

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/.

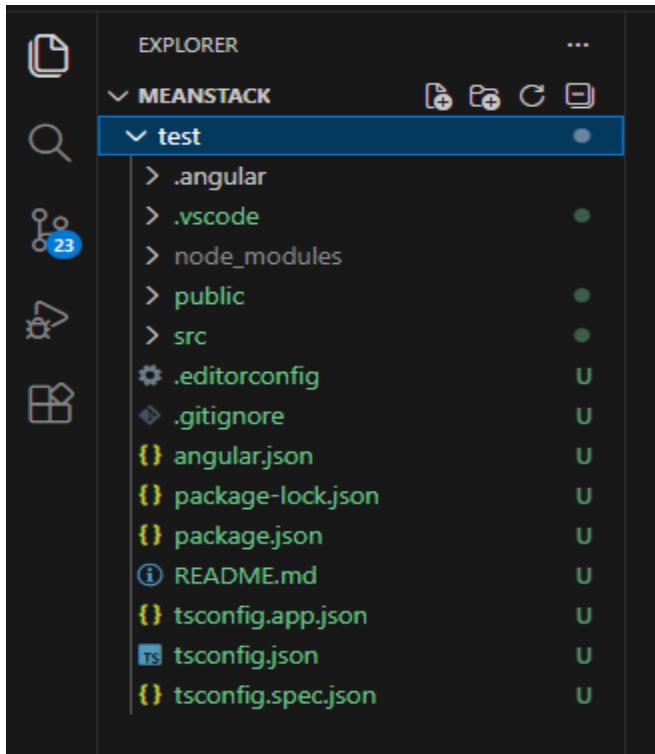
Angular CLI      : 21.0.4
Node.js          : 25.2.1 (Unsupported)
Package Manager  : npm 11.6.2
Operating System : win32 x64
```

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 terminal window shows the command `ng new demo` being run. The output indicates that Node.js version v25.2.1 was detected. It asks if the user wants to use CSS, enable Server-Side Rendering (SSR), and configure AI tools. It then creates various files in the `demo` directory, including `angular.json`, `package.json`, `README.md`, `tsconfig.app.json`, `tsconfig.json`, `tsconfig.spec.json`, `test`, `src`, `public`, `.vscode`, `.node_modules`, and `.editorconfig`. It also creates `index.html`, `styles.css`, `app.spec.ts`, `app.ts`, `app.css`, `app.html`, and `favicon.ico`. Finally, it installs packages and initializes git.

```
MEANSTACK 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 see https://en.wikipedia.org/wiki/Node.js_version_history#Semver.

? 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 (393 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 (88 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 terminal window shows the command `ng g c pages/home` being run. The output indicates that Node.js version v25.2.1 was detected. It creates files for the new page, including `home.spec.ts`, `home.ts`, `home.css`, and `home.html`.

```
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 should not be used for production. For more information, please see https://en.wikipedia.org/wiki/Node.js_version_history#Semver.

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 terminal window shows the command `ng g c pages/about` being run. The output indicates that Node.js version v25.2.1 was detected. It creates files for the new page, including `about.spec.ts`, `about.ts`, `about.css`, and `about.html`.

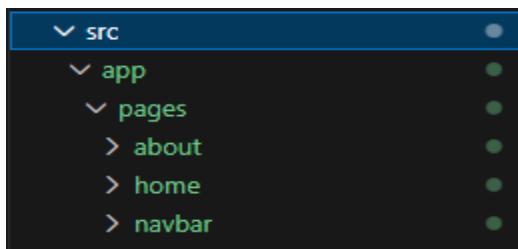
```
C:\Users\Anish\Documents\MeanStack\demo>ng g c pages/about
Node.js version v25.2.1 detected.

Odd numbered Node.js versions will not enter LTS status and should not be used for production. For more information, please see https://en.wikipedia.org/wiki/Node.js_version_history#Semver.

