

You are a DevOps engineer at XYZ Ltd. Your company is working on a Java application and wants to automate WAR file artifact deployment so that they don't have to perform WAR deployment on Tomcat/Jetty web containers. Automate Ansible integration with Jenkins CI server so that we can run and execute playbooks to deploy custom WAR files to a web container and then perform restart for the web container.

Steps to Perform:

1. Configure Jenkins server as Ansible provisioning machine
2. Install Ansible plugins in Jenkins CI server
3. Prepare Ansible playbook to run Maven build on Jenkins CI server
4. Prepare Ansible playbook to execute deployment steps on the remote web container with restart of the web container post deployment

Step 1 : Configure Jenkins server as Ansible provisioning machine

Install java:

```
=====
# sudo su -
# sudo apt install default-jre -y
```

```
Adding debian:UCA_Global_G2_Root.pem
Adding debian:D-TRUST_BR_Root_CA_1_2020.pem
Adding debian:NAVER_Global_Root_Certification_Authority.pem
Adding debian:Amazon_Root_CA_3.pem
Adding debian:HiPKI_Root_CA_-_G1.pem
Adding debian:USERTrust_RSA_Certification_Authority.pem
Adding debian:Entrust_Root_Certification_Authority_-_G2.pem
Adding debian:QuoVadis_Root_CA_1_G3.pem
Adding debian:GlobalSign_Root_CA_-_R6.pem
Adding debian:OISTE_WISEKey_Global_Root_GB_CA.pem
Adding debian:Certum_Trusted_Network_CA_2.pem
Adding debian:DigiCert_Assured_ID_Root_G2.pem
Adding debian:AffirmTrust_Premium_ECC.pem
Adding debian:AC_RAIZ_FNMT-RCM.pem
done.
Processing triggers for fontconfig (2.13.1-2ubuntu3) ...
Processing triggers for desktop-file-utils (0.24-1ubuntu3) ...
Processing triggers for mime-support (3.64ubuntu1) ...
Processing triggers for hicolor-icon-theme (0.17-2) ...
Processing triggers for gnome-menus (3.36.0-1ubuntu1) ...
Processing triggers for man-db (2.9.1-1) ...
Processing triggers for ca-certificates (20230311ubuntu0.20.04.1) ...
Updating certificates in /etc/ssl/certs...
0 added, 0 removed; done.
Running hooks in /etc/ca-certificates/update.d...

done.
done.

root@AnsibleController:~#
root@AnsibleController:~#
root@AnsibleController:~# █
```

```
# java -version
root@AnsibleController:~# java -version
openjdk version "11.0.20.1" 2023-08-24
OpenJDK Runtime Environment (build 11.0.20.1+1-post-Ubuntu-0ubuntu120.04)
OpenJDK 64-Bit Server VM (build 11.0.20.1+1-post-Ubuntu-0ubuntu120.04,
mixed mode, sharing)
root@AnsibleController:~#
```

```
root@AnsibleController:~#
root@AnsibleController:~#
root@AnsibleController:~# java -version
openjdk version "11.0.20.1" 2023-08-24
OpenJDK Runtime Environment (build 11.0.20.1+1-post-Ubuntu-0ubuntu120.04)
OpenJDK 64-Bit Server VM (build 11.0.20.1+1-post-Ubuntu-0ubuntu120.04, mixed mode, sharing)
root@AnsibleController:~#
```

Install jenkins on Ansible control machine :

