# Angular js

Class notes

By

Mr. Narashima sir

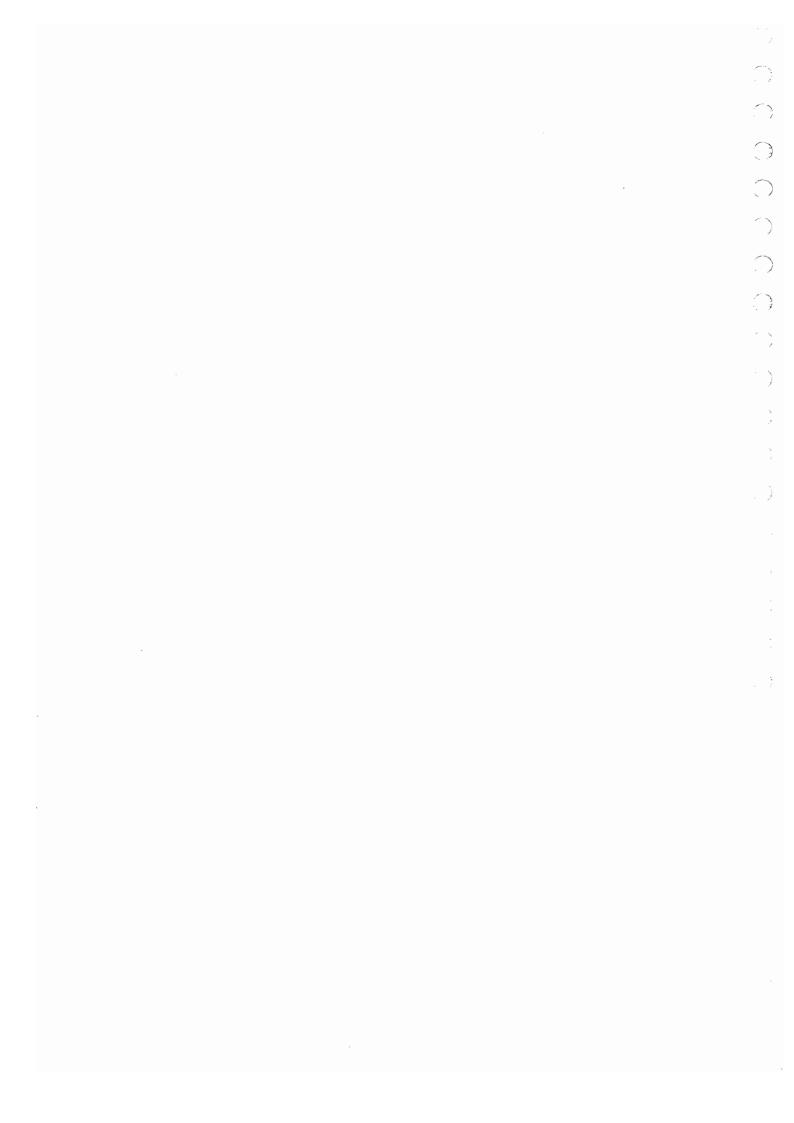


### SRI RAGHAVENDRA XEROX

Software languages Material Available

Beside Bangalore lyyager Bakery .Opp. CDAC, Balkampet Road, Ameerpet,Hyd

9951596199



# 19/10/17

# Introduction

# > what in Angular Is?

Angular Js "n a Opensource structural Framework to develop dynamic web Applications.

# Angular Js :-

- -> Angrior Is in a completely Javascript base framework clientside programming.
- -> you need to integrate with webpage using Javascript.

### Open Source >

- -> It is a open source framework from Google.
- -> Any one can download the Angularis framework & integrate with technology.

# www.augularis.org

### Structural;

- > It is a Structural framework. It implements the mucdesign pattern to develop the application.
- Lote Generally muc pattern in used by serverpide technology. But Angular is provides a fecility to use this muc pattern in clientside programming.

### framework :-

- -> Angelauss in framework not library. squery in just library.
- -> Angularis provides its own runtime environment, compile procenat

### Dynamic web-Applications:

- -> using AJS we can develop clientpide dynamic webpages.
- -> update the html content at runtime without communicating with server.
- -> we can proces the data at clientride as per the requirement.

13/19/18

-> How MVC design pattern in implemented in Angular JS?

- -> MVC is a design pattern.
- > MVC can be used in any technology

Ext spring MVC in Java.

ASPONED MVC in . Net.

- → Angular Is also uses MVC design pathern to implement client side programming.
- -> In MVC based applications development process in split into three modules.
  - 1- Model
  - 2. View
  - 3. Controller.
- -> In AngularIs, the above modules are implemented as follows.
  - 1. Model !-

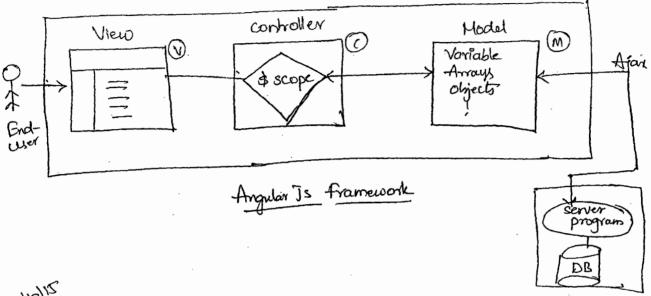
data

- -> Model in responsible for storage.
- -> It will be implemented by using Java script Variables, arrays, objects and array of objects
- -> These data will be shared to view to display.
- 2. View!-
- -> View in responsible for data presentation.
- → It can be implemented by using HTML, CSS and AJS directives.

  But ng-repeat.
- -> Views and bind with Controller to get the data (ng-Controller)

### 3. controller:

- -> controller in responsible for data processing.
- -> It act as mediator between View and Model.
- -> controller will communicate with model to get the data
- -> Confroller will transfer the data to View.



Juliolis

features of Angular Js:

- Q: what are the features of Angular Is?
- Q: What are the Advantages of Angular Js?
- Q: How AngularIs is differtiate from other Is libs framework?
- 1) Data Binding !-
- -> Data Binding in primary features of Angular Is.
- -> Data Birding can be implemented in 2 different ways.
  - 1) One-way Data Birding.
  - 1) Two-way Data Birding.
- -> En Data Binding, Model Variables/objects are bind with Views.
- 7 First time in clientside frameworks, Angular JS introduced this Data Binding concept.

- -> These features will reduce lot of client side code. (Is code)
- 8) Structural frogramming :-
  - -> Angular Is is Structural framework
  - -> It uses MVC Structure (pattern) to Proplement the application development.
  - -> AngularIs in clientside. MVC.
  - -> Due to this structure, we can decide application development into multiple modules.

Model - View - Controller.

-> So, that we can reduce the complexity of the application development.

# 3) Highly Pestable >-

- AngularIs applications are more comfortable to perform unit lesting.
- -> unit Testing is a process of testing the required portion of the application.
- -> Due to MVC structure, voc can easily test required module in the application.

# 4) TDD support :- ( Test Driven Development)

- -> TDD stands for Pest Driven Development.
- -> It is the latest development process in which testers will provide the quidelines to developers.
- -> According to their guidelines developers will modify/update the application development.
- -> It is possible because of MVC structure. At any point of time MVC based applications are more comfortable to update
- Angular Is applications are MVC so that it will be more comfortable TDD Environment.

# 5) Parallel Development?

- -> In Angular Js applications, multiple programmers works parallel on controllers, Models & Views.
- → we are creating in seperate files to implement each one.

  Fit View \*.html

  controller \*.js
- -> This feature makes your application development more faster-
- → If you write View content and controller code in same file, only one programmer can work at a time:

# idplic

### 6) html as Templete:-

- -> Angular Is uses excisting html tags as Template for Views preparation.
- -> Angular JS provides couple of directives (similar to attributes in html) to implement these Templeter
- -> At the firme of execution Angular Is framework executes these templetes to generate actual content for View.

# Ex: rg-repeal = "item in names" > ¿ç items } ]

# 7) Routing support for SPA (single page Applications)

- -> SPA is used develop the application with single page.
- -> In this applications, only first time page will loaded from server.
- -> Remaining all requests are processed at client side without loading the whole page.
- -> Angular Is provider special features to support routing in SPA

→ Routing concept of Angular Js provides organizing multiple routes for multiple requests with single page.

# 8) Client side Statutauagement &

- -> one of the Challenging task in SPA is State Management.
- -> Angular (IS supports required options to manage the state between multiple requests of SPA.
- > one of primary Pritention of AngularTS development in to support SPA development.

# 9) Dependancy Enjection:

- -> Angular Is Applications are strongly supports Depency Enjection.
- -> It means developing the independent code is organize the dependent objects based on the requirement
- → Instead of Depending on Fined Set of Objects / Values, we can make application modules are independent.
- → Dependency Injection is concept in involved in Several concepts of ASS By: Creating controllers, Creation Modules. etc.

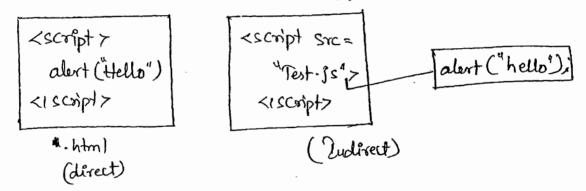
# 10) Powerd by Google!

- -> Gorgle Maintained and support the Angular Ts Framework.
- → It organizes the Angular Is by group of Google team in order to address all technical lexues.
- Gogle is one of the trustable & world femous IT organization.
- -> from 2012 onwords, officially Angular Is is supported by Google.
- Note: Angular JS was Pritially developed by Mr. Mischo Hevery.
- -> He is also Google Employee is he is the author for Several web related frameworks.

# 16/10/15

# Java scorpt

- Tavascript is a Scripting language used for clientside programming in webpages.
- -> Javascript is light weight programming language.
- -> Javascript is case sensitive.
- -> Control Structures and operators are same as c/c#/Java languages.
- -> Java script is used to perform following operations.
  - \* To perform clientplde. Validations.
  - & To perform dynamic operations.
  - » clientpide calculations.
  - \* To control the behaviour, of html elements.
  - & To Implement AJAX Technology.



# > Javascoipt Programming:

- -> We should understand the following important rules/points to develop Tavascript Programs.
  - 1) Include Javascript in welopage:
  - -> We can include. the JS in webpages either directly (01) indirectly.

Directly: <script type="text/ Javascript">

11 Javascript code

<15cript>

Indirectly'- (external files)

<script type="text/ Javascript" src="text. is">
<1script7

Note: < script > tag can be add in any section of himldocument.

( either head (or) body)

- 2) Creating Variables !-
- -> Javascript variables are declared with "var" keyword.
- These types of Variables are called dynamic typing variables.
- → It will change the behaviours, based on the value that we stored in it.