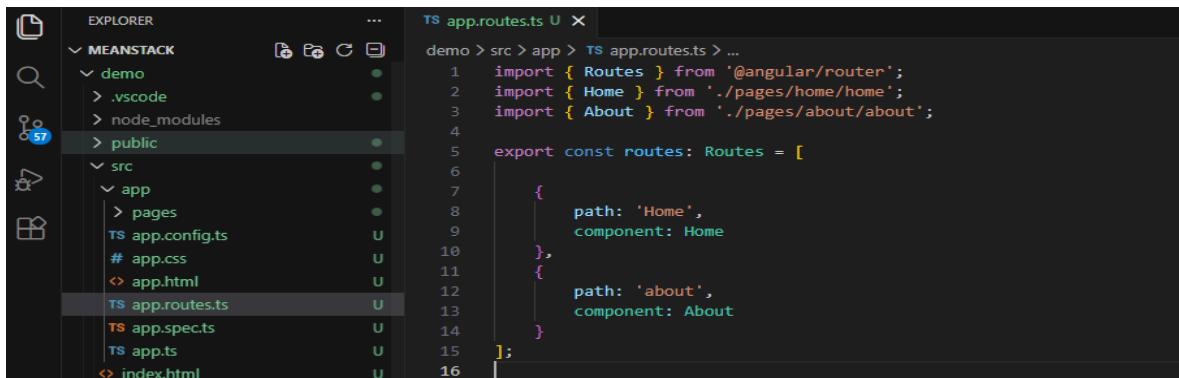
CREATE src/app/pages/about/about.spec.ts (547 bytes)
CREATE src/app/pages/about/about.ts (193 bytes)
CREATE src/app/pages/about/about.css (0 bytes)
CREATE src/app/pages/about/about.html (21 bytes)
```

2.2 : navigation bar(page).

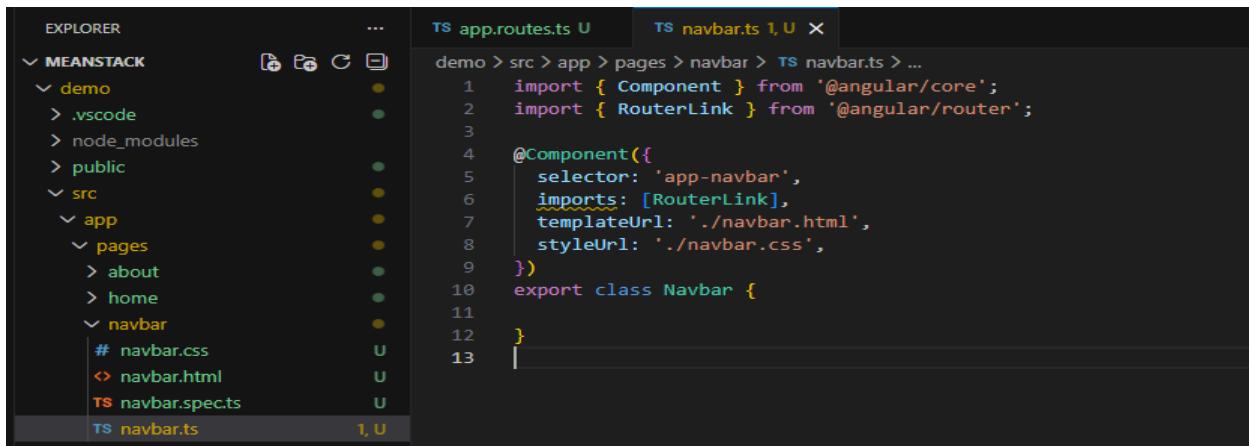
```
C:\Users\Anish\Documents\MeanStack\demo>ng g c pages/navbar
Node.js version v25.2.1 detected.
Odd numbered Node.js versions will not enter LTS status and
ejs.org/en/about/previous-releases/.
CREATE src/app/pages/navbar/navbar.spec.ts (554 bytes)
CREATE src/app/pages/navbar/navbar.ts (197 bytes)
CREATE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



