FPT Software

Front-End Essentials

Lab Guides

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RECORD OF CHANGES

No	Effective Date	Change Description	Reason	Reviewer	Approver
1	25/Jun/2018	Create a new Lab	Create new	DieuNT1	VinhNV
2	01/May/2019	Update Fsoft Template	Update	DieuNT1	VinhNV

Contents

FRESHER ACADEMY	**CODE:** **FEE.M.L401 (jQuery and AJAX)**
	TYPE: **Medium**
	LOC: **200**
	DURATION: **90 MINUTES**

Unit 4 – jQuery and AJAX

Objectives

- ✓ Understand the core concepts of Bootstrap (layout, rows, grid, flex, components: buttons, alerts, utilities)
- ✓ Able to create complex, beautiful, responsive webpage with Bootstrap

Technical Requirements:

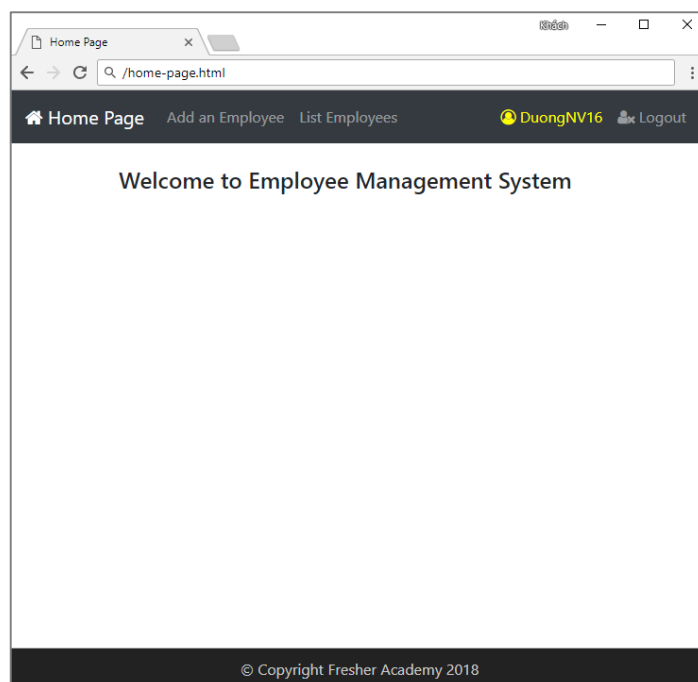- ✓ Must use HTML, CSS, and Bootstrap 4

Specifications:

You have to build a Employee Management Webpage using HTML, CSS and Bootstrap 4.

The app is composed of 6 sections:

1. A Header: on the left is the Brand Name, and on the right side is 4 links: Home Page, Add an Employee, List Employes, Account information. If user click on any of 4 links, the corresponding section must be shown (i.e click on Contact will show Contact section)

2. Home section: a brief overview about the web site

3. Body section: Add an Employee or List Employees

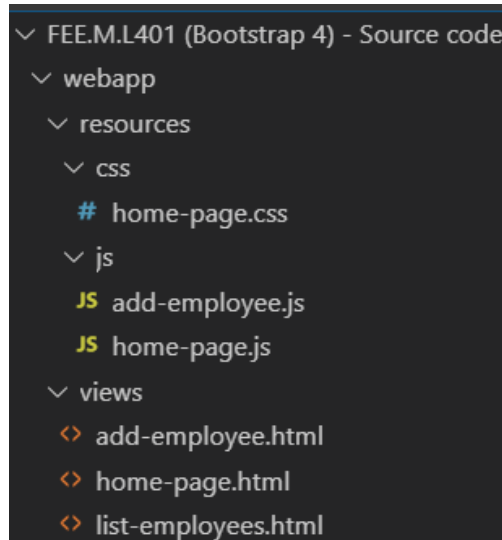4. Footer section

See figure below to understand better the app:

- ✓ **home-page.html** Screen:

