Classroom & Student Machine Setup Guide	
Course	**TT4165 – Angular 11 Setup**
Tools	NodeJS, Git, Angular, and Visual Code
Issue Date	2020/12/09

Customer	
Class Dates(s)	
Internet Access	

Hello! Your course is an instructor-led live training event with hands-on programming labs to be completed throughout the course.   The labs will be setup locally on your own student machines. This is not a remote server / cloud-based environment.

This Guide lists the software required to set up your environment in order to do the hands-on exercises. Please find below the download links with detailed installation, verification, and removal steps for each of these requirements. You will need admin rights to your machines to install some of these items.

NOTE ON TOOLS / COURSE SOFTWARE: The software used during class may be provided for you either locally or on our cloud-based, remote lab server environment. If we make this available to students, it will only be for the duration of the class. If you wish to access or install any of the software separately after class on your own machines, please plan to acquire a separate evaluation or licensed copy individually or from your organization. Please note that Trivera is not responsible to provide direct access to any software for local installation once the class is completed. Trivera is not responsible for the access to, installation or expiration of any trial software you choose to install independently during or after class.

Any Questions or Need Technical Support? Please contact us at Support@triveratech.com for assistance.

Hardware Requirements

- **Hardware:** Student machines should have at least 10G free disk space
- **Internet:** Internet connectivity is **recommended but not required**
- **RAM:** 8 GB RAM or more is required for optimum lab performance.
- **O/S:** Windows 8.0/8.1 or Windows 10

Software Requirements

This is the list of all software needed to set up the hands-on lab environment for your course. Each item has download links with detailed installation, verification and removal steps for these requirements:

- Adobe Acrobat Reader
- A zip utility such as 7Zip
- Web Browsers: Google Chrome, Firefox, Microsoft Internet Explorer 11+ or Microsoft Edge
    - Google Chrome is mandatory
- Adobe Acrobat Reader 10.x/11.x (or higher versions)
- NodeJS latest LTS version
- Git and Git-Bash: Git-SCM v2.2x.0
- VSCode (https://code.visualstudio.com/), WebStorm, or similar editor for JavaScript
- AngularCLI and TypeScript to match Angular 11
- Student Lab Files for exercises

Adobe Acrobat Reader

Download Location:

- https://get.adobe.com/reader/

About:

Older versions of Acrobat are acceptable as well. Based on security issues, we recommend that clients move to current version.
NOTE: The instructor will use PDF files to display the course materials to the class. Also, the students should have the ability to view relevant PDF files, e.g., Java specification documents.

Verification Steps:

- Run the software from the Windows Start Menu and ensure the software starts up
- Shutdown the software once you have checked it

Removal Steps:

- Uninstall this software from the Windows Control Panel using the Add/Remove utility.

7Zip

Download Instructions:

- https://www.7-zip.org/download.html

About:

7Zip is a free file compression and decompression software suite. Other ZIP-compatible utilities can be used instead (including WinZip, 7Zip, WinRAR, etc.)

NOTE: Please do not rely on the zip file facilities that come standard with Windows. We have found them to be unreliable in terms of interoperability with other systems and in the handling of large files.

Download Instructions:

Installation Steps:

Run the 7Zip installation utility, accepting defaults.

Verification Steps:

- Run the software from the Windows Start Menu and ensure the software starts up.
- Shutdown the software once you have checked it.

Removal Steps:

- Uninstall this software from the Windows Control Panel using the Add/Remove utility

Web Browsers

Download Location:

- https://www.mozilla.org/en-US/firefox/
- https://www.google.com/intl/en/chrome/browser/
- https://support.microsoft.com/en-us/help/17621/internet-explorer-downloads
- https://www.microsoft.com/en-us/windows/microsoft-edge

About:

Recent editions of one of the Web browsers listed below.
- Firefox: http://www.mozilla.com/firefox/
- Google Chrome: https://www.google.com/intl/en/chrome/browser/
- Microsoft Internet Explorer: http://windows.microsoft.com/en-us/internet-explorer/download-ie
- Microsoft Edge (Windows 10): https://www.microsoft.com/en-us/windows/microsoft-edge

NOTE: Installation requires Administrator privileges on Windows
NOTE: Google Chrome is REQUIRED

Verification Steps:

- Run the software from the Windows Start Menu and ensure the software starts up.
- Shutdown the software once you have checked it.

Student Lab Files

About:

We will provide the student lab files via a download link during the week prior to the class start date, or the trainer will bring the labs to class to distribute on the first day.
If you need the lab files earlier, please let us know as soon as possible.

Installation Steps:

- The student lab files will be in a ZIP archive file. The lab files will need to be extracted onto each student machine.

Removal Steps:

- Delete the StudentWork folder as well as any additional folders (such as workspace and database folders) that were created during the course.

NodeJS v14.x

About: Note that there are some dependencies between Node.js and Angular versions. Also note the Node.js 14.x is the current long-term support release of Node.js.

Download Location:

- For Windows 64:
  - https://nodejs.org/dist/v14.15.1/node-v14.15.1-x64.msi - Windows x64 MSI Installer
- For other operating systems, visit http://nodejs.org, and select the green download link box on the main page for the latest version of v14.x. It auto-detects the operating system based on your browser settings. Alternatively, visit https://nodejs.org/download/release/latest-v14.x/, and manually select the correct install package.

Installation Steps:

- Run the installer and accept all defaults. This will install node.exe and npmjs.exe in your C:\Program Files\NodeJS folder.
- The PATH Environment variable will be modified to include node and npm for you.

