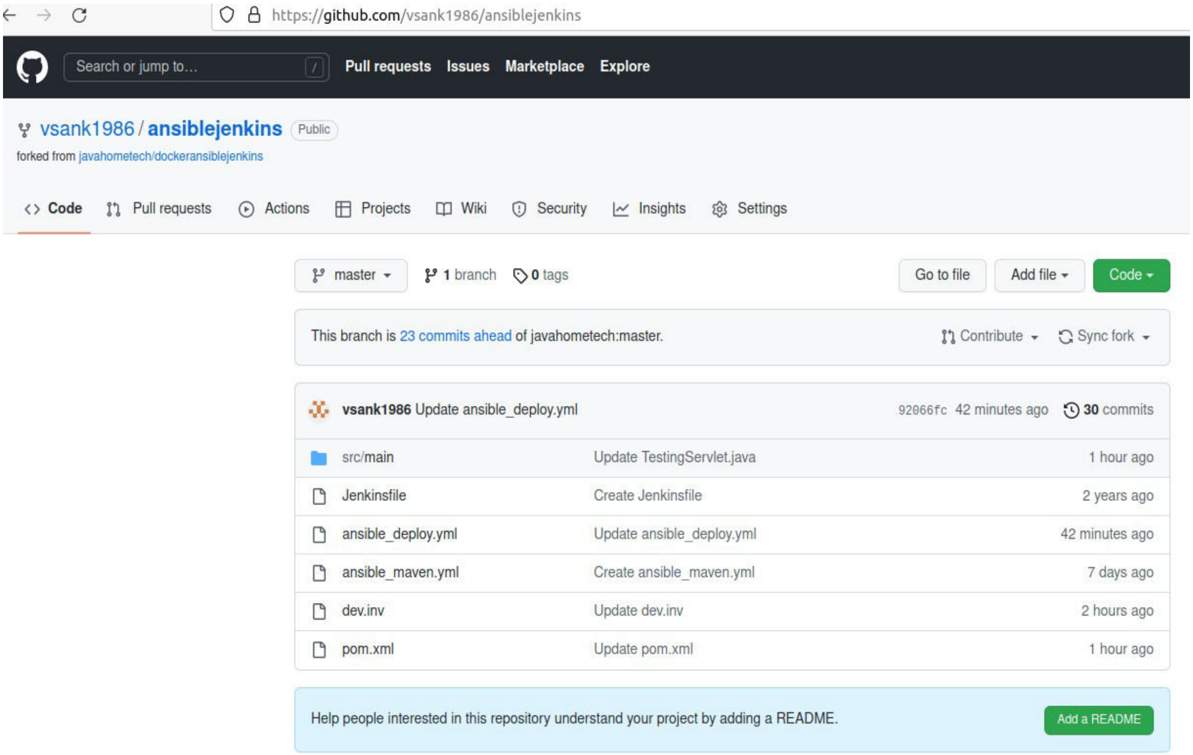
1. Created a small Java servlet application that takes a input and prints it in the next screen. The Java code consists of a java file named TestingServlet.java, a web.xml file and an index.html file. The java file is placed in the folder structure ansiblejenkins/src/main/java/. The index.html is placed in the folder ansiblejenkins/src/main/webapp/ and web.xml is placed in the folder ansiblejenkins/src/main/webapp/WEB-INF

2. Created a new repository in Github and uploaded the files there. The gitub repository name is vsank1986/ansiblejenkins



vsank1986 / ansiblejenkins

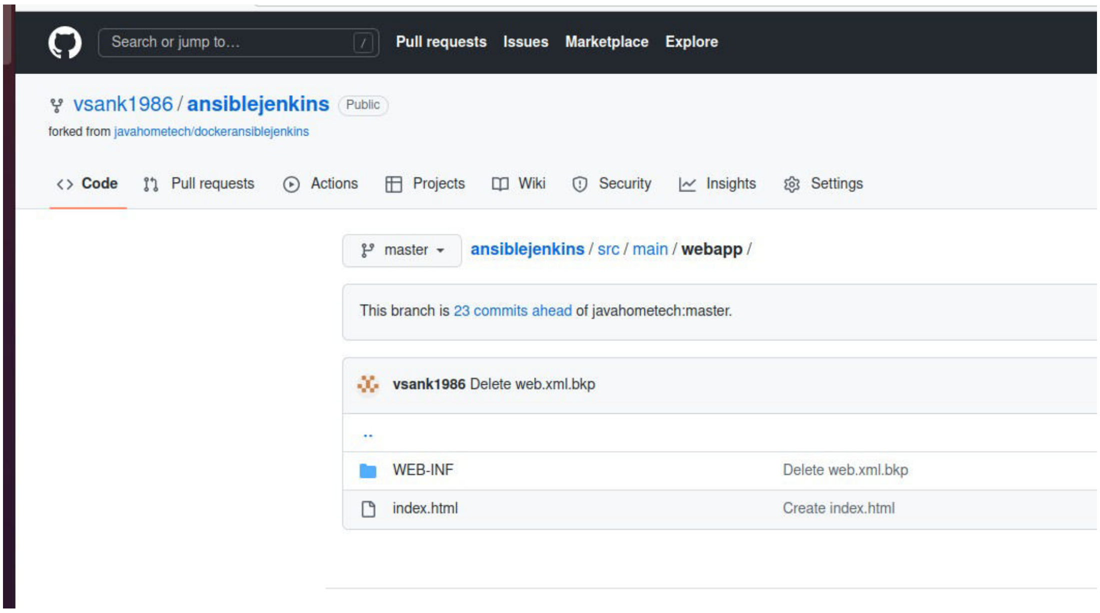
forked from javahometech/dockeransiblejenkins

