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

# 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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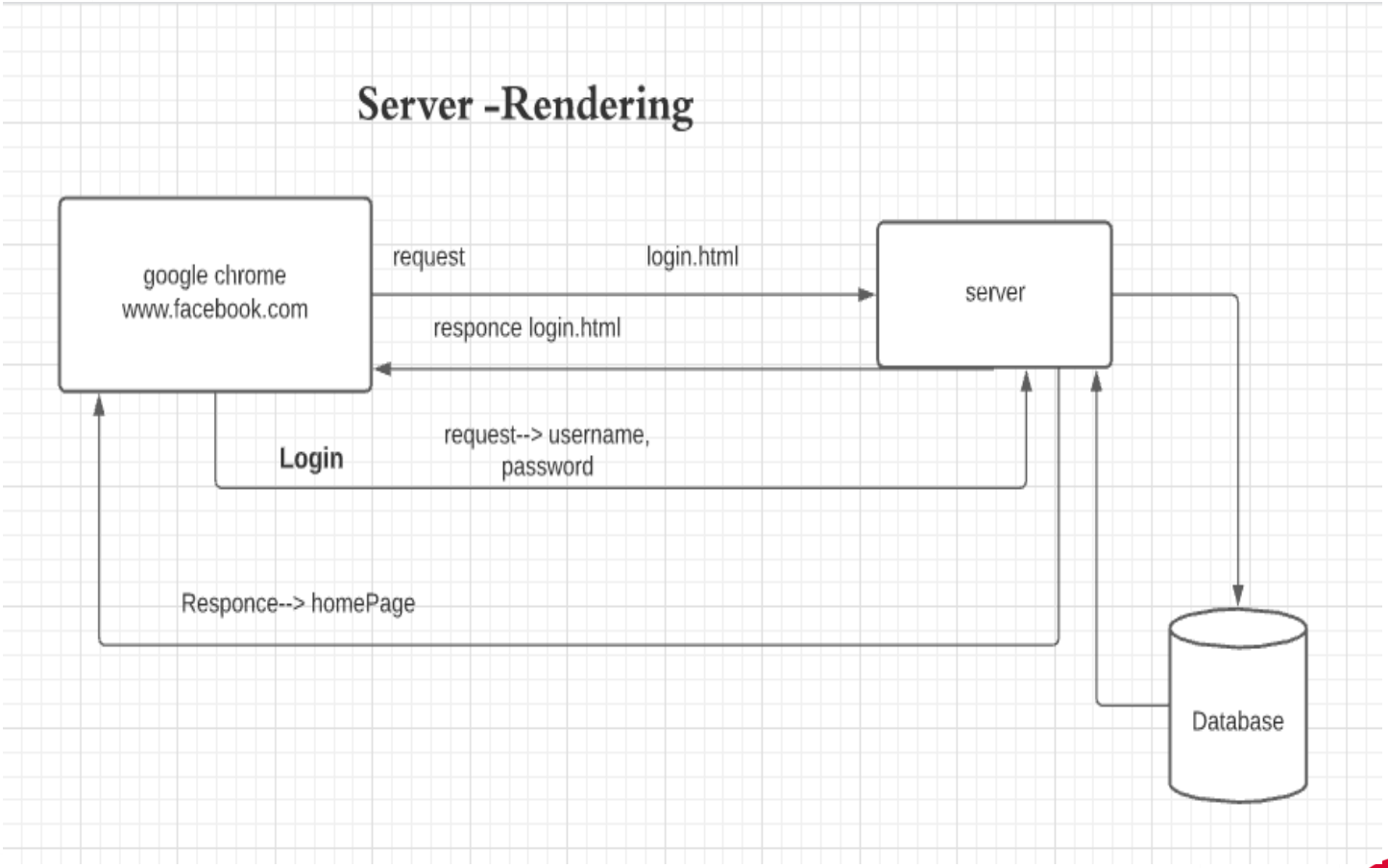
# Server-Side Rendering



