password' points to the empty string '""', and 'Connection Error' points to the error message in the die function.

```
<html>
  <head>
    <meta charset="UTF-8">
    <title></title>
  </head>
  <body>
    <?php
      $link = mysqli_connect("localhost", "root", "");

      // Check connection
      if ($link === false) {
        die("ERROR: Could not connect. " . mysqli_connect_error());
      }
      echo "connection established";
      // Close connection
      mysqli_close($link);
    ?>
  </body>
</html>
```

Creating Database Using PHP and MySQL

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

To create a database MySQL uses the following SQL:

```
CREATE DATABASE DATABASENAME
```

Example:

```
CREATE DATABASE students
```

Example:

```
<html>
<head>
  <title>Create database Example</title>
</head>
<body>
  <?php
    $database_connection = mysqli_connect("localhost", "root", "");

    if ($database_connection === false) {
      die("ERROR: Could not connect. " . mysqli_connect_error());
    }

    $sql = "CREATE DATABASE students";
    if (mysqli_query($database_connection, $sql)) {
      echo "Database students created successfully";
    } else {
      echo "ERROR: Could not able to execute $sql. " . mysqli_error($database_connection);
    }

    mysqli_close($database_connection);
  ?>
</body>
</html>
```

SQL CREATE statement

Execute SQL statement

MySQL Error Message

The `mysqli_query()` function is used to execute the SQL query.

```
mysqli_query($database_connection, $sql)
```

The `mysqli_error()` function is used to get the MySQL errors.

```
mysqli_error($database_connection)
```

Creating Table Using PHP and MySQL

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

To create a table MySQL uses the following SQL:

```
CREATE TABLE table_name(  
    column1 datatype,  
    column2 datatype,  
    column3 datatype,  
    .....  
    columnN datatype,  
    PRIMARY KEY( one or more columns ));
```

Example:

```
CREATE TABLE REGISTRATION(id INTEGER not NULL,  
    first VARCHAR(255),  
    last VARCHAR(255),  
    age INTEGER,  
    PRIMARY KEY ( id ));
```

Example:

```
<html>
<head>
  <meta charset="UTF-8">
  <title></title>
</head>
<body>
  <?php
    $database_connection = mysqli_connect("localhost", "root", "", "students");

    if ($database_connection === false) {
      die("ERROR: Could not connect. " . mysqli_connect_error());
    }

    $sql = "CREATE TABLE registartion(id INTEGER not NULL, first VARCHAR(255), "
      . " last VARCHAR(255), "
      . "age INTEGER, "
      . "PRIMARY KEY ( id ))";
    if (mysqli_query($database_connection, $sql)) {
      echo "registartion Table created successfully";
    } else {
      echo "ERROR: Could not able to execute $sql. " . mysqli_error($database_connection);
    }

    mysqli_close($database_connection);
  ?>
</body>
</html>
```

SQL CREATE Table statement

Inserting Data Into a MySQL Database Table

- The **INSERT** statement is used to create a database in MySQL.

To insert data into a table MySQL uses the following SQL:

```
INSERT INTO TABLE_NAME VALUES (value1, value2, value3,...valueN);
```

Example:

```
INSERT INTO Registration VALUES (100, 'Sara', 'Ali', 18);
```

Example:

```
<html>
<head>
  <meta charset="UTF-8">
  <title></title>
</head>
<body>
  <?php
    $database_connection = mysqli_connect("localhost", "root", "", "students");

    if ($database_connection === false) {
      die("ERROR: Could not connect. " . mysqli_connect_error());
    }

    $sql = "INSERT INTO registration VALUES (131, 'Salem', 'Khalid', 21)";

    if (mysqli_query($database_connection, $sql)) {
      echo mysqli_affected_rows($database_connection) . " Row inserted";
    } else {
      echo "ERROR: Could not able to execute $sql. " . mysqli_error($database_connection);
    }

    mysqli_close($database_connection);
  ?>
</body>
</html>
```

SQL INSERT statement

To get Number of rows inserted

Selecting Data From Database Tables

- The **SELECT** statement is used to data from database table in MySQL.

