# Department of Computing

**CS-344: Web Engineering**

**Class:** BESE-11AB

# Lab 08: Advanced PHP

**Date: 03.11.22**

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**Section BESE 11-A**

**Lab -8**

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# Lab 08: Advanced PHP

### Introduction:

PHP is a widely used server side scripting language for web development. During lectures, students have learned advanced concepts of PHP such as form handling, working with database to retrieve, update, and delete records, and working with stored procedures and functions. Students will practically get in-depth practical knowledge of the advanced PHP concepts in this lab.

### Lab Objectives:

The objective of this lab is helping students to familiarize themselves with the usage of PHP to control dynamic and server side behavior of a web site by means of communication with relational databases. Students will develop a small PHP application through which they will interact with a database and will perform basic CRUD operations.

### Tools:

Notepad, DreamWeaver, browser.

### Helping Material:

Lecture slides.

W3Schools: <https://www.w3schools.com/php/>

PHP: [www.php.net](http://www.php.net)

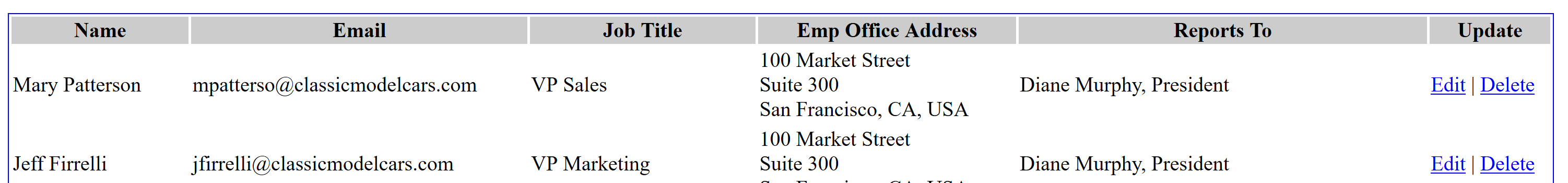
### Lab Task

**Notes:**

1. Use ‘classicmodels.sql’ and run it on phpMyAdmin to create a local database on your machine. The lab tasks are related to this database.
2. Download ‘php-crud.rar which contains working examples of CRUD operations in PHP. For the examples to run correctly, you have to execute the ‘test-database.sql’ file under ‘sql’ folder in phpMyAdmin so that relevant databases and tables are created first.

### Task 1

Write a PHP script to display the information of the employees in tabular form. The employees’ data can be retrieved from the ‘employees’ table. For each employee you have to display the data as shown in the below figure.



Important Hints:

1. You have to use a join to retrieve data of the reportsTo employee and the office address. Both of these are given in the employees table as foreign keys.
2. The office address should display following: addressline1, addressline2, city, state, and country.
3. ReportTo should display: employee first and last name, employee job title

### Task 2

Using PHP, perform the CRUD operations on the *employee* table. This includes: create employee, update employee, and delete employee. You should design forms where a user can add/edit employee data and the data must be saved in the database upon submission.

**Note: Upload complete solutions (css, html, js, php) for each task in in a single zip file along with adding jQuery and screenshots of your solutions in this word file.**

