Angular

Tahaluf Training Center 2021

Chapter 1

1. What is Angular?
2. Why Angular?
3. Difference between SSR & SPA
4. Create project using Angular
5. Declare variable and use it in HTML

What is Angular?

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Angular is a development platform built on TypeScript.

Open-source JavaScript framework for building web applications and apps in JavaScript, HTML, and Typescript.

It is used to develop single-page applications (SPA).

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Why Angular?

Add interactive to the website.

It provides scalability and maintainability.

It is designed for web, desktop, and mobile platforms.

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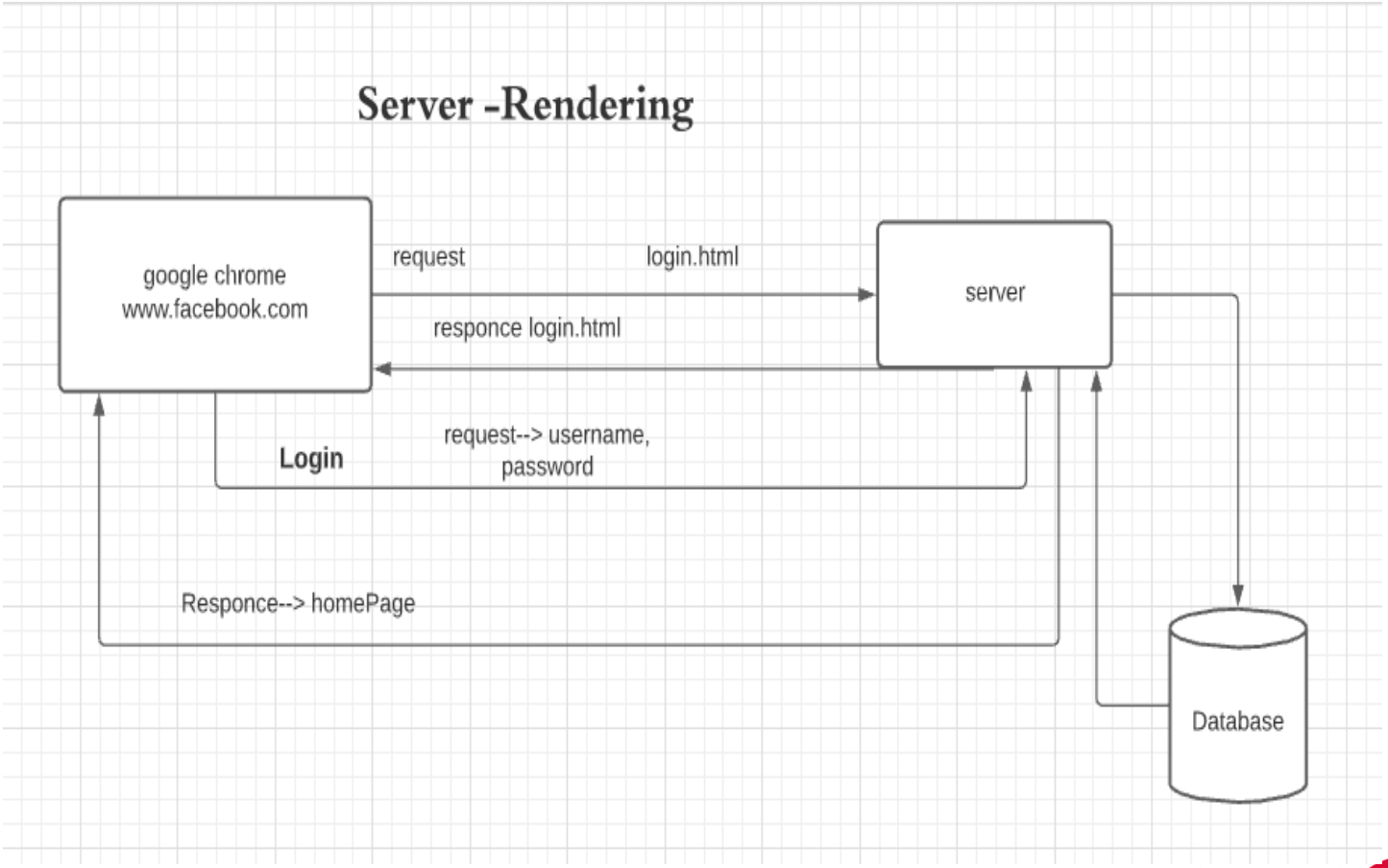
Server-Side Rendering

