

Devops and its applications(CS457)

Assignment 2.2 : Ansible Playbook Exercise

Group :4

Reference links: <https://www.middlewareinventory.com/blog/ansible-git-example/>

Step1: Configuring Git login

To login to GITHUB , we use the username and token in the following format.

Using the username and security token on the URL

- `https://user:token@github.com/path`
-

Step2: Creating Ansible vault to Store the Git username and token

```
Activities Terminal 22:46 sreehari@ip-172-31-30-111 ~$ cat secrets.yml
$ANSIBLE_VAULT;1.1;AES256
3364353034353934333666577216661323536231613534646538336439383866365663034373734
3863326136643664643337646134346238376639633361340a643633303566613663383539616166
33383233626138383561616566336262626533333630373766333839633330363231383638656563
3634626439383839310a353338343862313931616432343865666137633838656433376538656465
623863623383963623132653539373466373263356466431324386664386664366164023138386639
39653365393335343333386434633865623363373031396565343034646133373361346435666364
3362623861666432383838653737633836532646136666265633430313434323931373163396464
63316166336138323531
[sreehari@ip-172-31-30-111 ~]$ ansible-vault decrypt secrets.yml
[DEPRECATION WARNING]: Ansible will require Python 3.8 or newer on the controller starting with Ansible 2.12. Current version: 3.6.8 (default, Aug 12 2021, 07:06:15) [GCC 8.4.1 20200928 (Red Hat 8.4.1-1)]. This feature will be removed from ansible-core in version 2.12. Deprecation warnings can be disabled by setting deprecation_warnings=False in ansible.cfg.
Vault password:
Decryption successful
[sreehari@ip-172-31-30-111 ~]$ cat secrets.yml
gituser: sreehari@prekumar
gitpass: ghg_1k9ibhghMyHf07esAx26Aoo59hMv1h77N1
[sreehari@ip-172-31-30-111 ~]$
[sreehari@ip-172-31-30-111 ~]$
[sreehari@ip-172-31-30-111 ~]$ ansible-vault encrypt secrets.yml
[DEPRECATION WARNING]: Ansible will require Python 3.8 or newer on the controller starting with Ansible 2.12. Current version: 3.6.8 (default, Aug 12 2021, 07:06:15) [GCC 8.4.1 20200928 (Red Hat 8.4.1-1)]. This feature will be removed from ansible-core in version 2.12. Deprecation warnings can be disabled by setting deprecation_warnings=False in ansible.cfg.
New Vault password:
Confirm New Vault password:
Encryption successful
[sreehari@ip-172-31-30-111 ~]$
```