Examples: Var 11,3;

Var 1=100;

Var str= "Helloworld";

Var ar=[10,20,20];

Var obj={};

- 3) Numeric Conversions:
- -> By default all html controls returns the values in string formatted data into numeric data.
  - Java script contains two built-in functions to be this conversion.
    - 1) Pampe Int ()
    - 2) Parpe Float ()

```
Ex: Var x, y, 3;

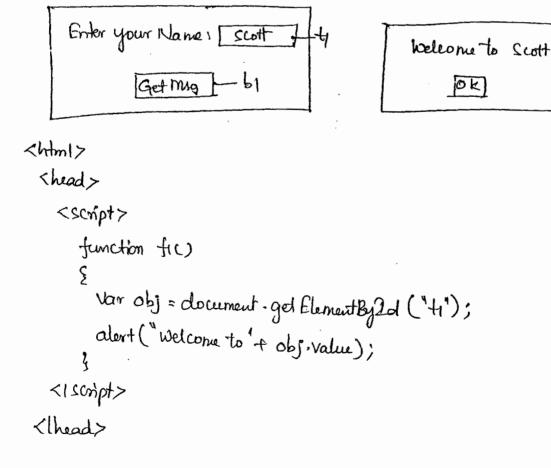
x = Parpe Int (obj 1- Value);

Y = Parpe Int (obj 2- Value);
```

- 4) Accessing references of html elements:
- -> we can get the reference of any html element by using. "document" object.
- → "get Element By 2d' is a function of "document" object usage: document. get Element By 2d ("2d");

Note: Once we get the reference, we can access the details of that elements like value, tent, attributes etc.

### => Example >



```
<body>
   Enter your Name: < input type = "text" id = "t+">

* button' id="b1" onclick = "f1()" Value = Getmsq">
<1body7
<1html>
create a webpage to handle mouse & key events?
 <html>
   thead>
     < script>
       function f(C)
          alert ("welcome");
       function (20)
         Var obj = do cument. get Element By 2d ("H");
         var spobj = document-get Element By 2d ('spi');
          Spobj. innerTent = obj. Value,
     <1 SCMpt>
   <body>
     <h1 on Mouse over = fic) > Programing Java Script Demo <1h1>
     Enter your name: < [nput type=' tent "id="th" onkey up=" 121)"> < 671>
      welcome to <span id="spi" > <15 pan>
   <1 body
  < 1html>
```

```
<1 -- Create Html page background color <dir7 tag based on
                                       mouse events -->
          chtm17
             < head >
                    <style>
                               div
                                     border: 2px solid Red;
                                     width : 300 px;
                                     height: 100 px;
             <1style>
               <script>
                      function (11)
                               Var obje document get Element By Id ("div 1");
                               obj. Style, background Color = "Pink";
                               obj. style. Color = "Blue";
                 function f2()
                       Var obj = document get Element By 2d ("divi");
                        obj style background - color = " white";
                       obj style Color : "black";
         <1Script>
   </head>
   < body >
             Khiz Java Script Demo Kihl>
                        <div id='div i on mouse over= f(c) on mouse out= f20 > <br/> 
                                                   dynamic styles using Is <1dir>
     <1 body
< lhtm1>
```

```
> Emplementing uppercase and lower case
    <htm>>
      <had>
       <CC20+>
         function fic)
            Var obj = document. get Element By Del ("H");
            Var spobs= document get Element By Id ("spi");
            Nar spobj2 = document. get Element By Rd ('sps");
            spobs 1 - Proner Tent = obj. Value . To upper case ();
            spobja finnersent = obj- Value - tolower case (s)
        <15Cmpt>
      <1 head>
      Kbodyz
        Khir Program Towalcoipt Demo </hi>
         Enter your Name: < input type="tent" on keyup="fic" id="ti">>
         くりょうくりりょう
          <span ld="spi" > <1 span> <br/> <br/> <br/> <br/> >
          <<pre><<pre><<pre>fepan id="spx"> 
       <160dy>
      <!html>
                             -Arrays
 -> <1 -- Create a webpage to display array elements as unordered
       Upt formal -->
```

```
<html>
  <head >
   <crapt>
      function fic)
        Var ar = [10,20,30,40];
        Var obj = document.get Element By Id ( List 1);
        Obj-inner Html = " ";
        for (i= 0; 1 < ar- length; i++)
           obj. inner Html. " < k> + ar[i] + < 1k>";
      ን
    <1scnipt>
  < lhead >
   < body >
    <hI> Javascript frogramming with Array <1hI> KhrI>
     <input type = "button" on Click = 'fic) value = Display' 1> <br/>
<br/>

  id = "light" > 

    <160dy>
   <1html>
-> <!-- Creating a webpage to perform dynamic Operations ->
     <htm>>
      Khead 7
        <script>
           Var course = ["ASP", "JSP", "PHP"];
           function J(C)
             var obj = document. get Element By 2d (" light i);
             Obj. inner Html="";
```

```
for (i=0; i < courpe length; i++)
    obj-inner Html = 4 < options 7 + course[i] + 4 < 10ption > 5
function (2C)
 var item = document-get Element By 201 (" +1"). Value;
  course. Pust (item); f1(); do cument get Element By 2d ('H'). Value";
function (2C)
 var obj = document. get Element By Id (" lipt 1");
  courpe. Splia (obj. Selected Index); f1();
 function full
   course splice (); fil);
  ţ
<15chipt>
21 heads
<body7
 Enter Course Name
  <input type="tend" id="t1"/> <br/>
<br/>
type="tend" id="t1"/> <br/>
<br/>

  <input type="button" onclick="f()" Value= Display' />

*Add' 1>

   < input type = "button" onclick = "f3c)" value = "Remove" 1>

* button onclick = fu(s' Value = Remove all' > <br>
   < Select size="10" id="test" style="width": 100pm">
    <1 select > < 1 body>.
 < lhtml>
```

```
- No. of items to remove.
      Array Name . splice (index, count);
      Array Name Push (item);
                                           · Index of item to remove
                     Hern name that you want to pan we can pan more than
      on item also by using (.)
       Sort()
       remove ()
                -> we can perform these operations by using array methods.
      splace
       POP ()
-> <1-- Create a webpage to display student details using Isobi -->
    <html>
     <head>
       <5cmpt>
         function 12()
          Var obj = { sno:1025; sname: scott, course: Angular Js' };
          Nar Str = " Student 2d; "+ obj. sno + " <br/> ' str17";
         Stot= state "student Name" + obj. sname + " < b>> ";
         Str+ = Str + "Student Course: "+ obj. course + "<br >";
         document. get Element By 2d ("Spi"). inner Html = Str;
      <15Cmpt>
     <1 head>
    <body>
      <fnput type = "button" onclick = 'f1C) Value = "show details" />
        <span id24spi > <1span>
    <1body>
   <1htm1>
```

### Java Script

# > Object Creation in Javascript >-

- → Creating objects is one of the frequently required task in Javascript programming.
- -> Infact every him tag internally converted as object at runtime.
- -> Enordate organize multiple values with single variable objects are the best options.
- -> So, that we can store / transfer the data in the form of Objects.
- -> we can create objects in Javascript in 2 ways.
  - 1) Direct Object creation with & 1.
  - 2) Object creation with new keyword & "object".
  - 2) By using construction function.

### 1) Direct object Creation

→ If you want to create an object with properties a values at a time, you can use this option.

Syntan: - Sprop: Valu; Prop: Value --- 3;

ज्य भ

Var si= { Sno: 1025, Sname = "scott", course="Angularis" };

- 2) object Creation with new Keyword's "object">
  - -> This operation is suitable attaching properties after creating objects.

### Syntan:

Var obj: new Object();
obj. prop: value;
obj. prop: value;

```
Ez >
        Var si= nav Goject ();
         S1. Sho= 1025;
        SI- sname = "scott";
        SI- Course = Angular Js';
3) Object creation with construction function.
 -> This option is suitable to create multiple objects by initializing the
     required values
 -> In this option we can reuse the same function to create multiple.
      Objects-
  -> To implement this option, we have to create a function with
      arguments.
  -> Argument Values need to be assigned to properties with "this"
       Keyroord,
  -> "this' referp on javascript as current object (Instance).
       syntan:
       function functionName(arg1, arg 2)
           this prop = ang 15
           this prop = arg 2;
      国外
        function Student (n, name, cname)
           this, sno = n;
          this sname = name;
          this course : cname;
```

Var SI= new Student (1025, "scott", Angularis");

```
> Example: for object Creation:
     <htm>>
      <head>
         <scn°pt>
           11- Object creation with § 3.
           Var SI = { sno: 1015, Sname = "Scott", course = "Angular Js" };
          112. Using new " brobject"
           Var Sz= new Object ();
            $2.500 = 1026;
           Sz. Sname = smith ;
           Sz-Course = "Jauery";
         11 3. using construction function
           VANC SIB - PAREN Schoolsood
           function student (2, 4, 3)
              this. Sno = x;
              this . sname = 4;
               this. course = 3;
            Var S3= new Student ("1027, "Sathy", "Bootstrap");
       <15cmpt>
     </head>
     <body>
      < h1> Object Creation in Java Script < 1 h1>
       <h7></h7>
       < h2> 1. object creation with { } < <1h2>
       <span id=spi"/> <br><1br>
       <h27 2. Object Creation using "new" & "Object" <1h2>
        <span id= 15p2 1> 7bx><1bx>
```

<h27 3. By using construction function</p>
1/2 < br>
Span id = 4 < p3 1/2 < br>
5/2

2script>

Var spobji = document get Element By 2d ("spi");

var str= "Student Id: "+ See + SI-Sname +",";
Str= Str+ "Student Name : " + SI-Sname +",";

Str = Str +" student course: "+ S1 - course;

Var spoby 2 = document-getflementBy 2d ("Sp2");

Var str= "Student id:" + S2. Sno + ",";

Str=Str+ "student Name: "+ 52 Sname +","

Str= Str+" Courpe: "+ S&-course;

Var spobj3 = document, get Element By Pd ('sps');

Var str = "studented: "+53. 5no+", ";

Str = Str + "Student Name: " + 23. Sname + ", ";

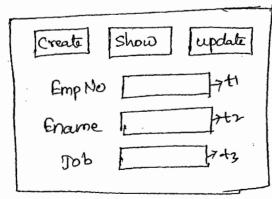
Str=Str+ Courpe: + 53. courpe;

<iscript>

<160dy>

<(html>

create, update, show for offer the Tava script



```
<html>
  < head >
     < script>
    Il Var eno=document.getElementBy2d ("ti");
   1) Var ename: document get Element By 2d ("ts");
   1) Vor Job: document get Element By 2d ('to");
      Var obj;
      favillas Student (* 110)
     function fi()
      ٤
          function Student ( Y14,2)
            this Bro = 25
            this . Ename . y s
           this. Job = 2:
                            (IU, "rama", " Engineer");
      3
                           (eno. Value, enance. Value, sob- Value)
      function fre)
      ۶
        Var eno = document. get Element By 2d ("+1");
        Var enave: document get Element By 2d ("t2");
        Vor Job=downut-get Flemeit By 2d ("te")
        eno. value = obj. Eno s
        enance. Value = obf. Ename;
         Job- Value = Obj. Job;
      3
```

```
function tsc)
         Var eno 2 document get Element Ry 2d ("+");
        Var enance: document get Element By Da (" 12");
         Vax job 2 documents get Glement By 2d (" tz");
         obj. Eno = teno. Values
        obj. Enamezename. Value;
        Obj. Job z Job. Value;
  <body>
    ( ) P
              onclick= fill > Create < 1 Button>
              on Click = 1 f2() 7 Show < 1 Button>
    < Button
              on Click = 4 f3U' > update < 1 Button>
    < Button
     Ybr> Ylbr>
    EmpNo < Propret type = "tent" (d="t+" 1> < b>><1b>>>
    EName < Enput type="tent" id="tz" 17 < br> < 1br>
     Job < Enput type 2" tent" Ed 2" +3" 1>
  <1body>
</hr>
    <script>
     Var obji
     function fil)
    for fall
    +1. Value obj. eno;
```

```
-> Frample to create objects & store the Values into Table
   <html>
      <head>
       <scnpt>
         function fic)
           Var Students = [ { Sno: 1025, Sname: "scott", course: "A75" },
                         ¿ sno: 1026, sname: sott 1, course: "jauery"},
                         { Sno: ND27, Snowne "Scott 2", courpe; " HATML" &,
                         Esno: lose, sname: "scott 3", courpe: "css"} ];
           Var str=" "
           for (str 1=0; 1< students. length; 1+1)
             Str = Strt "
            Str = Str + ""+ students [i]. Sno + "
            str=str+" "+ students [i]-sname+"
            Str = Str + " " + Students [i] - course + " </ta>";
            Str = Str + 3/177 ;
           do ament get Element By 2d ("table) Innert HTML = str;
       <15(mpt>
     </head>
      <body>
       <hi> Amony of objects - Is <1h1>
          <br/>
<br/>
button id="b1" onclick="f1()"> show student Details </button>
          くかってくりかっと
          <1body>
     <1html>
```

```
20 loles
```

-> Dérectives en Argulantes:

>> Developing webpages using AJS:

→ AJS is a Javascript framework. It is used to perform all clientpide activities easily.