Server-Side Rendering (SSR), is the ability of an application to contribute by displaying the webpage on the server instead of rendering it in the browser.

Server-side sends a fully rendered page to the client.

Single Page Application



Single Page Application

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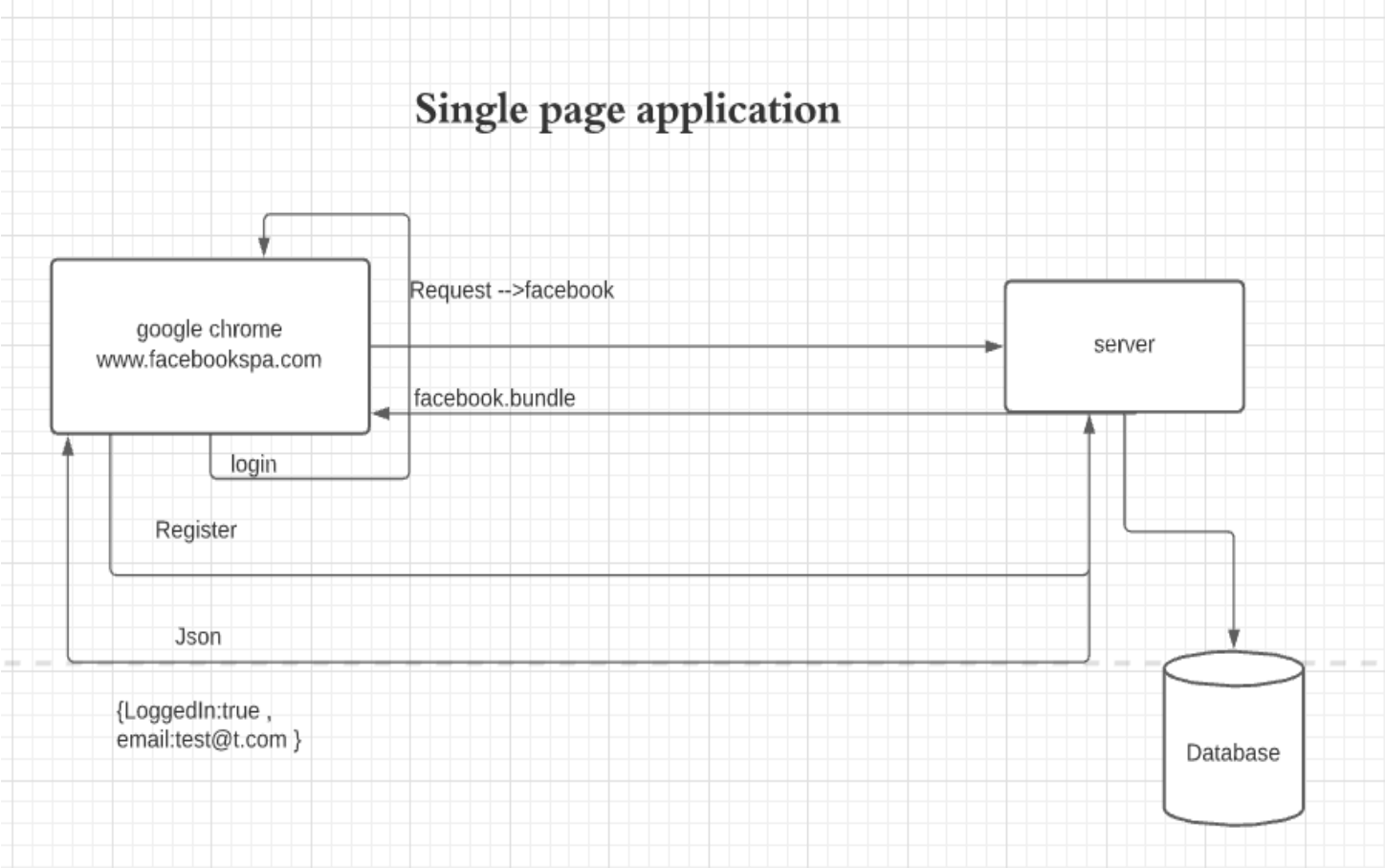
A Single-Page Application is an app that doesn't need to reload the page during its use and works within a browser.

