Lappeenrannan teknillinen yliopisto

School of Business and Management

Sofware Development Skills

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LEARNING DIARY, FULL-STACK MODULE

**LEARNING DIARY**

**17.1.2023**  
I read the course information and set up my development environment. I am using Sublime Text as my editor of choice as I prefer to keep my VS Studio clean for my C++ programming. Besides, I do have experience with Sublime already as well. I installed Sourcetree and hooked it up to my own GitHub account. The installation was a bit confusing but after some messing around I managed to get it to work, and I continued the first lesson: a crash course in node.

I set up my directory structure in such a way that each course as its own directory (which is entirely separate from the project directory). The first lesson was rather easy as I do have already some experience with Node.js but it was a nice refresher on the basic workings of Node.js. I ended the day with committing and pushing all the material from the first course to GitHub.

**18.1.2023**

I went back to yesterday’s lesson and changed the logger so that it would write to file instead of console. Then I started the MongoDB lesson. Installing MongoDB went rather smooth as I have installed it before. However, I noticed the newer version had a separate shell which I needed to install as well, which I found out after a brief visit to Stack exchange.

Following the MongoDB lesson went smoothly as I have seen most of the material before, however I did learn some new things like the $inc and $rename parameters. I also learned how to use Compass and work with a cloud database in Atlas. Next, I successfully managed to connect to my cloud database through my local shell. Because the video linked a very useful MongoDB cheat sheet, I downloaded that, perused it, and added it to my GitHub for later reference use.

Next I checked out the Express lesson, and even though I have setup an express server before, I learned quite a lot of new things like the server rendering with handlebars and the proper use of middleware, which always was slightly confusing before. Postman was already familiar to me and using it to test the API was straightforward.

The new lesson did not have any proper error handling, but I installed the express validator package without many issues and added the validator code to the tutorial express setup. While the video did not touch any further on the passport package it is something I will check out in more detail later and possibly use in my own project.

Took a first look at the Angular tutorials and noticed it is built upon TypeScript. Consequently, I went down the TypeScript rabbit hole first as I have no experience with it at all. Furthermore, I noticed I have not done much JavaScript programming recently, as I have been predominantly working with C++.

**19.1.2023**

Went through the documentation of Angular and set up my development environment. To get a better understanding of Angular I decided to work on the intro tutorial. Some of the concepts still are a little vague but I do feel I have a general understanding of how it is supposed to work in broad terms.

I decided to just dive in and set up a new Angular App and started coding along with the Tour of Heroes tutorial. This hands-on tutorial feels right up my alley. To get an even deeper understanding I watched a quick crash course on Angular YouTube video before continuing.

**20.1.2023**

I finished the tour of heroes’ tutorial, or I should say almost, as the http part required a newer version of Angular. I will get back to this tutorial after I have gone through the mean stack part which requires the older version. I already had to make some fixes to get the tour of heroes to work but with some googling around that was not much of a bother.

I, then started on the mean stack tutorial and implemented the express part which went smoothly as it is not the first time, I have set up an express backend.

**21.1.2023**

I ran into some version problems with passport that needed some fixes but overall, the register and authenticate part of the tutorial went rather smooth. I used a console.log to find the user \_id which was different from the video and instead of ‘\_doc.\_id’ it was actually located in ‘data.\_id’ which makes a lot more sense. The backend is for now complete, and I can use this part in my project later down the line – it will be easy enough to add more routes and mongoose models.

I learned how to authenticate and protect routes with passport which I have never used before. I have hashed and salted a password previously, but I used a different module for it, namely crypto.

Finished the day with setting up the Angular front end part and ran into some interesting problems with the bootstrap template because the bootstrap used in the video is five years old. I had to dig through the source to find the right classes for the navbar and copied the code for the navbar from a different location. The navbar and routing are currently working nicely and tomorrow I will move on to the rest of the components.

**22.01.2023**

Added the final parts of the full stack application and everything works. I had some issues with the flash messages as I installed the wrong version so the build ran into an error, but I solved that by downgrading the module. The build runs perfectly locally now but obviously I cannot deploy it to Heroku as they cancelled the free tier a little while ago. I made the changes to the code however, and I already wondered earlier why the tutorial hard coded a localhost absolute address instead of a relative path.

I will put this course on hold for a couple of days while I spend some time on the front-end course instead, but I have set up the backend already for the project. It is the initial set up as I will add more Mongoose models and routes once I have decided what kind of app to build. I will also have to decide what version of Angular to use but I reckon it makes little sense using a very old version so I will probably try to transition to the newest version and tackle the problems that come along with that.

**23.01.2023**

I did not end up taking a break for a couple of days as the frontend course is progressing faster than I thought so I decided to upgrade node to the newest version and installed the newest version of angular. I changed some of the code of the Tour of Heroes tutorial that I had changed to work on Angular2 to make it run again. I finished the last part of the Tour of Heroes and learned how to make http requests with Observables. It is still a little confusing, but I will have a look at the rxjs documentation later to get a better understanding. This last part of the tutorial had some interesting concepts and especially interesting was the search query code in the end which I will no doubt use in my project.

**22.02.2023**

After working on this project the past month I learned a lot and ran into a few interesting issues like a token that was too long to be send with headers (fixed by making the token not include the entire user object) for authentication and working with Angular in general. Though I did have some experiencing using an older version of Angular, the angular-cli was entirely new to me and a very pleasant experience. Where in the past I much preferred to work with React I feel that Angular-cli has really grown on me during this past month.

To come back to something I mentioned earlier regarding absolute and relative path names: I now understand why the paths were absolute and referring to localhost:3000 as obviously the backend was running on a different port than the angular frontend, and hence the links had to be absolute to connect to the backend.

Finally, because Heroku no longer has a free tier I decided to deploy the site to Render instead which also came with its own problems as I needed to figure it out pretty much entirely from scratch.