

Chapter 1, Deliverable 1

Team 3

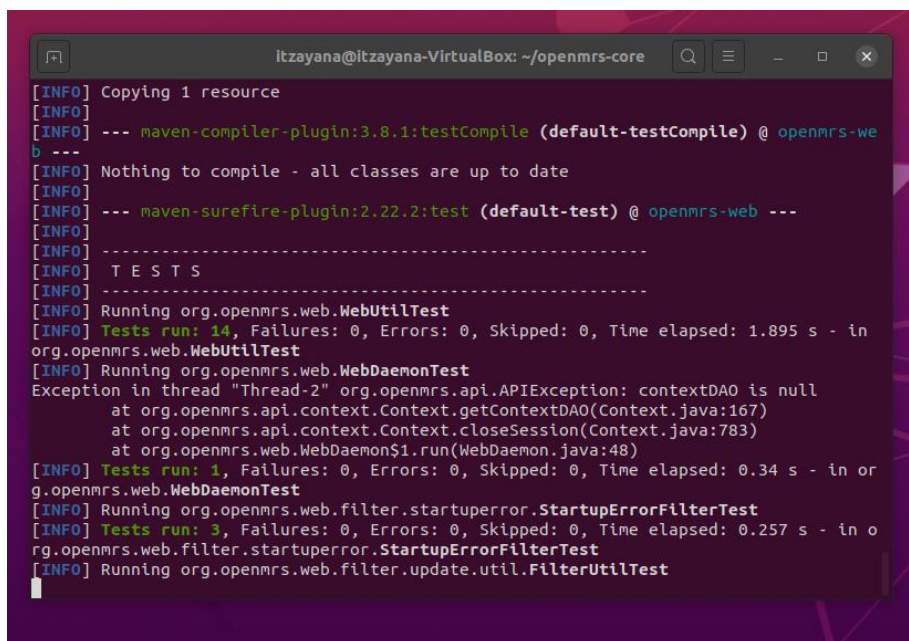
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Installing and Building OpenMRS

We followed the instructions on the [OpenMRS Github](#) page and cloned the repo to our computers. From there the set-up was fairly simple through the use of Maven. `mvn jetty:run` This command would deploy the website to a local host in the firefox browser at `localhost:8080/openmr`.