For example :
Facebook, Google Maps, Gmail, Twitter, Google Drive, or even GitHub.

Single Page Application



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Create project using angular

First, install the angular package:
npm i -g @angular/cli

To create the angular project, use this command:
ng new project_name

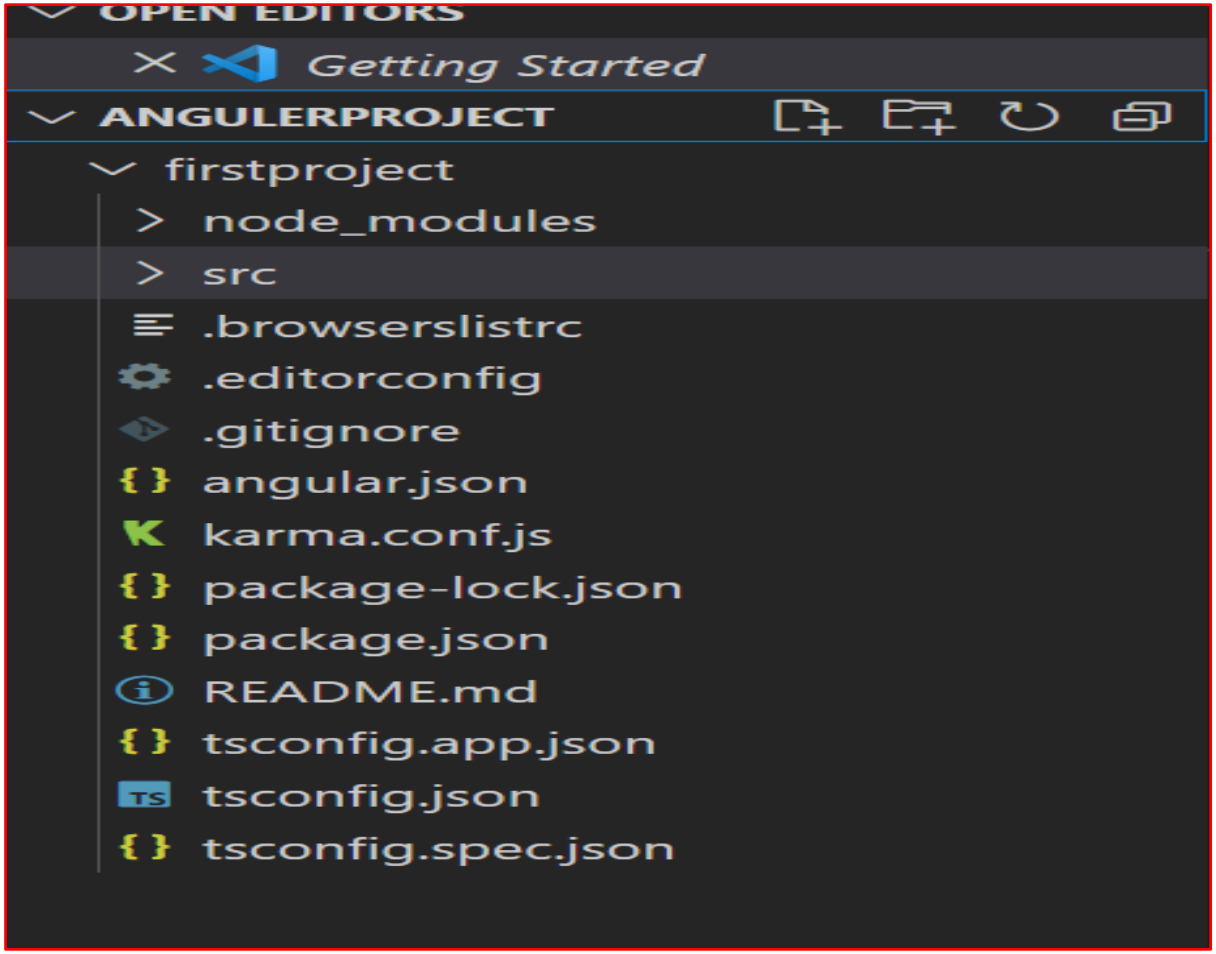
To run the project:
ng serve -o

By default angular project run in port:
localhost/4200

Create project using angular


```
PS C:\Users\User\Desktop\angulerProject> ng new firstproject
? Would you like to add Angular routing? Yes
? Which stylesheet format would you like to use? CSS
CREATE firstproject/angular.json (3075 bytes)
CREATE firstproject/package.json (1074 bytes)
CREATE firstproject/README.md (1058 bytes)
CREATE firstproject/tsconfig.json (783 bytes)
CREATE firstproject/.editorconfig (274 bytes)