This branch is 23 commits ahead of javahometech:master.

vsank1986 Update ansible_deploy.yml 92066fc 42 minutes ago 30 commits

src/main	Update TestingServlet.java	1 hour ago
Jenkinsfile	Create Jenkinsfile	2 years ago
ansible_deploy.yml	Update ansible_deploy.yml	42 minutes ago
ansible_maven.yml	Create ansible_maven.yml	7 days ago
dev.inv	Update dev.inv	2 hours ago
pom.xml	Update pom.xml	1 hour ago

Help people interested in this repository understand your project by adding a README.



vsank1986 / ansiblejenkins

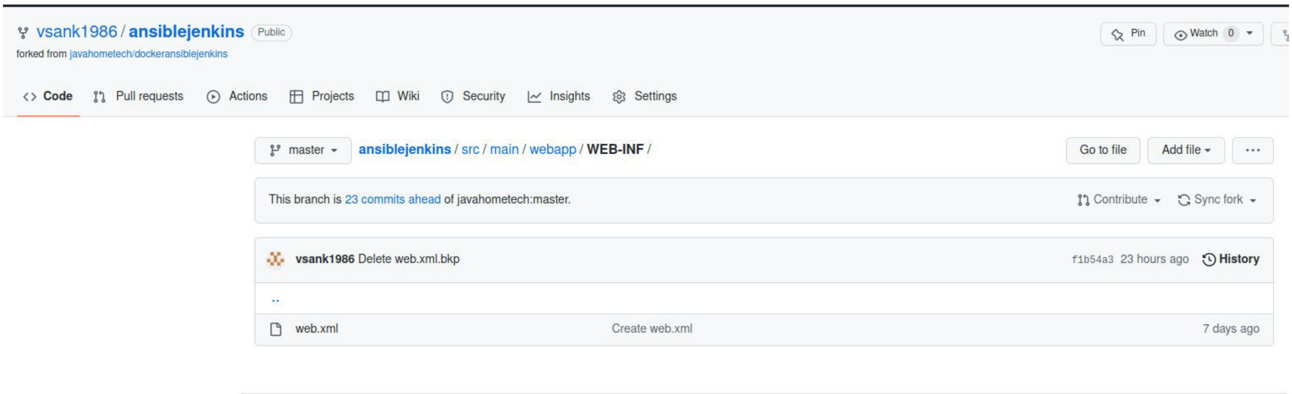
forked from javahometech/dockeransiblejenkins

ansiblejenkins / src / main / webapp /

This branch is 23 commits ahead of javahometech:master.