Thorder to use ADS, we need to download Angular Ds framework (4.5s file) from the following website.

[NOWER augular is org]

finename: angular.min.js.

→ Emport the above to is file in your webpage so, that we can develop webpages with Augular TS-

<script src = 'augular-min-is'> <1script>

(: script tag in having another attribute called type that in optional.)

### Frample!

<1 -- Create a webpage to display welcome menage using ATS -->

### < htdand >

Lhead 7

<script | Src = augular · min · js 4 > <1 script>

<1 heady

<body>

<hi> Angular JS - Demo < 1h1> < 1h7>

¿dív ng-app=" ng-init = 4 x= sathya/">

user name: < input type = tent' ng-model = "x"/>

くりってくしょう

<Span > welcome to {{x}}

<1div7

<1 body>

<1html>

### Execution process of AJS!

- 1) Browser will load the html document.
- 2) AJS framework will load. At the time of loading AJS framework, it creates a global object called "augular".
- 3) Angular object will compile and execute the ATS related clements.
- 4) ATS framework generates dynamic content based on the directives that we involved.
- Note: ATS directives are special attributes which can be underptand by only ATS framework.
- \* In the above example, we involved following directives
  - 1) ng-app: to specify ATS application so, that it will specify the region on which we can apply ATS.
  - 2) rg-model: to bind if p that Value with AJS Variable Value It is 2-way binding.
  - 3) {{x}}; It is a AJS "expression". It is compidered as 1-way binding.

### Example 3:-

くかってくりかっと

Create a webpage to change the bocolor of table dynamically
 using ATS -->

```
<div ng-app=" ng-intit=" x= lightgreen!">
               < Select color Name: < select ng-model = "7">
                        Loption> pink < 1 option>
                          coption right led <10ption>
                            coptions Red cloptions
                     </ select>
                            <br>><1br>></br>>
                  < h7
                                        くも2105く1世ン
                                          > Scott <1td>>
                                          く対フ知Sくlサン
                            <11tr>
                               447

    \( \frac{1}{10} \)
    \( \frac{1}{10} \)
   \( \frac{1}{10} \)
    \( \frac{1}{10} \)
    \( \frac{1}{10} \)
    \( \frac{1}{10} \)
    \( \frac{1}{10} \)
    \( \frac{1}{10} \)
    \( \frac{1}{10} \)
    \( \frac{1}{10} \)
    \( \frac{1}{10} \)
    \( \frac{1}{10} \)
    \( \frac{1}{10} \)
    \( \frac{1}{10} \)
    \( \frac{1}{10} \)
    \( \frac{1}{10} \)

    \( \frac{1}{10} \)

    \( \frac{1}{10} \)

    \( \frac{1}{10} \)

    \( \frac{1}{10} \)

    \( \frac{1}{10} \)

    \( \frac{1}{10} \)

    \( \frac{1}{10} \)

    \( \frac{1}{10} \)

    \( \frac{1}{10} \)

    \( \frac{1}{10} \)

    \( \frac{1}{10} \)

    \( \frac{1}{10} \)

    \( \frac{1}{10} \)

    \( \frac{1}{10} \)

    \( \frac{1}{10} \)

    \( \frac{1}{10} \)

                                                   Tiger<1td>
                                                    > jquery< 1td>
                                  <1H7
                         CHablez
          <1div>
<1 body
<1htm1>
```

# 20/10/15

# ⇒ Directives in Angular Is! -

- -> In AngularIs application development will split into Hodd, View and controller.
- -> Views are developed by using him tags & Angular Is directives-
- -> Angular JS uses HTML as templete & generate the dynamic content at runtime.
- -> Directives plays very important role to generate dynamic content.

# what in directives in Angular Is?

- -> Directives are used as him attributes.
- -> Directives can extend the behaviour of HTML tags.
- -> Every View (UI Logic) in Angular Js in depend on the directives.

# Important Directly 1-

- 1) ng-app
- 2) ng-model.
- 3) ng-init
- 4) ng-controller.
- 5) ng-View
- 6) ng-repeat
- 7 ng-show
- 8) ng-hide.
- a) ng-if
- 10) ng-switch.

Note: Directives are pre-fra with ng-4.

-> According to HTML 5, these user defined attributes are prefix with data-a."

data-ng-model

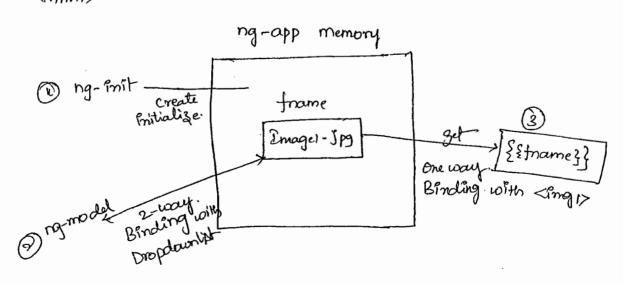
\_ ----

data-ng-app

```
Enample 1-
   <1, -- create a webpage to change the image dynamically using.
                               Angular JS - ->
    <htm>>
            <head >
                       <script src = augularimin-js" > </script>
             <1head>
             <br/>

                       <h1> AngularIs directives - Demol <1h1>
                          Khr> < 1 hr>
                          < Select ng-model = "fname">
                                        <option> 2magel spg <10ption>
                                       <option> 2magez-Jpg <10ption>
                                       Koption> 2mages gpg <1 option>
                                         Loption> Image 4.5pg <1option>
                        <1 select 7 <br> <1 br> <1 br> 
                        <span> Selected 2mage: {{fname}} <1span> <br></br>
                         King border="2" height=" 180pr" width = 300px"
                                                            src = "Images / [ frame } ]" />
```

Ubody>



=> Enample

<1. --- create a webpage to change the size of the image with range controls using Angular JS --->

<html>

<head>

<script src="augular.min.js"> <15cript>

<body ng-init=" w=300, h=190" ng-app=" ">

<hi> Angular Is Directive - Demo > < 1h >>

<hr></hr>

Height < input type="range" ng-model="h" min="100" max=" sq0"/> <br/> <br/> <br/> <br/> />

whith < input type= rouge ng-model: w min= 200 max = 5001/>. <br/>

<span> { f h } } , { f w } } < I span > < b > > < I b > > < I b > >

<

<1body>

# > Data Binding in Angular Is 1-

- → one of the important feature of Angular Is in "Data Binding".
- → Data Binding concept is used to bind us related items (Hml tags) with programming variables lobjects.
- → If UI will updates automatically whenever these programming items are updated.
- Argular Is supports a types of Birdings:
  - 1) one-way Bloding.
  - 2) Two-way Binding

# 1) one-way Binding-

- -> In one-way Binding, vi will get the updated Values whenever you modify the Variables-
- -> In this binding only reading the value from variables supdates in, U2.
- -> UI cannot update the value of variables.
- -> It can be implemented by using Angular Is expressions (02) ng-bind.

Fx1: <span> {{23} </span>

# Q) Two-way Binding:

- -> In two-way binding, html controls and bind with variables.
- -> If you update the variable, it will reflect the controls.
- -> If you update the control value, it will reflect the variable.
- > It can be implemented by using "ng-model" directive.

Ex! < imput type = "tent" ng-model = "x" 1>

# → rg-repeat

- -> ng-repeat directive. is used to process the collections like arrays.
- -> This directive the generates the given content for every item in the collection.
- -> At the time of eneceution, augular is will process each grevery stem from the given collection.

Syntan: ng-repeal = "Variable in collection"

Fit <dir ng-repeat = "Hem in ar"> <span>{\frac{1}{2}} \text{item }\frac{1}{2} \text{ (Ispan)} <10\text{Civ}

```
- The Above example will generate content of div tag (span) for each
   item in the array.
```

-> "item" is a temperory variable. which holds each value from array

```
28/10/15
  Erample:
  <1 -- create a webpage to process collection with ng-repeat directive
        of Angular Js - -->
   <htm/>
    < had >
      <script Src=daugular-min-js/> <15cript>
    <1 head >
     < body * ng-app=" ng-init=" ar=['HTML', 'css', 'souery', 'Angular Is'
                                       (JSP', (ASP', (PHP'))
       <h>> Angular Is Directive - Demo <1h >>
        <hr/>
         イナイン
              <+h>> S. No. 
              Cousse Name 
           <1+x>
            ctr> ng-repeat= item in ar">
              { td> { $ Index + 1 } } 
              <ta>> {\ item }} <1+d>
          くけっと
```

< body> <1Html>

< Ita ble>

```
-> Grample
```

<1 -- Create a webpage to process student details with Isobject in Angular Is -->

<htm>>

< head>

<script src="augular-min-js"> <1script>

</head>

<body ng-app=" ng-init="sl={sno:1026, sname="scott",

courpe="AngularTs'}">

< h17 Angular Js Directives < 1 h17

<hr/>7>

< span >

student 2d = { { s1-sno}}

Student Name: {{ s1, sname}}.

Bourpe Name: { { St-course}}.

<1span>

<160dy>

<16tm1>

# Controllers in Angular Is

- -> Angular Is uses MVC pattern to develop clientside web Applications.
- -> In this pattern the c-stands for controller.
- → Controller contains application Logic to organizing data flow with in the application.
- -> In AngularTs controllers are developed by using constructor function.
- -> At the time of Execution Angular Is framework Create objects for Controller. by using constructor function.
- The Views are binding with controller by using a directive called ng-controller.

  Ext <div ng-controller = "Student Controller">

  Ext <div ng-controller = "Student Controller">

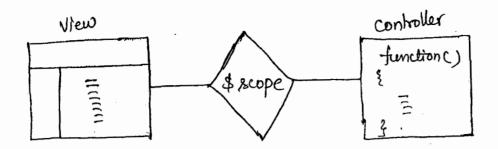
<1div>

- Note: The Above Binding statement generate the new object for controller. so, that View can access controller numbers (variables + method)
- > The Variables (or) methods that we prepared inside the controller. are not accessible to View.
- → Angular Is will provides a special object called \*\*\* scope of to sharing data blw controller and view.

# "\$ scope" object:

- "sscope" is a builtin object in Angular 35.
- -> Angular Is integrate a new scope object for every instance of controller.
- > The variables & methods that you want to share with view should be attach with "sscope" object.

