

Practical No: 1

Aim:- Download and install node js and angular js.

Step 1 : Make a directory.

```
C:\Users\Anish\Documents\MeanStack>dir
Volume in drive C has no label.
Volume Serial Number is BEC9-A230

Directory of C:\Users\Anish\Documents\MeanStack

01/03/2026  11:41 PM    <DIR>          .
01/03/2026  11:41 PM    <DIR>          ..
               0 File(s)                0 bytes
               2 Dir(s)  80,736,567,296 bytes free
```

Step 2 : Checking version node js.

```
C:\Users\Anish\Documents\MeanStack>node -v
v25.2.1
```

Step 3 : Checking version of node package manager(npm).

```
C:\Users\Anish\Documents\MeanStack>npm -v
11.6.2
```

Step 4 : Installing angular cli package.

```
C:\Users\Anish\Documents\MeanStack>npm install -g @angular/cli

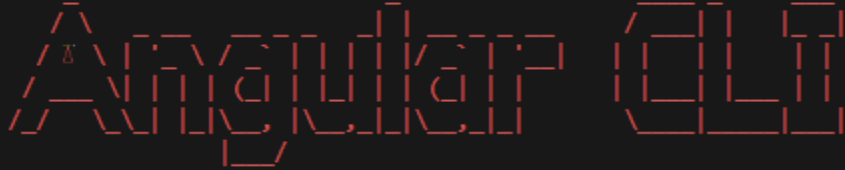
changed 309 packages in 1m

68 packages are looking for funding
  run `npm fund` for details
```

Step 5 : Checking version of Angular Cli.

```
C:\Users\Anish\Documents\MeanStack>ng version
Node.js version v25.2.1 detected.
Odd numbered Node.js versions will not enter LTS status and should not be used for production. For more information, please see https://nodejs.org/en/about/previous-releases/.

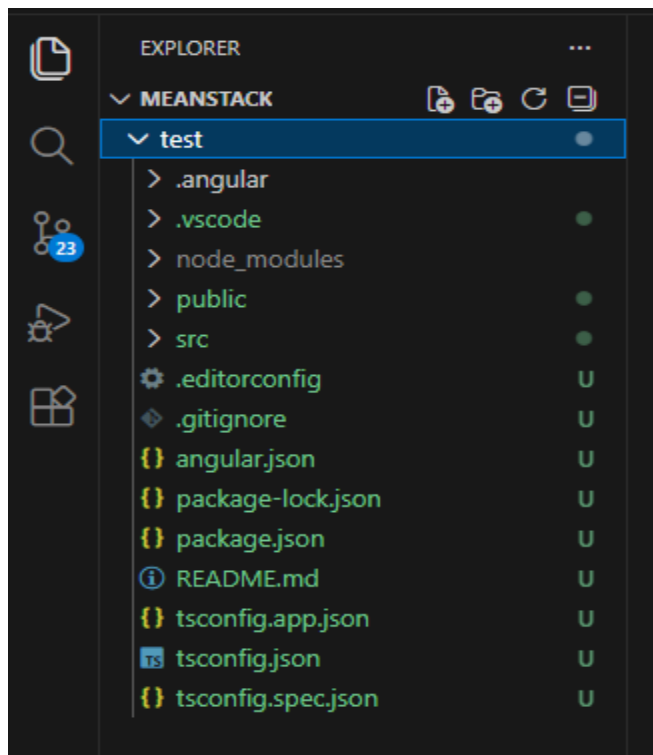
Angular CLI
Node.js
Package Manager
Operating System
```



```
      : 21.0.4
      : 25.2.1 (Unsupported)
      : npm 11.6.2
      : win32 x64
```

Step 6 : Building new file in angular.

```
C:\Users\Anish\Documents\MeanStack>ng new test
Node.js version v25.2.1 detected.
Odd numbered Node.js versions will not enter LTS status and should not be used for production. For more information, please see https://nodejs.org/en/about/previous-releases/.
✓ Which stylesheet system would you like to use? CSS [ https://developer.mozilla.org/docs/Web/CSS ]
✓ Do you want to enable Server-Side Rendering (SSR) and Static Site Generation (SSG/Prerendering)? No
✓ Which AI tools do you want to configure with Angular best practices? https://angular.dev/ai/develop-with-ai None
CREATE test/angular.json (1970 bytes)
CREATE test/package.json (951 bytes)
CREATE test/README.md (1516 bytes)
CREATE test/tsconfig.json (990 bytes)
CREATE test/.editorconfig (331 bytes)
CREATE test/.gitignore (647 bytes)
CREATE test/tsconfig.app.json (444 bytes)
CREATE test/tsconfig.spec.json (456 bytes)
CREATE test/.vscode/extensions.json (134 bytes)
CREATE test/.vscode/launch.json (490 bytes)
CREATE test/.vscode/tasks.json (1020 bytes)
CREATE test/src/main.ts (228 bytes)
CREATE test/src/index.html (303 bytes)
CREATE test/src/styles.css (81 bytes)
CREATE test/src/app/app.spec.ts (694 bytes)
CREATE test/src/app/app.ts (298 bytes)
CREATE test/src/app/app.css (0 bytes)
CREATE test/src/app/app.html (20446 bytes)
CREATE test/src/app/app.config.ts (324 bytes)
CREATE test/src/app/app.routes.ts (80 bytes)
CREATE test/public/favicon.ico (15086 bytes)
✓ Packages installed successfully.
Directory is already under version control. Skipping initialization of git.
```