Step3: The Ansible Git Example Playbook

```
Activities Terminal 13:53 sreehari@ip-172-31-30-111 ~$ cat ansible-playbook.yml
- name: Install and Launch the Simple NodeJS Application
  hosts: slave1
  vars_files:
    - secrets.yml
  vars:
    destdir: /home/ansibletest
  tasks:
    - name: Install Node and NPM
      become: yes
      register: ymrepo
      yum:
        name: nodejs
        state: latest

    - name: Install dependencies
      become: yes
      yum: names={{ item }} state=present
      with_items:
        - git-all

    - name: validate the nodejs installation
      debug: msg="Installation of node is Successfull"
      when: ymrepo is changed

    - name: Version of Node and NPM
      shell:
        - npm -v && node -v"
      register: versionInfo

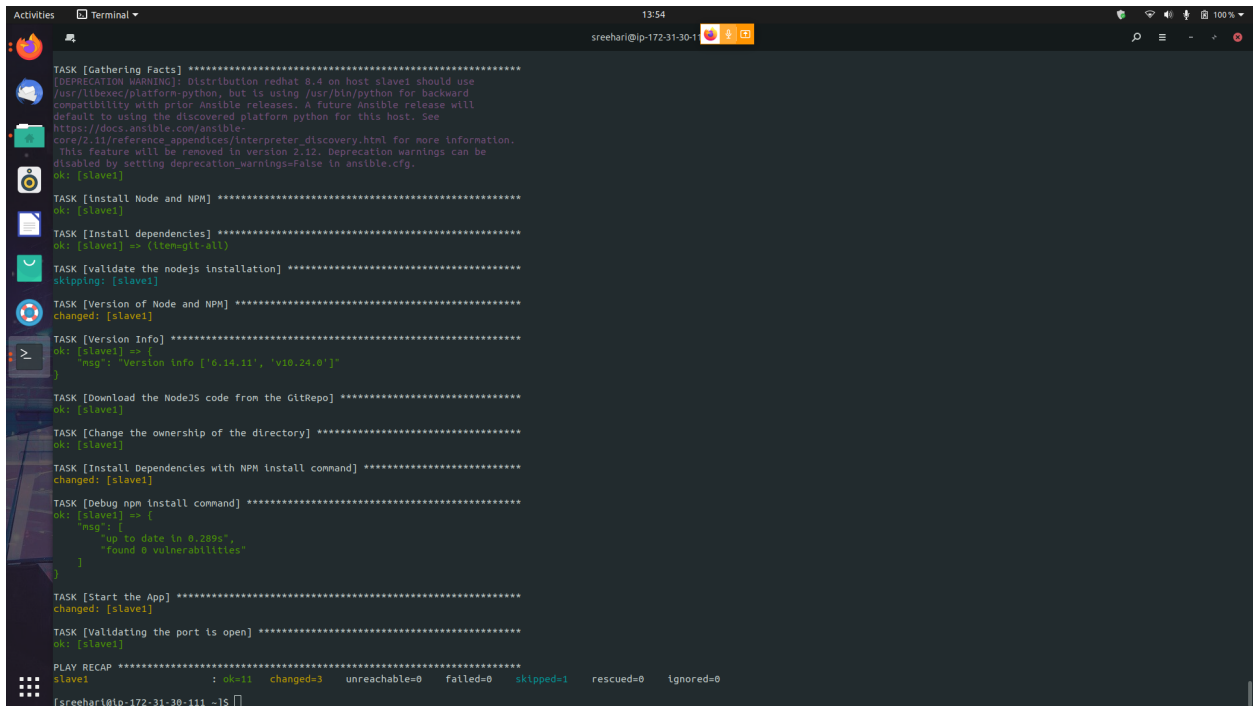
    - name: Version Info
      debug:
        msg: "Version info {{ versionInfo.stdout_lines }}"
      when: versionInfo is changed

    - name: Download the NodeJS code from the GitRepo
      become: yes
      git:
        repo: 'https://{{gitpass}}@github.com/sreehari@prekumar/AnsibleLearn.git'
        dest: '{{ destdir }}'

    - name: Change the ownership of the directory
      become: yes
      file:
        path: '{{destdir}}'
        owner: 'hartsree'
        register: chgrpout

    - name: Install Dependencies with NPM install command
      shell:
        - "npm install"
      args:
        chdir: '{{ destdir }}'
      register: npminstlout
```