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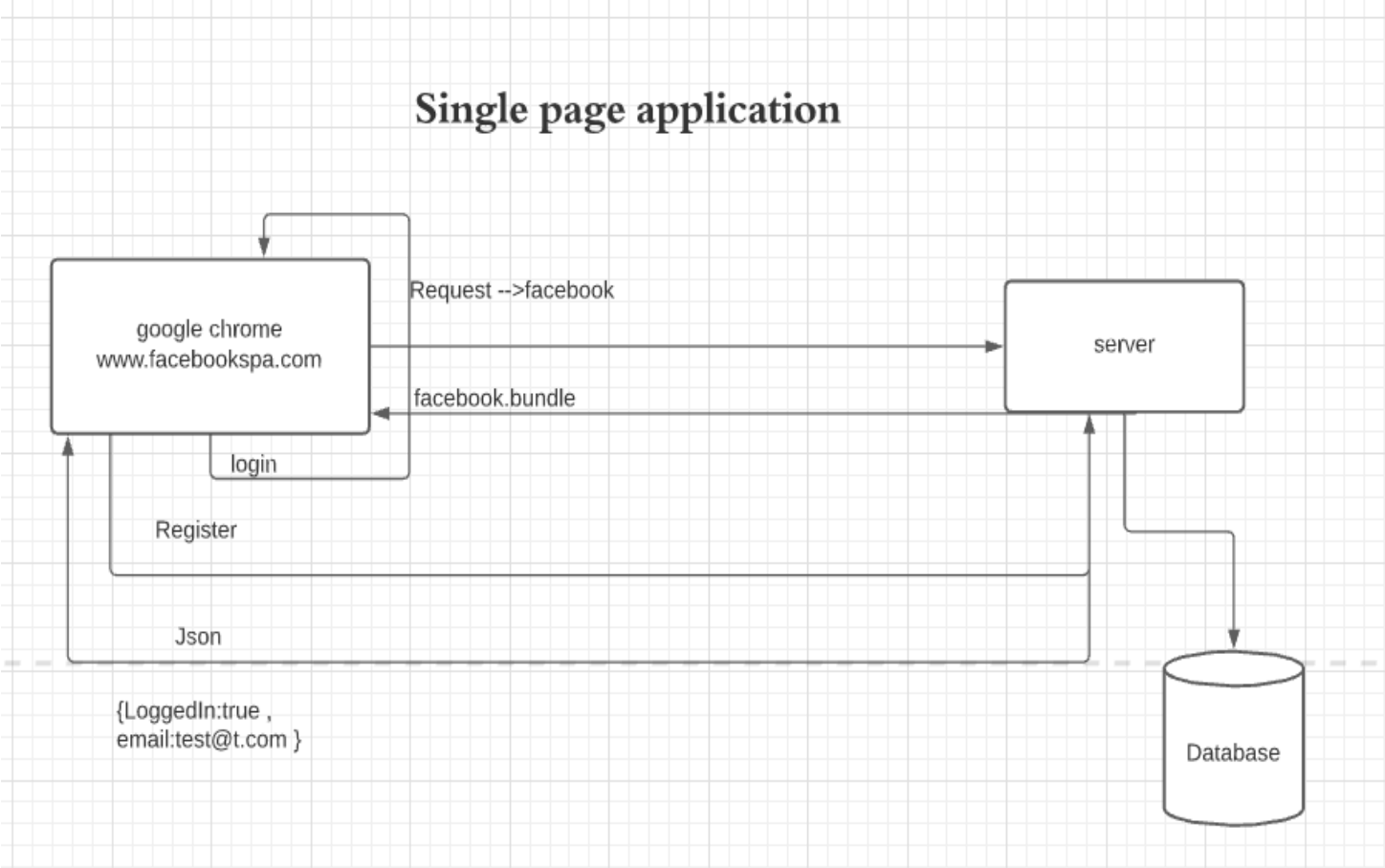
**A Single-Page Application** is an app that doesn't need to reload the page during its use and works within a browser.

