

# Lesson-End Project

## Programming and Managing the Behavior of Web Pages Dynamically

**Project agenda:** To program and manage the behavior of web pages dynamically

**Description:** This assignment is designed to help understand working with JavaScript to develop a script that can validate the HTML content in web pages. Further, implement the script code in a separate .js file and include it in the HTML web page to work.

**Tools required:** Text Editor (VS Code recommended), Web Browser

**Prerequisites:** HTML, JavaScript

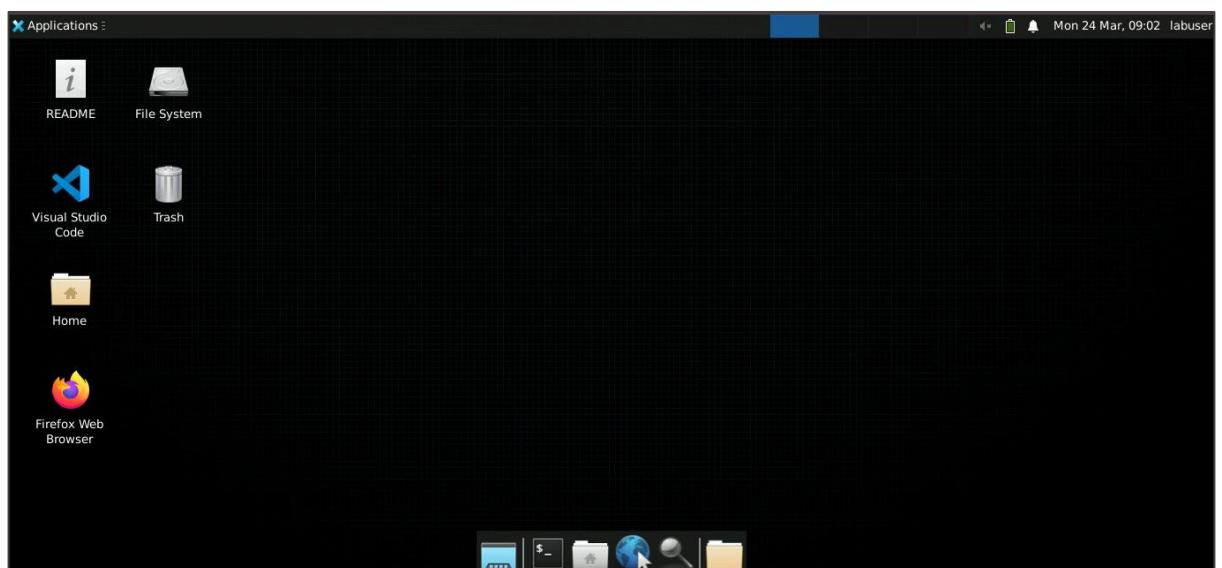
**Expected deliverables:** A functional JavaScript validation implementation that validates name and email on the client creation page and validates the meeting date on the schedule meeting page, ensuring correctness of user inputs with appropriate alerts.

Steps to be followed:

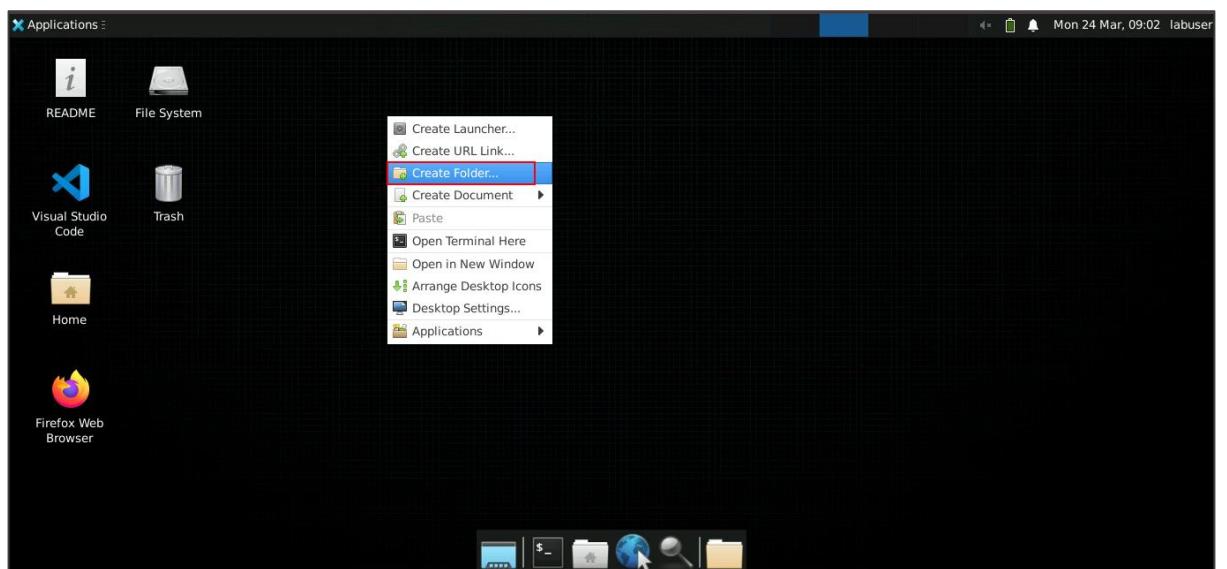
1. Open VS Code and create a new folder
2. Create the initial HTML, CSS, and JS files
3. Create the meeting schedule files
4. Run and test the project

### Step 1: Open VS Code and create a new folder

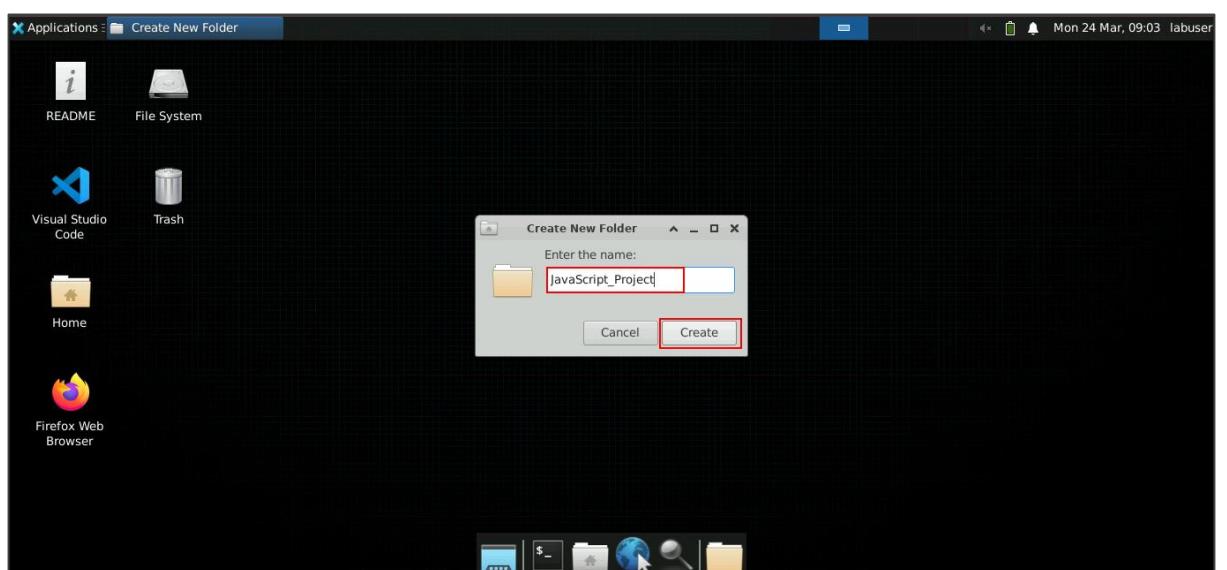
#### 1.1 Open the lab in the LMS portal



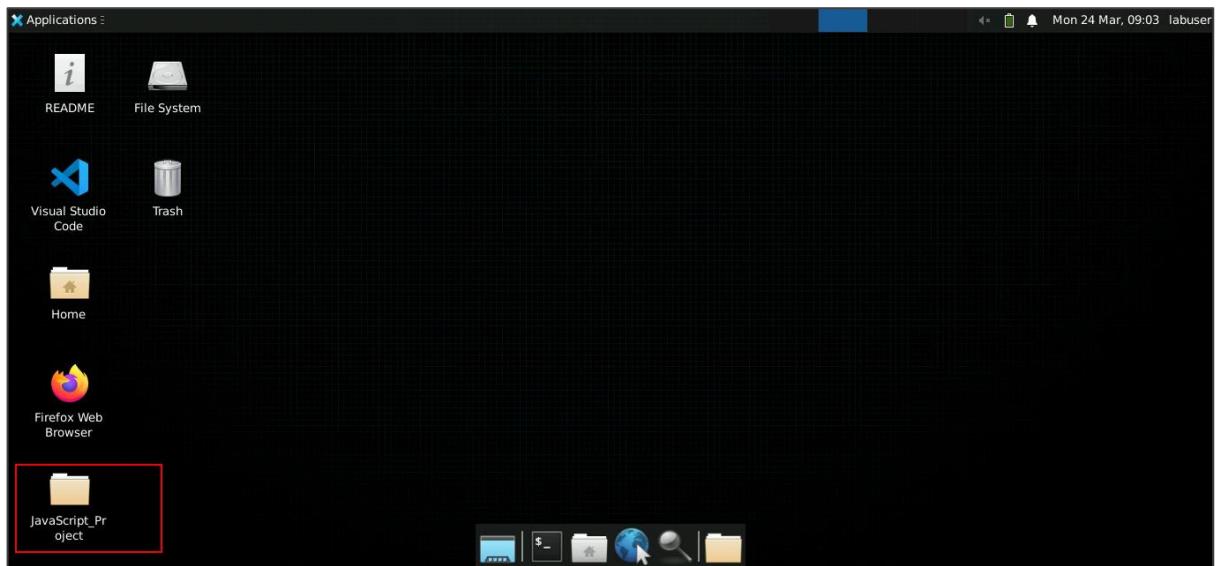
## 1.2 Right-click on select **Create Folder...**



