CS457
DEVOPS ASSIGNMENT - 2

Submitted to:

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DevOps Assignment - 2

Ansible Playbook Exercise

Set-Up:

- Installing ansible.
- Creating a remote server using AWS EC2 Instance.
  Chosen platform: Red Hat Enterprise Linux with High Availability.
- Connected to the server using ssh client.

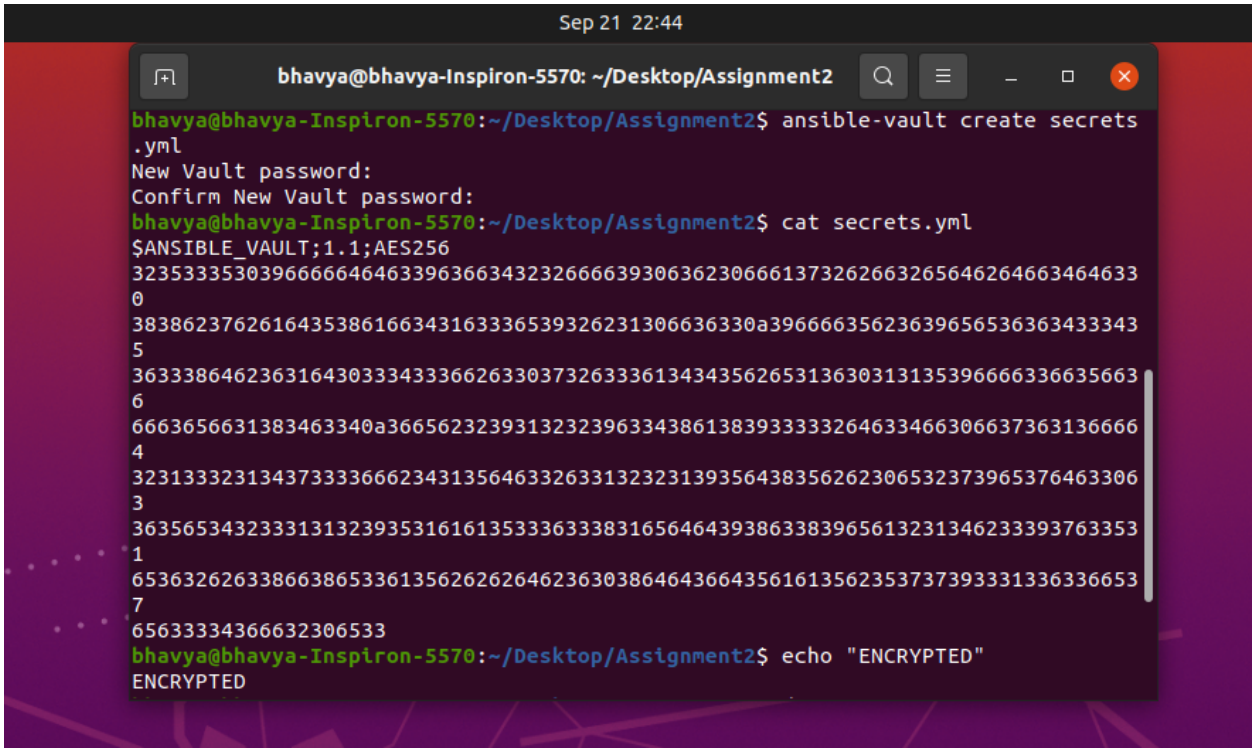
Step 1: Configuring Git login

Using username and security token.