Guidelines:

Step 1: Create project structure

Create the project structure like figure below:

```
∨ FEE.M.L401 (Bootstrap 4) - Source code
  ∨ webapp
    ∨ resources
      ∨ css
        # home-page.css
      ∨ js
        JS add-employee.js
        JS home-page.js
    ∨ views
      <> add-employee.html
      <> home-page.html
      <> list-employees.html
```

Step 2: Create basic HTML5 documents

Open file **index.html** in VSC (Visual Studio Code), and type in **html** VSC will show a list of suggestions.

```
Link Bootstrap 4:

<link rel="stylesheet"
      href="https://maxcdn.bootstrapcdn.com/bootstrap/4.1.0/css/bootstrap.min.css">

Link Font Awesome:

<link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/4.7.0/css/font-
awesome.min.css">


<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.3.1/jquery.min.js"></script>

<script src="https://cdnjs.cloudflare.com/ajax/libs/jquery-
                              validate/1.19.1/jquery.validate.min.js"></script>
```

Notice that we will use **jquery.validate.min.js** to validate **Add Employee** screen.

- ✓ **home-page.html source code:**

```
1.  <!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
    "http://www.w3.org/TR/html4/loose.dtd">
2.  <html>
3.  <head>
4.      <meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-1"
5.                      name="viewport" content="width=device-width, initial-scale=1">
6.      <link rel="stylesheet"
7.        href="https://maxcdn.bootstrapcdn.com/bootstrap/4.1.0/css/bootstrap.min.css">
8.      <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/
9.        font-awesome/4.7.0/css/font-awesome.min.css">
10.     <link rel="stylesheet" href="../resources/css/home-page.css">
11.     <script
12.       src="https://ajax.googleapis.com/ajax/libs/jquery/3.3.1/jquery.min.js"></script>
13.     <script src="https://cdnjs.cloudflare.com/ajax/libs/jquery-
14.                         validate/1.19.1/jquery.validate.min.js"></script>
15.     <title>Home Page</title>
```

```
16. </head>
17.
18. <body>
19.     <nav class="navbar navbar-expand-sm navbar-dark bg-dark">
20.         <a class="navbar-brand" href="#">
21.             <i class="fa fa-home"></i> Home Page
22.         </a>
23.
24.         <div id="navbarNavDropdown" class="navbar-collapse collapse">
25.             <ul class="navbar-nav mr-auto">
26.                 <li class="nav-item">
27.                     <a class="nav-link" href="#" id="addEmpLink">
28.                         Add new employee
29.                     </a>
30.                 </li>
31.                 <li class="nav-item">
32.                     <a class="nav-link" id="listEmpsLink" href="#">List employees
33.                     </a>
34.                 /li>
35.             </ul>
36.
37.             <ul class="navbar-nav ml-auto">
38.                 <li class="nav-item">
39.                     <a class="nav-link" style="color: yellow" href="#">
40.                         <i class="fa fa-user-circle-o"> DuongNV16 </i>
41.                     </a>
42.                 </li>
43.                 <li class="nav-item">
44.                     <a class="nav-link" href="#">
45.                         <i class="fa fa-user-times"></i> Logout</a>
46.                 </li>
47.             </ul>
48.         </div>
49.     </nav>
50.
51.     <div class="container">
52.         <h4>Welcome to Employee Management System</h4>
53.     </div>
54.
55.     <div class="row fixed-bottom" style="border-top: 1px solid #ccc;
56.                                           background-color: #222">
57.         <div class="col-md-12">
58.             <p style="margin: 10px auto; text-align: center; color: #ccc">
59.                 &copy; Copyright Fresher Academy 2018</p>
60.         </div>
61.     </div>
62.     <script src="../resources/js/home-page.js"></script>
63. </body>
64. </html>
```

Add jQuery link: script src="../resources/js/home-page.js"></script>.