<https://pkg.jenkins.io/debian-stable/>

```
curl -fsSL https://pkg.jenkins.io/debian-stable/jenkins.io-2023.key | sudo
tee /usr/share/keyrings/jenkins-keyring.asc > /dev/null
```

```
echo deb [signed-by=/usr/share/keyrings/jenkins-keyring.asc]
https://pkg.jenkins.io/debian-stable binary/ | sudo tee
/etc/apt/sources.list.d/jenkins.list > /dev/null
```

```
sudo apt-get update
```

```
sudo apt-get install jenkins -y
```

```
sudo systemctl start jenkins
```

```
root@AnsibleController:~# sudo systemctl status jenkins
* jenkins.service - Jenkins Continuous Integration Server
   Loaded: loaded (/lib/systemd/system/jenkins.service; enabled; vendor preset: enabled)
   Active: active (running) since Sun 2023-10-15 17:56:24 UTC; 2min 3s ago
     Main PID: 6013 (java)
       Tasks: 43 (limit: 9384)
        Memory: 2.2G
      CGroup: /system.slice/jenkins.service
              └─6013 /usr/bin/java -Djava.awt.headless=true -jar /usr/share/java/jenkins.war --webroot=/var/cache/jenkins/war --httpPort=8080

Oct 15 17:55:50 AnsibleController jenkins[6013]: 3f1bc085a6344a89819daf454ndc23
Oct 15 17:55:50 AnsibleController jenkins[6013]: This may also be found at: /var/lib/jenkins/secrets/InitialAdminPassword
Oct 15 17:55:50 AnsibleController jenkins[6013]: *****
Oct 15 17:55:50 AnsibleController jenkins[6013]: *****
Oct 15 17:55:50 AnsibleController jenkins[6013]: *****
Oct 15 17:56:24 AnsibleController jenkins[6013]: 2023-10-15 17:56:24.615+0000 [id=28] INFO jenkins.InitReactorRunner$1#onAttained: Completed initialization
Oct 15 17:56:24 AnsibleController jenkins[6013]: 2023-10-15 17:56:24.648+0000 [id=29] INFO hudson.lifecycle.Lifecycle#onReady: Jenkins is fully up and running
Oct 15 17:56:24 AnsibleController systemd[1]: Started Jenkins Continuous Integration Server.
Oct 15 17:56:25 AnsibleController jenkins[6013]: 2023-10-15 17:56:25.006+0000 [id=46] INFO h.m.DownloadService$Downloadable$Load: Obtained the updated data file for hudson.tasks.Maven.MavenInstaller
Oct 15 17:56:25 AnsibleController jenkins[6013]: 2023-10-15 17:56:25.007+0000 [id=46] INFO hudson.util.Retrier$Start: Performed the action check updates server successfully at the attempt #1
root@AnsibleController:~#
```

```
root@AnsibleController:~# sudo systemctl status jenkins
```

- jenkins.service - Jenkins Continuous Integration Server

```
Loaded: loaded (/lib/systemd/system/jenkins.service; enabled; vendor
preset: enabled)
Active: active (running) since Sun 2023-10-15 17:56:24 UTC; 1min 7s ago
Main PID: 6013 (java)
Tasks: 43 (limit: 9384)
Memory: 2.2G
CGroup: /system.slice/jenkins.service
└─6013 /usr/bin/java -Djava.awt.headless=true -jar
/usr/share/java/jenkins.war --webroot=/var/cache/jenkins/war --h>
```

```
Oct 15 17:55:50 AnsibleController jenkins[6013]:
3f1bcb05ac6344a69819daf454adce23
Oct 15 17:55:50 AnsibleController jenkins[6013]: This may also be found
at: /var/lib/jenkins/secrets/initialAdminPassword
Oct 15 17:55:50 AnsibleController jenkins[6013]:
*****
Oct 15 17:55:50 AnsibleController jenkins[6013]:
*****
Oct 15 17:55:50 AnsibleController jenkins[6013]:
*****
Oct 15 17:56:24 AnsibleController jenkins[6013]: 2023-10-15
17:56:24.615+0000 [id=28] INFO jenkins.InitReactorRunn>
Oct 15 17:56:24 AnsibleController jenkins[6013]: 2023-10-15
17:56:24.648+0000 [id=22] INFO hudson.lifecycle.Lifecy>
Oct 15 17:56:24 AnsibleController systemd[1]: Started Jenkins Continuous
Integration Server.
Oct 15 17:56:25 AnsibleController jenkins[6013]: 2023-10-15
17:56:25.006+0000 [id=46] INFO h.m.DownloadService$Dow>
Oct 15 17:56:25 AnsibleController jenkins[6013]: 2023-10-15
17:56:25.007+0000 [id=46] INFO hudson.util.Retrier#sta>
```

Install Ansible plugins in Jenkins CI server

Go to jenkins dashboard and complete the initial set up
=====

Step 2: Install Ansible plugins in Jenkins CI server

Manage Jenkins--> plugins --> available plugins --> Search for plugin->
Ansible>> click on install button⇒ plugin will installed successfully.

Configure ANsible tool in jenkins

Manage Jenkins--> Configure Tools --> Scroll down to find Ansible --> Add
ansible--> give name as myansible-->give path as /usr/bin

Save it.

