Underbranch

by

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This document provides the instructions for the operation of Underbranch. The following table (Table 1) is updated by authors whenever major changes are made to the architecture design or new components are added. Most recent changes to the document should be seen first and the oldest last.

Table 1: Document Update History

Date	**Updates**
03/06/2025	BCK: • Worked on user manual LSK: • Worked on user manual MAM: • Worked on user manual NJS: • Worked on user manual

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Chapter 1

Introduction

– Ben Knobloch, Lauren Kibalo, Marcos Morales, Noah Spina

The leading LaTeX editors are costly and are solely reliant on in-house servers which can slow down the process of developing a document. In addition, they are restrictive with collaboration and other features unless users pay for a costly premium subscription. Students, specifically in software development, software engineers, and scientific or mathematical researchers are all suffering from this problem.

Underbranch is the solution as it is a locally based LaTeX editing software that does not restrict collaboration and does not come with a premium subscription. Users save anywhere between $200-400$ on subscriptions for leading LaTeX editors and save time in developing the document due to its local environment.

Chapter 2

Developer Setup

– Ben Knobloch, Lauren Kibalo, Marcos Morales, Noah Spina

2.1 Underbranch Developer Setup

2.1.1 Downloading Docker

Docker is a required for Underbranch to work. Make sure you download Docker Desktop using this link (https://www.docker.com/get-started/) before proceeding. To see installation instructions, follow this link (https://docs.docker.com/desktop/setup/install/windows-install/).

2.1.2 Cloning the Repository

To set up your development evnironment, you'll first need to clone the current Github repository at this link (https://github.com/beknobloch/overleaf-toolkit). Make sure to open the repository in an IDE of your choice. Below is a step by step process of running Underbranch in Webstorm (our IDE of choice).

Setup Steps for INITIAL (first time) Setup:

1. Open Webstorm
2. Click "Clone repository"
3. In the "Repository URL" section, copy and paste this link in there (https://github.com/beknobloch/overleaf-toolkit)
4. Identify a directory (folder or location on your machine) to save the repository to
5. Click "Clone"

See below for pictures of Setup:

