INDIAN INSTITUTE OF INFORMATION TECHNOLOGY

DevOps & its Applications (CS457)

Assignment 2

Under the Guidance of - **Dr. Uma S**

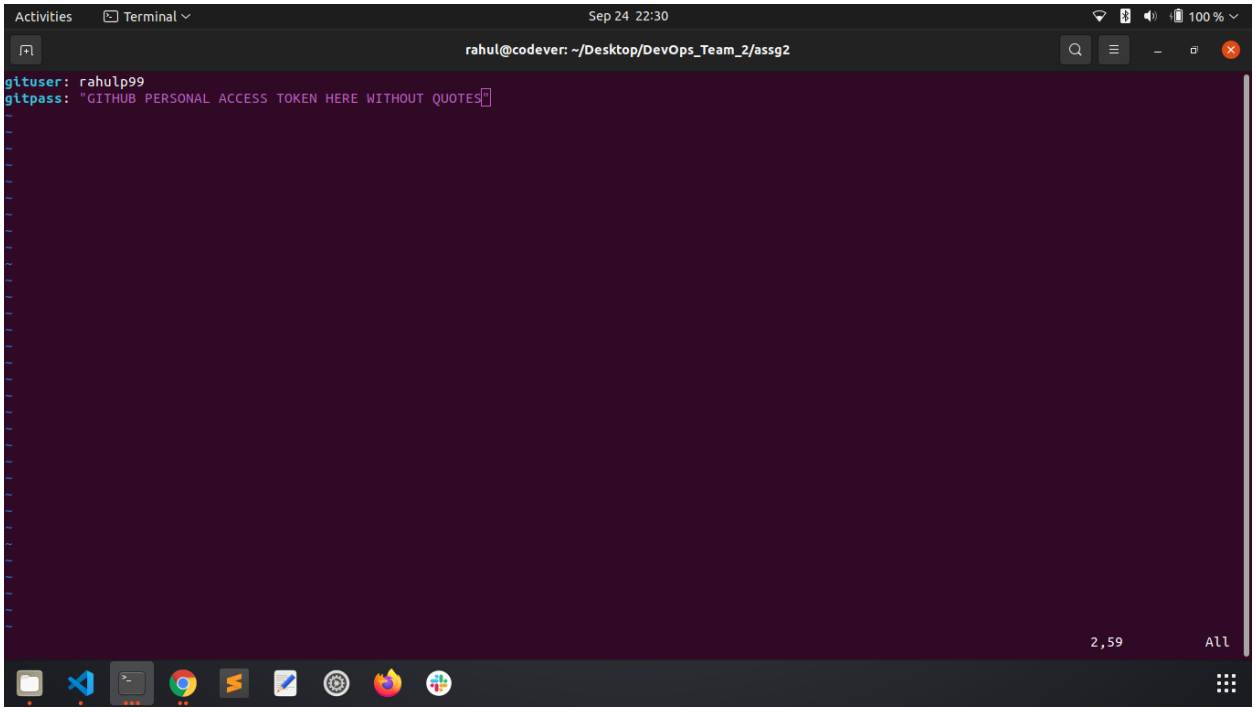
Submitted by -

Advay Aggarwal (18BCS002)
Meghna Hadimani (18BCS052)
Perumalla Tushar (18BCS065)
Rahul Priyadarshi (18BCS074)
Samana B S (18BCS088)