=====

Configure jenkins and loginto jenkins.

Ansible installations

Ansible installations ^

Edited

Add Ansible

Ansible

Name

myansible

Path to ansible executables directory

/usr/bin/

☐ Install automatically ?

Setting up the inventory

```
ansiuser@ip-172-31-23-211:~$ cat ansible.cfg
[defaults]
inventory = /home/ansiuser/myinventory
```

```
ansiuser@ip-172-31-23-211:~$
```

```
ansiuser@ip-172-31-23-211:~$ cat /home/ansiuser/myinventory
# This is the default ansible 'hosts' file.
#
# It should live in /etc/ansible/hosts
#
# - Comments begin with the '#' character
# - Blank lines are ignored
# - Groups of hosts are delimited by [header] elements
# - You can enter hostnames or ip addresses
# - A hostname/ip can be a member of multiple groups
#
# Ex 1: Ungrouped hosts, specify before any group headers:
## green.example.com
## blue.example.com
## 192.168.100.1
## 192.168.100.10
#
# If you have multiple hosts following a pattern, you can specify
# them like this:
## www[001:006].example.com
#
# Ex 3: A collection of database servers in the 'dbservers' group:
## [dbservers]
##
## db01.intranet.mydomain.net
## db02.intranet.mydomain.net
## 10.25.1.56
## 10.25.1.57
#
# Here's another example of host ranges, this time there are no
# leading 0s:
## db-[99:101]-node.example.com

[webserver]
172.31.43.29
172.31.35.228

[allinfra:children]
worker1
worker2
ansiuser@ip-172-31-23-211:~$
```

Details

Submission Details

Submission count:

None

Due date:

None

Username:

Status: Ready

Hostname	IP (public)	IP (private)	Port	Access
master	34.213.38.181	172.31.23.211	7681	http://34.213.38.181:7681
	8443	https://34.213.38.181:8443		
worker1	35.91.167.18	172.31.43.29	7681	http://35.91.167.18:7681
	8443	https://35.91.167.18:8443		
worker2	35.89.228.194	172.31.35.228	7681	http://35.89.228.194:7681
	8443	https://35.89.228.194:8443		

Prepare Ansible playbook to run Maven build on Jenkins CI server

=====

```
ansiuser@ip-172-31-23-211:~$ cat /home/ansiuser/MavenBuildplaybook.yml
```

```
- hosts: webserver
  become: true
  tasks:
    - name: update apt-get repo
      command: sudo apt-get update
    - name: Install git, maven
      package: name={{item}} state=present
      loop:
        - git
        - maven
    - name: Clone the code on the worker nodes from github
      git: repo=https://github.com/Sonal0409/DevOpsCodeDemo.git
      dest=/tmp/mycode
    - name: Execute maven command to build the code
      command: chdir=/tmp/mycode mvn package
```

```
ansiuser@ip-172-31-23-211:~$
```

```
ansiuser@ip-172-31-23-211:~$ cat /home/ansiuser/MavenBuildplaybook.yml
- hosts: webserver
  become: true
  tasks:
    - name: update apt-get repo
      command: sudo apt-get update
    - name: Install git, maven
      package: name={{item}} state=present
      loop:
        - git
        - maven
    - name: Clone the code on the worker nodes from github
      git: repo=https://github.com/Sonal0409/DevOpsCodeDemo.git dest=/tmp/mycode
    - name: Execute maven command to build the code
```

After Executing the playbook:

```
ansible-playbook -i /home/ansiuser/myinventory MavenBuildplaybook.yml
```

```
ansiuser@ip-172-31-23-211:~$ ansible-playbook -i  
/home/ansiuser/myinventory MavenBuildplaybook.yml
```

PLAY [webserver]

```
*****  
*****  
*****  
*****  
*
```

TASK [Gathering Facts]

```
*****  
*****  
*****  
*****
```

ok: [172.31.35.228]

ok: [172.31.43.29]

TASK [update apt-get repo]

```
*****  
*****  
*****  
*****
```

changed: [172.31.35.228]

changed: [172.31.43.29]

TASK [Install git, maven]

```
*****  
*****  
*****  
*****
```

ok: [172.31.35.228] => (item=git)

ok: [172.31.43.29] => (item=git)

changed: [172.31.35.228] => (item=maven)

changed: [172.31.43.29] => (item=maven)