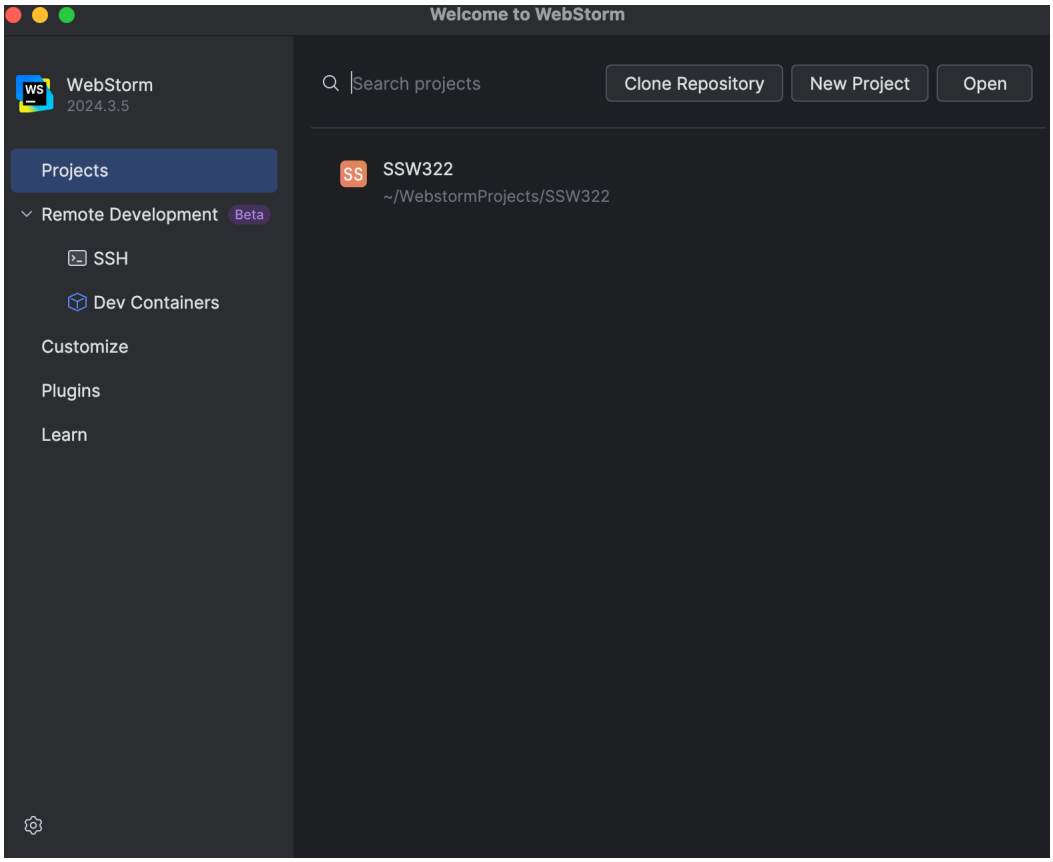

Figure 2.1: Step 1: Opening IDE

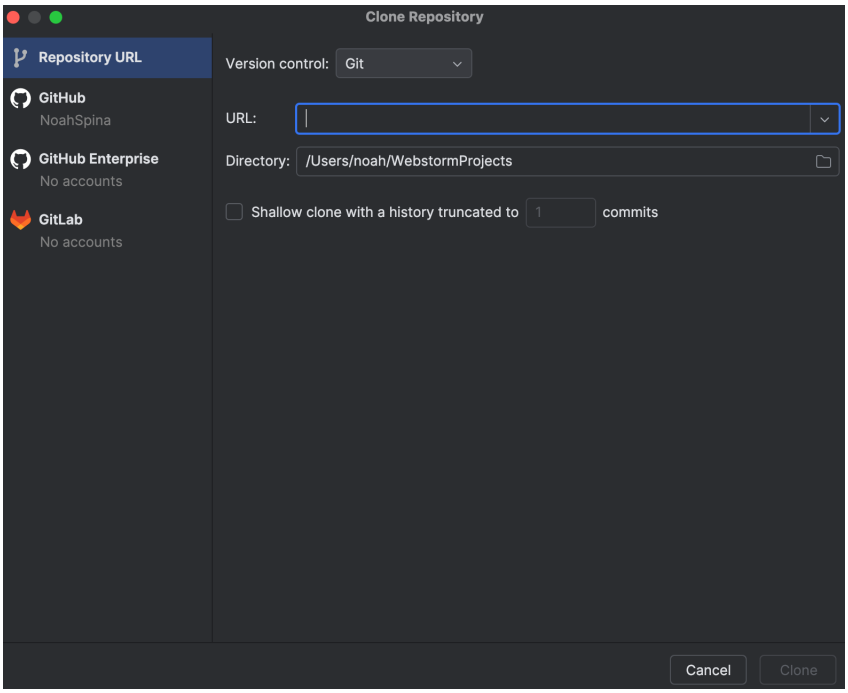

Figure 2.2: Step 2: Clone Repository Section

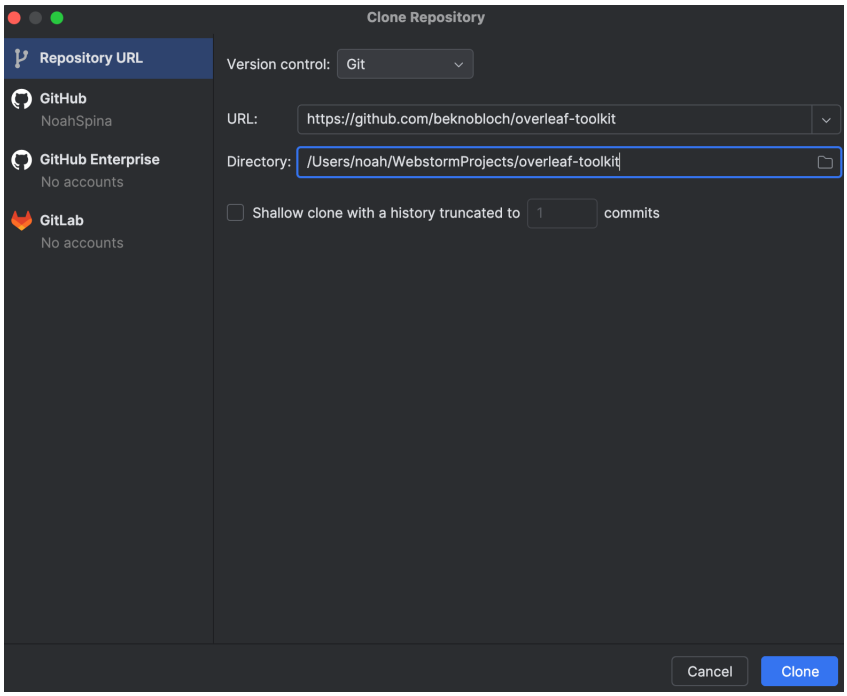

Figure 2.3: Step 3: Adding URL

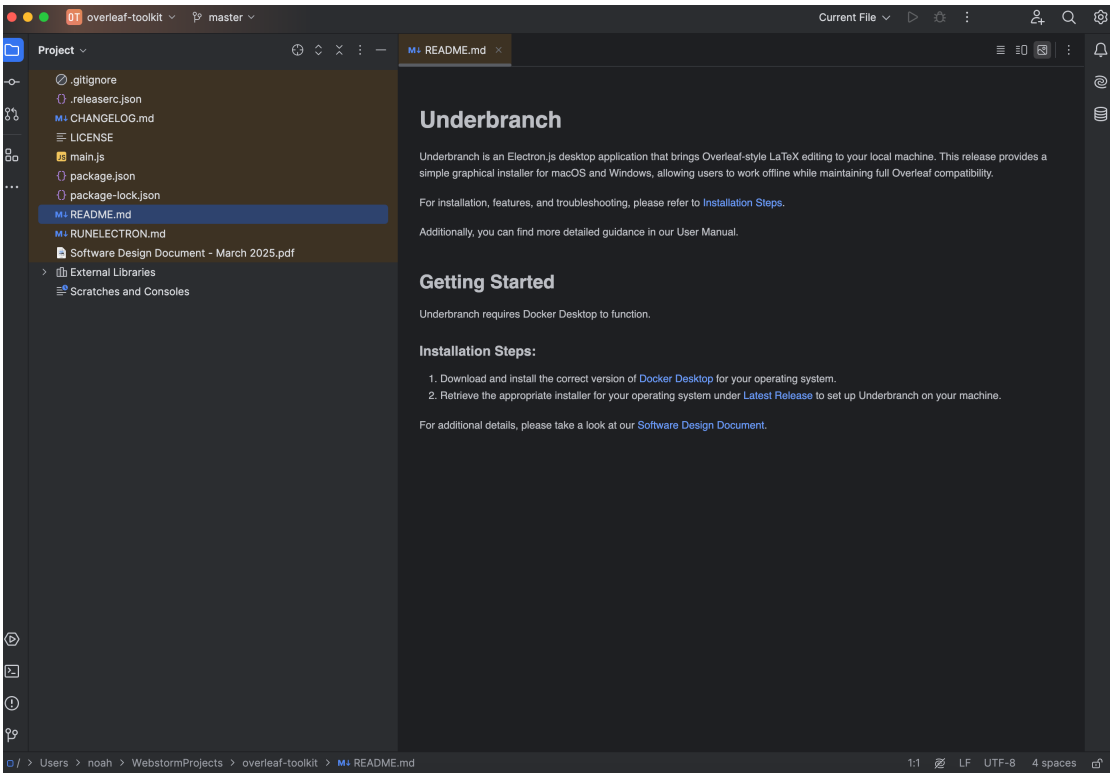

Figure 2.4: Step 6: Open Project

After step 6, feel free to make edits as you wish. Files with the UBR prefix are ones pertaining to Underbranch. main.js is the other important file developers will use. Every other file is a clone of the overleaf-toolkit library.

To run Underbranch, developers will need to run 3 commands in the terminal. (See above after step 6 or below)

2.1.3 Running Underbranch on MacOS

1 - (if you've built the project) See the following command :

```
$ rm -rf node_modules dist
```

2 - See the following command :

```
$ npm install
```

3 - See the following command :

```
$ npm run build
```

4 - See the following command :

```
$ npm start
```

After the fourth command, Underbranch should open in a local window on your computer. See below for pictures:

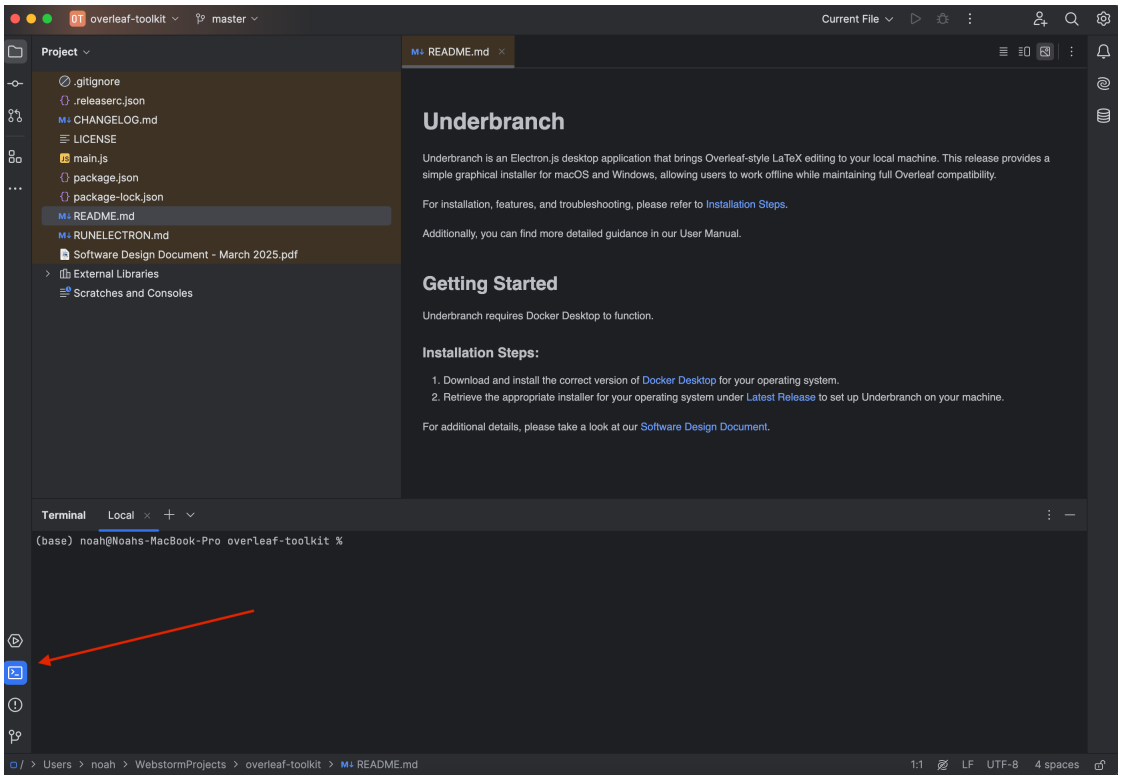

Figure 2.5: Step 0: Opening Terminal

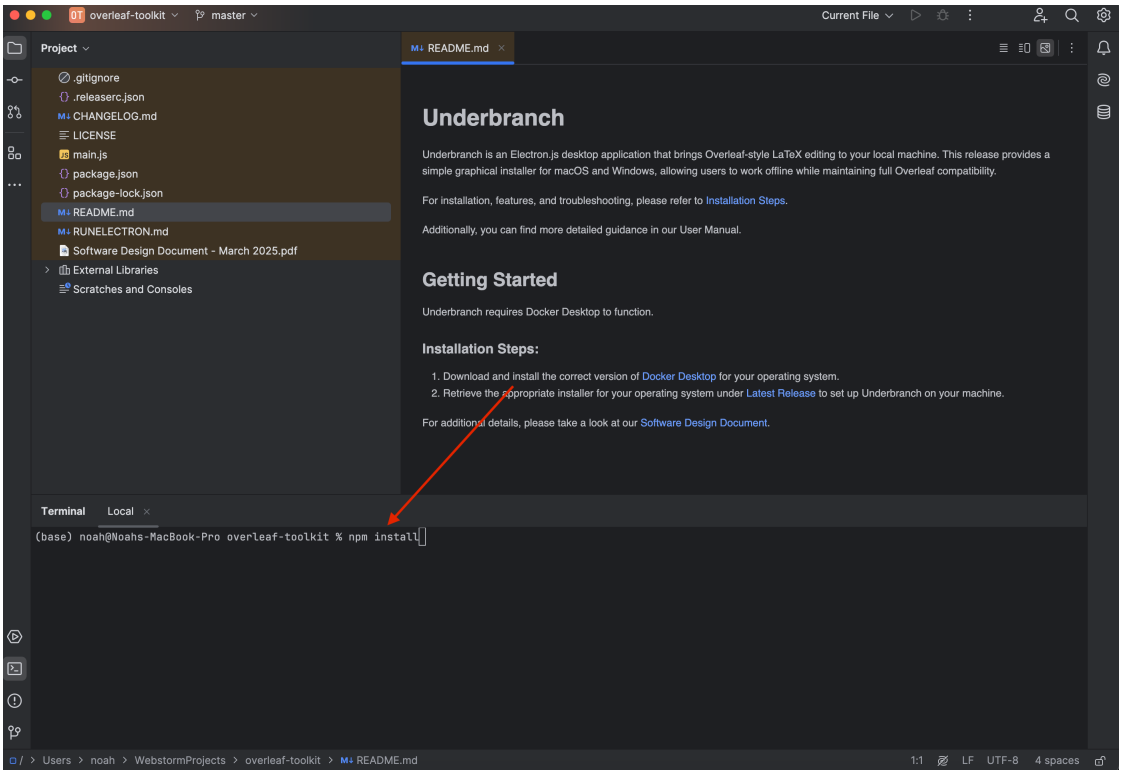

Figure 2.6: Step 2: Running ”npm install”

