Angular is a clean Front End MVC. Controller calls Web-Service gets Model puts it in scope. View gets the model data from scope through Expression.

**Benefits of Angular**

* Dependency Injection
* Two-way Data Binding
* Testing
* MVC

**How to load Angular.JS**

* Angular can be loaded from CDN from internet or it can be downloaded and sent to client.
* Use min.js on live to consume space.
* AngularJS additional modules can be used on demand. Ex: Routing for

**What is ng-app**

* ng-app is directive: it is the starting point of angular js applications.
* During loading, angular js loads all html file, if ng-app is found, it will do a bootstrap on modules.
* ng-app bootsraps modules from a script file, module has ng-controller for getting the data from remote.

**What is module?**

* A module is container of different parts of application. Ex: Controllers, Services, Filters.
* Module can be thought of as an main(). It helps to bootstrap layers of app.

**How to create a module?**

* Module is created by “angular” object module() method.
* module() method takes 2 arguments. 1) Module name 2) Dependent module to load this module. Ex: “angular.module(“m1”,[]);

**What is controller?**

* A controller is a simple Javascript function.
* The job of the controller is to call the web-service get the response, build the model for the view to display.

**How to create a controller?**

**There are 2 ways**

**Option1:**

* Create a “function” with “$scope” as argument.
* Assign the function result to scope variable which is a model.
* The body of the function will call Web-Service and assign the result to result variable.

**Option2**

* Create a “function” without “$scope” as argument.
* Assign the function result to this variable which is a model.
* From the view use “as” keyword Ex: <div ng-controller=”myController as main”> main.message</div>
* While using with web-service don’t assign result to this directly. Assign this to a dummy variable, then assign the web-service result to dummy variable.

**What are the Difference between $scope and controller as?**

* “controller as” syntax is new and released from version 1.2.0.
* $scope is the old technique.
* “controller as” syntax makes code more readable in case of multiple controllers in a script.
* Behind the scene of “controller as” whatever attribute we set will be set to $scope by angular.

<https://www.youtube.com/watch?v=6fAi8xDCq4w&index=32&list=PL6n9fhu94yhWKHkcL7RJmmXyxkuFB3KSl>

**Registering a Controller with module**

**var** myApp = angular.module("myModule",[]);

**var** controller = **function**($scope, $http) {

}

myApp.controller("myController", controller);

**angular.min.js vs angular.js**

angular.min.js is a compressed version of angular.js, Error messages will not be properly displayed for developer. So in prod min.js is used and angular.js is used by developers.

**What happens when the controller name is misspelled?**

1. An error is raised. To see the error use Chrome developer tools
2. The binding expression that are in the scope of controller is not evaluated. So you will see expression itself {{ message }}

**What happens when the property name in view of binding expression is misspelled?**

1. Ex: {{ messagee}} given instead of {{ message}}..
2. No error reported in developer tools.
3. Expression is evaluated and there are no keys present in that scope. So null will be assigned. So view prints empty…

**How to Create Module, Create Controller, Register Controller with module all in same line?**

* Using method chaining.
* Ex: angular.module(“module1”,[]).

controller(“controller1”, function($scope){});

**Why we can’t use “img src” and use “img ng-src” in angular?**

* img src belongs to DOM.
* It will make 2 hits to the server.
* 1st request will fail because DOM will try to send the non-evaluated expression to fetch the data which will cause 404 error( verify in chrome developer tools).
* 2nd time Angular will evaluate the expression an gets the data right.