Verification Steps:

- **Open a new CMD command window and enter "node -v".** A version number similar to "vx.xx.x" should be returned.
- From the same CMD command window, enter "npm -v". A version number similar to "x.xx.x" should be returned.
- If either "node" or "npm" is not recognized, either the CMD prompt used was opened before the installer updated the system **PATH** or the system **PATH** has not been correctly updated. Try opening a new CMD command window to verify again.
- From the same CMD command window, enter "set PATH". Verify that "C:\Program Files\NodeJS" is part of the PATH. If not, close the current window and manually add the value in the system settings. Open a new CMD window to repeat the test.

Removal Steps:

- Uninstall this software from the Windows Control Panel using the Add/Remove utility
- Check the system **PATH** variable to ensure that it no longer has the NodeJS folder included.

Git-SCM v2.29.2

Download Location:

> For Windows 64: https://git-scm.com/download/win - Windows x64 MSI Installer (a later 2.x version should also work fine, as should any other full Git 2.x client if already installed.)

- For other operating systems, visit https://git-scm.com/download, and select the operating system

About:

Git is used extensively by NodeJS and NPM to install plugins, and the Git-SCM.com install will also install CygWin "bash" and other utilities that developers often find useful

Installation Steps:

- Download the appropriate installer for the student machine and launch it
- Accept all defaults except on the screen titled "Adjusting your PATH environment". Select the third option, "Use Git and optional Unix tools from the Windows Command Prompt". There is a red warning with this option. Select this option then continue selecting all remaining defaults.
- To prevent error messages later, configure at least a dummy user, if not a real one, for git:
  - git config --global user.email "student@example.com"
  - git config --global user.name "Student"

Verification Steps:

- Open a new CMD command window and enter "git --version". A version number similar to "git version 2.29.2.windows.3" should be returned.
- In the same command prompt, attempt to retrieve our test GitHub repository by typing "git clone https://github.com/triveratech/test.git" - if successful, this will create a directory called test with a README.md file in it.
- View the test\README.md file with a text editor. Delete the test directory and its contents.
- If the clone operation failed due to proxy server settings, visit the Configuration page on https://git-scm.com/docs/git-config and view this StackOverflow to work through it: http://stackoverflow.com/questions/783811/getting-git-to-work-with-a-proxy-server. Note the settings you had to use and advise us so we can advise the instructor.
- The class can work without normal network access; however some instructions will need to follow fallback instructions.

Removal Steps:

- Uninstall this software from the Windows Control Panel using the Add/Remove utility.

Visual Studio Code

Download Location:

- https://code.visualstudio.com/docs/?dv=win

About:

Visual Studio Code is an advanced IDE for developing applications with an emphasis on modern JavaScript and TypeScript development, including Angular based applications. The product is free.

Installation Steps:

- Run the downloaded installer from the link above.
- Accept the license agreement.
- Accept the remaining defaults.
- Shutdown the software.

Verification Steps:

- Run the software from the Windows Start Menu and ensure the software starts up.
- Shutdown the software once you have checked it.

Removal Steps:

- Uninstall this software from the Windows Control Panel using the Add/Remove utility.

AngularCLI and TypeScript

About:

Angular, AngularCLI, the TypeScript compiler, and all the support libraries and associated utilities are all downloaded via NPM using GitHub. TypeScript is actually installed on a per-project basis when using AngularCLI, but we'll also install a global copy to support a standalone TypeScript exercise.

Note that NodeJS must be installed prior to performing this installation.

Installation Steps:

- Open a new CMD command window and execute "npm install –g @angular/cli"
- Open a new CMD command window and execute "npm install –g typescript"

Verification Steps:

- **Open a new CMD command window and enter "ng version"**. A version number like "Angular CLI: 11.x.y" should be returned, along with the node version (14.x.y) and the Windows platform (such as "win32 x64").
- **In the same command prompt, execute "tsc –version".** A version number like "Version 4.x.x" should be returned. Angular 11 requires TypeScript 4.x to work.

Removal Steps:

- AngularCLI and TypeScript will be uninstalled when NodeJS is uninstalled.

Create an AngularCLI Project

For students who will not have internet access in class:

- *Note: a shortcut for* `npm install` *is* `npm i`
- After Angular CLI is installed, use it to create two projects with these commands
    - Answer "N" to "strict" and "y" to "router" questions. Just hit "Enter" when asked about CSS.
  ```
  ng new myProject1
  ng new myProject2
  ```
- `myProject2` can be used as a backup so it is not necessary to perform the following installations in it.
- In the following instructions, note that the commands are run inside the new project and there are two hyphens before the word `save`
    - cd to myProject1
    - Install Bootstrap:
      ```
      npm install --save bootstrap
      ```
    - Inside `myProject1`, install Angular Animations
      ```
      npm install --save @angular/animations
      ```
    - Inside `myProject1`, install Material and Material CDK
      ```
      npm install --save @angular/material @angular/cdk
      npm install --save hammerjs.
      ```
    - Material requires the Animations module from above.
    - Inside `myProject1`, install Angular's in memory web storage by running
      ```
      npm install l--save angular-in-memory-web-api
      ```
    - Inside `myProject1`, install all functionality for NgRX Store with the following commands. Note: For a shortcut, these commands could be bundled together, for example `npm i --save @ngrx/core @ngrx/store @ngrx/effects –save` or `npm i --save @ngrx/{core store effects}`

  ```
  npm install --save @ngrx/core
  npm install --save @ngrx/store
  npm install --save @ngrx/effects
  npm install --save @ngrx/store-devtools
  npm install --save @ngrx/router-store
  npm install --save @ngrx/entity
  npm install --save @ngrx/data
  npm install --save-dev
  @ngrx/schematics
  ```