CREATE firstproject/.gitignore (604 bytes)
CREATE firstproject/.browserslistrc (703 bytes)
CREATE firstproject/karma.conf.js (1429 bytes)
CREATE firstproject/tsconfig.app.json (287 bytes)
CREATE firstproject/tsconfig.spec.json (333 bytes)
CREATE firstproject/src/index.html (298 bytes)
CREATE firstproject/src/main.ts (372 bytes)
CREATE firstproject/src/polyfills.ts (2820 bytes)
CREATE firstproject/src/styles.css (80 bytes)
```

Project Files



Project Files

node_modules: You can think of the node_modules folder as a cache for the external modules that your project depends upon. When you npm install them, they are downloaded from the web and copied into the node_modules folder.

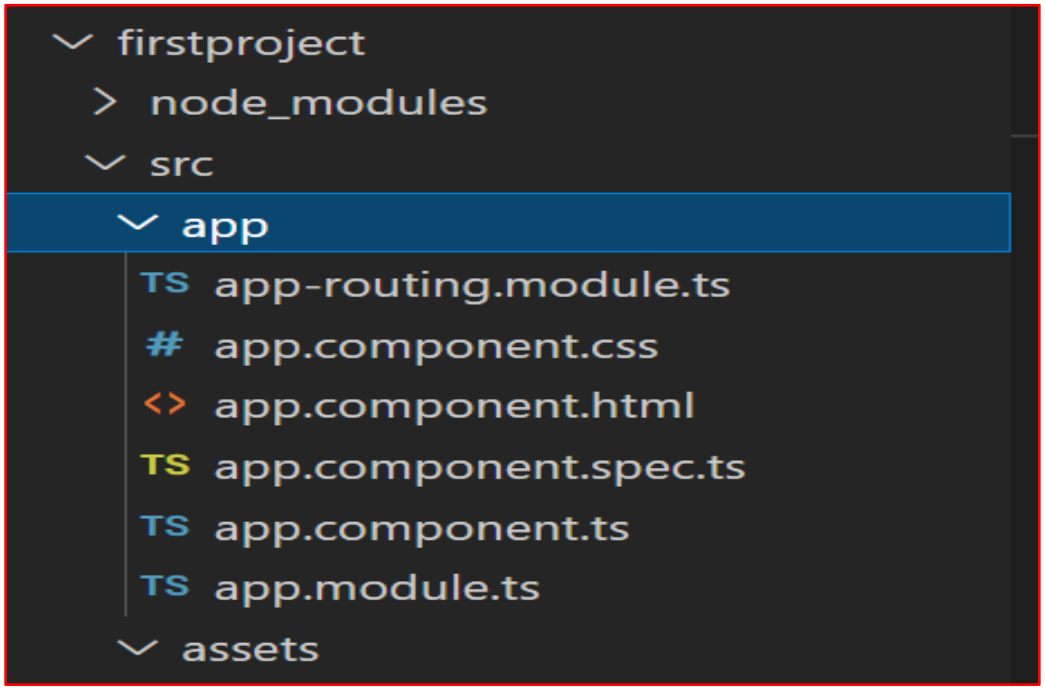
src: This folder is where we will work on the project.
Inside src, the app folder was created during the project setup and holds all the required files for the project.

