**Module 4: Laboratory Exercises**

**Exercise 1: Developing Angular Services**

#### Task 1: Creating Services

1. In the start menu click **Visual Studio Code**
2. In the **Visual Studio Code** click on **File** then click **Open Folder**
3. In the dialog box navigate to **D:\ ITLCANGULAR\MOD4\Starter\Exercise1\LaptopWebApplication,** then click **select folder**.
4. In the **Visual Studio** **Code** **Explorer,** expand the **src** folder thenright click the **app** folder, then click **New Folder.**
5. Name the folder **services.**
6. Right click the **services** folder then click **New File**. Name the new file **laptops.services.ts.**
7. In the **laptops.services.ts** add the following code.

**export class LaptopService{**

**}**

1. In the **Visual Studio Code Explorer,** under the **src** directory click **app.module.ts.**
2. In the **app.module.ts** add the following code to import the service.

**import { LaptopService } from ‘./services/laptops.services’;**

1. In the **app.module.ts** locate the following codes.

**providers:[]**

1. Replace the located code with the following code.

**providers:[LaptopService]**

1. In the **Visual Studio Code,** click the **File** menu then click **Save All.**

#### Task 2: Moving the Json data to the service

1. In the **Visual Studio Code Explorer,** click **app.component.ts.**
2. In the **app.component.ts**, **highlight** and **Cut (ctrl+X)** the following code.

**laptops=[** <jsondata> **];**

1. In the **Visual Studio Code Explorer,** click **laptops.services.ts**
2. In the **laptops.services.ts** class code block, **paste(ctrl+V)** the located code.
3. In the **laptops.services.ts,** make the laptops variable constant.

**laptops=[**<jsondata>**];**

1. In the **laptops.services.ts** inside the **LaptopService** class, add the following codes.

**getLaptops(){**

**return this.laptops;**

**}**

1. In the **laptops.services.ts,** make the service injectable by adding the following codes.

**import { Injectable } from ‘@angular/core’**

**@Injectable()**

1. In the **Visual Studio Code Explorer,** click **app.component.ts**
2. In the **app.component.ts,**  add the following codes to import the service.

**import { LaptopService } from ‘./services/laptops.services’;**

1. In the **app.component.ts,** locate the following codes.

**export class AppComponent{**

1. After the located code add the following code.

**laptops:any[];**

1. In the **app.component.ts** locate the following code.

**constructor(){**

1. Replace the located code with the following code.

**constructor(private Laptops: LaptopService){**

1. In the **app.component.ts** after the constructor code block add the following code.

**ngOnInit(){**

**this.laptops=this.Laptops.getLaptops();**

**}**

1. In the **Visual Studio Code,** click the **File** menu then click **Save All.**

#### Task 3: Testing the web application.

1. In the start menu click **Node.js command prompt,** then navigate to **D: \ITLCANGULAR\MOD4Starter\Exercise1\LaptopWebApplication** by entering the command.

**>D:**

**>cd** \**ITLCANGULAR\MOD4\Starter\Exercise1\LaptopWebApplication**

1. In the **Node.js command prompt,** enter the following command to start the server.

**>ng serve**

1. In the start menu click on Google Chrome, then enter the following address.

**http://localhost:4200**

1. In the Google Chrome window, verify that the web application works the same.
2. In the Google Chrome window, click on **Close.**