|  |
| --- |
| Solution |
| Task 1:   |  | | --- | | Index.php  <?php  include './config.php';  $query = "SELECT e.employeeNumber as id, e.firstName AS employeeFName, e.lastName AS employeeLName, e.email AS employeeEmail, e.jobTitle AS employeeJobTitle, o.addressLine1 AS add1, o.addressLine2 AS add2, o.city AS city, o.state AS state, o.country AS country, r.firstName AS reportsFName, r.lastName AS reportsLName, r.jobTitle AS reportsJobTitle FROM employees e NATURAL JOIN offices o LEFT JOIN employees r ON (e.reportsTo=r.employeeNumber);";  $exec = mysqli\_query($connection, $query);  ?>  <!DOCTYPE html>  <html lang="en">  <head>      <meta charset="UTF-8">      <meta http-equiv="X-UA-Compatible" content="IE=edge">      <meta name="viewport" content="width=device-width, initial-scale=1.0">      <title>task1</title>      <link rel="stylesheet" href="./index.css">  </head>  <body>      <button><a href="./add.php">Add New Employee</a></button>      <table cellspacing=10px>          <thead>              <tr>                  <td>Name</td>                  <td>Email</td>                  <td>Job Title</td>                  <td>Emp Office Address</td>                  <td>Reports To</td>                  <td>Update</td>              </tr>          </thead>          <tbody>              <?php              while ($result = mysqli\_fetch\_assoc($exec)) {              ?>                  <tr>                      <td>                          <?php echo $result['employeeFName'] . ' ' . $result['employeeLName'] ?>                      </td>                      <td>                          <?php echo $result['employeeEmail'] ?>                      </td>                      <td>                          <?php echo $result['employeeJobTitle'] ?>                      </td>                      <td>                          <?php                          echo $result['add1'] . ' ' . $result['add2'] . '<br>' . $result['city'] . ', ' . $result['state'] . ', ' . $result['country'];                          ?>                      </td>                      <td>                          <?php                          echo $result['reportsFName'] . ' ' . $result['reportsLName'] . ',' . $result['reportsJobTitle'];                          ?>                      </td>                      <td>                          <form action="./update.php" method="post" style="display:inline-block; width:min-content;">                              <input style="display: none" type="text" name="editId" value="<?php echo $result['id'] ?>">                              <button name='editButton' type="submit">Edit</button>                          </form>                          <form action="./delete.php" method="post" style="display:inline-block; width:min-content;">                              <input style="display: none" type="text" name="deleteId" value="<?php echo $result['id'] ?>">                              <button name='deleteButton' type="submit">Delete</button>                          </form>                      </td>                  </tr>              <?php              }              ?>          </tbody>      </table>  </body>  </html> | | Index.css  table {      width: 100%;      border: 1px solid rgb(3, 96, 10);      width: 90%;      margin: auto;      border-radius: 20px;      margin-top: 20px;      margin-bottom: 30px;      padding: 10px;      box-shadow: 2px 3px 10px black;  }  tr, td {      border: 1px solid rgb(0, 37, 94);      text-align: center;      border-radius: 5px;  }  thead tr td {      background-color: rgb(179, 122, 122);  }  td:hover{      transform: scale(1.02);  }  .flex {      display: flex;      align-items: center;      justify-content: space-between;  }  form {      width: 300px;      display: flex;      flex-direction: column;      row-gap: 2px;  }  a{      text-decoration: none;  } | | Config.php  <?php  $connection = mysqli\_connect('localhost','root','','classicmodels');  if(!$connection) {      echo 'connection failed ' . mysqli\_error();  }  ?> |   Task 1 screenshot:    Task 2:   |  | | --- | | **Add.php**  <?php  include './config.php';  if(isset($\_POST['add'])) {      $firstName = $\_POST['fname'];      $lastName = $\_POST['lname'];      $extension = $\_POST['extension'];      $email = $\_POST['email'];      $officeCode = (int)$\_POST['officeCode'];      $reportsTo = $\_POST['reportsTo'];      $jobTitle = $\_POST['jobTitle'];      echo $email;      $idQuery = "SELECT max(employeeNumber) as latestId FROM employees";      $execId = mysqli\_query($connection, $idQuery);      $resultId = mysqli\_fetch\_assoc($execId)['latestId'];      $resultId = (int)$resultId + 1;      $query = "INSERT INTO employees (employeeNumber, firstName, lastName, extension, email, officeCode, reportsTo, jobTitle) VALUES ('$resultId', '".$firstName."', '".$lastName."','".$extension."' ,'".$email."' ,'".$officeCode."' ,'".$reportsTo."' , '".$jobTitle."')";      $exec = mysqli\_query($connection, $query);      if($exec) {          echo '<br>';          echo 'added';          echo '<br>';      }      else {          echo '<br>';          echo 'not added successfully';          echo '<br>';      }  }  ?>  <!DOCTYPE html>  <html lang="en">  <head>      <meta charset="UTF-8">      <meta http-equiv="X-UA-Compatible" content="IE=edge">      <meta name="viewport" content="width=device-width, initial-scale=1.0">      <title>Add New Employee</title>      <style>          .flex {              display: flex;              align-items: center;              justify-content: space-between;          }          form {              width: 300px;              display: flex;              flex-direction: column;              row-gap: 2px;          }      </style>  </head>  <body>      <form action="add.php" method="post">          <div class="flex">              <label for="fname">First Name: </label>              <input type="text" name="fname" id="fname">          </div>          <br>          <div class="flex">              <label for="lname">Last Name: </label>              <input type="text" name="lname" id="lname">          </div>          <br>          <div class="flex">              <label for="extension">Extension: </label>              <input type="text" name="extension" id="extension">          </div>          <br>          <div class="flex">              <label for="email">Email: </label>              <input type="email" name="email" id="email">          </div>          <br>          <div class="flex">              <label for="officeCode">Office Code: </label>              <input type="number" name="officeCode" id="officeCode" min=1 max=7>          </div>          <br>          <div class="flex">              <label for="reportsTo">Reports To: </label>              <select name="reportsTo" id="reportsTo">                  <?php                  $query = "SELECT firstName, lastName, employeeNumber from employees";                  $exec = mysqli\_query($connection, $query);                  while ($result = mysqli\_fetch\_assoc($exec)) {                  ?