

# DevOps

## Assignment – 2

### Team 10

Team members:

1. G K Bharath Bhushan (18bcs026)
2. K V S Chaitanya (18bcs045)
3. Neha T (18bcs060)
4. Rahul S (18bcs075)
5. Varun Awati (18bcs108)
6. Sushanth B Patil (18bcs102)
7. Aqtar Parveez (18bcs010)
8. Trishuk K S (18bcs104)

## Ansible Playbook to checkout Web App source code from Git Repo and deploy on AWS EC2 Instance

Step – 1 : Create a Personal Access Token(PAT) for a GitHub private repository or similar.

**Step-2:** create a `secret.yml` file which will contain our GitHub user ID and PAT and encrypt it within ansible-vault. Encrypt it and assign a passphrase of your choice.

```
ansible-vault create secret.yml
```

[illegible]

```
ansible-vault encrypt secret.yml
```

```

aqtarparveez@DESKTOP-9PQ9JIL: ~/DevOps_2
GNU nano 2.9.3 secret.yml

$ANSIBLE_VAULT;1.1;AES256
3665353062616337343735343963616239653664666666663643530393537616531373066646539
6438323739363330393262353264393661336536666330630a626534626365653761323538313639
36333364303339353739316535636330666135633737333030366232336336636165336639343536
3565626537373632640a383538373835613063393832623130376138613931346233646336363133
64333231613366613334373538646532343365613861326136623330613862613436653336333363
65353336323137623334373936333432396330326334343335333930396437303238656639643430
63303561653762643736346665306561353430333833643065356338383663386536386364343931
32323031333231636164

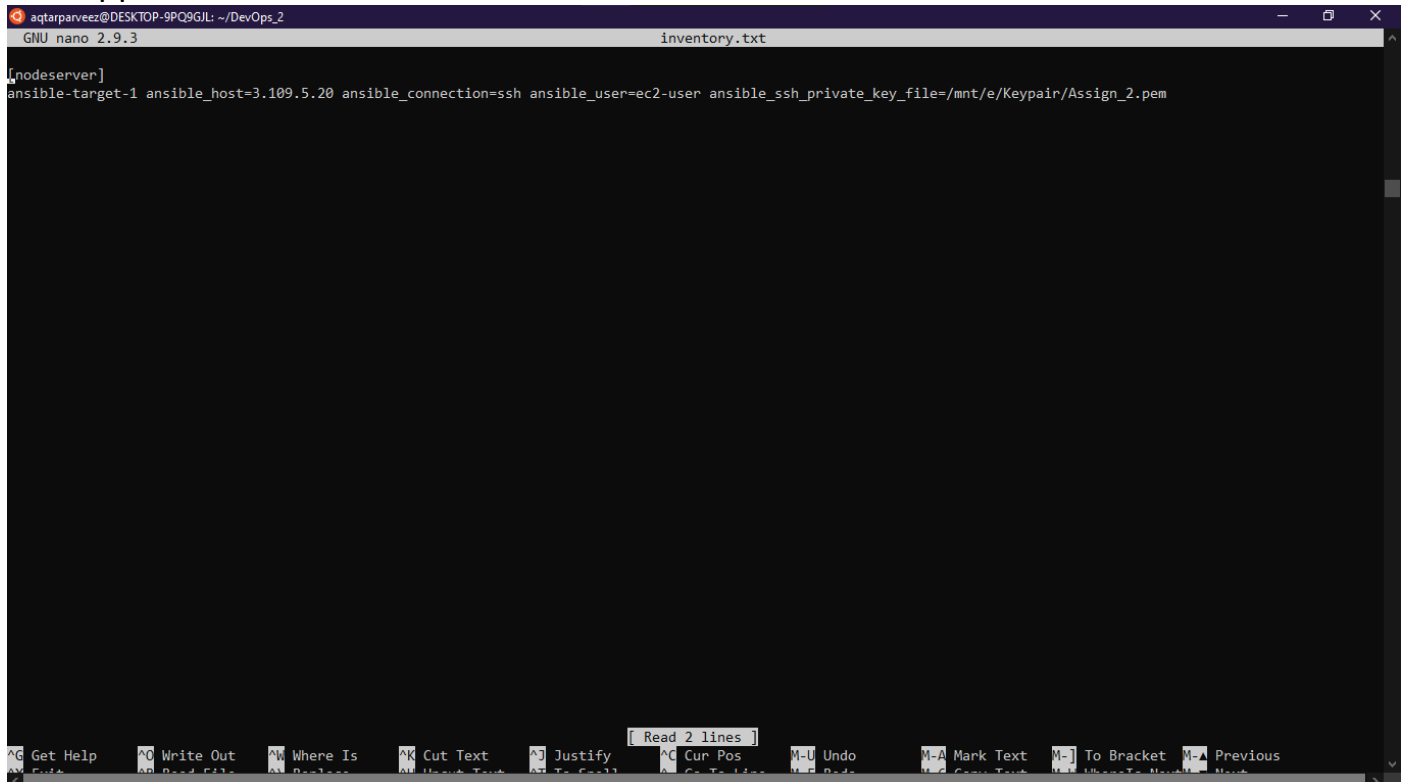
^G Get Help  ^O Write Out  ^W Where Is  ^K Cut Text  ^J Justify   ^C Cur Pos   M-U Undo     M-A Mark Text M-] To Bracket M-^ Previous
^X Exit      ^R Read File  ^S Search    ^H Help      ^_ To End    ^G To Line   ^E Redo      ^I Copy Text  ^M Up/Down   ^N Next

