Session 2

Controllers, Expressions, Sharing Data, and Two Way Data Binding

Session Objectives

- ✓ Describe the process to create and run a simple AngularJS application
- ✓ List core components of AngularJS
- ✓ Describe how data is shared between model and view
- ✓ Identify data binding approaches

Creating a Simple AngularJS App

Create an HTML page

Add AngularJS capabilities

- Download and link to through angular.min.js or link through CDN

Add ng-app directive

Define application module and controllers

- Do this through an external JavaScript file or inline in HTML file

Add the controller of application using ng-controller

Add elements and if required add ng-model directive to the elements

Run the application in a modern browser
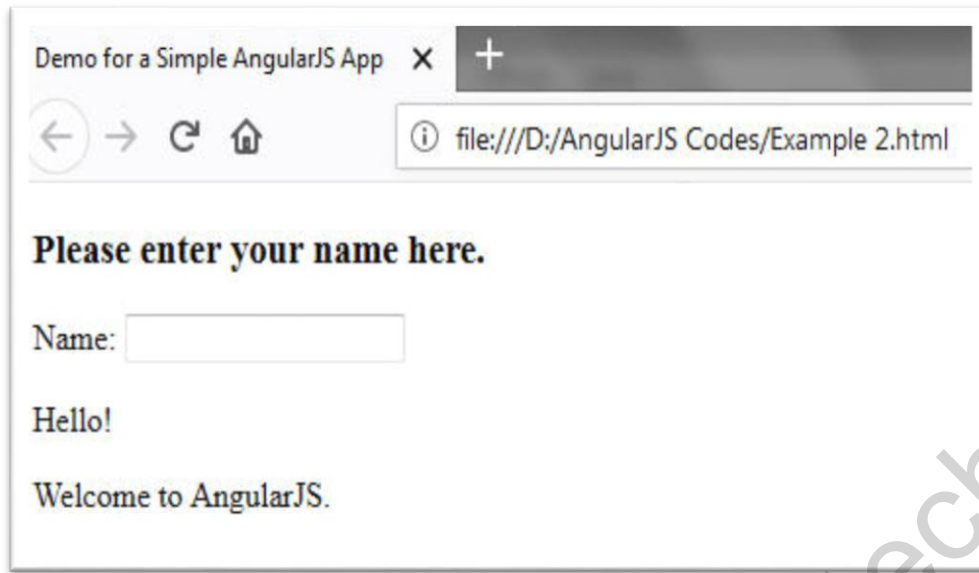
```
<!DOCTYPE html>
<html lang="en" ng-app="myApp">
<head>
   <meta charset-"UTF-8">
   <title>Demo for a Simple AngularJS Application</title>
   <script src =
   "https://ajax.googleapis.com/ajax/libs/angularjs/1.7.9/angular.min.js"></script>
</head>
<body ng-controller="myController">
  <div>
  <h3>Please enter your name here.</h3>
  Name: <input type="text" ng-model="name" placeholder "enter your name">
  <p>Hello! <strong>{{name}}</strong></p>
  <p>Welcome to AngularJS.</p>
  </div>
  <script>
     var app = angular.module('myApp',[]);
     app.controller('myController',function($scope){
                $scope.name = " ";
     });
  </script>
</body>
</html>
```
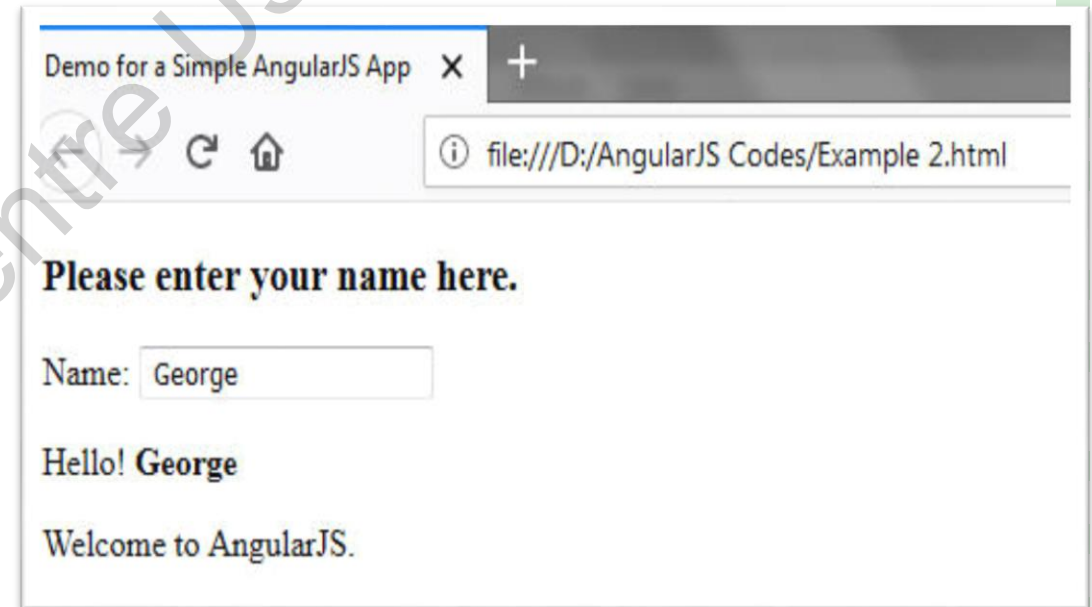
Creating a Simple AngularJS App