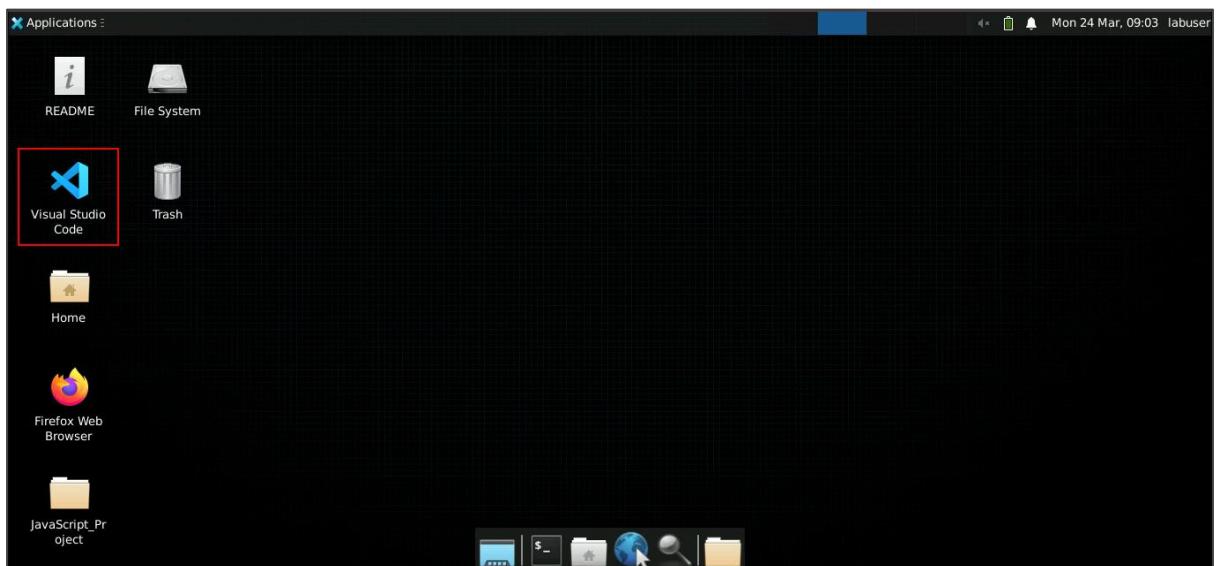
## 1.3 Enter the folder name as **JavaScript\_Project** and click on **Create**



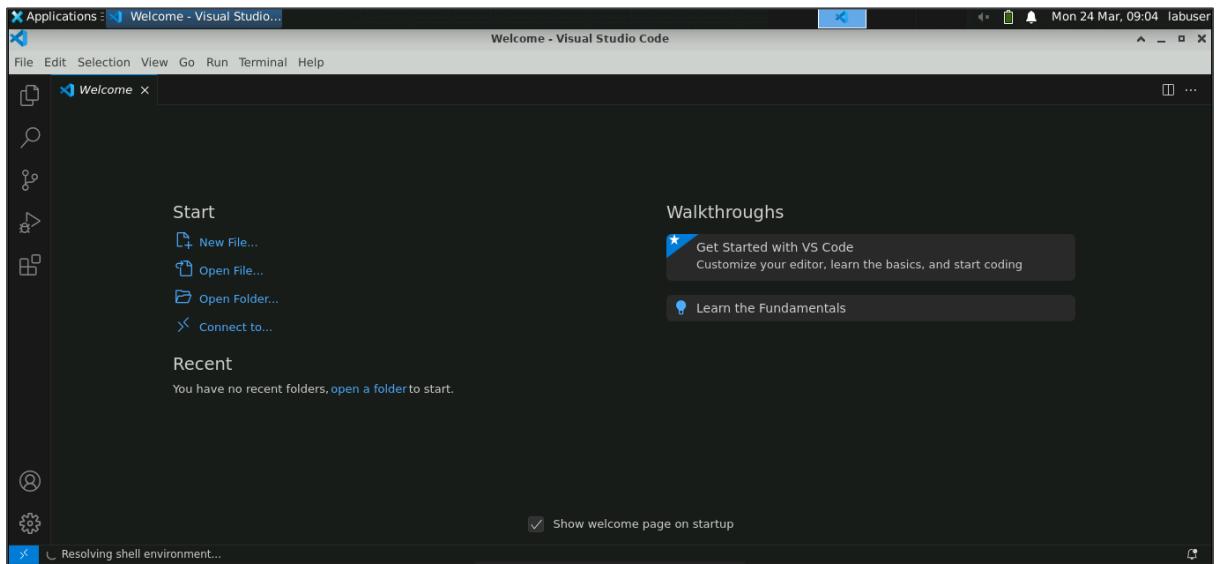
The folder gets created as shown below:



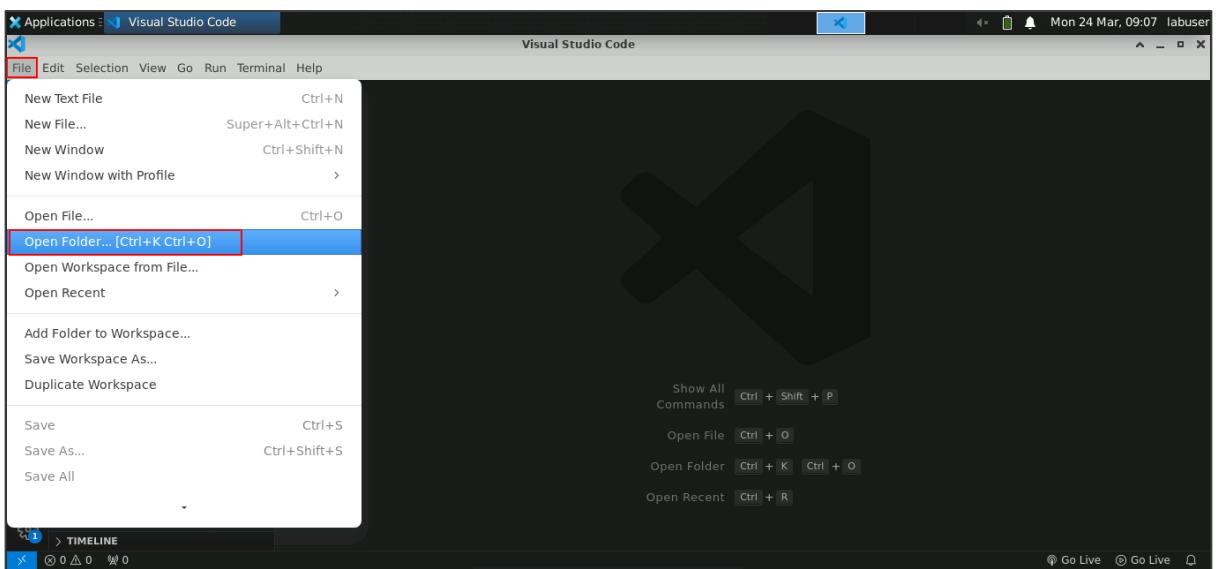
1.4 Double-click on the **Visual Studio Code** icon to open it



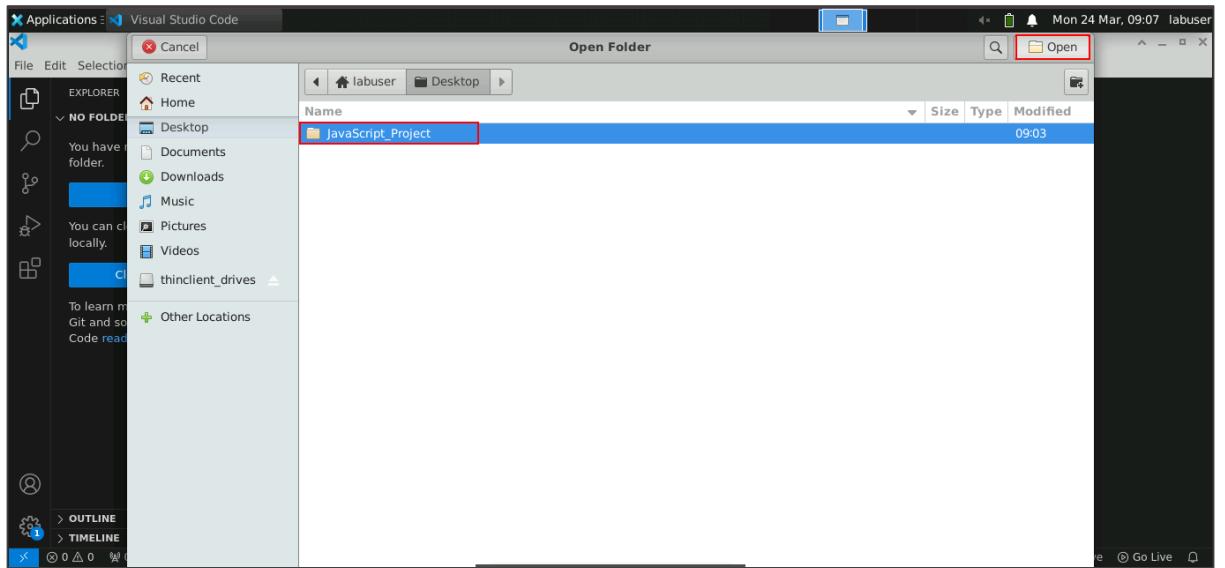
**Visual Studio Code** opens as shown below:



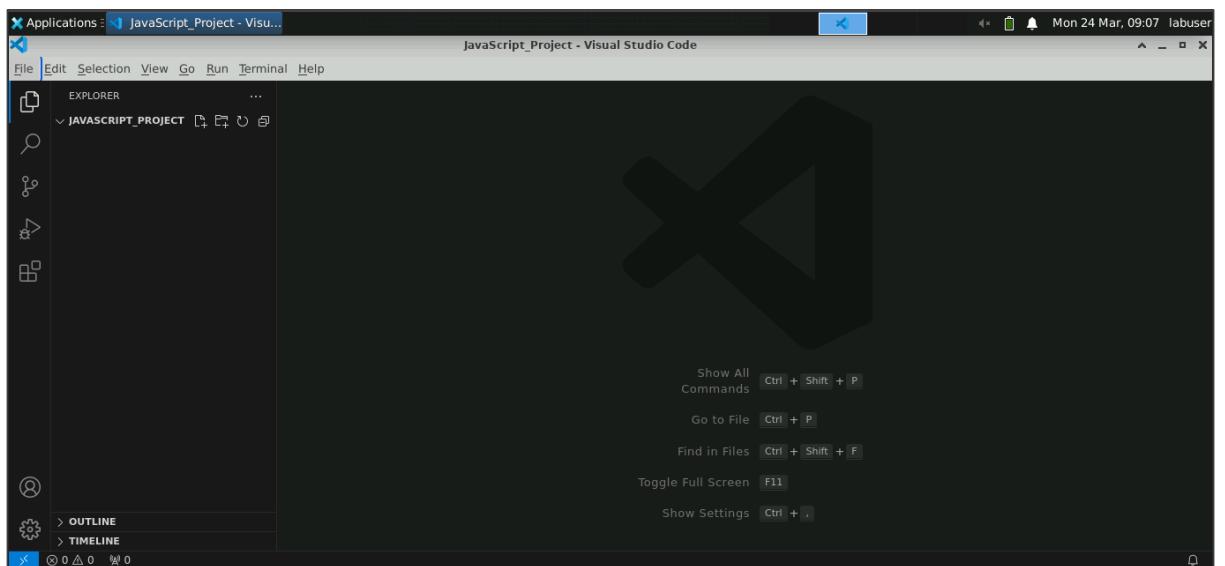
### 1.5 Click on **File** and select **Open Folder...**



## 1.6 Select the **JavaScript\_Project** folder and click on **Open**

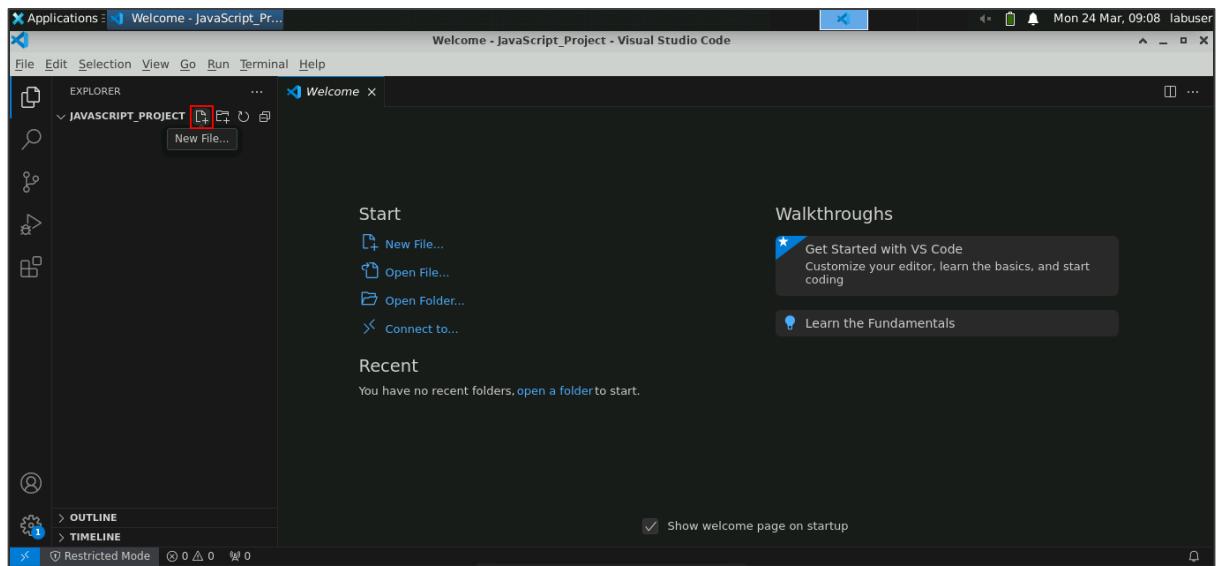


The folder opens as shown below:

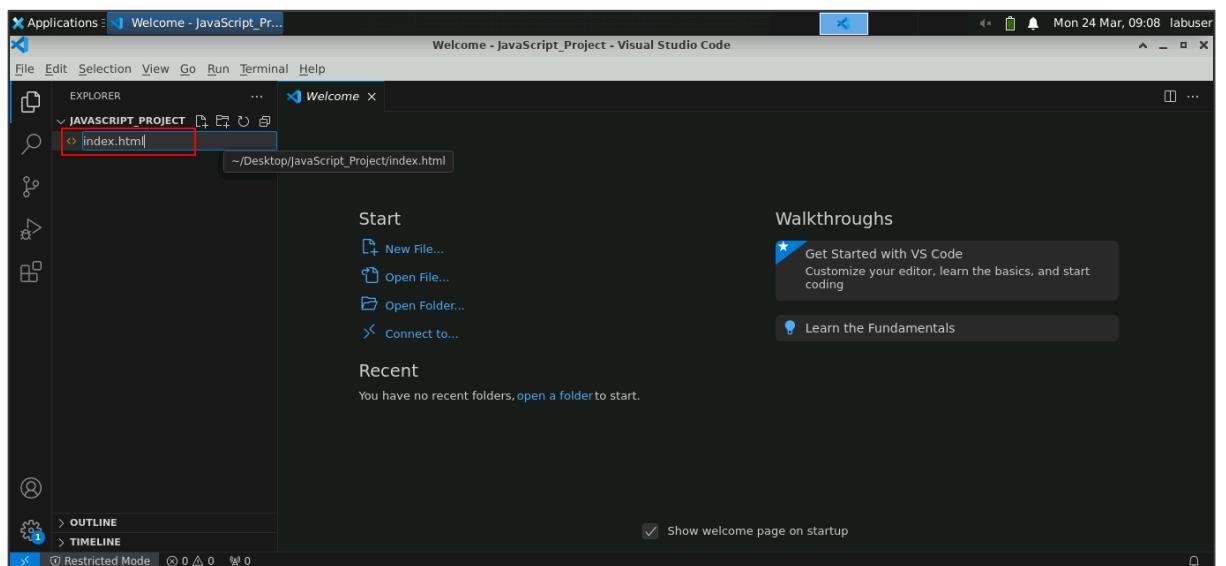


## Step 2: Create the initial HTML, CSS, and JS files

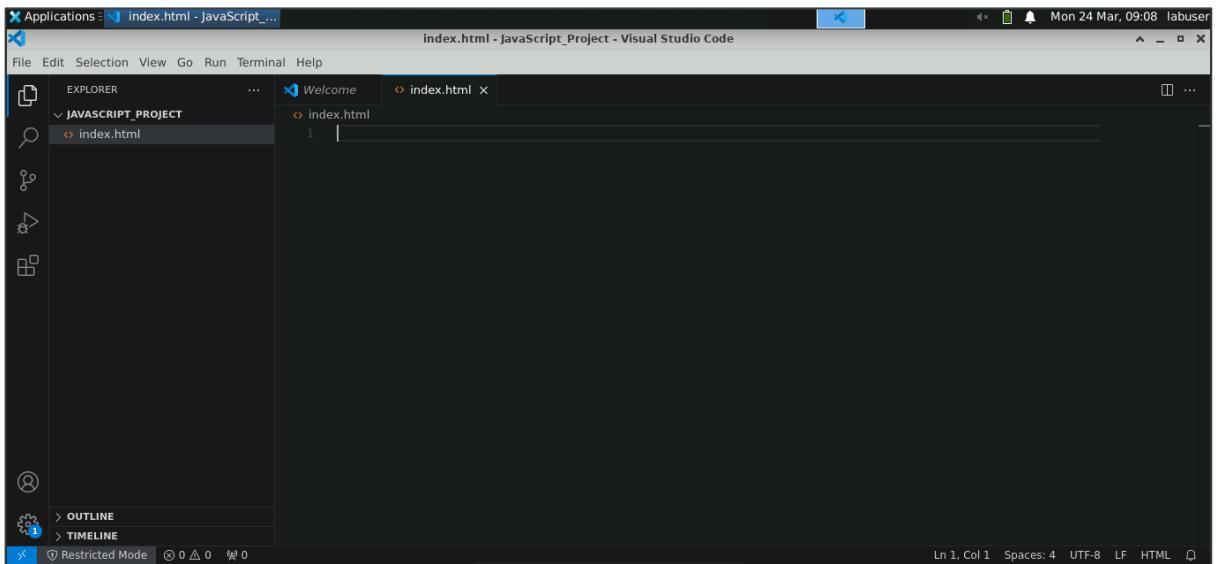
### 2.1 Click on the New File icon



### 2.2 Enter the file name as **index.html** and press **Enter**



The **index.html** file gets created as shown below:



2.3 Enter the code below in the **index.html** file and save the file by clicking on **ctrl + s**

```
<!DOCTYPE html>
<html>
<head>
  <link rel="stylesheet" href="mystyle.css">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <script src="namevalidation.js"></script>
</head>

<body onload="document.form1.email.focus()">

<form name="form1" action="#">
  <div class="container">
    <h1>Create a Client</h1>
    <p>Please fill in this form to create a client.</p>
    <hr>

    <label for="name"><b>Name</b></label>
    <input type="text" placeholder="Enter Name" name="name" id="name" required>

    <label for="email"><b>Email</b></label>
    <input type="text" placeholder="Enter Email" name="email" id="email" required>

    <label for="address"><b>Address</b></label>
```

```

<input type="text" placeholder="Enter Address" name="address" id="address"
required>

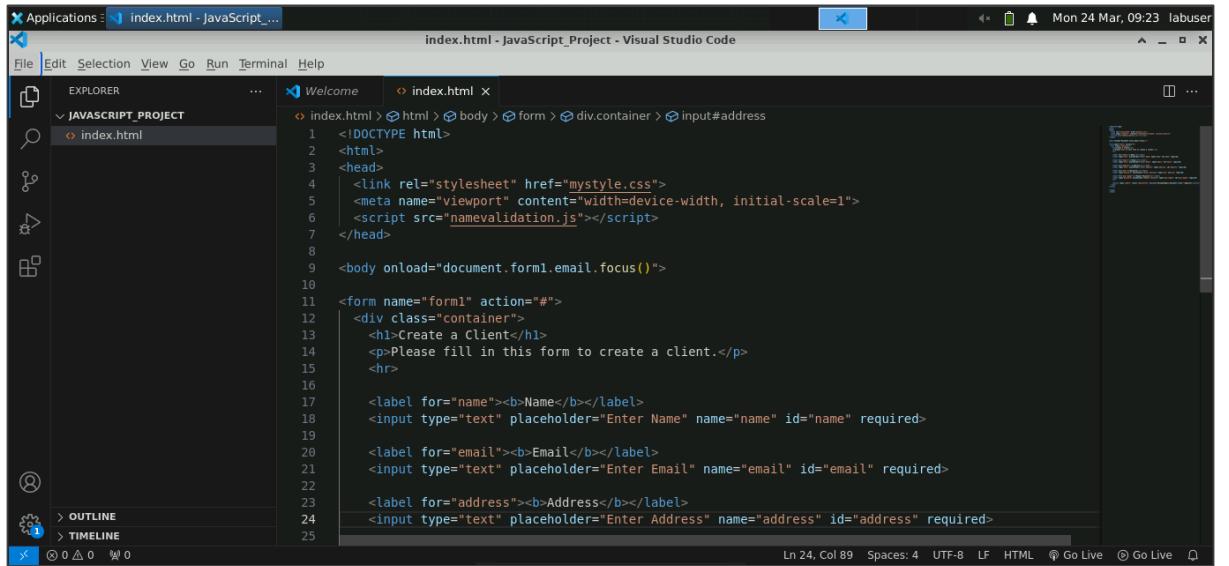
<label for="psw"><b>Password</b></label>
<input type="password" placeholder="Enter Password" name="psw" id="psw"
required>

<label for="psw-repeat"><b>Repeat Password</b></label>
<input type="password" placeholder="Repeat Password" name="psw-repeat"
id="psw-repeat" required>
<hr>

<button type="submit" class="registerbtn"
onclick="ValidateEmail(document.form1)">Register</button>
</div>
</form>

</body>
</html>

```



The screenshot shows the Visual Studio Code interface with the title bar "index.html - JavaScript\_Project - Visual Studio Code". The main area displays the HTML code for "index.html". The code includes form fields for email, address, password, and repeat password, along with a submit button. The status bar at the bottom indicates "Ln 39, Col 1" and other settings.

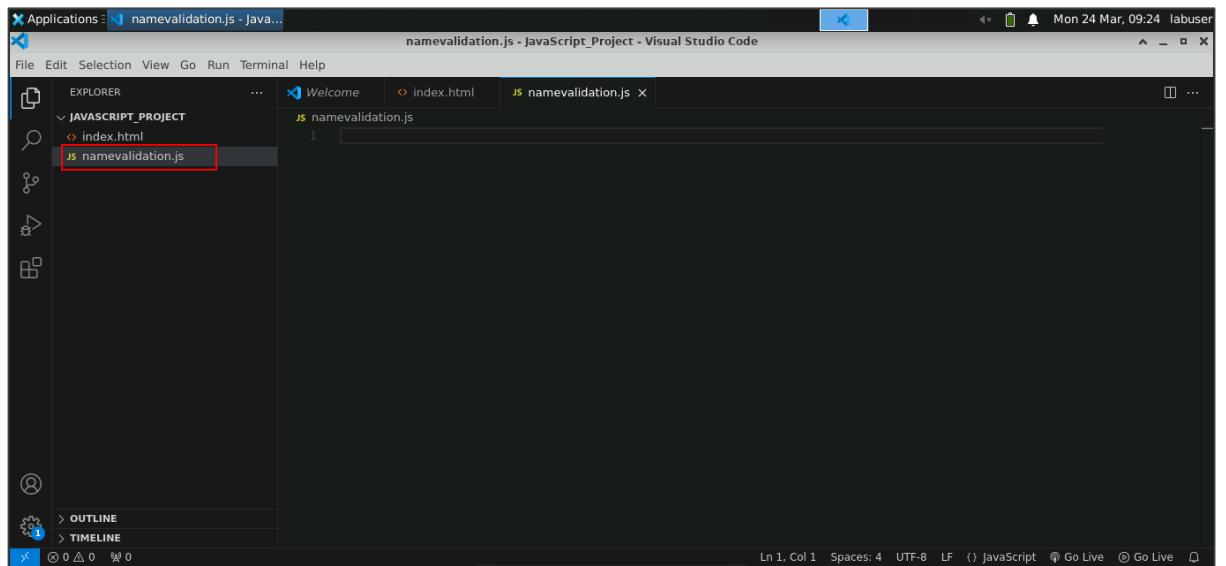
```
<html>
<body onload="document.form1.email.focus()">
<form name="form1" action="#">
<div class="container">
<input type="text" placeholder="Enter Email" name="email" id="email" required>
<label for="address"><b>Address</b></label>
<input type="text" placeholder="Enter Address" name="address" id="address" required>
<label for="psw"><b>Password</b></label>
<input type="password" placeholder="Enter Password" name="psw" id="psw" required>
<label for="psw-repeat"><b>Repeat Password</b></label>
<input type="password" placeholder="Repeat Password" name="psw-repeat" id="psw-repeat" required>
<hr>
<button type="submit" class="registerbtn" onclick="ValidateEmail(document.form1)">Register</button>
</div>
</form>
</body>
</html>
```

## 2.4 Click on the New File icon

The screenshot shows the Visual Studio Code interface with the title bar "index.html - JavaScript\_Project - Visual Studio Code". The Explorer sidebar on the left has a "New File..." option highlighted with a red box. The main area displays the HTML code for "index.html". The status bar at the bottom indicates "Ln 39, Col 1" and other settings.

```
<!DOCTYPE html>
<html>
<head>
<link rel="stylesheet" href="mystyle.css">
<meta name="viewport" content="width=device-width, initial-scale=1">
<script src="namevalidation.js"></script>
</head>
<body onload="document.form1.email.focus()">
<form name="form1" action="#">
<div class="container">
<h1>Create a Client</h1>
<p>Please fill in this form to create a client.</p>
<hr>
<label for="name"><b>Name</b></label>
<input type="text" placeholder="Enter Name" name="name" id="name" required>
<label for="email"><b>Email</b></label>
<input type="text" placeholder="Enter Email" name="email" id="email" required>
<label for="address"><b>Address</b></label>
<input type="text" placeholder="Enter Address" name="address" id="address" required>
</div>
</form>
</body>
</html>
```

2.5 Enter the file name as **namevalidation.js** and press **Enter**

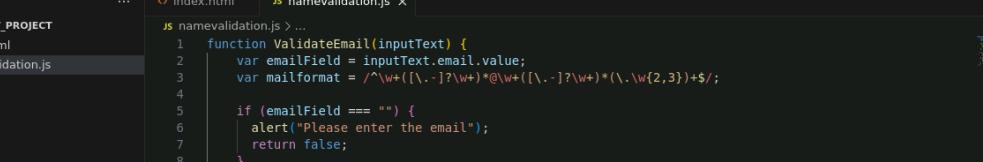


2.6 Enter the code below in the **namevalidation.js** and save the file by clicking on **ctrl + s**:

```
function ValidateEmail(inputText) {
    var emailField = inputText.email.value;
    var mailformat = /^[\w+([\.-]?\w+)*@\w+([\.-]?\w+)*(\.\w{2,3})+$]/;

    if (emailField === "") {
        alert("Please enter the email");
        return false;
    }

    if (emailField.match(mailformat)) {
        alert("You have entered a valid email address!");
        return true;
    } else {
        alert("You have entered an invalid email address!");
        return false;
    }
}
```



The screenshot shows a Visual Studio Code window with the title "namevalidation.js - Java...". The left sidebar displays a file tree under "JAVASCRIPT\_PROJECT" containing "index.html" and "namevalidation.js". The main editor area shows the following code:

```
function ValidateEmail(inputText) {
    var emailField = inputText.email.value;
    var mailformat = /^[^\\w+([\\.-]?)\\w+]*@[\\w+([\\.-]?)\\w+]*(\\.\\w{2,3})+$/;

    if (emailField === "") {
        alert("Please enter the email");
        return false;
    }

    if (emailField.match(mailformat)) {
        alert("You have entered a valid email address!");
        return true;
    } else {
        alert("You have entered an invalid email address!");
        return false;
    }
}
```

