**Practical- 11**

**MVC**

**1.** **Implement simple employee information management functionality using MVC.**

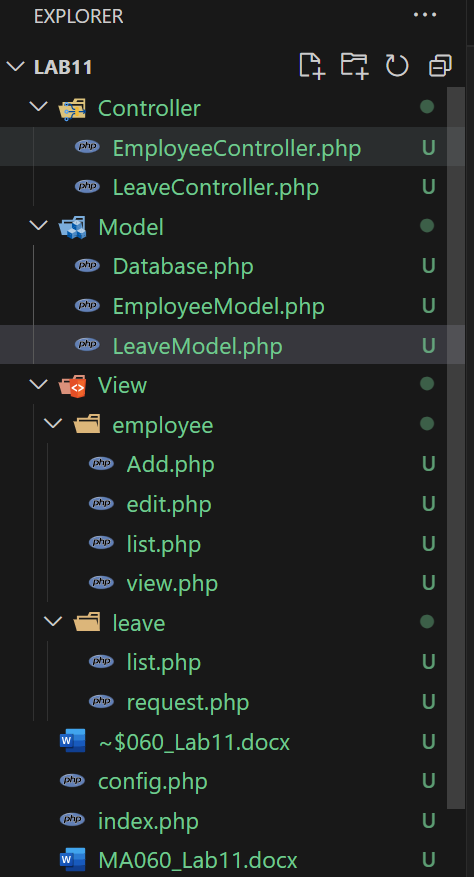
**Manage Employee Data like Employee ID, name, department.Provide insert, view,**

**update and delete functionality using appropriate design**

**Also Manage Leaves Taken by Employee: id, emp-id, leave date, leave reason,**

**leave-status. Provide facility to request leave, approve disapprove leave and list**

**leave records**



**Code:**

**config.php**

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| <?php  namespace LAB11;  class Config  {  protected const HOST = "localhost";  protected const DATABASE = "emp";  protected const USERNAME = "root";  protected const PASSWORD = "";  } |

**index.php**

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| <?php  namespace LAB11;  require\_once './Controller/EmployeeController.php';  use LAB11\Controller\EmployeeController;  EmployeeController::All(); |

**Controller/LeaveController.php**

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| <?php  namespace LAB11\Controllers;  use LAB11\Models\LeaveModel;  class LeaveController  {  public static function listLeaves()  {  $leaveModel = new LeaveModel();  $leaves = $leaveModel->getAllLeaves();  require\_once \_\_DIR\_\_ . '/../View/leave/list.php';  }  public static function requestLeave($data)  {  $leaveModel = new LeaveModel();  $success = $leaveModel->requestLeave($data);  if ($success) {  header("Location: index.php?page=leave&action=list");  } else {  die("Failed to request leave.");  }  }  public static function approveLeave($leaveId)  {  $leaveModel = new LeaveModel();  $success = $leaveModel->approveLeave($leaveId);  if ($success) {  echo <<<EOL  <script>  alert('leave approved...')  </script>  EOL;  } else  echo <<<EOL  <script>  alert('leave rejected...')  </script>  EOL;  }  public static function disapproveLeave($leaveId)  {  $leaveModel = new LeaveModel();  $success = $leaveModel->disapproveLeave($leaveId);  if ($success) {  echo <<<EOL  <script>  alert('leave disapproved...')  </script>  EOL;  } else  echo <<<EOL  <script>  alert('failed to disapprove leave...')  </script>  EOL;  }  } |

**Controller/EmployeContorller.php**

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| <?php  namespace LAB11\Controller;  require\_once \_\_DIR\_\_ . '/../Model/EmployeeModel.php';  require\_once \_\_DIR\_\_ . '/../Model/LeaveModel.php';  require\_once \_\_DIR\_\_ . '/../Controller/LeaveController.php';  use LAB11\Controllers\LeaveController;  use LAB11\Model\EmployeeModel;  class EmployeeController extends EmployeeModel  {  private function \_\_construct()  {  }  public static function All(): array  {  $employees = EmployeeModel::All();  require\_once \_\_DIR\_\_ . '/../View/employee/list.php';  return [];  }  public static function Insert($name, $department)  {  if (EmployeeModel::Insert($name, $department)) {  echo <<<EOL  <script>  alert('record is Inserted...')  </script>  EOL;  } else  echo <<<EOL  <script>  alert('faild to Insert...')  </script>  EOL;  }  public static function ViewById($empid)  {  $employee = EmployeeModel::ViewById($empid);  require\_once \_\_DIR\_\_ . '/../View/employee/view.php';  LeaveController::listLeaves();  }  public static function UpdateView($empid, $name, $department)  {  require\_once \_\_DIR\_\_ . '/../View/employee/edit.php';  }  public static function Update($empid, $name, $department)  {  if (EmployeeModel::Update($empid, $name, $department)) {  echo <<<EOL  <script>  alert('record is upated...')  </script>  EOL;  } else  echo <<<EOL  <script>  alert('faild to update...')  </script>  EOL;  }  public static function Delete($empid)  {  if (EmployeeModel::Delete($empid)) {  echo <<<EOL  <script>  alert('record is deleted...')  </script>  EOL;  }  }  } |

