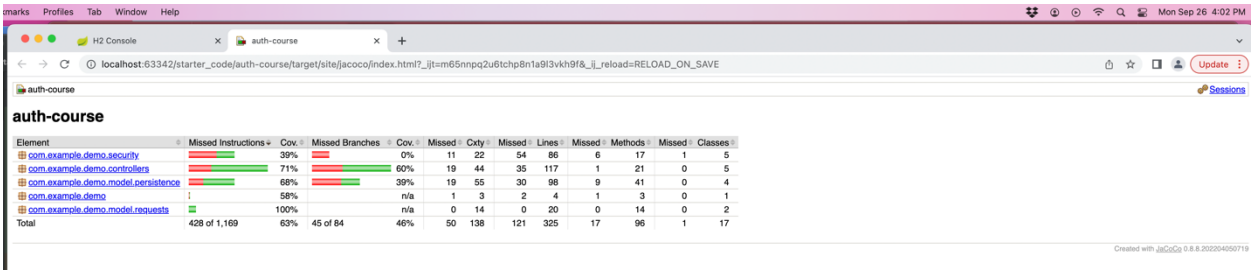
Screenshots for eCommerce Application Submission

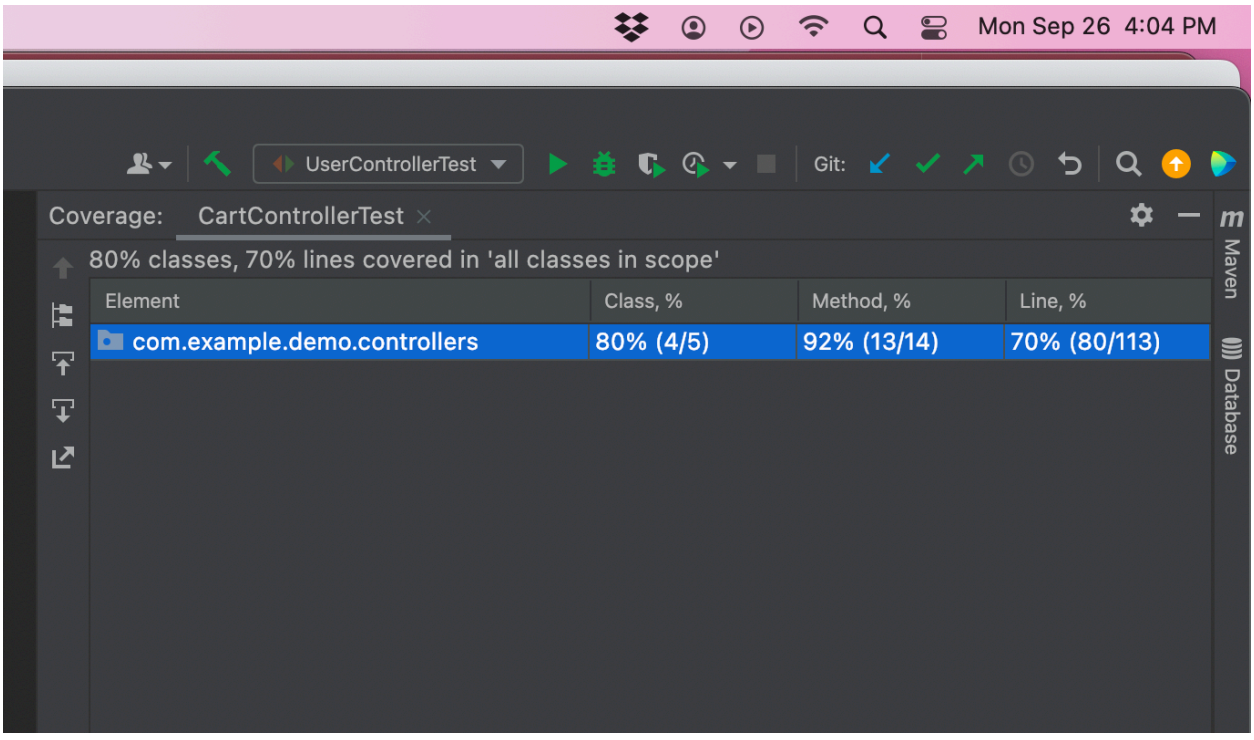
Build the project, tests, and test coverage:

Using “mvn clean package”, all the test classes will be run, and a coverage report will be created by the Jacoco plugin.

After the build, this coverage report is found at target/site/jacoco/index.html, and shows a total project coverage of 63%.