Components are basically classes that interact with the html file of the component, which gets displayed on the browser.

Module in Angular refers to a place where you can group the components, directives, pipes, and services, which are related to the application.

Project Files

By default angular project contains one component called app and which include:



Add new component

To add new component , use this command:

ng generate component component_name

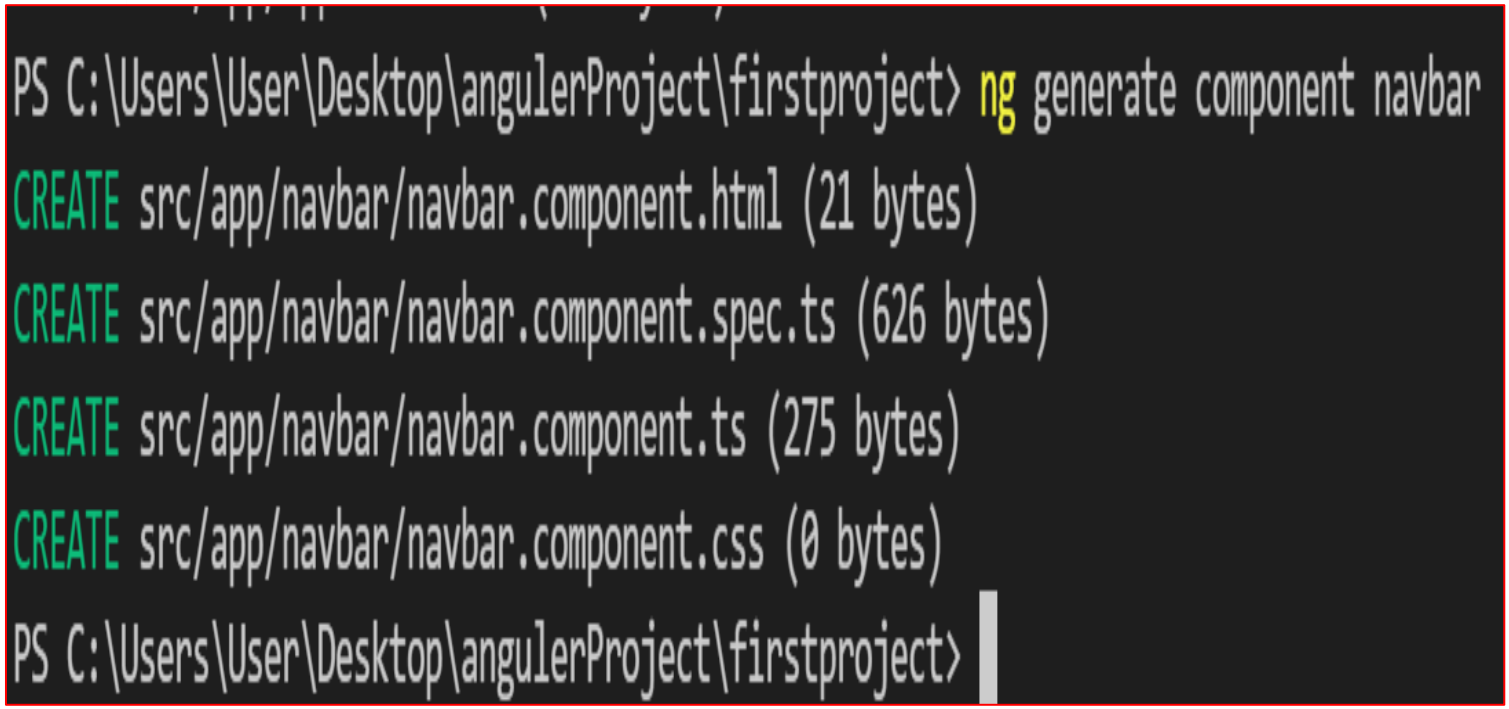
OR:

ng g c component_name

By default this generate four files:

app.component.css
app.component.html
app. component.spec.ts
app. component.ts

Add new component



Add new component

Example: (navbar Html-file)

```
<nav>
        <div>
            <span>Angular App</span>
            <span>Home</span>
            <span>About</span>
        </div>
        <div>
            Login
        </div>
</nav>
```

Add new component

Example: (navbar CSS-file)

```
nav {
    display: flex;
    flex-direction: row;
    justify-content: space-evenly;
    background-color:lightblue;
    padding:15px;
}

div {
    display:flex;
    flex-direction:row;
}

span {
    margin-left:15px;
}
```

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Declare a variable and use it in HTML

To call variable from TypeScript file, use **{{variable-name}}.**

Example:

In app.component .html

```
<h1>{{ title }}</h1>
```

In app.component .ts

```
constructor(){
    setTimeout(() => {
        this.title = 'Updated firstProject';
    }, 3000)
}
```

Declare a variable and use it in HTML

To include navbar component in app component:

```
<app-navbar></app-navbar>
```

Call the component from another component

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```
1   <app-navbar></app-navbar>
2   <h1>Current name is : {{name}}</h1>
3   <h1>Current email is : {{email}}</h1>
4   <h1>Current salary is : {{salary}}</h1>
5   <h1>Current annual salary is : {{salary *12}}</h1>
6   <!--
7       your name is: ''
8       your email is :''
9       monthly salary is : ''
10      annual salary: monthly salary *12
11  -->
12  <app-footer></app-footer>
```

Call the component from another component


```
export class AppComponent {
    title = 'firstProject';
    name: string='';
    email: string='';
    salary: number=0;

}
```

Call the component from another component

- You can do some operation on the variable like this :
  Perhaps these operations are ternary operator

```
1   <app-navbar></app-navbar>
2   <h1>Current name is : {{name}}</h1>
3   <h1>Current email is : {{email}}</h1>
4   <h1>Current salary is : {{salary}}</h1>
5   <h1>Current annual salary is : {{salary *12}}</h1>
6   <!--
7       your name is: ''
8       your email is :''
9       monthly salary is : ''
10      annual salary: monthly salary *12
11  -->
12  <app-footer></app-footer>
```

Exercise:

Generate a new component called footer and write the copyright on the HTML page and do the style for it.

Exercise Solution:

```
PS C:\Users\User\Desktop\angulerProject\firstproject> ng generate component footer
? Would you like to share anonymous 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.io/analytics. Yes

Thank you for sharing anonymous usage data. Would you change your mind, the following
command will disable this feature entirely:

    ng analytics project off

CREATE src/app/footer/footer.component.html (21 bytes)
CREATE src/app/footer/footer.component.ts (275 bytes)
CREATE src/app/footer/footer.component.css (0 bytes)
UPDATE src/app/app.module.ts (475 bytes)
PS C:\Users\User\Desktop\angulerProject\firstproject>
```

Exercise Solution:

HTML file:

```
<p> All right reserved &copy {{currentYear}} </p>
```

CSS file:

```
p {background-color: lightblue;}
```

Exercise Solution:

TypeScript file:

```
export class FooterComponent implements OnInit {
    currentYear: Date | any = undefined;

    constructor()
    {
        //2021
        this.currentYear = new Date().getFullYear();
    }
}
```