CRUD OPERATION

PHP MySQL

Concept Solutions

PHP MySQL CRUD Application

What is CRUD

CRUD is an acronym for **C**reate, **R**ead, **U**pdate, and **D**elete. CRUD operations are basic data manipulation for database. We've already learned how to perform create (i.e. insert), read (i.e. select), update and delete operations in previous chapters. In this tutorial we'll create a simple PHP application to perform all these operations on a MySQL database table at one place.

Well, let's start by creating the table which we'll use in all of our example.

Creating the Database Table

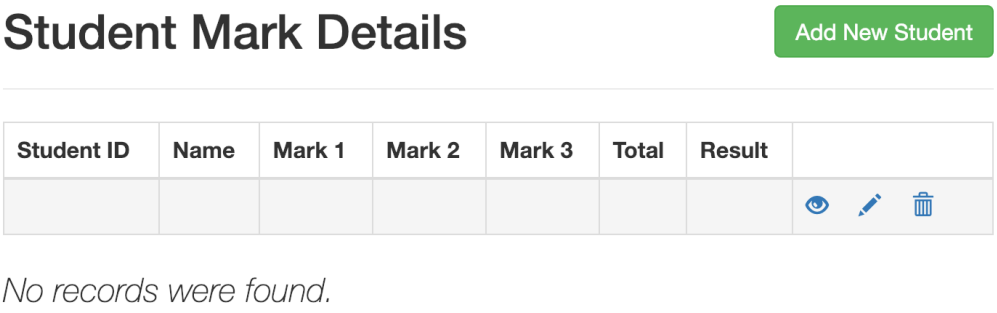
Execute the following SQL query to create a table named *employees* inside your MySQL database. We will use this table for all of our future operations.

```
CREATE TABLE student ( studentid INT NOT NULL PRIMARY KEY
AUTO_INCREMENT, name VARCHAR(100) NOT NULL, mark1 INT NOT NULL,
mark2 INT NOT NULL, mark3 INT NOT NULL, total INT NOT NULL, result
VARCHAR(10));
```

Creating the Landing Page

First we will create a landing page for our CRUD application that contains a data grid showing the records from the ***student*** database table. It also has action icons for each record displayed in the grid, that you may choose to view its details, update it, or delete it.

We'll also add a create button on the top of the data grid that can be used for creating new records in the ***student*** table. Create a file named "index.php" and design the page.

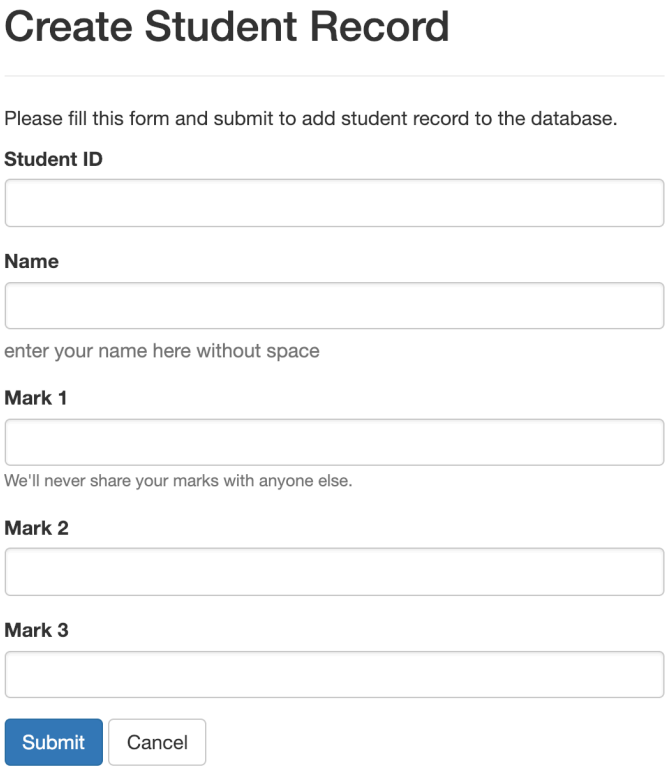


Tip: We've used the Bootstrap framework to make this CRUD application layout quickly and beautifully. Bootstrap is the most popular and powerful front-end framework for faster and easier responsive web development. Please, checkout the comment section in the code to learn more about this framework.

Creating the Create Page

In this section we'll build the **C**reate functionality of our CRUD application.