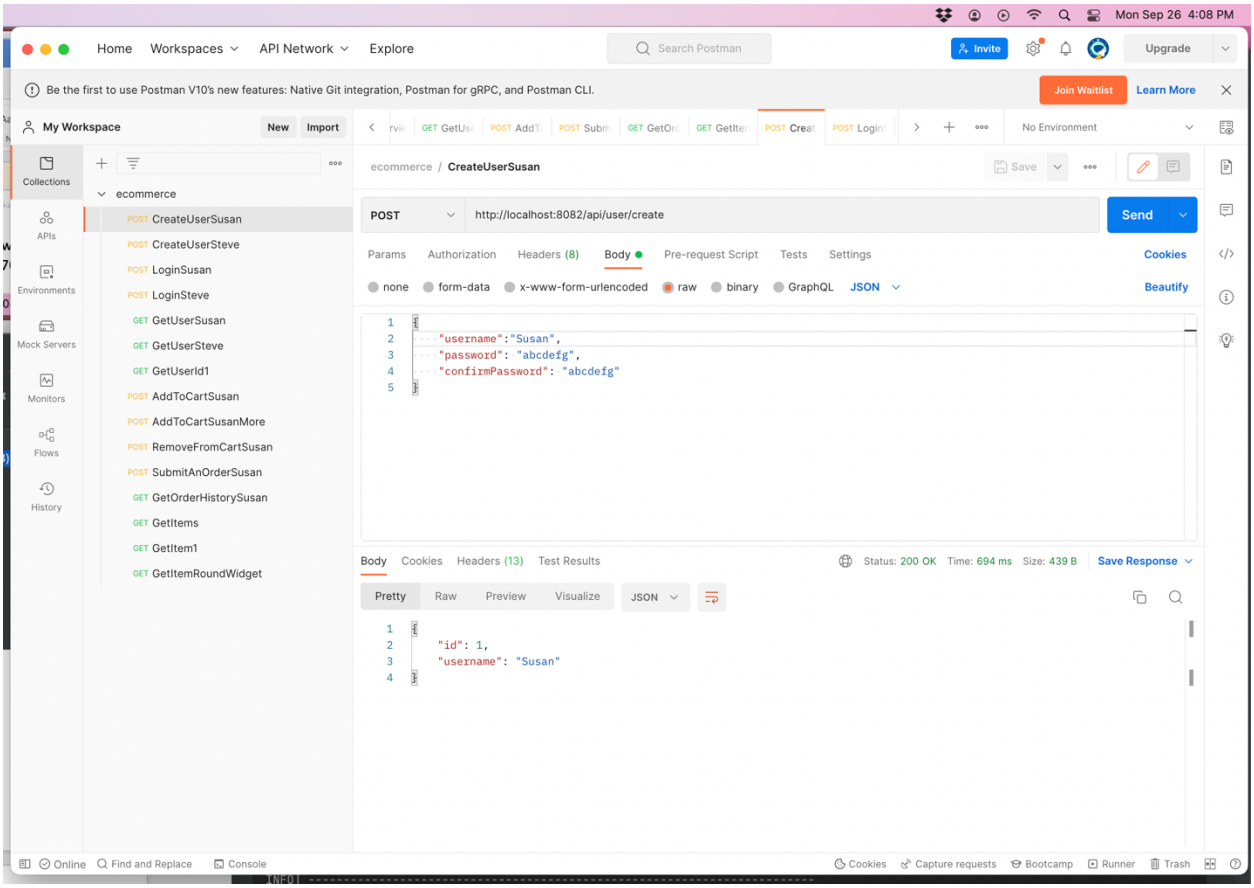


In particular, the src package com.example.demo.controllers (where most of my code was written) has a class coverage of 80%, a method coverage of 92%, and a line coverage of 70%.



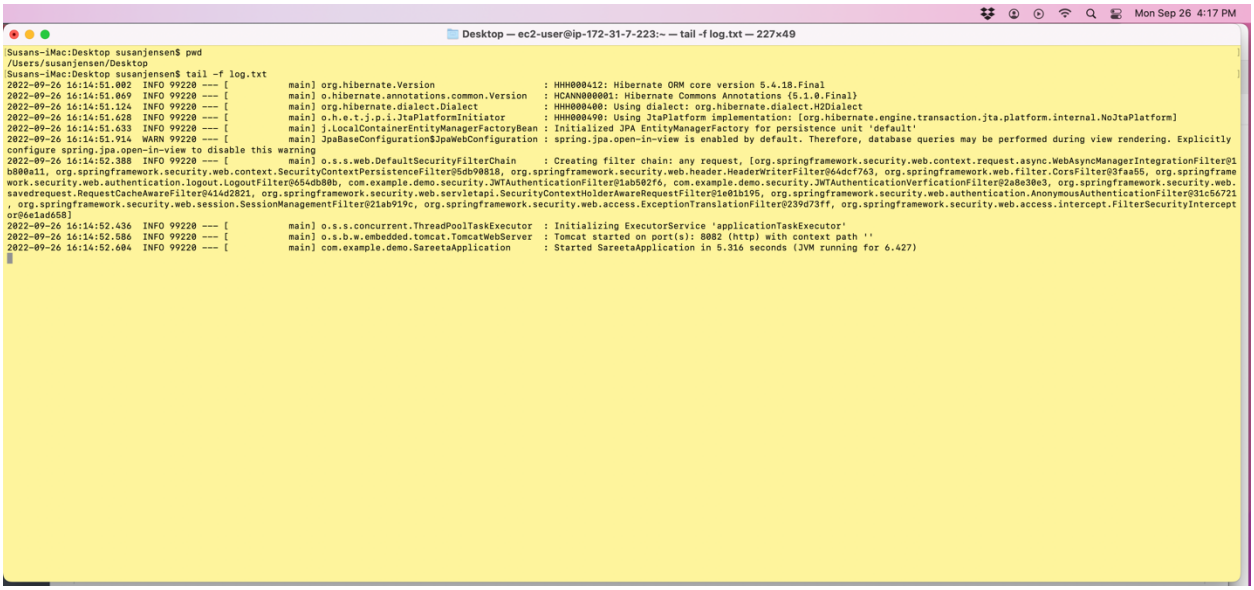
Postman requests

Once the API is running, you can use the Postman request collection, found at src/main/resources/ecommerce.postman_collection.json, to test the API endpoints with security. Once a user is created and logged in, their authorization header (the encoded JWT) must be present for requests to the user, cart, and order endpoints. The item endpoints do not require authentication.



Logging and Splunk set up

With the API running locally in my IDE, I specified the logs to be written locally to "/Users/susanjensen/Desktop/log.txt". Here is the tail of the log file, after starting the app:

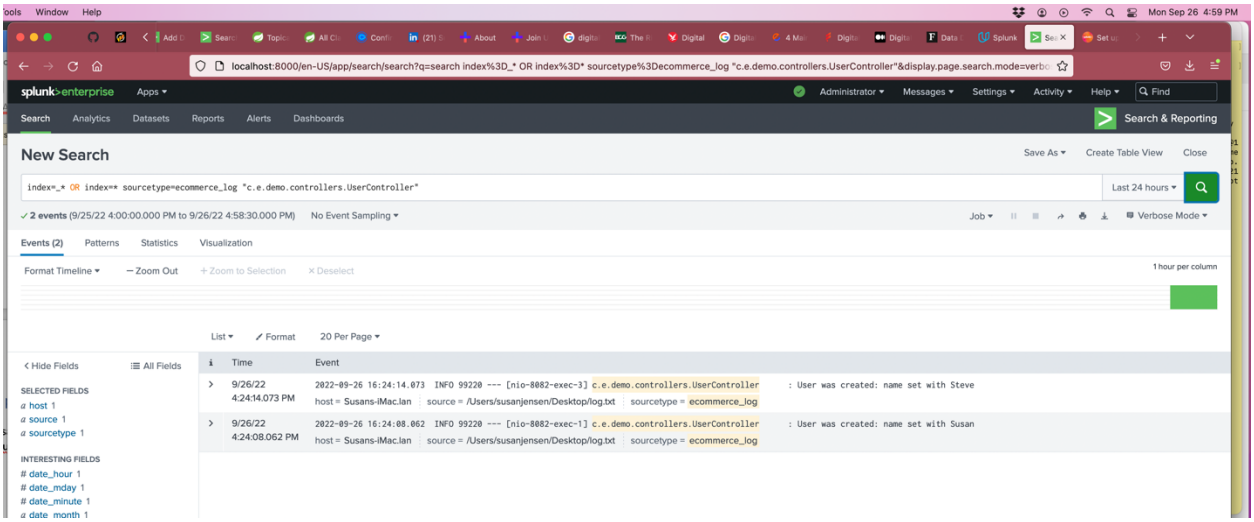


In Splunk, running locally, I added a data source, which is continuous monitoring of this log file.