vsank1986 Delete web.xml.bkp

..	
WEB-INF	Delete web.xml.bkp
index.html	Create index.html


vsank1986 / ansiblejenkins Public

forked from javahometech/dockeransiblejenkins

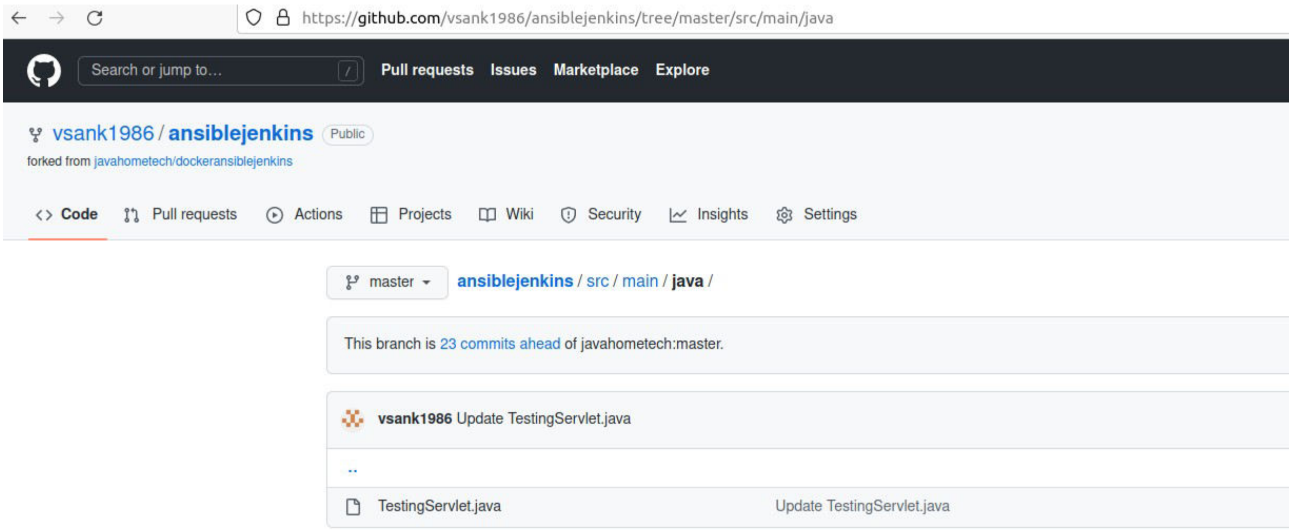
ansiblejenkins / src / main / webapp / WEB-INF /

This branch is 23 commits ahead of javahometech:master.

vsank1986 Delete web.xml.bkp f1b54a3 23 hours ago

..

web.xml	Create web.xml	7 days ago


https://github.com/vsank1986/ansiblejenkins/tree/master/src/main/java

vsank1986 / ansiblejenkins Public

forked from javahometech/dockeransiblejenkins

ansiblejenkins / src / main / java /

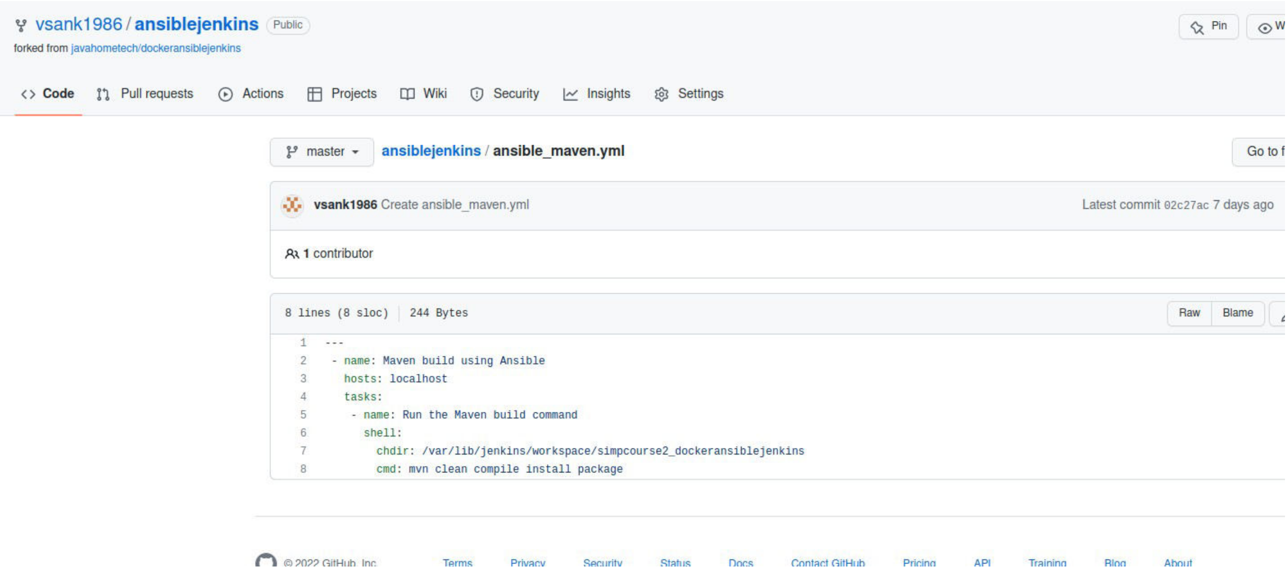
This branch is 23 commits ahead of javahometech:master.

vsank1986 Update TestingServlet.java

..