## 2.7 Click on **New file** icon

The screenshot shows a Visual Studio Code interface with the following details:

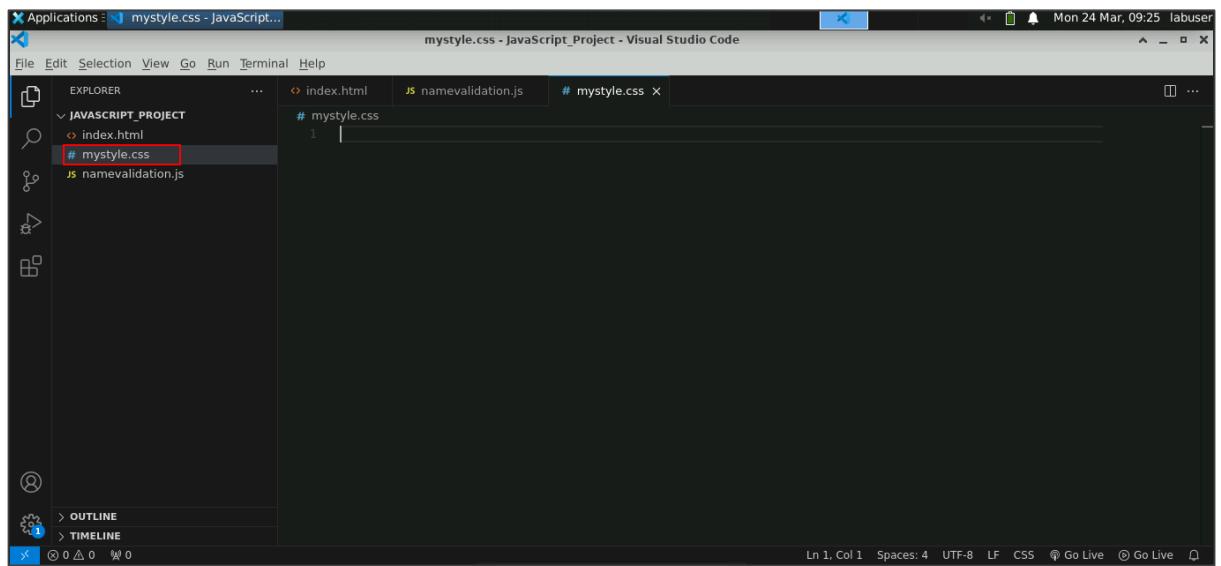
- Title Bar:** Applications > namevalidation.js - Java... (highlighted with a red box), namevalidation.js - JavaScript\_Project - Visual Studio Code.
- File Menu:** File, Edit, Selection, View, Go, Run, Terminal, Help.
- Explorer Panel:** Shows a project named "JAVASCRIPT\_PROJECT" containing files index.html and namevalidation.js (highlighted with a red box).
- Code Editor:** Displays the content of namevalidation.js:

```
function ValidateEmail(inputText) {
    var emailField = inputText.email.value;
    var mailformat = /^\\w+([.-]?\\w+)*@\\w+([.-]?\\w+)*(\\.\\w{2,3})+$/";

    if (emailField === "") {
        alert("Please enter the email");
        return false;
    }

    if (emailField.match(mailformat)) {
        alert("You have entered a valid email address!");
        return true;
    } else {
        alert("You have entered an invalid email address!");
        return false;
    }
}
```
- Bottom Status Bar:** Ln 18, Col 1 | Spaces: 4 | UTF-8 | LF | () JavaScript | ⓘ Go Live | ⓘ Go Live

2.8 Enter the file name as **mystyle.css** and press **Enter**



2.9 Enter the below code in the **mystyle.css** file and save the file by clicking on **ctrl + s**:

```
body {  
    font-family: Arial, Helvetica, sans-serif;  
    background-color: white;  
}  
  
* {  
    box-sizing: border-box;  
}  
  
.container {  
    padding: 16px;  
    background-color: white;  
}  
  
input[type=text], input[type=password] {  
    width: 100%;  
    padding: 15px;  
    margin: 5px 0 22px 0;  
    display: inline-block;  
    border: none;  
    background: #f1f1f1;  
}  
  
input[type=text]:focus, input[type=password]:focus {  
    background-color: #ddd;
```

```

outline: none;
}

hr {
    border: 1px solid #f1f1f1;
    margin-bottom: 25px;
}

.registerbtn {
    background-color: #04AA6D;
    color: white;
    padding: 16px 20px;
    margin: 8px 0;
    border: none;
    cursor: pointer;
    width: 100%;
    opacity: 0.9;
}

.registerbtn:hover {
    opacity: 1;
}

```

The screenshot shows the Visual Studio Code interface with the following details:

- Title Bar:** Applications > mystyle.css - JavaScript... / mystyle.css - JavaScript\_Project - Visual Studio Code
- File Menu:** File | Edit | Selection | View | Go | Run | Terminal | Help
- Explorer:** Shows a project named "JAVASCRIPT\_PROJECT" containing files: index.html, mystyle.css, and namevalidation.js.
- Editor:** The main area displays the CSS code from the question.
- Status Bar:** Mon 24 Mar, 09:25 labuser | Ln 48, Col 1 | Spaces: 4 | UTF-8 | LF | CSS | Go Live

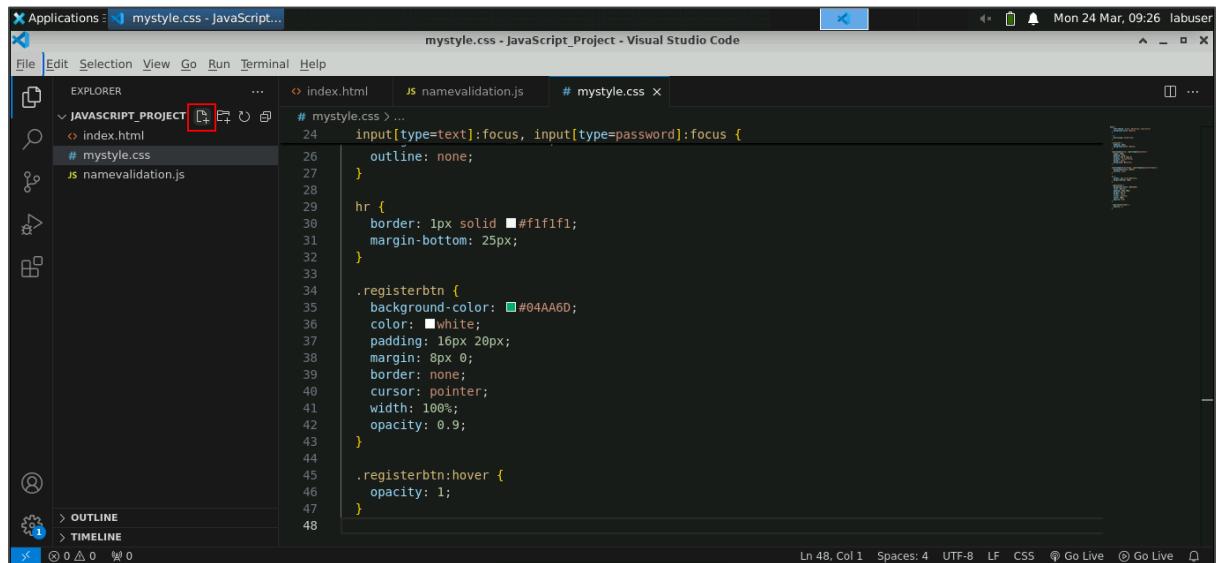
The screenshot shows the Visual Studio Code interface with a dark theme. The left sidebar displays a file tree under 'JAVASCRIPT\_PROJECT' containing 'index.html', '# mystyle.css', and 'namevalidation.js'. The main editor area shows the '# mystyle.css' file with the following CSS code:

```
# mystyle.css >...
24  input[type=text]:focus, input[type=password]:focus {
25    outline: none;
26  }
27
28  hr {
29    border: 1px solid #f1f1f1;
30    margin-bottom: 25px;
31  }
32
33  .registerbtn {
34    background-color: #04AA6D;
35    color: white;
36    padding: 16px 20px;
37    margin: 8px 0;
38    border: none;
39    cursor: pointer;
40    width: 100%;
41    opacity: 0.9;
42  }
43
44  .registerbtn:hover {
45    opacity: 1;
46  }
47
48
```

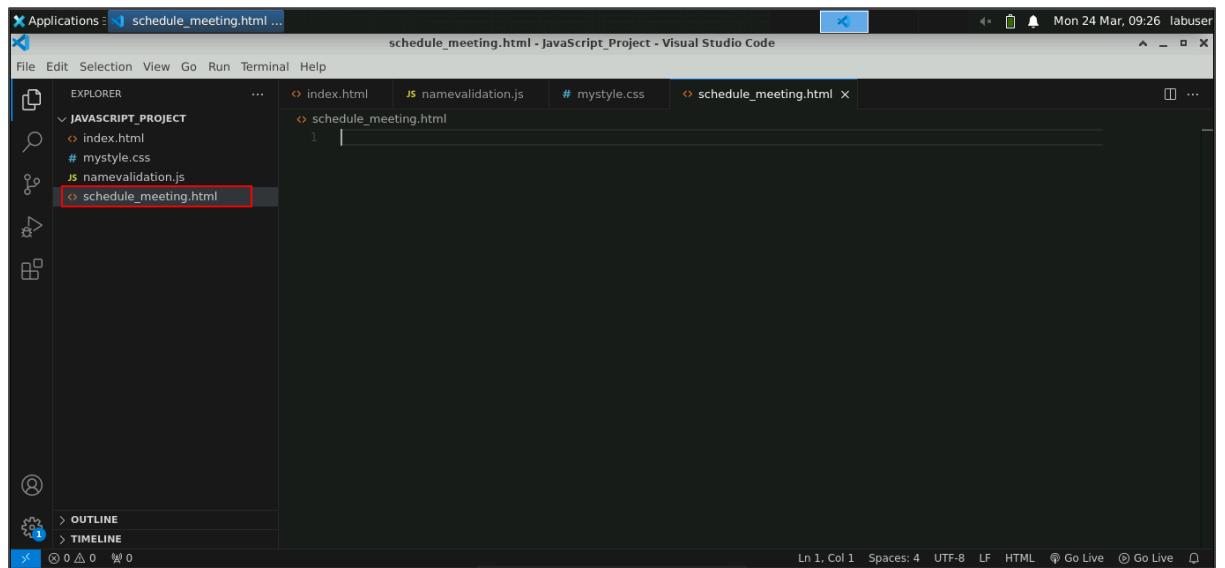
The status bar at the bottom indicates 'Ln 48, Col 1' and other file details.