- Note: If we are not using any controller Angular Is uses Global controller & Global &scope to organizing your data.
- → Siscope object should be mentioned with in the controller to attach the Variables is methods. Is cope object name no need to mention in the View (we can directly access variables is methods)
- >\$8 cope is act as a mediator blu controller & Vièw;



09/10/15

Developing controllers in Angular Js:

- -> Angular Is uses controllers to make data flow blw model & View.
- These controllers are created by using module object.
- -> In AJS, modules are called AngularJS application. Module is combination of AJS programming elements like: controllers, Directives, filterp....
- -> Module can be created by using built-in object called "angular".

  Steps to create controller:

Step 1:- Create a module.

Var obj = angular. module ("Module Name", [])

styp2:- create controller.

obj-controller ("controller Name", constructor = function);

Note:

- constructor function that we prepared to create controller object should take "\$ scope" are arguement.

-> At runtime AJS framework will create object for constructor with \$ scope as parameter.

steps: Bind Module.

<body rg-app="moduleName" > <1body>

Stepu! Bind controller

«div ng-controller = "controller Name">

```
<1 -- Access All variables & methods of controller -->
 <1div
Example >
<1. - Create a webpage to process employee details using Angular 3s
       controller -->
 <html>
   <head>
      <script src="augular.min.js">2/script>
      <script >
      11 step1
       var obj = augular. module ("myApp", []);
      11step2
       obj. controller ("Emp Controller', function ($ scope)
           $ scope. empno = lo25;
           $ scope . ename = "scott";
           & scope. job = "Manager";
        3);
    <body> ng-app = "myApp">
       <hi> Angular Js Directives - Demo </hi>
                        Conhollers
        <hr>></hr>
        Zdiv ng-controller="EmpController">
                                                    1/staply

LCpan> & Employeeld: { { employeeld : { femploot} < br>
Lbr>

                        Employerhame: {{ ename }} <br>
<br/>
Kbr><|br>
                         Designation = { { Job } } <15pan>
        とはなりと
      <1 body>
     </h
```

```
Example 1-
   <1. -- Create a webpage to create multiple objects of Empcontroller -->
    <htm>>
      < head >
        «script src="augular. min-je"> </script>
        LSC oright>
   styl: Var obj = augular. module ('my-App', [])=
          obj. controller = ( EmpController', function ( & scope)
               $ scope-empno = 1025;
               $scope-ename > scott";
               $scop. Job = "Manager";
             ز( و
        (19cmpt>
      <1head>
Sty3- <body> ng-app= myApp'>
         <hi> Angular Js controllers <1h1>
step 4 + Kdir style = "border : 2px solid blue; background -color: Planks"
              ng-controller = Empconholler >
         < imput type = "tent" ng-model = empno 1>
         ~ [mput type = "tent" ng-model = ename" c>
         zinput type = tent ng-model = job 1> <br > 1br>
         25pan > Employee 2d; { & empno } ?
                                             くりゃろくりりゃろ
                  Employer Name! { { ename } } < bo> < lb>>
                   Designation: {{ Job}} <br>
          KISpany
      <1dlv7
     41body >
   </hr>
```

```
Example!
21 - create a webpage to display Department details in following for not
       using Angularis controller
                Dept No
                             10
                D Name
                            Accomb
                Location
                            Hyderalad
 <html>
    <head>
      <script src: "augular.min.j."> </script>
      escripty
        Varobj = angular-module ("myrApp", []);
```

obj-controller = ("Dept Controller", function (\$ scope) ş \$500pe. Duo = 10; \$scope · Drame = "Account"; \$ scope · loc = "Hyderabad"; 3)ン <18con pt> <1 head> <body ng-app:"myApp"> Angular JS Controlleys < 1 h1>

//Ldir pg-controller = "Dept Controller" < table border = "2" mg-controller= < table border="2"> > DeptNo <1+d>> >{ Dept No <1ta> <1tr> Ad7 D'Nome < 1 to > <44>> <ta> > DName<1+d>> > Location <1 td> {td>{EDnampk(td> <1tr> <14+> **4477** X E Dno33 & Italy < ta> location < 11ta> < td # { { Drame}} < 1td <140> { to> { loc } } < 140>

DeptConholler >

11table>

< HT & E LUCIS < 1401>

```
20/19/16
- Frample:
   <1 - create a webpage to process student marks using Angular is conholler=>
     <html>
       <head>
          <Script Src="augubr·min-js"> <1script>
          <script>
            var obj = augular. module (*myApp1, [])
            obj. controller ("studiet controller", function ($scope)
             Ę
                $ scope marks = [95,85,75,65,85];
             3);
          <1 script>
       <1 head>
        <br/>
<br/>
body > ng-app = "my App" >
          <h1> Student details (1h)
             <div rg-controller = student controller'>
               <W>>
                <1 ng-repeat =" item in marks" >
                      subject - { & index + 13 } = { { item 3 }
                くルバン
               くいい>
            <101VZ
        <160dy>
      <1html>
 -> Example>
      <1-- create a webpage to procen student details using Angular is
            Controller organise the data using savascript object ->
       <htm>>
          <head>
             <script src="augular.min.js"> <15cript>
```

```
< t9602>
   Var obj = augular module ("my App", []);
     obj. controller ("student controller", function ($scope)
       Ascope. studentobj = { sno: 1025,
                           Sname: "sott",
                          courpe: "Angular Js",
                           Marks; [95, 85,75, 65, 55]
                        35
    3)°
 LISCRIPTZ
<body ng-app="my-App">
    <h1> Student details <1h1>
    <hr>
    > Student 2d <1td>>
         {td> {{studentobj.sno}} 
       11tr>
        < 16 >
         > Student Name < 1td>
         > {td > } { studutobj. Sname } { < | td>
       <14r>
       <40>
         Course <1+d>
         {td> {{ Studutobj.course}}
       <1+0>
       <48>
         > Marks < 1td>
         <u/>> rep < 1 ng-repert - " item in studitobi mails >
                   subject - {{ $ indent +13} ; {{ item }} <16> <141>
         21td7
       <140>
<14m1>
```

```
-> Frample
  <, - create a webpage to process product details using Angular Is
      controller organize products data using Array of objects -->
   <hhm1>
     chead>
        <script src="augular.min_ss'><1script>

    Conpt >

         Var obj = augular-madule ("myApp", []);
         obj. controller ( Product con holler', function ($scope)
             $scope-products = [
              Sptd: 14589, pname: "Nikon" Camera", Uprice 2 5200)
                  (mage: "Image 1-5 peg 3,
              & pid=14589; pname: "Canon camero", Upria 25200,
                  image: "Imagez-jpeg"})
              ¿ pid = 14589, prame: "saming carner", uprice = 5200,
                   image: "Image 3 . speg 1 },
              {pid=14589, pname; "Sony camera", uprice=5200,
                   image: 2mage 4. speg 4} ];
           z) 5
        LISCHIPTS
       <body ng-app="myApp">
           <hIT Product Details <1hL>
            くりもフ
        <div ng-controller = "product controller">
           2 div Style: fent-align: center; float fleft; padding: 3px;
                 Margin: Spr; border: 2pr solid Blue: height: 150pr;
                 width: 200 p2;" ng-repeat = "item in products">
```

<1div7

<160dy>

<1htm>>

## > update the previous Example to display the product details in the following format.

productName	Brand	unitpole	Pictur
Nikon Codpin	Nikon	\$ 6,275.00	ing
canon portler shot sxum	Cannon	39,800	[mg]

<hrt>

<1t07

</table

abody>

31/10/15

### Filters in Angular Is

> Angular Is filters are used to format (filter/sort) the data that we display to the user.

Src = "Images/ { { item · image } } "/>

- > filters can be applied at clientside. No need to communicate with Server.
- -> By using filters we an perform following operations:
  1) convert the data into lower case/upper case
  - 2) Attach currency symbols.

- 3) filters the items based on search strings.
- 4) Sort the items based on requirement.

#### filter options:

- Angularis provides us several built-in functions filters to perform above operations.
- -> we the following options to implement filters:
  - 1) lower care
  - 2) Upper case.
  - 3) currency.
  - 4) order by.
  - 5) filter.

てカカノン

```
Note:-

- Order by & filter option applicable on ng-repeat directive.
```

=> Example!-<1 -- Create a webpage to demonstrate usege of filters in Angular JS -->

< h1> Employee details - filter, Demo < 1 h1>

```
<dir ng-controller = " EmpController1>
         <Span>
             Employee Name: {{ ename 1 upper case }}
              Designation: { { Sob | Lowercase } { < br>
               salary; { { sal currency } }
         <1span>
       &ldiv>
    <1 bodys
   </hr>
=> Enample >
   <1-- Create a webpage. to demonstrate usage of order by filter.
        in AngularTs -->
   < htm1>
     <head>
       <script Src="augular.min.js"> <1script>
         Var obj = augular-module ("myApp", []);
         obj-controller ("Democontroller", function ($ scope)
            $ scope-names = ["sott", "steve", "sathya", "Abrons", "Mark",
                             "James, "Riterh", "Adam"];
          3);
       4scnpt
      <1head>
      <body ng-app="myApp">
        <hi> order by filter, - Demo < 1hi> 
       <to ng-repeat = "flem in names ) order By: flem; true">
                > {\ta> {\tem} \tem} < 1\td>
           <148>
        <1table>
      <150 dy>
    <1 hbm1>
```

```
=> Example 1
  <! -- Create a webpage to sort the student details using order by
        filter -->
   <html>
     Thead>
       <script src="augular-min.js"><1.9cmpt>
       <script >
         Var obj = augular-module ("myApp", []);
         obj. controller ( Democontroller , function ($ scope)
           $ scope. Students =[
            { sname : "scott", course : "AngularTS"},
            Esname : "Abrom", courpe : "HTML"},
            { sname : "smith", courpe: " Jouery "},
            {sname: "James", course: " css "},
            Esname: "Adam", course: Towa" } ];
            $ Scope, x = false;
          3);
        <19cmptz
     </head>
      <body ng-app="myApp">
        <hi7 order by filter - Demo</pre>
        <dir rg-controller="Demo Controller">
        Descending order: < Enput type z' Check Box ng-model = 2x 1/3 < br><16x>
         > Student Name <14h>
            Course Name <1th>
            < for logcolor="fink" ng-repeat =" i-tem in student | order By: 'sname' in >
                  {td> {{ item Sname }} < 14d>
                  { td> { { item. course } } < ld>
          Hable
```

```
-> update the previous program to sort the data band on the Selected
by property from dropdown list.
    Grample:
   <1 -- Create a velopage to sort the student details based on selected
       column using orderBy filter -->
     <html>
      < head >
         <script src = augular·min·js > <!script>
         Scriptz
          Var obj = augular-module ("myApp", []);
           obj. controller ("Demo controller", function ($ scope)
             $scope-Students =
            [ & sid : 1025, sname: "sott", course: Angular Js"},
               3 sid = 1026, sname : "smith", courses "Jouery"},
               & sid :1027, sname: "Abronx", course: "HTTML" },
               { sid: 1028, sname: "James", courpe: "css" },
               ¿ sid :1029, snam : Adam", course : Javascript & ];
             & scope · x = false;
             $500pe-4 = 421d';
          3);
       <15CMpt>
     </ri>
     <br/>
<br/>
body > ng-app="myApp">
        < h1> order By filter, - Demo3<1h1>
         Kh81>
        Ldir 19-controller = " Demo Controlles)>
```

```
Hable border="2" width="3sopx">
                     The bacolor = "skyBlue">
                             <a > href=" ng-click=" n
                          <a href=""ng-click="x=1x"; y="cour,">course Name </a> 
                  <1+8>
                  > $ & stem = s sol 3 3 < 1 td>
                     {td> {{ item. sname}} <1+d>
                      { { } { } { } item. course } { / ld>
                 1/67
          <17able> <1div>
   <1body>
イ/html>
 Example!-
<!-- create a webpage to apply searching on student details by using
            filter option of Angular Js -->
<htm17
    Khead >
          <script src="augular-min-js"><15cript>
         <script>
              Var obj = augular, module ("my-App", [7),
              obj. controller (" Demo Controller", function ( $ scope)
                    $ Stope . Students = 155
                 [{sid:1025, sname: scott, course: Angulaiss'},
                     { sid : 1026, sname: "Abrons", course: "HTMC" },
                     { sid : 1027, cname: "Cmith", courpe: 1 Jauey " 3,
                      { sid: 1028, sname: 'James', Courpe: 1 Angular Js'},
                      ¿Sid:1029, sname: "Adan", courpe : Javascrip & 7:
```

```
$ Scope. SI = "
       $ Scope = 22 = ";
    3),
   <15Cript>
 </heads
 <body ng-app="myApp">
     <hI> filter option - Demote </hi>
      <47
      <div ng-controller = "Democontroller">
      Enter Student Name to Search;
      <input type: tent ng-model="s" 1> <br>
       select course to search:
       < Select ng-model = "sz">
        <Option> Angular Js <10ption>
        <options Jauery <1options</pre>
         coptions 4thmL croptions
         <option value = "> All courses </option>
      KISelecty Kbr>KIbr>
    ftr bgcolor="SkyBlue'>
        4th> student2d (1th>
         > Studit Name <1th>>
        Course Name <1th>
      <1 h7
      <+r bg color = Pink ng-repeat = 1 tem in Students | filter:</pre>
                                { 'sname !: s1, 'course: s23 }
         <41> {{ bi2 }} <141>
          { Sname } { < Hd>
         THAT {{COURPE}}<1H>
     <198>

Klobody> 
Klobody> 
Klobody> 
Klobody>
```