**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**

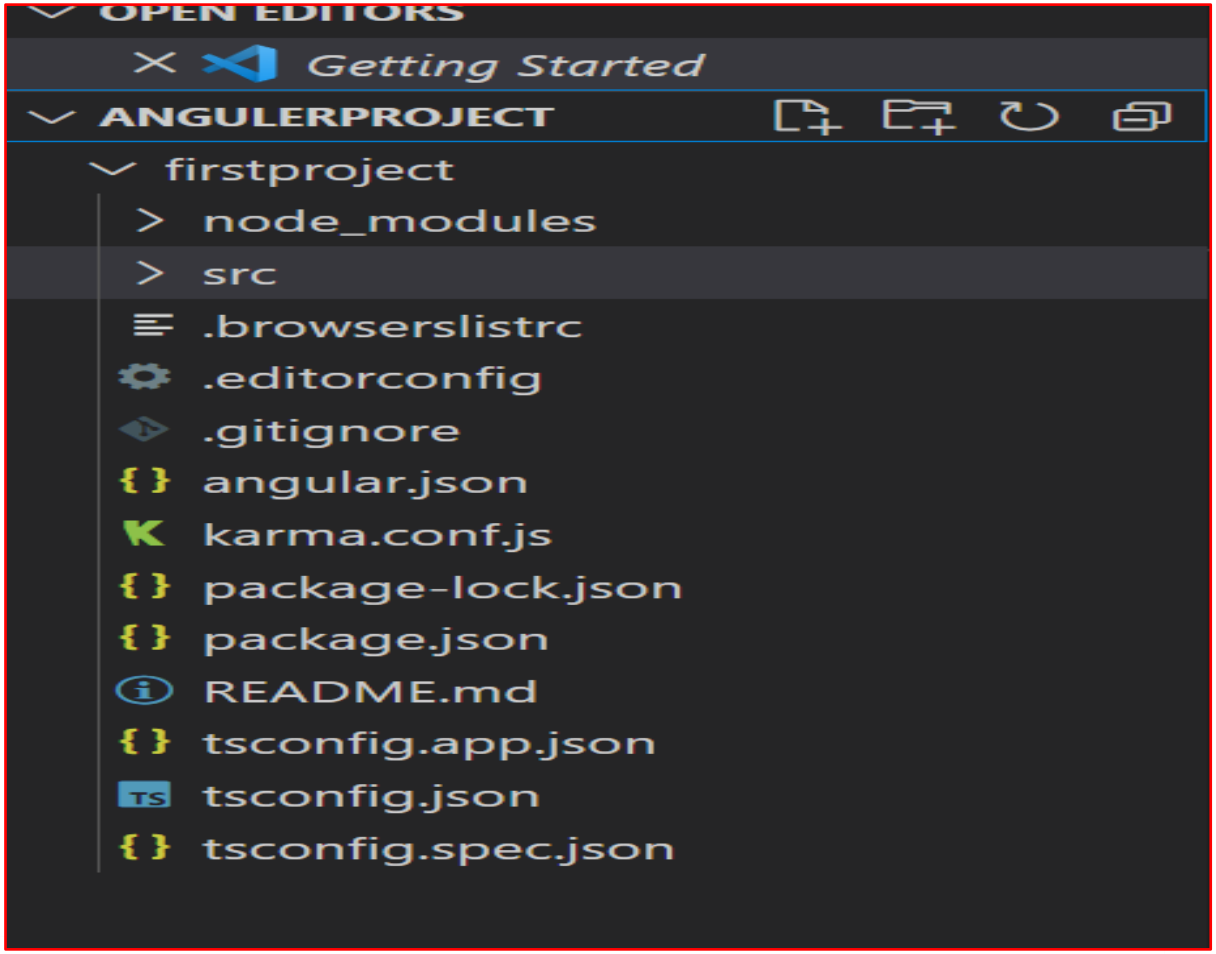
By default angular project run in port:
**localhost/4200**

# 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.

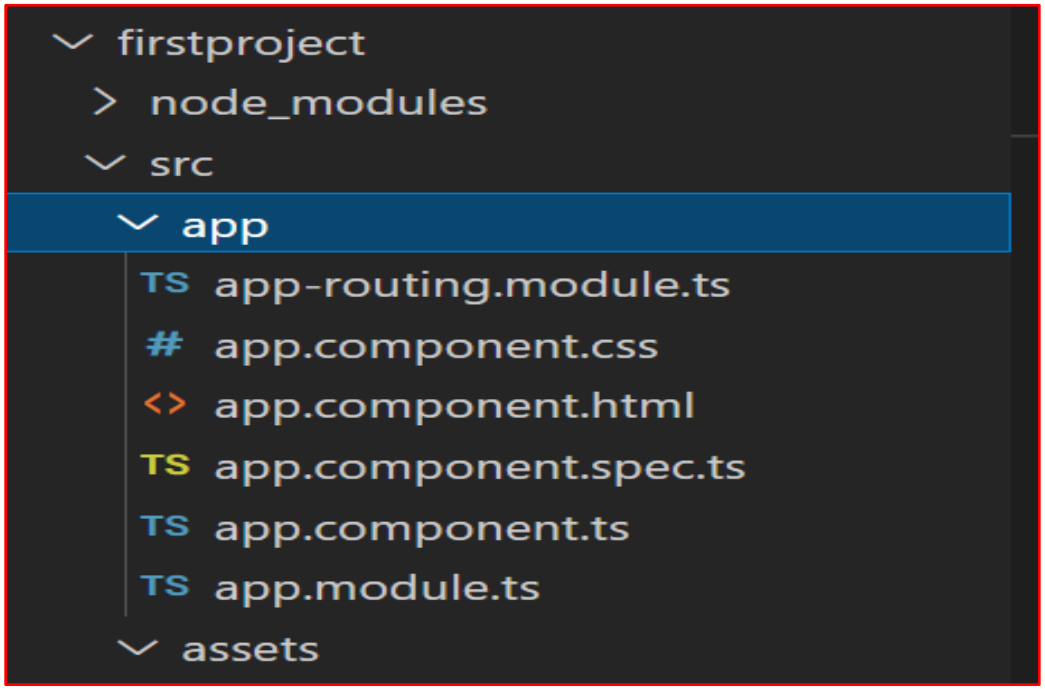
**Components** are basically classes that interact with the html file of the component, which gets displayed on the browser.

