**AngularJS**

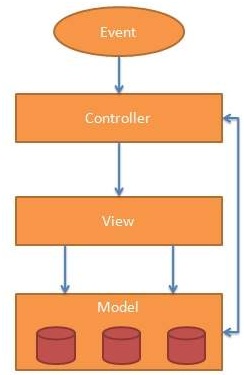
* Angular JS is an open source JavaScript framework by Google to build web applications. It can be freely used, changed and shared by anyone.
* Angular Js is developed by Google.
* It is an excellent framework for building single phase applications and line of business applications.

**Following are the advantages of AngularJS over other JavaScript frameworks:**

* **Dependency Injection:** Dependency Injection specifies a design pattern in which components are given their dependencies instead of hard coding them within the component.
* **Two way data binding:** AngularJS creates a two way data-binding between the select element and the orderProp model. orderProp is then used as the input for the orderBy filter.
* **Testing:** Angular JS is designed in a way that we can test right from the start. So, it is very easy to test any of its components through unit testing and end-to-end testing.
* **Model View Controller:** In Angular JS, it is very easy to develop application in a clean MVC way. You just have to split your application code into MVC components i.e. Model, View and the Controller.
* Directives, filters, modules, routes etc.

**The MVC pattern is made up of the following three parts:**

1. **Model:** It is responsible for managing application data. It responds to the requests from view and to the instructions from controller to update itself.
2. **View:** It is responsible for displaying all data or only a portion of data to the users. It also specifies the data in a particular format triggered by the controller's decision to present the data. They are script-based template systems such as JSP, ASP, PHP and very easy to integrate with AJAX technology.
3. **Controller:** It is responsible to control the relation between models and views. It responds to user input and performs interactions on the data model objects. The controller receives input, validates it, and then performs business operations that modify the state of the data model.



**Example:**

1. <!DOCTYPE html**>**
2. **<html** lang="en"**>**
3. **<head>**
4. **<script** src="https://ajax.googleapis.com/ajax/libs/angularjs/1.2.5/angular.min.js"**></script>**
5. **</head>**
6. **<body** ng-app="myapp"**>**
7. **<div** ng-controller="HelloController" **>**
8. **<h2>**Hello {{helloTo.title}} !**</h2>**
9. **</div>**
11. **<script>**
12. angular.module("myapp", [])
13. .controller("HelloController", function($scope) {
14. $scope.helloTo = {};
15. $scope.helloTo.title = "World, AngularJS";
16. } );
17. **</script>**
18. **</body>**
19. **</html>**

**View Part:**

1. **<div** ng-controller="HelloController" **>**
2. **<h2>**Hello {{helloTo.title}} !**</h2>**
3. **</div>**

**Controller Part:**

1. **<script>**
2. angular.module("myapp", [])
3. .controller("HelloController", function($scope) {
4. $scope.helloTo = {};
5. $scope.helloTo.title = "World, AngularJS";
6. });
7. **</script>**

**Expression example:**

1. <!DOCTYPE html**>**
2. **<html>**
3. **<script** src="http://ajax.googleapis.com/ajax/libs/angularjs/1.4.8/angular.min.js"**></script>**
4. **<body>**
5. **<div** ng-app**>**
6. **<p>**A simple expression example: {{ 5 + 5 }}**</p>**
7. **</div>**
8. **</body>**
9. **</html>**

**Note:** If you remove the directive "ng-app", HTML will display the expression without solving it.

**Angular directives:**

Directives are special attributes starting with ng- prefix. Following are the most common directives:

* ng-app: This directive starts an AngularJS Application.
* ng-init: This directive initializes application data.
* ng-model: This directive defines the model that is variable to be used in AngularJS.
* ng-repeat: This directive repeats html elements for each item in a collection.

AngularJS Directives List

AnglarJS directives are used to add functionality to your application. You can also add your own directives for your applications.