## Step 3: Create the meeting schedule files

### 3.1 Click on the New File icon



3.2 Enter the file name as **schedule\_meeting.html** and press **Enter**



3.3 Enter the code below in the **schedule\_meeting.html** and save the file by clicking on **ctrl + s:**

```
<!DOCTYPE html>
<html>
<head>
<link rel="stylesheet" href="schedule.css">
<meta name="viewport" content="width=device-width, initial-scale=1">
<script src="datevalidation.js"></script>
</head>
<body onload="document.form1.meetingTime.focus()">

<form name="form1" action="#">
<div class="container">
<h1>Create a Meeting Schedule</h1>
<hr>

<label for="meetingTopic"><b>Meeting Topic</b></label>
<input type="text" placeholder="Enter Meeting Topic" name="meetingTopic" id="meetingTopic" required>

<label for="numOfPeople"><b>Number of People</b></label>
<input type="text" placeholder="Enter number of people joining the meeting" name="numOfPeople" id="numOfPeople" required>

<label for="startTime"><b>Start Time</b></label><br>
<input type="datetime-local" id="meetingTime" name="meetingTime">

<hr>
```

```

<button type="submit" class="schedulebtn"
onclick="DateValidation(document.form1.meetingTime)">Create
Schedule</button>
</div>
</form>

</body>
</html>

```

```

<button type="submit" class="schedulebtn"
>Create
Schedule</button>
</div>
</form>

</body>
</html>

```

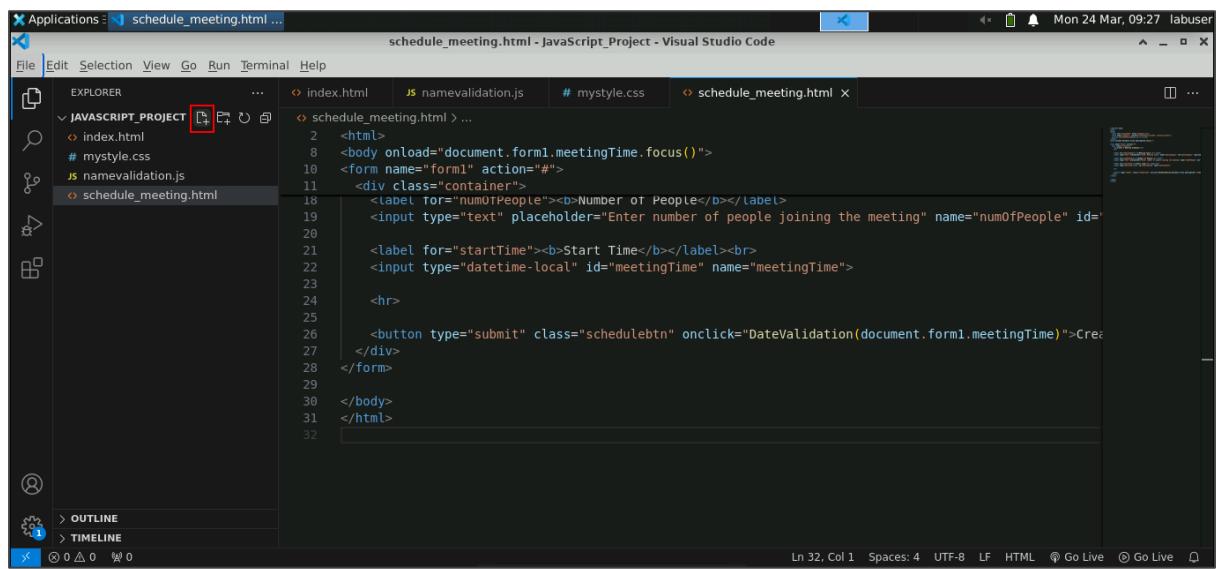
```

<button type="submit" class="schedulebtn" onclick="DateValidation(document.form1.meetingTime)">Create
Schedule</button>
</div>
</form>

</body>
</html>

```

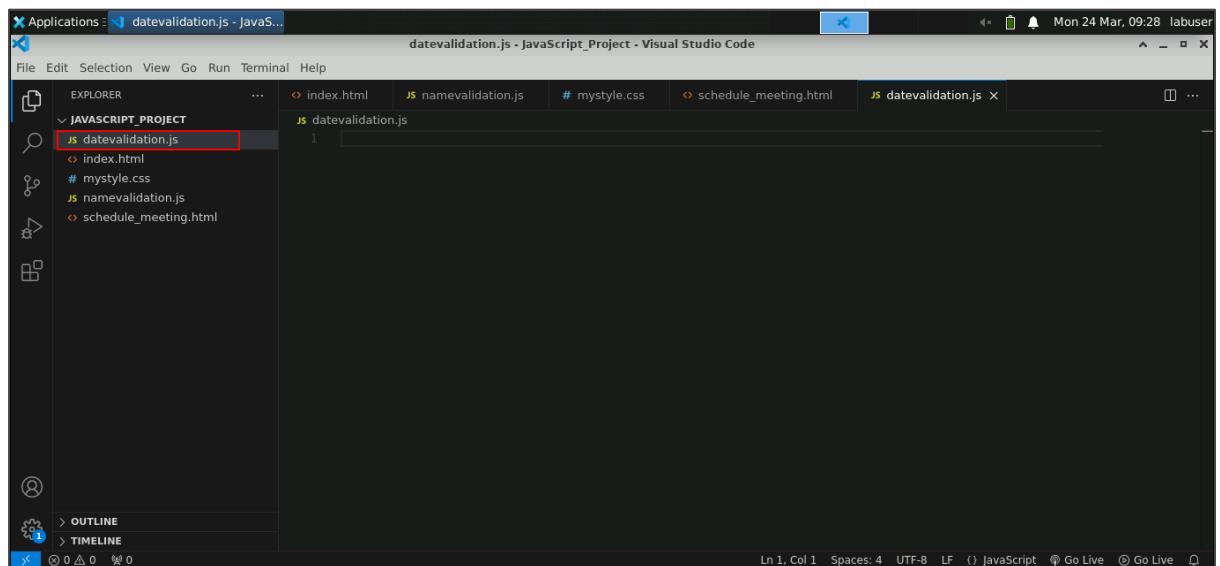
### 3.4 Click on the New File icon



The screenshot shows the Visual Studio Code interface. The title bar reads "Applications : schedule\_meeting.html ...". The main area displays the code for "schedule\_meeting.html". The left sidebar is the "EXPLORER" view, which lists files in the project: "index.html", "# mystyle.css", "namevalidation.js", and "schedule\_meeting.html". A red box highlights the "New File" icon (a plus sign inside a square) in the Explorer sidebar.

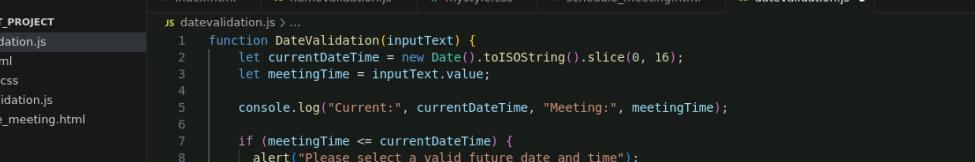
```
1 <html>
2   <body onload="document.form1.meetingTime.focus()">
3     <form name="form1" action="#">
4       <div class="container">
5         <label for="numOfPeople"><b>NUMBER OF PEOPLE</b></label>
6         <input type="text" placeholder="Enter number of people joining the meeting" name="numOfPeople" id="numOfPeople">
7
8         <label for="startTime"><b>Start Time</b></label><br>
9         <input type="datetime-local" id="meetingTime" name="meetingTime">
10
11        <hr>
12
13        <button type="submit" class="schedulebtn" onclick="DateValidation(document.form1.meetingTime)">Create</button>
14      </div>
15    </form>
16  </body>
17 </html>
```

### 3.5 Enter the file name as datevalidation.js and press Enter



The screenshot shows the Visual Studio Code interface. The title bar reads "Applications : datevalidation.js - JavaScript...". The main area is currently empty, showing only the first character "1". The left sidebar is the "EXPLORER" view, which lists files in the project: "index.html", "# mystyle.css", "namevalidation.js", "schedule\_meeting.html", and "datevalidation.js". A red box highlights "datevalidation.js" in the Explorer sidebar.

