**Practical No 04:**

**Aim: Write a program to create and implement modules and controllers in AngularJS.**

*Step 1*: To create folder **module** and view page **viewpage.html** in root directory.

*Step 2*: Editing view page **viewpage.html** file

**Code:**

<html>

<head>

    <title>Angular JS Modules</title>

    <script src="https://cdnjs.cloudflare.com/ajax/libs/angular.js/1.8.2/angular.min.js"></script>

    <script src="module/mainApp.js"></script>

    <script src=" module/studentController.js"></script>

    <style>

        table,

        th,

        td {

            border: 1px solid grey;

            border-collapse: collapse;

            padding: 5px;

        }

        table tr:nth-child(odd) {

            background-color: #f2f2f2;

        }

        table tr:nth-child(even) {

            background-color: #ffffff;

        }

    </style>

</head>

<body>

    <h2>AngularJS Sample Application</h2>

    <div ng-app="mainApp" ng-controller="studentController">

        <table border="0">

            <tr>

                <td>Enter first name:</td>

                <td><input type="text" ng-model="student.firstName"></td>

            </tr>

            <tr>

                <td>Enter last name: </td>

                <td><input type="text" ng-model="student.lastName"></td>

            </tr>

            <tr>

                <td>Name: </td>

                <td>{{student.fullName()}}</td>

            </tr>

            <tr>

                <td>Subject:</td>

                <td>

                    <table>

                        <tr>

                            <th>Name</th>

                            <th>Marks</th>

                        </tr>

                        <tr ng-repeat="subject in student.subject">

                            <td>{{ subject.name }}</td>

                            <td>{{ subject.marks }}</td>

                        </tr>

                    </table>

                </td>

            </tr>

        </table>

    </div>

</body>

</html>

*Step 3*:To create **mainApp.js file** inside module folder and editing script file

**Code:**

var mainApp = angular.module("mainApp", []);

*Step 4*: To create **studentController.js** inside module folder and editing script file

**Code:**

mainApp.controller("studentController", function ($scope) {

    $scope.student = {

        fname: "Abdul",

        lname: "Sk",

        fees: 150,

        subject: [

            { name: "Advance app devlopment", marks: 80 },

            { name: "Android App Dev", marks: 80 },

            { name: "S/w Engineering", marks: 80 },

            { name: "Theory of Computation", marks: 80 },

            { name: "Research Methodolgy", marks: 80 },

            { name: "Internet of Things", marks: 80 },

            { name: "Comp Networks", marks: 80 },

        ],

        fullName: function () {

            var stud = $scope.student;

            return stud.fname + " " + stud.lname;

        },

    };

});

***OUTPUT:***

1. Open Terminal in VS Code
2. Type ***npm init***
3. After Creating *package.json* File, Type ***start viewpage.html***

**Practical No 05:**

**Aim: Write a program to implement Error Handling in Angular JS**

<!DOCTYPE html>

<html>

<head>

    <title>Error Handling in AngularJS</title>

    <script src="https://cdnjs.cloudflare.com/ajax/libs/angular.js/1.8.2/angular.min.js"></script>

</head>

<body ng-app="errorHandlingApp" ng-controller="MainController">

    <h2>Error Handling in AngularJS</h2>

    <div ng-show="loading">Loading data...</div>

    <div ng-show="error" style="color: red;">

        {{ error }}

    </div>

    <div ng-show="data">

        <h3>Data Loaded Successfully:</h3>

        <pre>{{ data | json }}</pre>

    </div>

    <script>

        var app = angular.module('errorHandlingApp', []);

        app.controller('MainController', function ($scope, $timeout) {

            $scope.loading = true;

            $scope.error = null;

            $scope.data = null;

*// Simulate asynchronous operation (loading data from server)*

            $timeout(function () {

                try {

*// Simulate an error during the operation*

                    throw new Error('Error loading data from server');

                } catch (error) {

*// Handle the error*

                    $scope.handleError(error);

                }

            }, 2000);

            $scope.handleError = function (error) {

*// Log the error*

                console.error('An error occurred:', error);

*// Display the error to the user*

                $scope.error = 'An error occurred: ' + error.message;

                $scope.loading = false;

            };

        });

    </script>

</body>

</html>

**Practical No 06:**

**Aim: Create an application for Customer / Students records using AngularJS**

<!DOCTYPE html>

<html lang="en" ng-app="customerApp">

<head>

    <meta charset="UTF-8">

    <title>Customer/Student Records</title>

    <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"></script>

</head>

<body>

    <div ng-controller="MainController">

        <h2>Customer/Student Records</h2>

        <form ng-submit="addCustomer()">

            <input type="text" ng-model="newCustomer.name" placeholder="Enter name" required>