TASK [Clone the code on the worker nodes from github]

```
*****  
*****  
*****  
*****
```

changed: [172.31.43.29]

changed: [172.31.35.228]

TASK [Execute maven command to build the code]

```
*****
*****
*****
*****
```

changed: [172.31.35.228]

changed: [172.31.43.29]

PLAY RECAP

```
*****
*****
*****
*****
*****
```

172.31.35.228 : ok=5 changed=4 unreachable=0 failed=0

skipped=0 rescued=0 ignored=0

172.31.43.29 : ok=5 changed=4 unreachable=0 failed=0

skipped=0 rescued=0 ignored=0

ansiuser@ip-172-31-23-211:~\$

```
ansiuser@ip-172-31-23-211:~$ ansible-playbook -i /home/ansiuser/myinventory MavenBuildplaybook.yml
[WARNING]: * failed to parse /home/ansiuser/myinventory with yaml plugin: we were unable to read either as JSON nor YAML, these are the errors we got from each: JSON: Expecting value: line 1 column 1 (char 0) Syntax error while loading YAML. did not find expected
[WARNING]: * failed to parse /home/ansiuser/myinventory with ini plugin: /home/ansiuser/myinventory:44: Section [allinfra:children] includes undefined group: worker1
[WARNING]: Unable to parse /home/ansiuser/myinventory as an inventory source
[WARNING]: No inventory was parsed: only implicit localhost is available
[WARNING]: provided hosts list is empty, only localhost is available. Note that the implicit localhost does not match 'all'

PLAY [webserver] *****
TASK [Gathering Facts] *****
ok: [172.31.35.228]
ok: [172.31.43.29]

TASK [update apt-get repo] *****
changed: [172.31.35.228]
changed: [172.31.43.29]

TASK [install git, maven] *****
ok: [172.31.35.228] => (item=git)
ok: [172.31.43.29] => (item=git)
changed: [172.31.35.228] => (item=maven)
changed: [172.31.43.29] => (item=maven)

TASK [clone the code on the worker nodes from github] *****
changed: [172.31.43.29]
changed: [172.31.35.228]

TASK [Execute maven command to build the code] *****
changed: [172.31.35.228]
changed: [172.31.43.29]

PLAY RECAP *****
172.31.35.228 : ok=5 changed=4 unreachable=0 failed=0 skipped=0 rescued=0 ignored=0
172.31.43.29 : ok=5 changed=4 unreachable=0 failed=0 skipped=0 rescued=0 ignored=0

ansiuser@ip-172-31-23-211:~$
```

Checking if the build is available on worker nodes

ansible -i /home/ansiuser/myinventory webserver -m command -a "ls /tmp/mycode/target"

ansiuser@ip-172-31-23-211:~\$ ansible -i /home/ansiuser/myinventory webserver -m command -a "ls /tmp/mycode/target"

172.31.35.228 | CHANGED | rc=0 >>

addressbook

addressbook.war

classes

generated-sources

generated-test-sources

maven-archiver


```
maven-status
surefire-reports
test-classes
172.31.43.29 | CHANGED | rc=0 >>
addressbook
addressbook.war
classes
generated-sources
generated-test-sources
maven-archiver
maven-status
surefire-reports
test-classes
ansiuser@ip-172-31-23-211:~$
```

```
ansiuser@ip-172-31-23-211:~$ ansible -i /home/ansiuser/myinventory webserver -m command -a "ls /tmp/mycode/target"
172.31.35.228 | CHANGED | rc=0 >>
addressbook
addressbook.war
classes
generated-sources
generated-test-sources
maven-archiver
maven-status
surefire-reports
test-classes
172.31.43.29 | CHANGED | rc=0 >>
addressbook
addressbook.war
classes
generated-sources
generated-test-sources
```