Hello App When Loaded in a Browser

Hello App with User Input

Steps to Run Application on Local Web Server

Download and install XAMPP

Ensure that Apache Web Server is selected during installation

Start XAMPP Control Panel

Launch or start Apache. This starts your local Web server

Go to the htdocs folder present under XAMPP and save your code in this folder path

Launch your AngularJS application with *http://localhost/<xyz>* where xyz is the application name

Modules

- Container used to hold other parts of an application

- Have option to define their own controllers, services, filter, directives, and so on

- Used by AngularJS to start an application
  ```
  <html lang="en" ng-app="myApp">
  ```

- Define or call a module using 'angular.module' function
  ```
  var app = angular.module("myApp",[]);
  ```

Controllers

AngularJS applications depend on controllers to control flow of data in the application.

Add 'myController' to the app using app.controller() method.

Controllers are JavaScript objects which have properties and functions.

Use a controller in an application by using 'ng-controller' directive.

```
app.controller("myController",
function($scope)
{
    $scope.name = "";

});
```

```
<body
ng-controller =
"myController">
```

Controllers

- Responsibilities of Controllers

Making available Data to the UI

Managing presentation

Handling user inputs

Processing data

Views

- Content displayed to the user

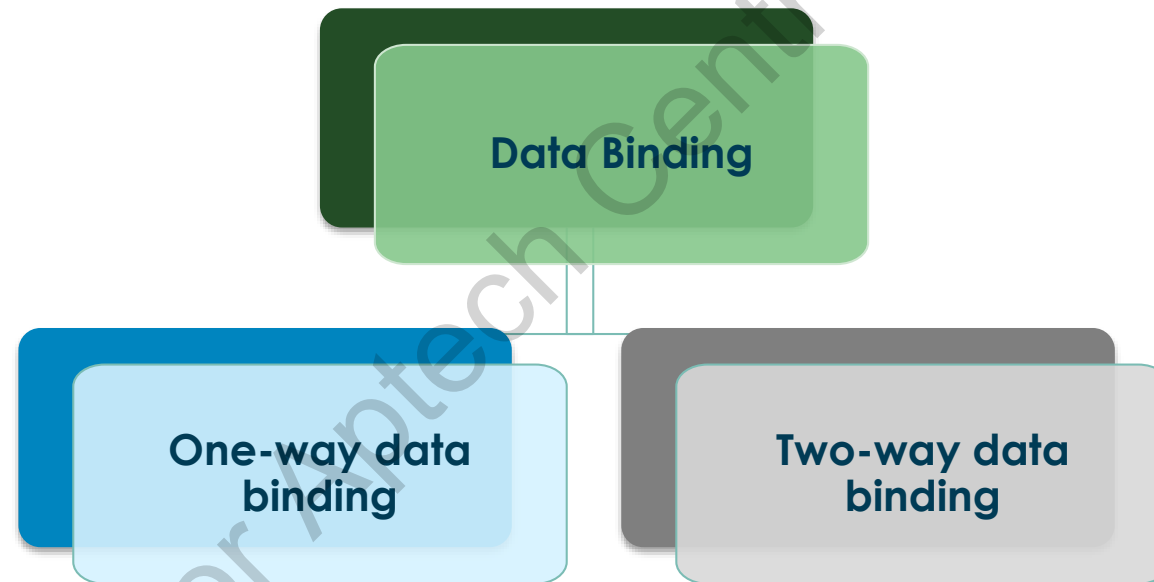- Are rendered by the browser using HTML code