Step 7:- Test file build successfully.

```
C:\Users\Anish\Documents\MeanStack\test>ng serve
Node.js version v25.2.1 detected.
Odd numbered Node.js versions will not enter LTS status and should not be used for production. For more
//nodejs.org/en/about/previous-releases/.

Would you like to share pseudonymous usage data about this project with the Angular Team
at Google under Google's Privacy Policy at https://policies.google.com/privacy. For more
details and how to change this setting, see https://angular.dev/cli/analytics.

No
Global setting: enabled
Local setting: disabled
Effective status: disabled
Initial chunk files | Names          | Raw size
main.js             | main           | 48.31 kB |
styles.css          | styles        | 95 bytes |

| Initial total | 48.41 kB

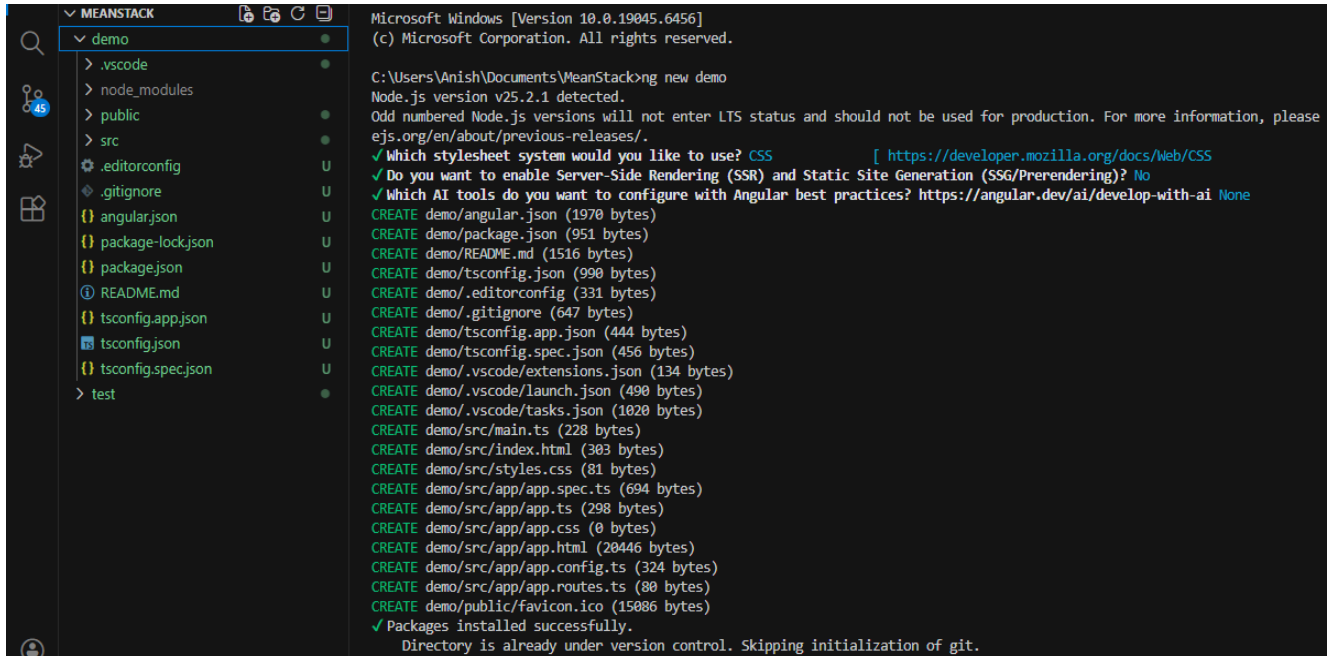
Application bundle generation complete. [6.011 seconds] - 2026-01-03T18:43:42.731Z

Watch mode enabled. Watching for file changes...
NOTE: Raw file sizes do not reflect development server per-request transformations.
  → Local:  http://localhost:4200/
  → press h + enter to show help
```

Practical no: 3

Aim:- Explain angular routing with the example.

Step 1 : Creating a new file as demo.

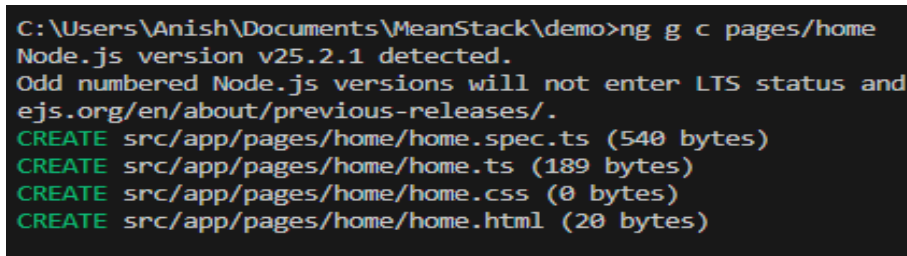


The screenshot shows the Visual Studio Code interface with a file explorer on the left and a terminal on the right. The file explorer shows a project named 'demo' with various files and folders. The terminal shows the output of the 'ng new demo' command, indicating that the project was created successfully. The terminal text is as follows:

```
Microsoft Windows [Version 10.0.19045.6456]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Anish\Documents\MeanStack>ng new demo
Node.js version v25.2.1 detected.
Odd numbered Node.js versions will not enter LTS status and should not be used for production. For more information, please
ejs.org/en/about/previous-releases/.
✓ Which stylesheet system would you like to use? CSS [ https://developer.mozilla.org/docs/Web/CSS
✓ Do you want to enable Server-Side Rendering (SSR) and Static Site Generation (SSG/Prerendering)? No
✓ Which AI tools do you want to configure with Angular best practices? https://angular.dev/ai/develop-with-ai None
CREATE demo/angular.json (1970 bytes)
CREATE demo/package.json (951 bytes)
CREATE demo/README.md (1516 bytes)
CREATE demo/tsconfig.json (990 bytes)
CREATE demo/.editorconfig (331 bytes)
CREATE demo/.gitignore (647 bytes)
CREATE demo/tsconfig.app.json (444 bytes)
CREATE demo/tsconfig.spec.json (456 bytes)
CREATE demo/.vscode/extensions.json (134 bytes)
CREATE demo/.vscode/launch.json (490 bytes)
CREATE demo/.vscode/tasks.json (1020 bytes)
CREATE demo/src/main.ts (228 bytes)
CREATE demo/src/index.html (303 bytes)
CREATE demo/src/styles.css (81 bytes)
CREATE demo/src/app/app.spec.ts (694 bytes)
CREATE demo/src/app/app.ts (298 bytes)
CREATE demo/src/app/app.css (0 bytes)
CREATE demo/src/app/app.html (20446 bytes)
CREATE demo/src/app/app.config.ts (324 bytes)
CREATE demo/src/app/app.routes.ts (80 bytes)
CREATE demo/public/favicon.ico (15086 bytes)
✓ Packages installed successfully.
Directory is already under version control. Skipping initialization of git.
```

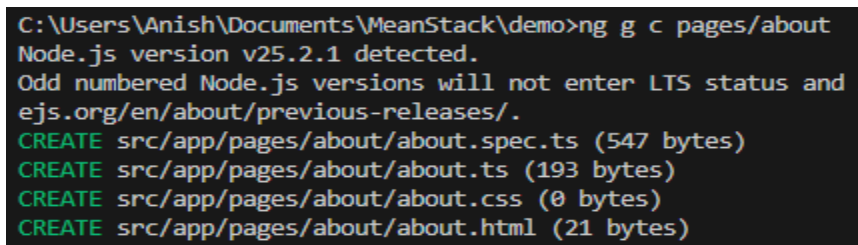
Step 2: Adding element in a demo(pages) home.



The screenshot shows a terminal window with the command 'ng g c pages/home' executed. The output shows that the files were created successfully. The terminal text is as follows:

```
C:\Users\Anish\Documents\MeanStack\demo>ng g c pages/home
Node.js version v25.2.1 detected.
Odd numbered Node.js versions will not enter LTS status and
ejs.org/en/about/previous-releases/.
CREATE src/app/pages/home/home.spec.ts (540 bytes)
CREATE src/app/pages/home/home.ts (189 bytes)
CREATE src/app/pages/home/home.css (0 bytes)
CREATE src/app/pages/home/home.html (20 bytes)
```

2.1 about(page)

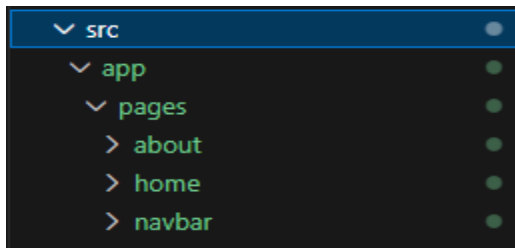


The screenshot shows a terminal window with the command 'ng g c pages/about' executed. The output shows that the files were created successfully. The terminal text is as follows:

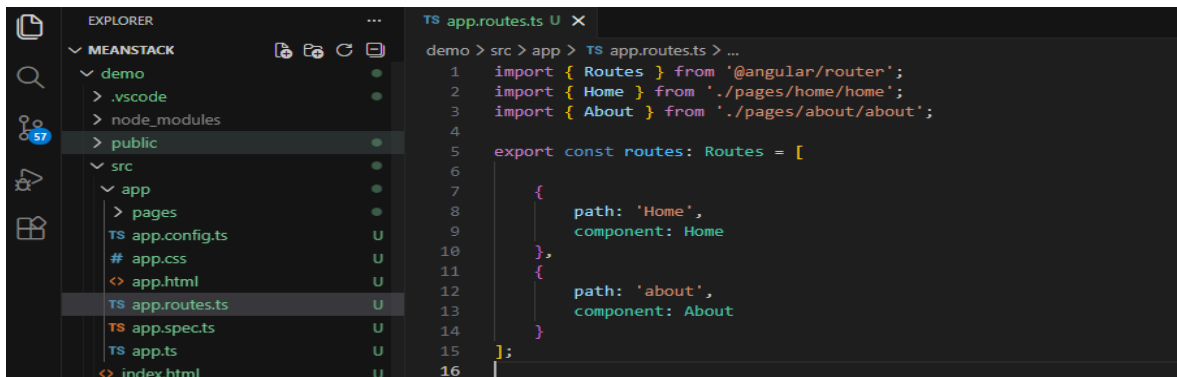
```
C:\Users\Anish\Documents\MeanStack\demo>ng g c pages/about
Node.js version v25.2.1 detected.
Odd numbered Node.js versions will not enter LTS status and
ejs.org/en/about/previous-releases/.
CREATE src/app/pages/about/about.spec.ts (547 bytes)
CREATE src/app/pages/about/about.ts (193 bytes)
CREATE src/app/pages/about/about.css (0 bytes)
CREATE src/app/pages/about/about.html (21 bytes)
```

2.2 : navigation bar(page).

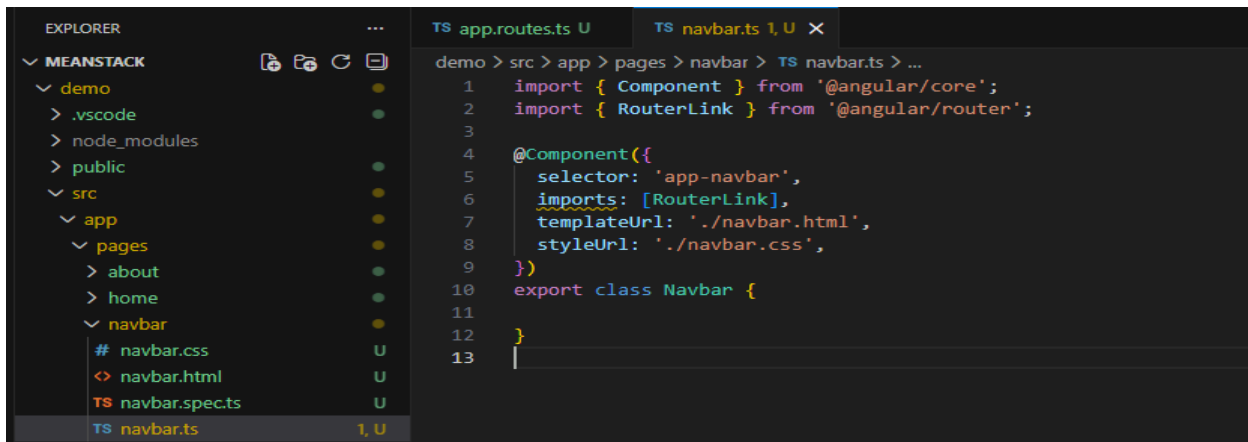
```
C:\Users\Anish\Documents\MeanStack\demo>ng g c pages/navbar
Node.js version v25.2.1 detected.
Odd numbered Node.js versions will not enter LTS status and
ejs.org/en/about/previous-releases/.
CREATE src/app/pages/navbar/navbar.spec.ts (554 bytes)
CREATE src/app/pages/navbar/navbar.ts (197 bytes)
CREATE src/app/pages/navbar/navbar.css (0 bytes)
CREATE src/app/pages/navbar/navbar.html (22 bytes)
```



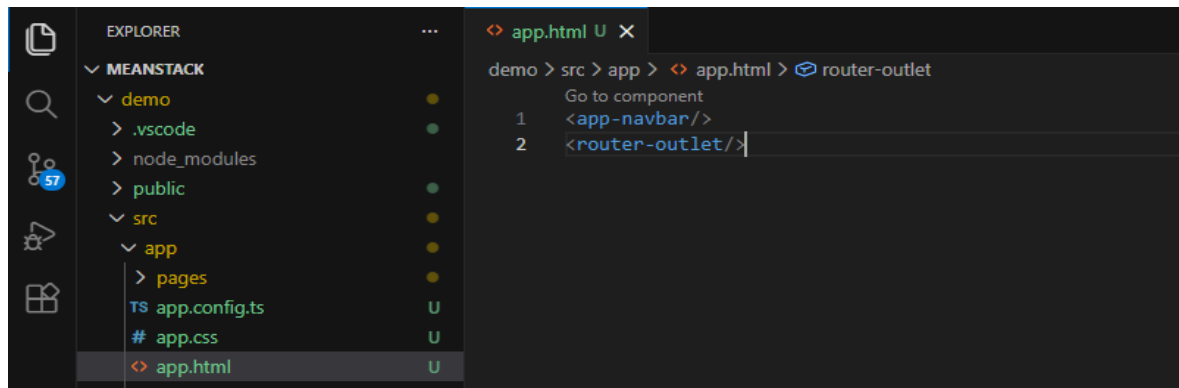
Step 3 : Giving path to components.



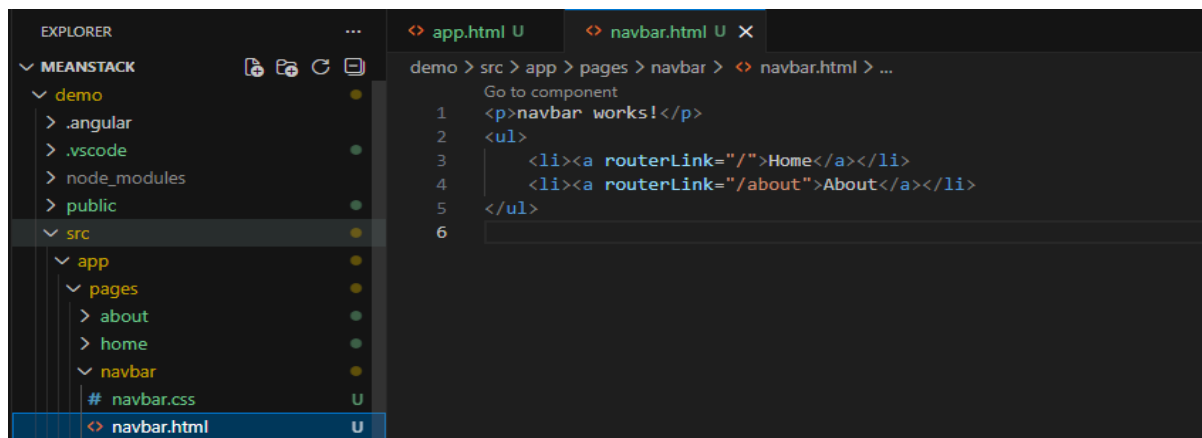
Step 4 : Importing RouterLink in [navbar.ts](#)