ProductiVame	Brand	unit Price	Picture.
1			3,
Dell Laptop	Dell	\$45,000.	ing
sony laptop.	sony.	\$ u0,000	ing
Lenovo Captop	lenovo	\$ 35,000	fing 2.

Create a webpage to organize products Data so, that it allows the ower to search & sorting based on the given scenomos.

```
<htm1>
 <head>
    <script src="augular-min-is"><1script>
    Scriptz
       Var obj = angular-module ("my App", []);
       obj. controller d"Demo controller", function ($ scope)
       $scope- Products =
       [ { Product Name: Dell captop, Brand; Dell, unitprice: "Usous,
                Picture: Images / ing 1. jpg 3,
         { Product Name: "Sony laptop", Brand : Sony", unitprice: "40,000,
                 Picture: "Images/ impsjpg y,
         { Broduct Name: "lenovolaptop", Brand: lenovo", Muitpric: 35000,
                    Picture: "Images/Emg3-Jpg"}]
        $ scope. Y = false;
d scope. Y = Deltaplop;
                                            $scope: Takeverpe = false ;
                                            $scope. sortColumn = "prame";
```

\$ scope · sz = "; \$ scope · sz ? ";

\$ 500 pr. 51 =" ";

ょ))

```
</script>
</head>
   <br/>
<br/>
body ng-app="myApp">
                        This filters in Angular 35 7/1/2
                           4hr7
                        «dir ng-controller = "Democontroller" 7
                        <a href=""ng-click="n=jn"; y="productName">
                                                                                                               ProductName <1a> <1H>>
                                       > <a href=" ng-click="x=1x"; y=" Brand > Brand </a> 
                                      <+h> Picture <1+h>
                         <1+0>
                      Ktr > bg color = "Pink" ng-repeat = "Hem in products | order By : y sx
                                                                                                                                                         filter: { Product Name : SI,
                                                                                                                                                                placeHolder: " froduct Name"
                  <+r>
                              <imput type = "text" ng-model = "s1" /7 < 1td>
                              1 made of made of the state of the
                             1 Select ng-model= 1524 >
                                                                                                                   <option > Dell <10ption>
                                                                                                                     <option > Sony < loption > < option > Ad Branch < loption >
                                                                                                                      coption > Linero
coption > Linero
coption > Cled > Clock > Clock

The point type = "tent" placeHolder= "unit Price"

The point type = "tent" ng-model = "53" /> 

The placeHolder= "unit Price"

                 <1/2>
                   filter: { product Name '; SI, Brand : SZ, unithrice: S& }>
                                                             > { fem product Name} } <1td>
                                                                <fo>> { Eilem. Board & } < 1 toda " 2NR"
                                                                  < { i fem . uni Drice | currency . 43 < 1 dol > ~ width ~ 180 4  { Exitem . I mages } < ing border ~ " height = ~ 40° width ~ 180 4
```

```
Src= "Images / E (Hern Image }}" /> < to>
    <1table>
  </div>
  <1body>
 <1hmV
3/11/15
    Above Example
   < html>
     < head>
       <script src = "augular-min.js"> <15cript>
       <SCNPt>
         Var obj = augular. module ("myApp", []);
         obj. controller ("Product Controller", function ($500 pe)
           $scope Products =
          [ & prame: "Apple MF841 HN Ulha book", Brand = "Apple", price = 1.19500,
                     îmage = ingj-jpg },
           & pname: "Asus EeeBook Y205TA", brand = "Asos", price = 15490,
                    image = ingrospg }];
         · } & Scope. B. Reverge - false;
           $supe. sortColumn = "pname";
           $scope. frdpname = ""
           $scope. fnd Brand = "
           $ scope frd Price = " ";
        3);
      <1scmpt>
     Klhead
     <body ng-app="myApp">
           <h>> All filter options </h>
          < by>
        <div ng-controller: Product Controller >
```

```
product Name <10> <1th>7
   <a href-" rg-click: "Delevene: ! Delevene; sort Column: brand">
    # Brand <1a> <14b>
   <a bref=" ng-click=" Is Reverge = 1 Is Reverge; sort Column="price" >
          Price <10><1th>>
   > Product Emage <1th>>
  1140>
  < 42 >
   > < input type="tent" place Holders" product Name "ng+model="indproo")>
    11td>
   < Select ng-model > fnd broad >
           <option> Apple <1 option>
           <option> Asus <loption>
           < option> All Brough < 10ption>

Klselect > "Value =""
     <1+d>>
     < input type="tent" place Holders" Price 'ng-model="frol price" 1> < 1 tel>
   ヘーナン
    rg-repeat=""item in products | or filter: { "prame': frd products |
            'broud's fredbraud, 'pria': fredprice } orderby: sortcolumn:
                               Iskeverse >
     > { } { item. pname } } < |td>
     {td> {{ item-broad}}
     {\formall} \text{fem. price} \formall 
      < fing src= "Images [ { { item : { mage } } } "</pre>
             height="90" width="120" border="1" 1> <1td>
   <1/2>
  < Itable>
  < ldiv>
 <1body> <1 html>
```

 $\bigcirc$ 

```
=> Events in AngularJs :-
```

- -> Similar to Javascript, Angular Js also supports all client pide events.
- → In Java script all events are pre-fix with "on" word.
- # Eg:- onclick onchange on focus
- -> Angular Js, all event names are prefix with "ng-"

- → Events are handled in Angular Is by attaching required functions in controller with \$ scope.
- → we can store function reference be in a variable that will be reference by \$ scope.

Example :

→ we can bind the above function with event in view as follows.

<imput type="button" ng-click="test()" -- />

Example:
<I -- Create a webpage to implement Login function in Angular Isa -->

<html>
<head>
<script src="augular-min.js"><1script>
<script>
Var obj = augular. module ("my-App", [I]);

```
obs. Controller (Democontroller, function ($ scope)
      st scope. uid = " " ;
      $scope · pund = 1 )
                             $ Scope · Str = Green
      $ scope message = ";
      $supe-Login: function ()
      ş
        If ($scope. uid = admin & $ scope. prod == "adminna")
           $scope message = Welcome to Admin'; $scope str = "Green"
        elsc
          $ scope · message = " Envalid userid or Password";
             & scope · str 2 4 Red1
 <1 script>
 <1000dy>
 <body rg-app: "myApp">
    <hI> Angular JS Evento-Demo<1h1>
   <div ng-confroller 2 Democonfroller >
   wer Name: < input type="tent" ng-model =" wid" > <br> <16>>
   Passioord : < "mput type-"passioord" rg-model="prod' 1> < b> ×167>
    "button" ng-click: "login()" value: Login's>
    761751677
    <cpan> {{ menage}} </span>
           Style = "Color : { { str}}"> < dis>
<1html>
```

```
HILLS
    Example F
   <1 -- Create a webpage to perform Math operations using Angular Is Events ->
    <html>

Klhead >

        <script Src = 'augular.min-150'> <15cript>
        <scmpt>
         Var obj: augular-module ("myApp",[]);
          obj. controller ("Demo controller", function ($500 pe)
             $ scope . a = 0;
             $ scope.y = 0;
             & scope- result = ";
             $ scope. Mystyle = {color: 'Red'};
             $ scope. fz = function (arg)
            Ş
               Var = = 0;
               switch (arg)
                 Z = parpe Int ($ scope-x) + parpe Int ($ scope-y);
                  &scope-Mystyle={color: 'Red' }; breaks
                  Z=parpeint($supperx) * parpeint($supery);
                  $scope-Mystyle = {color: 'Green'};
                  break;
                 Cose ( k):
                 z = parpelnt (& scope. n) & parpelnt (& scope. y);
                 $ scope. MyStyle = { color: 'Blue'};
                  break;
                $scope. result: "Result: "7 = 5
         رط الأوراغ
رجل الأوراغ
```

```
<+script>
<1 head>
 < body is ng-app = my App 1>
   <h1> Angular Js Events <1/12 </h1>
  <dir ng-controller = Democontroller >>
  Enter first Num: < input type="text" ng-model="x" 1> <br > <16 to
  Enter Second Num: < input type = tent ng-model = y"1> <br> </by>
  <"mput type="button" ng-click="f2(1+") value="sum"/>
   L'imput type: "button" ng-click: "f2('-') value: "sub"/>
  <imput type="button" ng-click="f2('1') value="mu"/> <br>
  <span ng-style="Mystyle"> {{ Result }} 
 adivz
< lbody>
<1html>
Example:
<1 -- Create a webpage to display the images based on mouse over
     event using AngularTS Events -->
 <html>
    <head>
     < style>
       ·C1
         border: Ipa colid Blue;
         height: 80 px;
                 : 100px;
          wioth
         Margin: 3pt;
         padding: 3 pa;
      # img 1
         border : 2 pr solid Red;
         height : 230p7;
         width : 300px;
          Morgin ? 3px; padding: 2px;
```

```
<
  <body ng-app: my App">
    <h17 Angular Is Events <1h1> <hr>
     <div ng-controller - Democontroller ">
       <img class="c1" rg-repeat=" item in images";</pre>
                   ng-mouseover = "update Image (item)" src="Image / {{ item}}" />
         くりってしりょう
                ed = "Pmg1" src = "Images/ {{shr}}"/>
    </div>
    Lscript crc= "augular-min-js"> < 15cript>
    < scapt >
        var obj = augular, module ("myApp", []);
        obj. controller (Demo controller , function ($scope)
            $scope · Images = ["Image 1 · Spg", "Image 2 · Spg", "Image 3 · Spg"];
            $scope. str= "Image 1. jpg";
            $ scope. update Emage = function (000)
                   $ scope. str = ang;
          3);
    <12c4/47
   </body>
<1html>
```

### > Apply Styles with Angular Js:

- -> we can apply styles to views in Angular Is in the following ways:
  - 1- Styles with expressions.
  - 2. using "ng-style"
  - 3. wing "ng-class"

### 1) style with expressions 1-

- → It is a regular approach. In this we store required style properties.
- -> Apply these values using expressions.

symbon: - <span style="prop: {{ Voriable}}} -- <1 span>
Figh <span style="Color: {{ Shr}}"> Helloword <1 span>

### 2) Using ng-style :-

- → ng-style is AJS directive.
- It will take style properties as object format
- -> This object we can pass as argument also.

