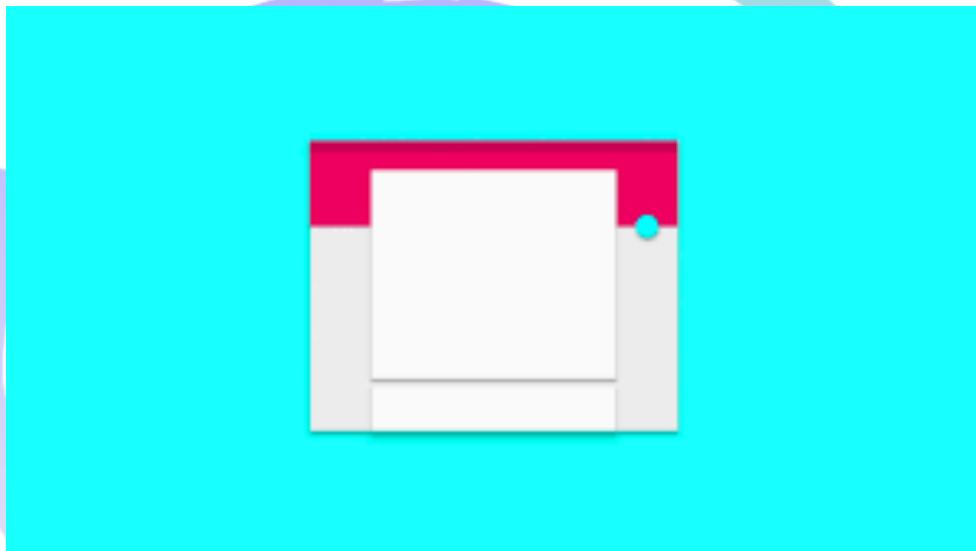


Angular Material Design

- Material Design is a design language developed in 2014 by Google.
- Expanding upon the "card" motifs that debuted in Google Now, Material Design makes more liberal use of grid-based layouts, responsive animations and transitions, padding, and depth effects such as lighting and shadows.
- Google announced Material Design on June 25, 2014, at the 2014 Google I/O conference.
- Designer explained that, "unlike real paper, our digital material can expand and reform intelligently."



- Material has physical surfaces and edges. Seams and shadows provide meaning about what you can touch."



- Google states that their new design language is based on paper and ink but implementation will take place in an advanced manner.
- In Angular we can use the concept material design to create our GUI much more better.

To use the concept of material design follow below link

<https://material.angular.io/>



To use material design approach in Angular we have to follow below steps as

Step 1 - Create new Angular project as

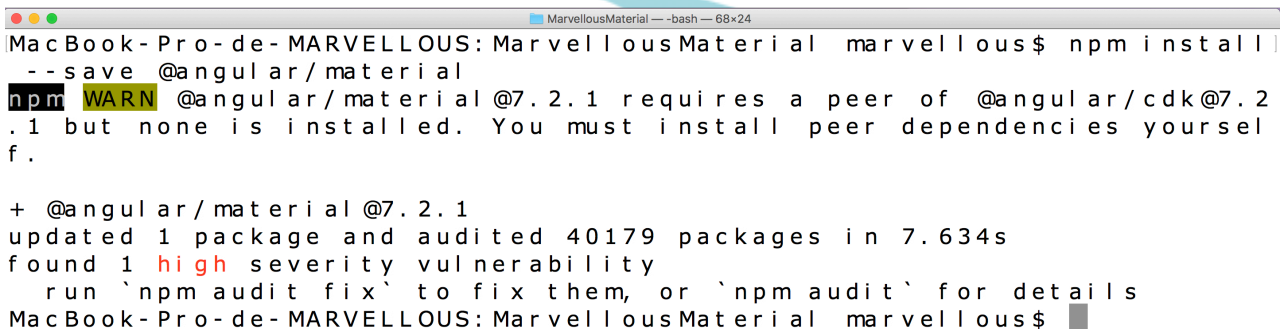
```
ng new MarvellousMaterial
```

Step 2- Go to that project folder

```
cd MarvellousMaterial
```

Step 3 - Install Material components

```
npm install --save @angular/material
```