3.6 Enter the code below in the **datevalidation.js** and save the file by clicking on **ctrl + s**:



```
function DateValidation(inputText) {
    let currentDateTime = new Date().toISOString().slice(0, 16);
    let meetingTime = inputText.value;

    console.log("Current:", currentDateTime, "Meeting:", meetingTime);

    if (meetingTime <= currentDateTime) {
        alert("Please select a valid future date and time");
        return false;
    }
    alert("Meeting scheduled successfully!");
    return true;
}
```

### 3.7 Click on the **New File** icon

The screenshot shows the Visual Studio Code interface with the following details:

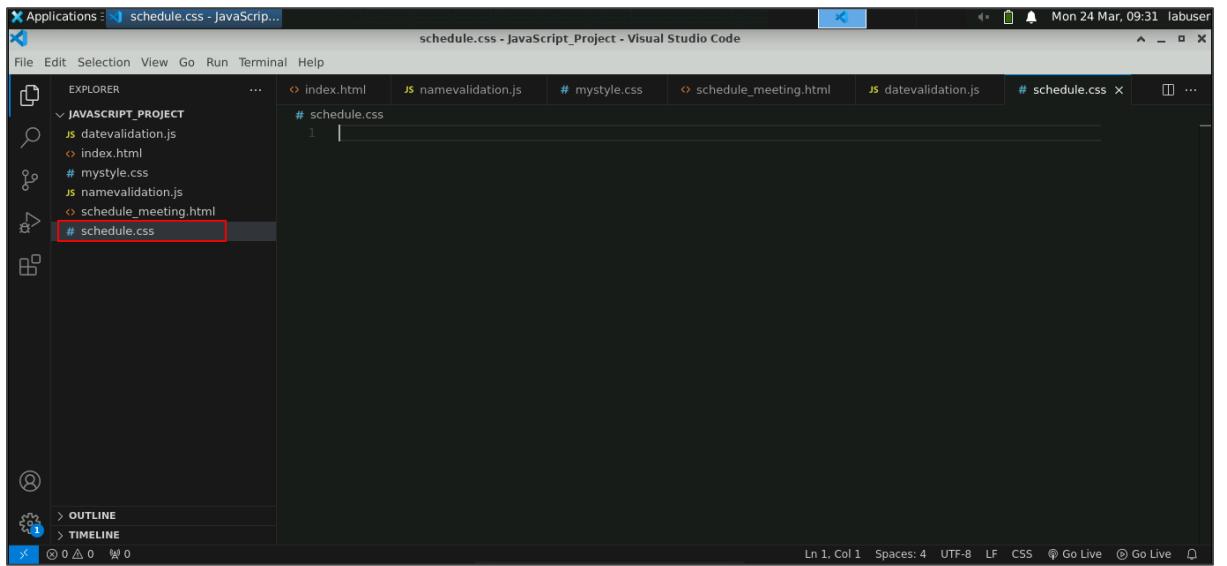
- Title Bar:** Applications > datevalidation.js - Java5... and datevalidation.js - JavaScript\_Project - Visual Studio Code.
- File Explorer (Left):** Shows a 'JAVASCRIPT\_PROJECT' folder containing index.html, namevalidation.js, mystyle.css, schedule\_meeting.html, and datevalidation.js (the active file).
- Code Editor (Center):** Displays the content of datevalidation.js:

```
function DateValidation(inputText) {
    let currentDateTime = new Date().toISOString().slice(0, 16);
    let meetingTime = inputText.value;

    console.log("Current:", currentDateTime, "Meeting:", meetingTime);

    if (meetingTime <= currentDateTime) {
        alert("Please select a valid future date and time");
        return false;
    }
    alert("Meeting scheduled successfully!");
    return true;
}
```
- Bottom Status Bar:** Ln 14, Col 1 | Spaces: 4 | UTF-8 | LF | JavaScript | Go Live | Go Live

### 3.8 Enter the file name as **schedule.css** and press **Enter**

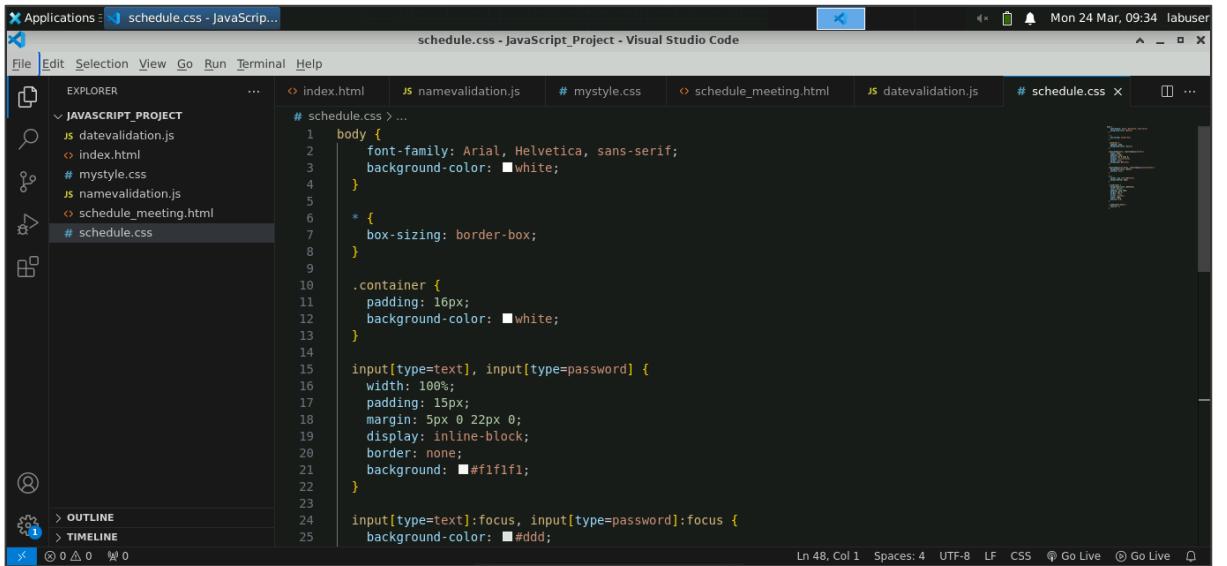


The screenshot shows the Visual Studio Code interface. The title bar says "Applications : schedule.css - JavaScript...". The main area shows a code editor with the following content:

```
# schedule.css
```

The file explorer on the left shows a project named "JAVASCRIPT\_PROJECT" containing files: datevalidation.js, index.html, mystyle.css, namevalidation.js, schedule\_meeting.html, and schedule.css. The "schedule.css" file is highlighted with a red border.

### 3.9 Enter the code below in the **schedule.css** file and save the file by clicking on **ctrl + s**:



The screenshot shows the Visual Studio Code interface with the "schedule.css" file open. The code editor contains the following CSS code:

```
# schedule.css > ...
body {
    font-family: Arial, Helvetica, sans-serif;
    background-color: #white;
}
* {
    box-sizing: border-box;
}

.container {
    padding: 16px;
    background-color: #white;
}

input[type=text], input[type=password] {
    width: 100%;
    padding: 15px;
    margin: 5px 0 22px 0;
    display: inline-block;
    border: none;
    background: #f1f1f1;
}

input[type=text]:focus, input[type=password]:focus {
    background-color: #ddd;
```

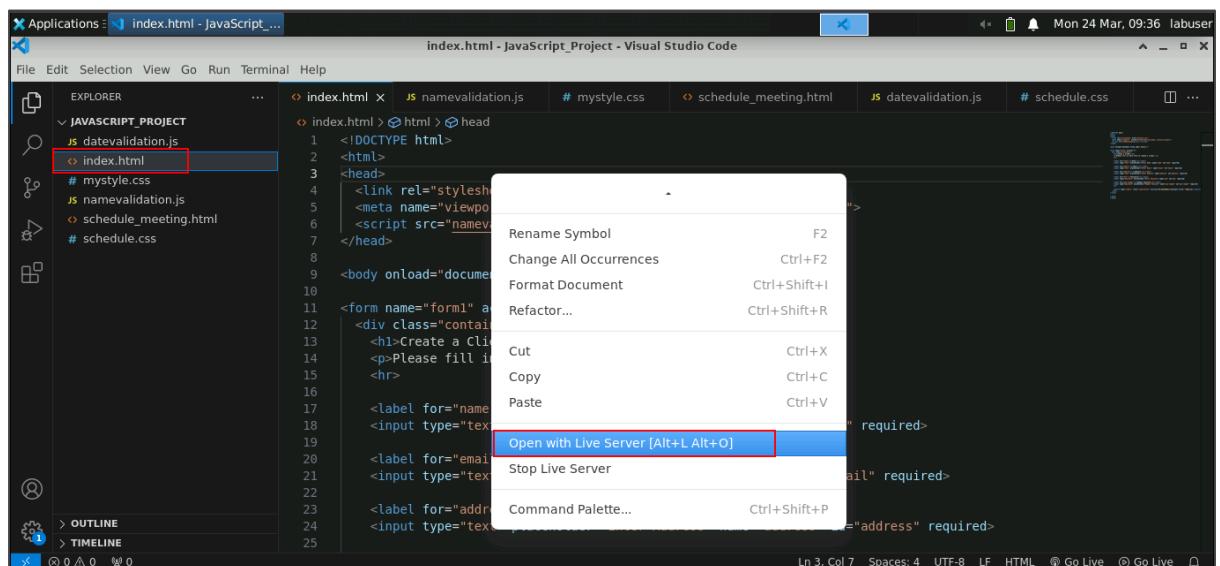
The file explorer on the left shows the same project structure as the previous screenshot. The status bar at the bottom indicates "Ln 48, Col 1 Spaces: 4 UTF-8 LF CSS".

```
# schedule.css > ...
24   input[type=text]:focus, input[type=password]:focus {
25     outline: none;
26   }
27
28   hr {
29     border: 1px solid #f1f1f1;
30     margin-bottom: 25px;
31   }
32
33   .schedulebtn {
34     background-color: #04AA6D;
35     color: white;
36     padding: 16px 20px;
37     margin: 8px 0;
38     border: none;
39     cursor: pointer;
40     width: 100%;
41     opacity: 0.9;
42   }
43
44   .schedulebtn:hover {
45     opacity: 1;
46   }
47
48
```