```

```
ansible-vault view secret.yml
```

```
aqtarpaveez@DESKTOP-9PQ9GJL: ~/DevOps_2$ ansible-vault view secret.yml
Vault password:
gituser: MiStErDaNgErR
gitpass: ghp_6TmbTP1D9jTJxGrq1L0PFAQuYhBJ1J3VdFH9
```

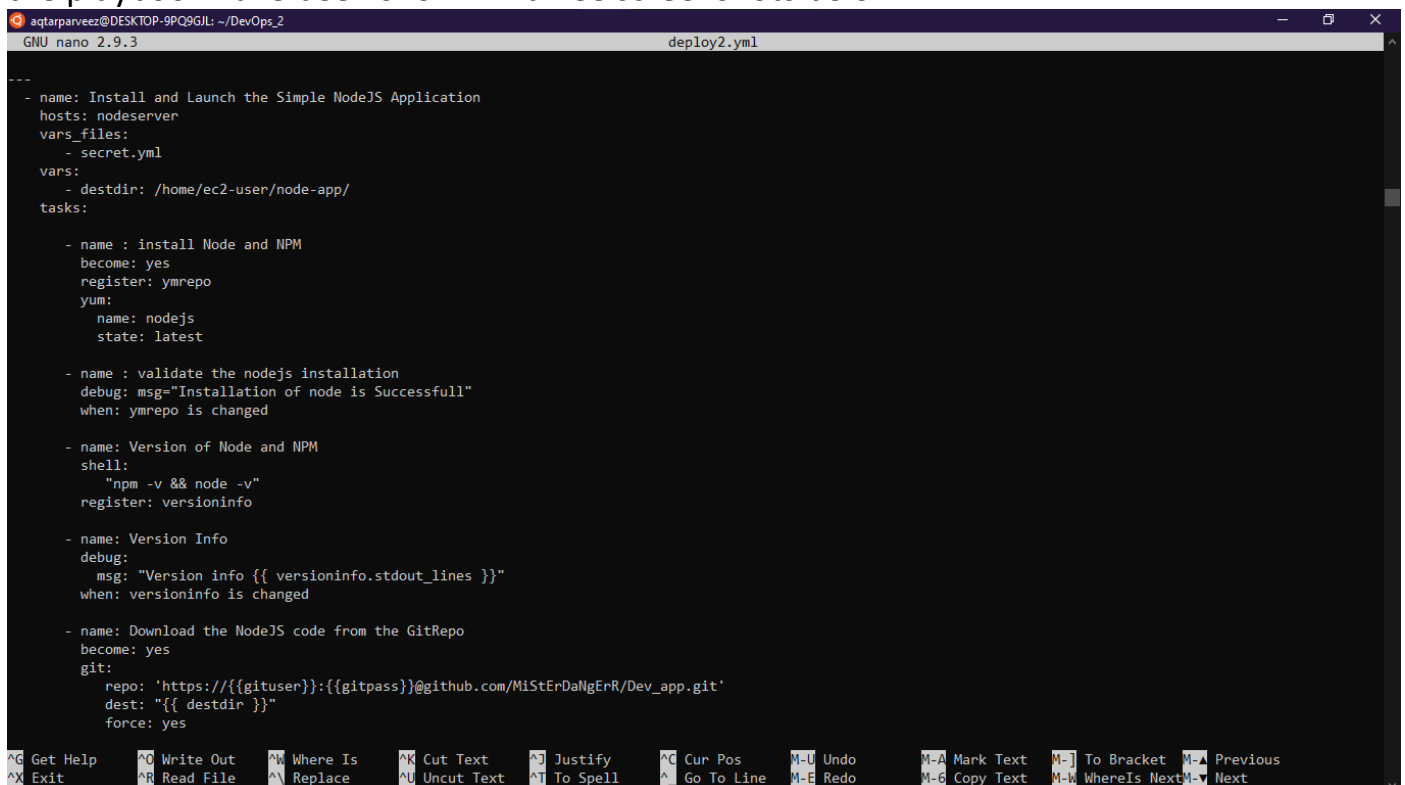
Step – 3: create our inventory file (inventory.txt here). This file contains the details (like public IP, private-key file name, etc) of the EC2 instance where we will be deploying the web app.



```
aqtarpaveez@DESKTOP-9PQ9GJL: ~/DevOps_2
GNU nano 2.9.3 inventory.txt

[nodeserver]
ansible-target-1 ansible_host=3.109.5.20 ansible_connection=ssh ansible_user=ec2-user ansible_ssh_private_key_file=/mnt/e/Keypair/Assign_2.pem
```

