Overview of AngularJS

AngularJS History

- **Started in 2009** by **Misko Hevery**, a Google employee.
- **Version 1.0** of AngularJS was **released in 2012**.
- The project was well-received and is **officially supported by Google**.
- AngularJS became widely used for building **dynamic web applications**.

What is AngularJS?

- AngularJS is a **JavaScript framework** used to build dynamic web applications.

- It is added to an HTML page using a `<script>` tag.

How AngularJS Works

- **Directives**: Extend HTML attributes with special functions.

- **Expressions**: Bind data to HTML, making the page dynamic.

Can be added to a web page with this code

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

AngularJS Directives

- **AngularJS Directives** are special instructions in HTML that make elements do something. They can change how elements behave, like showing data or repeating items.

AngularJS Directives

1. **ng-app** – Starts the AngularJS app.

2. **ng-model** – Connects an input box to a variable.

3. **ng-bind** – Shows the variable's value on the screen.

4. **ng-init** – Sets a variable with a starting value.

5. **ng-switch** – Shows content based on a condition.

6. **ng-switch-when** – Shows content if a specific case is true.

7. **ng-switch-default** – Shows default content if no case matches.

AngularJS Directives

1. **ng-show** – Shows an item if a condition is true.

2. **ng-hide** – Hides an item if a condition is true.

3. **ng-repeat** – Repeats a block of content for each item in a list.

4. **ng-click** – Runs a function when you click something.

5. **ng-disabled** – Disables a button or input if a condition is true.

6. **ng-blur** – Runs a function when you move out of a text box.

7. **ng-focus** – Runs a function when you click into a text box.

8. **ng-change** – Runs a function when the input value changes.

AngularJS Expressions

AngularJS expressions are written inside double braces: **{{ expression }}**.

AngularJS will "output" data exactly where the expression is written:

AngularJS Expressions

My first expression: 10

```html
<!DOCTYPE html>
<html>
<head>
  <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"></script>
</head>
<body>

<div ng-app="">
<p>My first expression: {{ 5 + 5 }}</p>
</div>


</body>
</html>
```
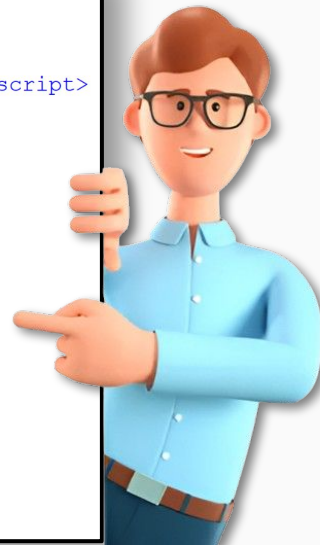
1- ng-app, ng-model, ng-bind

Enter your name: [   ]

Hello, !

Input

```html
<!DOCTYPE html>
<html>
<head>
  <title>AngularJS Example</title>
  <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"></script>
</head>
<body ng-app>

  <div>
    <!-- Input Field Bound to 'name' -->
    <label for="nameInput">Enter your name:</label>
    <input type="text" id="nameInput" ng-model="name">
  </div>

  <div>
    <!-- Dynamically Display Input using ng-bind -->
    <h2>Hello, <span ng-bind="name"></span>!</h2>
  </div>


</body>
</html>
```

2- ng-init

Enter your name: John Doe

John Doe

```html
<!DOCTYPE html>
<html>
<head>
  <title>Simple AngularJS Example</title>
  <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"></script>
</head>
<body ng-app>

  <div ng-init="name='John Doe'">
    <label>Enter your name:</label>
    <input type="text" ng-model="name">
  </div>

  <h2 ng-bind="name"></h2>


</body>
</html>
```
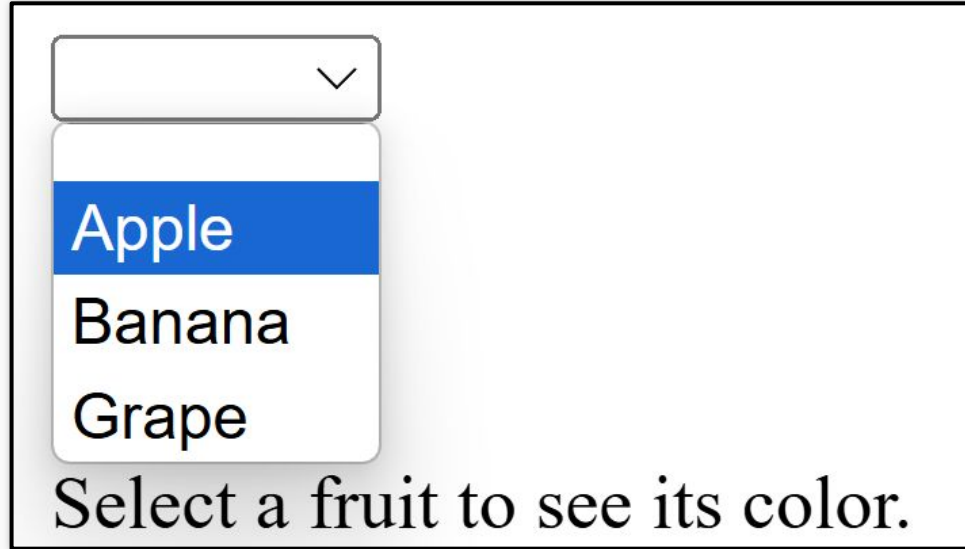
3- ng-switch, ng-switch-when, ng-switch-default

Apple

Banana

Grape

Select a fruit to see its color.

Input

```
<!DOCTYPE html>
<html>
<head>
  <title>Fruit Colors</title>
  <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"></script>
</head>
<body ng-app>

  <select ng-model="fruit">
    <option value="apple">Apple</option>
    <option value="banana">Banana</option>
    <option value="grape">Grape</option>
  </select>

  <div ng-switch="fruit">
    <p ng-switch-when="apple">Apple is Red</p>
    <p ng-switch-when="banana">Banana is Yellow</p>
    <p ng-switch-when="grape">Grape is Purple</p>
    <p ng-switch-default>Select a fruit to see its color.</p>
  </div>


</body>
</html>
```
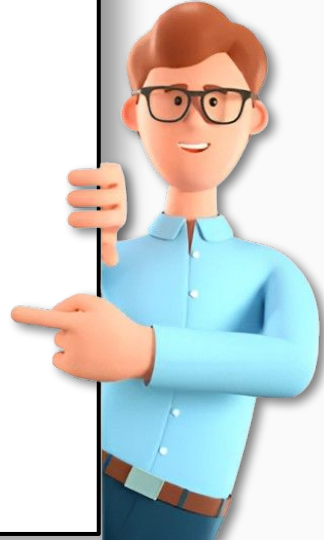
4- ng-show

ng-show Example

☑ Check to show text

This text is conditionally shown based on the checkbox above.

Input

```
<!DOCTYPE html>
<html>
<head>
  <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"
  ></script>
</head>
<body ng-app="">

  <h2>ng-show Example</h2>

  <p>
    <input type="checkbox" ng-model="showText"> Check to show text
  </p>

  <p ng-show="showText">
    This text is conditionally shown based on the checkbox above.
  </p>

</body>
</html>
```

Output

ng-hide Example

☑ Check to hide text

Input

```
<!DOCTYPE html>
<html>
<head>
  <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"
  ></script>
</head>
<body ng-app="">

  <h2>ng-hide Example</h2>

  <p>
    <input type="checkbox" ng-model="hideText"> Check to hide text
  </p>

  <p ng-hide="hideText">
    This text is conditionally hidden based on the checkbox above.
  </p>

</body>
</html>
```
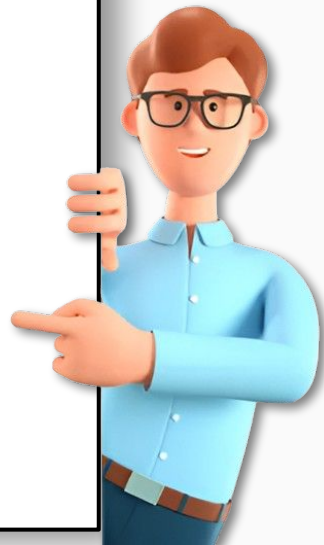
6- ng-repeat

Output

ng-repeat Example

- Apple
- Banana
- Cherry

Input

```
<!DOCTYPE html>
<html>
<head>
  <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"
  ></script>
</head>
<body ng-app="">

  <h2>ng-repeat Example</h2>

  <ul>
    <li ng-repeat="fruit in ['Apple', 'Banana', 'Cherry']">{{ fruit }}</li>
  </ul>

</body>
</html>
```

Output

Click the Button!

