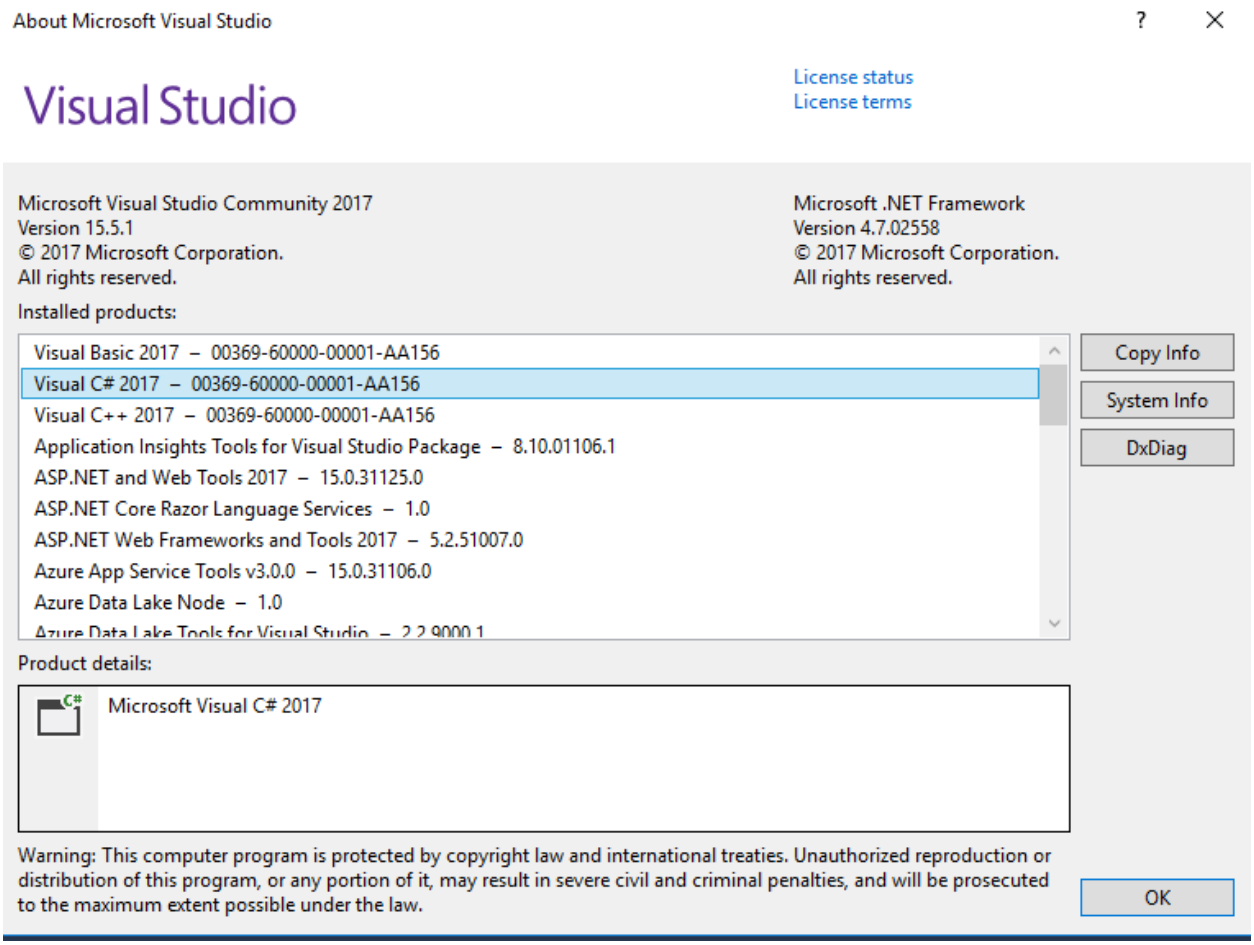
SETTING UP ANGULAR IN VISUAL STUDIO 2017

Is it possible to run Angular and Type Script in Visual Studio? Yes it is. Here I document how I set this up.

This is the version of VS 2017 that I am using and I code using C#:



DOWNLOADING NODE.JS AND NPM FROM THE NODEJS WEBSITE

Firstly we need to install NODE.js and npm, node package manager. These need to be downloaded and installed on your machine.

VS requires Node version 4.6x or greater

NPM 3.x.x or greater

These are downloaded together in a single package which can be found at:

https://nodejs.org/en/download/

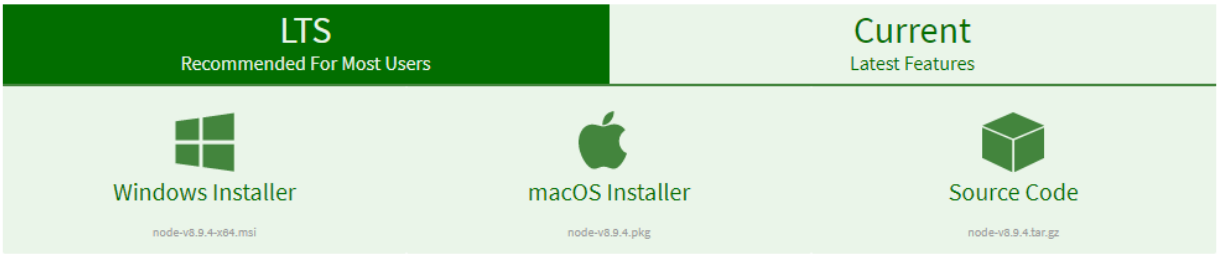
Select the package for your system as for example Windows, macOS etc and down load.

I used Windows Installer 64-bit for my Windows 10 machine.

Downloads

Latest LTS Version: **8.9.4** (includes npm 5.6.0)

Download the Node.js source code or a pre-built installer for your platform, and start developing today.