Following is a list of AngularJS directives:

|  |  |
| --- | --- |
| **Directive** | **Description** |
| [ng-app](https://www.javatpoint.com/angularjs-ng-app-directive) | It defines the root element of an application. |
| [ng-bind](https://www.javatpoint.com/angularjs-ng-bind-directive) | It binds the content of an html element to application data. |
| [ng-bind-html](https://www.javatpoint.com/angularjs-ng-bind-html-directive) | It binds the inner HTML of an HTML element to application data, and also removes dangerous code from the html string. |
| [ng-bind-template](https://www.javatpoint.com/angularjs-ng-bind-template-driective) | It specifies that the text content should be replaced with a template. |
| [ng-blur](https://www.javatpoint.com/angularjs-ng-blur-directive) | It specifies a behavior on blur events. |
| [ng-change](https://www.javatpoint.com/angularjs-ng-change-directive) | It specifies an expression to evaluate when content is being changed by the user. |
| [ng-checked](https://www.javatpoint.com/angularjs-ng-checked-directive) | It specifies if an element is checked or not. |
| [ng-class](https://www.javatpoint.com/angularjs-ng-class-directive) | It specifies css classes on html elements. |
| [ng-class-even](https://www.javatpoint.com/angularjs-ng-class-even-directive) | It is same as ng-class, but will only take effect on even rows. |
| [ng-class-odd](https://www.javatpoint.com/angularjs-ng-class-odd-directive) | It is same as ng-class, but will only take effect on odd rows. |
| [ng-click](https://www.javatpoint.com/angularjs-ng-click-directive) | It specifies an expression to evaluate when an element is being clicked. |
| [ng-cloak](https://www.javatpoint.com/angularjs-ng-cloak-directive) | It prevents flickering when your application is being loaded. |
| [ng-controller](https://www.javatpoint.com/angularjs-ng-controller-directive) | It defines the controller object for an application. |
| [ng-copy](https://www.javatpoint.com/angularjs-ng-copy-directive) | It specifies a behavior on copy events. |
| [ng-csp](https://www.javatpoint.com/angularjs-ng-csp-directive) | It changes the content security policy. |
| [ng-cut](https://www.javatpoint.com/angularjs-ng-cut-directive) | It specifies a behavior on cut events. |
| [ng-dblclick](https://www.javatpoint.com/angularjs-ng-dblclick-directive) | It specifies a behavior on double-click events. |
| [ng-focus](https://www.javatpoint.com/angularjs-ng-focus-directive) | It specifies a behavior on focus events. |
| [ng-hide](https://www.javatpoint.com/angularjs-ng-hide-directive) | It hides or shows html elements. |
| [ng-href](https://www.javatpoint.com/angularjs-ng-href-directive) | It specifies a URL for the <a> element. |
| [ng-if](https://www.javatpoint.com/angularjs-ng-if-directive) | It removes the html element if a condition is false. |
| [ng-include](https://www.javatpoint.com/angularjs-ng-include-directive) | It includes html in an application. |
| [ng-init](https://www.javatpoint.com/angularjs-ng-init-directive) | It defines initial values for an application. |
| [ng-jq](https://www.javatpoint.com/angularjs-ng-jq-directive) | It specifies that the application must use a library, like jQuery. |
| [ng-keydown](https://www.javatpoint.com/angularjs-ng-keydown-directive) | It specifies a behavior on keydown events. |
| [ng-keypress](https://www.javatpoint.com/angularjs-ng-keypress-directive) | It specifies a behavior on keypress events. |
| [ng-keyup](https://www.javatpoint.com/angularjs-ng-keyup-directive) | It specifies a behavior on keyup events. |
| [ng-list](https://www.javatpoint.com/angularjs-ng-list-directive) | It converts text into a list (array). |
| [ng-open](https://www.javatpoint.com/angularjs-ng-open-directive) | It specifies the open attribute of an element. |
| [ng-options](https://www.javatpoint.com/angularjs-ng-options-directive) | It specifies <options> in a <select> list. |
| [ng-paste](https://www.javatpoint.com/angularjs-ng-paste-directive) | It specifies a behavior on paste events. |
| [ng-pluralize](https://www.javatpoint.com/angularjs-ng-pluralize-directive) | It specifies a message to display according to en-us localization rules. |
| [ng-readonly](https://www.javatpoint.com/angularjs-ng-readonly-directive) | It specifies the readonly attribute of an element. |
| [ng-required](https://www.javatpoint.com/angularjs-ng-required-directive) | It specifies the required attribute of an element. |
| [ng-selected](https://www.javatpoint.com/angularjs-ng-selected-directive) | It specifies the selected attribute of an element. |
| [ng-show](https://www.javatpoint.com/angularjs-ng-show-directive) | It shows or hides html elements. |
| [ng-src](https://www.javatpoint.com/angularjs-ng-src-directive) | It specifies the src attribute for the <img> element. |
| [ng-srcset](https://www.javatpoint.com/angularjs-ng-srcset-directive) | It specifies the srcset attribute for the <img> element. |
| [ng-style](https://www.javatpoint.com/angularjs-ng-style-directive) | It specifies the style attribute for an element. |
| [ng-submit](https://www.javatpoint.com/angularjs-ng-submit-directive) | It specifies expressions to run on onsubmit events. |
| [ng-switch](https://www.javatpoint.com/angularjs-ng-switch-directive) | It specifies a condition that will be used to show/hide child elements. |
| [ng-transclude](https://www.javatpoint.com/angularjs-ng-transclude-directive) | It specifies a point to insert transcluded elements. |
| [ng-value](https://www.javatpoint.com/angularjs-ng-value-directive) | It specifies the value of an input element. |
| [ng-disabled](https://www.javatpoint.com/angularjs-directives) | It specifies if an element is disabled or not. |
| [ng-form](https://www.javatpoint.com/angularjs-directives) | It specifies an html form to inherit controls from. |
| [ng-model](https://www.javatpoint.com/angularjs-directives) | It binds the value of html controls to application data. |
| [ng-model-options](https://www.javatpoint.com/angularjs-directives) | It specifies how updates in the model are done. |
| [ng-mousedown](https://www.javatpoint.com/angularjs-directives) | It specifies a behavior on mousedown events. |
| [ng-mouseenter](https://www.javatpoint.com/angularjs-directives) | It specifies a behavior on mouseenter events. |
| [ng-mouseleave](https://www.javatpoint.com/angularjs-directives) | It specifies a behavior on mouseleave events. |
| [ng-mousemove](https://www.javatpoint.com/angularjs-directives) | It specifies a behavior on mousemove events. |
| [ng-mouseover](https://www.javatpoint.com/angularjs-directives) | It specifies a behavior on mouseover events. |
| [ng-mouseup](https://www.javatpoint.com/angularjs-directives) | It specifies a behavior on mouseup events. |
| [ng-non-bindable](https://www.javatpoint.com/angularjs-directives) | It specifies that no data binding can happen in this element, or it's children. |
| [ng-repeat](https://www.javatpoint.com/angularjs-directives) | It defines a template for each data in a collection. |