            <input type="text" ng-model="newCustomer.email" placeholder="Enter email" required>

            <button type="submit">Add Customer/Student</button>

        </form>

        <ul>

            <li ng-repeat="customer in customers">

                {{ customer.name }} - {{ customer.email }}

                <button ng-click="deleteCustomer(customer)">Delete</button>

            </li>

        </ul>

    </div>

    <script>

        var app = angular.module('customerApp', []);

        app.controller('MainController', function ($scope) {

            $scope.customers = [];

            $scope.addCustomer = function () {

                $scope.customers.push({

                    name: $scope.newCustomer.name,

                    email: $scope.newCustomer.email

                });

                $scope.newCustomer = {}; *// Clear input fields after adding*

            };

            $scope.deleteCustomer = function (customer) {

                var index = $scope.customers.indexOf(customer);

                $scope.customers.splice(index, 1);

            };

        });

    </script>

</body>

</html>

**Practical No 06:**

**Aim: Write a program to create a simple web application using Express, Node JS and Angular JS**

**Steps:**

1. Make directory for that practical
2. Go into that directory, ***cd your\_folder\_name***
3. Initialize npm, ***npm init***
4. Install Dependencies, ***npm install express angular@1.x –save***
5. Create a file named ***app.js*** which will serve as your Express server.

**Code:**

*// app.js*

const express = require('express');

const app = express();

const path = require('path');

*// Serve static files from the Angular app*

app.use(express.static(path.join(\_\_dirname, 'public')));

*// Start the server*

const port = process.env.PORT || 3000;

app.listen(port, () => {

  console.log(`Server is running on port ${port}`);

});

1. Make ***new folder*** for angularJS in that project folder
2. Create an ***index.html*** file inside the new folder for your AngularJS frontend.

**Code:**

*<!-- public/index.html -->*

<!DOCTYPE html>

<html lang="en" ng-app="myApp">

<head>

  <meta charset="UTF-8">

  <title>Node Angular WebApp</title>

  <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"></script>

</head>

<body>

  <div ng-controller="MainController">

    <h1>Welcome to Node Angular WebApp</h1>

    <h2>Unit Conversion</h2>

    <form ng-submit="convertUnits()">

      <label for="inputValue">Input Value:</label>

      <input type="number" ng-model="inputValue" id="inputValue" required>

      <label for="inputUnit">Input Unit:</label>

      <select ng-model="inputUnit" id="inputUnit" required>

        <option value="meter">Meter</option>

        <option value="centimeter">Centimeter</option>

      </select>

      <label for="outputUnit">Output Unit:</label>

      <select ng-model="outputUnit" id="outputUnit" required>

        <option value="meter">Meter</option>

        <option value="centimeter">Centimeter</option>

      </select>

      <button type="submit">Convert</button>

    </form>

    <div ng-if="convertedValue">

      <p>{{ inputValue }} {{ inputUnit }} is equal to {{ convertedValue }} {{ outputUnit }}</p>

    </div>

  </div>

  <script>

    angular.module('myApp', [])

    .controller('MainController', function($scope) {

      $scope.convertUnits = function() {

        if ($scope.inputUnit === 'meter' && $scope.outputUnit === 'centimeter') {

          $scope.convertedValue = $scope.inputValue \* 100;

        } else if ($scope.inputUnit === 'centimeter' && $scope.outputUnit === 'meter') {

          $scope.convertedValue = $scope.inputValue / 100;

        }

      };

    });

  </script>

</body>

</html>

*You can visit* ***http://localhost:3000*** *in your browser to see your AngularJS frontend.*

**Practical No 07:**

**Aim: Create a simple HTML “Hello World” Project using AngularJS Framework and apply ng-controller, ng-model and expressions**

<!DOCTYPE html>

<html lang="en" ng-app="helloWorldApp">

<head>

    <meta charset="UTF-8">

    <title>Hello World with AngularJS</title>

    <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"></script>

</head>

<body>

<div ng-controller="HelloWorldController">

    <h1>{{ greeting }}</h1>

    <input type="text" ng-model="name" placeholder="Enter your name">

    <p>Your name is: {{ name }}</p>

</div>

<script>

    var app = angular.module('helloWorldApp', []);

    app.controller('HelloWorldController', function($scope) {

        $scope.greeting = 'Hello, World!';

        $scope.name = '';

    });

</script>

</body>

</html>