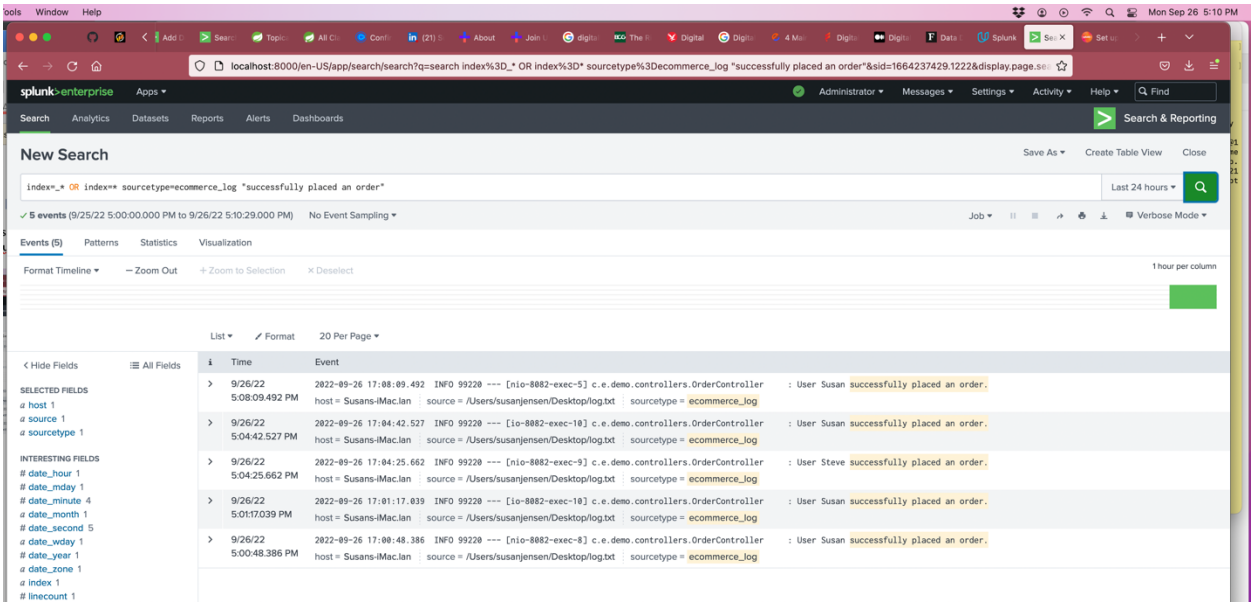
Splunk query example

I want to see all the messages so far logged, just from the UserController class:

index=_* OR index=* sourcetype=ecommerce_log "c.e.demo.controllers.UserController"



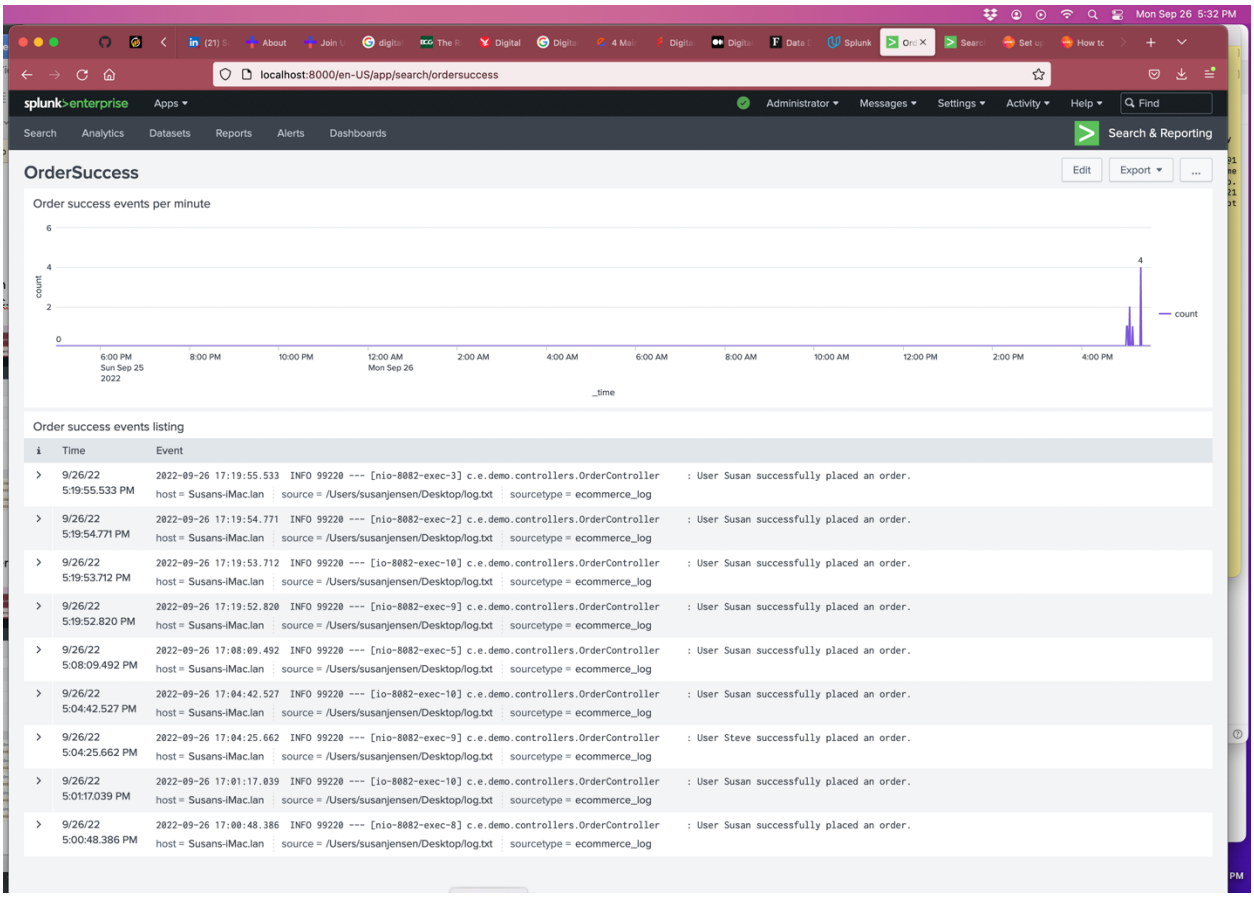
A little while later, the same search returns more events, so I know the continuous monitoring is working correctly.



