MLOPs Assignment 1

Group members:

Razi Haider Bhatti 19I-1762
Muhammad Zeeshan 19I-1711

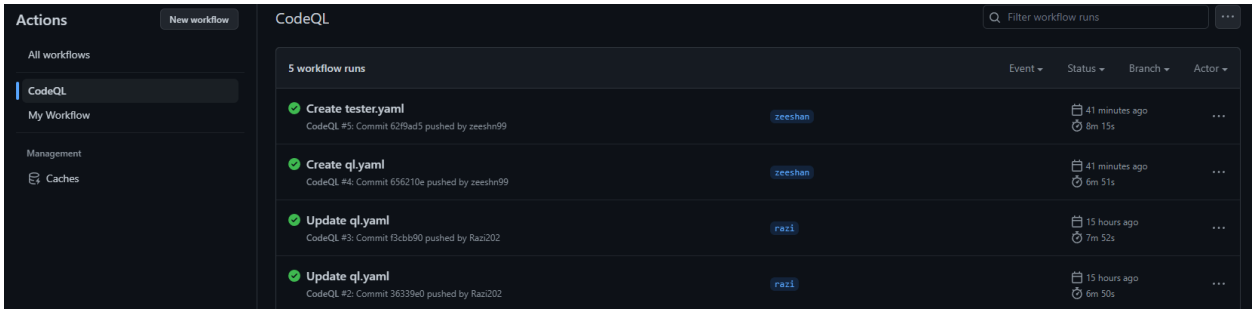
Workflows/Github Actions

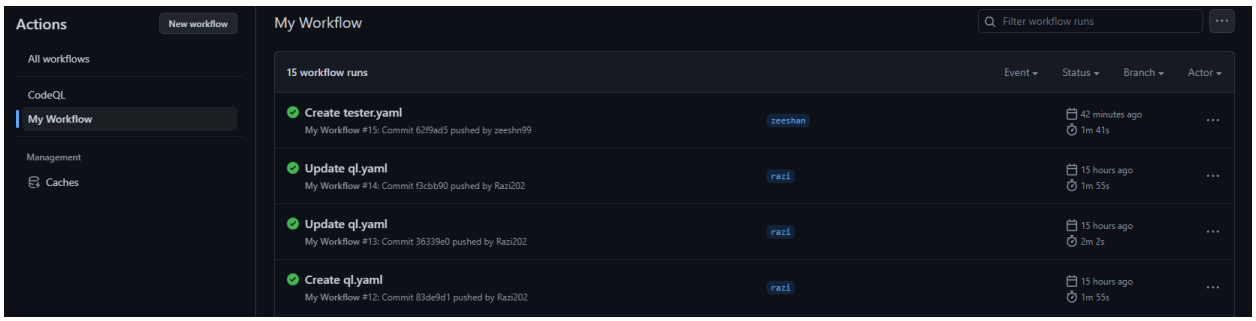
Repository used: https://github.com/Shawn1993/cnn-text-classification-pytorch
Forked repository: https://github.com/Razi202/cnn-text-classification-pytorch

The github repository we chose consisted of python files. The work done was regarding text classification using CNN (Convolutional Neural Networks). It consists of four .py files:

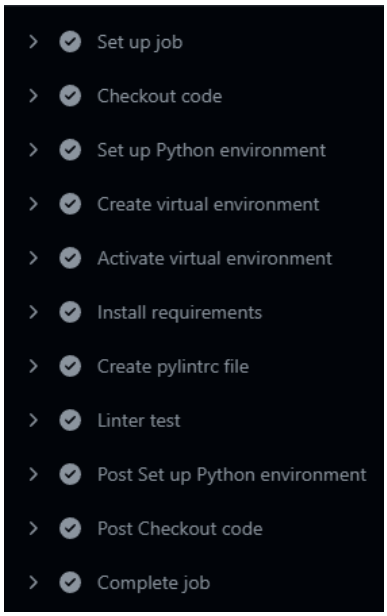
- Datasets.py: to create the dataset and load it.
- Models.py: to initiate the CNN model for training.
- Train.py: to train the model on the dataset.
- Main.py: to combine all the code and run it altogether.