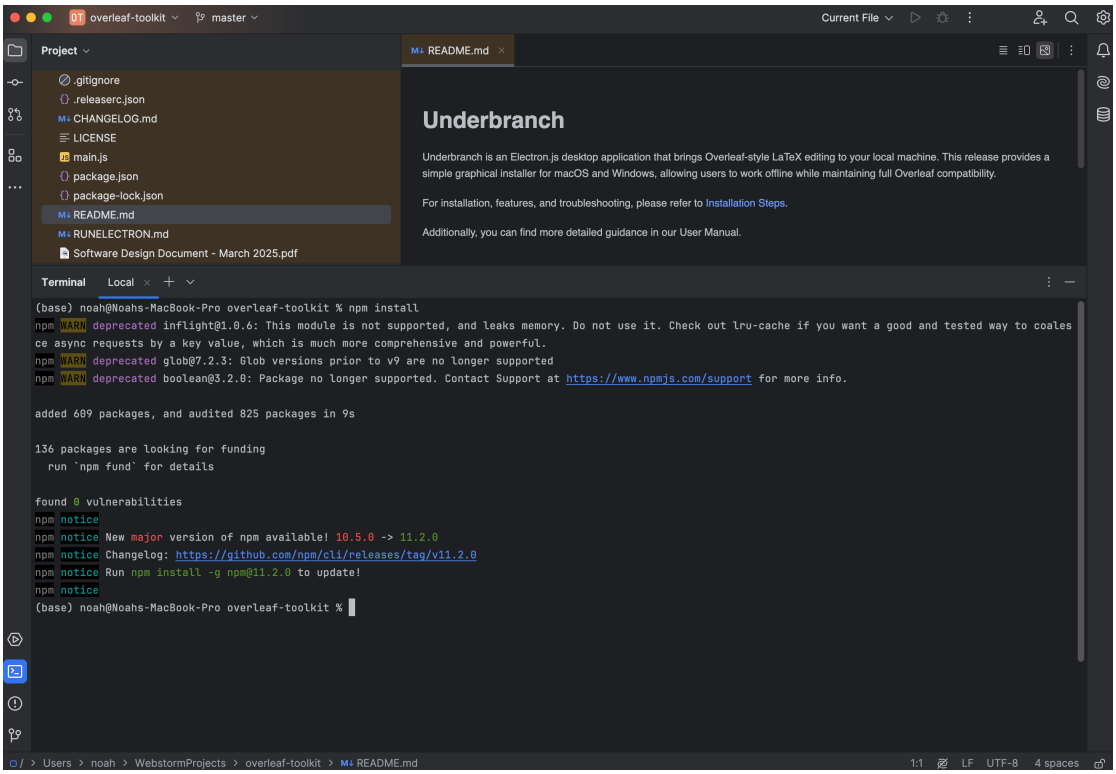

Figure 2.7: Step 3: Running ”npm run build”