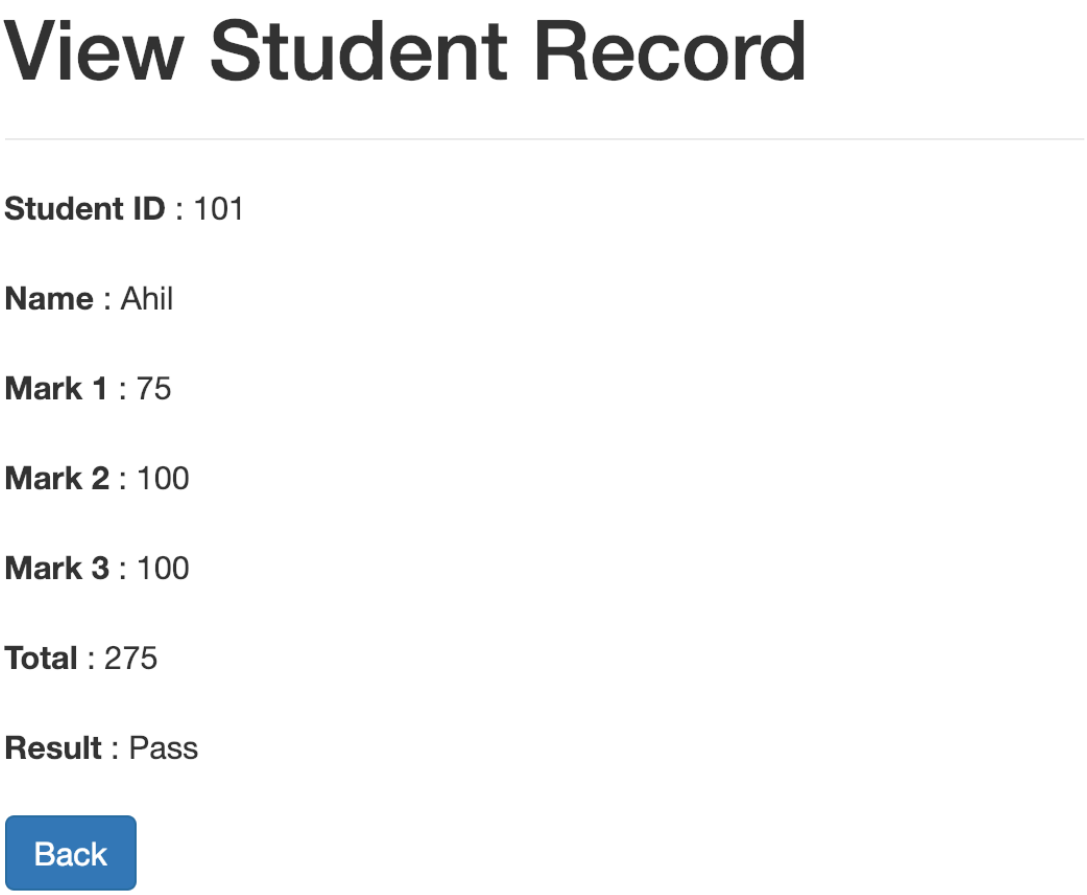
Let's create a file named "create.php" and put the following code inside it. It will generate a web form that can be used to insert records in the *student* table.



Creating the Read Page

Now it's time to build the **R**ead functionality of our CRUD application.