The files consisted of torch, torchtext, numpy, and datetime libraries.
Initially we forked the repository and created two branches (razi, zeeshan) for each team member. For each branch we create a .github/workflows folder with ql.yaml (for QL purposes) and tester.yaml (for checking code requirements). We created a missing requirement.txt which includes the relevant libraries. Tester.yaml runs these libraries along with the pylinter for testing.
Here are the two jobs running:

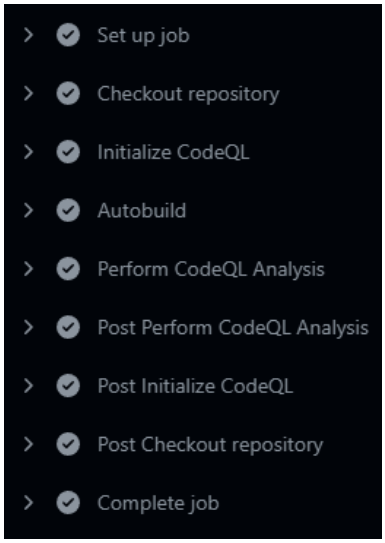




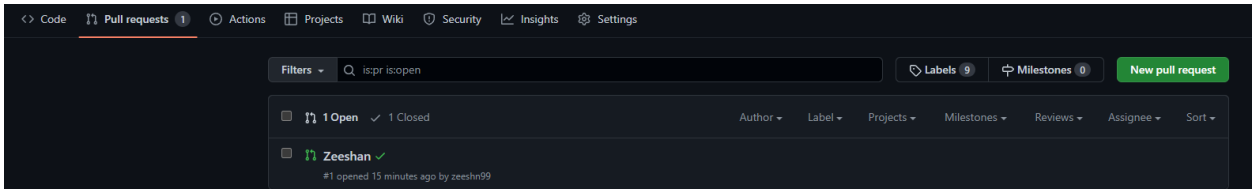
The jobs for My Workflow:



The jobs for CodeQL:

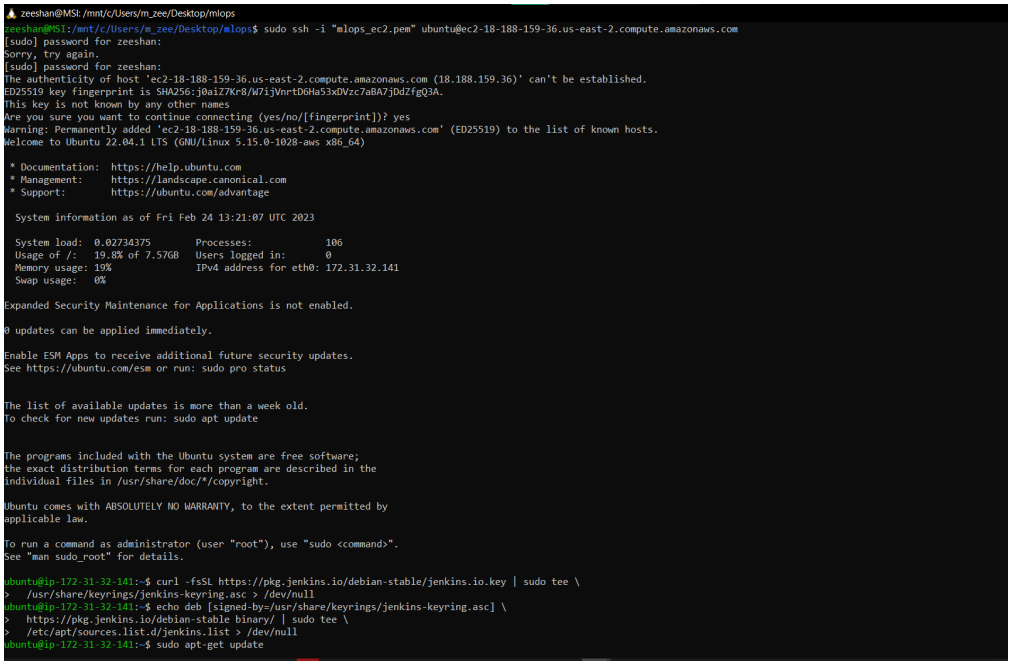


Pull requests were then merged with the main branch:

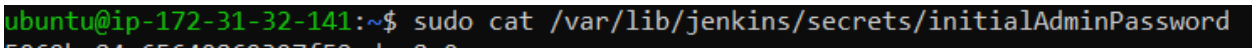


Jenkins

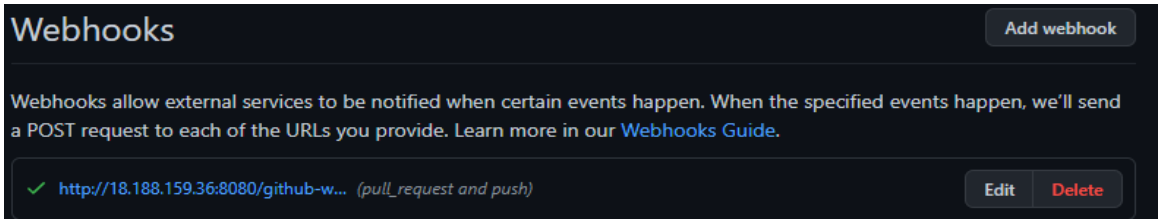
To set up Jenkins, we used the AWS EC2 machine. The OS we chose was Ubuntu. Afterwards, we configured the machine, such as, setting up security protocols and connection permissions.



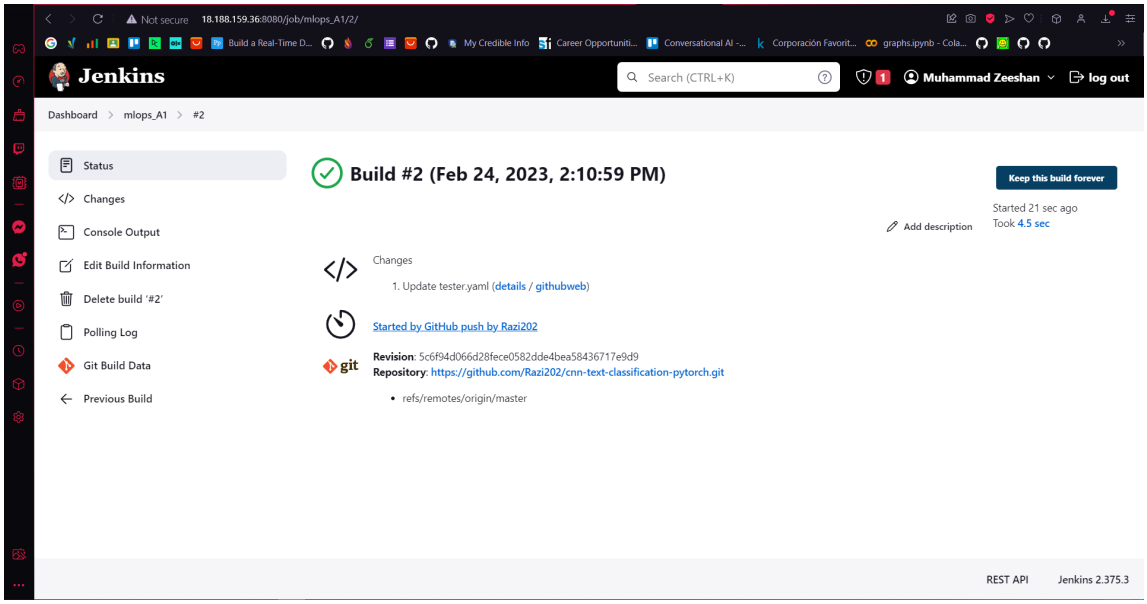
Using the command below we received the password for Jenkins which we used to login. It was after this step, Jenkins installed the requirements needed to run.



We set up the admin of Jenkins and in order to connect with Github, we created a hookup which was responsive to pull and push requests.



We created a new project on Jenkins and provided it with our github repository. Afterwards we built the github hook triggers. We used the execution shell to run the command to check the code. The following snippet shows the result.


Not secure 18.188.159.36:8080/job/mlops_A1/2/
Jenkins
Search (CTRL+K)
Muhammad Zeeshan
log out
Dashboard
mlops_A1
#2
Status
Changes
Console Output
Edit Build Information
Delete build '#2'
Polling Log
Git Build Data
Previous Build
Build #2 (Feb 24, 2023, 2:10:59 PM)
Keep this build forever
Started 21 sec ago
Took 4.5 sec
Add description
Changes
1. Update tester.yaml (details / githubweb)
Started by GitHub push by Razi202
Revision: 5c6f94d066d28fece0582dde4bea58436717e9d9
Repository: https://github.com/Razi202/cnn-text-classification-pytorch.git
refs/remotes/origin/master
REST API
Jenkins 2.375.3