**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

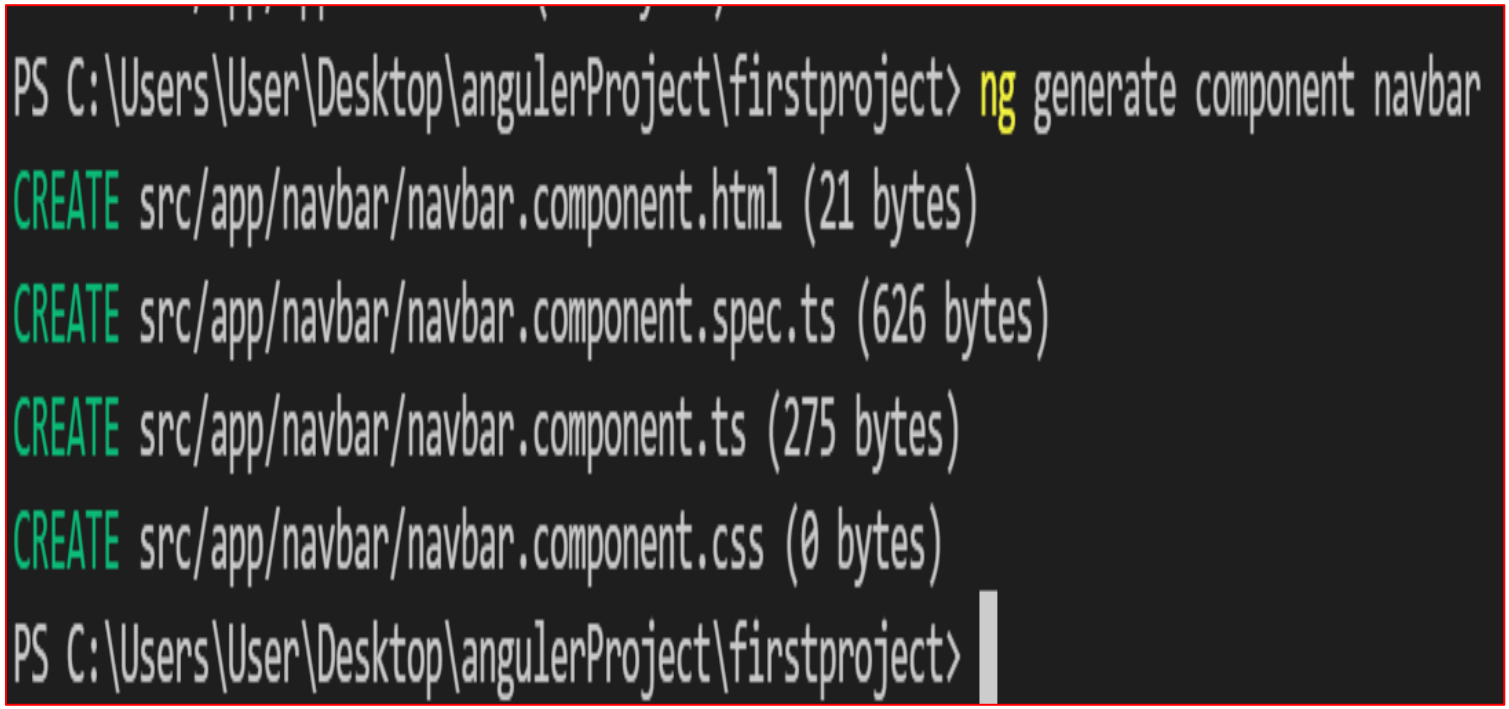
**OR**:

**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();
    }
}
```