Splunk dashboard example

I'd like a dashboard that lists the successful orders from my log, as well as charting the number of successful orders over time, counting successful order per minute. I will add "min" and "max" values to my chart.

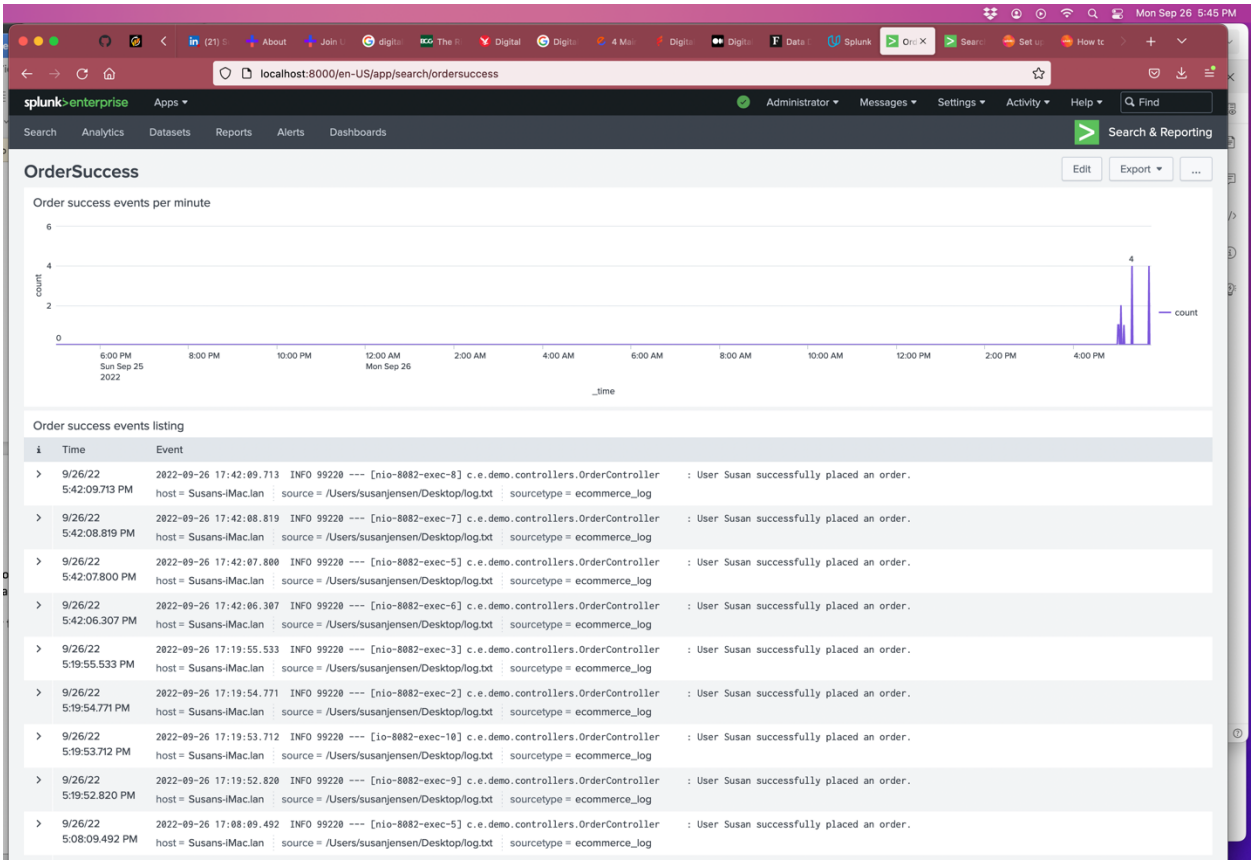
Below we can see that the max number of successful orders (in the chart) was four, and we can see from the order listing that user Susan placed four orders in the minute of 5:19 pm.



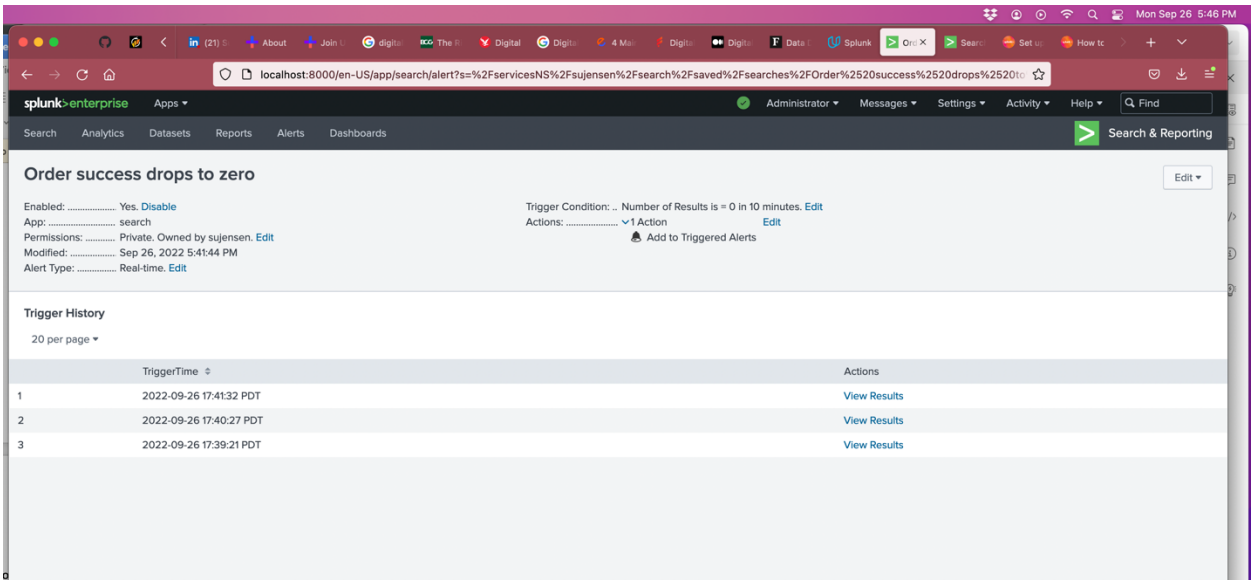
Splunk alerts example

Now that I have a dashboard showing the successful orders, I want an alert to trigger automatically if I don't have any successful orders in a ten-minute period.