**Model/Database.php**

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| <?php  namespace LAB11\Model;  require\_once \_\_DIR\_\_ . '/../config.php';  use LAB11\Config;  use PDO;  use PDOException;  class Database extends Config  {  private static $pdo;  private function \_\_construct()  {  }  public static function getInstance()  {  if (!isset(self::$pdo)) {  try {  $dsn = "mysql:host=" . self::HOST . ";dbname=" . self::DATABASE;  self::$pdo = new PDO($dsn, self::USERNAME, self::PASSWORD);  self::$pdo->setAttribute(PDO::ATTR\_ERRMODE, PDO::ERRMODE\_EXCEPTION);  } catch (PDOException $e) {  die("Database connection failed: " . $e->getMessage());  }  }  return self::$pdo;  }  } |

**Model/EmployeeModel.php**

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| <?php  namespace LAB11\Model;  require\_once \_\_DIR\_\_ . '/./Database.php';  use PDO;  use PDOException;  class EmployeeModel  {  private function \_\_construct()  {  }  public static function All(): array  {  try {  $pdo = Database::getInstance();  $query = "SELECT \* FROM Employee";  $stmt = $pdo->query($query);  return $stmt->fetchAll(PDO::FETCH\_ASSOC);  } catch (PDOException $e) {  die("Error fetching employees: " . $e->getMessage());  }  }  public static function Insert($name, $department)  {  try {  $pdo = Database::getInstance();  $query = "INSERT INTO Employee (name, department) VALUES (:name, :department)";  $stmt = $pdo->prepare($query);  $stmt->bindParam(':name', $name);  $stmt->bindParam(':department', $department);  return $stmt->execute();  } catch (PDOException $e) {  die("Error inserting employee: " . $e->getMessage());  }  }  public static function ViewById($empid)  {  try {  $pdo = Database::getInstance();  $query = "SELECT \* FROM Employee WHERE empid = :empid";  $stmt = $pdo->prepare($query);  $stmt->bindParam(':empid', $empid);  $stmt->execute();  return $stmt->fetch(PDO::FETCH\_ASSOC);  } catch (PDOException $e) {  die("Error fetching employee by ID: " . $e->getMessage());  }  }  public static function Update($empid, $name, $department)  {  try {  $pdo = Database::getInstance();  $query = "UPDATE Employee SET name = :name, department = :department WHERE empid = :empid";  $stmt = $pdo->prepare($query);  $stmt->bindParam(':empid', $empid);  $stmt->bindParam(':name', $name);  $stmt->bindParam(':department', $department);  return boolval($stmt->execute());  } catch (PDOException $e) {  die("Error updating employee: " . $e->getMessage());  }  }  public static function Delete($empid)  {  try {  $pdo = Database::getInstance();  $query = "DELETE FROM Employee WHERE empid = :empid";  $stmt = $pdo->prepare($query);  $stmt->bindParam(':empid', $empid);  return $stmt->execute();  } catch (PDOException $e) {  die("Error deleting employee: " . $e->getMessage());  }  }  } |

