MySQLi Procedural functions

MySQLi (MySQL Improved) provides procedural and object oriented interface to data and its management. The i extension MySQL functions allows the user to access its database servers. The MySQL improved extension is specially designed to work with MySQL version 4.1.13 and new versions.

1. **mysqli_connect():**
   As you know, before doing any database related operations, you need to establish a connection to the MySQL database server. If the connection is established successfully, then it returns a database connection resource identifier. If the connection encounters failure, then it just throws an error.

```
<?php

// Database configuration
$host  = "localhost";
$dbuser = "root";
$dbpass = "";
$dbname = "test_ESST";

// Create database connection
$conn = mysqli_connect($host, $dbuser, $dbpass, $dbname);

// Check connection
if(mysqli_connect_error())
{
 echo "Connection establishing failed! <br >";
}
else
{
 echo "Connection established successfully. <br >";
}
?>
```

2. **mysqli_connect_error():**
   The MySQLi function throws an error when the connection is not made successfully and the function stores the error in previous call to mysqli_connect(). If no error is encountered, it returns NULL. If any error is encountered , then it returns an error message.
   Note:

- To test *mysqli_connect_error()*, stop the MySQL server in XAMPP control panel and then call the above PHP code having mysqli_connect().
- If *display_errors* are enabled in PHP configuration, you can see an error of *mysqli_connect_error()* which returns the following message.

3. **mysqli_select_db():**
   This mySQLi function is used to change the default database for making a connection.

```
<?php
// Database configuration
$host  = "localhost";
$dbuser = "root";
```

```
$dbpass = "";
$dbname = "test";
$dbtest = "ESST";

// Create database connection
$conn = mysqli_connect($host, $dbuser, $dbpass, $dbname);

//write some code for database "test"

// Change database to "ESST"
 mysqli_select_db($conn,$dbtest);

// PHP code for database "GFG_TEST"...

mysqli_close($conn);
?>
```

4. **mysqli_close():**
   This MySQLi function is used to close a previously connected database. This function will return TRUE on successful closing, otherwise it will return FALSE.

```
<?php
// Database configuration
$host  = "localhost";
$dbuser = "root";
$dbpass = "";
$dbname = "test";

// Create database connection
$conn = mysqli_connect($host, $dbuser, $dbpass, $dbname);
//some php code
if(mysqli_close($conn))
echo "Connection closed successfully.";
?>
```

5. **mysqli_prepare():**
   The above MySQLi function is used to prepare a MySQL query for execution. It returns a statement object for further operations and returns FALSE if some error occurs.

```
<?php
if (file_exists('Config/dbConn.php'))
{
     require 'Config/dbConn.php';
}
else {
     echo "File not found";
     die();
}
$pwd_hash = password_hash($pwd,PASSWORD_DEFAULT);
           // prepare the mysql query statement and bind parameters
           $query = mysqli_prepare($conn,"INSERT INTO user
(email,pass,first_name,last_name) VALUES (?,?,?,?)");
           $query->bind_param("ssss", $usr, $pwd_hash, $fnm, $lnm);
     $fnm = $_POST["fname"];
     $lnm = $_POST["lname"];
     $usr = $_POST["email"];
     $pwd = $_POST["pass"];
     $query->execute();
```

```
            echo "New record inserted successfully";
            mysqli_close($link);
```

6. **mysqli_query():**
   This MySQLi function performs or executes the query on the given database.

```
<?php
if (file_exists('Config/dbConn.php'))
{
     require 'Config/dbConn.php';
}
else {
     echo "File not found";
     die();
}
mysqli_query($link,"INSERT INTO user
(email,pass,first_name,last_name) VALUES ('$usr', '$pwd_hash',
'$fnm', '$lnm')");

            echo "Inserted successfully";
            mysqli_close($link);
```

7. **mysqli_fetch_row():**
   The above MySQLi function is used to fetch one row from the result-set as an enumerated array. Each call to the above function will return the next row from the result set. If no rows are fetched, then it returns FALSE.

```
<?php
if (file_exists('Config/dbConn.php'))
{
     require 'Config/dbConn.php';
}
else {
     echo "File not found";
     die();
}
$query = "SELECT first_name,last_name from user";
            if ($result=mysqli_query($link,$query))
            {
                  // Fetch one and one row
                  while ($row=mysqli_fetch_row($result))
                  {
                        echo " First name :".$row[0]." , ";
                        echo " Last name : ".$row[1];
                        echo  nl2br (" \n ");
                  }//end while
                  // Free result set
                  mysqli_free_result($result);
            }// end if


            mysqli_close($link);
```

8. **mysqli_field_count():**
   The above MySQLi function is used to return the number of columns for the most recent query. It returns total number of columns in the result set.

```
<?php
if (file_exists('Config/dbConn.php'))
```

```
{
      require 'Config/dbConn.php';
}
else {
      echo "File not found";
      die();
}
$query = "SELECT * from user";
            mysqli_query($link,$query);
            $total_columns = mysqli_field_count($link);
            echo $total_columns.nl2br (" \n ");


            mysqli_close($link);
```

9. **mysqli_fetch_array():**
   The above MySQLi function is used to fetch a row as an associative, numeric array or both types of array from the result set.

```
<?php
if (file_exists('Config/dbConn.php'))
{
      require 'Config/dbConn.php';
}
else {
      echo "File not found";
      die();
}
$query = "SELECT first_name,last_name from user";

            $result=mysqli_query($link,$query);
            // Gets the Numeric array
            $row=mysqli_fetch_array($result,MYSQLI_NUM);
            echo " First name (Num) :".$row[0];
            echo ",";
            echo " Last name (Num) : ".$row[1];
            echo  nl2br (" \n ");
            // Gets the Associative array
            $row=mysqli_fetch_array($result,MYSQLI_ASSOC);
            echo " First name (Array) :".$row["first_name"];
            echo ",";
            echo " Last name (Array): ".$row["last_name"];
            echo  nl2br (" \n ");

            // Free the result set
            mysqli_free_result($result);
            mysqli_close($link);
```

10. **mysqli_fetch_all():**
    The MySQLi function fetches all rows and return the result set as an associative array, a numeric array, or both.

```
<?php
if (file_exists('Config/dbConn.php'))
{
      require 'Config/dbConn.php';
}
else {
```

```
      echo "File not found";
      die();
}
$query = "SELECT first_name from user";
            $result = mysqli_query($link,$query);
            $rowcount=mysqli_num_rows($result);
            // Gets the Associative array
            $row = mysqli_fetch_all($result,MYSQLI_ASSOC);
            print_r($row);

            for($i=0;$i<$rowcount;$i++)
            {
               echo "<br> ".$row[$i]['first_name'];
            }
            // Free the result set
            mysqli_free_result($result);
            mysqli_close($link);
```

11. **mysqli_free_result():**
    The above MySQLi function free the memory of the fetched rows of the result set.
12. **mysqli_num_rows():**
    The above MySQLi function is used to return the number of rows of the result set.
13. **mysqli_affected_rows():**
    The above MySQLi function is used to return the total number of affected rows from the previous MySQL SELECT, INSERT, UPDATE, DELETE or REPLACE query.
14. **mysqli_get_server_info():**
    The above MySQLi function is used to return the MySQL server version.
15. **mysqli_fetch_fields():**
    The above MySQLi function returns an array of objects which contains the information of columns of the result set.

```
<?php
if (file_exists('Config/dbConn.php'))
{
      require 'Config/dbConn.php';
}
else {
      echo "File not found";
      die();
}
$query = "SELECT first_name,last_name FROM user";

            if ($result=mysqli_query($link,$query))
            {
                  // Get the fields
                  $fields=mysqli_fetch_fields($result);
                        print nl2br("\n");
                        print_r($fields);
                        print nl2br("\n");
                  foreach ($fields as $value)
                  {
                        echo "Column name : ".$value->name."<br> ";
                        echo "Table name : ".$value->table."<br> ";
                        echo "Maximum length : ".$value-
>max_length."<br> ";
```

```
                    echo  nl2br (" \n ");
               }
               // Free result set
               mysqli_free_result($result);
          }

          mysqli_close($link);
```