Playbook2 – Deployment

- hosts: webserver
- become: true
- tasks:
 - name: Start docker service
 - service: name=docker state=started
 - name: copy the war file in same directory as that of dockerfile
 - copy: src=/tmp/mycode/target/addressbook.war dest=/tmp/mycode remote_src=yes
 - name: Build the dockerfile on workernode to generate java tomcat image
 - command: chdir=/tmp/mycode docker build -t cepimage08 .
 - name: Run the image to create tomcat container
 - command: docker run -d -P cepimage08

```
ansiuser@ip-172-31-23-211:~$ cat /home/ansiuser/projectDeployment.yml
- hosts: webserver
  become: true
  tasks:
    - name: Start docker service
      service: name=docker state=started
    - name: copy the war file in same directory as that of dockerfile
      copy: src=/tmp/mycode/target/addressbook.war dest=/tmp/mycode remote_src=yes
    - name: Build the dockerfile on workernode to generate java tomcat image
      command: chdir=/tmp/mycode docker build -t cepimage08 .
    - name: Run the image to create tomcat container
      command: docker run -d -P cepimage08
ansiuser@ip-172-31-23-211:~$
```



```
ansiususer@ip-172-31-23-211:~$ ansible-playbook -i
/home/ansiususer/myinventory projectDeployment.yml
```

PLAY [webserver]

```
*****
*****
*****
*****
*
```

TASK [Gathering Facts]

```
*****
*****
*****
*****
```

```
ok: [172.31.35.228]
```

```
ok: [172.31.43.29]
```

TASK [Start docker service]

```
*****
*****
*****
*****
```

```
ok: [172.31.35.228]
```

```
ok: [172.31.43.29]
```

TASK [copy the war file in same directory as that of dockerfile]

```
*****
*****
*****
*****
```

```
changed: [172.31.35.228]
```

```
changed: [172.31.43.29]
```

TASK [Build the dockerfile on workernode to generate java tomcat image]

```
*****
*****
*****
*****
```

```
changed: [172.31.35.228]
```

```
changed: [172.31.43.29]
```

TASK [Run the image to create tomcat container]

```
*****
*****
*****
*****
```

```
changed: [172.31.35.228]
```

```
changed: [172.31.43.29]
```

PLAY RECAP

```
*****
*****
*****
*****
*****
```

```
172.31.35.228      : ok=5   changed=3   unreachable=0   failed=0
skipped=0   rescued=0   ignored=0
172.31.43.29      : ok=5   changed=3   unreachable=0   failed=0
skipped=0   rescued=0   ignored=0
```

ansiuser@ip-172-31-23-211:~\$

```
ansiuser@ip-172-31-23-211:~$ ansible-playbook -i /home/ansiuser/myinventory projectDeployment.yml

PLAY [webserver] *****
*****

TASK [Gathering Facts] *****
*****
ok: [172.31.35.228]
ok: [172.31.43.29]

TASK [Start docker service] *****
*****
ok: [172.31.35.228]
ok: [172.31.43.29]

TASK [copy the war file in same directory as that of dockerfile] *****
*****
changed: [172.31.35.228]
changed: [172.31.43.29]

TASK [Build the dockerfile on workernode to generate java tomcat image] *****
*****
changed: [172.31.35.228]
changed: [172.31.43.29]

TASK [Run the image to create tomcat container] *****
*****
changed: [172.31.35.228]
changed: [172.31.43.29]

PLAY RECAP *****
*****
172.31.35.228      : ok=5   changed=3   unreachable=0   failed=0   skipped=0   rescued=0   ignored=0
172.31.43.29      : ok=5   changed=3   unreachable=0   failed=0   skipped=0   rescued=0   ignored=0

ansiuser@ip-172-31-23-211:~$
```

Checking the state of container

ansiuser@ip-172-31-23-211:~\$ ansible -i /home/ansiuser/myinventory webserver -m command -a "sudo docker ps -a"

172.31.35.228 | CHANGED | rc=0 >>

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS
--------------	-------	---------	---------	--------

2bb56410f76e	cepimage08	"catalina.sh run"	18 minutes ago	Exited (1)
--------------	------------	-------------------	----------------	------------

172.31.43.29 | CHANGED | rc=0 >>

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS
--------------	-------	---------	---------	--------

0b5ad998365e	cepimage08	"catalina.sh run"	18 minutes ago	Exited (1)
--------------	------------	-------------------	----------------	------------

ansiuser@ip-172-31-23-211:~\$

```

ansiuser@ip-172-31-23-211:~$ ansible -i /home/ansiuser/myinventory webserver -m command -a "sudo docker ps -a"
172.31.35.228 | CHANGED | rc=0 >>
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS              NAMES
2bb56410f76e       cepimage08         "catalina.sh run"   18 minutes ago      Exited (1) 18 minutes ago              nifty_sinoussi
172.31.43.29 | CHANGED | rc=0 >>
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS              NAMES
0b5ad998365e       cepimage08         "catalina.sh run"   18 minutes ago      Exited (1) 18 minutes ago              friendly_hoover
ansiuser@ip-172-31-23-211:~$