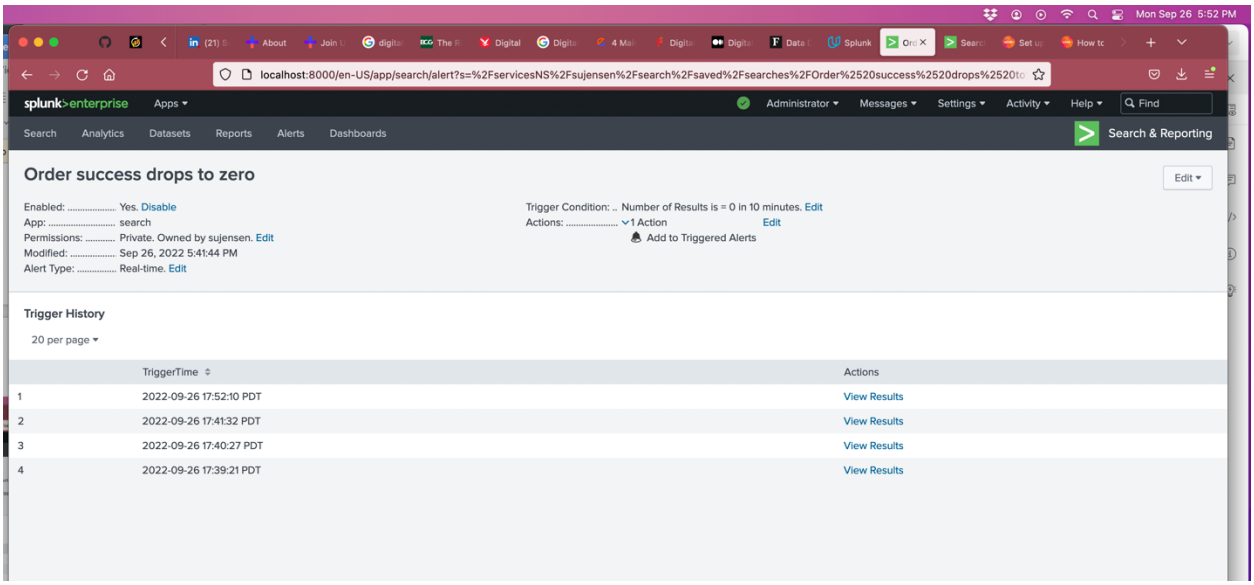
I had four successful orders at 5:19 pm, then another four successful orders at 5:42 pm (see screenshot, below)



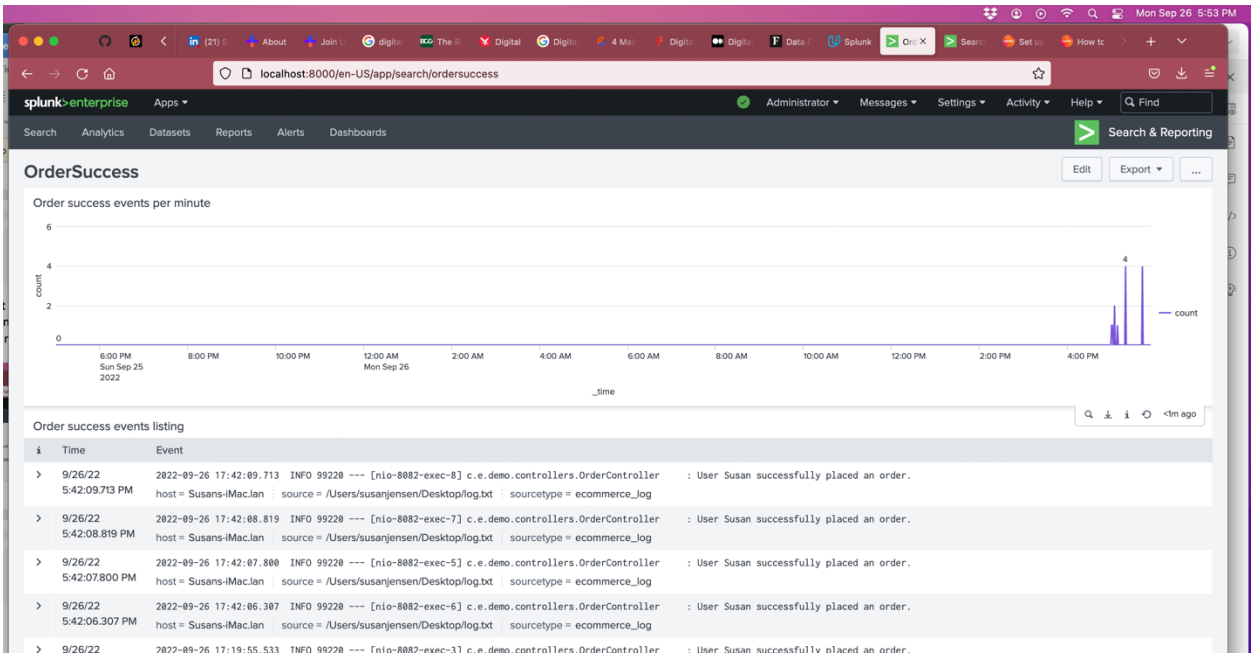
I set up my alert at about 5:38 pm, and it started to trigger once per minute, starting at 5:39 pm (see screenshot, below).