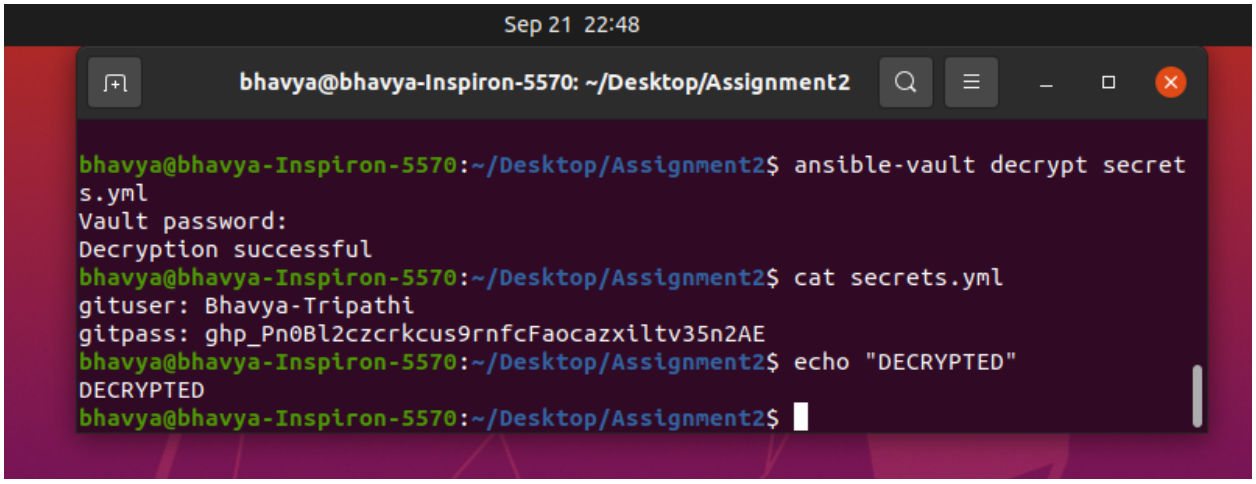
- `https://user:token@github.com/path`

Step 2: Creating Ansible vault to Store the Git username and token

Creating a vault and setting a vault password and creating a file called `secrets.yml` that stores the GitHub username and security token.
The `secrets.yml` file will be encrypted.



We can decrypt the file using the following commands:



Step 3: The Ansible Git Example Playbook

Here we have created a nodejs app and uploaded it in a private GitHub repository. Then we create the Ansible playbook. (`gitexample.yml`)

The GitHub username and token we created in the `secrets.yml` file.

```yaml
- name: Install and Launch the Simple NodeJS Application
  hosts: nodeserver
  vars_files:
     - secrets.yml
  vars:
     - destdir: /apps/SampleNodeApp
  tasks:

     - name : install Node and NPM
       become: yes
       register: ymrepo
       yum:
         name: nodejs
         state: latest

     - 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://{{gituser}}:{{gitpass}}@github.com/Bhavya-Tripathi/DevOpsAssignment2.git'
          dest: "{{ destdir }}"

     - name: Change the ownership of the directory
       become: yes
       file:
         path: "{{destdir}}"
         owner: "ec2-user"
       register: chgrpout

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

     - name: Debug npm install command
       debug: msg='{{npminstlout.stdout_lines}}'


     - name: Start the App
       async: 10
       poll: 0
       shell:
          "(node index.js > nodesrv.log 2>&1 &)"
       args:
         chdir: "{{ destdir }}"
       register: appstart

     - name: Validating the port is open
       tags: nodevalidate
       wait_for:
         host: "localhost"
         port: 3002
         delay: 10
         timeout: 30
         state: started
         msg: "NodeJS server is not running"
```