Ln 48, Col 1 Spaces: 4 UTF-8 LF CSS Go Live Go Live

## Step 4: Run and test the project

### 4.1 Navigate to the index.html file right click and select Open with Live Server



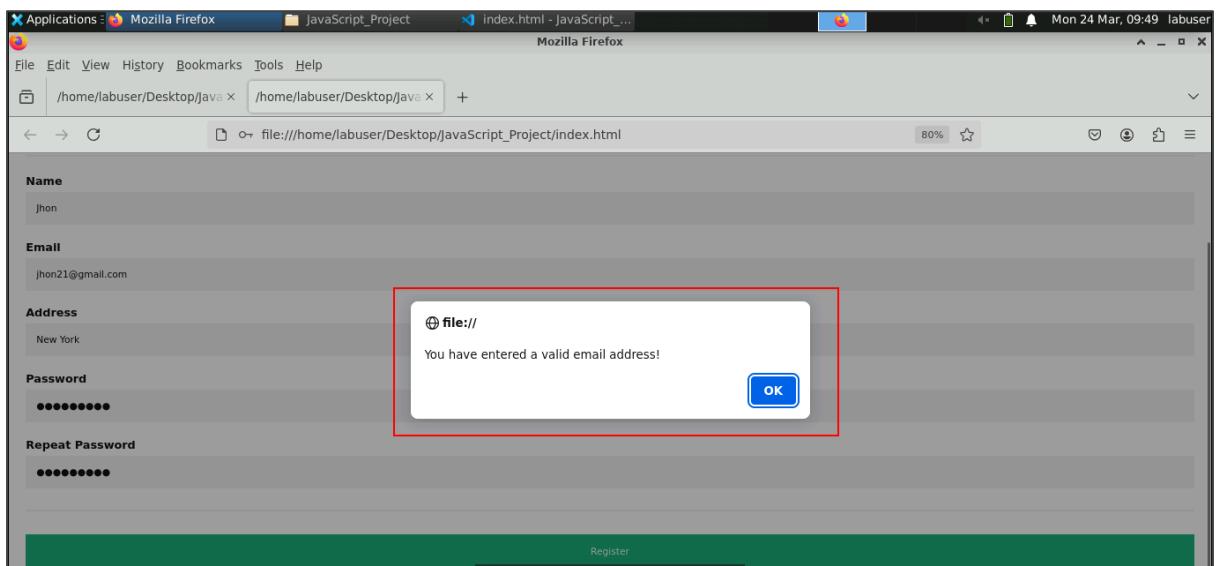
The webpage opens as shown below:

A screenshot of a Mozilla Firefox browser window. The title bar shows "Applications Mozilla Firefox" and the address bar shows "file:///home/labuser/Desktop/JavaScript\_Project/index.html". The main content area displays a form titled "Create a Client" with the sub-instruction "Please fill in this form to create a client." Below the title, there are four input fields: "Name" (placeholder "Enter Name"), "Email" (placeholder "Enter Email"), "Address" (placeholder "Enter Address"), and "Password" (placeholder "Enter Password").

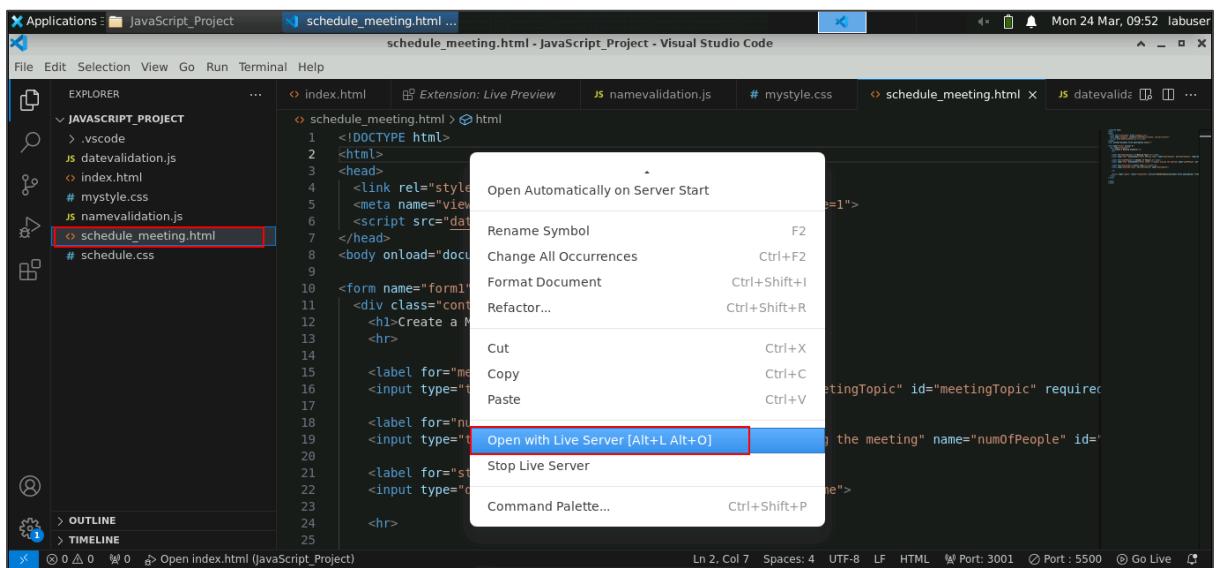
#### 4.2 Enter the required details and click on **Register**

A screenshot of a Mozilla Firefox browser window, identical to the previous one but with data entered into the fields. The "Name" field contains "Jhon", the "Email" field contains "jhon21@gmail.com", the "Address" field contains "New York", and the "Password" field contains "\*\*\*\*\*". The "Repeat Password" field also contains "\*\*\*\*\*". At the bottom of the form, a large green button contains the text "Register".

The test is successful as shown below:



4.3 Navigate to VS Code, right-click on the **schedule\_meeting.html** file, and select **Open with Live Server**



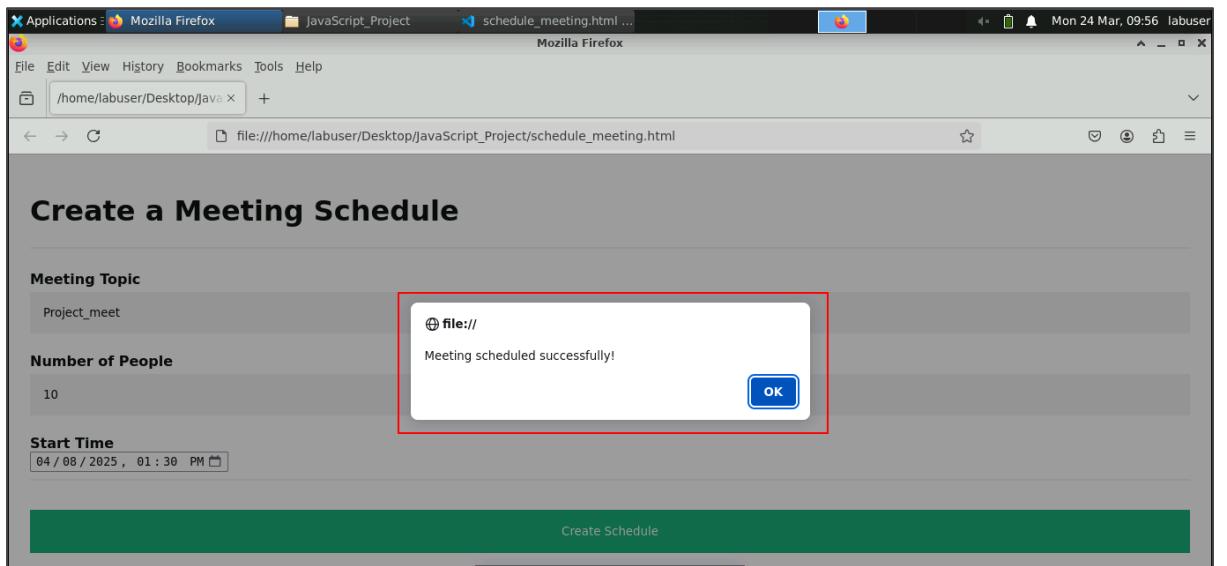
The web page opens as shown below:

A screenshot of a Mozilla Firefox browser window. The title bar shows 'Applications : Mozilla Firefox' and the address bar shows 'file:///home/labuser/Desktop/JavaScript\_Project/schedule\_meeting.html'. The main content area has a heading 'Create a Meeting Schedule'. Below it are three input fields: 'Meeting Topic' with placeholder 'Enter Meeting Topic', 'Number of People' with placeholder 'Enter number of people joining the meeting', and 'Start Time' with a date-time picker showing '04 / 08 / 2025 , 01 : 30 PM'. A green button at the bottom right labeled 'Create Schedule' is visible.

4.4 Enter the required details and click on **Create Schedule**

A screenshot of a Mozilla Firefox browser window, identical to the one above but with filled-in form fields. The 'Meeting Topic' field contains 'Project\_meet', the 'Number of People' field contains '10', and the 'Start Time' field contains '04 / 08 / 2025 , 01 : 30 PM'. The 'Create Schedule' button at the bottom is also highlighted with a red border.

The test for the meeting schedule is successful as shown below:



By following the above steps, you have successfully implemented JavaScript validation to ensure the correctness of user inputs on both the client creation and meeting schedule web pages. Through this process, you have dynamically managed the behavior of web pages by separating validation logic into external JavaScript files, thereby enhancing user interaction and data accuracy within the project.