```

Since the container got created on the Simplilearn CM lab worker nodes

But the container was in Exited state. We tried several solutions but container was not coming up due to the below error

```

ansiuser@ip-172-31-23-211:~$ ansible -i /home/ansiuser/myinventory
webserver -m command -a "sudo docker logs 2bb56410f76e"
172.31.35.228 | CHANGED | rc=0 >>
[0.004s][warning][os,thread] Failed to start thread "GC Thread#0" -
pthread_create failed (EPERM) for attributes: stacksize: 1024k, guardsize: 4k,
detached.
[0.008s][error ][gc,task ] Failed to create worker threadNOTE: Picked up
JDK_JAVA_OPTIONS: --add-opens=java.base/java.lang=ALL-UNNAMED --add-
opens=java.base/java.io=ALL-UNNAMED
--add-opens=java.base/java.util=ALL-UNNAMED
--add-opens=java.base/java.util.concurrent=ALL-UNNAMED --add-
opens=java.rmi/sun.rmi.transport=ALL-UNNAMED
172.31.43.29 | FAILED | rc=1 >>

```

SO we decided to create a new worker node of OS ubuntu on AWS lab
In this worker node:

- Create ansiuser
- Copy SSH key of controller on this worker node
- Then write a playbook on ACM
 1. Install git and docker on new worker node
 2. Build the dockerfile into an Image
 3. Run the Image

This time the container will be up and running.

Adding SSH key for ansiuser

=====

```

ansiuser@ip-172-31-23-211:~$ ssh-copy-id -i ansiuser@54.226.31.3
/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed:
"/home/ansiuser/.ssh/id_rsa.pub"
/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter
out any that are already installed
/usr/bin/ssh-copy-id: INFO: 1 key(s) remain to be installed -- if you are
prompted now it is to install the new keys

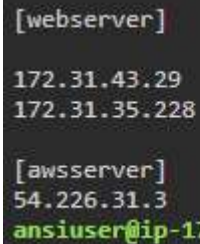
```

ansiuser@54.226.31.3's password:

Number of key(s) added: 1

Now try logging into the machine, with: "ssh 'ansiuser@54.226.31.3'"
and check to make sure that only the key(s) you wanted were added.

Then write a playbook on ACM



```
[webserver]
172.31.43.29
172.31.35.228

[awsserver]
54.226.31.3
ansiuser@ip-172-31-23-211:~$
```

Playbook for deployment on aws server:

=====

```
ansiuser@ip-172-31-23-211:~$ cat
/home/ansiuser/awsworkerdockerdeployment.yml
- hosts: awsserver
  become: true
  tasks:
    - name: Install git and docker
      yum: name={{item}} state=present
      loop:
        - git
        - docker
    - name: Clone the repo which has build war file and dockerfile
      git: repo=https://github.com/Sonal0409/AnsibleDockerdemo.git
dest=/tmp/mycode
    - name: Start the docker service
      service: name=docker state=started
    - name: change the directory to /tmp/mycode and then Build the dockerfile
      command: chdir=/tmp/mycode docker build -t mycepimage01 .
    - name: Runt he Image to deploy app on the container
      command: docker run -d -P mycepimage01
ansiuser@ip-172-31-23-211:~$
```

```

ansiuser@ip-172-31-23-211:~$ cat /home/ansiuser/awsworkerdockerdeployment.yml
- hosts: awsserver
  become: true
  tasks:
    - name: Install git and docker
      yum: name={{item}} state=present
      loop:
        - git
        - docker
    - name: Clone the repo which has build war file and dockerfile
      git: repo=https://github.com/Sonal0409/AnsibleDockerdemo.git dest=/tmp/mycode
    - name: Start the docker service
      service: name=docker state=started
    - name: change the directory to /tmp/mycode and then Build the dockerfile
      command: chdir=/tmp/mycode docker build -t mycepimage01 .
    - name: Runt he Image to deploy app on the container
      command: docker run -d -P mycepimage01
ansiuser@ip-172-31-23-211:~$

```

Executing the play book :