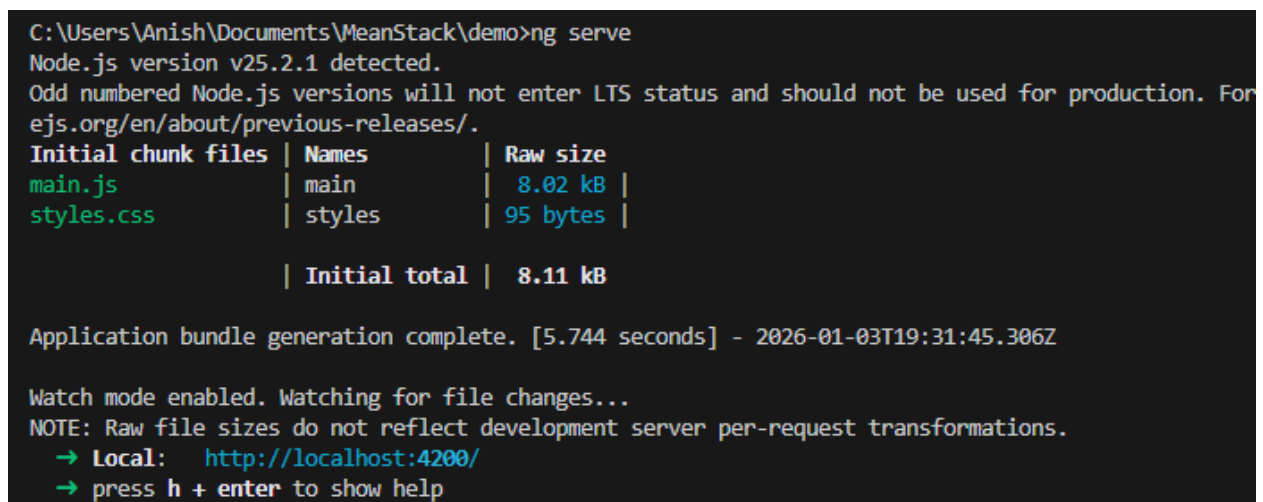
Step 5 : Edit file in app.html



Step 6 : Building list of paths in navbar.html



Step 7 : Now Serving the file demo



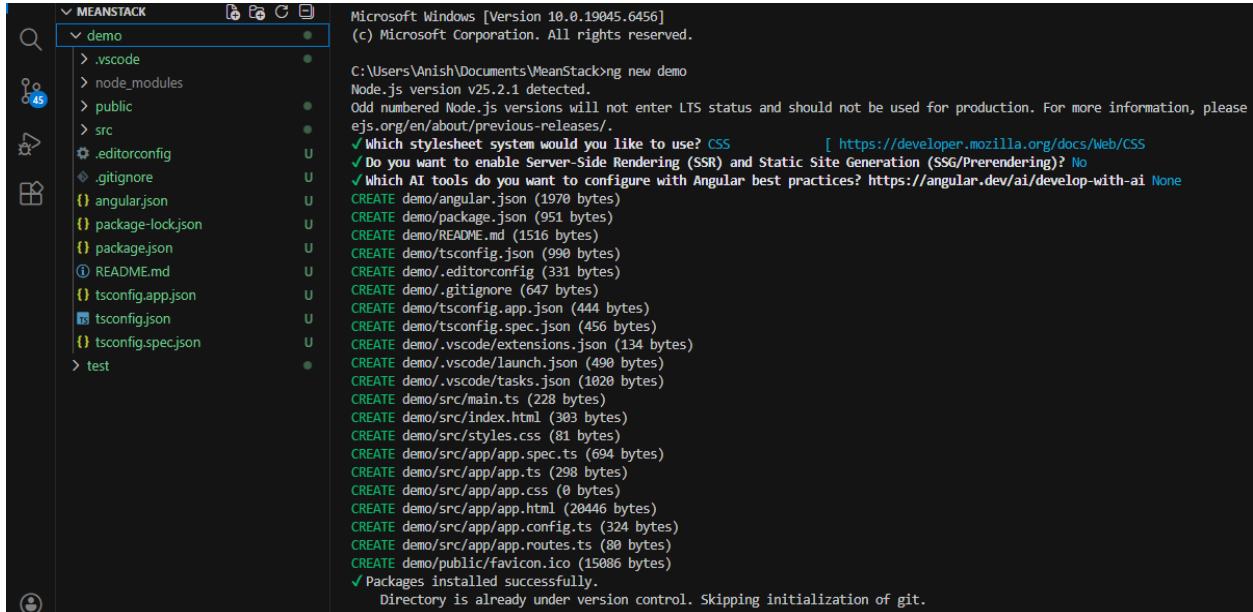
Now navigation bar was working



Practical no:- 2

Aim:- Write a commands to create angular component.

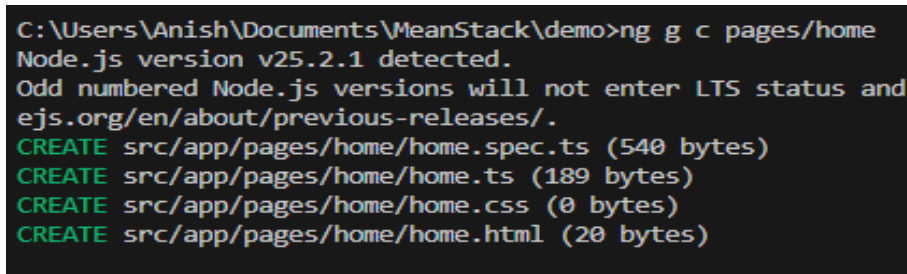
Step 1 : creating a new file as demo.



```
Microsoft Windows [Version 10.0.19045.6456]
(c) Microsoft Corporation. All rights reserved.

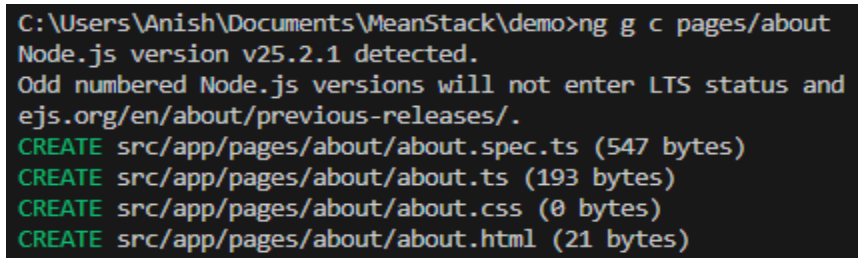
C:\Users\Anish\Documents\MeanStack>ng new demo
Node.js version v25.2.1 detected.
Odd numbered Node.js versions will not enter LTS status and should not be used for production. For more information, please
ejs.org/en/about/previous-releases/.
✓ Which stylesheet system would you like to use? CSS [ https://developer.mozilla.org/docs/Web/CSS
✓ Do you want to enable Server-Side Rendering (SSR) and Static Site Generation (SSG/Prerendering)? No
✓ Which AI tools do you want to configure with Angular best practices? https://angular.dev/ai/develop-with-ai None
CREATE demo/angular.json (1970 bytes)
CREATE demo/package.json (951 bytes)
CREATE demo/README.md (1516 bytes)
CREATE demo/tsconfig.json (990 bytes)
CREATE demo/.editorconfig (331 bytes)
CREATE demo/.gitignore (647 bytes)
CREATE demo/tsconfig.app.json (444 bytes)
CREATE demo/tsconfig.spec.json (456 bytes)
CREATE demo/.vscode/extensions.json (134 bytes)
CREATE demo/.vscode/launch.json (490 bytes)
CREATE demo/.vscode/tasks.json (1020 bytes)
CREATE demo/src/main.ts (228 bytes)
CREATE demo/src/index.html (303 bytes)
CREATE demo/src/styles.css (81 bytes)
CREATE demo/src/app/app.spec.ts (694 bytes)
CREATE demo/src/app/app.ts (298 bytes)
CREATE demo/src/app/app.css (0 bytes)
CREATE demo/src/app/app.html (20446 bytes)
CREATE demo/src/app/app.config.ts (324 bytes)
CREATE demo/src/app/app.routes.ts (80 bytes)
CREATE demo/public/favicon.ico (15086 bytes)
✓ Packages installed successfully.
Directory is already under version control. Skipping initialization of git.
```

Step 2 : adding element in a demo(pages) home.



```
C:\Users\Anish\Documents\MeanStack\demo>ng g c pages/home
Node.js version v25.2.1 detected.
Odd numbered Node.js versions will not enter LTS status and
ejs.org/en/about/previous-releases/.
CREATE src/app/pages/home/home.spec.ts (540 bytes)
CREATE src/app/pages/home/home.ts (189 bytes)
CREATE src/app/pages/home/home.css (0 bytes)
CREATE src/app/pages/home/home.html (20 bytes)
```

2.1 about(page)

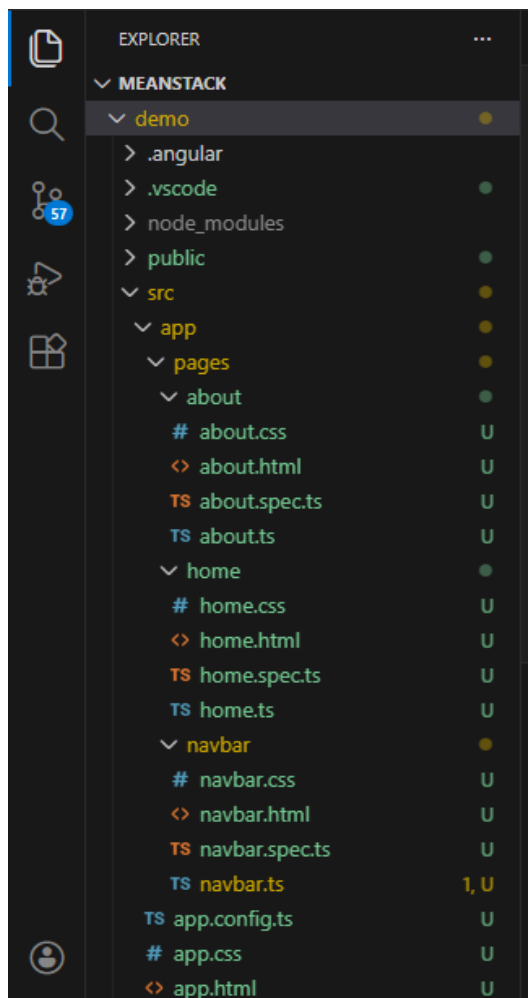


```
C:\Users\Anish\Documents\MeanStack\demo>ng g c pages/about
Node.js version v25.2.1 detected.
Odd numbered Node.js versions will not enter LTS status and
ejs.org/en/about/previous-releases/.
CREATE src/app/pages/about/about.spec.ts (547 bytes)
CREATE src/app/pages/about/about.ts (193 bytes)
CREATE src/app/pages/about/about.css (0 bytes)
CREATE src/app/pages/about/about.html (21 bytes)
```


2.2 : navigation bar(page).

```
C:\Users\Anish\Documents\MeanStack\demo>ng g c pages/navbar
Node.js version v25.2.1 detected.
Odd numbered Node.js versions will not enter LTS status and
ejs.org/en/about/previous-releases/.
CREATE src/app/pages/navbar/navbar.spec.ts (554 bytes)
CREATE src/app/pages/navbar/navbar.ts (197 bytes)
CREATE src/app/pages/navbar/navbar.css (0 bytes)
CREATE src/app/pages/navbar/navbar.html (22 bytes)
```

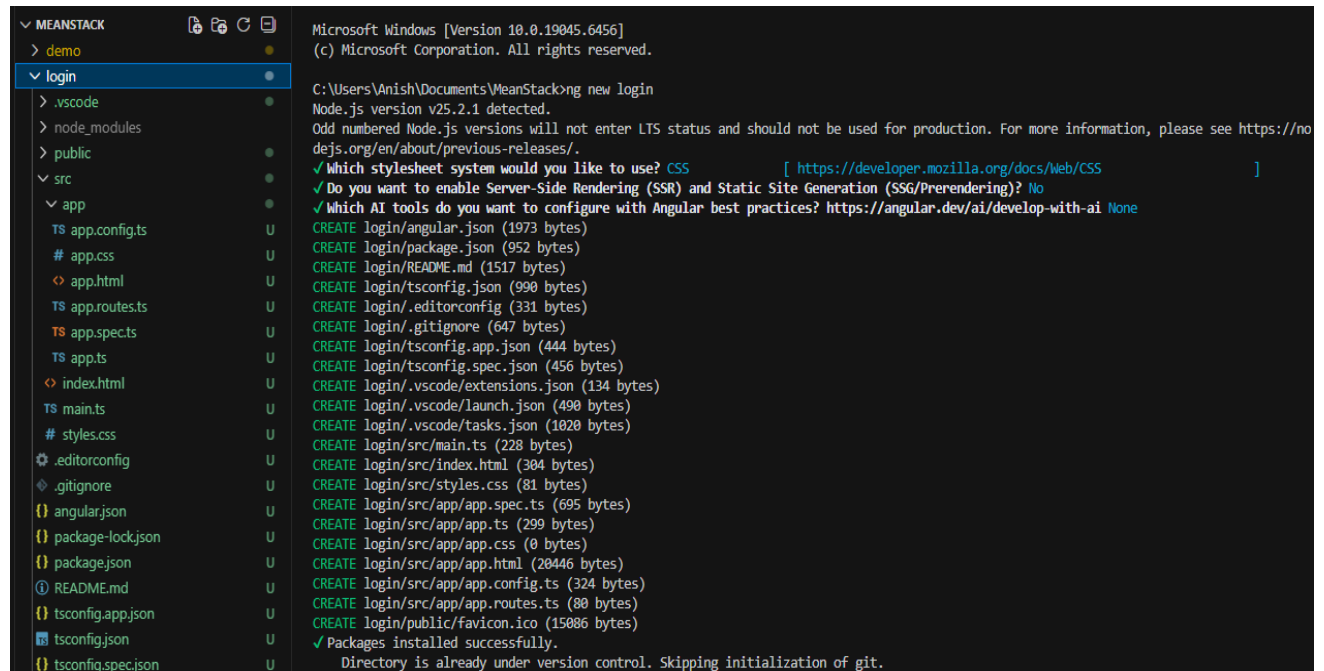
Structure of the Folder



Practical No:- 4

Aim:- Create a login form using angular.