Testing OpenMRS

Running the tests on OpenMRS turned out to be a lot simpler than we had previously thought. Originally we were trying to log into OpenMRS on the localhost, but we kept running into issues with the connection between OpenMRS and MySQL. Luckily, we tried testing from the terminal by changing directory to the OpenMRS directory and using Maven `mvn test`. After a little bit of trial and error, we were able to build and run tests on OpenMRS. Here are the results:



```
itzayana@itzayana-VirtualBox: ~/openmrs-core
[INFO] Copying 1 resource
[INFO]
[INFO] --- maven-compiler-plugin:3.8.1:testCompile (default-testCompile) @ openmrs-web ---
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] --- maven-surefire-plugin:2.22.2:test (default-test) @ openmrs-web ---
[INFO]
[INFO] -----
[INFO] T E S T S
[INFO] -----
[INFO] Running org.openmrs.web.WebUtilTest
[INFO] Tests run: 14, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 1.895 s - in org.openmrs.web.WebUtilTest
[INFO] Running org.openmrs.web.WebDaemonTest
Exception in thread "Thread-2" org.openmrs.api.APIException: contextDAO is null
    at org.openmrs.api.context.Context.getContextDAO(Context.java:167)
    at org.openmrs.api.context.Context.closeSession(Context.java:783)
    at org.openmrs.web.WebDaemon$1.run(WebDaemon.java:48)
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.34 s - in org.openmrs.web.WebDaemonTest
[INFO] Running org.openmrs.web.filter.startuperror.StartupErrorFilterTest
[INFO] Tests run: 3, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.257 s - in org.openmrs.web.filter.startuperror.StartupErrorFilterTest
[INFO] Running org.openmrs.web.filter.update.util.FilterUtilTest
```

```
ltzayana@ltzayana-VirtualBox: ~/openmrs-core
[INFO] Running org.openmrs.propertyeditor.ProgramWorkflowEditorTest
[INFO] Tests run: 8, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 1.685 s - in o
rg.openmrs.propertyeditor.ProgramWorkflowEditorTest
[INFO] Running org.openmrs.propertyeditor.RoleEditorTest
[INFO] Tests run: 2, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 1.677 s - in o
rg.openmrs.propertyeditor.RoleEditorTest
[INFO] Running org.openmrs.propertyeditor.LocationAttributeTypeEditorTest
[INFO] Tests run: 8, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 2.178 s - in o
rg.openmrs.propertyeditor.LocationAttributeTypeEditorTest
[INFO] Running org.openmrs.propertyeditor.ConceptNameEditorTest
[INFO] Tests run: 8, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 2.001 s - in o
rg.openmrs.propertyeditor.ConceptNameEditorTest
[INFO] Running org.openmrs.propertyeditor.EncounterEditorTest
[INFO] Tests run: 8, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 1.985 s - in o
rg.openmrs.propertyeditor.EncounterEditorTest
[INFO] Running org.openmrs.propertyeditor.PersonAttributeTypeEditorTest
[INFO] Tests run: 8, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 1.98 s - in o
rg.openmrs.propertyeditor.PersonAttributeTypeEditorTest
[INFO] Running org.openmrs.propertyeditor.ConceptMapTypeEditorTest
[INFO] Tests run: 8, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 2.073 s - in o
rg.openmrs.propertyeditor.ConceptMapTypeEditorTest
[INFO] Running org.openmrs.propertyeditor.FormEditorTest
[INFO] Tests run: 8, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 1.938 s - in o
rg.openmrs.propertyeditor.FormEditorTest
[INFO] Running org.openmrs.propertyeditor.ConceptEditorTest
```

```
ltzayana@ltzayana-VirtualBox: ~/openmrs-core
rg.openmrs.liquibase.AbstractSnapshotTunerTest
[INFO] Running org.openmrs.liquibase.MainTest
[INFO] Tests run: 0, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.002 s - in o
rg.openmrs.liquibase.MainTest
[INFO]
[INFO] Results:
[INFO]
[INFO] Tests run: 0, Failures: 0, Errors: 0, Skipped: 0
[INFO]
[INFO] -----
[INFO] Reactor Summary for OpenMRS 2.4.0-SNAPSHOT:
[INFO]
[INFO] OpenMRS ..... SUCCESS [ 3.201 s]
[INFO] openmrs-tools ..... SUCCESS [ 2.241 s]
[INFO] openmrs-test ..... SUCCESS [ 0.056 s]
[INFO] openmrs-api ..... SUCCESS [13:01 min]
[INFO] openmrs-web ..... SUCCESS [ 54.717 s]
[INFO] openmrs-webapp ..... SUCCESS [ 2.604 s]
[INFO] openmrs-liquibase ..... SUCCESS [ 1.642 s]
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 14:18 min
[INFO] Finished at: 2020-09-21T21:46:30-04:00
[INFO] -----
ltzayana@ltzayana-VirtualBox:~/openmrs-core$
```

Final Thoughts and Experience Report

This experience has been difficult so far. Our biggest issue as a team has been knowing what exactly we were to be looking for. Our first major struggle was looking for a project with clear building instructions, and even when we thought we understood the instructions it seemed every time we tried to build and compile a new project we seemed to run into more issues and errors. Our second struggle seemed to be knowing what a compiled and built program looked like. We seemed to think that to successfully build and compile a project we needed to get it up and running in a browser. While this is certainly a step in the right direction, it seems we may have been overthinking it a bit. With the use of Maven mvn test we

were able to build and test both Tanaguru and OpenMRS after countless attempts to build it so that it would run in the browser. Deliverable One has proven to be a challenge for our team, but we have decided to continue with either Tanaguru or OpenMRS for Deliverable Two. See below for more in-depth reports on our other project attempts.