Since I had some successful orders at 5:42 pm, I don't expect the alert to be triggered again until about 5:52 pm. And, that is exactly what happened, as I expected. The alert was triggered when there hadn't been any successful orders for 10 minutes:

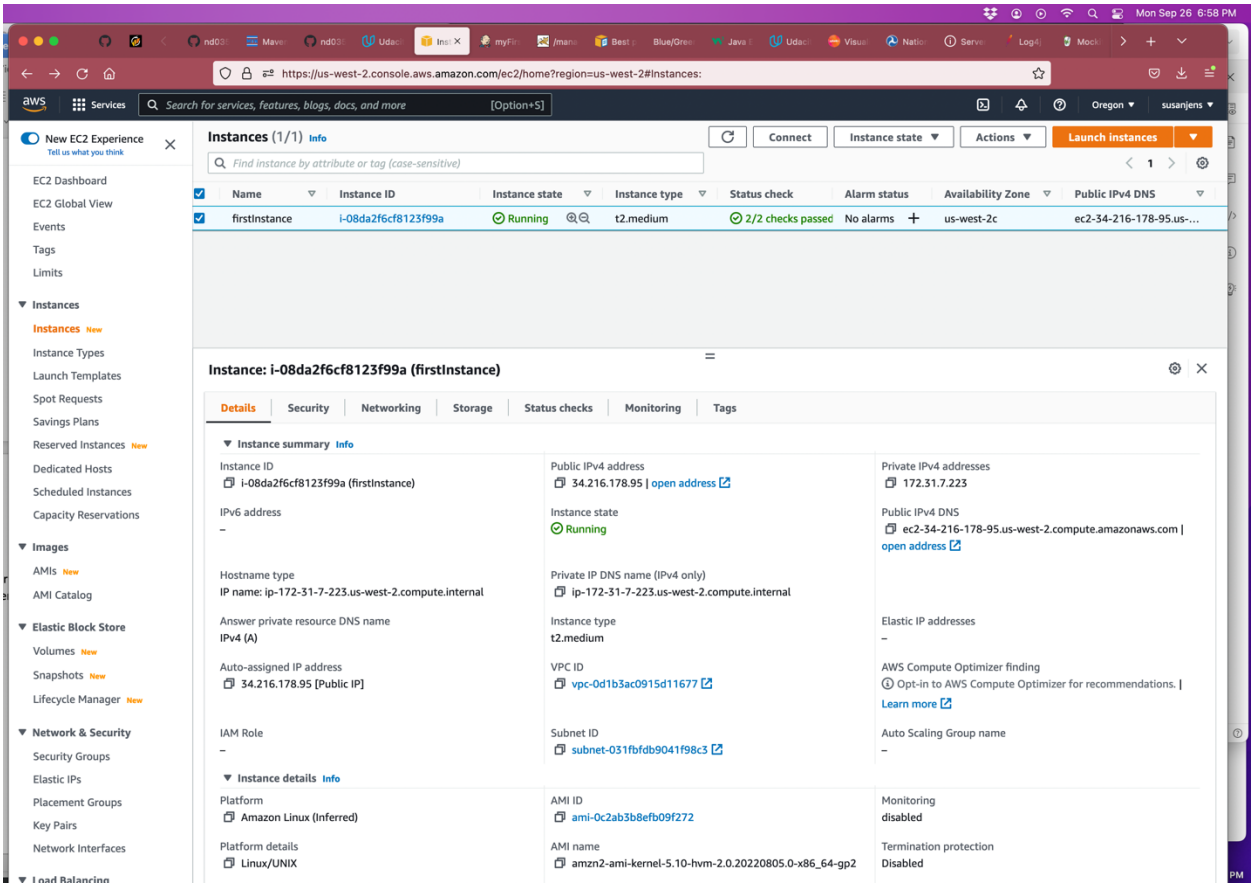


And the dashboard chart confirms there have still been no successful orders since 5:42 pm:


Mon Sep 26 5:53 PM
localhost:8000/en-US/app/search/ordersuccess
splunk>enterprise
Apps
Administrator
Messages
Settings
Activity
Help
Find
Search
Analytics
Datasets
Reports
Alerts
Dashboards
Search & Reporting
OrderSuccess
Edit
Export
Order success events per minute
count
6
4
2
0
4
count
6:00 PM Sun Sep 25 2022
8:00 PM
10:00 PM
12:00 AM Mon Sep 26
2:00 AM
4:00 AM
6:00 AM
8:00 AM
10:00 AM
12:00 PM
2:00 PM
4:00 PM
_time
<1m ago
Order success events listing
Time
Event
9/26/22 5:42:09.713 PM
2022-09-26 17:42:09.713 INFO 99220 --- [nio-8082-exec-8] c.e.demo.controllers.OrderController : User Susan successfully placed an order.
host = Susans-iMac.lan source = /Users/susanjensen/Desktop/log.txt sourcetype = ecommerce_log
9/26/22 5:42:08.819 PM
2022-09-26 17:42:08.819 INFO 99220 --- [nio-8082-exec-7] c.e.demo.controllers.OrderController : User Susan successfully placed an order.
host = Susans-iMac.lan source = /Users/susanjensen/Desktop/log.txt sourcetype = ecommerce_log
9/26/22 5:42:07.800 PM
2022-09-26 17:42:07.800 INFO 99220 --- [nio-8082-exec-5] c.e.demo.controllers.OrderController : User Susan successfully placed an order.
host = Susans-iMac.lan source = /Users/susanjensen/Desktop/log.txt sourcetype = ecommerce_log
9/26/22 5:42:06.307 PM
2022-09-26 17:42:06.307 INFO 99220 --- [nio-8082-exec-6] c.e.demo.controllers.OrderController : User Susan successfully placed an order.
host = Susans-iMac.lan source = /Users/susanjensen/Desktop/log.txt sourcetype = ecommerce_log
9/26/22

