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Labwork 1:

Setting up Ionic Framework and developing first app

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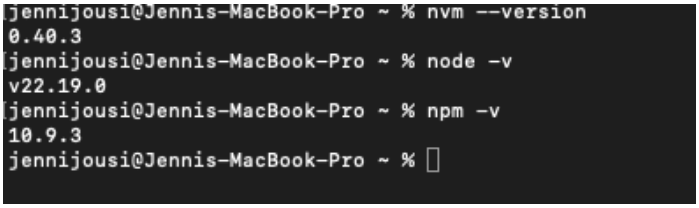
1 Installations

In this section I will go through each step of the installations I made to be able to create applications with Ionic.

1.1 Installing node.js and npm

I started the installation process by looking at the instruction provided by the teachers. The first thing that I noticed was that the instructions were made for Windows, and I am using a Macbook Pro (my old work computer that I am in the process from purchasing from my employer).

Luckily I found download scripts from nodejs.org for macOS, so installation with zsh-terminal (default terminal in modern Macbooks) was quick and easy. After installation I checked the necessary applications and versions to ensure correct installation, and they were as follows:



According to the instructions, the next step would have been to install Git and Visual Studio Code, but I already had these installed so I skipped that step. However, I realised that I would need to connect Git to my development repository once we would advance to that stage.

1.2 Installing Java LTS

The next step was to install Java. I checked the version I had installed, it was openjdk 18.0.1.1 from 22.4.2022, so it seemed a bit old. I wondered how I could update it, and needed to study the Java version numbering practices: it seemed that LTS versions are “long term support” versions, so Java 17 is the latest LTS version with support until 2029. Therefore, Java 18 was a short term feature release that is already obsolete due to not receiving product updates etc.

I used ChatGPT as my assistant while updating the Java version, however it was more practical to follow instructions from zsh/homebrew since they were more clear and concise and seemed more logical. Once again, using ChatGPT just overcomplicated things and wasted time. Once I followed the installation instructions to input the new java version first in the path, the system recognised openjdk version 17.0.3 as the version to use (I had trouble with getting the OS to use the LTS instead of the first installed version).

1.3 Installing Ionic

Ionic installation was straightforward since it doesn’t install in the operating system, but in the node.js environment – that meant that I could follow the given instructions easily. After installation I verified the version (and installation success) by running the version command.

```
jennijousi@Jennis-MacBook-Pro ~ % npm install -g @ionic/cli

npm warn deprecated inflight@1.0.6: This module is not supported, and leaks memory. Do not use it. Check out lru-cach
e if you want a good and tested way to coalesce async requests by a key value, which is much more comprehensive and p
owerful.
npm warn deprecated rimraf@3.0.2: Rimraf versions prior to v4 are no longer supported
npm warn deprecated glob@7.2.3: Glob versions prior to v9 are no longer supported
npm warn deprecated superagent@9.0.2: Please upgrade to superagent v10.2.2+, see release notes at https://github.com/
forwardemail/superagent/releases/tag/v10.2.2 - maintenance is supported by Forward Email @ https://forwardemail.net

added 208 packages in 16s

35 packages are looking for funding
  run `npm fund` for details
npm notice
npm notice New major version of npm available! 10.9.3 -> 11.6.0
npm notice Changelog: https://github.com/npm/cli/releases/tag/v11.6.0
npm notice To update run: npm install -g npm@11.6.0
npm notice
jennijousi@Jennis-MacBook-Pro ~ % ionic --version
7.2.1
jennijousi@Jennis-MacBook-Pro ~ %
```

2 Starting an application

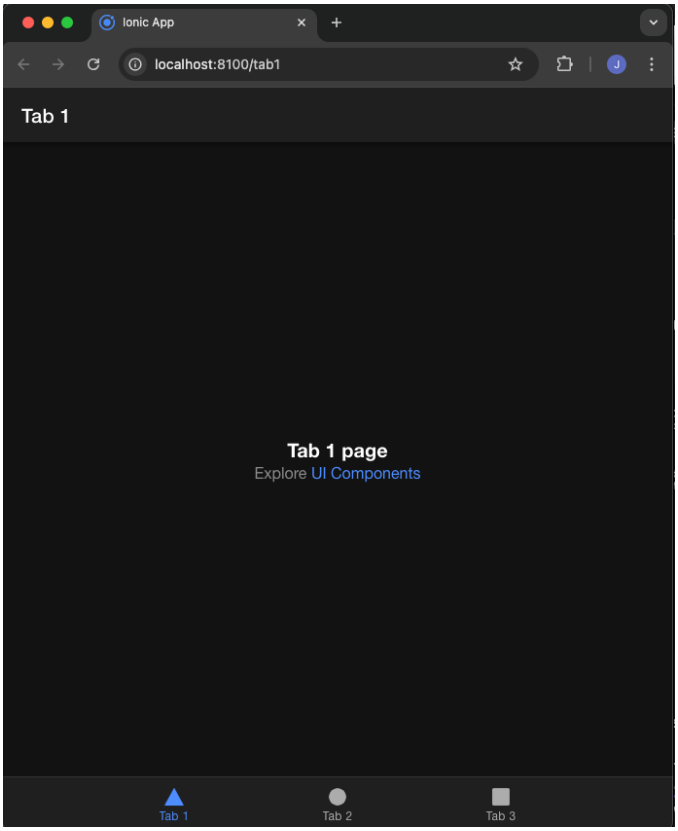
After reading the instruction until the end, I realised I should create an isolated folder for the ionic project and begin to track it with Git. While initialising the created folder with Git, it turned out that zsh lacked permissions to my Documents folder. I added those permissions from System settings with the help of ChatGPT – it seems that the generative language models are able to assist with basic tasks, it probably relates to the source data that it has been provided with.

