**Module 5: Laboratory Exercises**

**Exercise 1: Consuming Data from a Web API**

#### Task 1: Exploring the Web API

1. In the **Google Chrome** window, in the Address Bar, type the following address.

http://localhost/laptopapi

1. In the **Laptop Store API** click on **API.**
2. Verify that the **Laptop Store API** provides the documentation for the **API.**
3. In the **Google Chrome** window, in the Address Bar, type the following address.

http://localhost/laptopapi/api/laptop

1. Verify that it displays the **JSON data** for laptop products.
2. In the **Google Chrome** window, in the Address Bar, type the following address.

http://localhost/laptopapi/api/laptop/1

1. Verify that it displays the **JSON data** for the laptop with the Id of 1.
2. In the **Google Chrome** window, click **Close**.

#### Task 2: Setting up the Application to use HTTP.

1. In the Start Menu click **Visual Studio Code.**
2. In the **Visual Studio Code** windowclick on **file** then click **Open Folder.**
3. In the dialog box navigate to **D:\ ITLCANGULAR\MOD5\Starter\Exercise1\LaptopWebApplication,** then click on **select folder.**
4. In the **Visual Studio Explorer**, expand the **src** folder then expand the **app** folder then click **app.module.ts.**
5. In the **app.module.ts** code window, locate the following code.

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

1. After the located code add the following code.

**import{HttpClientModule} from ‘@angular/common/http’;**

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

**FormsModule**

1. After the located code add the following code.

**,HttpClientModule**

#### Task 3: Modifying the service to use Http

1. In the **Visual Studio Explorer,** expand the **services** folder then click **laptop.services.ts**
2. In the **laptop.services.ts** locate the following code then **delete** it.

**const laptops=[{<jsondata>}]**

1. In the **laptop.services.ts** locate the following code.

**import{ inject } from ‘@angular/core/testing’;**

1. After the located code add the following codes.

**import { HttpClient } from ‘@angular/common/http’;**

1. In the **laptop.services.ts** locate the following code.

**export class LaptopService{**

1. After the located code add the following codes.

**constructor(private http:HttpClient){**

**}**

1. In the **laptop.services.ts** locate the following codes.

**getLaptops(){**

**return laptops;**

**}**

1. Replace the located code with the following codes.

**getLaptops=function(){**

**return this.http.get(‘http://localhost/laptopapi/api/laptop/’);**

**}**

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

#### Task 4: Modifying the **app.component.ts** to use the service

1. In the **Visual Studio code** explorer click on **app.component.ts**
2. In the **app.component.ts,** locate the following code.

**laptops:any[];**

1. Replace the located code with the following codes.

**laptops:any;**

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

**ngOnInit(){**

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

**}**

1. Replace the located code with the following codes.

**ngOnInit(){**

**this.Laptops.getLaptops().subscribe(**

**data=>{ this.laptops=data; }**

**);**

**}**

1. In the **Visual Studio code** window, click on **File** then click **Save All.**

#### Task 5: Modifying the **index.html**

1. In the Visual Studio Code window, expand the **laptops** folderthen click **laptoplist.component.html**
2. In the **laptoplist.component.html** code window, locate the following code.

**<h4 class=”card-title”>Specification</h4>**

**<ul class=”list-group”>**

1. Replace the located code with the following code.

**<h4 class=”card-title”>Specification</h4>**

**<ul class=”list-group” \*ngFor=”let specs of laptop.specifications”>**

1. In the **laptoplist.component.html** code window, locate the following codes.

{{laptop.specification.processor}}

{{laptop.specification.os}}

{{laptop.specification.memory}}

{{laptop.specification.graphics}}

{{laptop.specification.displaysize}}

{{laptop.specification.storage}}

1. Replace the located code with the following codes.

{{specs.processor}}

{{specs.os}}

{{specs.memory}}

{{specs.graphics}}

{{specs.displaysize}}

{{specs.storage}}

1. In the **Visual Studio Code** window, click on **File** then click on Save **all.**
2. In the start menu click on **Node.js command prompt**
3. In the **Node.js command prompt**  enter the following command

**>D:**

**> cd \ITLCANGULAR\MOD5\Starter\Exercise1\LaptopWebApplication**

1. In the **Node.js command prompt**  enter the following command

**>ng serve**

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

**http://localhost:4200**

1. In the Google Chrome window, verify that it now displays all the laptops from our web api together with each laptop’s specifications.
2. In the Google Chrome window, click **Close.**
3. In the Node.Js Command prompt window click **Close**.
4. In the Visual Studio code window, click on **Close.**

**Exercise 2: Posting data to the WebApi**

#### Task 1: Exploring the Web API

1. In the **Google Chrome** window, in the Address Bar, type the following address.

http://localhost/laptopapi

1. In the **Laptop Store API** click on **API.**
2. Verify that the **Laptop Store API** provides the documentation for the **API.**
3. In the **ASP.Net Web API help Page,** scroll down to the **Reviews** documentation.
4. Verify that it has documentation for the **POST** request
5. In the **ASP.Net Web API help Page**, click **POST api/Reviews**
6. In the **Body Parameters** it displays all the data to be passed to the WebApi.
7. In the **Google Chrome** window, click **Close**.