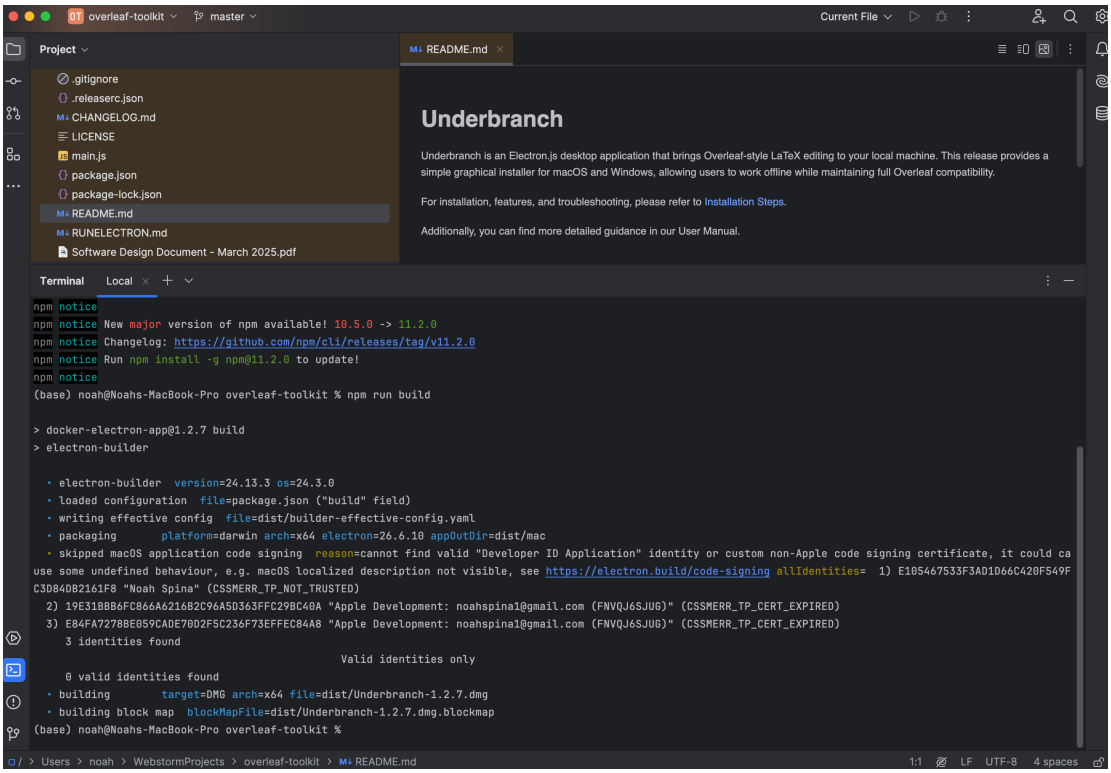

Figure 2.8: Step 3.5: See Output for ”npm run build”

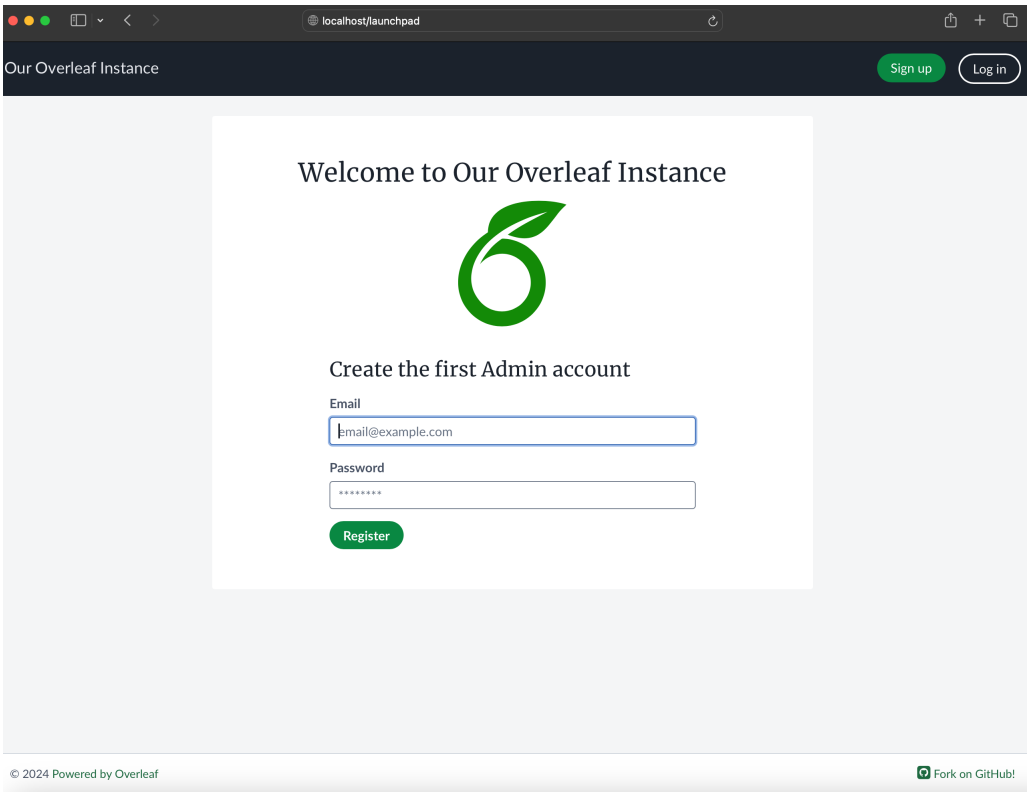

Figure 2.9: Step 4: Running ”npm start”