Eat <span ng-style = "mystyle >likesullik Ispan>

### 3) Wing ng-clan >

- -> ng-clan is also AJS directive.
- -> It is designed to apply css clanes.

Syntant <span ng-class="{clanName:bool3"> --- <15pan>

Ent <span ng-clan="{c1:toue}> --- <1span>

```
5/11/15
   Brample:
  <1 -- Create a webpage to allow the user to select the products-
     Apply the styles to selected item & display total amount
   <hm1>
     <head>
       <style>
          ing
          ٤.
            height: 40pm)
            width ; 60px;
            border; Ipa solid Black;
            padding , 2px;
         3
         ul
           List-style : none;
           padding : spx;
           border: 2pa solid Red;
           width : 400 px;
         z
         ul lî
           background-color; pink;
           padding & 3 pr.;
           border; 2px solid Red;
          width: 380px;
          height: 50 pa;
           margin: 5px;
         .01
           background-color: Blue;
           color: white;
    <1style> & Head >
```

```
<body rg-app = myApp">
  <hi> Froduct selection Page < 1h1> <hr/> <hr/>
  Kdiv ng-controller: "Demo Controller">
    <W>>
      ng-repeat = "Hem in Broduct"
           ng-clas = "{c1: item. is Selected }"
           ng-click: " item . is selected = ! item is selected >
        Ling src= 2 mages/ { { item- picture}}'/>
         }{ flem. pname}}
         <span style="float:right; padding:15px1>
          { sitem.price | currency: "INR"}} <15pan>
      イル
      style="background-color: Light Green;">
          Total Amount :
        <span style="float: right; padding: 15pn;">
           3 & update Total () | currency: "DNR" 3} <1span>
       イルドン
     <1W7
   <1div7
  xscript src= augular. min. js4> <15cript>
  <scopt>
    var obs: augular. module ("myApp", []);
    obs-controller ("Demo Comboller", function ($ scope)
        $ scope. products = ,
      [ spname: "Nikon coopin s3700, isselected; falsex price: 6275,
          picture: "Image 1. Spg! },
       {Proame: "Cannon Powershot sxyon", isselected: false > price; 9890,
              picture: "Image 2: Jpg"} ] ;
```

```
$ scope · Update Total = function()
    Ş
        Var total =0;
        var n = $ scope products length;
         for (var 1=0; [<n; [++)
           if ($ scope products [i] . Is Selected == true)
               total = total + $ scope . products [1] - price;
         return total;
     13
  3)5
 <120xbf>
<1body>
<1htm>
 Frample !-
< 1 Create an Webpage to display the product details in different display
   formats based on selected mode using ng-switch ->
 <html>
   <head>
      <546>
         padding ; 2 px;
         margin 35px;
    <15467
  Klhead 7
```

```
<body ng-app="my App">
  <hi>ng-switch Demo
  xdir ng-controller= Demo controller1>
    <select ng-model = Display Mode >>
      coption> None < 10ption>
      <option> Light < loption>
      <option>Details <loption>
       coption> smalleon, <loption>
    <1 Select>
   <div rg_switch = "Display Mode">
       edir ng-switch-when = 1/4+>
         . rg-repeat = "item in product">.
                } { item phame } } 
         <101>
       4 div
        <div ng-switch-when="Details">
          <fr ng-repeat = "item in products">
              > { { ftm. pname } } >
              > { td > { { item - price } } < 1 td>
              > {td > { } item - picture }} <1td>>
            <110>
          <Hable>
        <ldîvz
        <dov ng-switch-when="Small Econy">
           < Pmg ng-repeat." Hem in products" height-440px4
                   woldth="upp" border=1' src="Images/{{item.picture}}"
         <idiv>
         <ldiv ng-switch-default>
           <hi> Dr is default mode 4h1>
         < divo
      くはパソフ くしんパン
```

```
<script> src="augular-min-js"> <1script>
 <SCNpt>
   Var obj = angular · module ("my App", [])
    obj-controller ( Democontroller, function ($ scope)
       $scope. Display mode = "Mone" 3
      $scope products =
     [{pname: "Nikon evolpta 53700", price: 6275, picture: "Imaget jpg"},
       & pname: "Canon Powershot sxuoo", price 2 9890", preture: "Images of pg "3]
    <del></del>});
   <15colpt7
 Moodys
<1hhml>
Frample:
<1 -- Create a webpage to demonstrate usage of ng-show, ng-hide and
      ng-disabled directives -->
 くけかしろ
   <head>
     <style>
       #divi
         border ; spr solid Blue;
          width: 200 px;
         height: 250 px;
         padding: 5 pr;
    21styles
  Klhead 7
   <br/>
<br/>
body ng-app > my App'>
     this special Directives < 1/17 < hr/>
```

```
<div ng-controller = Demo con holler >>
           <hz> usage of ng-disabled <1h z>
               <'mput type="checkBox' ng-model='n' 1>
                       Are you Agee Terms & Conditions?
                 <6771b7>
               <imput type="button" ng-disabled = "1x" value = "Registu"/>
                 くかってくけって
         <h3>usage of ng-show
             <a href="" ng-click="42!4"> Show/Hide user details<1a>
               <br />
<b
                <div ng-show="y"> This dir contain user details <1dir>
                      くれゃ>くりかて
          < h3> usage of ng-hide < 1 h3>
             < a href=" " ng-click=" 2=12" > Hide | Show Broduct Details <10>
                    <br><|br>>
                  <div id="divi" ng-hide="2">
                            <h3> Product Name <1h2><1hr>
                                 <span> Product details are present in this section <15pan> <16>>>
                                < simg erc="Images/ Image1-jpg" height="sopx" width=180px"</p>
                                                   border = 2 1>
                       <1du'0>
                LECTIPIT
                     var obj = augular. module ('myApp', ());
                     obj. controller: ("DemoController", function ($scope)
                             $ scope. a = false;
                            $ scope · y = fabe;
                           $scope. 2 = fabe;
          ZI scolpt>
   1/body>
< lhtm/>
```

# Validations in Angular Js Application using Angular Is forms

- -> According to webpage development, browser point of view "form is a collection of input fields".
- -> forms are used to collect the data from the user.
- -> At the time of getting data from user and submitting, we need to perform validations.
- -> Angular Is provides its own options to implement validations.
- -> Angular Is provides built-in directives, objects to perform validations at clientpide.

### Rules that should follow to implement validations in AJS:

1) < form> tag should be placed with in the tag that is bind with ng-controller.

<div ng -controller=" --">
 <form>
 =
 <! form>
<!div>

- 2) <form> tag should have "name" and "novalidate" attributes.
  <form name="#1" novalidate>
  <form>
- 3) Enput controls should have name attribute.

  I'mput type="text" name="t1" -- 1>
  - 4) Prepare custome Error Menage wing espan> tag with ng-show directive.

<span ng-show=""> Error Message <12 pan>

```
5) Identify the failures of validations by using pre-defined AJS options.

By servor.

usage: fl.tl. servor. required.

6) Apply validations to imput controls by using AJS validation directives.

ng-required

ng-manlength
```

ng-nûnleugth. ng-pattern -- etcs.

```
Example 7
< 1 Create a webpage to implement Angular Is Validations ->
                <html>
                         <head>
                                       < style>
                                                                 color ; Red;
                                                       3
                                       1 style>
                                     <script src= "augular-min-je"> <15cript>
                                        esca'pt>
                                                 Var obj: augular. module ("my App", []);
                                              obj. controller ( Demo Controller, function ($ scope)
                                                                   $ supe - fname = Ravi";
                                                                  $ scope - Iname = "Kumar";
                                                 3);
                                  <1 script>
                        <1 heads
                       <br/>

                                            <h1> Angular Is Validations (1/1)>
                                                 <hr/>
```

Last Nours. < "input typez'tent" name="tz" ng-model="trame"
ng-required="true"/>

<'mput type="button" value="submit" name="b1"/> <br>

<1div>

<16/m/)

atter Note:

\$ dirty: This property gives whether wer is used the ilp field (on) not.

### HUIG

### \$invalid:

- → This property can be applied at form level to know all validations (or) passed (or) field.
- → If any one validation in field it gives tour, all validations are valid & returns false.
- -> we can use this option to disable/enable submit button.

Ent <input type = 'submit' ng-dipabled = "fi. \$invalid"/>

```
-> Angular Is Validations;
    <html>
      Khead >
       <sty le>
           Color: Red;
      <1 style>
      <script src="augular-min-js"> <15cript>
       <conpt>
         var obj: augular-module ("myApp", []);
         obj-controller ('DemoController', function ($ scope)
           $scope.frame ="
           $ scope lname = "
           $ scope placode = " "
           $scope emailed =" ",
           $scope-city =" ";
         ز(ځ
     Liscoptz
     <head>
     <body ng-app="myApp">
       <h1> Angular Js Validations < In1> < In7>
       <dr ng - controller = Demo Controller >
        < form name="fi" novalidate>
        front Name < "nput type=" tent" name = "ti" ng-model = "frame"
                ng-controller= "true" 1>
        <span clan="c1" ing-show = "f1.t1.$error.required & f1.t1.$dirty">
              - Figst Name in Required <15pan7 < br/>
>
       Last Name < input type = "lent" ng-model = "lname" name = tr"
                 ng - required = "toue"/>
```

- city: <input type: "text" ng-model: "city" norme = "t2" ng-manlength = "10"
  ng-minlength = "2" 1>
- <span clan = "c1" ng-show = "f1.+8.\$error. manlength 49 f1.+3.\$ dirty">
  city name should bot be more than 10 Character
- <span clan: "ci" ng-show = "fi-ts. & error min length & fi-ts. &dirty">
  city name should be 3 character; <1 span >
- princode: <input type="text" ng-model="princode" name="tu"

  ng-pattern="/1.0 {6}\$ \$/"/>
- <span clan="c1" rg-show="H.tu-\$error.pathern &4 fl.ty.\$dirty">
  plz-enter Valid procede <1span>
- Email: <mpret type="email" ng-model="emailid" nam="ts" />
  <span class="c" ng-show="fl. ts. \$ error. email 44 tl. to \$dirty">
  plz enter valid Email id <1span> <br/>
  br1)

<1 forms

<1 div>

Cloody

< lhtml>

- → Modules in ATS! -What is module in ATS?
  - -> Module in consider as a container for the different programming items of application like controllers, filters, services, directives etc.,

- -> Module specify how an application should be boost Traped.

  (Phitializing your application Hems).
- -> module can implement seperation of code features of muc.
- -> Module is an importent port of the AJS dependency injection. cyptem.