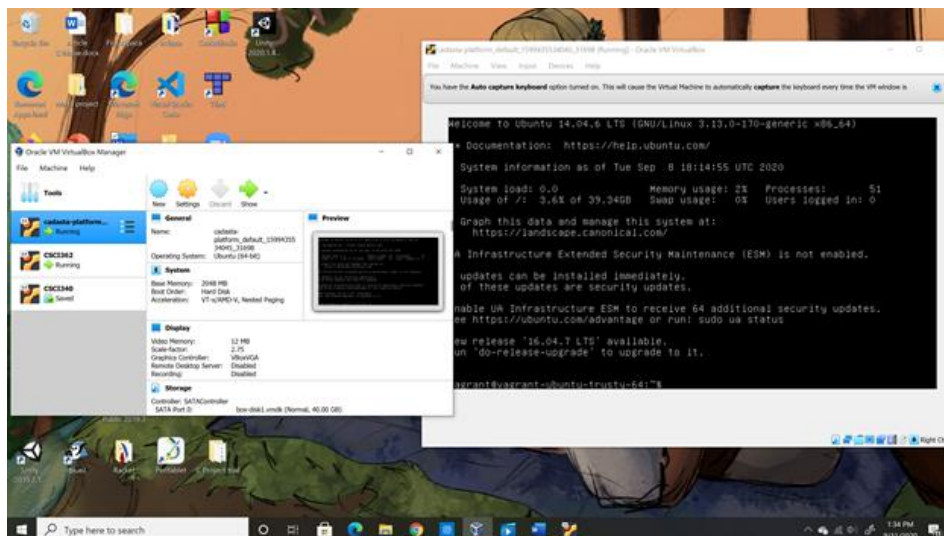
Evaluation Reports

Report #1

Building and Running Cadasta.

Date: 9/11/20

Report: Cadasta was a project that our team was very interested in exploring, it supported a good cause and seemed manageable in breadth for our class. The documentation seemed well explained, however, none of my teammates or I were able to get Cadasta up and running. We all ran into an error with a program they use called Vagrant. Vagrant requires a virtual machine to run the program, however, we were all working in a virtual machine and this caused a problem. I tried cloning the Cadasta repository to my host device and build it into my virtual machine. This time I was able to get the virtual machine up and running as seen by the picture below. However, I've run into a new issue. I need Ansible if I want to go any farther with this project would need to have a virtual machine inside of a virtual machine, since Ansible is not supported on Windows and this project is not to be run on a Windows computer. If I had a Mac or a Linux based machine maybe this project could have worked out. Unfortunately, after doing a lot of research about Virtual Machines in a virtual machine, I've come to the conclusion that it is not recommended. The general consensus is that while you *can* do it, it significantly reduces performance to a snail's pace. For this project, I'm not sure that is the best way to go. So We have decided to move on to other projects.



Report #2

Building and Running Glucosio.

Date: 9/13/20

Report: Glucosia was another project in which our team was interested in working on. It was written in JAVA which is a language that we are all comfortable with. I encountered a few difficulties when opening the project. First of all, the project was very large and my virtual machine did not have enough space for it. I had to create a new VM with more space. The project did open in Android studio but it kept giving me a "wrapper" error when I tried to run it. I tried different things to open it, I did updates, tried older versions but nothing helped. In the end, before I invested more time in the project we decided to go with a different project. I will include a link to the picture of the error I kept getting.

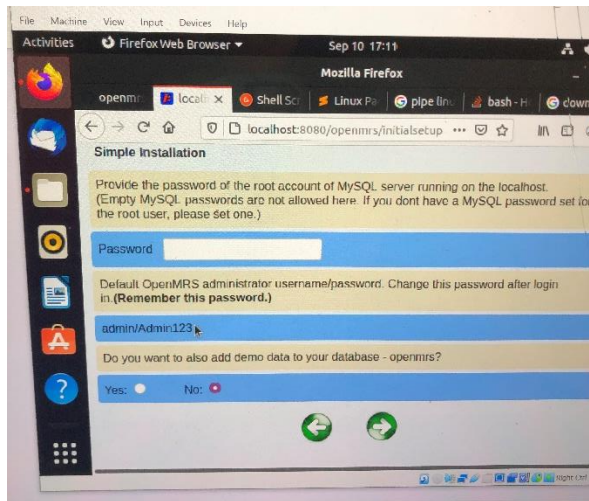
<https://github.com/csci-362-02-2020/Team3/issues/1#issue-700691915>

Report #3

Building and Running OpenMRS.