Step 4: Then we have to create our Ansible Playbook (deploy2.yml here). The contents of the playbook have been shown in three screenshots below.



```
aqtarpaveez@DESKTOP-9PQ9GJL: ~/DevOps_2
GNU nano 2.9.3 deploy2.yml

---
- name: Install and Launch the Simple NodeJS Application
  hosts: nodeserver
  vars_files:
    - secret.yml
  vars:
    - destdir: /home/ec2-user/node-app/
  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/MiStErDaNgErR/Dev_app.git'
        dest: "{{ destdir }}"
        force: yes
```

```
aqtarpaveez@DESKTOP-9PQ9GJL: ~/DevOps_2
GNU nano 2.9.3 deploy2.yml

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/MiStErDaNgErR/Dev_app.git'
    dest: "{{ destdir }}"
    force: yes

- 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}}'
```

Get Help Write Out Where Is Cut Text Justify Cur Pos Undo Mark Text To Bracket Previous  
Exit Read File Replace Uncut Text To Spell Go To Line Redo Copy Text WhereIs Next Next

```
aqtarpaveez@DESKTOP-9PQ9GJL: ~/DevOps_2
GNU nano 2.9.3 deploy2.yml

- 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}}'
```

Get Help Write Out Where Is Cut Text Justify Cur Pos Undo Mark Text To Bracket Previous  
Exit Read File Replace Uncut Text To Spell Go To Line Redo Copy Text WhereIs Next Next

Step 5: Now the final step is to run the Ansible Playbook that we have created above.

```
ansible-playbook deploy2.yml -i inventory.txt --ask-vault-pass
```

```
aqtarparveez@DESKTOP-9PQ9GJL: ~/DevOps_2
aqtarparveez@DESKTOP-9PQ9GJL:~/DevOps_2$ ansible-playbook deploy2.yml -i inventory.txt --ask-vault-pass
Vault password:

PLAY [Install and Launch the Simple NodeJS Application] *****
TASK [Gathering Facts] *****
*****ok: [ansible-target-1]

TASK [install Node and NPM] *****
*****ok: [ansible-target-1]

TASK [validate the nodejs installation] *****
*****skipping: [ansible-target-1]

TASK [Version of Node and NPM] *****
*****changed: [ansible-target-1]

TASK [Version Info] *****
*****ok: [ansible-target-1] => {
  "msg": "Version info [u'6.14.11', u'v10.24.0']"
}

TASK [Download the NodeJS code from the GitRepo] *****
*****ok: [ansible-target-1]

TASK [Change the ownership of the directory] *****
*****ok: [ansible-target-1]

TASK [Install Dependencies with NPM install command] *****
*****changed: [ansible-target-1]

TASK [Debug npm install command] *****
*****ok: [ansible-target-1] => {
  "msg": [
    "audited 50 packages in 1.553s",
    "found 0 vulnerabilities"
  ]
}
```

```
aqtarparveez@DESKTOP-9PQ9GJL: ~/DevOps_2

TASK [Download the NodeJS code from the GitRepo] *****
*****ok: [ansible-target-1]

TASK [Change the ownership of the directory] *****
*****ok: [ansible-target-1]

TASK [Install Dependencies with NPM install command] *****
*****changed: [ansible-target-1]

TASK [Debug npm install command] *****
*****ok: [ansible-target-1] => {
  "msg": [
    "audited 50 packages in 1.553s",
    "found 0 vulnerabilities"
  ]
}

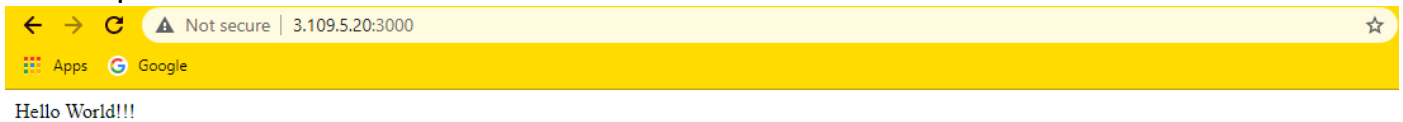
TASK [Start the App] *****
*****changed: [ansible-target-1]

TASK [Validating the port is open] *****
*****ok: [ansible-target-1]

PLAY RECAP *****
*****ansible-target-1 : ok=10  changed=3  unreachable=0  failed=0  skipped=1  rescued=0  ignored=0

aqtarparveez@DESKTOP-9PQ9GJL:~/DevOps_2$
```

Outcome: Our simple webapp files is saved on the instance and the ip in the browser shows the output.



```
ec2-user@ip-172-31-35-159:~/node-app
Using username "ec2-user".
Authenticating with public key "imported-openssh-key"
Last login: Wed Sep 29 14:45:51 2021 from 157.45.74.68
[ec2-user@ip-172-31-35-159 ~]$ ls
node-app
[ec2-user@ip-172-31-35-159 ~]$ cd node-app
[ec2-user@ip-172-31-35-159 node-app]$ ls
index.js  node_modules  nodesrv.log  package.json  package-lock.json  README.md
[ec2-user@ip-172-31-35-159 node-app]$
```