Note: "ng! is a predefined global module. that will be prepared by Angular Js Framework.

## Q- what are the content of the AJS Module?

- -> we can define different Plems of the Angular Is application.
  - -> AngularJS module contains any of the following items.
    - 1) controllers
    - 2) Serricon
    - 3) factories.
    - 4) Directives
    - 5) filters.
    - 6) Configurations.
    - 7) Routes.

### Q-How to create Modules in AJS?

Var obj = augular. module (d'module Name!, (7); Arguments :

- 1) Module Name Storg
- 2) Array of dependent modules String array.

```
Creating module with dependent Modules
     Var obj 1: augular. module ("myApp",[]);
     Var obje= augntar. module ('myApp', ["myapp"]);
9/11/15
  <! -- Create a webpage to implement a module that will dependent on
     another module to organize employee data using Angular Is
  <html>
   <head>
     <script src = 'augular.min.js'> <15cript>
      <script7
        var obji= augular-module (ReysonConholler, []);
       objl-Conholler ( Person Conholler, function (4 scope)
           $ scope · name = 4 soft 1;
           $scope-age = 30;
        3)0,
        Var obj2= augular. module ("myApp2", [myApp1"]);
        obj2-Controller ("Emp Controller", function ($500pc)
            $scope-empno=1234;
            $sope = job z " manager";
            $scope. sal = 25,000;
         3);
      くなくかりか
     <1 head>
     <body ng-app = "myApp2" >
      <hi> Angularis Modules (h)>
      <div ng-controller = "PensonController">
         Employer Name: [{name}} < by
         Employee Age : [{age]} <b>
```

<div Ag-conholler: "Emp conholler">
 Employee Elumber: { emp conholler">
 Employee Elumber: { emp conholler">
 Employee Tob : { sob} < 6x>
 Employee Salary : { sal} < 7b>
 </div>
</div>
</div>

<body>

< them >

## Angular Js - Services

- -> Angular Is provides built-in services to perform required operations across multiple controllers.
- -> What is Service in Angular Js?
  - Service is reusable component across multiple controlleys.
  - -> A service can have variables & functions.
  - -> Service is defined the members as instance members by using "this keyword.

this variable = ";

this fn-name = function()

{

=

};

what are the enamples of pre-defined service in AJS?

- i) \$ http It is used to communicate with server asynchronously.

  (AJAX).
- 2) \$route It is used to implement routing concept for single page applications.

```
How to create services in Angularis?
```

- → we can create services in AJS with "module" object reference (myApp).

  Var my App = augular module ("myApp", (7);
- -> Module object provides two functions to create user defined Services
  - 1) Service ()
  - 2) factory ()

#### Syntan for creating Service ()

1) Using service ()

myApp-service ("ServiceName", function ()

11 declare Variables (or) functions with this keyword.

3)5

How to use service in controller?

-> we need to specify service details at the time of creating controller.

Ex: my App- controller ("Controller Name", function (\$500pe, Service Name)

{
11 Access the members of service by using Service Name.

3);

#### Example +

Angularis service ->

#### Regulared fily

- 1) augular. min. is
- 2) app.is
- 2) Servia Demolis
- 4) Serna Demozijs

```
1) apposs
 11 1. Creating module
   Var myApp = augular = module ("myApp", [7]);
11 2 creating Service
   my App. service ( Test Service, function ()
     this, sum = function (2, y)
         Var 2 = parpe Ent (x) + parpe Ent (y) ;
        return 2;
      this, multiply = function (x,y)
         Var == parxe Port (a) * parxedut (y);
         return 2;
   3);
11 3- Creating MathController
  My App. Controller ( "Math Controller", function ($scope), Test Se rica)
  $ scope - x = 105
  $50pe-4 = 20;
  $ scope result = 0;
  $ scope · get sum = function()
  ٤
     $ scope-result = PestService.sum ($500pe.7,$ccope.y);
  $scope-getMultiply = function()
    $scope · result = Test Sernia · multiply ($scope · a, $scope · y) ;
  35
 3)%
```

```
11 4. Greating Product Controller
                my App. controller ("Product Controller", function ($ scope, Test Service)
                            $ scope . pname = " Printer";
                          $scope. Uprice = $500;
                          $scope gty = 1;
                          $scope. result = 0;
                          $scope.getTotal = function()
                               $scope. result = Test Service. multiply ($ scope. uprice, $ scope. 9ty);
                       زكي
               ز(لا
 2) Service Demol-Html
             <html>
                 <head>
                     rscript Src="augular. min.js" > <15cript>
                     <script src = "app-js" > < 15cmpt>
              </head>
            <br/>
<br/>
body ng-App='myApp'>
                 <hi>Angular Is service - Mathconholka </hi>
                  <hr></hr>>
                  colly ng-controller= "MothController">
                   first value: < imput type = "tent" ng-model = "7"/> <br></br>
                 Second Value: < "nput lype="tent" ng-model= y"/> <br></br>
                 <button ng-click="getSum()"> Scum < 1 button>
               <br/>

             <Span > Result: {{result}} </span>
     <1dix>
  <1body>
</h
```

```
3) Service Demoz. Html
      <html>
           <head>
                    < script src 2" angular-min, je"> < 15cript>
                   escript sic = "app-52"> <150 mpt>
          Theads
           <body ng-app="myApp">
                    <h1> Angular Is service - Product Controller < 1 h1>
                     くりゃっくりりょう
                     «div ng-conholler: "Broduct Conholler">
                             Product Name = < "mput type="tent" ng-model = "pname"/> <br > </br>
                          Unit Price : < input type = tent ng-model = uprice 1> <br > </br >
                            Quantity: < input type="limb" ag-model = 'aty'/> <br></br>
                          <br/>

                          <Span > Total Amount: {{result}} <Ispan>
                  <ldiy>
          <16ady>
   < lb tm 1>
Creating Service with factory Method
                                              my-App. factory ("Test-factory", function
                                                          obj-sum = function (2, 4)
                                                          obj. multiple: function (a, y)
                                                     return obj:
```

```
my App. factory ("TestService", function()

Your obj = { };

obj. sum = function(7,4)

Your = parpeInt (a) + parpeInt(4);

return =;

obj. multiply = function(2,4)

Your = parpeInt (x) * parpeInt(4);

return =;

return =;

return =;

return obj;

3);
```

# Custom filters in Angular Is

- → AJS framework provides pre-defined filters to filter application data as per our requirement.
- -> If you want to create new filters as per your requirement, then you have to develop custome filters.
- # what is custom filter ?
- -> filters that we develop as por our customized requirement are called custome filters."

ENT

- -> Display names starts with "A".
- -> filter only Even numberp.
- → filter only five multiples. etc.)

```
How to create constorme filters?
-> we can create custome filters with module object reference.
-> Angular aboject module object provides a method called "filter()"
    to create custome filters.
       myApp. filter ("filterName", function()
            Il required code
         Frample !-
<1 -- Create a webpage to implement custom fillers for following requirements ->
   1- Reversing the given string
   2. filtering items from array which are starts with specific Character.
   X:
 i) App. TS !-
   11 creating module
     Var my App = angular. module ("my App"), []);
  Il creating custome filter to reverse the string
     my App. filter ("Revenue", function()
         var fn_test = function (input)
                          var ar = Imput. split (' ');
                          ar- reverse ();
                          Var output = ar. join ('');
                          return output;
          return fortent;
```

3);

```
11 curbone filter to filter array items which are starts with specific
   character-
  my App. filter ("Startswith", function()
    var fn_test = function (input, option)
                    var output:[]:
                   for (various i < inputilength; i++)
                      if (input [i] · charAt [o] == option])
                        output .push (input [i]);
                    return output;
      return fortest;
   3);
 my App Controller ( Demo Controller , function ($5cope)
 ٤
     $scope: mame = "Hello World";
     $ scope · courpes = [ Angular JI, "ASP", "ASP. NET", "JSP", "PHP', "HTML",
                         "SQL", "SQL Server", "Javascript"]:
  ५)5
2) custome-Altery-Demol-Html
   <htm>>
    < Head>
      <script src="augular-min-js"> <15Cript>
      <script Sxc="app.js"></script>
   41 head>
```

```
<body ng-app = 'my-App'>
    <hi>> Angular Js Custome filters <hi>< <hr></h>>>
    <div ng-controller = 'Democontroller">
        wername; { { uname | Roverpe } }
       <br>></br>.
       <span> filtered Courrer <1span>
        <01>
          cli ng-repeat = item in courses > 1 Starts with : 'A' >
              } { item 3}
          حثال>
        118/>
    <1div>
  <1body>
<1html)
   myApp. filler ("TempEmps", function()
      Var fn_Tent = function (input)
         Var output = [];
         for (120; ic input length; itt)
            If ( Pmput [i] type == "PartTime")
               output · pust (input(i) · erance);
           return output;
       return for-lest;
```

\$scope emps of { empno: loss, ename = "sott", type = "fulltime"}, {empno: loss, ename = "James", type="Parthine"};

## 10/11/012

## Single Page Applications with Angular Is Router

- > SPA means loading the content from different pages dynamically into single page.
- -> In SPA development, maintaining routes détails in main challeuging task
- → If you use other frameworks, they doesnot provide much features to organize routes & history, state, etc.
- -> AJS will provide all the features to implement SPA with required options.

#### Steps to Emplement

- 1) Include Angular Is routing library.
- 2) Module creation with depends on groute module.
- 3) Provide config details to mapping the routes using \$routeProvider."
- 4) Define required controller for the Views.
- 5) In Html design, prepare required typerlinks & div tag to load the dynamic content
- 6) provide "ng-view directive to div tog.

  <div ng-view> <1div>

```
<1 -- create web Application to implement SPA using AJS Rouling >>
                         Asp. Net
  Required files
   Iscriptil augular. min.js
2) /scripts/ augular - route min is
 3) Isonipts Cappis
4) Inden. html
   Student html
b) courses html
1) app. $52
 11 creating Module object
   var myApp=augular-module ("myApp", ["ngRoute"]);
 Il create configuration with module object if provides route details.
   my App-config (function ($ route Provider)
       $ route Provider - when ("/Route 1", { templete Us1 : "Student - html"
                                           controller: Student Controller
                       · when ("/ Routes", { templete Orl: "Courses . html",
                                          Controller: Courses Controller
     4)~
11 controller for student Hml.
 my App. controller ("Student Controller", function ($ scope)
      $ scope sname = "scott";
     $ scope-course = Angular Is;
```

3);

```
11 comboller for courses. html.
  my App, conholler ("Courses Conholler", function ($500pe)
 ٤
    $scope. course = ["Angular Js", "PHP", "Squery", "Jsp", "Asp"];
  3)%
@) index-html
<html>.
  <head >
   ८८५ ७>
     #dev1
        width: 50pc;
        border: 2pr SolidGreen;
        background-color: Light Yellow;
     7
   <1shyle>
  <script src=" Seripto/cugular-min-js"> <15cmpt>
  <script src='script/augular-route.fnln. Is"><1script>
  <script src='scriptlapp.15'> <15cript>
</ri>
<br/>
<br/>
dy ng-app="myApp">
 <hIT SPA with AIS Routing Demo</h> <hTI>
 <a href=" # Routel' > Student Details < 1a>
  Ka href="#Routis"> Courpe Details </a>
  <hr/>x17
   <div |d='div| ng-view>
   Klour Khalz
 <160dy>
<1hhn17
```

#### 3) student - htm)

<h37 Studits Delaits <1h3> <hr1>
<cpan> Studit Name : {{sname}} <1span> <br1>
<span> courpe Name : {{scourpe}} <1span>......

