**Angular Learning - Week 1 (21 JUL - 27 JUL)**

### 📅 Topics Covered in Week 1 (Phase 1)

* Angular Architecture
* Installation
* Components
* Modules
* Services & Dependency Injection
* Angular CLI Basics

## 1. Angular Architecture (Big Picture)

Angular is a framework for building structured web apps using TypeScript. It is made of:

* **Modules**: Group components, services, etc.
* **Components**: Small UI blocks (e.g., Todo item)
* **Templates**: HTML files for the UI
* **Services**: Logic/data shared across components
* **Dependency Injection (DI)**: Automatically gives components the services they need
* **Routing**: Navigates between views/pages

**Analogy**:

* Modules = rooms
* Components = furniture
* Services = tools
* Routing = doors

## 2. Angular Installation

### Requirements:

* Node.js and npm
* VS Code

### Install Angular CLI:

npm install -g @angular/cli

### Create a New Project:

ng new my-angular-app

### Serve the App:

cd my-angular-app  
ng serve

Go to: <http://localhost:4200>

## 3. Components

A component includes:

* A TypeScript class
* An HTML template
* A CSS file

### Example:

@Component({  
 selector: 'app-hello',  
 template: '<h1>{{ message }}</h1>',  
})  
export class HelloComponent {  
 message = "Hello Angular!";  
}

### Create a Component:

ng generate component hello

Use it in HTML:

<app-hello></app-hello>

## 4. Modules

Modules group related parts of your app.

### Example:

@NgModule({  
 declarations: [AppComponent, HelloComponent],  
 imports: [BrowserModule],  
 bootstrap: [AppComponent]  
})  
export class AppModule {}

Create feature modules like UserModule to organize code.

## 5. Services & Dependency Injection

A **service** holds logic like getting todos.

### Example:

@Injectable({ providedIn: 'root' })  
export class TodoService {  
 getTodos() {  
 return [ { title: 'Learn Angular', done: false } ];  
 }  
}

### Inject in Component:

constructor(private todoService: TodoService) {}  
ngOnInit() {  
 this.todos = this.todoService.getTodos();  
}

Angular provides the service automatically.

## 6. Angular CLI Basics

| Command | Purpose |
| --- | --- |
| ng new | Create new Angular project |
| ng serve | Run app locally |
| ng g c name | Generate component |
| ng g s name | Generate service |
| ng build | Build for production |

## Week 1 Summary

| Concept | Role |
| --- | --- |
| Angular Architecture | Understand how Angular is structured |
| Installation | Set up your Angular environment |
| Components | Build UI blocks |
| Modules | Organize your app |
| Services | Share logic/data |
| CLI | Quickly scaffold code |

Would you like a mini Todo project or a quiz for Week 1?