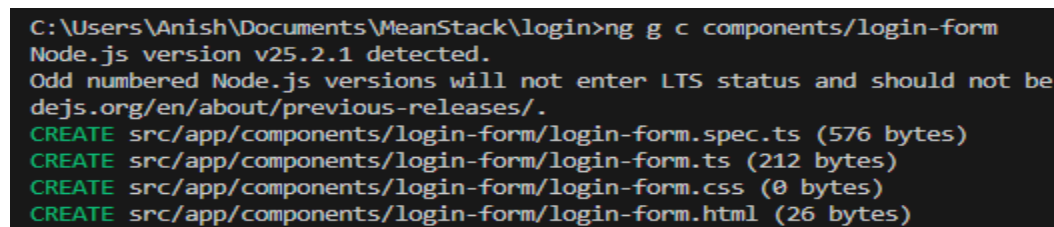
Step 1 : creating a new file.



```
Microsoft Windows [Version 10.0.19045.6456]
(c) Microsoft Corporation. All rights reserved.

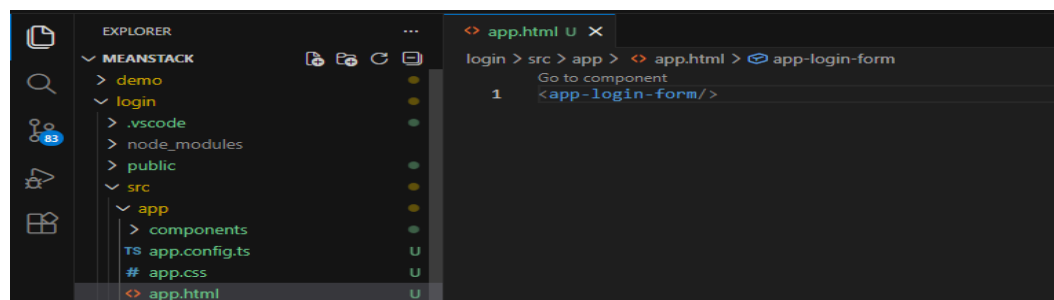
C:\Users\Anish\Documents\MeanStack>ng new login
Node.js version v25.2.1 detected.
Odd numbered Node.js versions will not enter LTS status and should not be used for production. For more information, please see https://nodejs.org/en/about/previous-releases/.
✓ Which stylesheet system would you like to use? CSS [ https://developer.mozilla.org/docs/Web/CSS ]
✓ Do you want to enable Server-Side Rendering (SSR) and Static Site Generation (SSG/Prerendering)? No
✓ Which AI tools do you want to configure with Angular best practices? https://angular.dev/ai/develop-with-ai None
CREATE login/angular.json (1973 bytes)
CREATE login/package.json (952 bytes)
CREATE login/README.md (1517 bytes)
CREATE login/tsconfig.json (990 bytes)
CREATE login/.editorconfig (331 bytes)
CREATE login/.gitignore (647 bytes)
CREATE login/tsconfig.app.json (444 bytes)
CREATE login/tsconfig.spec.json (456 bytes)
CREATE login/.vscode/extensions.json (134 bytes)
CREATE login/.vscode/launch.json (490 bytes)
CREATE login/.vscode/tasks.json (1020 bytes)
CREATE login/src/main.ts (228 bytes)
CREATE login/src/index.html (304 bytes)
CREATE login/src/styles.css (81 bytes)
CREATE login/src/app/app.spec.ts (695 bytes)
CREATE login/src/app/app.ts (299 bytes)
CREATE login/src/app/app.css (0 bytes)
CREATE login/src/app/app.html (20446 bytes)
CREATE login/src/app/app.config.ts (324 bytes)
CREATE login/src/app/app.routes.ts (80 bytes)
CREATE login/public/favicon.ico (15086 bytes)
✓ Packages installed successfully.
Directory is already under version control. Skipping initialization of git.
```

Step 2 : Creating components.



```
C:\Users\Anish\Documents\MeanStack\login>ng g c components/login-form
Node.js version v25.2.1 detected.
Odd numbered Node.js versions will not enter LTS status and should not be
dejs.org/en/about/previous-releases/.
CREATE src/app/components/login-form/login-form.spec.ts (576 bytes)
CREATE src/app/components/login-form/login-form.ts (212 bytes)
CREATE src/app/components/login-form/login-form.css (0 bytes)
CREATE src/app/components/login-form/login-form.html (26 bytes)
```

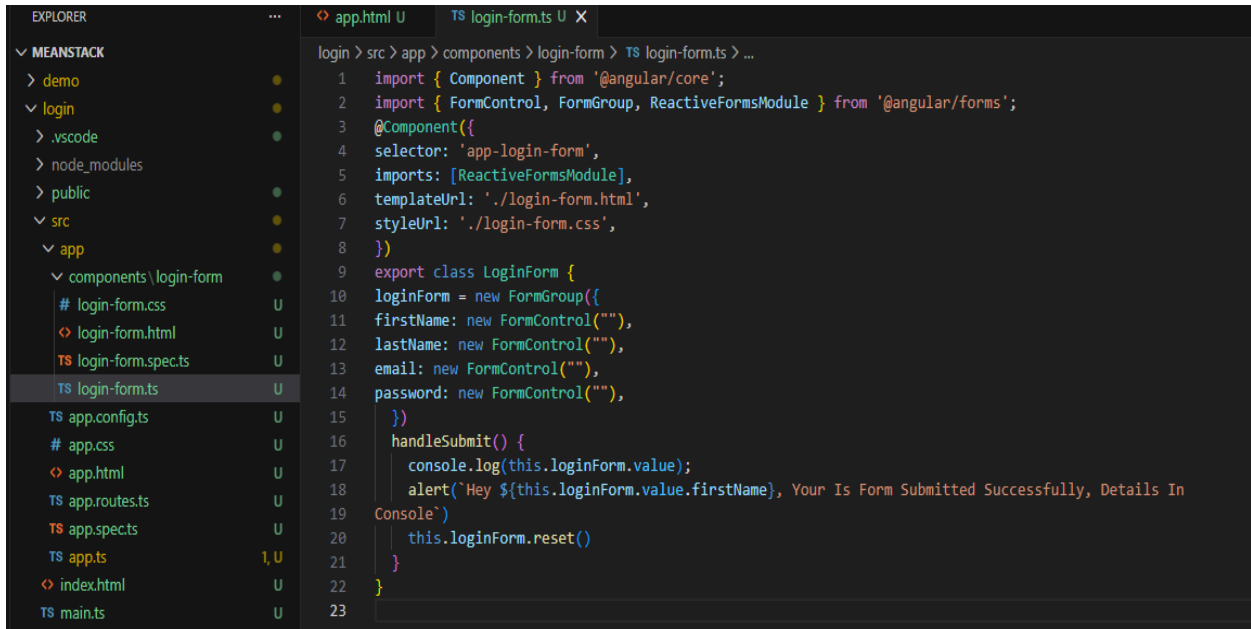
Step 3 : Changes in app.html



```
EXPLORER
MEANSTACK
demo
login
  .vscode
  node_modules
  public
  src
    app
      components
      TS app.config.ts
      # app.css
      app.html
      app-login-form

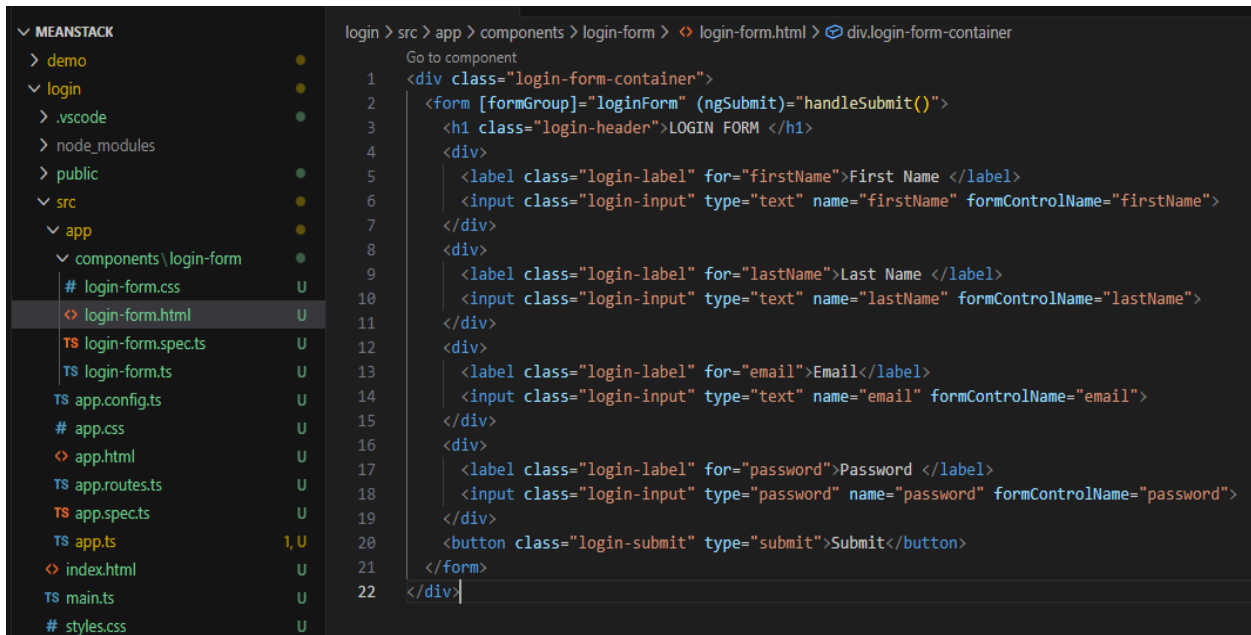
app.html U X
login > src > app > app.html > app-login-form
Go to component
1 <app-login-form/>
```

Step 4 : Write a code in [login-form.ts](#)



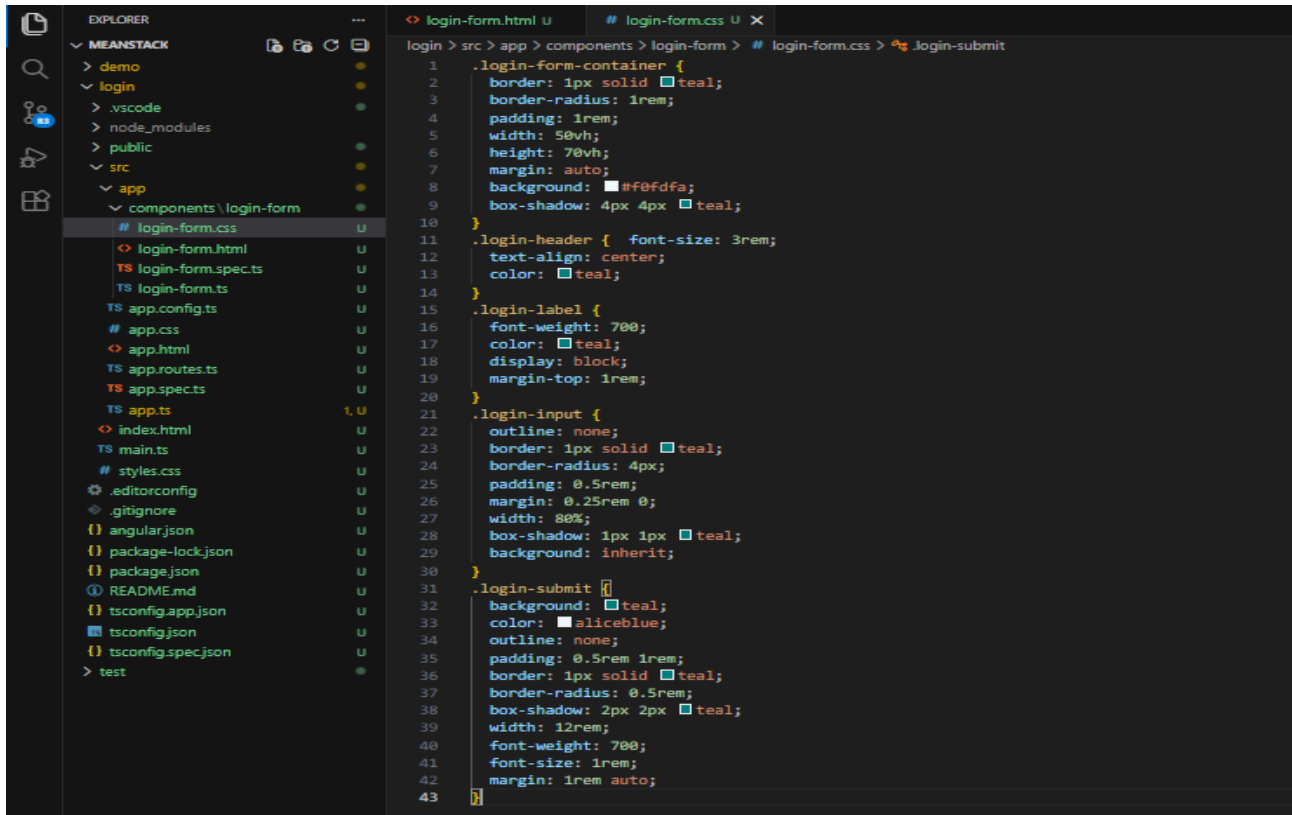
```
login > src > app > components > login-form > TS login-form.ts > ...
1  import { Component } from '@angular/core';
2  import { FormControl, FormGroup, ReactiveFormsModule } from '@angular/forms';
3  @Component({
4    selector: 'app-login-form',
5    imports: [ReactiveFormsModule],
6    templateUrl: './login-form.html',
7    styleUrls: ['./login-form.css'],
8  })
9  export class LoginForm {
10    loginForm = new FormGroup({
11      firstName: new FormControl(""),
12      lastName: new FormControl(""),
13      email: new FormControl(""),
14      password: new FormControl(""),
15    });
16    handleSubmit() {
17      console.log(this.loginForm.value);
18      alert(`Hey ${this.loginForm.value.firstName}, Your Is Form Submitted Successfully, Details In
19      Console`);
20      this.loginForm.reset();
21    }
22  }
23
```

