Required skills:

- Intermediate knowledge in Java
- Intermediate knowledge of Spring Boot (and Spring, by extension)
- Basic knowledge of HTML, CSS and Javascript
- Basic knowledge of a testing tool such as Postman or Katalon Studio
- Basic knowledge of relational databases such as MySQL, as well as the SQL language
- Basic knowledge of a NoSQL database, such as MongoDB
- Basic knowledge of a message broker such as RabbitMQ
- Basic understanding of authentication methods, such as OAuth or OpenID, which are crucial for developing secure RESTful APIs
- Basic knowledge of Docker

In order to attain the aforementioned skills I have decided to aim for one macro goal, which will be split into many smaller SMART goals. This macro goal will be a personal website, which will display and demo some of the projects that form part of my portfolio. This way, I will tackle each of the skills I have to learn one by one, and reach the end of my learning plan with knowledge on each of the items on the list above as well as a project that can showcase my knowledge and help consolidate all the new concepts that I will be learning.

I will start by consolidating my knowledge of Java, since I already have a decent foundation, but could benefit from learning more about streams, parallelism and other features introduced in Java 8. This can be done during my working hours and is something I have already taken on. Improving my knowledge of Spring is also something that I can do during working hours, since I work with Spring on a daily basis.

The rest of the aforementioned skills will have to be developed outside work hours, which is where the website comes in. I will start off by building a backend for the website, which will be in charge of exposing a RESTful API that will be used by the frontend to display data, for example, the various projects I have completed or am working on. The backend will also be in charge of providing a wrapper for the project demos, and allow mediated interactions between the user and the demo program. For the time being, an in memory database will be used, which should simplify the development of the backend, and can let me focus on learning SQL without having to worry about messing up a persisted database. In order to ensure the integrity of the backend before making use of it in the frontend, automated tests using Postman will be written, so that Next up will be the frontend, which will use HTML, CSS and Javascript. Bootstrap will be used to ease the development of this phase, and development will conclude when a basic portfolio/resume page has been created, which showcases some hand picked projects, as well as a informal resume. Docker and MySQL will be up next, since I intend to put the frontend/backend in a container, and the database in another container, so that they can be orchestrated by Docker compose initially, and hopefully Kubernetes in the future. The idea is to connect the backend to the dockerized database, so that data can be persisted across reboots, and updated periodically. A NoSQL database will be used for storing user interactions with the demo projects for example, which will include images and sound files, in case the user wants to keep some of the files generated by the demo projects. In order to handle heavy operations, a message broker such as RabbitMQ will be employed to allow for operations to be placed on a queue and executed asynchronously, to prevent multiple heavy requests from freezing the server. Finally, OAuth will be implemented in order to secure the aforementioned user files, so that users can register on the site if they want to persist data. By this point I will have a full fledged website to feature myself and my work, which also serves to prove my experience with the technologies I set out to learn.