St. Francis Institute of Technology Borivli (West), Mumbai-400103
(Autonomous Institute)
Department of Information Technology

Academic Year: 2024-25
Class: TE-ITA/B   **Semester:** VI
Subject: Web Lab

Experiment – 4: To Create a simple HTML "Hello World" Project using Angular Framework and learn to apply ng-controller, ng-model and expressions in AngularJS.

1. **Aim:** To study angularJS
2. **Objectives:** Aim of this experiment is that, the students will be able
   - To Install Angular
   - To create simple application
   - To understand general and core features of AngularJS
3. **Outcomes:** After study of this experiment, the students will be able
   - To write code using Angular and AngularJS.
   - To initialize angularJS application data
4. **Prerequisite:** Knowledge of HTML, CSS, JAVASCRIPT, Typescript and any text editor.
5. **Requirements:** Personal Computer, Windows operating system, VSCode, TypeScript, Node, browser, Internet Connection, google doc.
6. **Pre-Experiment Exercise:**
   Brief Theory: Angular vs AngularJS

Angular VS AngularJS
Comparision Chart

Angular	AngularJS
Angular is a modern web application framework built entirely in Typescript superset of JavaScript.	AngularJS is a front-end MVC framework based on JavaScript programming language.
Angular utilizes a services/controller architecture.	AngularJS follows the MVC architecture.
The applications depend in controller to manage data flow that gets passed to the View.	AngularJS is based on scope and controllers which are less re-usable.
Angular excels in single-page applications and particularly in complex round-trip applications.	AngularJS makes it easy to maintain and test client-side applications.
It is more flexible and stable than AngularJS.	It is less manageable and stable than Angular.

7. **Laboratory Exercise**
   A. **Procedure:**
      a. **Answer the following:**
         - Define AngularJS?(in hand) (also Write explanation of highlighted points in hand)

```
<div ng-app="myApp" ng-controller="myCtrl">
```

```
   Name: <input ng-model="name">
</div>

<script>
var app = angular.module('myApp', []);
app.controller('myCtrl', function($scope) {
    $scope.name = "your name";
});
</script>
```

    b. **Attach screenshots:**
- Angular code and Output with your own comments and indentation.

8. **Post-Experiments Exercise**
  A. **Extended Theory:**
      Nil
  B. **Questions:**
- Explain MVC architecture.(Draw and explain in hand)
- What is Angular JS expressions? Explain with example.(write in hand)
- What are different types of expressions? Explain.(write in hand)

  C. **Conclusion:**(write in hand)
- Write what was performed in the experiment.
- Write the significance of the topic studied in the experiment.

  D. **References:**
    1. https://riptutorial.com/ebook/angularjs
    2. Practical AngularJS by DinisCruz

Experiment – 4: **To Create a simple HTML "Hello World" Project using Angular Framework and learn to apply ng-controller, ng-model and expressions in AngularJS.**

File: Index.html

```html
<!DOCTYPE html>
<html lang="en" ng-app="helloApp">
  <head>
    <meta charset="UTF-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>AngularJS Hello World</title>
    <script
src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"></script>
    <script src="app.js"></script>
  </head>
  <body>
    <div ng-controller="HelloController">
      <h1>Hello, {{ name }}!</h1>

      <label>Enter Your Name:</label>
      <input type="text" ng-model="name" placeholder="Type here..." />

      <p>You typed: {{ name }}</p>
    </div>
  </body>
</html>
```

File: App.js

```javascript
// Define an AngularJS module
var app = angular.module("helloApp", []);

// Define a controller
app.controller("HelloController", function ($scope) {
  // Initialize a scope variable
  $scope.name = "World";
});
```

Output:

Hello, World!

Enter Your Name: [World]

You typed: World

Hello, Vishal!

Enter Your Name: [Vishal]

You typed: Vishal

2. Example:

File: Index.html

```html
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>Employee Details</title>
    <!-- Include AngularJS -->
    <script
src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"></script>
  </head>
  <body ng-app="employeeApp" ng-controller="EmployeeController">
    <h2>Employee Details</h2>
    <table border="1">
      <tr>
        <th>Employee Name</th>
        <th>EmpID</th>
        <th>Department</th>
        <th>Salary</th>
      </tr>
      <tr ng-repeat="employee in employees">
        <td>{{ employee.name }}</td>
        <td>{{ employee.Emppid }}</td>
        <td>{{ employee.dept }}</td>
        <td>{{ employee.salary | currency }}</td>
      </tr>
    </table>
      <script src="app.js"></script>
  </body>
</html>
```

File: App.js

```javascript
var app = angular.module("employeeApp", []);

// Define Controller
app.controller("EmployeeController", function ($scope) {
  $scope.employees = [
    { name: "Vishal Mahajan", Emppid: 1, dept: "AI & ML", salary: 150000 },
    { name: "Kevin Nadar", Emppid: 2, dept: "Cybersecurity", salary: 120000 },
    {
      name: "Ajaykumar Nadar",
      Emppid: 3,
      dept: "Cloud Computing",
      salary: 110000,
    },
  ];
});
```

Output

Employee Details

Employee Name	EmpID	Department	Salary
Vishal Mahajan	1	AI & ML	$150,000.00
Kevin Nadar	2	Cybersecurity	$120,000.00
Ajaykumar Nadar	3	Cloud Computing	$110,000.00