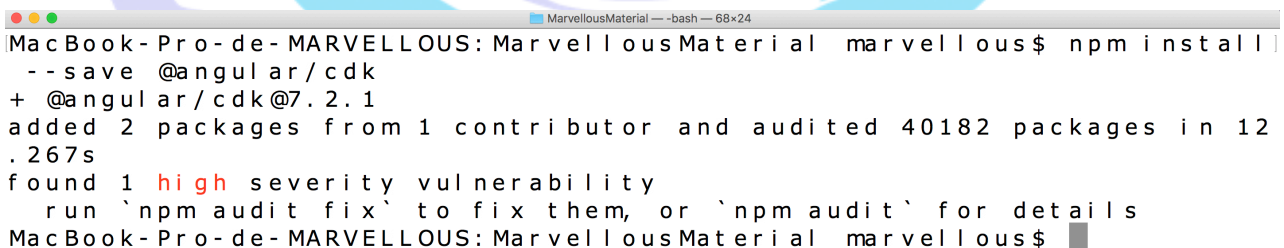


```
MacBook-Pro-de-MARVELLOUS: MarvellousMaterial marvellous$ npm install --save @angular/material
npm WARN @angular/material@7.2.1 requires a peer of @angular/cdk@7.2.1 but none is installed. You must install peer dependencies yourself.

+ @angular/material@7.2.1
updated 1 package and audited 40179 packages in 7.634s
found 1 high severity vulnerability
  run `npm audit fix` to fix them, or `npm audit` for details
MacBook-Pro-de-MARVELLOUS: MarvellousMaterial marvellous$
```

4 - Install Component Development Kit

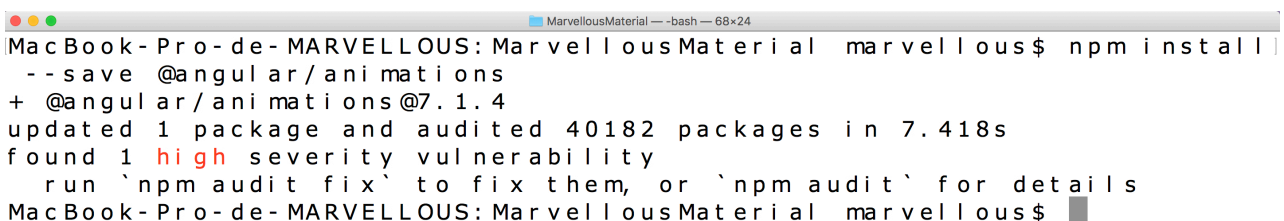
```
npm install --save @angular/cdk
```



```
MacBook-Pro-de-MARVELLOUS: MarvellousMaterial marvellous$ npm install --save @angular/cdk
+ @angular/cdk@7.2.1
added 2 packages from 1 contributor and audited 40182 packages in 12.267s
found 1 high severity vulnerability
  run `npm audit fix` to fix them, or `npm audit` for details
MacBook-Pro-de-MARVELLOUS: MarvellousMaterial marvellous$
```

Step 5 - Install component for animations

```
npm install --save @angular/animations
```



```
MacBook-Pro-de-MARVELLOUS: MarvellousMaterial marvellous$ npm install --save @angular/animations
+ @angular/animations@7.1.4
updated 1 package and audited 40182 packages in 7.418s
found 1 high severity vulnerability
  run `npm audit fix` to fix them, or `npm audit` for details
MacBook-Pro-de-MARVELLOUS: MarvellousMaterial marvellous$
```