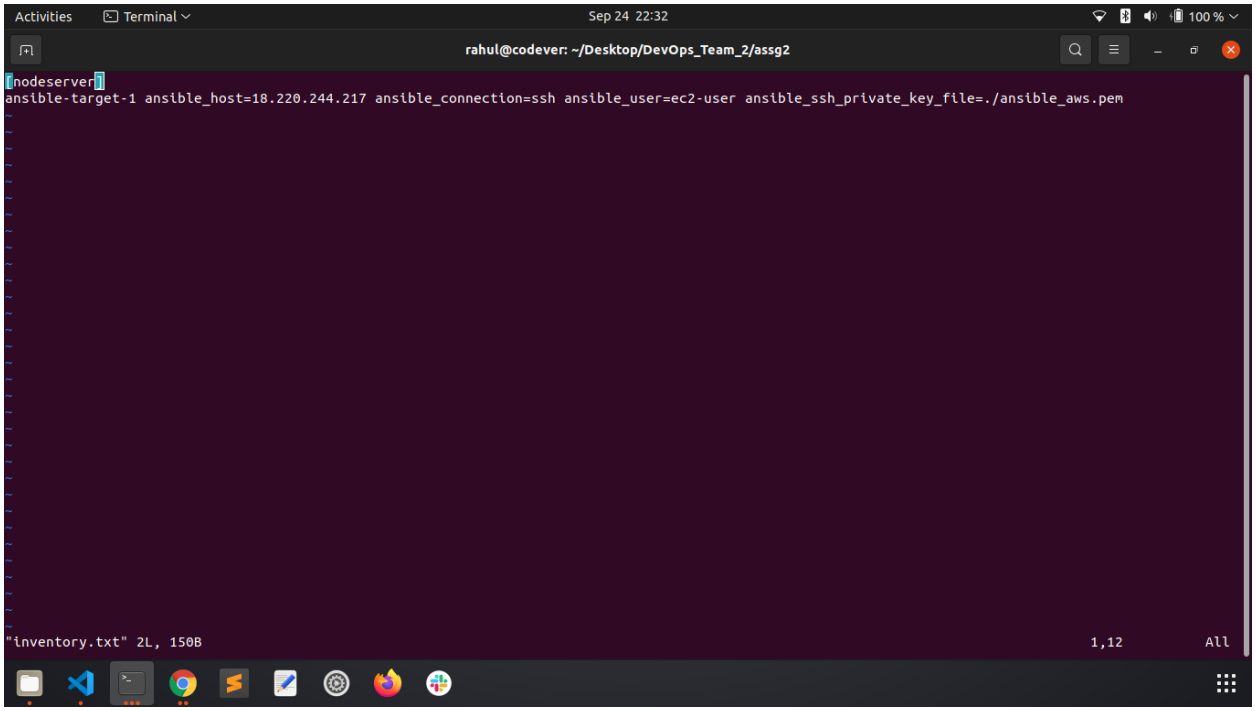
Ansible Playbook to checkout Web App source code from Git Repo and deploy on AWS EC2 Instance

Step 1: *First we have to create a Personal Access Token (PAT) for GitHub (or, any other platform like BitBucket).*

