Setting Up EC2 with Jenkins and Docker capabilities

1. Create a an Amazon Linux/Ubuntu AMI of instance type micro.
2. Change the security group settings to allow traffic from anywhere, leave other settings as default.
3. Connect to the EC2 instance.
4. Switch to root user

sudo su

1. Install a Maven version greater than 3.1.0 (required to run Spring Boot Maven Projects)

* sudo wget http://repos.fedorapeople.org/repos/dchen/apache-maven/epel-apache-maven.repo -O /etc/yum.repos.d/epel-apache-maven.repo
* sudo sed -i s/\$releasever/6/g /etc/yum.repos.d/epel-apache-maven.repo
* sudo yum install -y apache-maven

1. Check Maven version

mvn –version

1. Install JDK version 11 (Java version required to run Jenkins)

sudo amazon-linux-extras install java-openjdk11 -y

1. Change Java version of the EC2 to Java 11

alternatives --config java

1. Install Git to the EC2

sudo yum -y install git

git --version

git config --global user.name "Username"

git config --global user.email "User Email"

1. Install Jenkins in EC2

- Add the Jenkins repo

sudo wget -O /etc/yum.repos.d/jenkins.repo <https://pkg.jenkins.io/redhat-stable/jenkins.repo>

- Import Key file from Jenkins-CI to enable installation from package:

sudo rpm --import <https://pkg.jenkins.io/redhat-stable/jenkins.io.key>

- Install epel to daemonize jenkins installation

amazon-linux-extras install epel -y

- Install Jenkins

sudo yum install jenkins -y

- Start Jenkins as a service

sudo systemctl start jenkins

- Enable Jenkins to start at boot

sudo systemctl enable jenkins

1. Install Docker in EC2

- Update EC2 instance

sudo yum update -y

- Install Docker as a package

sudo amazon-linux-extras install docker -y

- Start the docker service

sudo service docker start

- Add user to docker group (to avoid having to use sudo commands)

sudo usermod -a -G docker ec2-user

- Verify docker version

docker --version

- Enable docker to start on boot

sudo systemctl enable docker

1. Install docker-compose in EC2

- Copy the docker-compose binary in Github

sudo curl -L https://github.com/docker/compose/releases/latest/download/docker-compose-$(uname -s)-$(uname -m) -o /usr/local/bin/docker-compose

- Fix permissions

sudo chmod +x /usr/local/bin/docker-compose

- Verify docker-compose install

docker-compose version

- Reboot instance

1. Add Swapon file for added RAM (needed to incoporate CI/CD functionality with micro-tier)

- Create swapon file of ~2 GB

sudo dd if=/dev/zero of=/swapfile bs=62M count=32

- Update read and write permissions for swap file

sudo chmod 600 /swapfile

- Set up Linux swap area

sudo mkswap /swapfile

- Add swap file to the swap space

sudo swapon /swapfile

- Verify the file was added

sudo swapon -s

- Start the swap file at boot by editing the etc/ftsab file

- Open file with vim editor

sudo vi /etc/fstab

- Add the line below to end of the file then save and exit

/swapfile swap swap defaults 0 0

1. Change the file permissions of docker.sock for Jenkins to run docker-compose command (repeat this step every time the instance is rebooted)

sudo chmod 666 /var/run/docker.sock