Experiment No : 3C

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TITLE

Title - AngularJS.

OBJECTIVES

1. understand about basic concepts of Angular
2. Create a register user and login page.

PROBLEM STATEMENT

Create an Angular application which will do following actions: Register user, login user, and show user Data on profile component.

OUTCOME

Students will be able to,

1. understand the concept of AngularJS.
2. Create web pages for Register user, Login user, and show user Data on profile component.

SOFTWARE & HARDWARE REQUIREMENTS.

software :- Browser, Visual Studio.

THEORY.

AngularJS is a very powerful JavaScript Framework. It is used in Single page Application (SPA) projects. It extends HTML DOM with additional attributes and makes it more reponsive to user actions.

AngularJS is open source, completely free, and used by thousands of developers around the world. It is licensed under the Apache License version 2.0.

Why to learn AngularJS?

AngularJS is an open-source web applications framework. It was originally developed in 2009 by Misko Hevery and Adam Abrons. It is now maintained by Google. Its latest version is 1.2.2.1.

- AngularJS is a efficient framework that can create Rich Internet Applications (RIA).
- AngularJS provides developers an options to write client side applications using JavaScript in a clean model view controller (MVC) way.
- Applications written in AngularJS are cross-browser complaint. AngularJS automatically handles javascript code suitable for each browser.
- AngularJS is open source, completely free, and used by thousands of developers around the world. It is licensed under the Apache License version 2.0.

overall, Angular JS is a framework to build large scale, high performance, and easy to maintain web application.

Hello World using AngularJS.

just to give you a little excitement about AngularJS. I'm going to give you a small conventional AngularJS Hello

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World program.

```
<html>
 <head>
   <title> AngularJS First Application </title>
</head>
<body>
  <h1> Sample Application </h1>
  <div ng-app = " ">
   <p> Enter your Name: <input type = "text" ng-model =
        " name"> </p>
   <p> Hello <span ng-bind = "name"> </span>! </p>
  </div>
  <script src =
  "https://ajax.googleapis.com/ajax/libs/angularjs/1.
   3.14/angular.min.js">
  </script>
 </body>
 </html>
```

overall, AngularJS is a framework to build large scale, high-performance, and easy to maintain web applications.

EXECUTION STEPS.

To create the login form, we will require different tags and directives to be used on the template to create the complete login form using the material library:

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It is easy to use and create, let's have a closer look at the syntax what field we will be required to create it, see below:

1] input field, to take the user name.
2] input field (password): to take the password from the user.
3] button: to perform further action based on the input.

Take a closer look at the practice syntax: for a better understanding, see below:

<input type="" your type>
<input type="" your type>
<button> your label </button>

How to create a login form in Angular material?

As of now, we already know that to create any form in angular material, we can use the existing class and directive tags provided by the material library; for this, we need to have the material library installed in the application along with the angular application. In the next section of the tutorial, we will delve into the steps you need to follow to set up of project. First, let's take a look at the material library to create the login form; let's get started:

1] Input filed (user name): To take the username as the input, we can make use of the input tag from the HTML with material modification, let's have a closer

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look at the syntax see below:

e.g:

```
<mat-form-field class="example-full-width" appearance="fill"
<mat-label>User Name</mat-label>
<input matInput placeholder="enter user name" value="
</mat-form-field>
```

2] we also need to create the same field for the password in which we will take the user password and validate whether the user is authorized.

3] Button: Now, we would be required to a button to submit the user credential and perform further action. Let's take a closer look at how we can create the using the material library; see below;

e.g:

```
<button mat-button>label</button>
```

So from the above piece of code, we can see that for the input field, we are using 'matInput', and for the button, we are using the 'mat-button' from the material library.

Now let's get started with the steps that need to be taken to step up our angular material project initially for beginners; see below:

1] first, install the Angular CLI, which lets us download our project's required package and libraties. you can download it by typing the below command

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on your command; make sure you have already installed the node see below;

e.g.

npm install -g @angular/cli) The above command will install the CLI globally in our system, hence we can use it globally when required.

2] in the step, we will try to create the new angular project from scratch; this project will not be a material project that we have to add later by installing the material dependency inside our project. so execute the below commands on your command prompt, and press enter see below;

Syntax:-

ng new your project name

e.g:

ng new my-first-project

This command will create the project with the name my first-project; you can create your project with any name mentioned.

3] To make sure, try one command, which is mentioned below, to install all the required libraries into our project.

e.g:

npm install

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4] you can now test and run your project by typing the simple command below. This ensures that we are on the right track and that our project has been created without errors or bugs.

e.g.

ng serve.

5] go to the browser and try to run the application with the below URL:

e.g.

http://localhost:4200

By default, the angular project runs on port 4200; you can change it as per your need if required.

6] Now everything is set, we have our angular project now we will add the material library to our project just by running the below command on the command prompt;

e.g:

ng add @angular/material

CONCLUSION / ANALYSIS.

using angular we can make our page and ui more user friendly and attractive, we can create the same thing using a standard HTML tag; making it look more suitable. Also the handling of data is easy to perform action. easy to maintain and understand by the developers as well.