Once I had started tracking with Git, I proceeded to run the instructed commands. I selected the "Guided prompted windows" approach since I usually benefit a lot from visualisations and user interfaces – command line prompts don't necessarily help me understand as well what I am doing or even trying to achieve.

2.1 Starting Ionic app

After running the given commands I was surprised how long it took for Ionic to run, not that I am not impressed by this technology but probably because I am accustomed to lighter products. However, in under 10 minutes I was able to see the info on my created app and launch it in the browser with the *ionic serve* command.

```
Your Ionic app is ready! Follow these next steps:

- Go to your new project: cd ./react-tab
- Run ionic serve within the app directory to see your app in the browser
- Run ionic capacitor add to add a native iOS or Android project using Capacitor
- Generate your app icon and splash screens using cordova-res --skip-config
--copy
- Explore the Ionic docs for components, tutorials, and more:
https://ion.link/docs
- Building an enterprise app? Ionic has Enterprise Support and Features:
https://ion.link/enterprise-edition
[jennijousi@Jennis-MacBook-Pro ionicproject % cd ./react-tab
[jennijousi@Jennis-MacBook-Pro react-tab % ionic serve
> vite --host=localhost --port=8100
[vite]    ➜  Local:   http://localhost:8100/
[vite]    ➜  press h + enter to show help

[INFO] Development server running!

       Local: http://localhost:8100

       Use Ctrl+C to quit this process

[INFO] Browser window opened to http://localhost:8100!
```



Overall, the process was very smooth and I don't expect any further issues with using macOS, since Ionic is running in Node.js which provides a consistent development environment across operating systems. That is also the exact benefit of developing cross-platform/hybrid apps: development is not tied to any particular operating system, only Node.js environment.

3 Making a remote Git repository and pushing to Git

Even though I realised that I would need to track my changes in Git, I forgot to make a remote repository since this assignment didn't require using Visual Studio code. Upon reading the teacher's announcement from a couple of days ago, I realised I needed to add the work into the repository along with this report – and make a new return for this assignment. I already had a Github account with another repository done for my studies, so it was straightforward to add a new repository for this work.

I tried to remember some Git commands but since I have used Sourcetree in the rare occasions of having to use Git, I needed some assistance from ChatGPT. However, it did suggest to pull the (empty) remote repository instead of pushing my local changes to the remote, so I think some knowledge from the human user is still required for at least a couple of years… However, ChatGPT was helpful in advising me how to generate a personal access token (PAT) in order to push my work to remote.

My public Git repository is:
https://github.com/jemajii/appwithionic

I will add this report in a *docs* folder and add a link to this report in readme.md along with other text, as I recall that readme doesn't allow picture files, pdf files etc. I think the instruction to use

Git in this assignment came a bit late and it would be great to add such instructions to the assignment itself.

4 Learning reflection

As this labwork required hands-on work along with problem solving skills, I feel that it was a challenging assignment even though it did not yet require much coding skills. Experience with software projects and especially test automation installations helped me understand what I need to do with Macbook instead of a Windows computer. Even though ChatGPT helped in many ways, I feel like it also wasted some time and does not replace the need for a human brain and actual skills. A lot of coding is also solving problems and the more information is available, the better.

Going forward, I will try to find help with Ionic from forums like Stackoverflow, as I often need an explanation on why I am doing something. That is the key point of learning – without understanding the “why”, there can be no real learning. I also hope to improve my skills on git, as it will help me in the long run. However, I do feel like a user interface such as Sourcetree also helps me to understand especially conflicting files better. Surely, there will be very few conflicts with git since I am updating the repo alone and will probably not end up using that many branches.