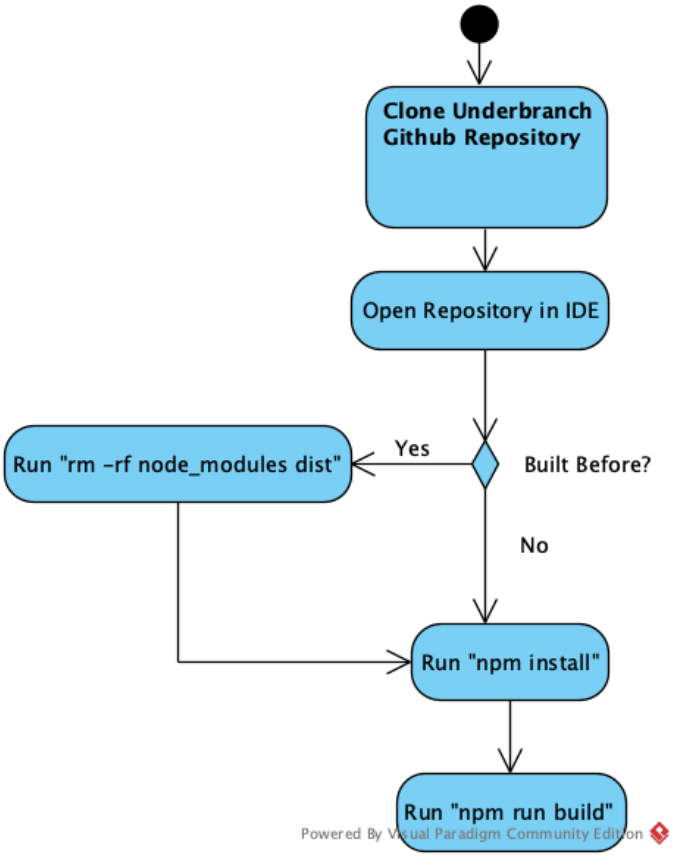

Figure 2.10: Activity diagram for running Underbranch on MacOS.

2.1.4 Running Underbranch on Windows

1 - (if you've never built the project) See the following command :

```
$ rm -rf node_modules dist
```