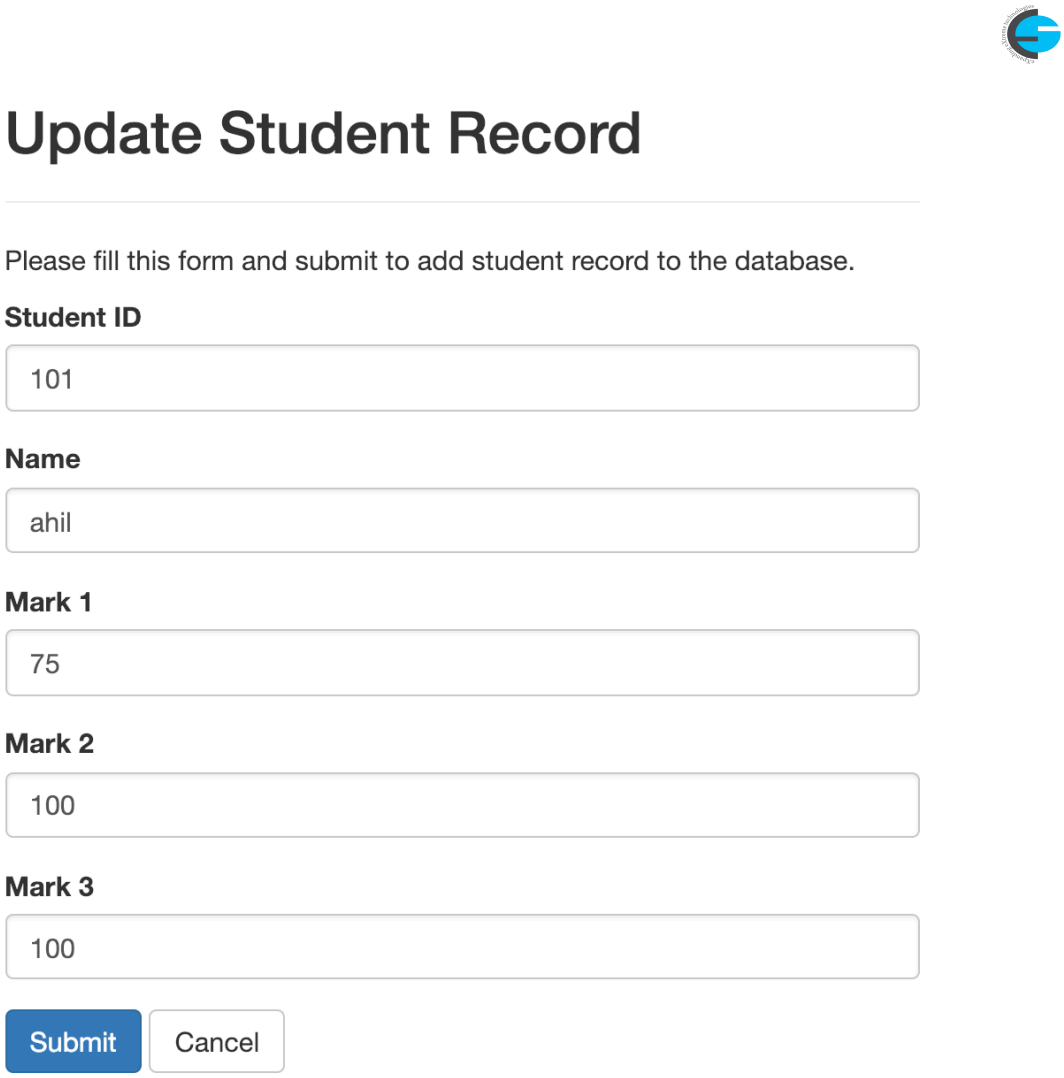
Let's create a file named "create.php" and put the following code inside it. It will simply retrieve the records from the *student* table based the id attribute of the student.



Creating the Update Page

Similarly, we can build the **U**pdate functionality of our CRUD application.

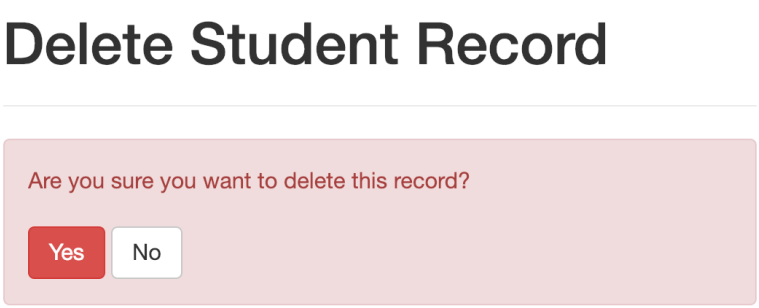
Let's create a file named "update.php" and put the following code inside it. It will update the existing records in the *student* table based the id attribute of the student.



