Deployment 1 Documentation

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Deployment goal:

Set up a basic deployment Pipeline

Software and Tools Used:

EC2, Jenkins, GitHub, and Elastic Beanstalk

GitHub:

To begin this deployment I started with GitHub. I needed to fork the repository: kura-labs-org/kuralabs_deployment_1. Whilst I was already in GitHub I created a token that would connect Jenkins and validate my access to the repo.

EC2:

After my Repo was forked I created an EC2 instance. The EC2 ran on Ubuntu and used the deployment-1 Security Group.
-Within the security group I opened ports 22 for SSH access, 80 for HTTP access, and port 8080 to access Jenkins.
-With my EC2 up and running I SSH into it to install Python, Jenkins, and Its main dependency Java.
-Using the command: sudo systemctl start Jenkins I was able to access Jenkins.

Jenkins:

With Jenkins started I typed in the public ip of my ec2 followed by port :8080 to launch Jenkins. Once in Jenkins I created a new item and started the formation of my multibranch pipeline.
-After entering the name of the application I needed to link the forked repo where the application was stored.
-Also contained in the repo was a file called : JenkinsFile, which tells jenkins how to construct the deployment pipeline.
-The two stages in this pipeline were the deploy stage and the test stage.

Elastic Beanstalk:

With Jenkins Pipeline working it was time to deploy my application to Elastic Beanstalk.

- Inorder to run my application I needed to log into my virtual machine and compress the deployment 1 repo into a zip file.

-Once zipped I was able to upload the zip file to elastic beanstalk for the virtual environment to be created for my application. After some trial and error I was able to get my application to run.

Challenges Faced:

I faced two main challenges during this deployment.

-The First of which came during the initial EC2 SSH stage. Due to an incorrect Key Pairing with my EC2 I was unable to SSH into it. I resolved this issue by deleting the old EC2 instance, configuring a new one and creating a new key pair.

-The second error that I made occurred during the Virtual Machine/ Elastic Beanstalk stage. I was getting a notification from Elastic Beanstalk saying that the health of my application was Degraded/Severe. The issue that caused this problem was a syntax error when zipping the compressed application; instead of zipping just the file I zipped a larger portion of my directory. Once I zipped the application and reuploaded it, elastic beanstalk ran as intended.