TestingServlet.java	Update TestingServlet.java

3. Wrote an ansible playbook named ansible_maven.yml in the root directory of Github repository vsank1986/ansiblejenkins. The ansible playbook uses shell module to do a maven clean,compile,install and package the java code in to a war file. The pom.xml for this maven build was downloaded from internet. The ansible playbook uses 'hosts' as localhost as it will be executed on the Jekis machine itself and in the workspace directory of the Jenkins project.


vsank1986 / ansiblejenkins Public

forked from javahometech/dockeransiblejenkins

ansiblejenkins / ansible_maven.yml

vsank1986 Create ansible_maven.yml Latest commit 02c27ac 7 days ago

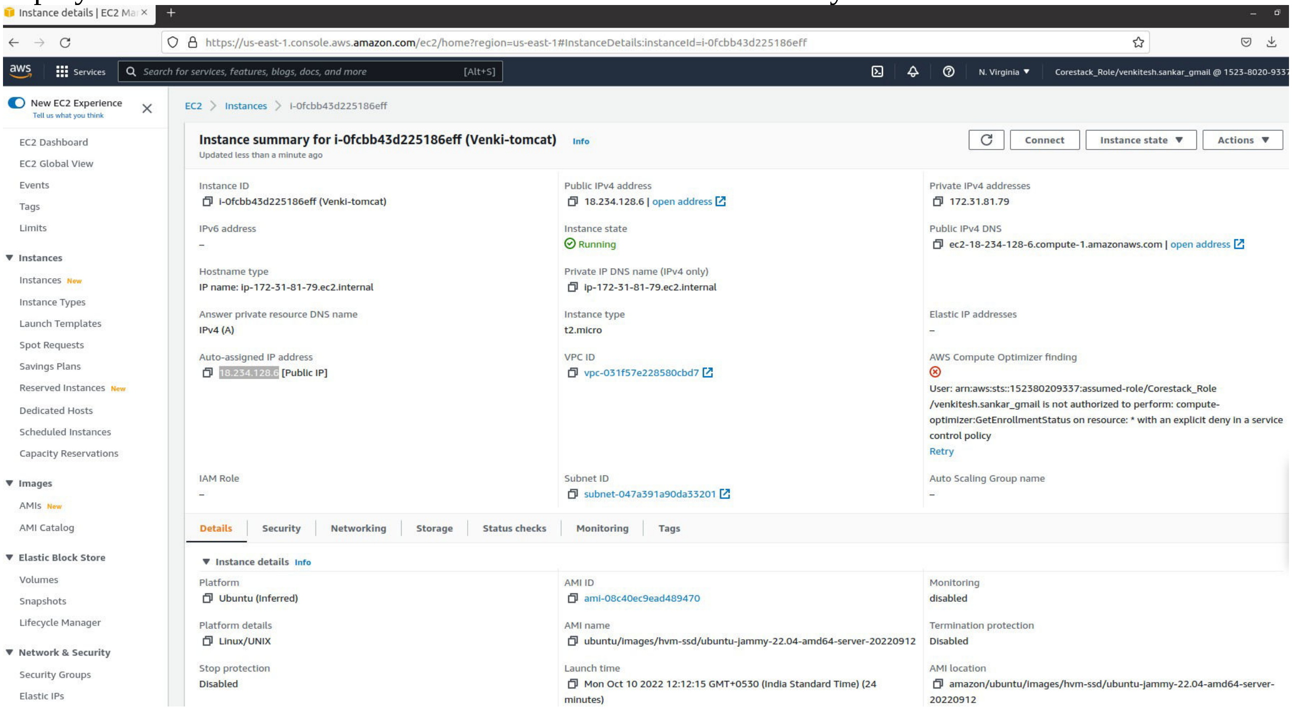
1 contributor

8 lines (8 sloc) | 244 Bytes

```
---
 - name: Maven build using Ansible
   hosts: localhost
   tasks:
    - name: Run the Maven build command
      shell:
        chdir: /var/lib/jenkins/workspace/simpcourse2_dockeransiblejenkins
        cmd: mvn clean compile install package
```

4. Wrote one more playbook named 'ansible_deploy.yml' to copy the war file generated in step 3 to a remote tomcat server. This ansible playbook uses copy module. The remote server used here is

AWS ec2 instance. The war file will be uploaded to the folder /opt/tomcat/webapps in the Ec2 instance. The playbook uses a handler to restart the tomcat service if there is a change in the deployed file. Added the EC2 instance IP address to the inventory file dev.inv