Times clicked:

Click Me!

Input

```html
<!DOCTYPE html>
<html>
<head>
  <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"
  ></script>
</head>
<body ng-app="">

  <h2>Click the Button!</h2>
  <p>Times clicked: {{ clicks }}</p>
  <button ng-click="clicks = clicks + 1">Click Me!</button>

</body>
</html>
```

7- ng-submit

Enter name | Submit

```html
<!DOCTYPE html>
<html>
<head>
  <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"
  ></script>
</head>
<body ng-app="">

  <form ng-submit="submitted = true">
    <input type="text" ng-model="name" placeholder="Enter name">
    <button type="submit">Submit</button>
  </form>

  <p ng-show="submitted">You submitted: {{ name }}</p>

</body>
</html>
```

8- ng-disabled

ng-disabled Example

☑ Disable button Click Me

```html
<!DOCTYPE html>
<html>
<head>
  <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"
  ></script>
</head>
<body ng-app="">

  <h2>ng-disabled Example</h2>
  <input type="checkbox" ng-model="isDisabled"> Disable button
  <button ng-disabled="isDisabled">Click Me</button>

</body>
</html>
```
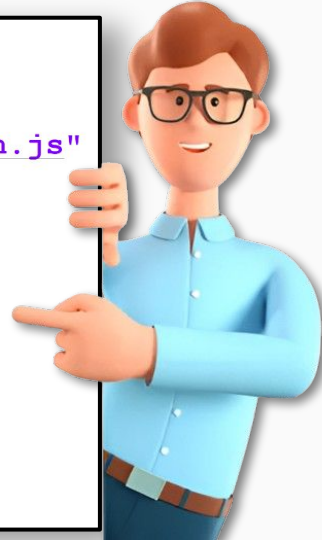
9- ng-blur

ng-blur Example

type

You left the input field!

```html
<!DOCTYPE html>
<html>
<head>
  <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"></script>
</head>
<body ng-app="">

  <h2>ng-blur Example</h2>
  <input type="text" ng-model="username" ng-blur="usernameBlurred = true" placeholder="Type something">
  <p ng-show="usernameBlurred">You left the input field!</p>

</body>
</html>
```

ng-focus Example

Focus here

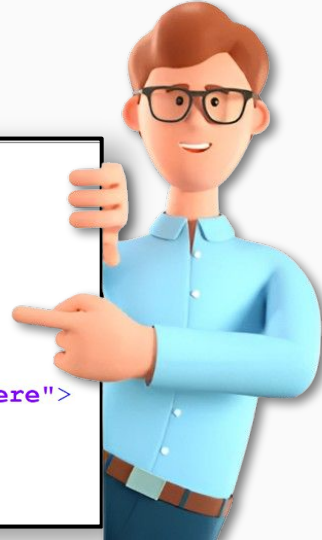You focused on the input field!

Input

```html
<!DOCTYPE html>
<html>
<head>
  <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"></script>
</head>
<body ng-app="">

  <h2>ng-focus Example</h2>
  <input type="text" ng-model="username" ng-focus="usernameFocused = true" placeholder="Focus here">
  <p ng-show="usernameFocused">You focused on the input field!</p>

</body>
</html>
```

11- ng-change

ng-change Example

Type something

You changed the name!

```html
<!DOCTYPE html>
<html>
<head>
  <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"></script>
</head>
<body ng-app="">

  <h2>ng-change Example</h2>
  <input type="text" ng-model="name" ng-change="nameChanged = true" placeholder="Type something">
  <p ng-show="nameChanged">You changed the name!</p>

</body>
</html>
```