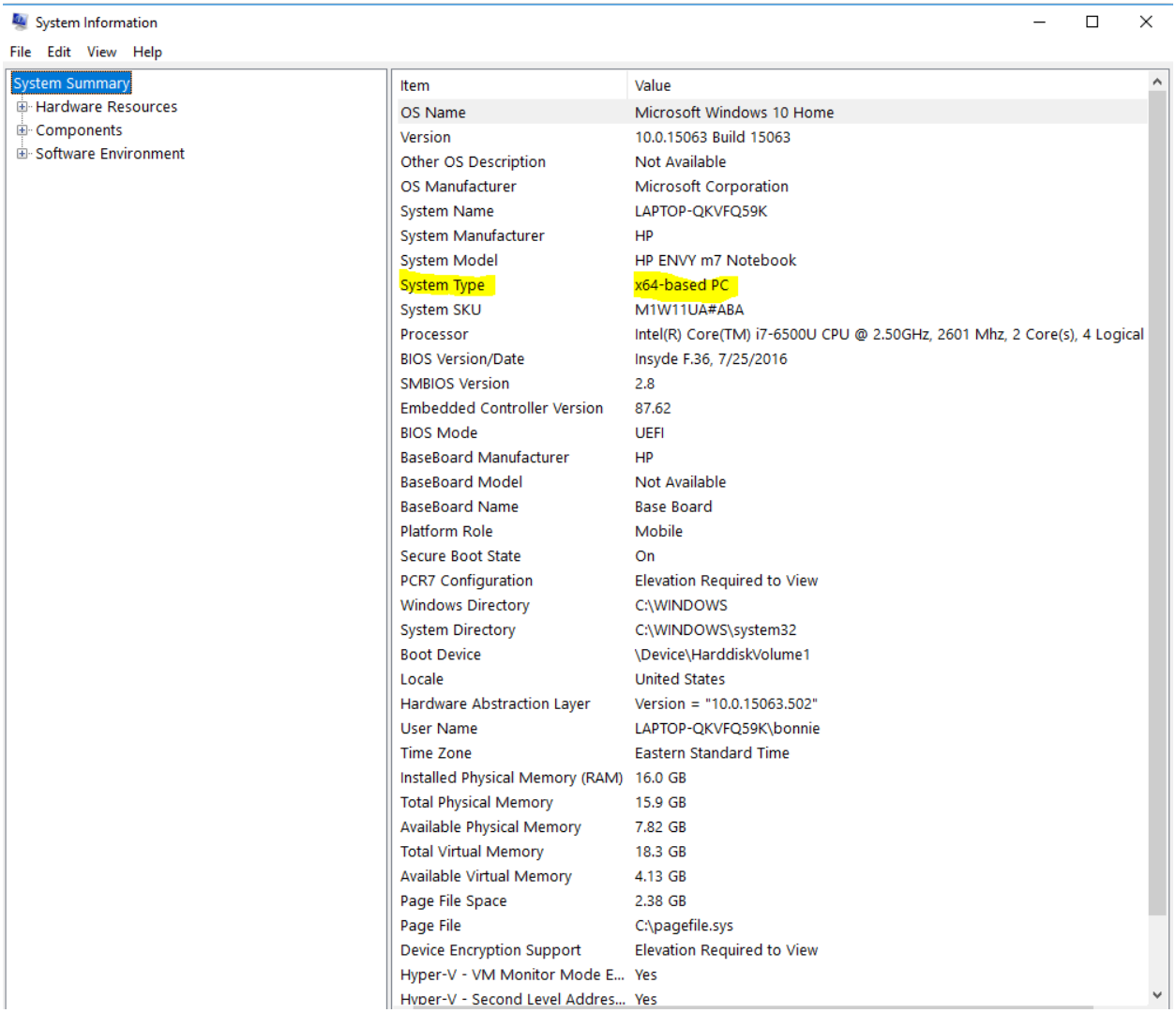


Windows Installer (.msi)	32-bit	64-bit	
Windows Binary (.zip)	32-bit	64-bit	
macOS Installer (.pkg)	64-bit		
macOS Binaries (.tar.gz)	64-bit		
Linux Binaries (x86/x64)	32-bit	64-bit	
Linux Binaries (ARM)	ARMv6	ARMv7	ARMv8
Source Code	node-v8.9.4.tar.gz		

For Windows users how do you determine which operating system you have?

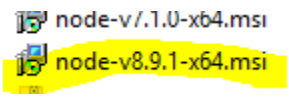
Go to the search window and type **msinfo32.**

This will bring up the system information window and look up System Type. If it says x64-based PC then you have a 64 bit processor. If it says x86-based PC then you have a 32 bit operating system.



Select the appropriate download package.

This will download an msi file into your downloads folder.



Right click on the msi and select INSTALL and follow the instructions.

AFTER DOWNLOADING YOUR NODE PACKAGE:

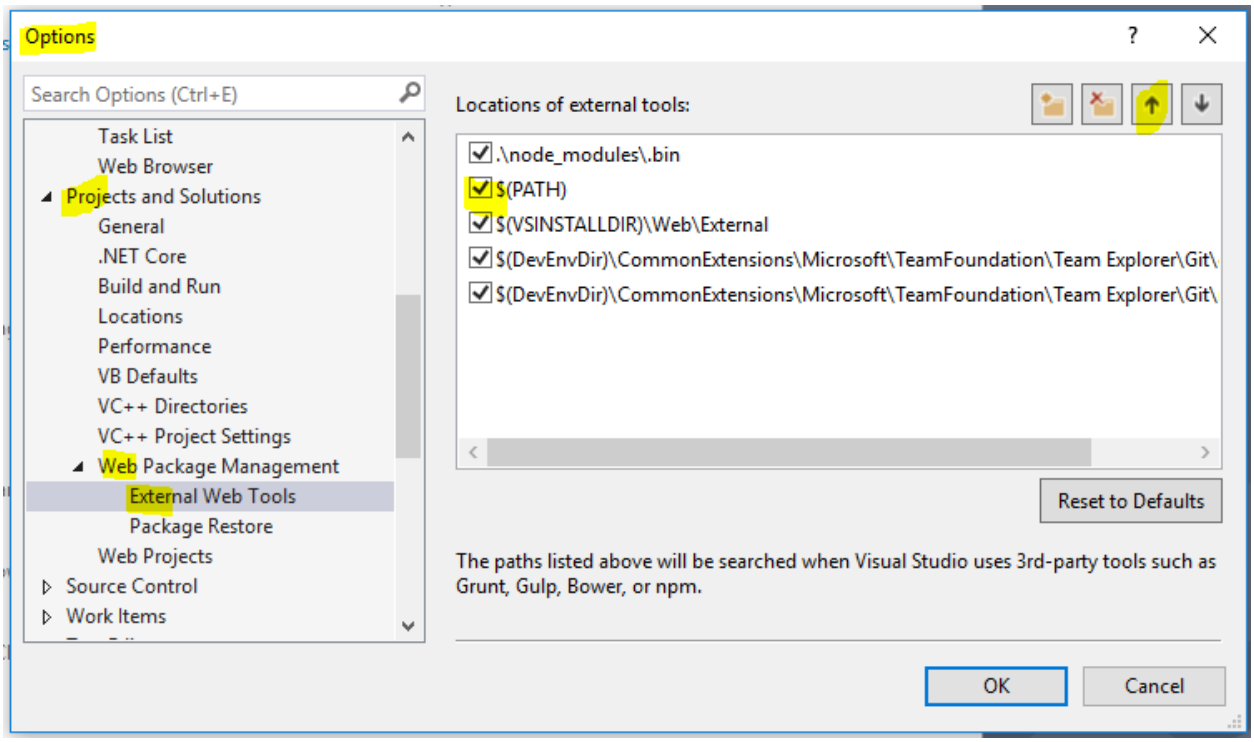
After installation of node and npm, type cmd in the search box and bring up the command window.