>                      <option value=<?php echo $result['employeeNumber']?>><?php echo $result['firstName'].' '.$result['lastName']?></option>                  <?php                  }                  ?>              </select>          </div>            <br>          <div class="flex">              <label for="jobTitle">Job Title: </label>              <input type="text" name="jobTitle" id="jobTitle">          </div>          <button type="submit" name='add'>Add</button>      </form>  </body>  </html> | | **Delete.php**  <?php  include './config.php';  if (isset($\_POST['deleteButton'])) {      $deleteId = (int)$\_POST['deleteId'];      $query = "SET FOREIGN\_KEY\_CHECKS=0; ";      $query .= "DELETE FROM employees WHERE employeeNumber = $deleteId";      $exec = mysqli\_multi\_query($connection, $query);      if ($exec) {          echo "Successfully deleted";      } else {          echo "Failed to delete";      }  }  ?>  <!DOCTYPE html>  <html lang="en">  <head>      <meta charset="UTF-8">      <meta http-equiv="X-UA-Compatible" content="IE=edge">      <meta name="viewport" content="width=device-width, initial-scale=1.0">      <title>Delete</title>  </head>  <body>      <br>      <a href="./index.php">Go Back</a>  </body>  </html> | | **Update.php**  <?php  include './config.php';  if (isset($\_POST['editButton'])) {      $id = $\_POST['editId'];      $query = "SELECT \* FROM employees WHERE employeeNumber=$id";      $exec = mysqli\_query($connection, $query);      $result = mysqli\_fetch\_assoc($exec);  }  if (isset($\_POST['update'])) {      $fname = $\_POST['fname'];      $lname = $\_POST['lname'];      $extension = $\_POST['extension'];      $officeCode = $\_POST['officeCode'];      $email = $\_POST['email'];      $reportsTo = $\_POST['reportsTo'];      $jobTitle = $\_POST['jobTitle'];      $employeeNumber = $\_POST['id1'];      $queryUpdate = "UPDATE employees SET firstName= '$fname', lastName='$lname', email= '$email', reportsTo= '$reportsTo', jobTitle= '$jobTitle', extension='$extension', officeCode='$officeCode' WHERE employeeNumber=$employeeNumber";      $execUpdate = mysqli\_query($connection, $queryUpdate);      header('Location: ./index.php');  }  ?>  <!DOCTYPE html>  <html lang="en">  <head>      <meta charset="UTF-8">      <meta http-equiv="X-UA-Compatible" content="IE=edge">      <meta name="viewport" content="width=device-width, initial-scale=1.0">      <title>Update an Employee</title>      <style>          .flex {              display: flex;              align-items: center;              justify-content: space-between;          }          form {              width: 300px;              display: flex;              flex-direction: column;              row-gap: 2px;          }      </style>  </head>  <body>      <form action="update.php" method="post">          <div class="flex">              <label for="fname">First Name: </label>              <input type="text" name="fname" id="fname" value="<?php echo $result['firstName'] ?>">          </div>          <br>          <div class="flex">              <label for="lname">Last Name: </label>              <input type="text" name="lname" id="lname" value="<?php echo $result['lastName'] ?>">          </div>          <br>          <div class="flex">              <label for="extension">Extension: </label>              <input type="text" name="extension" id="extension" value="<?php echo $result['extension'] ?>">          </div>          <br>          <div class="flex">              <label for="email">Email: </label>              <input type="email" name="email" id="email" value="<?php echo $result['email'] ?>">          </div>          <br>          <div class="flex">              <label for="officeCode">Office Code: </label>              <input type="number" name="officeCode" id="officeCode" min=1 max=7 value="<?php echo $result['officeCode'] ?>">          </div>          <br>          <div class="flex">              <label for="reportsTo">Reports To: </label>              <select name="reportsTo" id="reportsTo">                  <?php                  $query1 = "SELECT firstName, lastName, employeeNumber from employees";                  $exec1 = mysqli\_query($connection, $query1);                  while ($result1 = mysqli\_fetch\_assoc($exec1)) {                  ?>                      <option <?php if ($result['reportsTo'] == $result1['employeeNumber']) {                                  echo 'selected';                              } else {                              } ?> value=<?php echo $result1['employeeNumber'] ?>><?php echo $result1['firstName'] . ' ' . $result1['lastName'] ?></option>                  <?php                  }                  ?>              </select>          </div>          <br>          <div class="flex">              <label for="jobTitle">Job Title: </label>              <input type="text" name="jobTitle" id="jobTitle" value="<?php echo $result['jobTitle'] ?>">          </div>          <input hidden type="number" name="id1" id="id1" value="<?php echo $result['employeeNumber'] ?>">          <button type="submit" name='update'>Update</button>      </form>  </body>  </html> |   Task 2 screenshot:  Edit Screenshot:    Result:    Add New Employee:    Result:    Delete Operation:  Deleting Tanzeel Ur rehman    Result:  Table without Tanzeel Ur Rehman  Tas |

### Deliverables

Compile a single word document by filling in the solution part and submit this Word file on LMS. You must include your name, ID, and class on first page. The lab grading policy is as follows: The lab is graded between 0 to 10 marks. For some of the labs, students have to present their solutions in a viva session. In case of any problems with submissions on LMS, you should contact your lab engineer Ms. Ayesha Asif.

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