**Model/LeaveModel.php**

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| <?php  namespace LAB11\Models;  use LAB11\Model\Database;  use PDOException;  class LeaveModel  {  public function getAllLeaves()  {  try {  $pdo = Database::getInstance();  $query = "SELECT \* FROM leaves";  $stmt = $pdo->query($query);  return $stmt->fetchAll();  } catch (PDOException $e) {  die("Database error: " . $e->getMessage());  }  }  public function requestLeave($data)  {  try {  $pdo = Database::getInstance();  $query = "INSERT INTO leaves (empid, leave\_date, leave\_reason, leave\_status) VALUES (?, ?, ?, ?)";  $stmt = $pdo->prepare($query);  $stmt->execute([$data['empid'], $data['leave\_date'], $data['leave\_reason'], 'Pending']);  return true;  } catch (PDOException $e) {  die("Database error: " . $e->getMessage());  }  }  public function approveLeave($leaveId)  {  try {  $pdo = Database::getInstance();  $query = "UPDATE leaves SET leave\_status = 'Approved' WHERE empid = ?";  $stmt = $pdo->prepare($query);  $stmt->execute([$leaveId]);  return true;  } catch (PDOException $e) {  die("Database error: " . $e->getMessage());  }  }  public function disapproveLeave($leaveId)  {  try {  $pdo = Database::getInstance();  $query = "UPDATE leaves SET leave\_status = 'Disapproved' WHERE empid = ?";  $stmt = $pdo->prepare($query);  $stmt->execute([$leaveId]);  return true;  } catch (PDOException $e) {  die("Database error: " . $e->getMessage());  }  }  } |

**conn.php**

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| <?php  $servername = "localhost";  $username = "root";  $password = "";  $dbname = "person";  ?> |

**View/employee/Add.php**

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| <?php  use LAB11\Controller\EmployeeController;  require\_once \_\_DIR\_\_ . '/../../Controller/EmployeeController.php';  if (isset($\_POST['Insert'])) {  EmployeeController::Insert($\_POST['name'], $\_POST['department']);  }  ?>  <!DOCTYPE html>  <html>  <head>  <title>Add Employee</title>  </head>  <body>  <h1>Add Employee</h1>  <form action="" method="post">  <input type="hidden" name="empid">  <label for="name">Name:</label>  <input type="text" id="name" name="name" required><br>  <label for="department">Department:</label>  <input type="text" id="department" name="department" required><br>  <button type="submit" name="Insert">Insert</button>  </form>  </body>  </html> |

**View/employee/edit.php**

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| <?php  use LAB11\Controller\EmployeeController;  if (isset($\_POST['UpdateData'])) {  EmployeeController::Update($empid, $\_POST['name'], $\_POST['department']);  }  ?>  <!DOCTYPE html>  <html>  <head>  <title>Edit Employee</title>  </head>  <body>  <h1>Edit Employee</h1>  <form action="" method="post">  <input type="hidden" name="empid" value="<?php echo $empid; ?>">  <label for="name">Name:</label>  <input type="text" id="name" name="name" value="<?php echo $name; ?>" required><br>  <label for="department">Department:</label>  <input type="text" id="department" name="department" value="<?php echo $department; ?>" required><br>  <button type="submit" name="UpdateData">UpdateData</button>  </form>  </body>  </html> |

**View/employee/list.php**

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| <?php  use LAB11\Controller\EmployeeController;  use LAB11\Model\EmployeeModel;  if (isset($\_POST['view'])) {  EmployeeController::ViewById($\_POST['empid']);  }  if (isset($\_POST['update'])) {  $empid = $\_POST['empid'];  $employee = EmployeeModel::ViewById($\_POST['empid']);  EmployeeController::UpdateView($empid, $employee['name'], $employee['department']);  }  if (isset($\_POST['delete'])) {  $empid = $\_POST['empid'];  EmployeeController::Delete($empid);  }  if (isset($\_POST['insert'])) {  header("location:./View/employee/add.php");  }  unset($\_POST);  ?>  <!DOCTYPE html>  <html>  <head>  <title>Employee List</title>  </head>  <body>  <h1>Employee List</h1>  <table>  <thead>  <tr>  <th>Employee ID</th>  <th>Name</th>  <th>Department</th>  <th>Action</th>  </tr>  </thead>  <tbody>  <?php foreach ($employees as $employee) : ?>  <tr>  <td><?php echo $employee['empid']; ?></td>  <td><?php echo $employee['name']; ?></td>  <td><?php echo $employee['department']; ?></td>  <td>  <table>  <tr>  <td>  <form action="index.php?page=employee&action=view" method="post">  <input type="hidden" name="empid" value="<?php echo $employee['empid']; ?>">  <button type="submit" name="view">View</button>  </form>  </td>  <td>  <form action="./" method="post">  <input type="hidden" name="empid" value="<?php echo $employee['empid']; ?>">  <button type="submit" name="update">Update</button>  </form>  </td>  <td>  <form action="index.php?page=employee&action=delete" method="post">  <input type="hidden" name="empid" value="<?php echo $employee['empid']; ?>">  <button type="submit" name="delete">Delete</button>  </form>  </td>  </tr>  </table>  </td>  </tr>  <?php endforeach; ?>  </tbody>  </table>  <form action="#" method="post">  <button type="submit" name="insert">Add Employee</button>  </form>  </body>  </html> |