2 - See the following command :

```
$ npm install
```

3 - See the following command :

```
$ npm run build --win
```

4 - See the following command :

```
$ npm start
```

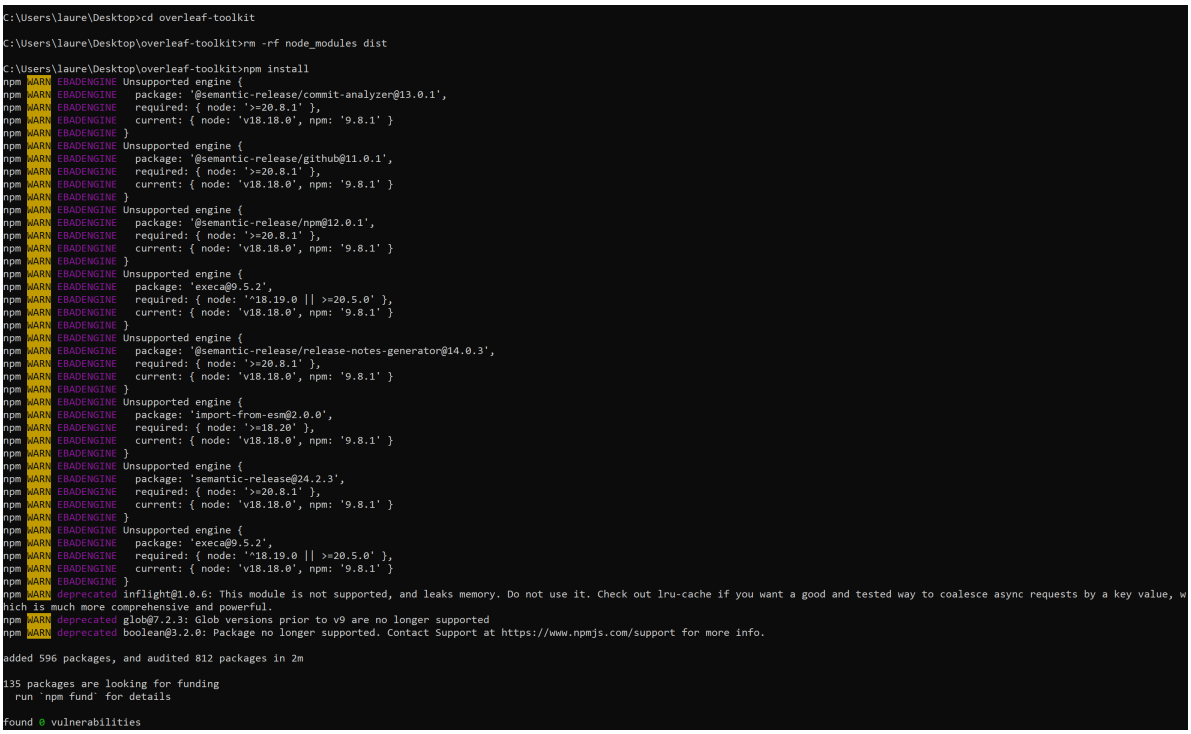

Figure 2.11: Windows Step 1 and Step 2: Administrator Command Prompt Terminal View

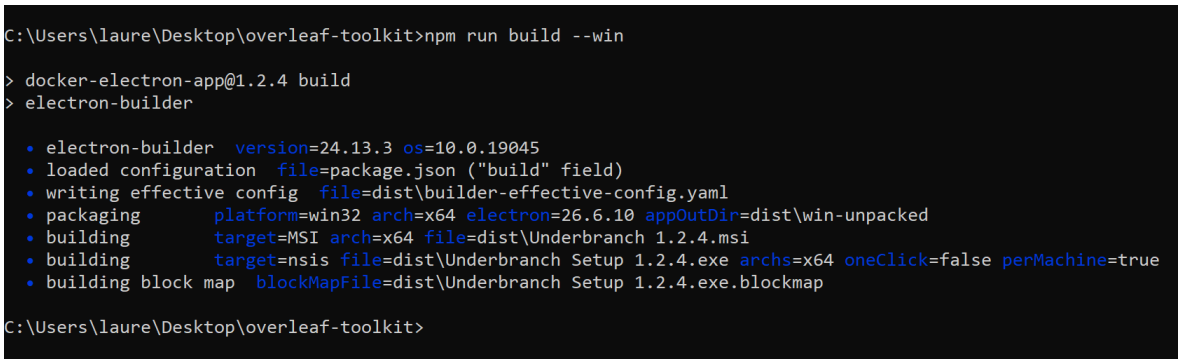

Figure 2.12: Windows Step 3: Administrator Command Prompt Terminal View

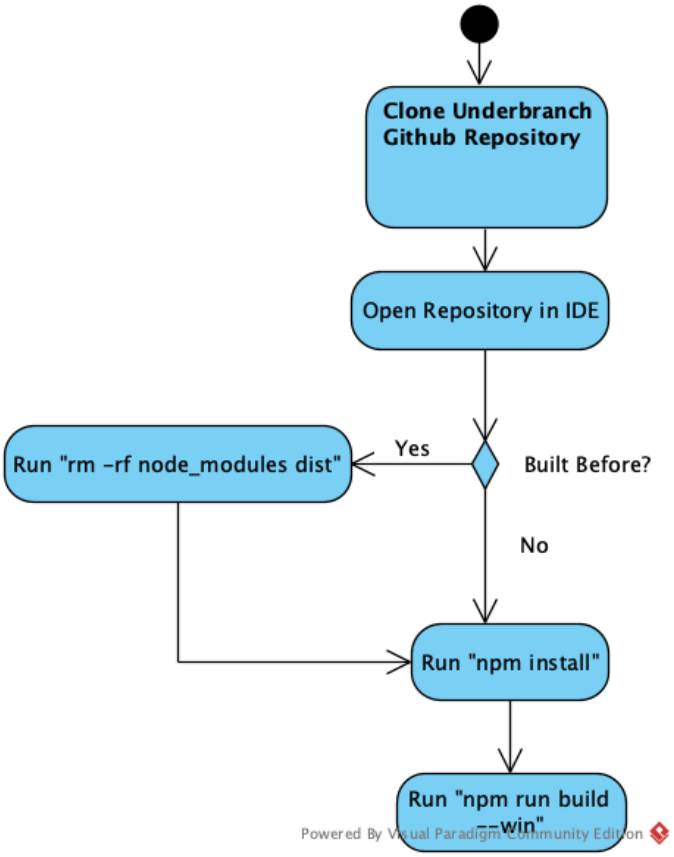

Figure 2.13: Activity diagram for running Underbranch on Windows.

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