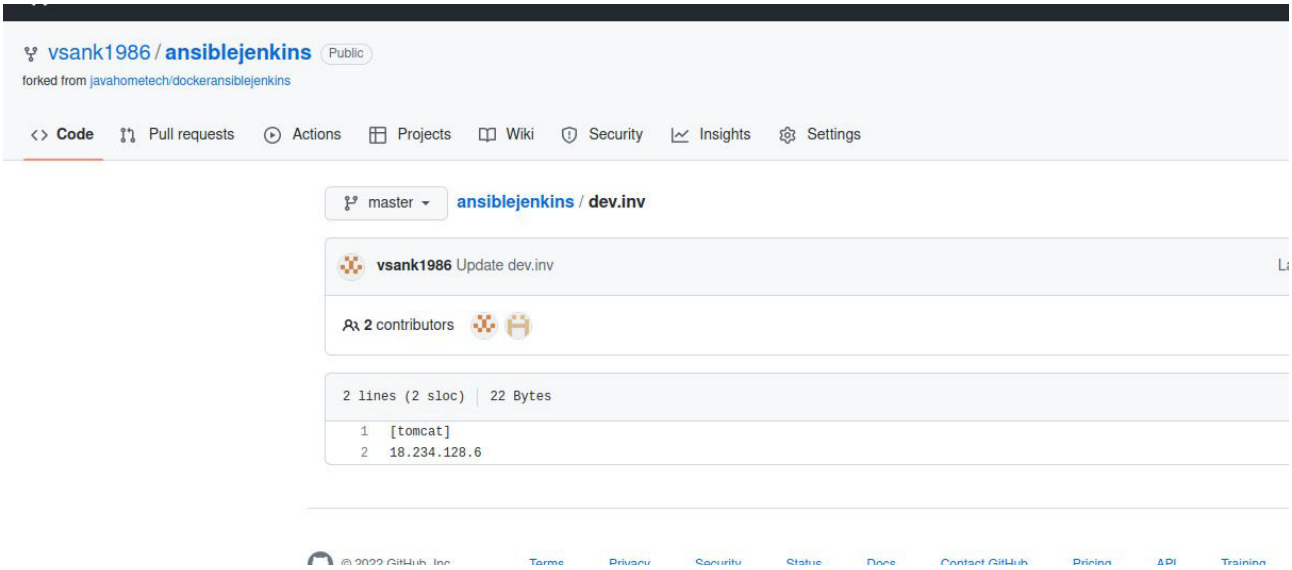


Instance summary for i-0fcbb43d225186eff (Venki-tomcat) Info
Updated less than a minute ago

Instance ID: i-0fcbb43d225186eff (Venki-tomcat)
Public IPv4 address: 18.234.128.6 | open address
Private IPv4 addresses: 172.31.81.79
IPv6 address: –
Instance state: Running
Public IPv4 DNS: ec2-18-234-128-6.compute-1.amazonaws.com | open address
Hostname type: IP name: ip-172-31-81-79.ec2.internal
Private IP DNS name (IPv4 only): ip-172-31-81-79.ec2.internal
Answer private resource DNS name: IPv4 (A)
Instance type: t2.micro
Elastic IP addresses: –
Auto-assigned IP address: 18.234.128.6 [Public IP]
VPC ID: vpc-031f57e228580cbd7
AWS Compute Optimizer finding: User: arn:aws:sts::152380209337:assumed-role/Corestack_Role/venkitesh.sankar_gmail is not authorized to perform: compute-optimizer:GetEnrollmentStatus on resource: * with an explicit deny in a service control policy
Retry
IAM Role: –
Subnet ID: subnet-047a391a90da33201
Auto Scaling Group name: –