<https://www.youtube.com/watch?v=YY_-BB_lZDI&list=PL6n9fhu94yhWKHkcL7RJmmXyxkuFB3KSl&index=4>

**What is Two Way Data Binding?**

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**How Two Way Data Binding is achieved? What is ng-model?**

* ng-model binds the view data back into model. Ex Scenario:
  + Get an input from input field input1,
  + map it to ng-model
  + assign the model back to another input field input2.
  + So whatever you type in input1 will be loaded in input2. Angular receives input1 view data and maps it to input2.
* ng-model can be used with
  + input box
  + select box
  + text area

<https://www.youtube.com/watch?v=2QB1S5y5DIk&list=PL6n9fhu94yhWKHkcL7RJmmXyxkuFB3KSl&index=5>

**What is ng-repeat?**

* It is similar to object for loop in java.
* Ex: Get List of countries with country name, capital and currency

<tr ng-repeat=*"country in countries | orderBy: 'id' "*>

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

<td>{{country.capital}}</td>

<td>{{country.currency}}</td>

</tr>

<https://www.youtube.com/watch?v=MzqkIZLkBsU&index=6&list=PL6n9fhu94yhWKHkcL7RJmmXyxkuFB3KSl> --- complex use case of ng-repat, country has city, city has many attribute.

**What are the events available in Angular?**

* ng-click… Add ng before all events of html. Ex below shows the likes and dislike example of a button.

<https://www.youtube.com/watch?v=8bf5aZSWp9A&index=7&list=PL6n9fhu94yhWKHkcL7RJmmXyxkuFB3KSl>

**What are filters in Angular?**

* Filters are used to format data in Angular. Ex: change uppercase to lowercase, date format correction, currency correction, limiting the data on a page..
* It is done by | “pipe” symbol
* Some of other filters are order by filter.

<https://www.youtube.com/watch?v=Y2Few_nkze0&list=PL6n9fhu94yhWKHkcL7RJmmXyxkuFB3KSl&index=8>

**What is route in AngularJS?**

* Route.js is an extra module provided by Angular.js for mapping multiple views in a page.
* In a single page application, there would be header at top, footer at bottom, left side navigation and center content panel.
* Based on what we click on left side navigation, center content panel will keep change.
* Let’s say we have “Funds Transfer”, ”Add Payee”, “Confirm Payee” on the left hand side.
* We need to create 3 templates with the name like fundsTransfer.html, addPayee.html, confirmPayee.html.
* Create a module, pass the routes, the angular routes.js will take care of loading the view with appropriate controller.
* Now child pages are injected into main pages based on clicking using “ng-view”
* module.config(“paymentApp”, [“$routeProvider”]).config(
* function($routeProvider) {
* $routeProvider.
* when('/fundsTransfer', {
* templateUrl: 'fundsTransfer.html',
* controller: 'FundsTransferController'
* }).
* when('/addPayee', {
* templateUrl: 'AddPayee.html',
* controller: 'AddPayee'
* }).
* when('/confirmPayee', {
* templateUrl: 'ConfirmPayee.html',
* controller: 'ConfirmPayee'
* });
* }]);

**What is ng-view?**

* It is used to inject page template at runtime ex: above scenario

**What is route reload?**

Once data is loaded from server, data is fetched from cache afterwords . To reload again use $route.reload();

<https://www.youtube.com/watch?v=vOivhAKBVUU&list=PL6n9fhu94yhWKHkcL7RJmmXyxkuFB3KSl&index=36>

**In a single page application when child pages are loaded there will be #symbol in the URL. How to get rid of it?**

* There are 4 steps to do it.
  + Enable html5mode routing

<https://www.youtube.com/watch?v=XsRugDQaGOo&index=27&list=PL6n9fhu94yhWKHkcL7RJmmXyxkuFB3KSl>

**What is AngularJS Page Refresh Problem?**

* We will loose styles on the page when we refresh the page.
* The developer tools will say that .css style sheet is interpreted as text/html
* This will happen mostly in single page application. Solution is move <base href=”/”> to top of head.

**What is the difference between $scope and $rootScope?**

* $scope variable is available only to controller specified.
* $rootScope variable is available across all controllers.

<https://www.youtube.com/watch?v=7ukeEbM5eSM&index=37&list=PL6n9fhu94yhWKHkcL7RJmmXyxkuFB3KSl>

**What is the difference between ng-route vs ui-router?**

* ng-route is developed Angular team. Ui-router is developed by 3rd party.
* ng-route is based on URL. ui-router is based on state of application.