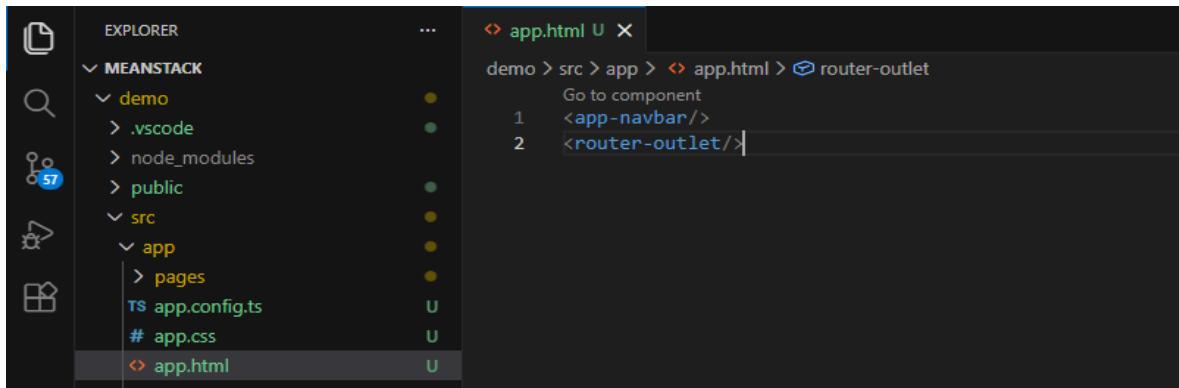
Step 3 : Giving path to components.



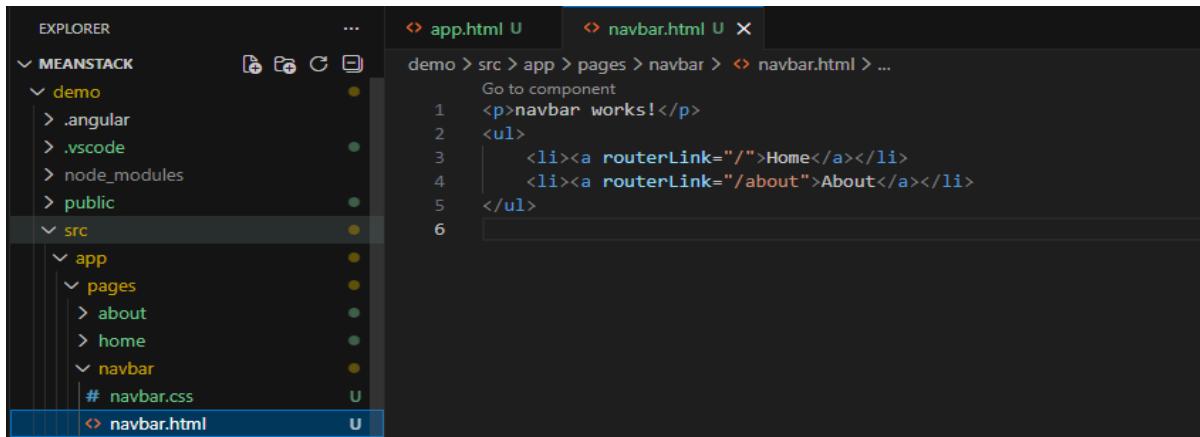
Step 4 : Importing RouterLink in navbar.ts



Step 5 : Edit file in app.html



Step 6 : Building list of paths in navbar.html



Step 7 : Now Serving the file demo

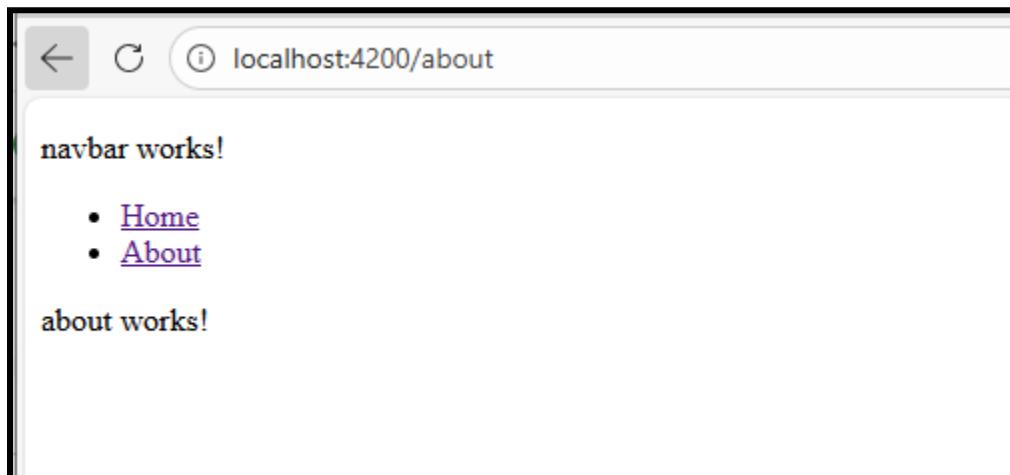
```
C:\Users\Anish\Documents\MeanStack\demo>ng serve
Node.js version v25.2.1 detected.
Odd numbered Node.js versions will not enter LTS status and should not be used for production. For
ejs.org/en/about/previous-releases/ .
Initial chunk files | Names | Raw size
main.js | main | 8.02 kB |
styles.css | styles | 95 bytes |

| Initial total | 8.11 kB

Application bundle generation complete. [5.744 seconds] - 2026-01-03T19:31:45.306Z

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
```

Now navigation bar was working



Practical no:- 2

Aim:- Write a commands to create angular component.