Date: 9/18/20

Report: After fruitless results with Cadasta, Sugarlabs, and Glucosia our team decided to put our efforts into a different project. We searched the projects on the H/FOSS wiki again for a potential project. We looked at OpenMRS and it looked promising, the documentation seemed to be clear and the setup didn't seem too difficult. We had also seen that the Boyos had managed to get it up and running which gave up an extra boost of hope. The initial set-up, compiling, and building of the project was simple, though it took a little while to do. After 3 hours of waiting, the OpenMRS was running on as localhost. No problems. However, as I tried to set up testing, I began to run into some issues. I was trying to connect to the OpenMRS database, but it was having trouble connecting to the MySQL server. To remedy this issue, I tried a few things. First, I looked up the error on their wiki. It seemed to be a common problem, and the way they suggested they get around it is to use MySQL 5.7 instead of MySQL 8. Seemed easy enough, the only problem was Ubuntu 20 did not seem to be able to find the packages for MySQL 5.7 because it is an archived version of the program. So, I found a roundabout way to install the 5.7 version. Despite the installation of the correct version of MySQL OpenMRS still did not want to connect to MySQL. This was not only an issue for me but for our whole team. No one seemed to be able to connect their MySQL to OpenMRS. So, despite the positive outlook at the beginning of this project, it ended in many brick walls blocking our path. Each time we thought we got through one another would appear. So we've decided our energy would be better spent by looking at another project.

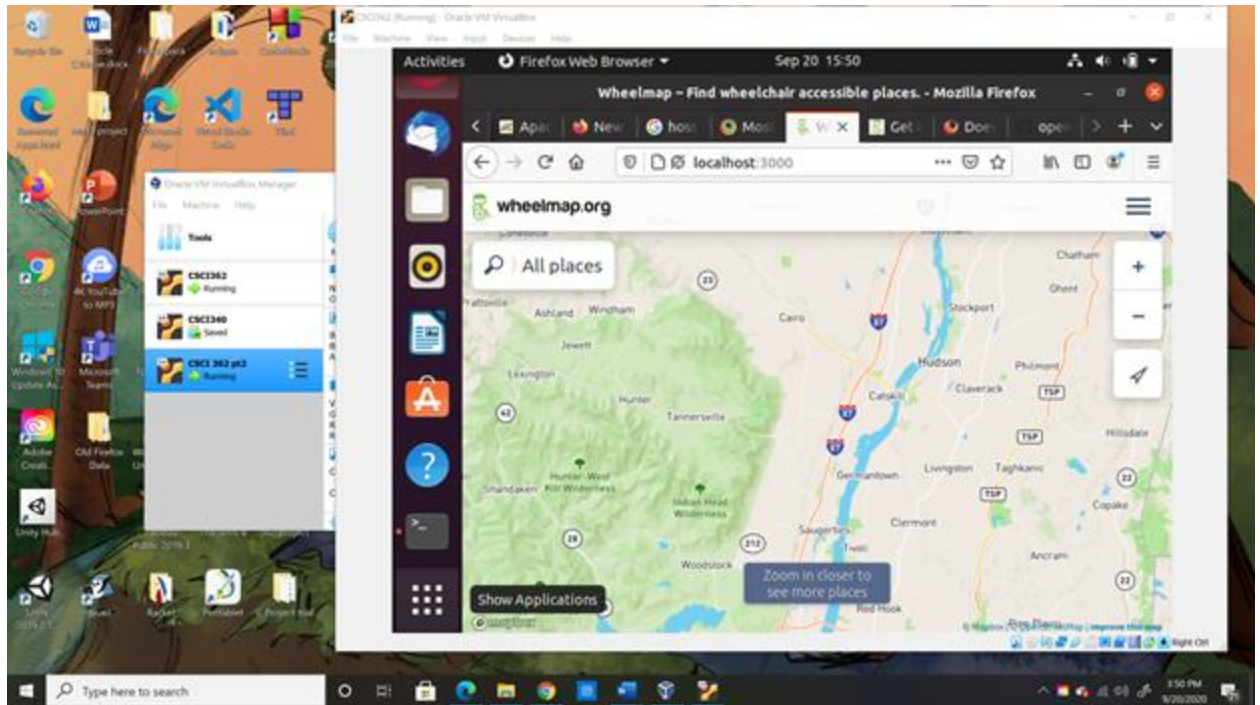


Report #4

Building and Running WheelMaps.

