**Creating & Running first Angular 4 App:**

* ng new MyFirstAngular4App
* cd MyFirstAngular4App
* ng serve
* code . (dot)
* go to app.component.ts & modify title to your name.
* go to app.component.html & modify <h1> & erase the word ‘to’.

**Creating a component:**

* ng g[enerate] c[omponent] newcomponent
* In app.component.html type <app-newcomponent></app-newcomponent>
* newcomponent.component.html add following lines:  
  <p>{{newcomponent}}</p>
* In newcomponent.component.ts add following line under export class …  
  newcomponent = “Entered in new component created”;
* View the web page.

**Data Binding:**

* In app.component.ts add following lines:  
    
  months = ["January", "Feburary", "March", "April", "May", "June", "July", "August", "September", "October", "November", "December"];
* In app.component.html add following code:  
  <div> Months :

<select>

<option \*ngFor = "let i of months">   
 {{i}}  
</option>

</select>

</div>

* View the web page.
* In app.component.ts add following line:  
  isavailable = true;
* In app.component.html add following code:  
  <div>

<span \*ngIf="isavailable; then condition1 else condition2">Condition is valid.</span>

<ng-template #condition1>Condition is valid</ng-template>

<ng-template #condition2>Condition is invalid</ng-template>

</div>

**Event Binding:**

* In **app.component.html**, add following code:  
  <button (click)="myClickFunction($event)">

Click Me

</button>

* In **app.component.ts**, add following lines:  
  myClickFunction(event) {

//just added console.log which will display the event details in browser on click of the button.

alert("Button is clicked");

console.log(event);

}

* In app.component.html, add following lines:

<div> Months :

<select (change) = "changemonths($event)">

<option \*ngFor = "let i of months">{{i}}</option>

</select>

</div>

* In app.component.ts, add following lines:

changemonths(event) {

alert("Changed month from the Dropdown");

}

**Creating custom directives:**

* Type  
  ng g directive changeText  
  at command prompt.
* In app.component.html, add following code:  
  <div style="text-align:center">

<span changeText >Welcome to {{title}}.</span>

</div>

* Your change-text.directive.ts, should look like follows:  
  import { Directive, ElementRef} from '@angular/core';

@Directive({

selector: '[changeText]'

})

export class ChangeTextDirective {

constructor(Element: ElementRef) {

console.log(Element);

Element.nativeElement.innerText="Text is changed by changeText Directive. ";

}

}

**Pipes:**

* In **app.component.ts**, add following code, in class:  
  todaydate = new Date();

jsonval = {name:'Rox', age:'25', address:{a1:'Mumbai', a2:'Karnataka'}};

* In app.component.html, add following script:

<div style = "width:100%;">

<div style = "width:40%;float:left;border:solid 1px black;">

<h1>Uppercase Pipe</h1>

<b>{{title | uppercase}}</b><br/>

<h1>Lowercase Pipe</h1>

<b>{{title | lowercase}}</b>

<h1>Currency Pipe</h1>

<b>{{6589.23 | currency:"USD"}}</b><br/>

<b>{{6589.23 | currency:"USD":true}}</b> //Boolean true is used to get the sign of the currency.

<h1>Date pipe</h1>

<b>{{todaydate | date:'d/M/y'}}</b><br/>

<b>{{todaydate | date:'shortTime'}}</b>

<h1>Decimal Pipe</h1>

<b>{{ 454.78787814 | number: '3.4-4' }}</b> // 3 is for main integer, 4 -4 are for integers to be displayed.

</div>

<div style = "width:40%;float:left;border:solid 1px black;">

<h1>Json Pipe</h1>

<b>{{ jsonval | json }}</b>

<h1>Percent Pipe</h1>

<b>{{00.54565 | percent}}</b>

<h1>Slice Pipe</h1>

<b>{{months | slice:2:6}}</b>

// here 2 and 6 refers to the start and the end index

</div>

</div>

**Creating a custom pipe:**

* ng g p sqrtpipe
* your app.sqrtpipe.ts should look like this:

import {Pipe, PipeTransform} from '@angular/core';

@Pipe ({

name : 'sqrt'

})

export class SqrtPipe implements PipeTransform {

transform(val : number) : number {

return Math.sqrt(val);

}

}

* Add following code in **app.component.html**,

<h1>Custom Pipe</h1>

<b>Square root of 25 is: {{25 | sqrt}}</b>

<br/>

<b>Square root of 729 is: {{729 | sqrt}}</b>

**Routing:**

* In app.module.ts, type following line:

import { RouterModule} from '@angular/router';

imports: [

BrowserModule,

RouterModule.forRoot([

{

path: 'new-cmp',

component: NewCmpComponent

}

])

]

* Create a new component with name, new-cmp.
* In **new-cmp.component.html**, type following:

<p>

{{newcomponent}}

</p>

* Your new-cmp.component.ts should look like as follows:

import { Component, OnInit } from '@angular/core';

@Component({

selector: 'app-new-cmp',

templateUrl: './new-cmp.component.html',

styleUrls: ['./new-cmp.component.css']

})

export class NewCmpComponent implements OnInit {

newcomponent = "Entered in new component created";

constructor() {}

ngOnInit() { }

}

* Insert following script in **app.component.html**:

<h1>Custom Pipe</h1>

<b>Square root of 25 is: {{25 | sqrt}}</b><br/>

<b>Square root of 729 is: {{729 | sqrt}}</b>

<br />

<br />

<br />

<a routerLink = "new-cmp">New component</a>

<br />

<br/>

<router-outlet></router-outlet>