Step 1 : creating a new file as demo.

```
MEANSTACK
demo
> .vscode
> node_modules
> public
> src
> .editorconfig
> .gitignore
{ angular.json
{ package-lock.json
{ package.json
{ README.md
{ tsconfig.app.json
tsconfig.json
{ tsconfig.spec.json
> test

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 (383 bytes)
CREATE demo/src/styles.css (81 bytes)
CREATE demo/src/app/app.spec.ts (694 bytes)
CREATE demo/src/app/app.ts (299 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)
```

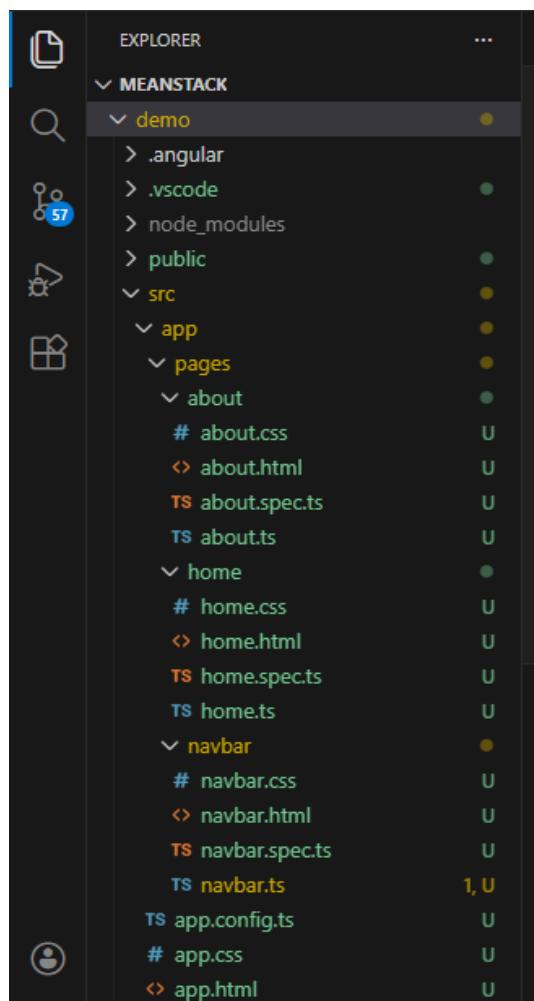
2.1 about(page)

```
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.

```
MEANSTACK
> demo
< login
  > .vscode
  > node_modules
  > public
  < src
    < app
      TS app.config.ts
      # app.css
      < app.html
      TS app.routes.ts
      TS app.spec.ts
      TS app.ts
      < index.html
      TS main.ts
      # styles.css
      < .editorconfig
      < .gitignore
      {} angular.json
      {} package-lock.json
      {} package.json
      README.md
      {} tsconfig.app.json
      tsconfig.json
      {} tsconfig.spec.json

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

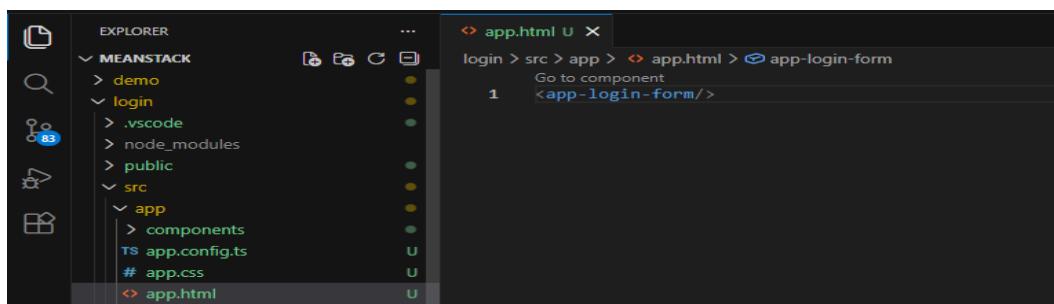
C:\Users\Anish\Documents\MeanStack>ng new login
Node.js version v25.2.1 detected.
Odd numbered Node.js versions will not enter LTS status and should not be used for production. For more information, please see https://nodejs.org/en/about/previous-releases/.
  ✓ Which stylesheet system would you like 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 (994 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 (88 bytes)
CREATE login/public/favicon.ico (15086 bytes)
✓ Packages installed successfully.