Step 5 : Write a code in login-form.html



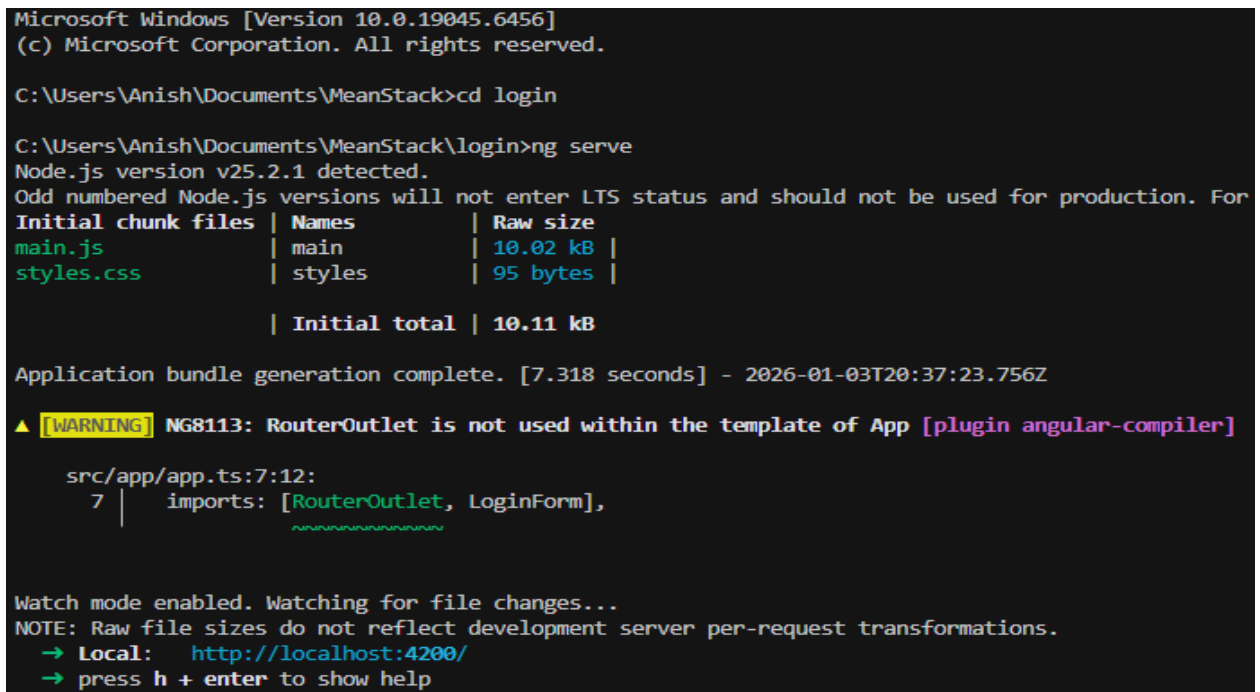
```
login > src > app > components > login-form > login-form.html > div.login-form-container
Go to component
1  <div class="login-form-container">
2    <form [formGroup]="loginForm" (ngSubmit)="handleSubmit()">
3      <h1 class="login-header">LOGIN FORM </h1>
4      <div>
5        <label class="login-label" for="firstName">First Name </label>
6        <input class="login-input" type="text" name="firstName" formControlName="firstName">
7      </div>
8      <div>
9        <label class="login-label" for="lastName">Last Name </label>
10       <input class="login-input" type="text" name="lastName" formControlName="lastName">
11     </div>
12     <div>
13       <label class="login-label" for="email">Email</label>
14       <input class="login-input" type="text" name="email" formControlName="email">
15     </div>
16     <div>
17       <label class="login-label" for="password">Password </label>
18       <input class="login-input" type="password" name="password" formControlName="password">
19     </div>
20     <button class="login-submit" type="submit">Submit</button>
21   </form>
22 </div>
```

Step 6 : Write a code in login-form.css



```
login > src > app > components > login-form > # login-form.css > .login-submit
1  .login-form-container {
2    border: 1px solid teal;
3    border-radius: 1rem;
4    padding: 1rem;
5    width: 50vh;
6    height: 70vh;
7    margin: auto;
8    background: #f0fdfa;
9    box-shadow: 4px 4px teal;
10 }
11 .login-header { font-size: 3rem;
12 text-align: center;
13 color: teal;
14 }
15 .login-label {
16 font-weight: 700;
17 color: teal;
18 display: block;
19 margin-top: 1rem;
20 }
21 .login-input {
22 outline: none;
23 border: 1px solid teal;
24 border-radius: 4px;
25 padding: 0.5rem;
26 margin: 0.25rem 0;
27 width: 80%;
28 box-shadow: 1px 1px teal;
29 background: inherit;
30 }
31 .login-submit {
32 background: teal;
33 color: aliceblue;
34 outline: none;
35 padding: 0.5rem 1rem;
36 border: 1px solid teal;
37 border-radius: 0.5rem;
38 box-shadow: 2px 2px teal;
39 width: 12rem;
40 font-weight: 700;
41 font-size: 1rem;
42 margin: 1rem auto;
43 }
```

Step 7 : Now Serving the login Form



```
Microsoft Windows [Version 10.0.19045.6456]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Anish\Documents\MeanStack>cd login

C:\Users\Anish\Documents\MeanStack\login>ng serve
Node.js version v25.2.1 detected.
Odd numbered Node.js versions will not enter LTS status and should not be used for production. For
Initial chunk files | Names | Raw size
main.js | main | 10.02 kB |
styles.css | styles | 95 bytes |
| Initial total | 10.11 kB

Application bundle generation complete. [7.318 seconds] - 2026-01-03T20:37:23.756Z

▲ [WARNING] NG8113: RouterOutlet is not used within the template of App [plugin angular-compiler]

src/app/app.ts:7:12:
7 | imports: [RouterOutlet, LoginForm],
  | ~~~~~
Watch mode enabled. Watching for file changes...
NOTE: Raw file sizes do not reflect development server per-request transformations.
→ Local: http://localhost:4200/
→ press h + enter to show help
```

Output :-

LOGIN FORM

First Name

Last Name

Email

Password

Submit