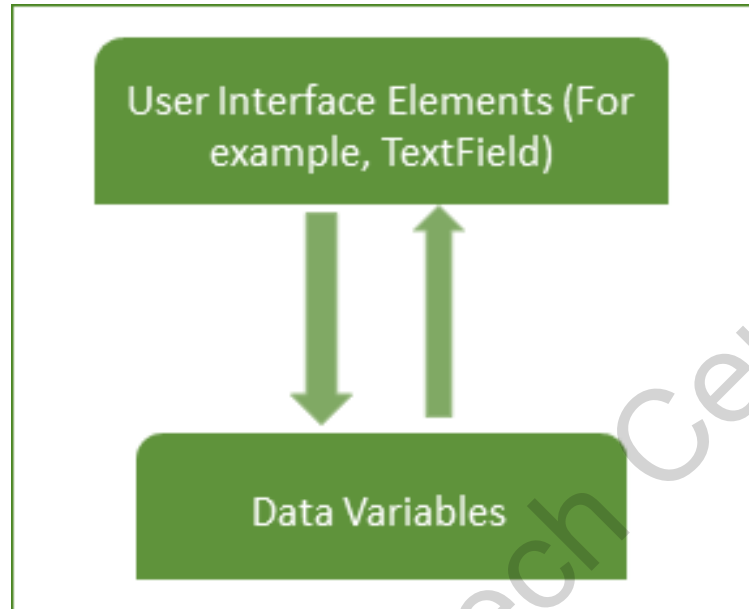*View of the Hello App When Loaded in a Browser Initially*

Expressions

- Are similar to JavaScript expressions

- Work with numbers and strings

  ```
  {{5+6}}
  {{"Hello Aptech Student!"}}
  ```

- Can also work with JavaScript objects and arrays

  ```
  {{ user.name }}
  {{ items[index] }}
  ```

- Are written inside double braces
- Can be given as ng-bind="expression"
- Return the result exactly where expression is written

Data Binding

Process of combining data between model and view.

The data model is the collection of data available for the application.

Two-Way Data Binding
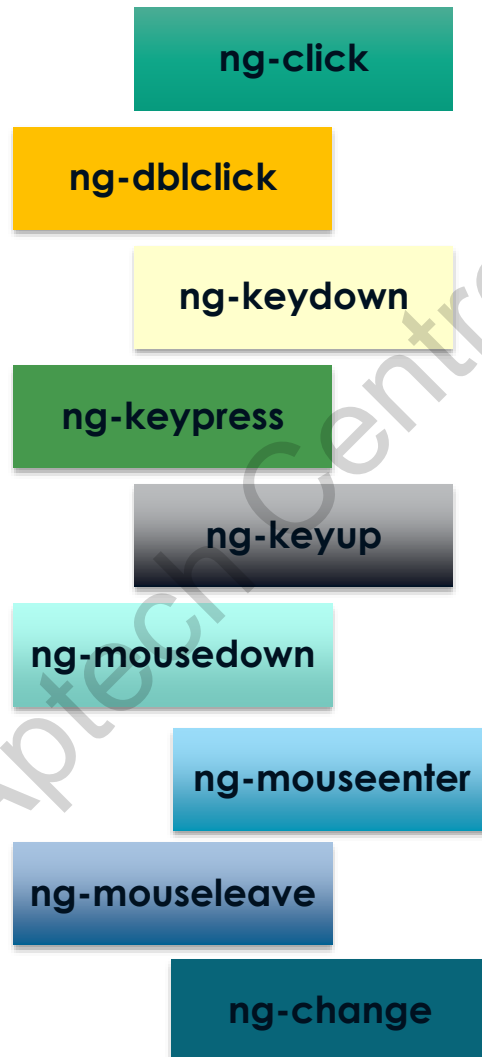

User Interface Elements (For example, TextField)

Data Variables

Two way data binding example

Demo for a Simple AngularJS App   ✕   +

file:///D:/AngularJS Codes/Example 2_3.html

Course AngularJS

Hello!

Welcome to AngularJS

ng-click

ng-dblclick

ng-keydown

ng-keypress

ng-keyup

ng-mousedown

ng-mouseenter

ng-mouseleave

ng-change

AngularJS event
listener directives
for DOM events

Event Handling

Event

New Members: 0

Registration Fees: 0 [Calculate]

Total Amount:

Event App When Loaded in a Browser

Event

New Members: 6

Registration Fees: 1800 [Calculate]

Total Amount: 10800

Event App with User Input and After Button Click

Summary

➢ In AngularJS, modules are containers used to hold other parts of an application.

➢ AngularJS applications depend on controllers to control the flow of data in the application.

➢ Controllers are JavaScript objects which have properties and functions.

➢ Views are what the user gets to see in an application.

➢ AngularJS expressions can work with numbers, strings, JavaScript objects and arrays.

➢ Data binding in AngularJS is the bringing together of data between model and view.

➢ AngularJS provides several event listener directives for DOM events such as ng-click, ng-dblclick, and so on.