Directory is already under version control. Skipping initialization of git.
```

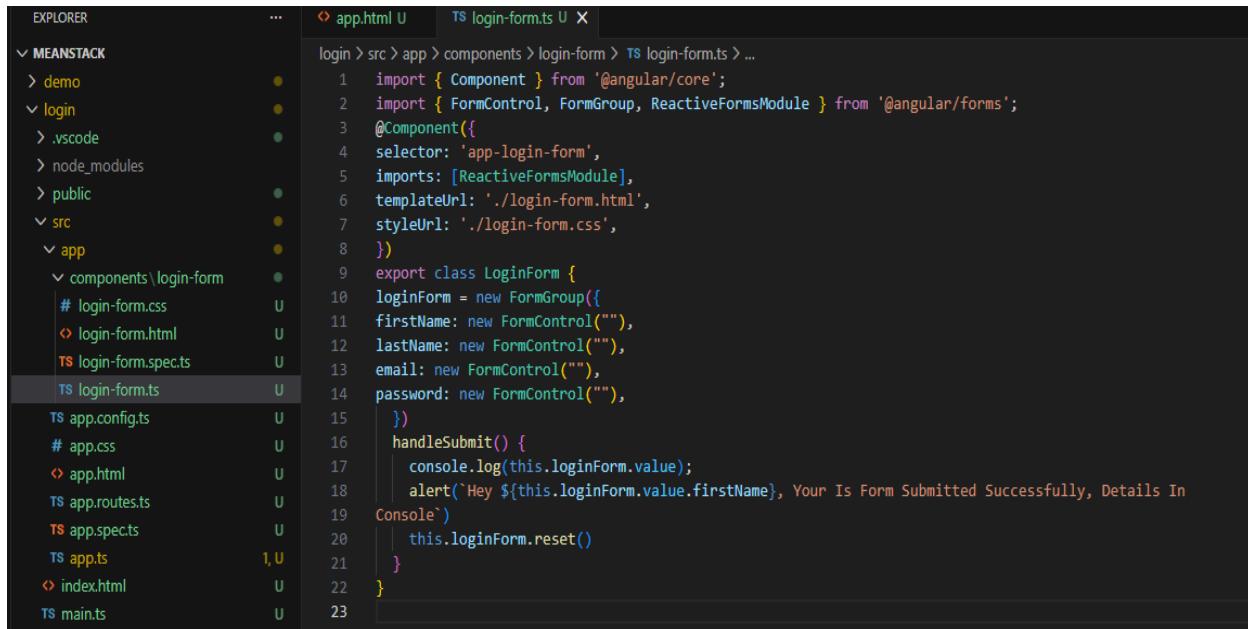
Step 2 : Creating components.

```
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 used for production. For more information, please see https://nodejs.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