To select data from database table MySQL uses the following SQL:

```
SELECT column name FROM table_name;
```

Example:

```
SELECT id, first, last, age FROM registration;
```

Example:

Return the number of rows in a result set

puts the results into an associative array

frees the memory associated with the result.

```
<html>
<head>
  <title>SELECT Data Example</title>
</head>
<body>
  <?php
    $database_connection = mysqli_connect("localhost", "root", "", "students");
    if ($database_connection === false) {
      die("ERROR: Could not connect. " . mysqli_connect_error());
    }
    $sql = "SELECT * FROM registration";
    if (mysqli_query($database_connection, $sql)) {
      $result = mysqli_query($database_connection, $sql);
      if (mysqli_num_rows($result) > 0) {
        while ($row = mysqli_fetch_array($result)) {
          echo $row['id'];
          echo $row['first'];
          echo $row['last'];
          echo $row['age'];
          echo '<br>';
        }
        mysqli_free_result($result);
      } else {
        echo "No records matching your query were found.";
      }
    } else {
      echo "ERROR: Could not able to execute $sql. " . mysqli_error($database_connection);
    }
    mysqli_close($database_connection)
  ?>
</body>
</html>
```

Updating Database Table Data

- The **UPDATE** statement is used to update data in database table.

To update data in database table MySQL uses the following SQL:

```
UPDATE table_name SET column1 = value1, column2 = value2....., columnN = valueN WHERE [condition];
```

Example:

```
      :  
UPDATE registration SET age = 30 WHERE id = 2;
```

Example:

SQL UPDATE statement

```
<html>
<head>
  <title>SELECT Data Example</title>
</head>
<body>
  <?php
    $database_connection = mysqli_connect("localhost", "root", "", "students");
    if ($database_connection === false) {
      die("ERROR: Could not connect. " . mysqli_connect_error());
    }
    $sql = "UPDATE registration SET age = 30 WHERE id =2 ";
    if (mysqli_query($database_connection, $sql)) {
      $result = mysqli_query($database_connection, $sql);
      echo "Record was updated successfully.";
    } else {
      echo "ERROR: Could not able to execute $sql. " . mysqli_error($database_connection);
    }
    mysqli_close($database_connection)
  ?>
</body>
</html>
```

Deleting Database Table Data

- The **DELETE** statement can be used to delete data in database table.

To delete data in database table MySQL uses the following SQL:

```
DELETE FROM table_name WHERE [condition];
```

Example:

```
DELETE FROM Registration WHERE id = 101;
```

Example:

SQL DELETE statement

```
<html>
  <head>
    <meta charset="UTF-8">
    <title></title>
  </head>
  <body>
    <?php
      $database_connection = mysqli_connect("localhost", "root", "", "students");
      if ($database_connection === false) {
        die("ERROR: Could not connect. " . mysqli_connect_error());
      }
      $sql = "DELETE FROM Registration WHERE id = 2";
      if (mysqli_query($database_connection, $sql)) {
        echo "Record was deleted successfully.";
      } else {
        echo "ERROR: Could not able to execute $sql. " . mysqli_error($database_connection);
      }
      mysqli_close($database_connection)
    ?>
  </body>
</html>
```

Example:

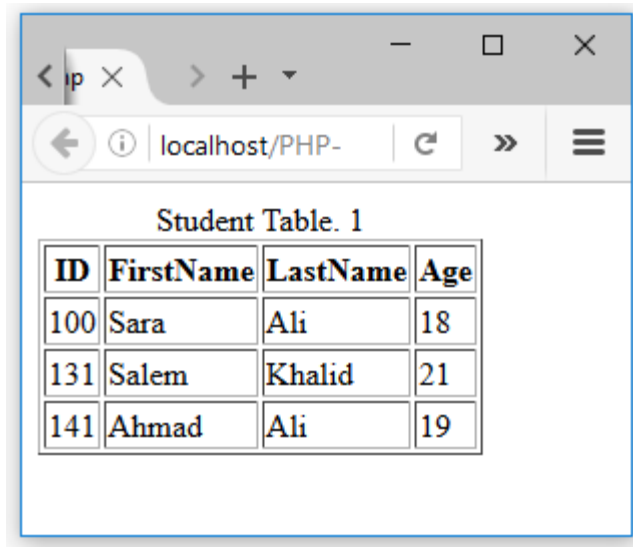
```
<html>
  <head>
    <meta charset="UTF-8">
    <title></title>
  </head>
  <body>
    <table border ="1">
      <caption>Student Table. 1</caption>
      <thead>
        <tr>
          <th> ID</th>
          <th> FirstName</th>
          <th> LastName</th>
          <th> Age</th>
        </tr>
      </thead>
      <tbody>
```

```

<?php
$database_connection = mysqli_connect("localhost", "root", "", "students");
if ($database_connection === false) {
    die("ERROR: Could not connect. " . mysqli_connect_error());
}
$sql = "SELECT * FROM registration";
if (mysqli_query($database_connection, $sql)) {
    $result = mysqli_query($database_connection, $sql);
    // $row = mysqli_fetch_assoc($result);
    while ($row = mysqli_fetch_assoc($result)) {
        echo "<tr>" ;
        echo "<td>" . $row['id'] . "</td>";
        echo "<td>" . $row['first'] . "</td>";
        echo "<td>" . $row['last'] . "</td>";
        echo "<td>" . $row['age'] . "</td>";
        echo "</tr>" ;
    }

} else {
    echo "ERROR: Could not able to execute $sql. " . mysqli_error($database_connection);
}
mysqli_close($database_connection);
?>
</tbody>
</table>
</body>
</html>

```



A screenshot of a web browser window. The address bar shows 'localhost/PHP-'. The page content displays a table titled 'Student Table. 1'. The table has four columns: ID, FirstName, LastName, and Age. It contains three rows of student data.

ID	FirstName	LastName	Age
100	Sara	Ali	18
131	Salem	Khalid	21
141	Ahmad	Ali	19

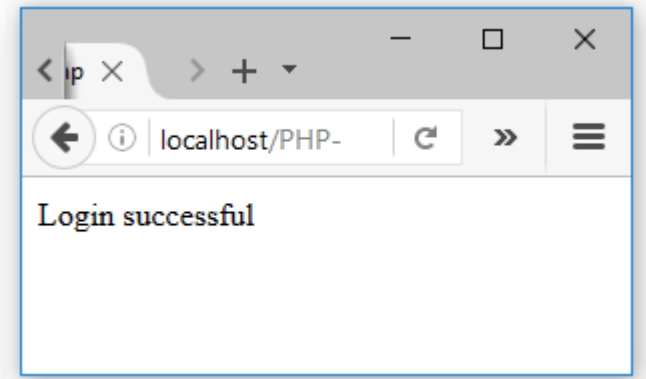
Example:

```
<html>
  <head>
    <meta charset="UTF-8">
    <title></title>
  </head>
  <body>
    <?php
      $user = $_POST['user'];
      $password = $_POST['password'];
      $database_connection = mysqli_connect("localhost", "root", "", "test");
      if ($database_connection) {
        $sql = "SELECT * FROM user where user_name='" . $user . "' and password='" . $password . "'";
        $result = mysqli_query($database_connection, $sql);
        if (mysqli_num_rows($result) == 1) {
          echo "Login successful";
          exit();
        } else {
          echo "Login not successful";
          exit();
        }
      } else {
        echo 'Connection Error';
      }
      mysqli_close($database_connection);
    ?>
  </body>
</html>
```

User login:

User Name:

Password:



Thanks!