To see which version of node you have installed type: node -v

To see which version of npm you have installed type: npm -v

CONFIGURING VISUAL STUDIO TO RUN NODE

Open an instance of Visual Studio and go to Tools → Options → Projects and Solutions→ Web Package Management → External Web Tools. You will see:



Move the global path entry, $(PATH), up to second position in the queue by selecting it and using the up arrow so that it looks like the configuration above. This tells Visual Studio to look for npm in the global path before it searches other folders.

DOWNLOADING AND INSTALLING TYPESCRIPT

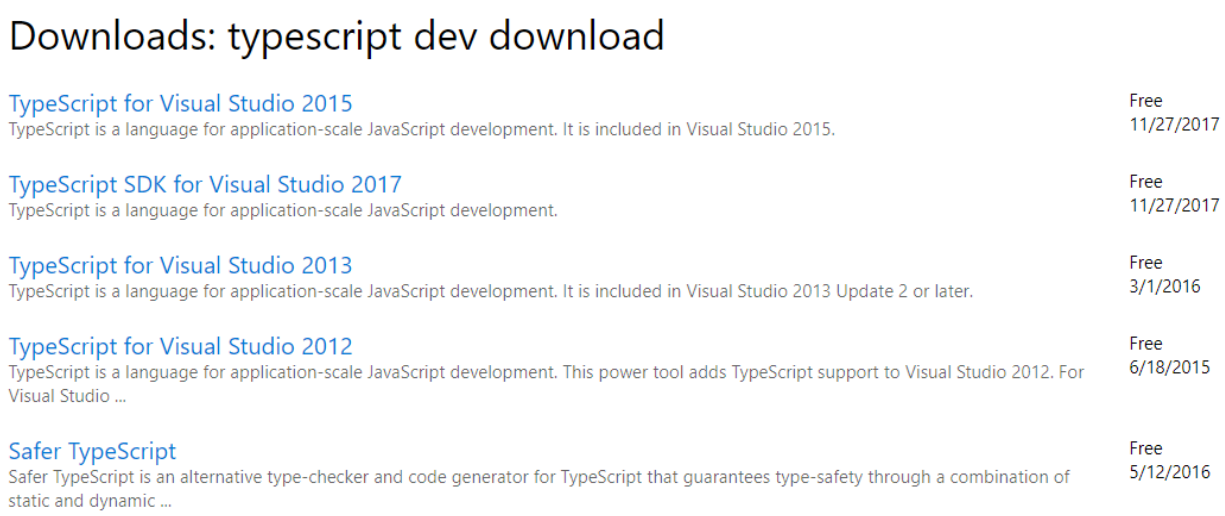
The next package that needs to be downloaded and installed is TypeScript.

This can be obtained from https://www.microsoft.com/en-us/download/

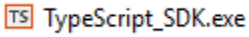
Do a search on typescript

https://www.microsoft.com/en-us/search/result.aspx?q=typescript+dev+download

For my system I selected TS for VS2017



Download the TypeScript executable to your downloads folder.

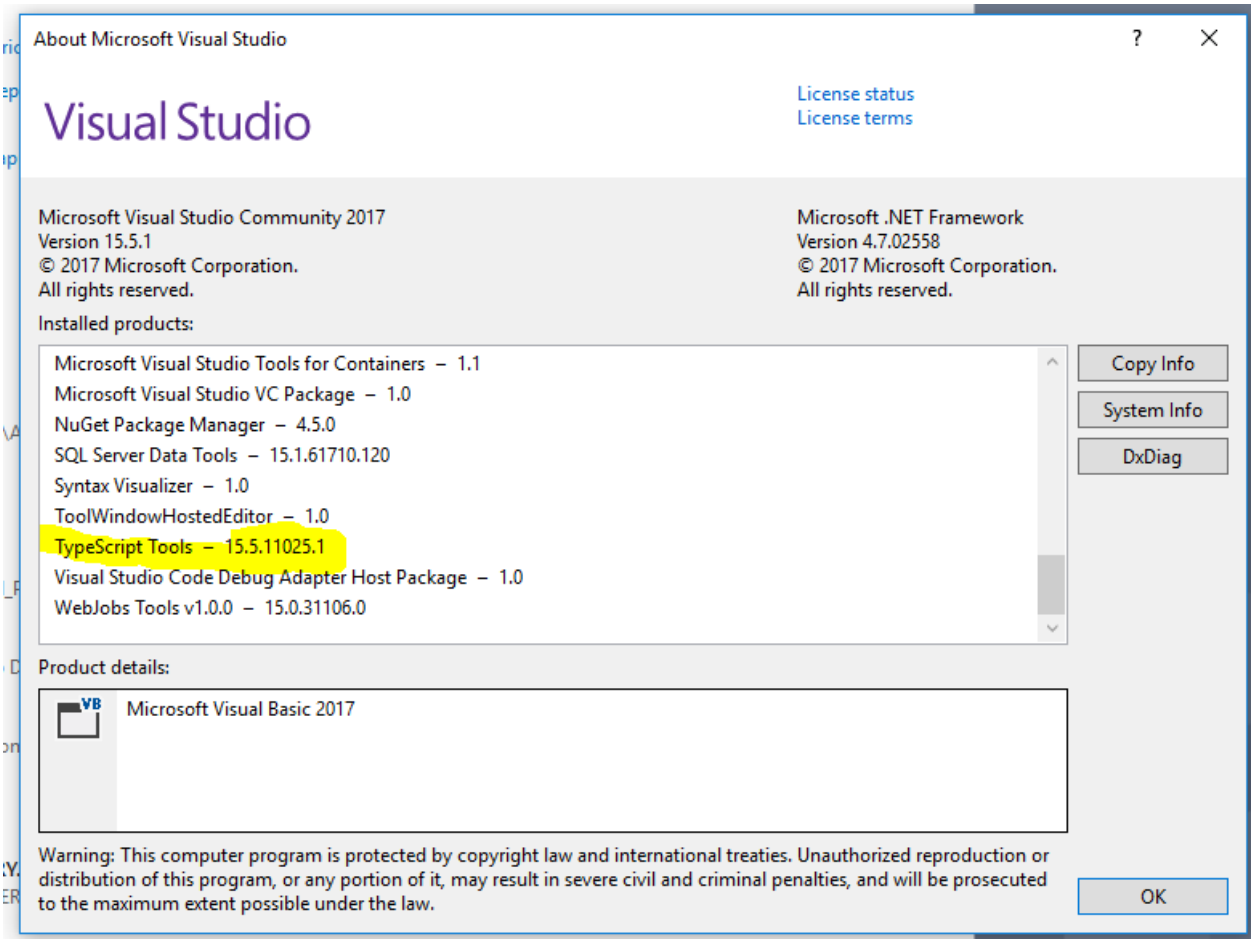


Right click the executable and install as administrator. Follow the instructions for the install.

For Angular applications the version of TypeScript must be 2.2.0 or later.

How can I verify what was installed?

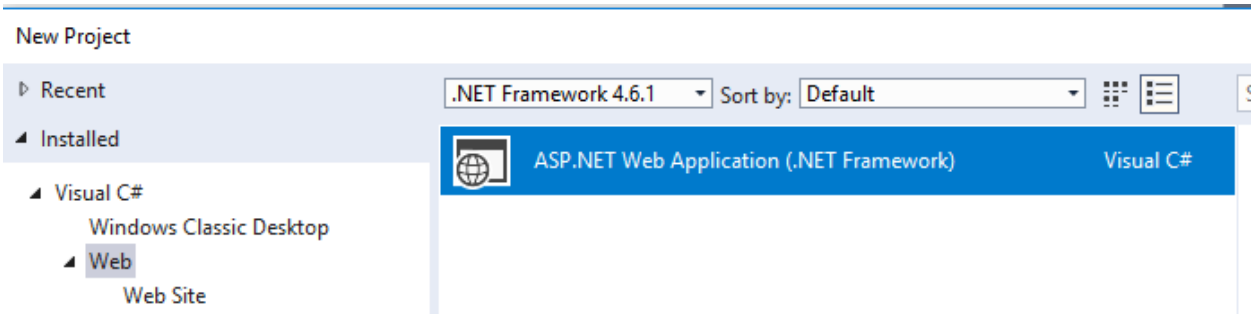
After installing go to Visual Studio and click Help →About Microsoft Visual Studio→ TypeScript Tools



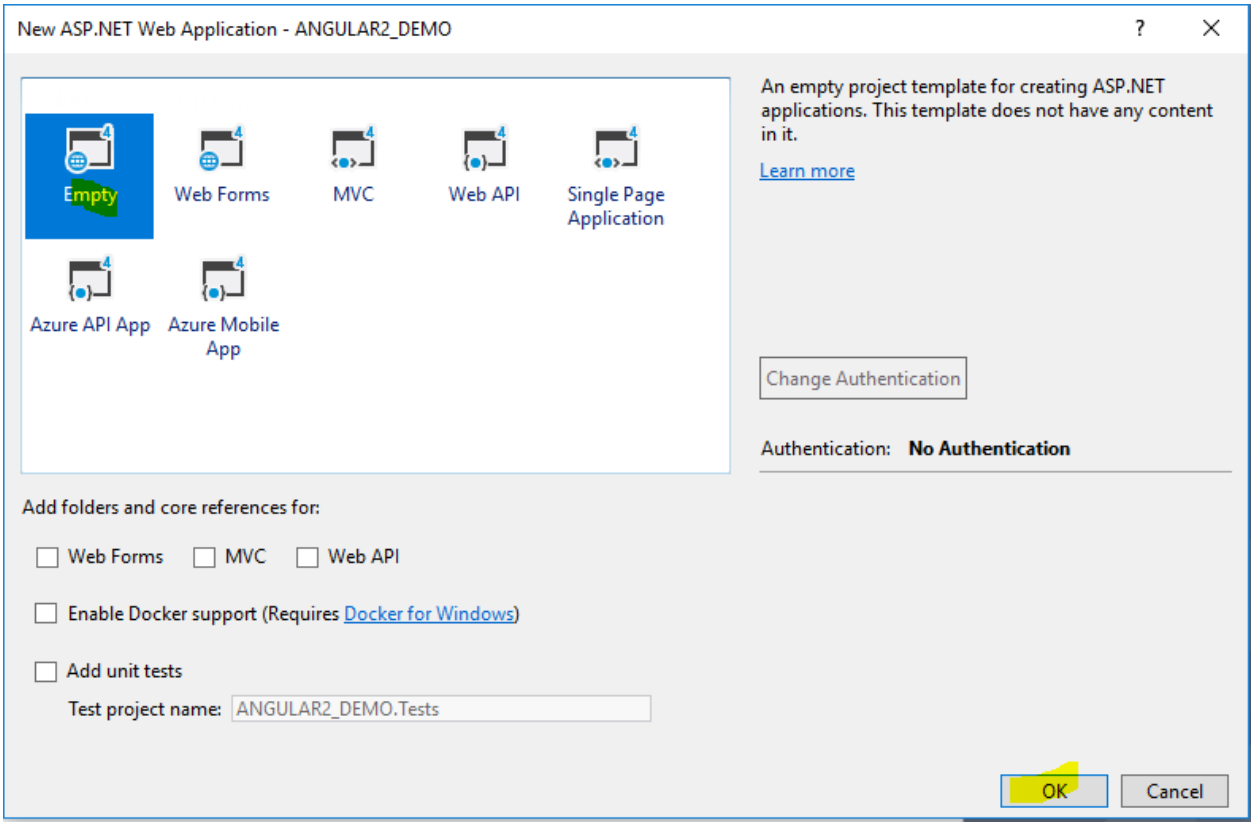
You will also need to install the QUICKSTART file from the Angular site which is covered below.

CREATING AN ANGULAR APPLICATON – setting up the application in Visual Studio 2017