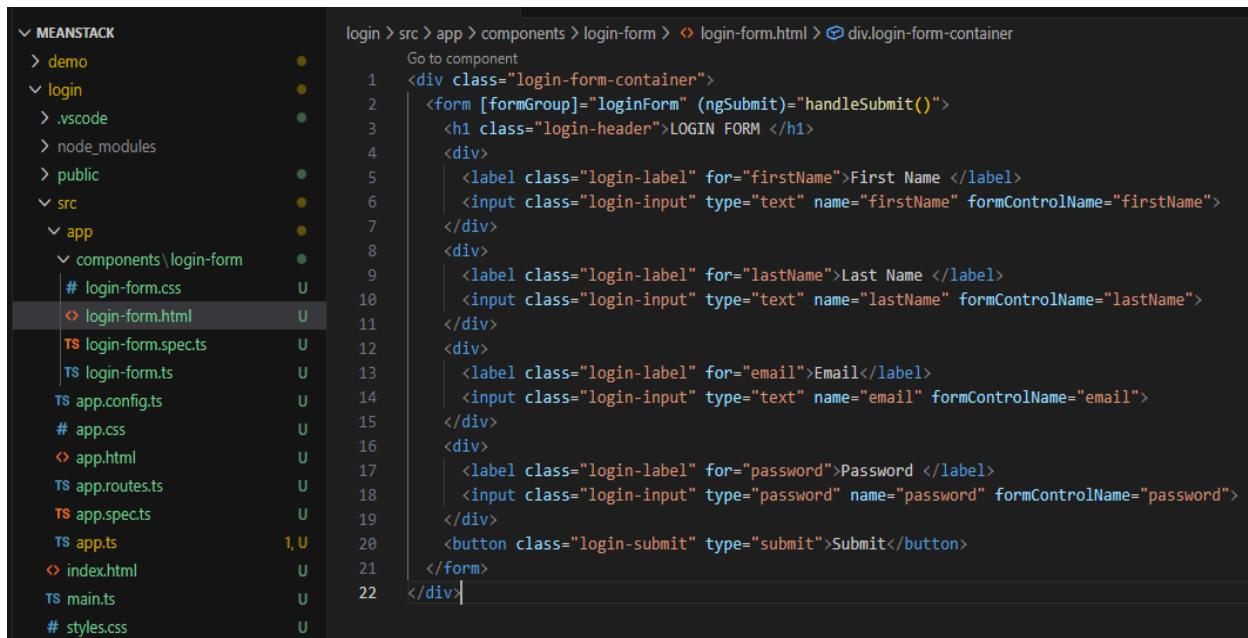


Step 4 : Write a code in login-form.ts



```
import { Component } from '@angular/core';
import { FormControl, FormGroup, ReactiveFormsModule } from '@angular/forms';
@Component({
  selector: 'app-login-form',
  imports: [ReactiveFormsModule],
  templateUrl: './login-form.html',
  styleUrls: ['./login-form.css'],
})
export class LoginForm {
  loginForm = new FormGroup({
    firstName: new FormControl(""),
    lastName: new FormControl(""),
    email: new FormControl(""),
    password: new FormControl(""),
  })
  handleSubmit() {
    console.log(this.loginForm.value);
    alert(`Hey ${this.loginForm.value.firstName}, Your Form Submitted Successfully, Details In Console`)
    this.loginForm.reset()
  }
}
```

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



```
<div class="login-form-container">
<form [formGroup]="loginForm" (ngSubmit)="handleSubmit()">
  <h1 class="login-header">LOGIN FORM </h1>
  <div>
    <label class="login-label" for="firstName">First Name </label>
    <input class="login-input" type="text" name="firstName" formControlName="firstName">
  </div>
  <div>
    <label class="login-label" for="lastName">Last Name </label>
    <input class="login-input" type="text" name="lastName" formControlName="lastName">
  </div>
  <div>
    <label class="login-label" for="email">Email</label>
    <input class="login-input" type="text" name="email" formControlName="email">
  </div>
  <div>
    <label class="login-label" for="password">Password </label>
    <input class="login-input" type="password" name="password" formControlName="password">
  </div>
  <button class="login-submit" type="submit">Submit</button>
</form>
</div>
```

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

The screenshot shows the VS Code interface. On the left is the Explorer sidebar with a tree view of the project structure under 'MEANSTACK'. The 'login-form.css' file is selected in the tree. On the right is the main editor area displaying the CSS code for 'login-form.css'. The code defines styles for a login form container, header, label, input, and submit button.

```
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 {
12   font-size: 3rem;
13   text-align: center;
14   color: teal;
15 }
16 .login-label {
17   font-weight: 700;
18   color: teal;
19   display: block;
20   margin-top: 1rem;
21 }
22 .login-input {
23   outline: none;
24   border: 1px solid teal;
25   border-radius: 4px;
26   padding: 0.5rem;
27   margin: 0.25rem 0;
28   width: 88%;
29   box-shadow: 1px 1px teal;
30   background: inherit;
31 }
32 .login-submit {
33   background: teal;
34   color: aliceblue;
35   outline: none;
36   padding: 0.5rem 1rem;
37   border: 1px solid teal;
38   border-radius: 0.5rem;
39   box-shadow: 2px 2px teal;
40   width: 12rem;
41   font-weight: 700;
42   font-size: 1rem;
43   margin: 1rem auto;
```

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