#### Task 2: Submitting a review

1. In the start menu click on **Visual Studio Code**
2. In the **Visual Studio Code** window click on **file** then click **open folder**.
3. In the dialog box navigate to **D:\ ITLCANGULAR\MOD5\Starter\Exercise2\LaptopWebApplication,** then click on **select folder.**
4. In the start menu click on **Node.js command prompt**
5. In the **Node.js command prompt**  enter the following command

**>D:**

**> cd ITLCANGULAR\MOD5\Starter\Exercise2\LaptopWebApplication**

1. In the **Node.js command prompt**  enter the following command

**>ng serve**

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

**http://localhost:4200**

1. In the Google Chrome window, under the reviews of the first Laptop, Click the Rating dropdown then click **“5 stars”.**
2. In the reviews text area type **“Test Review”.**
3. In the author text box type, **johndoe@mail.com** then click **Submit Review.**
4. Verify that the Test Review is added to the reviews of the first laptop
5. In the Google Chrome window, click on **Refresh.**
6. verify that the Test Review was not retained when refreshed from the reviews of the first laptop.
7. In the Google Chrome window, click on **Close.**
8. In the Node.Js Command prompt window click **Close**.

#### Task 3: Modifying the laptop service to post reviews

1. In the **Visual Studio code** explorer expand **src** then expand **app** then expand **services** then click **laptops.services.ts.**
2. In the **laptops.services.ts** code window, locate the following code.

**import{HttpClient} from ‘@angular/common/http’;**

1. Replace the located code with the following code.

**import{HttpClient,HttpHeaders} from ‘@angular/common/http’;**

1. In the **laptops.services.ts** code window, locate the following code.

**getLaptops=function(){**

**return this.http.get('http://localhost/laptopapi/api/laptop/');**

**}**

1. After the located code add the following code.

**postReviews= function(laptopReviews){**

**}**

1. Inside the function block that you added, add the following code.

**let headers = new HttpHeaders({‘Content-type’:’application/json’});**

**return this.http.post(‘http://localhost/laptopapi/api/reviews’,laptopReviews,headers);**

1. In the **Visual Studio Code** window, click on **File** then click on Save **all.**

#### Task 4: Modifying the reviews component

1. In the **Visual Studio Code** window expand the **laptopreviews** folder then click **reviews.component.ts**
2. In the **reviews.component.ts** code window, locate the following code.

**import{ Component,Input } from ‘@angular/core’**

1. After the located code add the following code.

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

1. In the **reviews.component.ts** , locate the following code.

**@Input() laptopdetails:any**

1. After the located code the following code.

**constructor(private Reviews:LaptopService){}**

1. In the **reviews.component.ts** , locate the following code.

**this.review.createdOn= Date.now();**

1. After the located code add the following code.

**this.review.laptopId= laptop.Id;**

1. In the **reviews.component.ts** , locate the following code.

**laptop.reviews.push(this.review);**

1. After the located code add the following code.

**this.newReviews= this.review;**

**this.Reviews.postReviews(this.newReviews).subscribe();**

1. In the **Visual Studio Code** window, click on **File** then click on **Save** **all.**
2. In the start menu click on **Node.js command prompt**
3. In the **Node.js command prompt**  enter the following command

**>D:**

**> cd ITLCANGULAR\MOD5\Starter\Exercise2\LaptopWebApplication**

1. In the **Node.js command prompt**  enter the following command

**>ng serve**

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

**http://localhost:4200**

1. In the Google Chrome window, under the reviews of the first Laptop, Click the Rating dropdown then click **“5 stars”.**
2. In the reviews text area type **“Test Review”.**
3. In the author text box type, **johndoe@mail.com** then click **Submit Review.**
4. Verify that the Test Review is added to the reviews of the first laptop
5. In the Google Chrome window, click on **Refresh.**
6. Verify that the Test Review is retained from the reviews of the first laptop when refreshed.
7. In the Google Chrome window, click on **Close.**
8. In the Visual Studio window, click on **Close.**