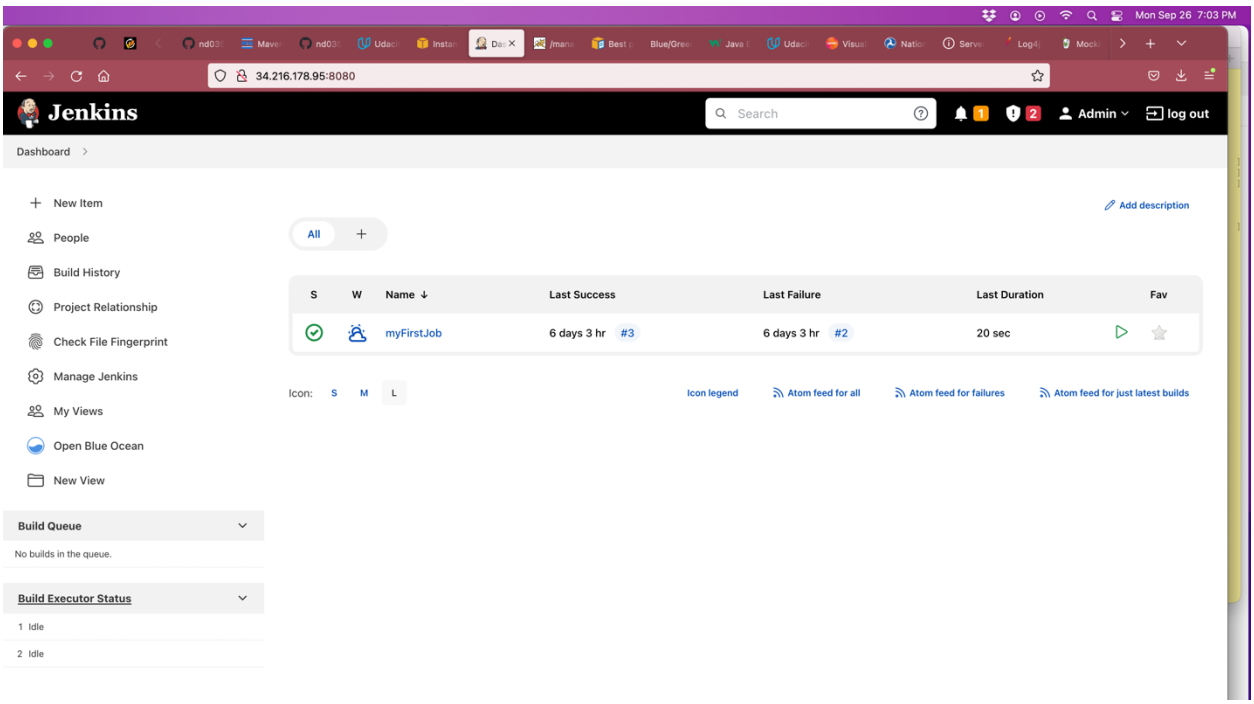
AWS Set-up

For this project, I will use an EC2 instance on AWS to run both Jenkins and my app, both in docker containers. I used a t2.medium shape for the compute size, as the free tier crashed multiple times.

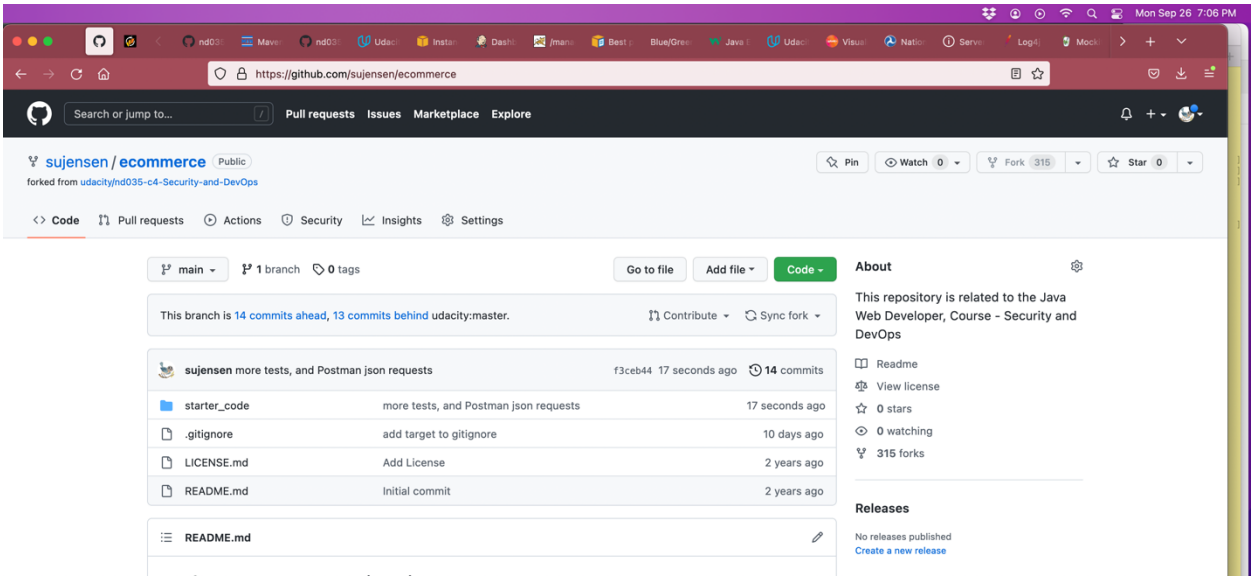


Jenkins build

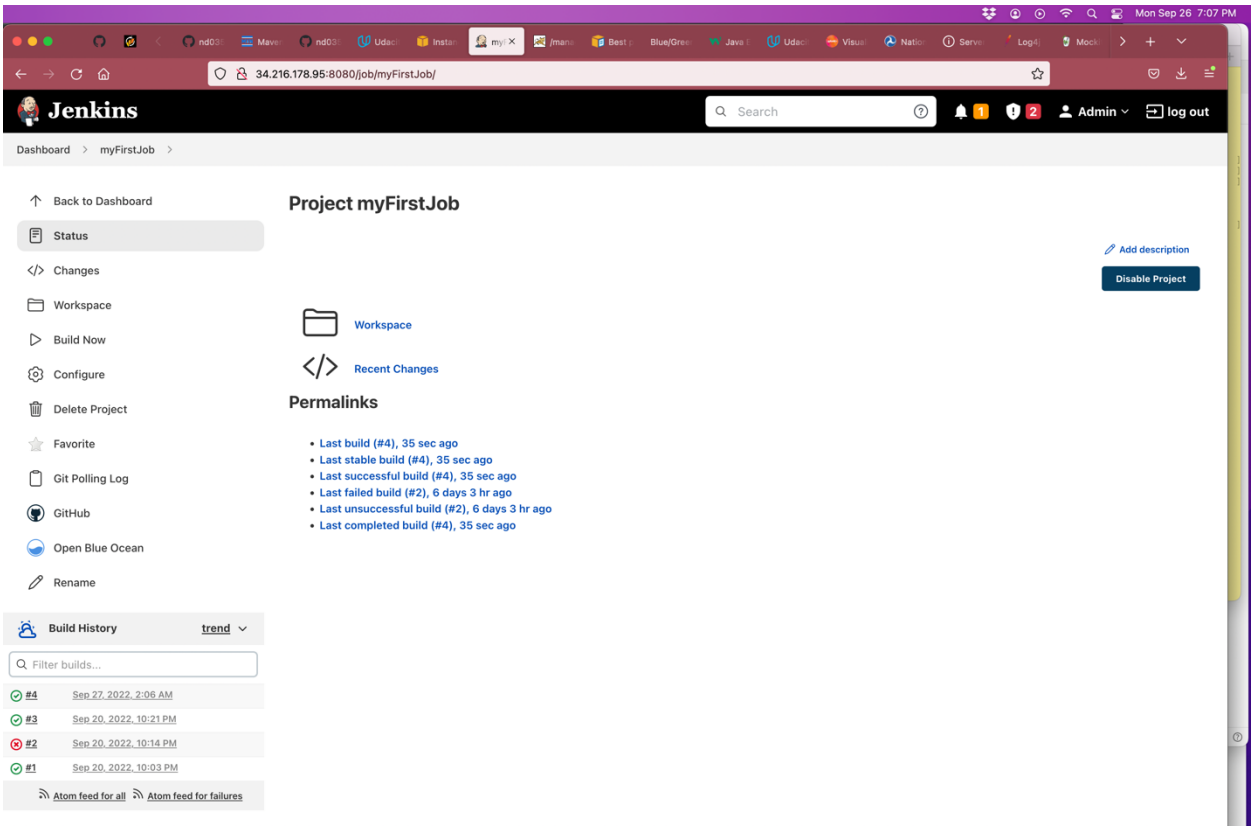
My Jenkins is running in a docker container in AWS. Here is my Jenkins home page. My project will build and deploy with “myFirstJob”:



I pushed my code to Github at 7:05 pm:

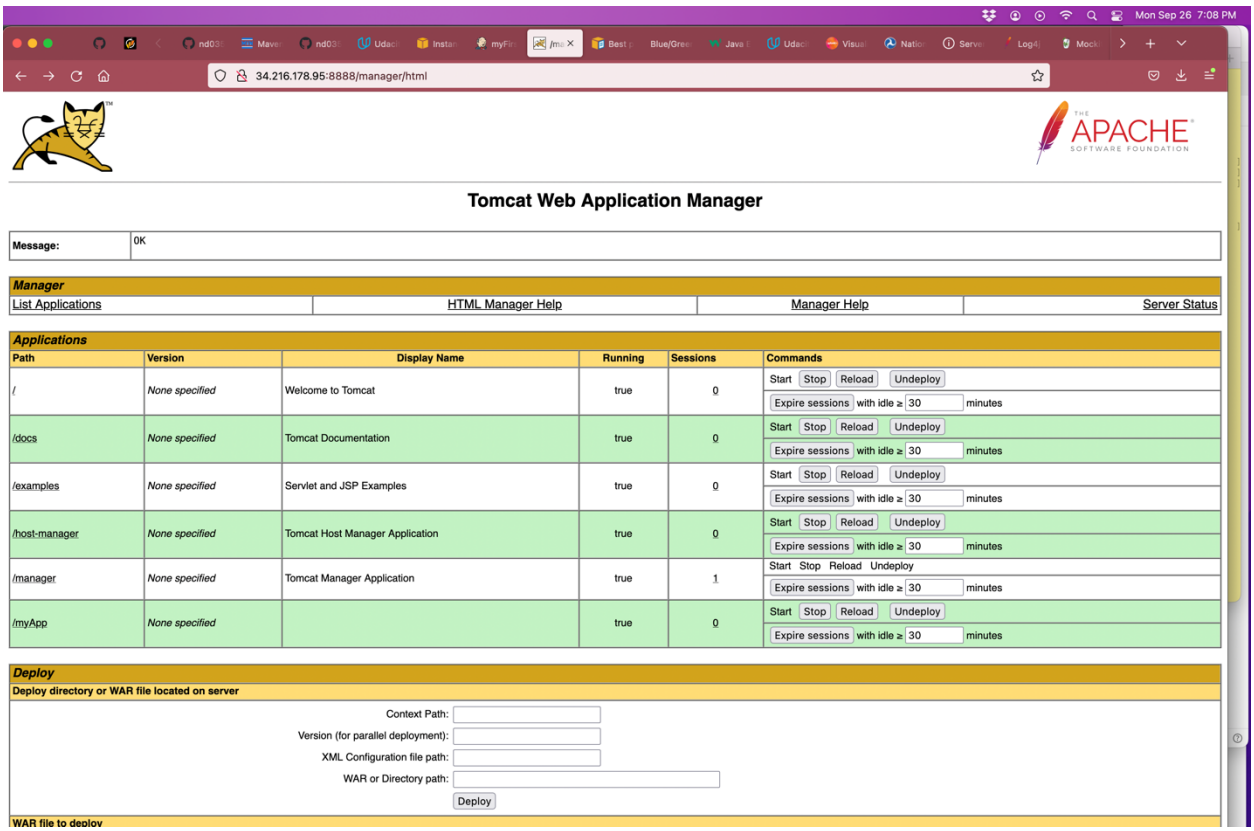


Which automatically triggered build #4 in Jenkins (since Jenkins is polling my Github repo once per minute):


Mon Sep 26 7:07 PM
34.216.178.95:8080/job/myFirstJob/
Jenkins
Search
Admin
log out
Dashboard
myFirstJob
Back to Dashboard
Status
Changes
Workspace
Build Now
Configure
Delete Project
Favorite
Git Polling Log
GitHub
Open Blue Ocean
Rename
Build History
trend
Filter builds...
#4 Sep 27, 2022, 2:06 AM
#3 Sep 20, 2022, 10:21 PM
#2 Sep 20, 2022, 10:14 PM
#1 Sep 20, 2022, 10:03 PM
Atom feed for all
Atom feed for failures
Project myFirstJob
Add description
Disable Project
Workspace
Recent Changes
Permalinks
Last build (#4), 35 sec ago
Last stable build (#4), 35 sec ago
Last successful build (#4), 35 sec ago
Last failed build (#2), 6 days 3 hr ago
Last unsuccessful build (#2), 6 days 3 hr ago
Last completed build (#4), 35 sec ago

Tomcat automatic deployment of Jenkins build artifact

In tomcat, accessible from port 8888 on my AWS compute instance, the app is called “myApp”, as seen from the management console:



Within the tomcat docker container, we can see that “myApp” was updated at the exact same time that the Jenkins build (and post-build promotion) was completed: