Deployment 2

Kenneth Tan

Jenkins on EC2

To begin the deployment, I had to start Jenkins on my EC2. I did this by accessing cmd on my Windows machine. I changed directory to .ssh, where the keys for accessing my EC2 instance lived.

```
C:\Users\Kenneth>cd .ssh

C:\Users\Kenneth\.ssh>dir
 Volume in drive C has no label.
 Volume Serial Number is E2D9-E9DE

 Directory of C:\Users\Kenneth\.ssh

08/28/2021  04:37 PM    <DIR>          .
08/28/2021  04:37 PM    <DIR>          ..
08/28/2021  02:23 PM             1,704 ec2-jenkins-4.pem
08/28/2021  04:33 PM             1,700 ec2-jenkins-ubuntu-1.pem
08/31/2021  09:04 AM             1,466 known_hosts
               3 File(s)          4,870 bytes
               2 Dir(s)  229,073,399,808 bytes free
```

This will allow me to run

ssh -i "ec2-jenkins-4.pem" ec2-user@ec2-54-159-201-70.compute-1.amazonaws.com

and access my EC2 from cmd. I then run

sudo systemctl start jenkins

to start running jenkins on the instance and I use

systemctl status jenkins

to make sure it is running.

```
[ec2-user@ip-172-31-89-52 ~]$ sudo systemctl start jenkins
[ec2-user@ip-172-31-89-52 ~]$ systemctl status jenkins
● jenkins.service - LSB: Jenkins Automation Server
   Loaded: loaded (/etc/rc.d/init.d/jenkins; bad; vendor preset: disabled)
   Active: active (running) since Sat 2021-09-04 15:04:13 UTC; 24h ago
     Docs: man:systemd-sysv-generator(8)
  Process: 14632 ExecStop=/etc/rc.d/init.d/jenkins stop (code=exited, status=0/SUCCESS)
  Process: 20714 ExecStart=/etc/rc.d/init.d/jenkins start (code=exited, status=0/SUCCESS)
   CGroup: /system.slice/jenkins.service
           └─20718 /etc/alternatives/java -Djava.awt.headless=true -DJENKINS_HOME=/var/lib/jenkins -jar /usr/lib/jenk...

Sep 04 15:04:13 ip-172-31-89-52.ec2.internal systemd[1]: Starting LSB: Jenkins Automation Server...
Sep 04 15:04:13 ip-172-31-89-52.ec2.internal jenkins[20714]: Starting Jenkins [  OK  ]
Sep 04 15:04:13 ip-172-31-89-52.ec2.internal systemd[1]: Started LSB: Jenkins Automation Server.
```

If the status is showing running, then I can open the Jenkins web interface with the EC2 public IPv4 address and port number

Jenkins Pipeline

After accessing Jenkins, I clicked on new item and I selected Pipeline to create a new Pipeline. I had named mine test-cron-job2. I selected “Build Periodically” in the Build Trigger section and I included this cron scheduling formula

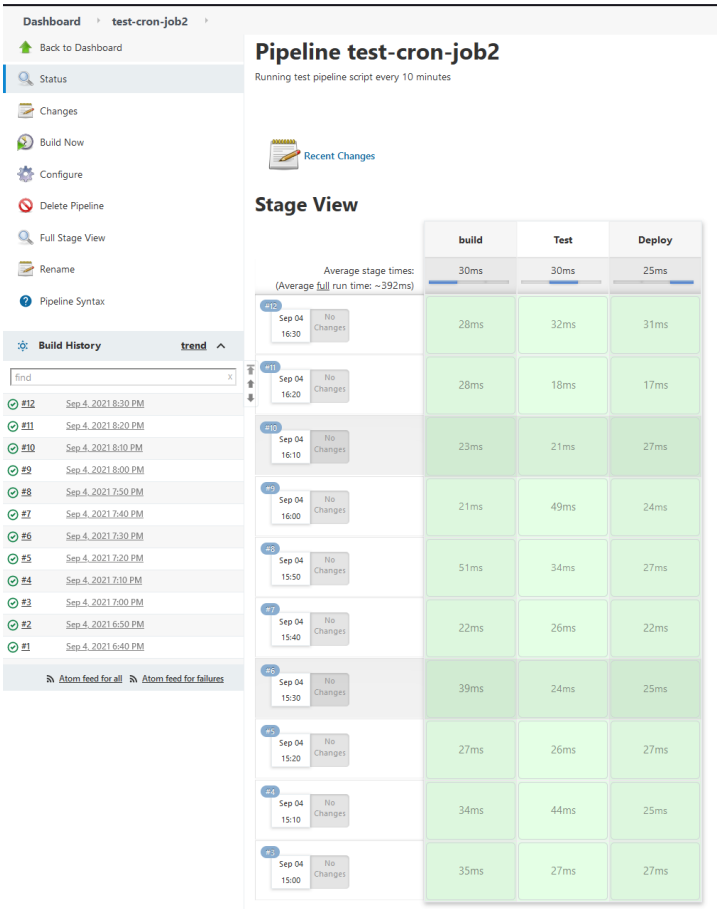
```
*/10 18-20 4 9 *
```

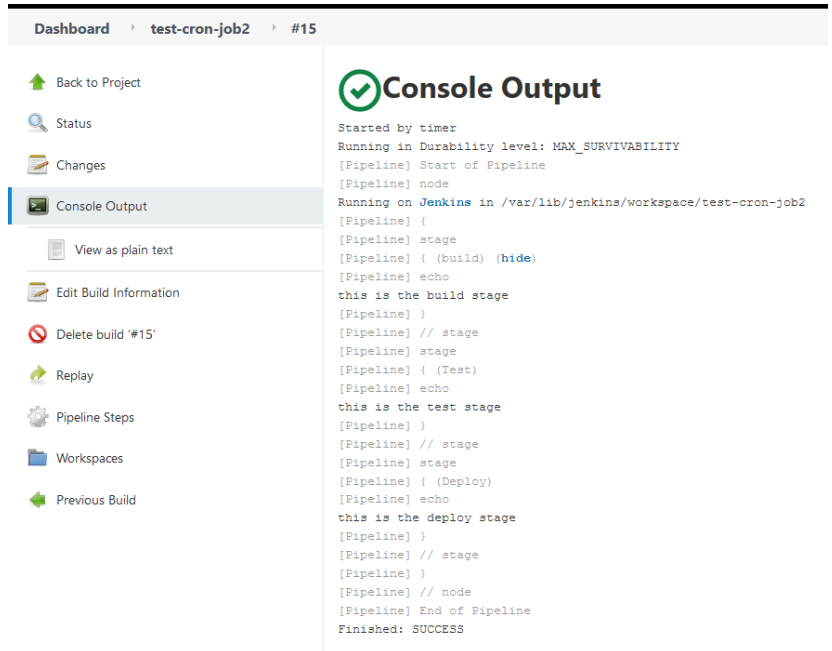
This tells the pipeline to build itself every 10 minutes from 18-20(6pm-8pm) on the 4th of september.
For the pipeline script itself, I submitted the following:

```
node{
   stage('build'){
          echo 'this is the build stage'
          }
          stage('Test'){
          echo 'this is the test stage'
          }
          stage('Deploy'){
          echo 'this is the deploy stage'
          }
}
```

Each echo was the indicator that each stage was executed without issue.

The result of the job was successful and it performed as expected. Below are screenshots of the stages and an example console output from one of the builds. They all had the same outputs





Shutting down EC2 Instance

Prior to proceeding, please check the following:

- Aws configure
- Timezone

For AWS configurations, you can use

aws configure

Check to see if your keys and region are correct.

For timezone, you can use

timedatectl list-timezones

for the list of timezones that aws has available. And see which one is most appropriate for you. Then you can update your timezone using

sudo timedatectl set-timezone <your timezone here>

These were the solutions for issues I had faced.

To shutdown the EC2 Instance, I opened my EC2 on my terminal. The command

Sudo shutdown now -h

will stop the current instance. I then created a bash script I was going to use to shut down the EC2 Instance inputting the above command. To do this I used

Nano ec2_shutdown.sh

This will create the bash file ec2_shutdown.sh in the current directory. Then typed in

#! /usr/bin/bash

Sudo shutdown now -h

With this, the script to shutdown the EC2 was made. I wanted to shut down the EC2 instance by triggering the ec2_shutdown.sh script I just made by the end of a weekday class (around 9pm or 21:00). I checked my current directory with the bash file in it by using pwd. In my case it was /home/ec2-user/ . Now I am able to use

Crontab -e

To edit the details of a scheduled job. In this case i wanted to schedule a trigger of ec2_shutdown.sh by 9pm so the syntax to achieve this was

0 19 * * * sh /home/ec2-user/ec2_shutdown.sh

Hitting the esc key and typing

:wq

I have saved this cronjob.

To check if this job ran at the scheduled time, the instance should return the below message and the instance status should show stopped on the AWS EC2 web interface.