Date: 9/20/20

Report: After many failed attempts at trying to overcome the errors occurring with OpenMRS, we decided it was time to try something new. Each of our teammate decided to try a new project, my friend Janneke Morin (From the 7-11 group) suggested that I try to build the front-end version of WheelMaps. I found their GitHub account and read through their documentation for building and installing. It seemed simple, so I clone the repository to my computer and ran the commands required to build the project. The first time I ran it, I received a few errors messaged, which the instructions said may happen. Janneke suggested that I run the command `npm install` one more time and when I did WheelMaps opened in my browser! This was a very exciting moment after running into obstacle after obstacle. It was nice to have a win. I am skeptical; however, this is what happened with OpenMRS. The next step is testing the program. According to the README file this project uses BrowserStack for testing. The next step in this process is to find out more about BrowserStack and attempt to run a few tests. There seems to be a document the details the different tests they have run and what is left to be tested. I'm crossing my fingers that we are able to get testing going.



Report #5

Building and running Growstuff

Date: 9/21/20

Report: Another failed attempt was amongst the open source software Growstuff. Which is an open source data project for food gardeners. I was able to get up until the point of compiling all the code with the required dependencies. But each attempt failed due to issues running a Ruby server. I was also have issues with PostgreSQL to run on the Linux virtual machine as well. I tried following the step by step introduction guide but to no success. Unfortunately, these guides are not always one solution fits all scenarios and it takes multiple paths in order to find the solution.

Report #6

Building, Running and Testing Tanaguru

Date: 9/21/20

Report: I tried running tests for tanaguru.

```
Activities Terminal Sep 21 21:31
megkraw@megkraw-VirtualBox: ~/wheelmap-frontend
surefire/surefire-junit3/2.7.2/surefire-junit3-2.7.2.jar (26 kB at 177 kB/s)

T E S T S
Running org.opens.utils.colorconvertor.ColorConverterTest
Rgb2hexWhite
Rgb2hexPink
getHue
java.awt.Color[r=128,g=128,b=127]
Hue : java.awt.Color[r=128,g=128,b=127]
Rgb2hexBlack
Tests run: 4, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.271 sec
Running org.opens.utils.contrastchecker.ContrastCheckerTest
getConstrastRatio
result :3.6102927852355164
Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.031 sec

Results :
Tests run: 5, Failures: 0, Errors: 0, Skipped: 0

[INFO] -----< org.opens:contrast-finder-api >-----
[INFO] Building contrast-finder-api 0.3.5 [3/7]
[INFO] -----[ jar ]-----
[INFO] --- maven-resources-plugin:2.6:resources (default-resources) @ contrast-finder-api ---
[INFO] Copying 1 file to /target/classes
[INFO] Copying 1 file to /target/classes
```

Here are the results:

```
Activities Terminal Sep 21 21:34
megkraw@megkraw-VirtualBox: ~/wheelmap-frontend
-resources/target/surefire-reports

T E S T S
There are no tests to run.

Results :
Tests run: 0, Failures: 0, Errors: 0, Skipped: 0

[INFO] -----
[INFO] Reactor Summary:
[INFO] contrast-finder 0.3.5 ..... SUCCESS [ 0.024 s]
[INFO] contrast-finder-utils 0.3.5 ..... SUCCESS [ 26.896 s]
[INFO] contrast-finder-api 0.3.5 ..... SUCCESS [ 2.678 s]
[INFO] contrast-finder-impl 0.3.5 ..... SUCCESS [ 2.069 s]
[INFO] contrast-finder-hsv 0.3.5 ..... SUCCESS [ 7.043 s]
[INFO] contrast-finder-webapp 0.3.5 ..... SUCCESS [ 28.421 s]
[INFO] contrast-finder-resources 0.3.4 ..... SUCCESS [ 0.469 s]
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 01:08 min
[INFO] Finished at: 2020-09-20T16:06:13-04:00
[INFO] -----
megkraw@megkraw-VirtualBox:~/Contrast-Finder$ cd ..
megkraw@megkraw-VirtualBox:~$ ls
```

All the tests passed and the build was successful.