**View/employee/view.php**

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| <!DOCTYPE html>  <html>  <head>  <title>View Employee</title>  </head>  <body>  <h1>View Employee</h1>  <p><strong>Employee ID:</strong> <?php echo $employee['empid']; ?></p>  <p><strong>Name:</strong> <?php echo $employee['name']; ?></p>  <p><strong>Department:</strong> <?php echo $employee['department']; ?></p>  <a href="index.php?page=employee&action=edit&id=<?php echo $employee['empid']; ?>">Edit</a>  <a href="index.php?page=employee&action=delete&id=<?php echo $employee['empid']; ?>">Delete</a>  </body>  </html> |

**View/leave/list.php**

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| <?php  use LAB11\Controllers\LeaveController;  if (isset($\_POST['approve'])) {  LeaveController::approveLeave($\_POST['leave\_id']);  }  if (isset($\_POST['disapprove']))  LeaveController::disapproveLeave($\_POST['leave\_id']);  if (isset($\_POST['request\_leave']))  header("location:request.php");  ?>  <!DOCTYPE html>  <html>  <head>  <title>Leave List</title>  </head>  <body>  <h1>Leave List</h1>  <table>  <thead>  <tr>  <!-- <th>Leave ID</th> -->  <th>Employee ID</th>  <th>Leave Date</th>  <th>Leave Reason</th>  <th>Leave Status</th>  <th>Action</th>  </tr>  </thead>  <tbody>  <?php foreach ($leaves as $leave) : ?>  <tr>  <!-- <td><?php echo $leave['leave\_id']; ?></td> -->  <td><?php echo $leave['empid']; ?></td>  <td><?php echo $leave['leave\_date']; ?></td>  <td><?php echo $leave['leave\_reason']; ?></td>  <td><?php echo $leave['leave\_status']; ?></td>  <td>  <table>  <tr>  <td>  <form action="<?php echo $\_SERVER['PHP\_SELF'] ?>" method="post">  <input type="hidden" name="leave\_id" value="<?php echo $leave['empid']; ?>">  <button type="submit" name="approve">Approve</button>  </form>  </td>  <td>  <form action="<?php echo $\_SERVER['PHP\_SELF'] ?>" method="post">  <input type="hidden" name="leave\_id" value="<?php echo $leave['empid']; ?>">  <button type="submit" name="disapprove">Disapprove</button>  </form>  </td>  </tr>  </table>  </td>  </tr>  <?php endforeach; ?>  </tbody>  </table>  <form action="<?php echo $\_SERVER['PHP\_SELF'] ?>" method="post">  <button type="submit" name="request\_leave">Request Leave</button>  </form>  </body>  </html> |

**View/leave/request.php**

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| <!DOCTYPE html>  <html>  <head>  <title>Request Leave</title>    <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css">  </head>  <body>  <div class="container mt-5">  <h1 class="text-center">Request Leave</h1>  <form action="index.php?page=leave&action=submit\_request" method="post">  <!-- Leave request form fields -->  <div class="form-group">  <label for="leave\_date">Leave Date:</label>  <input type="date" class="form-control" id="leave\_date" name="leave\_date" required>  </div>  <div class="form-group">  <label for="leave\_reason">Leave Reason:</label>  <textarea class="form-control" id="leave\_reason" name="leave\_reason" rows="4" required></textarea>  </div>  <button type="submit" class="btn btn-primary">Submit Request</button>  </form>  </div>    <script src="https://code.jquery.com/jquery-3.5.1.slim.min.js"></script>  <script src="https://cdn.jsdelivr.net/npm/@popperjs/core@2.5.3/dist/umd/popper.min.js"></script>  <script src="https://maxcdn.bootstrapcdn.com/bootstrap/4.5.2/js/bootstrap.min.js"></script>  </body>  </html> |

**Output:**