✓ **home-page.js source code**

```
1.  $(document).ready(function() {
2.      $("#addEmpLink").click(function() {
3.          $.get({
4.              url: "/views/add-employee.html",
5.              success: function(response) {
6.                  $(".container").html(response);
7.                  $("#employeeName").focus();
8.              }
9.          });
10.     });
11.
12.     $("#listEmpsLink").click(function() {
13.         $.get({
14.             url: "/views/list-employees.html",
```
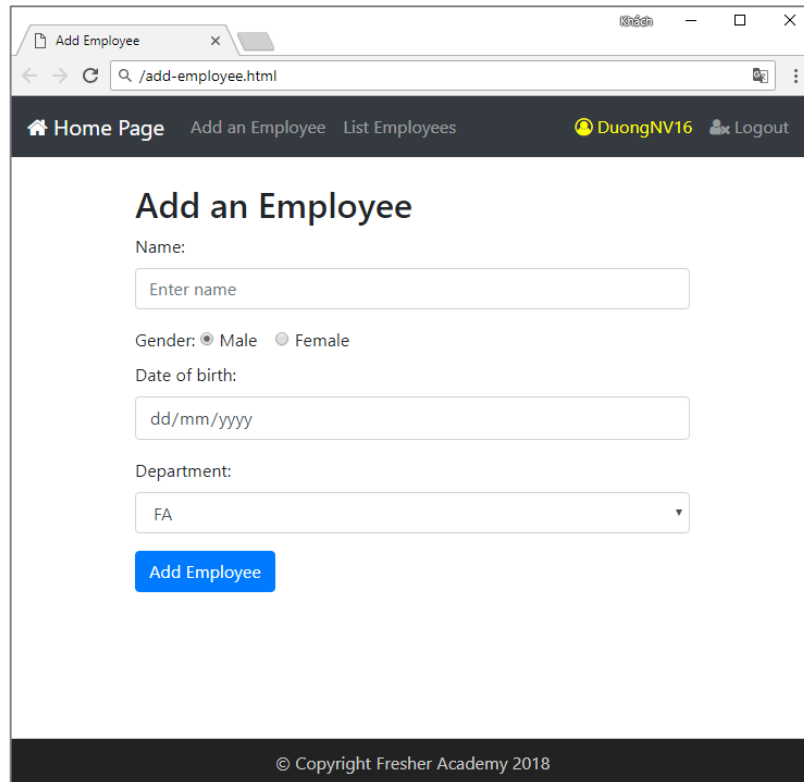
```
15.          success: function(response) {
16.                  $(".container").html(response);
17.              }
18.          });
19.      });
20.
21. });
```

According to this design, when the user clicks "Add an Employee" or "List Employees" the web page will appropriate display.

We are using the **$.get ()** method in the jQuery library.

✓ **add-employee.html** Screen:

✓ **add-employee.html Source code:**

```
1.  <form action="#" method="post" name="frm-addEmp">
2.      <div class="row">
3.          <div class="col-md-6 offset-md-3">
4.              <h2>Add a Employee</h2>
5.
6.              <div class="form-group">
7.                  <label for="employeeName">Name:</label>
8.                  <input type="text" class="form-control" id="employeeName"
9.                                      placeholder="Enter name" name="employeeName">
10.             </div>
11.
12.             <label for="gender">Gender:</label>
13.             <div class="form-check-inline">
14.                 <label class="form-check-label">
15.                  <input type="radio" class="form-check-input"
16.                                          name="gender" value="1" checked>Male
17.                 </label>
18.             </div>
19.             <div class="form-check-inline">
20.                 <label class="form-check-label">
21.                     <input type="radio" class="form-check-input"
22.                                          name="gender" value="0">Female
```

```
23.                </label>
24.            </div>
25.
26.            <div class="form-group">
27.                <label for="dateOfBirth">Date of birth:</label>
28.                    <input type="date" class="form-control" id="dateOfBirth"
29.                        placeholder="Enter date of birth" name="dateOfBirth">
30.            </div>
31.            <div class="form-group">
32.                <label for="dept">Department:</label>
33.            <select class="form-control" id="dept"></select>
34.            </div>
35.        </div>
36.    </div>
37.
38.    <div class="row">
39.        <div class="col-md-6 offset-md-3">
40.            <button type="button" id="btn-addEmp" class="btn btn-primary">
41.                Add Employee
42.          </button>
43.        </div>
44.    </div>
45. </form>
46. <script src="../resources/js/add-employee.js"></script>
```