Step4: Launch the Playbook with Ansible Git



A terminal window showing the execution of an Ansible playbook. The output displays various tasks and their results for a host named 'slave1'. The tasks include gathering facts, installing Node and NPM, installing dependencies, validating Node.js installation, checking versions, downloading Node.js code from GitHub, changing directory ownership, installing dependencies with NPM, debugging the NPM install command, starting the app, and validating the port. The final 'PLAY RECAP' shows 11 tasks: 10 OK, 3 changed, 0 unreachable, 0 failed, 1 skipped, 0 rescued, and 0 ignored.

```
Activities Terminal 13:54 sreehari@ip-172-31-30-111
TASK [Gathering Facts] *****
(DEPRECATION WARNING): Distribution redhat 8.4 on host slave1 should use
/usr/libexec/platform-python, but is using /usr/bin/python for backward
compatibility with prior Ansible releases. A future Ansible release will
default to using the discovered platform python for this host. See
https://docs.ansible.com/ansible-
core/2.11/reference_appendices/interpreter_discovery.html for more information.
This feature will be removed in version 2.12. Deprecation warnings can be
disabled by setting deprecation_warnings=False in ansible.cfg.
ok: [slave1]

TASK [Install Node and NPM] *****
ok: [slave1]

TASK [Install dependencies] *****
ok: [slave1] => (tten=git-all)

TASK [validate the nodejs installation] *****
skipping: [slave1]

TASK [Version of Node and NPM] *****
changed: [slave1]

TASK [Version Info] *****
ok: [slave1] => {
  "msg": "Version Info ['0.14.11', 'v10.24.0']"
}

TASK [Download the NodeJS code from the GitRepo] *****
ok: [slave1]

TASK [Change the ownership of the directory] *****
ok: [slave1]

TASK [Install Dependencies with NPM install command] *****
changed: [slave1]

TASK [Debug npm install command] *****
ok: [slave1] => {
  "msg": {
    "up to date in 8.289s",
    "found 0 vulnerabilities"
  }
}

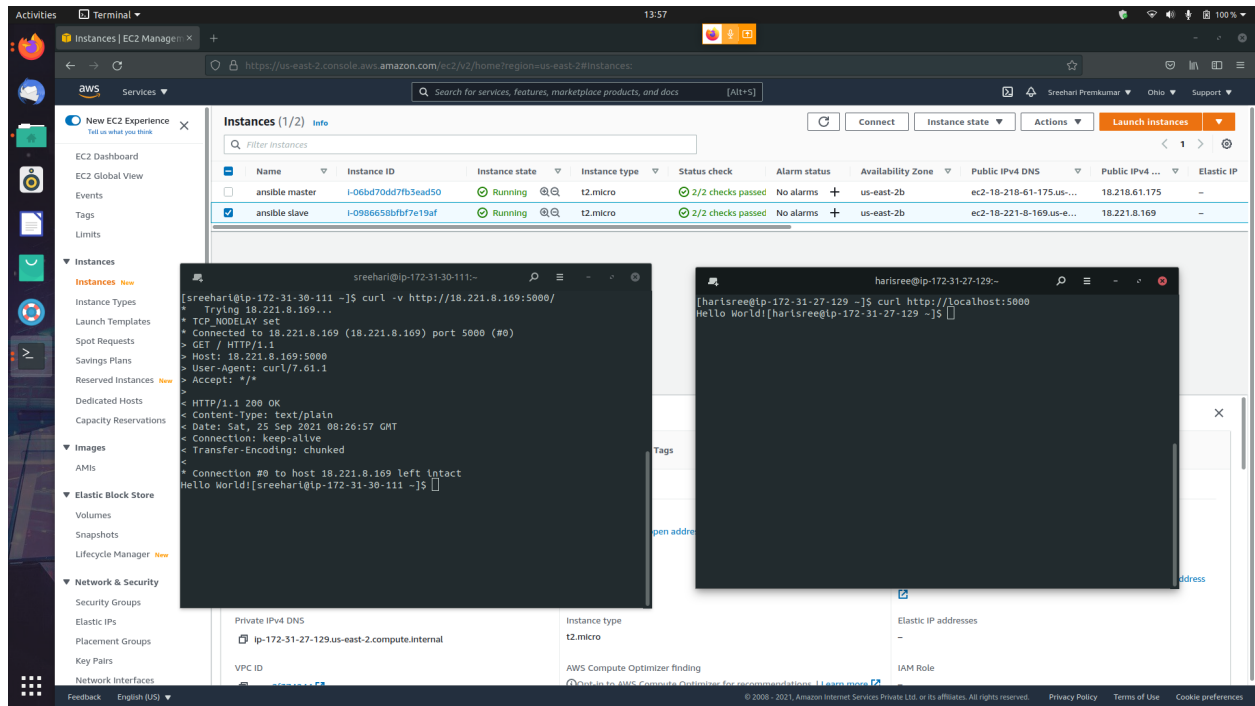
TASK [Start the App] *****
changed: [slave1]

TASK [Validating the port is open] *****
ok: [slave1]

PLAY RECAP *****
slave1 : ok=11  changed=3  unreachable=0  failed=0  skipped=1  rescued=0  ignored=0

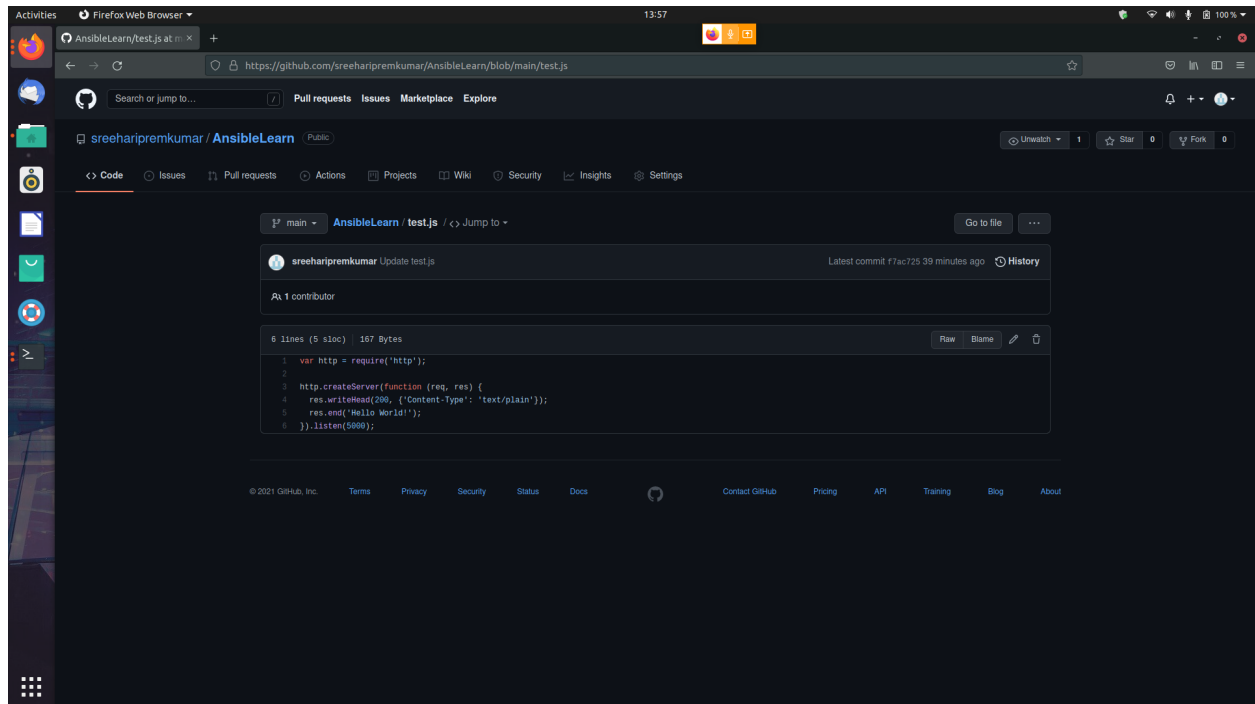
[sreehari@ip-172-31-30-111 ~]$
```