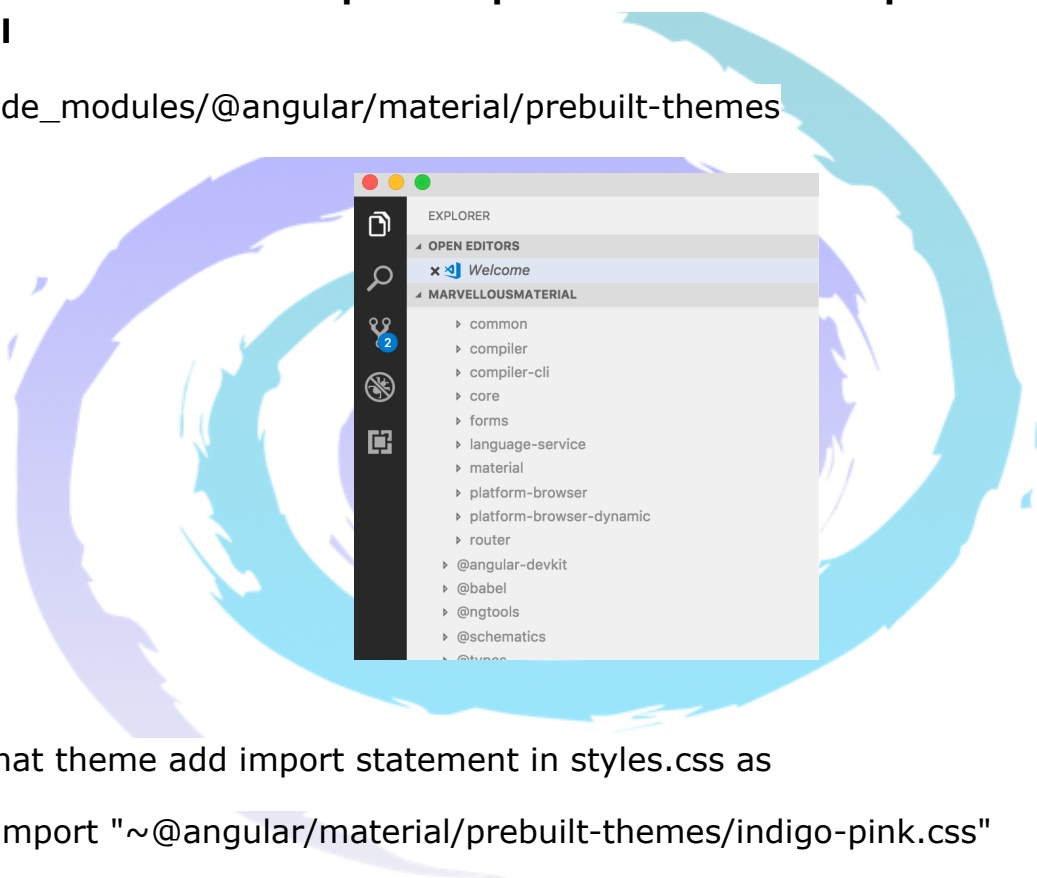
Step 6 - To add gesture support install hammerjs

```
npm install --save hammers
```

```
MacBook-Pro-de-MARVELLOUS: MarvellousMaterial marvellous$ npm install --save hammers
+ hammers@1.0.5
added 1 package from 1 contributor and audited 40183 packages in 9.98s
found 1 high severity vulnerability
  run `npm audit fix` to fix them, or `npm audit` for details
MacBook-Pro-de-MARVELLOUS: MarvellousMaterial marvellous$
```

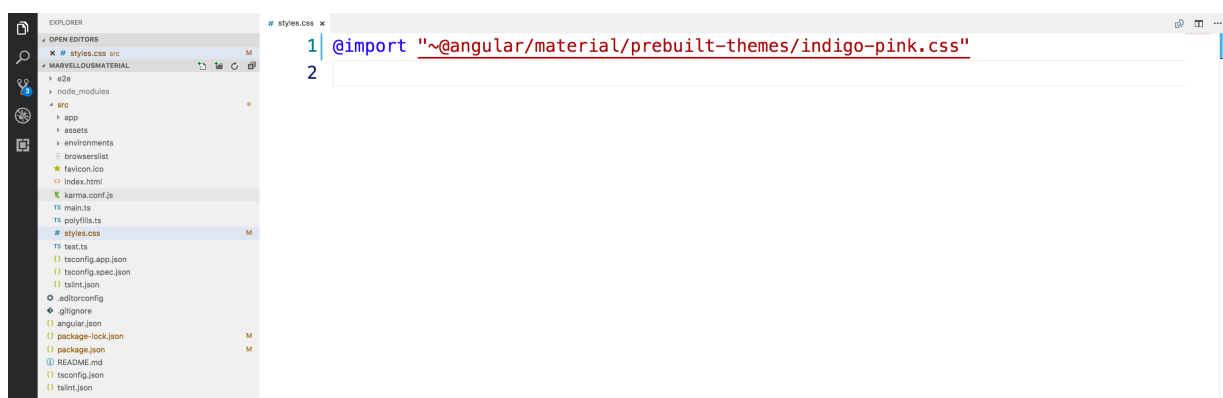
Step 7 - After above steps this path contains some preinstalled themes of Material

```
node_modules/@angular/material/prebuilt-themes
```



To use that theme add import statement in styles.css as

```
@import "~@angular/material/prebuilt-themes/indigo-pink.css"
```



Step8 - To use animations in our application we have to import it in app.module.ts file as