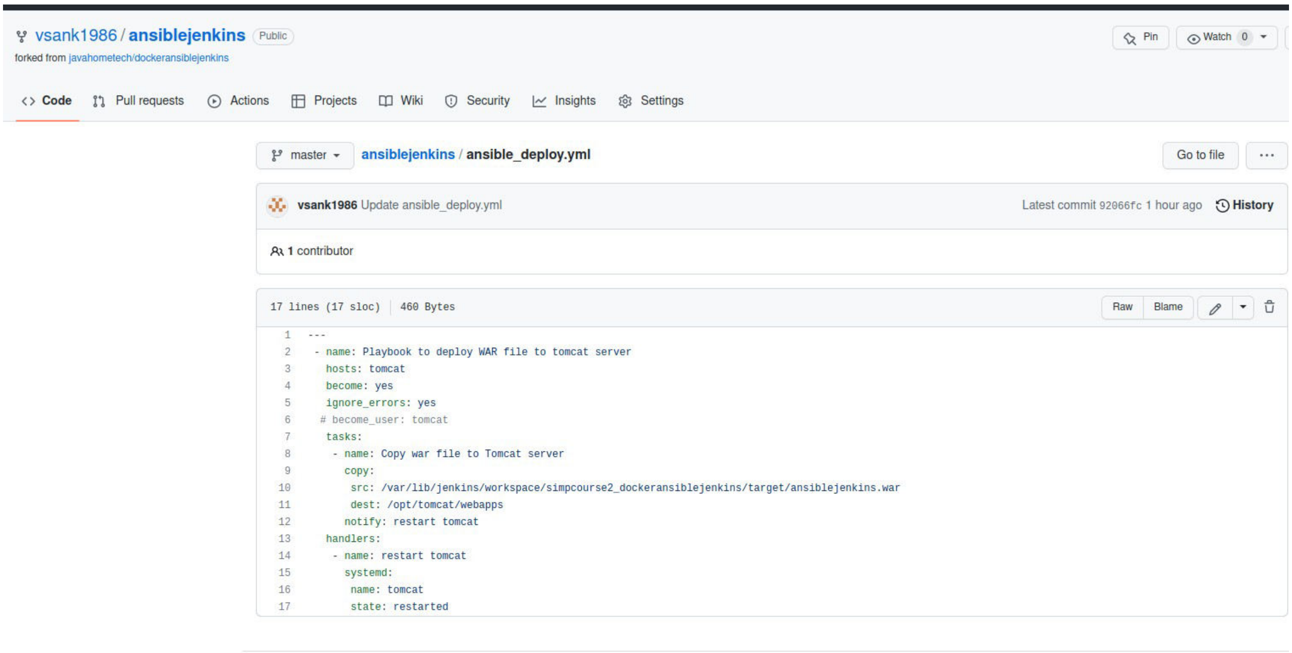
Instance details Info

Platform: Ubuntu (Inferred)
AMI ID: ami-08c40ec9ead489470
Monitoring: disabled
Platform details: Linux/UNIX
AMI name: ubuntu/images/hvm-ssd/ubuntu-jammy-22.04-amd64-server-20220912
Termination protection: Disabled
Stop protection: Disabled
Launch time: Mon Oct 10 2022 12:12:15 GMT+0530 (India Standard Time) (24 minutes)
AMI location: amazon/ubuntu/images/hvm-ssd/ubuntu-jammy-22.04-amd64-server-20220912



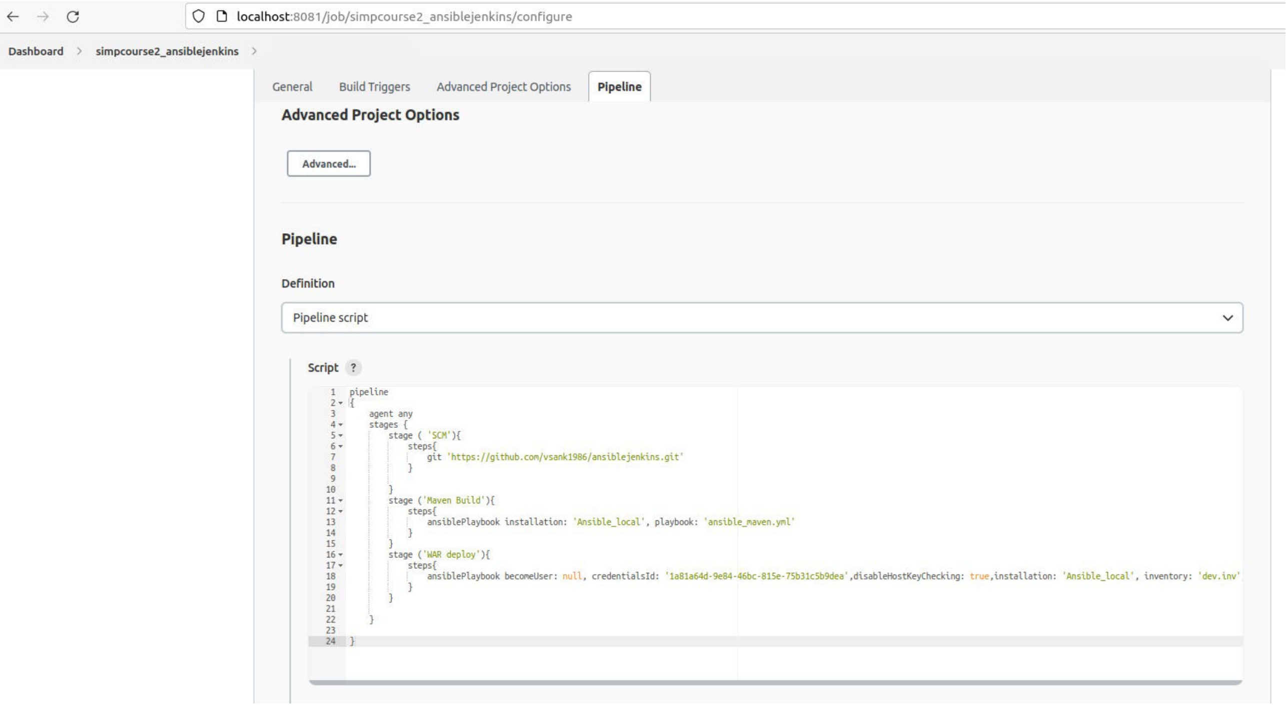
2 lines (2 sloc) | 22 Bytes

```
[tomcat]
18.234.128.6
```


vsank1986 / ansiblejenkins Public
forked from javahometech/dockeransiblejenkins
Pin
Watch 0
Code
Pull requests
Actions
Projects
Wiki
Security
Insights
Settings
master
ansiblejenkins / ansible_deploy.yml
Go to file
vsank1986 Update ansible_deploy.yml
Latest commit 92066fc 1 hour ago
History
1 contributor
17 lines (17 sloc) | 460 Bytes
Raw
Blame

```
---
 - name: Playbook to deploy WAR file to tomcat server
   hosts: tomcat
   become: yes
   ignore_errors: yes
  # become_user: tomcat
   tasks:
    - name: Copy war file to Tomcat server
      copy:
       src: /var/lib/jenkins/workspace/simpcourse2_dockeransiblejenkins/target/ansiblejenkins.war
       dest: /opt/tomcat/webapps
      notify: restart tomcat
   handlers:
    - name: restart tomcat
      systemd:
       name: tomcat
       state: restarted
```

5. Created a pipeline type job in Jenkins named 'ansiblejenkins' to implement the CI/CD pipeline. In the job, there is a pipeline script that is trigerred whenever there is a commit in the GitHub repository. The job is scheduled to run with pollSCM option for every 2 seconds.

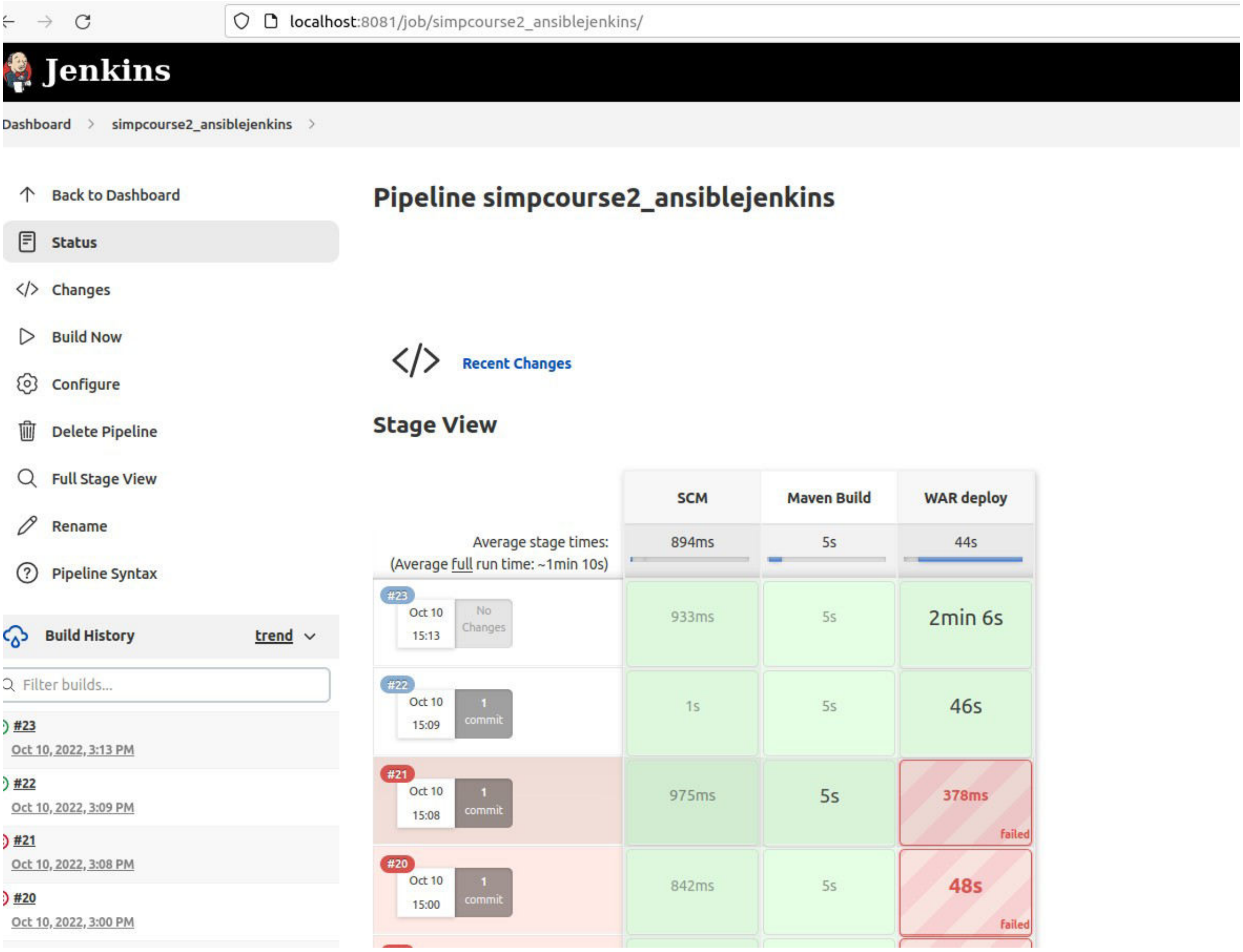


Pipeline script

```
pipeline
{
    agent any
    stages {
        stage ( 'SCM'){
            steps{
                git 'https://github.com/vsank1986/ansiblejenkins.git'
            }

        }
        stage ('Maven Build'){
            steps{
                ansiblePlaybook installation: 'Ansible_local', playbook: 'ansible_maven.yml'
            }
        }
        stage ('WAR deploy'){
            steps{