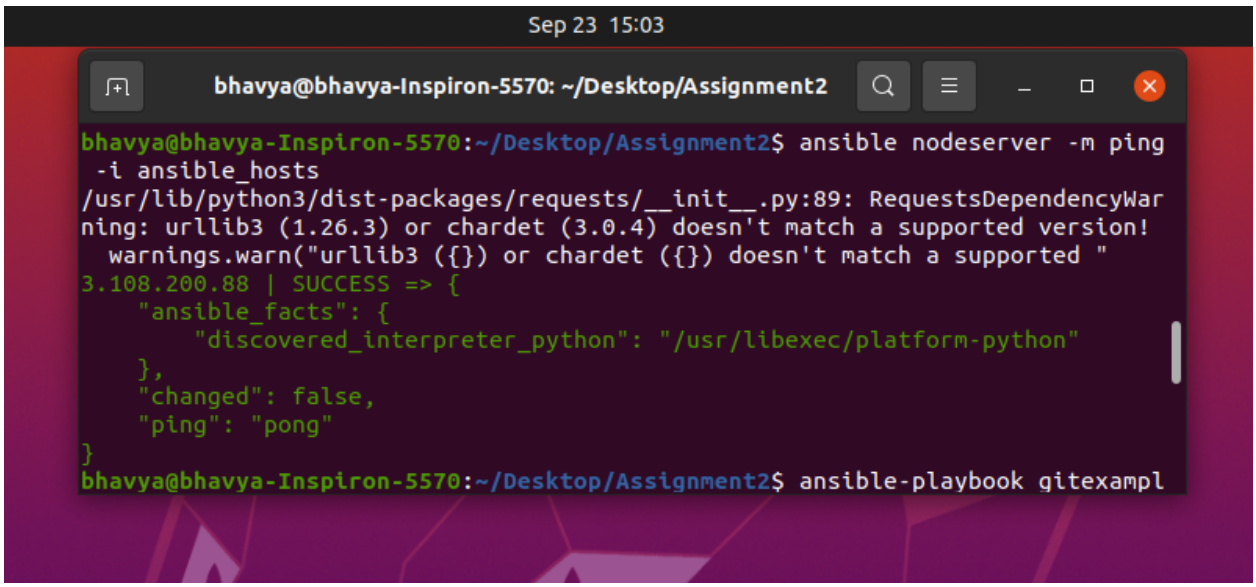
Step 4: Launch the Playbook with Ansible Git

Now we launch the playbook using the ansible-playbook command

```
ansible-playbook gitexample.yml --ask-vault-pass
```

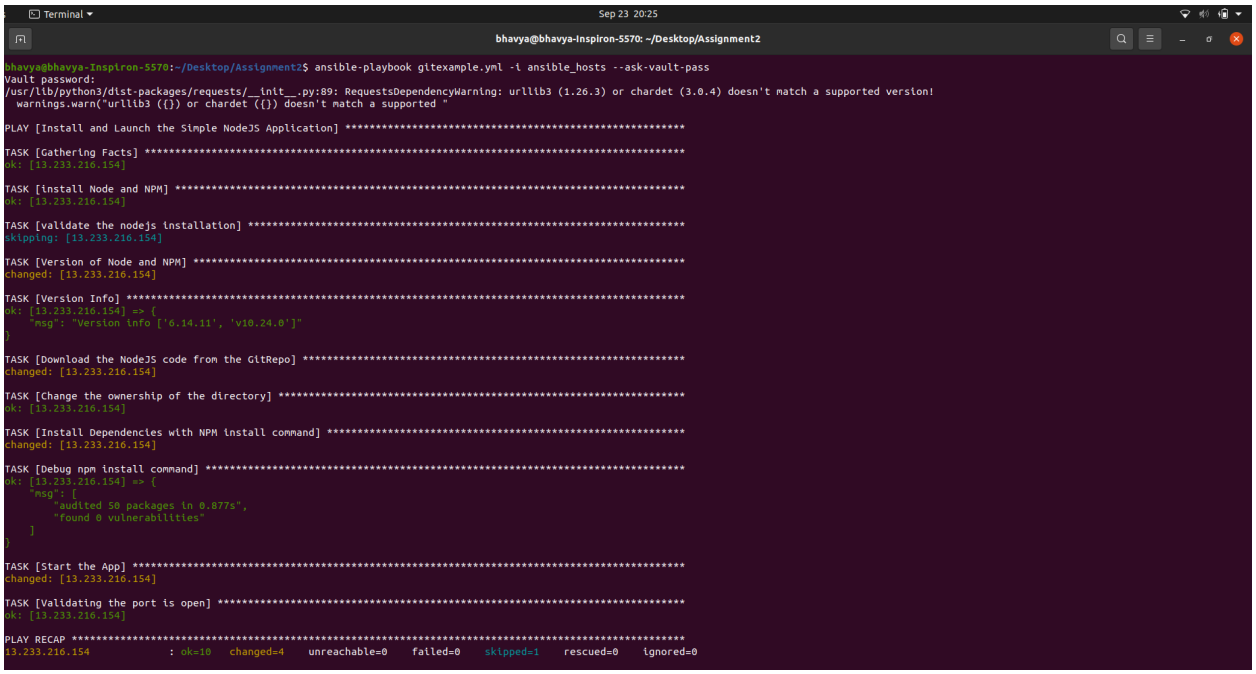
Method:

First we check if the hostgroup is reachable using the following command:
(here, nodeserver is the name of our hostgroup)

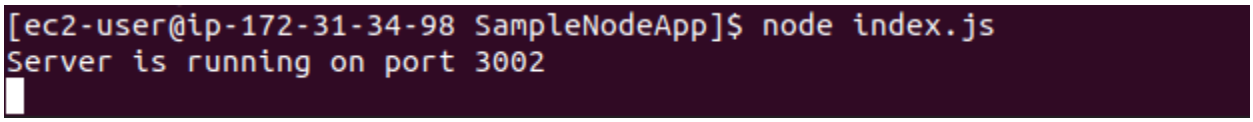


Ansible_hosts is an inventory file that contains the name of the host group, public IP address of the host server etc.

Now we launch the playbook:



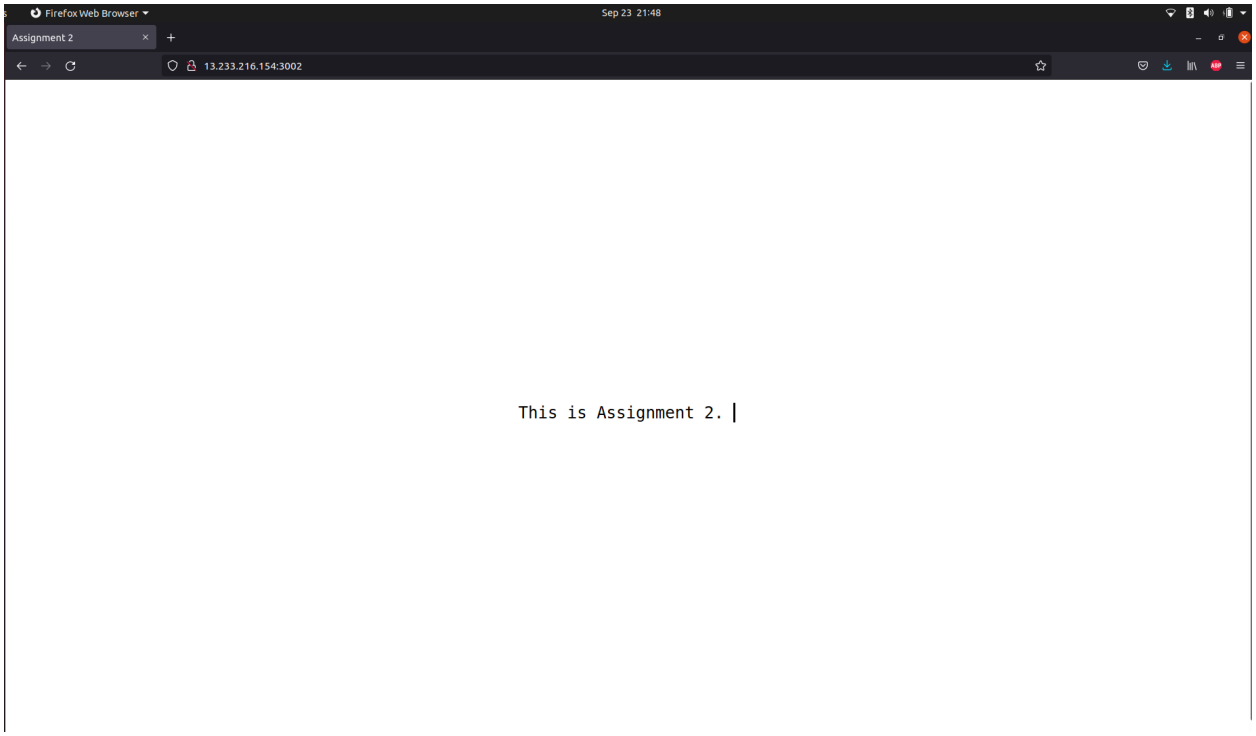
The playbook ran successfully.
This means our github repository has been cloned to our server in the `/apps/SampleNodeApp` directory.



The server is running successfully!

Step 5: Validate the Deployment

The remote server here is 13.233.216.154, now we can access the URL via http://13.233.216.154:3002.



Our Node Website has been deployed successfully!