import {**BrowserAnimationsModule**} from '@angular/platform-browser/animations';



```

1 import { BrowserModule } from '@angular/platform-browser';
2 import { NgModule } from '@angular/core';
3
4 import { AppComponent } from './app.component';
5 import {BrowserAnimationsModule} from '@angular/platform-browser/animations';
6
7 @NgModule({
8   declarations: [
9     AppComponent
10  ],
11   imports: [
12     BrowserModule
13  ],
14   providers: [],
15   bootstrap: [AppComponent]
16 })
17 export class AppModule { }
18

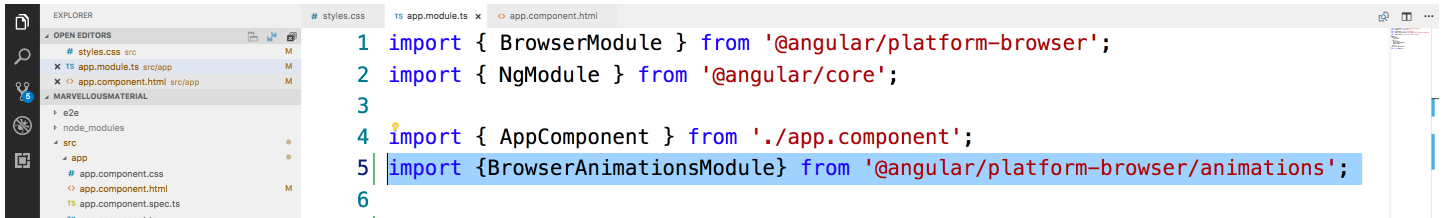
```

Step 9 - Add that module name in imports array in app.module.ts file

```

@NgModule({
  declarations: [
    AppComponent
  ],
  imports: [
    BrowserModule,
    AppRoutingModule,
    BrowserAnimationsModule
  ],
  providers: [],
  bootstrap: [AppComponent]
})

```



```

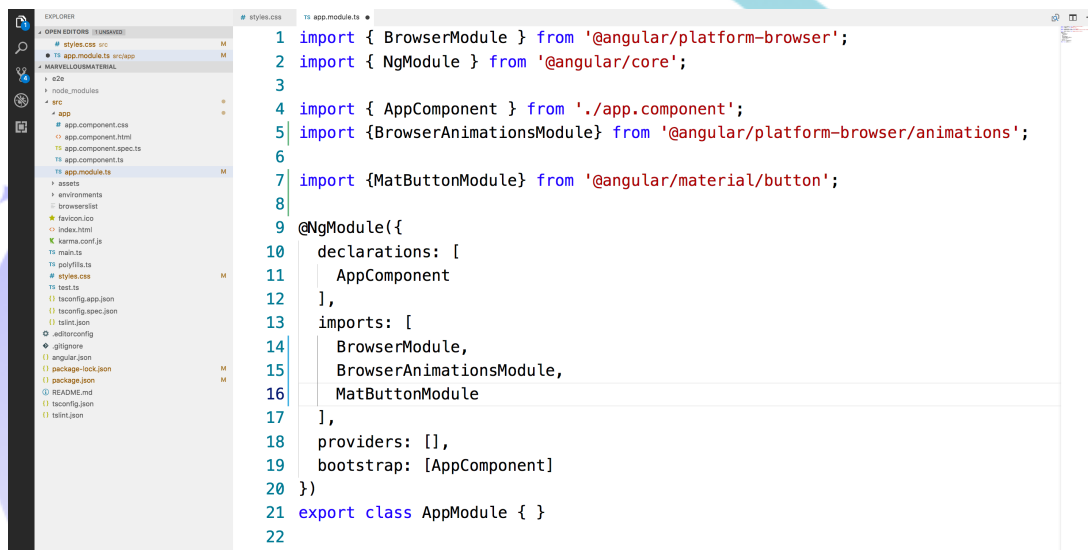
1 import { BrowserModule } from '@angular/platform-browser';
2 import { NgModule } from '@angular/core';
3
4 import { AppComponent } from './app.component';
5 import {BrowserAnimationsModule} from '@angular/platform-browser/animations';
6

```

Step 10 - In material every component is defined in separate module due to which we have to import that module in app.module.ts file

ex.