=====

ansible-playbook -i /home/ansiuser/myinventory
awsworkerdockerdeployment.yml

```

ansiuser@ip-172-31-23-211:~$ ansible-playbook -i /home/ansiuser/myinventory awsworkerdockerdeployment.yml

```

```

PLAY [awsserver]
TASK [Gathering Facts]
[WARNING]: Platform linux on host 54.226.31.3 is using the discovered Python interpreter at /usr/bin/python3.7, but future installation of another Python interpreter could change the meaning of that path. See https://docs.ansible.com/ansible-core/2.12/reference_appendices/interpreter_discovery.html for more information.
ok: [54.226.31.3]
TASK [Install git and docker]
changed: [54.226.31.3] => (item=git)
changed: [54.226.31.3] => (item=docker)
TASK [Clone the repo which has build war file and dockerfile]
changed: [54.226.31.3]
TASK [Start the docker service]
changed: [54.226.31.3]
TASK [change the directory to /tmp/mycode and then Build the dockerfile]
changed: [54.226.31.3]
TASK [Runt he Image to deploy app on the container]
changed: [54.226.31.3]
PLAY RECAP
54.226.31.3 : ok=6 changed=5 unreachable=0 failed=0 skipped=0 rescued=0 ignored=0
ansiuser@ip-172-31-23-211:~$

```

```

ansiuser@ip-172-31-23-211:~$ ansible-playbook -i /home/ansiuser/myinventory awsworkerdockerdeployment.yml

```

```

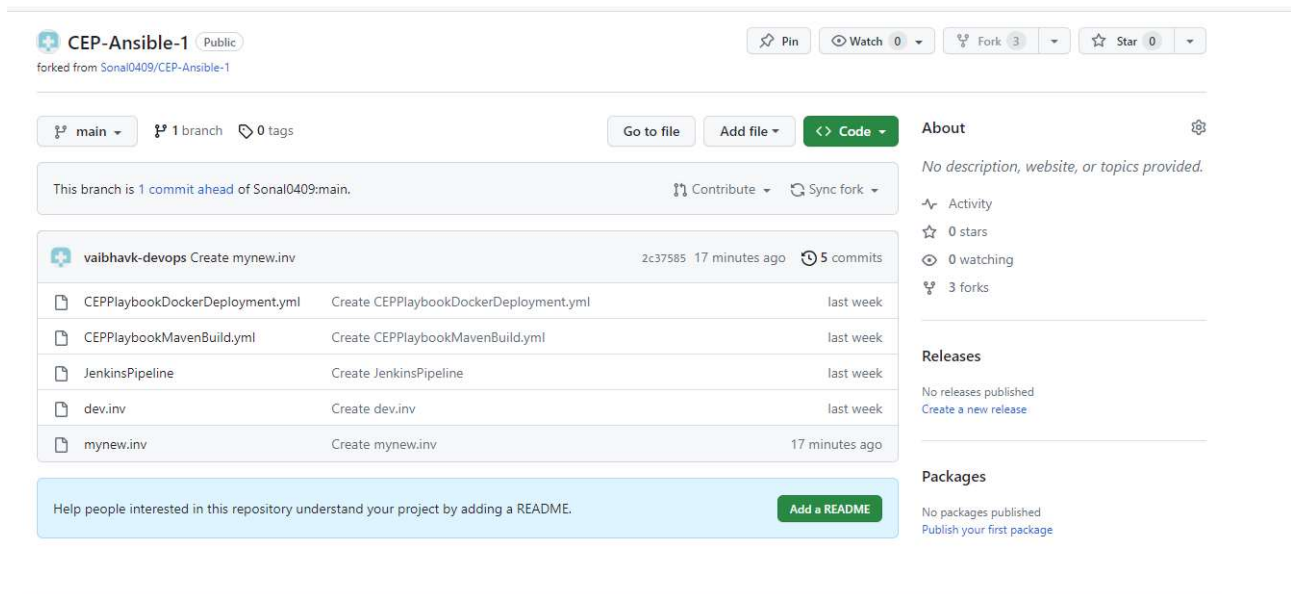
PLAY [awsserver]
TASK [Gathering Facts]
[WARNING]: Platform linux on host 54.226.31.3 is using the discovered Python interpreter at /usr/bin/python3.7, but future installation of another Python interpreter could change the meaning of that path. See https://docs.ansible.com/ansible-core/2.12/reference_appendices/interpreter_discovery.html for more information.
ok: [54.226.31.3]
TASK [Install git and docker]
changed: [54.226.31.3] => (item=git)
changed: [54.226.31.3] => (item=docker)
TASK [Clone the repo which has build war file and dockerfile]
changed: [54.226.31.3]
TASK [Start the docker service]
changed: [54.226.31.3]
TASK [change the directory to /tmp/mycode and then Build the dockerfile]
changed: [54.226.31.3]
TASK [Runt he Image to deploy app on the container]
changed: [54.226.31.3]
PLAY RECAP
54.226.31.3 : ok=6 changed=5 unreachable=0 failed=0 skipped=0 rescued=0 ignored=0
ansiuser@ip-172-31-23-211:~$