Step5: Validate the Deployment



Github Repo :

Github Repo link: <https://github.com/sreeharipremkumar/AnsibleLearn>



Redhat Instances:

Server : sreehari@ip-172-31-30-111

HostNode:harishree@ip-172:31:27:129

The screenshot displays the AWS Management Console interface. On the left, the navigation menu includes sections like 'New EC2 Experience', 'EC2 Dashboard', 'Events', 'Tags', 'Limits', 'Instances', 'Images', 'Elastic Block Store', and 'Network & Security'. The 'Instances' section is selected, showing a table with two instances: 'ansible master' and 'ansible slave', both in a 'Running' state. The main content area shows a 'Select an instance above' prompt. On the right, two terminal windows are open. The top terminal, connected to 'sreehari@ip-172-31-30-111', shows the execution of 'ansible -n ping all', which returns a success message for the 'ansible slave' host. The bottom terminal, connected to 'harishree@ip-172-31-27-129', shows a series of commands including 'useradd harishree', 'passwd', 'sudoers' configuration, and 'systemctl reload sshd.service'.

Name	Instance ID	Instance state	Instance type	Status check
ansible master	i-06bd70dd7fb3ead50	Running	t2.micro	2/2 checks passed
ansible slave	i-098650bf7e19af	Running	t2.micro	2/2 checks passed

```
[sreehari@ip-172-31-30-111 ~]$ ansible -n ping all
ansible [DEPRECATION WARNING]: Ansible will require Python 3.8 or newer on the controller starting with Ansible 2.12: Current version: 3.6.8 (default, Aug 12 2021, 07:06:15) [GCC 8.4.1 20200928 (Red Hat 8.4.1-1)]. This feature will be removed from ansible-core in version 2.12. Deprecation warnings can be disabled by setting deprecation_warnings=False in ansible.cfg.
ansible [DEPRECATION WARNING]: Distribution redhat 8.4 on host slave1 should use /usr/libexec/platform-python, but is using /usr/bin/python for backward compatibility with prior Ansible releases. A future Ansible release will default to using the discovered platform python for this host. See https://docs.ansible.com/ansible-core/2.11/reference_appendices/interpreter_discovery.html for more information. This feature will be removed in version 2.12. Deprecation warnings can be disabled by setting deprecation_warnings=False in ansible.cfg.
slave1 | success => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python"
  },
  "changed": false,
  "ping": "pong"
}

[sreehari@ip-172-31-30-111 ~]$
```

```
[root@ip-172-31-27-129 ec2-user]# useradd harishree
[root@ip-172-31-27-129 ec2-user]# passwd
Changing password for user root.
New password:
[root@ip-172-31-27-129 ec2-user]# passwd harishree
Changing password for user harishree.
New password:
BAD PASSWORD: The password contains the user name in some form
Retype new password:
passwd: all authentication tokens updated successfully.
[root@ip-172-31-27-129 ec2-user]# echo "harishree ALL=(ALL) NOPASSWD: ALL" >> /etc/sudoers
[root@ip-172-31-27-129 ec2-user]# sed -ie 's/PasswordAuthentication no/PasswordAuthentication yes/' /etc/ssh/sshd_config
[root@ip-172-31-27-129 ec2-user]# sudo service sshd reload
Redirecting to /bin/systemctl reload sshd.service
[root@ip-172-31-27-129 ec2-user]# su - harishree
harishree@ip-172-31-27-129 ~$ cd .ssh/
harishree@ip-172-31-27-129 ~$ ls
authorized_keys
harishree@ip-172-31-27-129 ~$ cd ..
harishree@ip-172-31-27-129 ~$
```