                ansiblePlaybook becomeUser: null, credentialsId: '1a81a64d-9e84-46bc-815e-75b31c5b9dea',disableHostKeyChecking: true,installation: 'Ansible_local', inventory: 'dev.inv'
            }
        }

    }

}
```

6. The pipeline script pulls the source code from Github to workspace folder. Then will do a maven build using the playbook ansible_maven.yml.

7. The third stage in the pipeline job deploy the war file created by maven build to the EC2 tomcat server using the playbook ansible_deploy.yml. The ssh key to the EC2 instance was added as a jenkins credentials of kind 'SSH username with private key'. Also we need to add the option disableHostKeyChecking: true.



localhost:8081/job/simpcourse2_ansiblejenkins/

Jenkins

Dashboard > simpcourse2_ansiblejenkins >

Pipeline simpcourse2_ansiblejenkins

Stage View

	SCM	Maven Build	WAR deploy
Average stage times: (Average full run time: ~1min 10s)	894ms	5s	44s
#23 Oct 10 15:13 No Changes	933ms	5s	2min 6s
#22 Oct 10 15:09 1 commit	1s	5s	46s
#21 Oct 10 15:08 1 commit	975ms	5s	378ms failed
#20 Oct 10 15:00 1 commit	842ms	5s	48s failed

Build History trend

Filter builds...

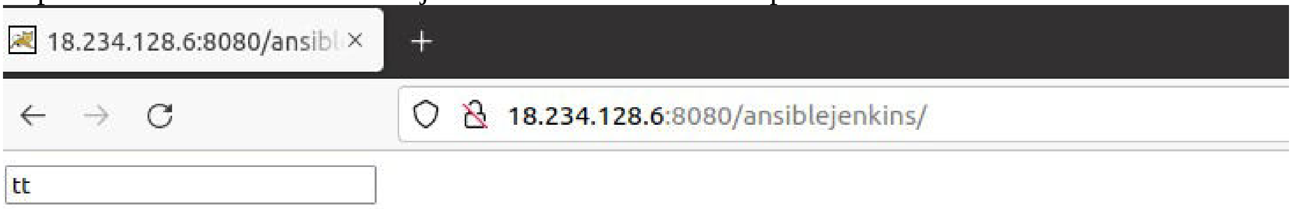
#23 Oct 10, 2022, 3:13 PM

#22 Oct 10, 2022, 3:09 PM

#21 Oct 10, 2022, 3:08 PM

#20 Oct 10, 2022, 3:00 PM

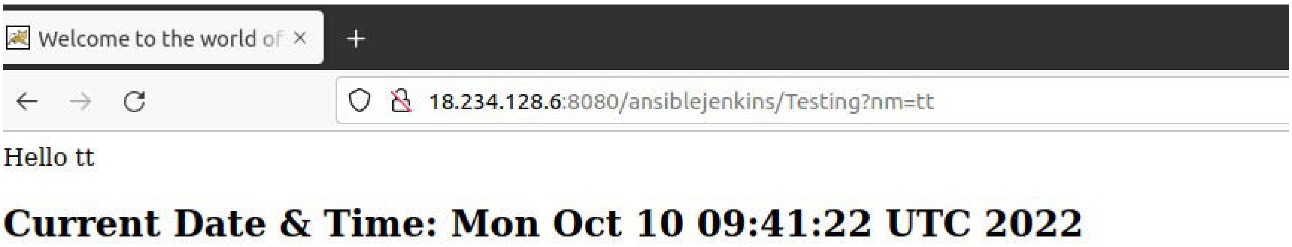
8. Once the pipeline job was completed successfully, I was able to access the URL http://18.234.128.6:8080/ansiblejenkins and it worked as expected.



18.234.128.6:8080/ansibl

18.234.128.6:8080/ansiblejenkins/

tt



18.234.128.6:8080/ansiblejenkins/Testing?nm=tt

Hello tt

Current Date & Time: Mon Oct 10 09:41:22 UTC 2022