Creating the Delete Page

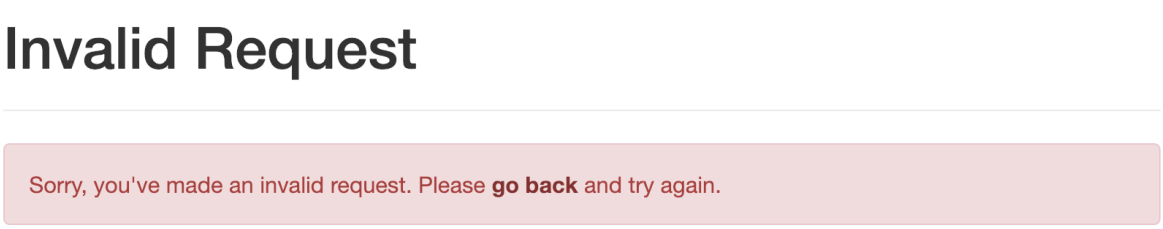
Finally, we will build the **D**elete functionality of our CRUD application.

Let's create a file named "delete.php" and put the following code inside it. It will delete the existing records from the *student* table based the id attribute of the student.



Creating the Error Page

At the end, let's create one more file "error.php". This page will be displayed if request is invalid i.e. if id parameter is missing from the URL query string or it is not valid.



Creating the Config File

After creating the table, we need create a PHP script in order to connect to the MySQL database server. Let's create a file named "connection.php" and put the following code inside it.

We'll later include this config file in other pages using the PHP `require_once()` function.

connection.php

```
<?php

$localhost = "127.0.0.1";
$username = "root";
$password = "root";
$dbname = "student";

// create connection
$connect = new mysqli($localhost, $username, $password, $dbname);

// check connection
if($connect->connect_error) {
        die("connection failed : " . $connect->connect_error);
} else {
  // echo "Successfully Connected";
}

?>
```

Insert_logic.php

```
<?php

// to establish the connection the database server

require_once 'connection.php';

//to read the values from the prvious form create.php

$studentid=$_POST['studentid'];      $studentname=$_POST['studentname'];

$mark1=$_POST['mark1'];     $mark2=$_POST['mark2'];     $mark3=$_POST['mark3'];

// find the total and result (business logic)

$total=$mark1+$mark2+$mark3;

$result="PASS";

if(($mark1<50) || ($mark2<50) || ($mark3<50))

{         $result="FAIL";          }

// generate sql query to insert the details

$sql="insert into student
values($studentid,'$studentname',$mark1,$mark2,$mark3,$total,'$result')";

if($connect->query($sql) === TRUE) {

//on success of query execution redirect to the landing page index.php

header('Location: index.php');          }

else

{         // on Error taken to the error page

          header('Location: error.php');          }

?>
```

Index.php

Code required to get the records from the database table student.

// insert the code in the beginning of index.php

```
<?php
// to establish the connection the database server

require_once 'connection.php';

?>
```

// insert the code after the table header

```
<table class='table table-bordered table-striped'>
          <thead>
               <tr>
                    <th>Student ID</th>
                   <th>Name</th>
                   <th>Mark 1</th>
                   <th>Mark 2</th>
                   <th>Mark 3</th>
                   <th>Total</th>
                   <th>Result</th>
                   <th></th>
               </tr>
            </thead>
         <tbody>
```

```
<?php

 // query to select all the data from the student table
    $sql = "select * from student";

    // execute the query

    $result = $connect->query($sql);

    // $result->num_rows returns the no. of records return

    if($result->num_rows > 0) {

      // $result->fetch_assoc() return each records in the
      // $result as associative array ($row)

      while($row = $result->fetch_assoc()) {

        ?>
```

// change the table data columns <?php echo $row['studentid'] ?> to display the values from the row

```
 <tr>
                        <td><?php echo $row['studentid'] ?></td>
                        <td><?php echo $row['name'] ?></td>
                        <td><?php echo $row['mark1'] ?></td>
                        <td><?php echo $row['mark2'] ?></td>
                         <td><?php echo $row['mark3'] ?></td>
                         <td><?php echo $row['total'] ?></td>
                         <td><?php echo $row['result'] ?></td>
                        <td>

          <a href="read.php?id=<?php echo $row['studentid'] ?>" title='View Record' data-toggle='tooltip'>
          <span class='glyphicon glyphicon-eye-open'></span>
          </a>

          <a href="update.php?id=<?php echo $row['studentid'] ?>" title='Update Record' data-toggle='tooltip'>
          <span class='glyphicon glyphicon-pencil'></span>
          </a>

          <a href="delete.php?id=<?php echo $row['studentid'] ?>" title='Delete Record' data-toggle='tooltip'>
          <span class='glyphicon glyphicon-trash'></span>
          </a>
                        </td>
                    </tr>
```

// close the while loop

```
                <?php
                    }
                ?>

                </tbody>
            </table>
```

// if there is no records in the table display "No records were found"

```
            <?php
            }
            else
            {  echo  "<p class='lead'><em>No records were found.</em></p>"; }
            ?>
```

read.php

Code required to get the studentid from the url and display the corresponding record

// insert the code in the beginning of read.php

```
<?php
// to establish the connection the database server

require_once 'connection.php';

?>
```

// insert the code after the page header

```
<div class="row">
    <div class="col-md-12">
        <div class="page-header">
            <h1>View Student Record</h1>
        </div>

            <?php

            // to retrive the id from the query string
            //  query string http://localhost/student/read.php?id=101

        $studentid = $_GET['id'];
```

```
<?php

            // to retrive the id from the query string
            //  query string http://localhost/student/read.php?id=101
          $studentid = $_GET['id'];

         // query to retrive partcular record from the table student

          $sql = "select * from student where studentid=$studentid";

           // execute the query
         $result = $connect->query($sql);

            // $result->num_rows returns the no. of records return

           if($result->num_rows > 0) {
                // $result->fetch_assoc() return each records in the
                // $result as associative array ($row)
            if($row = $result->fetch_assoc()) {

            ?>
```

```
// insert the code in each control to display the corresponding data using
//  <?php echo $row['studentid']  ?>
// do it for all the name,mark1,mark2,mark3, total and result just like the following code

            <div class="form-group">
                    <label>Student ID </label>
                  : <?php echo $row['studentid']  ?>
                 </div>

// to display the message    No records were found.

          <?php
               } // end if

                  } // end if
                  else  {
                  echo  "<p class='lead'><em>No records were found.</em></p>";
                  }
           ?>
```

Update_logic.php

Code required to get the studentid from the url and display the corresponding record

```
// insert the code in the beginning of read.php

<?php

// to establish the connection the database server

require_once 'connection.php';


//to read the values from the prvious form update.php

$studentid=$_POST['studentid'];
$studentname=$_POST['studentname'];
$mark1=$_POST['mark1'];
$mark2=$_POST['mark2'];
$mark3=$_POST['mark3'];

// find the total and result (business logic)

$total=$mark1+$mark2+$mark3;
$result="PASS";
```

```
if(($mark1<50) || ($mark2<50) || ($mark3<50))
{
$result="FAIL";
}

// generate sql query to update the details

$sql="UPDATE student SET name = '$studentname', mark1 =$mark1, mark2 = $mark2,
mark3 = $mark3, total = $total, result = '$result' WHERE studentid = $studentid";

if($connect->query($sql) === TRUE) {

//on success of query execution redirect to the landing page index.php

header('Location: index.php');

}
else
{

// on Error taken to the error page
        header('Location: error.php');
}
?>
```

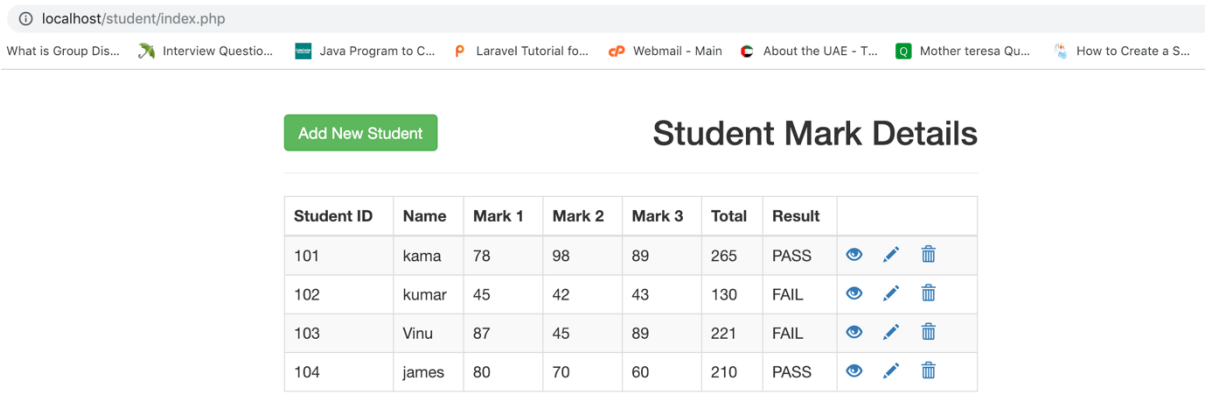
delete.php

```
<?php
// Process delete operation after confirmation
// to check the submit of the form

if(isset($_POST["id"]) && !empty($_POST["id"])){

   // Include config file
   require_once 'connection.php';
    $studentid = trim($_POST["id"]);

   // Prepare a delete statement

   $sql = "delete from student where studentid= $studentid";

   if($connect->query($sql) === TRUE) {

        //on success of query execution redirect to the landing page index.php
```

```
        header('Location: index.php');

        }
        else
        {

        // on Error taken to the error page

           header('Location: error.php');
        }
}

?>



<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <title>Concept Solutions</title>
   <link rel="stylesheet" href="include/bootstrap.css">

   <style type="text/css">
      .wrapper{
         width: 500px;
         margin: 0 auto;
      }
   </style>
</head>
<body>
   <div class="wrapper">
      <div class="container-fluid">
         <div class="row">
            <div class="col-md-12">
               <div class="page-header">
                  <h1>Delete Student Record</h1>
               </div>
                    // to self post in the same form
               <form action="<?php echo htmlspecialchars($_SERVER["PHP_SELF"]); ?>"
method="post">
                  <div class="alert alert-danger fade in">

                     <input type="hidden" name="id" value='<?php echo trim($_GET["id"]); ?>'/>
                     <p>Are you sure you want to delete this record?</p><br>
                     <p>
```

```
                    <input type="submit" value="Yes" class="btn btn-danger">
                    <a href="index.php" class="btn btn-default">No</a>
                </p>
            </div>
        </form>
    </div>
</div>
</div>
</div>
</body>
</html>
```

Output



Thanks to

https://www.w3schools.com/tags/

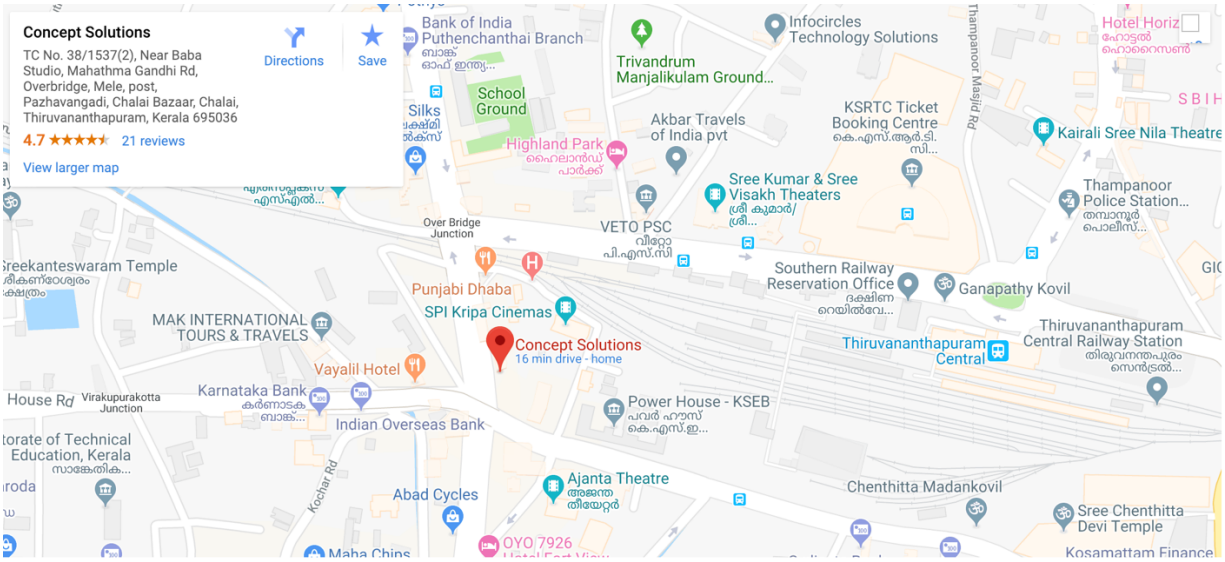
https://www.w3schools.com/bootstrap/default.asp

https://www.w3schools.com/howto/howto_website_bootstrap4.asp

https://getbootstrap.com

https://www.tutorialrepublic.com/php-tutorial/php-mysql-introduction.php

Contact Details



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