Open an instance of VS2017 and select New Project → Project → Web →



Select the empty template and click OK

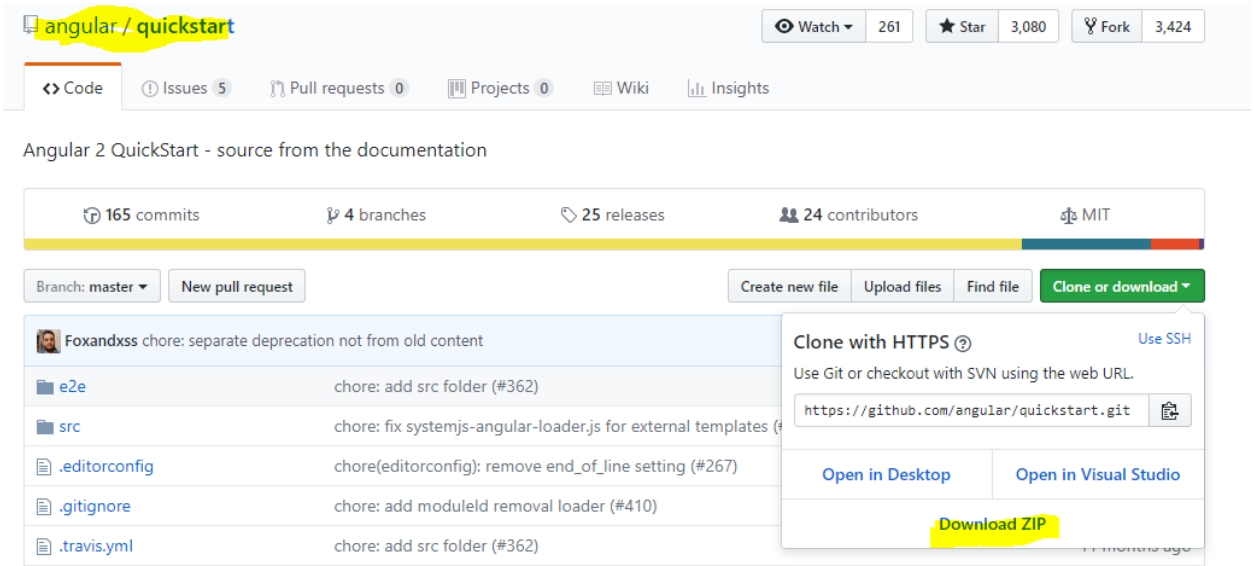


DOWNLOAD QUICKSTART FILES FROM THE ANGULAR WEBSITE

https://github.com/angular/quickstart

or got go github.com/angular and do a search on quickstart

and download the zip file. We will be using some of the files in here but not all of them are required.

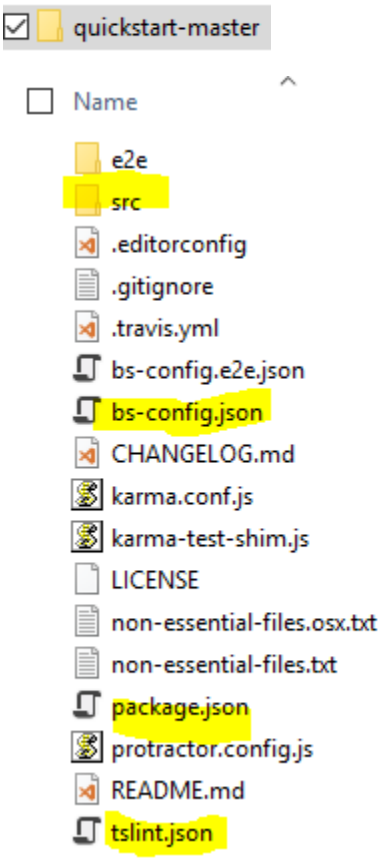


We will be copying files from the extracted folder to run Angular in VS2017

Extract and copy the starter files to the project.

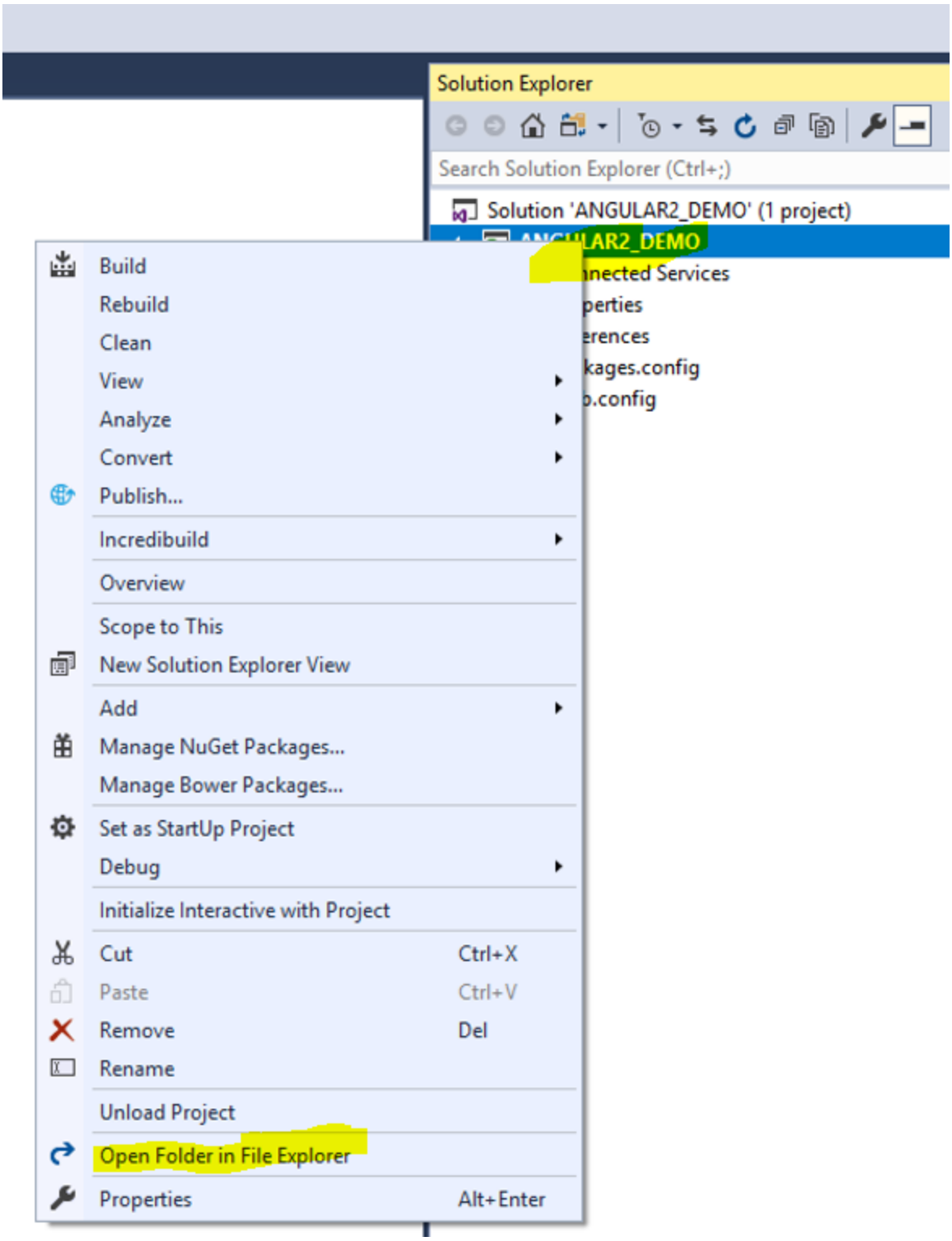
What files do I need to copy into my VS project?

You need to copy the src folder, bs-config.json,package.json, tslint.json



Copy these files into the root directory of the project, not the solution folder.

If, for example, I have a project called ANGULAR2_DEMO as shown I will have a series of folders to navigate, but you can select the project in the solution explorer, right click and open the folder in the file explorer. This is where you will copy the above quickstart files.


Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'ANGULAR2_DEMO' (1 project)
Build
Rebuild
Clean
View
Analyze
Convert
Publish...
Incredibuild
Overview
Scope to This
New Solution Explorer View
Add
Manage NuGet Packages...
Manage Bower Packages...
Set as StartUp Project
Debug
Initialize Interactive with Project
Cut Ctrl+X
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Open Folder in File Explorer
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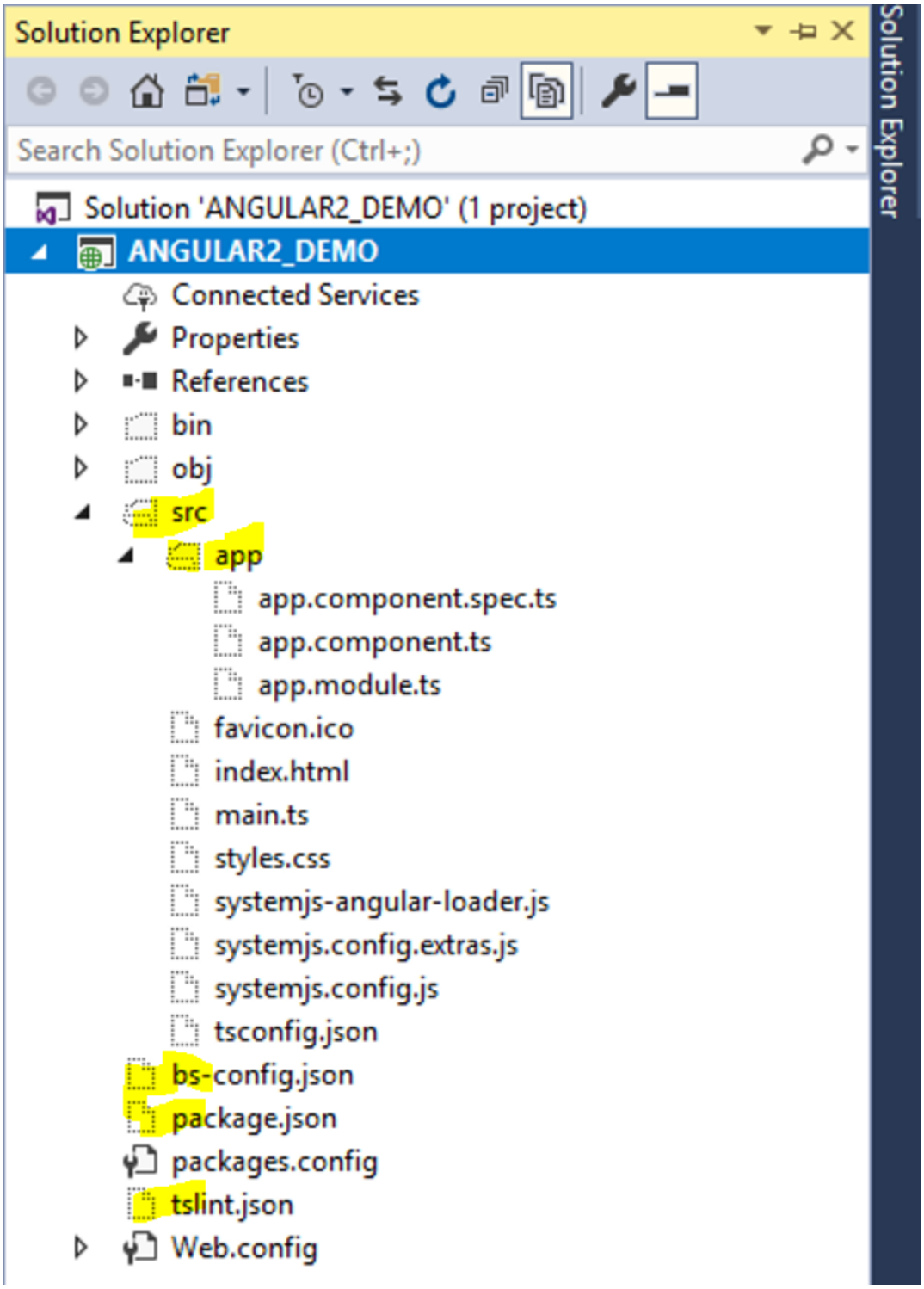
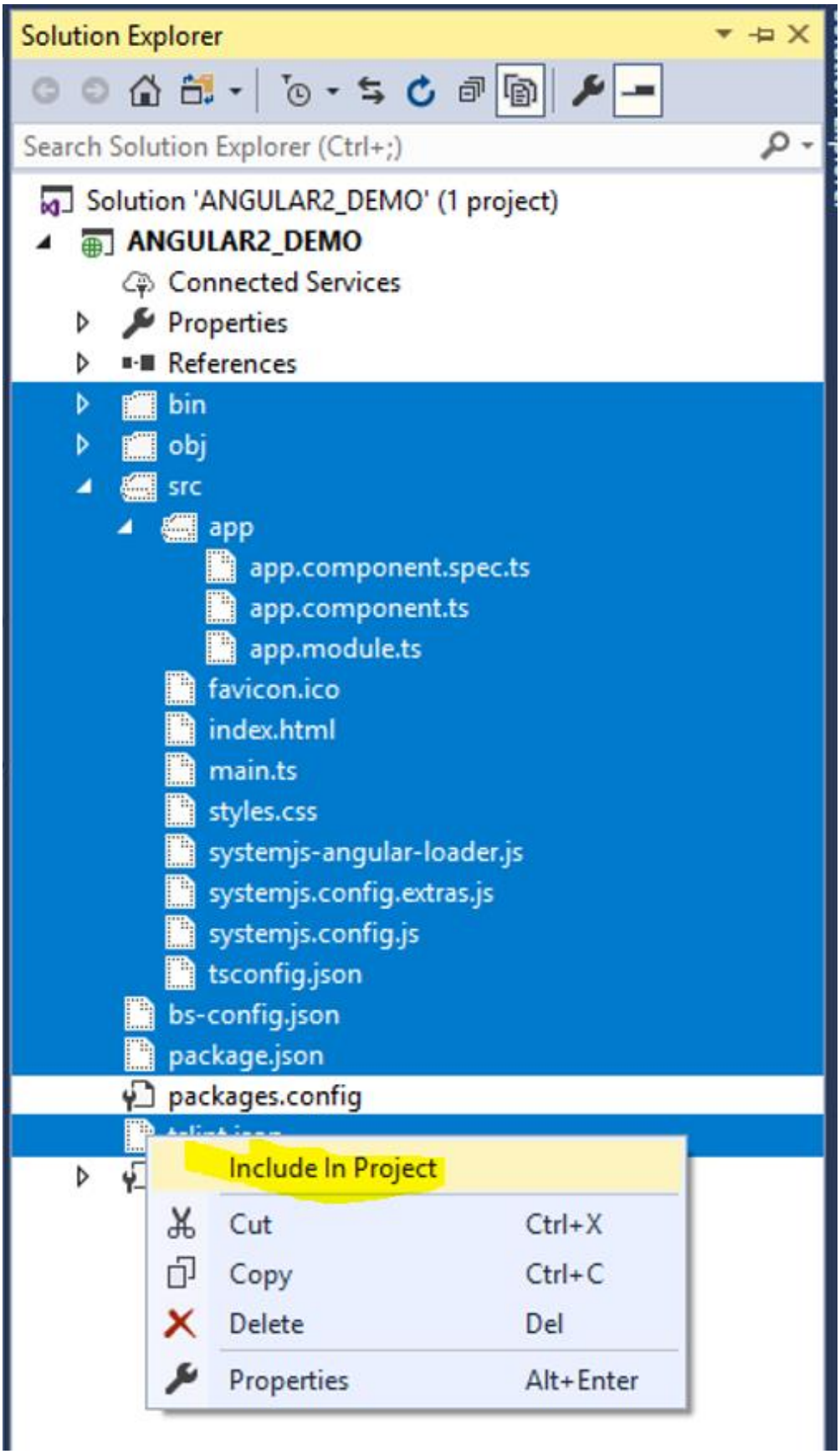
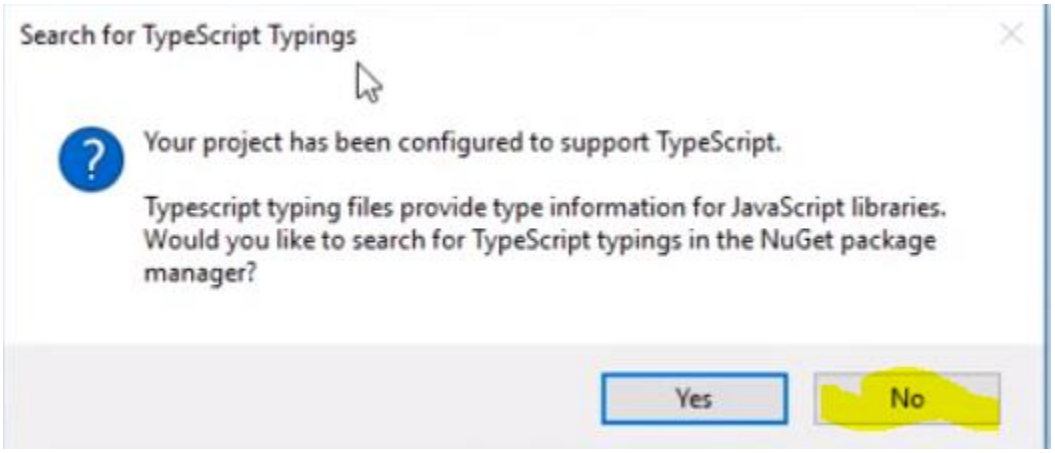

Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'ANGULAR2_DEMO' (1 project)
ANGULAR2_DEMO
Connected Services
Properties
References
bin
obj
src
app
app.component.spec.ts
app.component.ts
app.module.ts
favicon.ico
index.html
main.ts
styles.css
systemjs-angular-loader.js
systemjs.config.extras.js
systemjs.config.js
tsconfig.json
bs-config.json
package.json
packages.config
tslint.json
Web.config
Solution Explorer

These files must be included in the project. Select them using the control key and right click. Select Add to project.

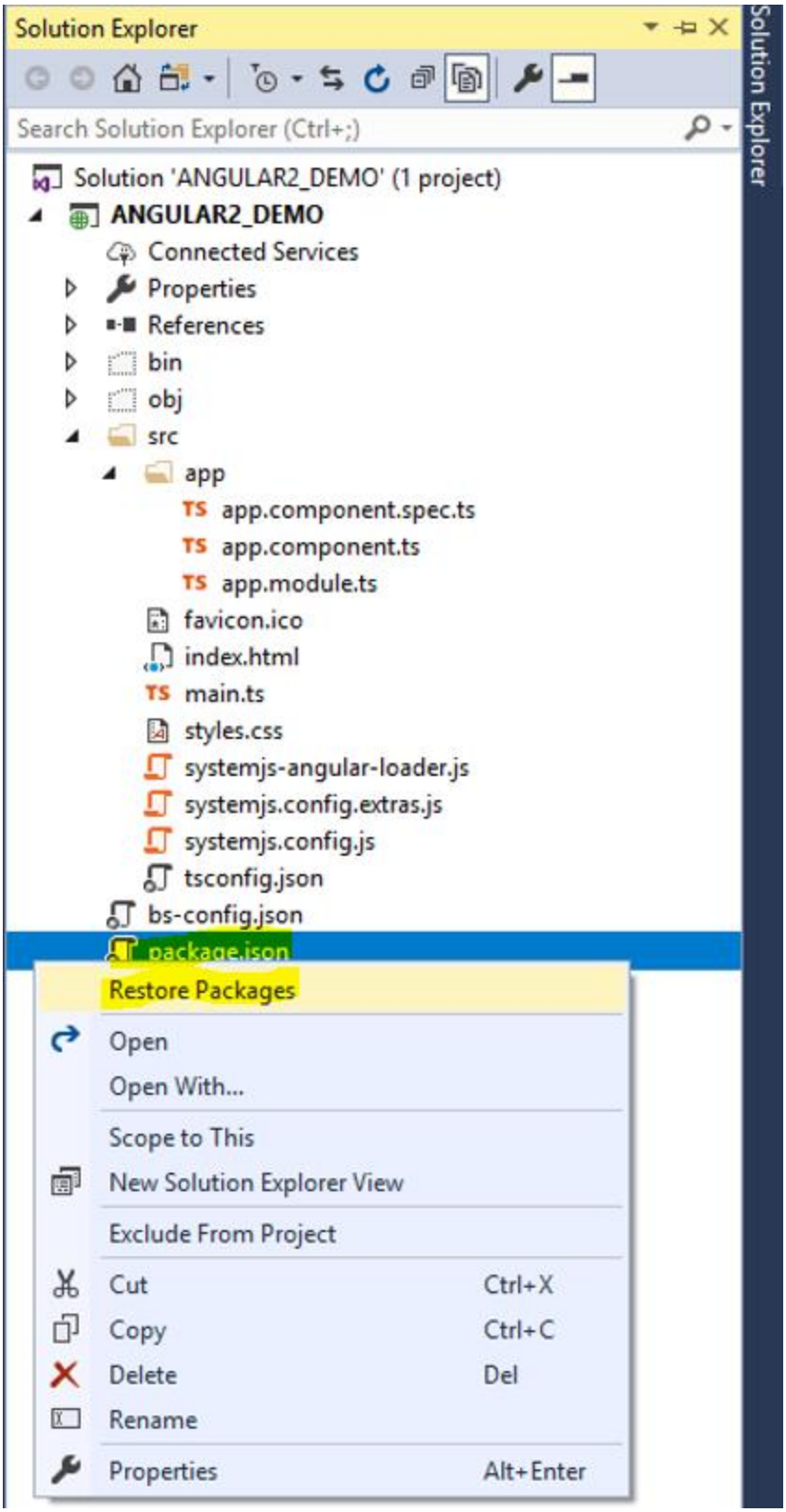
NOTE: A prompt will appear that says 'Search for TypeScript Typings' – answer NO.


Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'ANGULAR2_DEMO' (1 project)
ANGULAR2_DEMO
Connected Services
Properties
References
bin
obj
src
app
app.component.spec.ts
app.component.ts
app.module.ts
favicon.ico
index.html
main.ts
styles.css
systemjs-angular-loader.js
systemjs.config.extras.js
systemjs.config.js
tsconfig.json
bs-config.json
package.json
packages.config
Include In Project
Cut Ctrl+X
Copy Ctrl+C
Delete Del
Properties Alt+Enter

NOTE: A prompt will appear that says 'Search for TypeScript Typings' – answer NO.



The next step is to restore the JSON packages by right clicking on PACKAGE.JSON and selecting restore from the context menu.


Solution Explorer
Search Solution Explorer (Ctrl+;)
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bin
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src
app
app.component.spec.ts
app.component.ts
app.module.ts
favicon.ico
index.html
main.ts
styles.css
systemjs-angular-loader.js
systemjs.config.extras.js
systemjs.config.js
tsconfig.json
bs-config.json
package.json
Restore Packages
Open
Open With...
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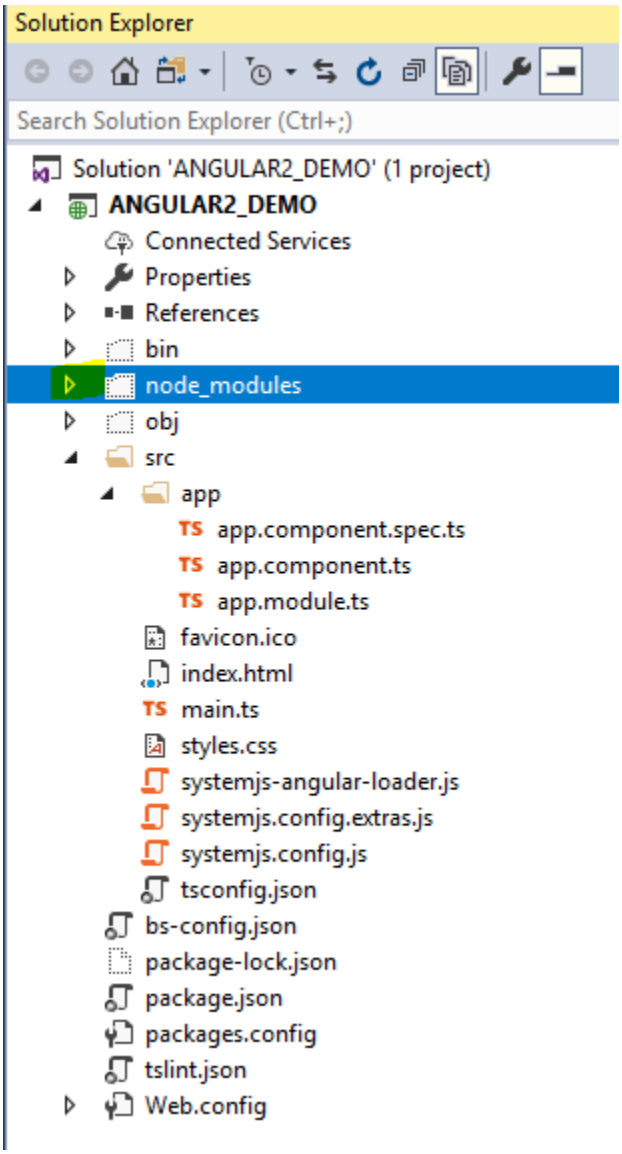
New Solution Explorer View
Exclude From Project
Cut Ctrl+X
Copy Ctrl+C
Delete Del
Rename
Properties Alt+Enter
Solution Explorer

After the packages install you will see a new folder called node_modules. If you don't see it click on the refresh button and the show all files button.



You have now installed the node modules needed for an Angular project.

NOTE: Do not include the node_modules folder in the project.

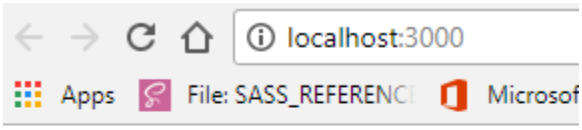
In the command window navigate to the project folder and type **npm start** to begin your Angular web project. A new window will open in your browser that says Hello Angular to show that angular is up and running.

Command Prompt

```
C:\Users\bonnie\Angular\ANGULAR2_DEMO>cd ANGULAR2_DEMO

C:\Users\bonnie\Angular\ANGULAR2_DEMO\ANGULAR2_DEMO>dir
 Volume in drive C is WINDOWS
 Volume Serial Number is 9A0C-9C59

 Directory of C:\Users\bonnie\Angular\ANGULAR2_DEMO\ANGULAR2_DEMO

01/07/2018  12:30 PM    <DIR>          .
01/07/2018  12:30 PM    <DIR>          ..
01/07/2018  10:53 AM             6,893 ANGULAR2_DEMO.csproj
01/07/2018  12:25 PM             1,430 ANGULAR2_DEMO.csproj.user
01/07/2018  10:53 AM    <DIR>          bin
12/26/2017  03:00 PM               104 bs-config.json
01/07/2018  12:30 PM    <DIR>          node_modules
01/07/2018  10:53 AM    <DIR>          obj
01/07/2018  12:30 PM           135,263 package-lock.json
01/07/2018  12:30 PM             2,008 package.json
01/07/2018  10:53 AM               292 packages.config
01/07/2018  10:53 AM    <DIR>          Properties
01/07/2018  12:14 PM    <DIR>          src
12/26/2017  03:00 PM             1,896 tslint.json
01/07/2018  10:53 AM             1,186 Web.config
01/07/2018  10:53 AM             1,300 Web.Debug.config
01/07/2018  10:53 AM             1,361 Web.Release.config
              10 File(s)        151,733 bytes
               7 Dir(s)  837,759,541,248 bytes free

C:\Users\bonnie\Angular\ANGULAR2_DEMO\ANGULAR2_DEMO>npm start
```

This will launch the TypeScript compiler tsc -p src

This will also bring up the lite webserver and start your project. The webpage is coming from the index.html file.



Hello Angular