#### 4) courses him!

<h3> course Details <|h3>
<h3>
<h3>

cul 7
cli ng-repeat = "item in courses">
{\infty}
tem if.
\li>

13/11/5

AJAX programming in Angular Is

#### what is AJAX?

- Asynchronous Tavascript And Xm1.
- ATAX is a client side programming technique wed to communicate with server Asynchronously.
- -> Note: This Technique is first identified by the Google Team

#### Advantages of ATAX-

- 1) Qulck Response.
- 2) leduced the burden on the server.
- 3) beduce the network Traffic.

- 4) comfortable for user. No need to wait more time for response.
- 5) Partial page updates updates required portion of the page.

#### Implementing AJAX programming

- -> ATAX is a clientside programming.
- -> It is implemented with the help of Javascript.
- → If we implement with banic Javascript, it will be difficult and time consuming programming.
- In order to make agan programming is is easy, these are several Javascript libraries available.

#### En! 1) Angular JS

- a) Iquerey
- 3) DOJO
- 4) MooTools etc.

### Implementing AJAX programming in Angular Js

- -> AngularIs framework provides special service called "\$http" to implement again programming.
- > By using "\$http" service we can communicate with server asynchronously.
- → In agan programming, your Javascript code in responsible to send the request, recieve the response and display in the web page.

#### usage of \$http service >

\$http({ unl: "server lage unl",
method: Request Type",
data Type: "Ison",
data:
headerp: {"Content Type"= "application/ son" }
. Success (function (response)

= code

约;

```
21-- Create a web-Application to display the Dept details from Server
  using AJAX communication with Angular Js -> (Asponet)
 1) AJAK Demol. Hmy
   <html>
    <head>
      <script src = augular.min.js"> <15cript>
       <script>
         Var obj = augular. module ("my App", []):
         obj-controller ("Ajan Controller", function ($scope, 4http)
            $scope.depts =[];
            $scope. ~ = "Deptno";
            $ scope. y = fabe;
            $ scope. get Server Data = function()
               $http( { un! "Webservia (asm /GetDept")
                       method: POST;
                       data Type: Ison' ?
                        data: 1
                       headers: { "content-Type: "application/Ison }
                     3)5
                   · success (function (response)
                     $ scope. dept = response.d;
                   4);
              3);
```

(Thead>

```
<body ng-app > myApp">
   <h1>Ajan Demo < lh1> < lhr>
   ¿div ng-controller = "Ajar Controller">
     <br/>
<br/>
Voulton ng-click="getServer Data()" > Get Dept Data <1Button>
     <br >< 16x>< 16x>
     Hable border="2" width="400" align="center">
       < 167
          <a href=" " rg-click= 1 x = Deptno'; y=! y"> Deptno<1a> <1th>><1th>>
          <a href="" ng-click="x="Dname"; y=1y"> Dname<1a><1th>
          <a href=" "ng-click= "x='Loc'; g=1y"> Loc <1a> <1th>
       <+x>

// ng-repeat = "item in depts orderBy: n: y">

          { Eitem. Deptno}} <1td>
          > {} Hem. Drame}}<1td>>
          > {\text{td}> {\text{item · Loc}} < 1\text{td}>
      くけって
    < Hable>
  <1div>
&1 body>
<1html>
     websernal.asmics
    Uring System. Data;
    curing System. Data, Sql Client;
    namespace webApplication!
      [web Sernice]
      [Script Service]
```

200

```
public clas web. Services: webservice.
  webmethod
   public List < Dept > Get Dept > ()
    string connstr="server=:; database : Sathya: Trusted_Connection=true";
   String conditent: " Select to from Dept";
   Sql Data Adapter da = new Sql Data Adapter (chid Tent, connstr);
    Data Table of new Data Table ();
    da.fill (dt);
    List<Dept> deptlipt=new List<Dept>U;
   foreach (DataRow item in dt Mouse)
       Dept obj = new Dept();
       obj Deptro = (Pnt) item [0];
      obj. Drame: ( item[1];
       obs. Loc = (thing) item[];
       deptlipt-Add (obj);
    return depthipt;
 Dept. CS
    public clan Dept
     public int Deptro { get; set; }
     public string Drame {get; set;}
    public string Loc {get; set; }
  3
```

## 141111

## custome Directives in Angular Is

- -> Angular is directives are controls like the rendering of the HTML Markup inside an Angular is application (ng-app).
- > Custome directives are used in Angular Is to extend the functionality of HTML
- -> custome directives are created by using "directive()" function.
- -> AJS module object provides "directive" function.
- -> A custome directive samply replaces the element for which it is applied.
- -> Angular Is application during initialization time (Loading time) execute the custom directive related function.

#### Types of Attin directives -

-> The type of a directive specified how the directive is used.

#### 1) Element directives

-> An element directive is activated when Angular Is finds a matching HTML elements in the HTML templete (view).

Ent <directive> data</directive>

#### 2) Attribute directives

→ An attribute directives is activated when Angular Is finds a matching HTML attribute in view.

Bn: <tag directive 2"data"> <1+ag>

```
Symbol for creating custom Directive;

Var myApp = augular·module ("myApp", []);

myApp·directive ('directive Name', function()

var obj = {};

=

return obj;

3);
```

-> Option that we assign to directive object.

- ") restrict: "EA"/ "E"/ "A"
- 2) templete: " "
- 3) replace: true / fahe

En: Generating a webpage to develop custome directive by using Angularis

1) custom - Directive \_ Demol · Html

<thml>

< head>

ascript src="augular.min.gs"> <15cript>

<script src="app.js">KIscript>.

</head>

<body ng-app="myApp">

<hi> Angular Is coustome Directives <1h1>

くかってくりかるて

rdir ng-controller 2 Pest Controller">

<div welcome=Directive>

<1d°V> <hr1>

```
< Welcome - Directives
       </welcome-Directive>
    Vdw7
  <1body>
 <1htm1>
2) appris
 11 Creating module
 var myApp = augular·module ("myApp", [7);
 11 Creating directive
  my App. directive ('welcome Directive', function()
     Var obj = { ? ,
     obj-restrict= "EA";
     obj . templete = "<hi> welcome to {{sname}} <1h1>";
     return obj;
  3)%
11 Creating required controller
 my App controller ("Test Controller", function ($ scope)
    $scope. sname 2 scott ";
  3);
```

```
<1 - Create a webpage to develop custome directive to procen
  collections by using templete URL option in Angular I
 1) Ender htm)
  <html>
    < head>
     Scribt
            src = scripts/augular.min.js"><15cmpt>
            sic > scriptil appijs > <1 script>
   1heady
   < body ng-app = "my App" > Directives.
     <h>> Angular Js custome filters <1h1> <hr></h>>
      <dir ng_conholler = "studat Conholler">
         <custom-Lipt> <1 custom-lipt>
     <1044>
   <1body>
  <1htm1>
 2) app.ss
    var myApp= augular.module("myApp",[]);
    11 custom directive
    my App. directive ( austomList, function()
        Var obj= {};
        obj. restrict = "EA";
        obj. templeturl = " Templ- html"
       return obj;
     3);
```

```
11 controller
    myApp. controller ( student controller , function ($ scope)
       $ scope students=[ { sname: "scott!", course: "Angular Js 1"},
                       { Sname: "Scottz", Course: Angular JS2"},
                       {Sname: Scotts, Course: Argular Js3"}
    ٤);
  3) Templ. html
     Hable border="2" bycolor="Pink" width="300 px align="center">
        <4x>
           > student Name <1th>>
           > Course Name <1th>>
        4147
        > {{ item. Sname}} <1td>
          > {\forall td> } \forall \text{itd>
        <1/2>
     <Hable)
 Note: To apply alternate botheround color of table nows.
            ng-clan="{c1:$mdex %2==0, c2:$index %2==1}
ndu Why Style>
     background - Color: Yellow:
   · C2
      background - Color: Green;
  Listales
```

# Integration of Bootstrap to develop Angular Is UD [http://getbootstrap.com/] download (Views)

#### Bootstrap -

what in Bootstrap?

- > Boot Strap is a clientside programming framework for web Applications.
- -> It provides predefined styles in order to provide more richness to your webpages.
- -> Boot strap files need to be download from the following website.

http://getbootstrap.com/

#### Required files >

-> bootstrap.min.css.

## Including Bootstap in webpage

/ head shap . min . css " rel = stylesheet " >

## Ext Applying bootstrap CSS clanes to button.

frput type="button" clan="btn btn-default" value="Register"/>

## -> class Names that you can apply for Button !

- 1) bon bon-default
- 2) bitn bitn-primary.
- 3) btn btn-succey
- 4) btn btn- info
- . 5) btn btn-dauger
  - 6) btn btn-warning.

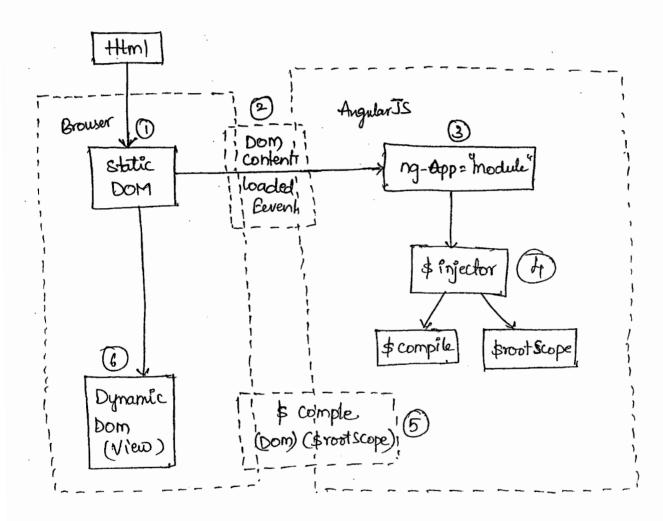
```
<1 -- create a webpage to apply bootstrap styles to buttons ->
         <html>
                 <head7
                         < link href="bootstrap.min.css" rel="Stylesheed" 1>

Klhead >
                 <body7
                                <hi> Bootstrap Demo
                               <hr></hr></
                           <button clan = btn 7 Ged Total < button>
                          <br/>

                          <button clan="btn btn-succes"> Login <1 button>
              1body>
          <1html>
 Note >
   -> Applying boolstrap styles to tables using Angular Is "ng-clan"
                      <147
                       <1-table>
```

## Interview Questions

- Q: what in Angularis Bootstap procensing?
- 9: Explain the Execution process Angular JS Application?
- Q'r Explain the auto-bootstrap initialization processof Angular Os
  Application?



- Q: How databinding works internally in Angular Is?
  - Angular objects uses the following predefined methods to perform this binding.

1)\$ watch()

2) \$apply ()

- → \$ watch () will verifying continuously the model variable weather the values are updated or not.
- -> \$ apply() will perform required task to capitate the values to view.

## Q'- what is \$rootscope? what is the difference blu \$rootscop & \$cope?

- $\rightarrow$  \$rootscope is global for all controllers for entire augular Is application.
- > It is common for all controllers.
- -> \$ scope will created for every controller object.
- -> \$ scope will be applied to specific controller.

fmail: sir. narasimha@yahoo.com

Fb: http://www.facebook.com/groups/dotnetnarasimha/