Add jQuery file:

```
    <script src="../resources/js/add-employee.js"></script>
```

✓ **add-employee.js source code:**

```
1.  $(document).ready(function() {
2.      // Create attribute maxDate to check if input date higher than current date
3.      $.validator.addMethod("maxDate", function(value, element) {
4.          var curDate = new Date();
5.          var inputDate = new Date(value);
6.          if (inputDate < curDate)
7.              return true;
8.          return false;
9.      }, "Invalid date of birth");
10.
11.     $("#addEmpForm").validate({
12.         rules: {
13.             employeeName: {
14.                 required: true,
15.                 minlength: 5
16.             },
17.             dateOfBirth: {
18.                 required: true,
19.                 maxDate: true
20.             },
21.             dept: {
22.                 required: true
23.             }
24.         },
25.         messages: {
26.             employeeName: {
27.                 required: "Please enter employee name",
28.                 minlength: "Employee name must contain at least 5 characters"
29.             },
30.             dateOfBirth: {
31.                 required: "Please choose a date"
32.             },
33.             dept: {
34.                 required: "Please choose a deparment"
35.             }
36.         },
37.         submitHandler: function(form) {
38.             $.get({
39.                 url: "/views/list-employees.html",
40.                 success: function(response) {
```

```
41.                    $(".container").html(response);
42.                }
43.            });
44.        }
45.    });
46.
47. });
```

The web page when the user click **Add Employee** button.

- **list-employees.html** Screen**:**

✓ **list-employees.html Source code:**

```
48. <h2>List of Employees</h2>
49.     <br />
50.     <table class="table table-bordered">
51.         <thead>
```
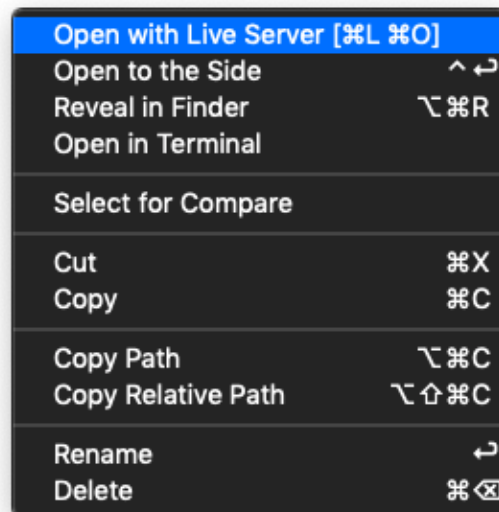
```
52.            <tr>
53.                <th>ID</th>
54.                <th>Employee Name</th>
55.                <th>Gender</th>
56.                <th>Date of birth</th>
57.                <th>Department Name</th>
58.            </tr>
59.        </thead>
60.        <tbody>
61.            <tr>
62.                <td>E101</td>
63.                <td>Nguyen Van Khoa</td>
64.                <td>Male</td>
65.                <td>01/01/1990</td>
66.                <td>Fresher Academy</td>
67.            </tr>
68.
69.        </tbody>
70.    </table>
```

Step 3: Open Web site

Right-click on **index.html** file and click **Open with Live Server**

Note: You must install **Live Server** extension of VSC

Step 14: Verify and tweak

Open the app using Live Server, you should have the same layout like figure below:

And

The app looks pretty much like the design!

-- THE END --