Lab 5 – PWA/NodeJs/Angular Part 1
Due: 11:59 CDT, April 10, 2022 (Sunday) (15 points)
(Hello World)

A **progressive web application** (**PWA**) is a type of application software delivered through the web, built using common web technologies including HTML, CSS and JavaScript. It is intended to work on any platform that uses a standards-compliant browser, including both desktop and mobile devices. https://en.wikipedia.org/wiki/Progressive_web_application

Angular is a platform and framework for building single-page client applications using HTML and TypeScript. **Angular** is written in TypeScript led by the Angular Team at Google and by a community of individuals and corporations. It implements core and optional functionality as a set of TypeScript libraries that you import into your apps.

Node.js is an open source development platform for executing JavaScript code server-side. **Node** is useful for developing applications that require a persistent connection from the browser to the server and is often used for real-time applications such as chat, news feeds and web push notifications.

Description:

The purpose of this lab is to get familiar with PWA and Typescript by developing a simple PWA or Mobile app using Angular with Visual Studio Code.

Part 1 Tasks: ('Hello World' web page in Angular)

1. Install Visual Studio Code, Node.js and Angular to your computer.
2. Make a simple change in the web page and compile it with Angular.
3. Take a screenshot of the final web page and put it in a Word Doc. Do not zip this Word doc.
4. Turn in these 2 files: app.component.html and app.component.ts from your '…\my-first-app\src\app' directory and zip the files.
5. Submit the files from 3 and 4 to Canvas.

The following are the steps to install Node.js and Angular.

1. Install Visual Studio Code
    a. Download VS Code - https://code.visualstudio.com/Download
    b. Install in your computer

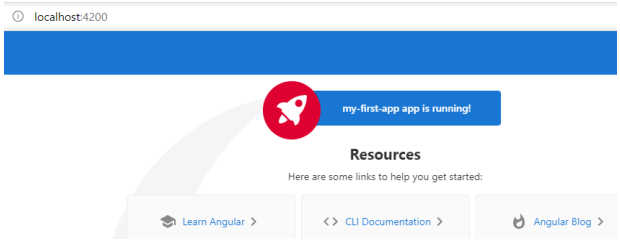
2. Download Node.js:
    a. https://nodejs.org/en/download/
    b. Download the Latest LTS Version: 12.18.0 (includes npm 6.14.4)
    c. Install it in your computer
    d. Open CMD with run as administrator
    e. Type >node –v

f. Type >npm -v

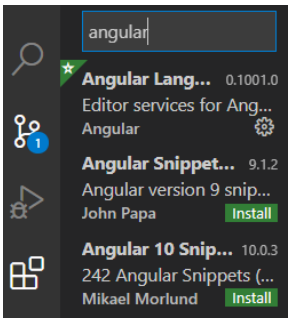
3. Install Angular:
    a. In CMD, right click and run as administrator
    b. Type >npm install -g @angular/cli

4. Create a web app in Angular using VS Code
    a. Create a folder called 'Angular' or a name you prefer.
    b. Inside VS Code, 'open folder' - the 'Angular' folder in a.
    c. Click Terminal and 'new Terminal'.
    d. In the Terminal, Type >ng new my-first-app
    e. The above will create an Angular app called my-first-app.
    f. Type Y for – "Would you like to add Angular routing"
    g. Type y - yes for 'Add Angular routing' option
    h. Important: Choose scss as the style sheet – move your 'ARROW' key to point to SCSS option and hit enter.
    i. It will run for a few minutes to compose all the code you need for a web app. Now you have created an angular blank web app with their default components.

    j. Type >ng serve –-o (to compile your app)
    k. You will get an error message; you need to change directory> cd my-first-app
    C:\isaac\smu\Mobile\ my-first-app >ng serve --o
    The serve command tries to find the Angular project to compile.
    l. Type ng serve --o.
    m. Type 'y' or 'n' for Google data sharing question – your choice
    n. Compiled successfully
    o. The browser will be open with: http://localhost:4200/



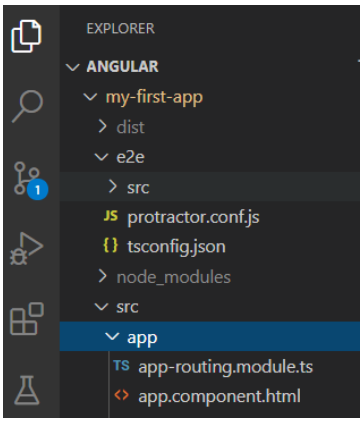
5. Adding Angular extensions to VS Code:
    1. In VS Code, click extension:  ,

2. Type angular in the search box: 

3. Add/install 'Angular Language Service'.
4. Type Nx Console (Angular console) and install – for future use.

6. Modify your Angular web page.

   a. In VS Code, click explorer: 

   b. click app.component.html, 

   c. Make a change to the file and see the result. E.g. change the following

```
<span>{{ title }} app is running!</span>
```

To

```
<span>{{ title }} app is running - This is a great start!</span>
```

Shown below:

```
331   >
332
333   >{{ title }} app is running!- This is a great start!</span>
334
335   id="rocket-smoke" alt="Rocket Ship Smoke" xmlns="http://www.w3.or
336   th id="Path_40" data-name="Path 40" d="M644.6,141S143.02,215.537,
```

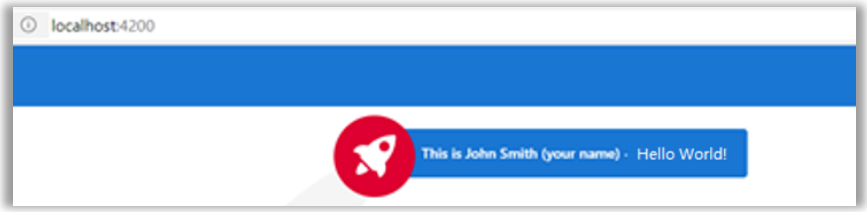
   d. Change app.component.ts from

```
export class AppComponent {
  title = 'my-first-app';
}
```

To (put your name there instead of John Smith).

```
export class AppComponent {
  title = 'The is John Smith -';
```

e. Make a change to the right file so that it will show ‘Hello World’ in the web page.



f.

Click save and compile it again: >ng serve --o

If you get an error:

> “An unhandled exception occurred: Port 4200 is already in use. Use '--port' to specify a different port.”
>
> Kill the process on port 4200 with:
> >npx kill-port 4200

Take a screenshot of the web page and put it in a word doc.