**Ng-controller:**

AngularJS controllers are used to control the flow of data of AngularJS application. A controller is defined using ng-controller directive. A controller is a JavaScript object containing attributes/properties and functions. Each controller accepts $scope as a parameter which refers to the application/module that controller is to control.

Example:

1. <!DOCTYPE html**>**
2. **<html>**
3. **<script** src="http://ajax.googleapis.com/ajax/libs/angularjs/1.4.8/angular.min.js"**></script>**
4. **<body>**
6. **<div** ng-app="myApp" ng-controller="myCtrl"**>**
8. First Name: **<input** type="text" ng-model="firstName"**><br>**
9. Last Name: **<input** type="text" ng-model="lastName"**><br>**
10. **<br>**
11. Full Name: {{firstName + " " + lastName}}
13. **</div>**
15. **<script>**
16. var app = angular.module('myApp', []);
17. app.controller('myCtrl', function($scope) {
18. $scope.firstName = "Aryan";
19. $scope.lastName = "Khanna";
20. });
21. **</script>**
23. **</body>**
24. **</html>**

**Note:**

* Here, the AngularJS application runs inside the <div> is defined by ng-app="myApp".
* The AngularJS directive is ng-controller="myCtrl" attribute.
* The myCtrl function is a JavaScript function.
* AngularJS will invoke the controller with a $scope object.
* In AngularJS, $scope is the application object (the owner of application variables and functions).
* The controller creates two properties (variables) in the scope (firstName and lastName).
* The ng-model directives bind the input fields to the controller properties (firstName and lastName).