import {**MatButtonModule**} from '@angular/material/button';



```

1 import { BrowserModule } from '@angular/platform-browser';
2 import { NgModule } from '@angular/core';
3
4 import { AppComponent } from './app.component';
5 import {BrowserAnimationsModule} from '@angular/platform-browser/animations';
6
7 import {MatButtonModule} from '@angular/material/button';
8
9 @NgModule({
10   declarations: [
11     AppComponent
12   ],
13   imports: [
14     BrowserModule,
15     BrowserAnimationsModule,
16     MatButtonModule
17   ],
18   providers: [],
19   bootstrap: [AppComponent]
20 })
21 export class AppModule { }
22

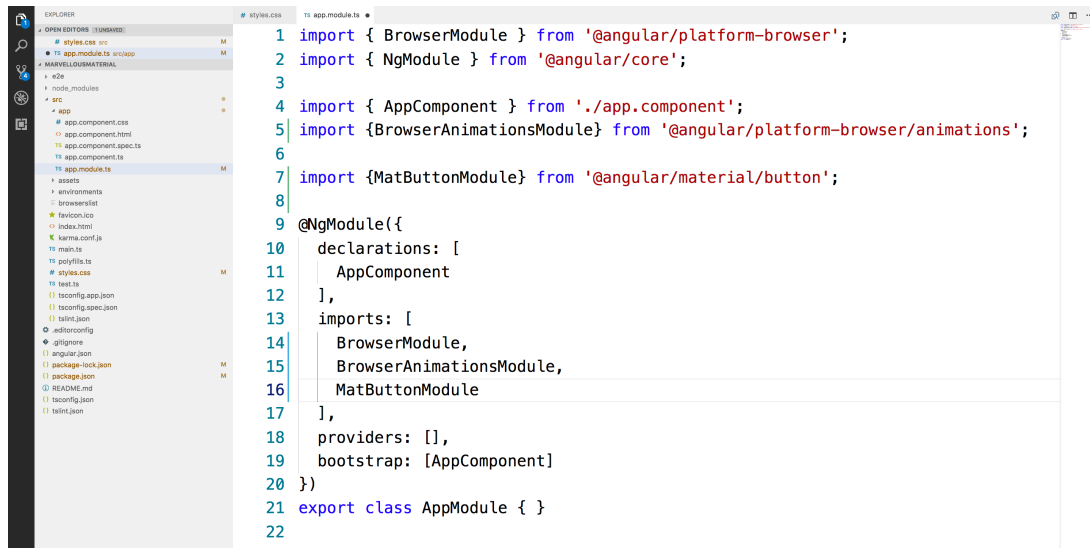
```

step 11- Add that module in imports array

```

@NgModule({
  declarations: [
    AppComponent
  ],
  imports: [
    BrowserModule,BrowserAnimationsModule,MatButtonModule
  ],
  providers: [],
  bootstrap: [AppComponent]
})

```



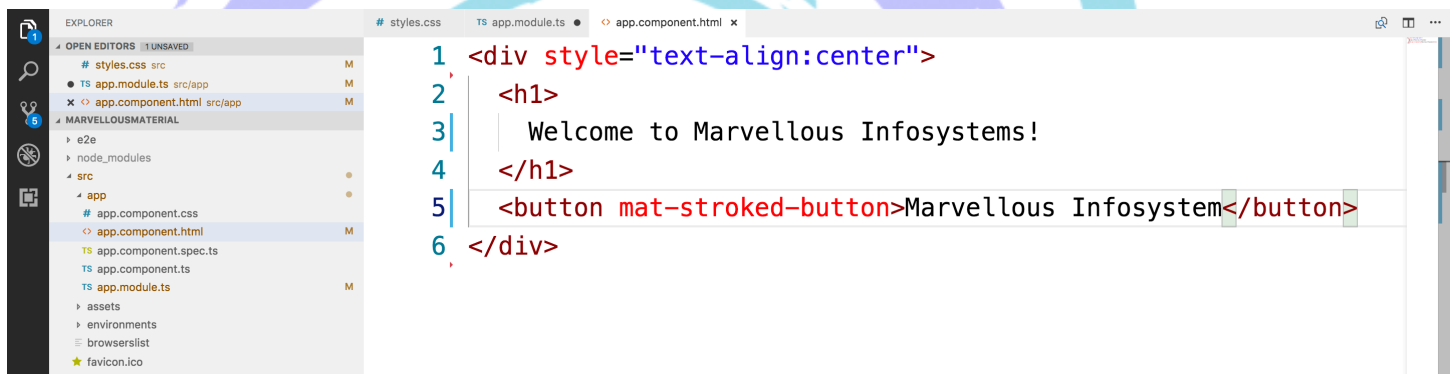
```

1 import { BrowserModule } from '@angular/platform-browser';
2 import { NgModule } from '@angular/core';
3
4 import { AppComponent } from './app.component';
5 import { BrowserAnimationsModule } from '@angular/platform-browser/animations';
6
7 import { MatButtonModule } from '@angular/material/button';
8
9 @NgModule({
10   declarations: [
11     AppComponent
12   ],
13   imports: [
14     BrowserModule,
15     BrowserAnimationsModule,
16     MatButtonModule
17   ],
18   providers: [],
19   bootstrap: [AppComponent]
20 })
21 export class AppModule { }
22

```

Step 12 - Now we can add material component code in .html file as

`<button mat-stroked-button>Marvellous Infosystem</button>`



```

1 <div style="text-align:center">
2   <h1>
3     Welcome to Marvellous Infosystems!
4   </h1>
5   <button mat-stroked-button>Marvellous Infosystem</button>
6 </div>

```

Now we can add any component which is required in our application.

Step 13 - Now we can run our application