```

Create a github repo and place your playbooks and inventory

Forking <https://github.com/Sonal0409/CEP-Ansible-1.git> to my github

<https://github.com/vaibhavk-devops/CEP-Ansible-1>



Create a new job in Jenkins and write the pipeline code

```
=====
pipeline{
```

```
agent any
```

```
stages{
```

```
stage('Clone the playbook repo')
```

```
{
```

```
  steps{
```

```
    git branch: 'main', url: 'https://github.com/vaibhavk-devops/CEP-Ansible-1'
```

```
  }
```

```
}
```

```
stage('Playbook to Build code') {
```

```
  steps{
```

```
    ansiblePlaybook credentialsId: 'awsansiuser', disableHostKeyChecking: true,
```

```
    installation: 'myansible', inventory: 'mynew.inv', playbook:
```

```
    'CEPPlaybookMavenBuild.yml'
```

```
  }
```



```
}
```

```
stage('Playbook to deploy code')  
{
```

```
steps{  
  ansiblePlaybook credentialsId: 'awsansiususer', disableHostKeyChecking: true,  
  installation: 'myansible', inventory: 'mynew.inv', playbook:  
  'CEPPlaybookDockerDeployment.yml'
```

```
}
```

```
}
```

```
}
```

```
}
```

The screenshot shows the Jenkins web interface for a pipeline named 'courseendproject'. The left sidebar contains navigation links: Status, Changes, Build Now, Configure, Delete Pipeline, Full Stage View, Rename, and Pipeline Syntax. Below these is the 'Build History' section showing a single build (#1) from Oct 16, 2023, at 4:44 PM, with links for 'Atom feed for all' and 'Atom feed for failures'. The main content area displays the 'Stage View' for the pipeline, showing three stages: 'Clone the playbook repo' (4s), 'Playbook to Build code' (55s), and 'Playbook to deploy code' (21s). The average stage times are 4s, 55s, and 21s respectively, with an average full run time of ~1min 30s. Below the stage view, there are 'Permalinks' for the build, including links for 'Last build (#1)', 'Last stable build (#1)', 'Last successful build (#1)', and 'Last completed build (#1)'. The top of the page shows the Jenkins logo, a search bar, and user information (admin) with a 'log out' button.

The screenshot shows the Jenkins console output for build #1 of the 'courseendproject' pipeline. The output displays the execution of several tasks: 'Install git and docker', 'Clone the repo which has build war file and dockerfile', 'Start the docker service', and 'change the directory to /tmp/mycode and then Build the dockerfile'. The output also shows the 'PLAY RECAP' section, which summarizes the results of the tasks. The console output is as follows:

```
TASK [Install git and docker] *****  
ok: [54.226.31.3] => (item=git)  
ok: [54.226.31.3] => (item=docker)  
  
TASK [Clone the repo which has build war file and dockerfile] *****  
ok: [54.226.31.3]  
  
TASK [Start the docker service] *****  
ok: [54.226.31.3]  
  
TASK [change the directory to /tmp/mycode and then Build the dockerfile] *****  
changed: [54.226.31.3]  
  
TASK [Runt he Image to deploy app on the container] *****  
changed: [54.226.31.3]  
  
PLAY RECAP *****  
54.226.31.3 : ok=6 changed=2 unreachable=0 failed=0 skipped=0 rescued=0 ignored=0  
  
[Pipeline] }  
[Pipeline] // stage  
[Pipeline] }  
[Pipeline] // node  
[Pipeline] End of Pipeline  
Finished: SUCCESS
```