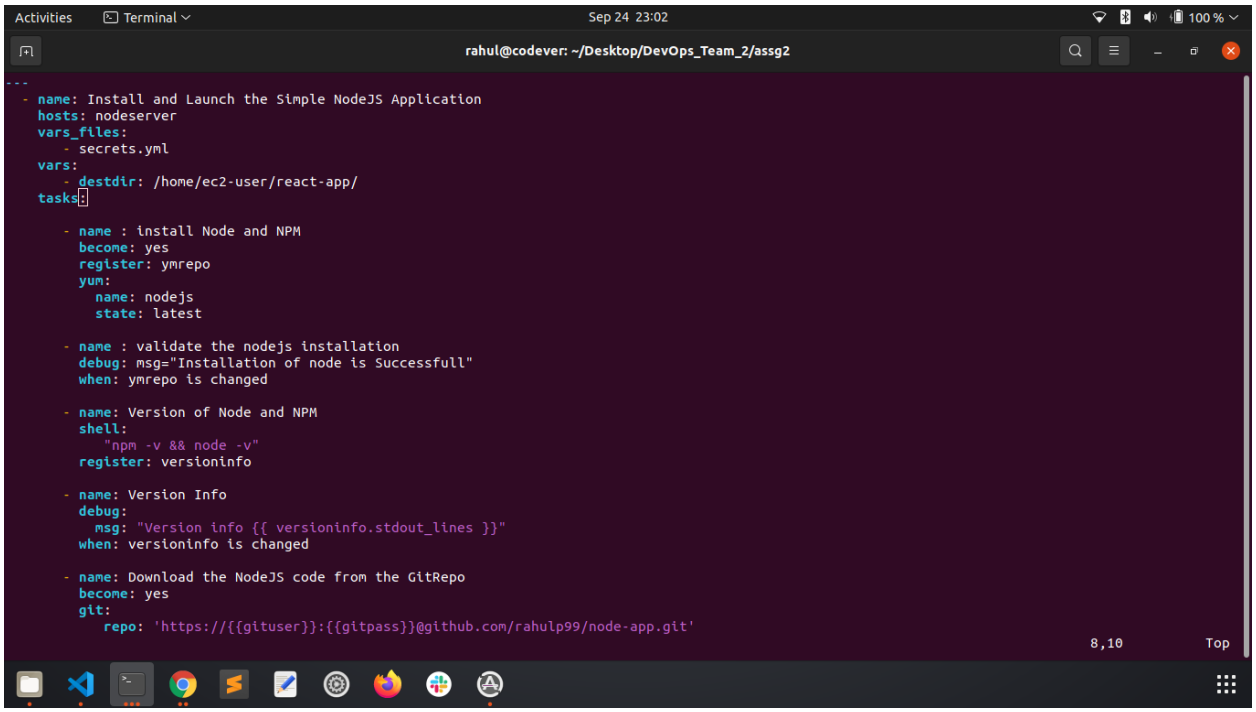
Step 2: *Then we have to create a secret.yml file which will contain our GitHub userID and PAT and encrypt it within ansible-vault. (Command shown in the first terminal screenshot below). The secret.yml file format is shown in the screenshot below.*

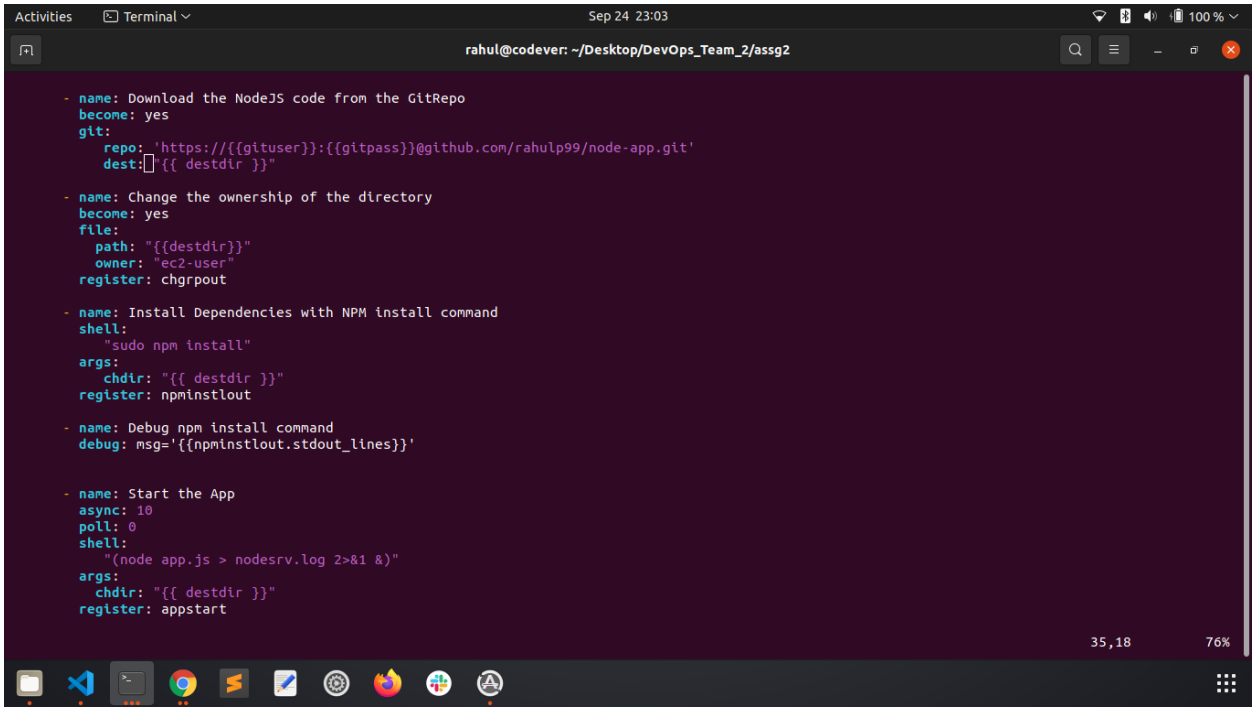


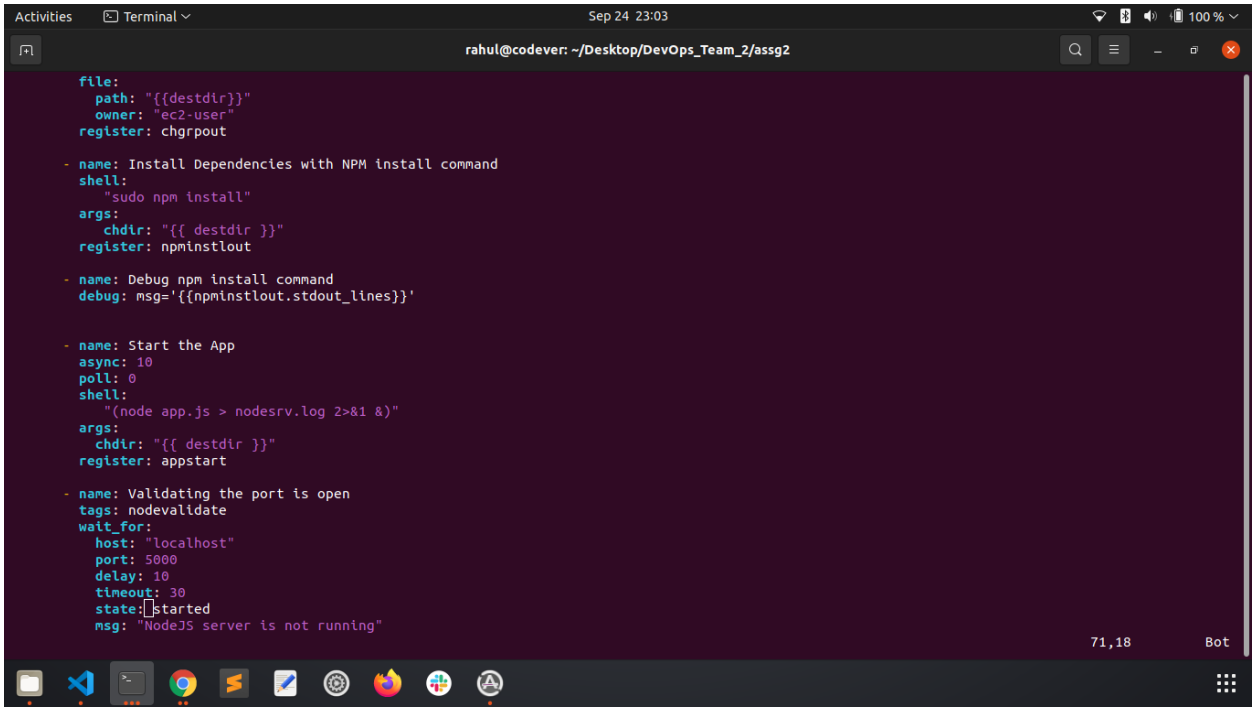
Step 3: *Now we have to create our inventory file (inventory.txt here). This file contains the details (like public IP, private-key file name, etc) of the EC2 instance where we will be deploying the web app.*



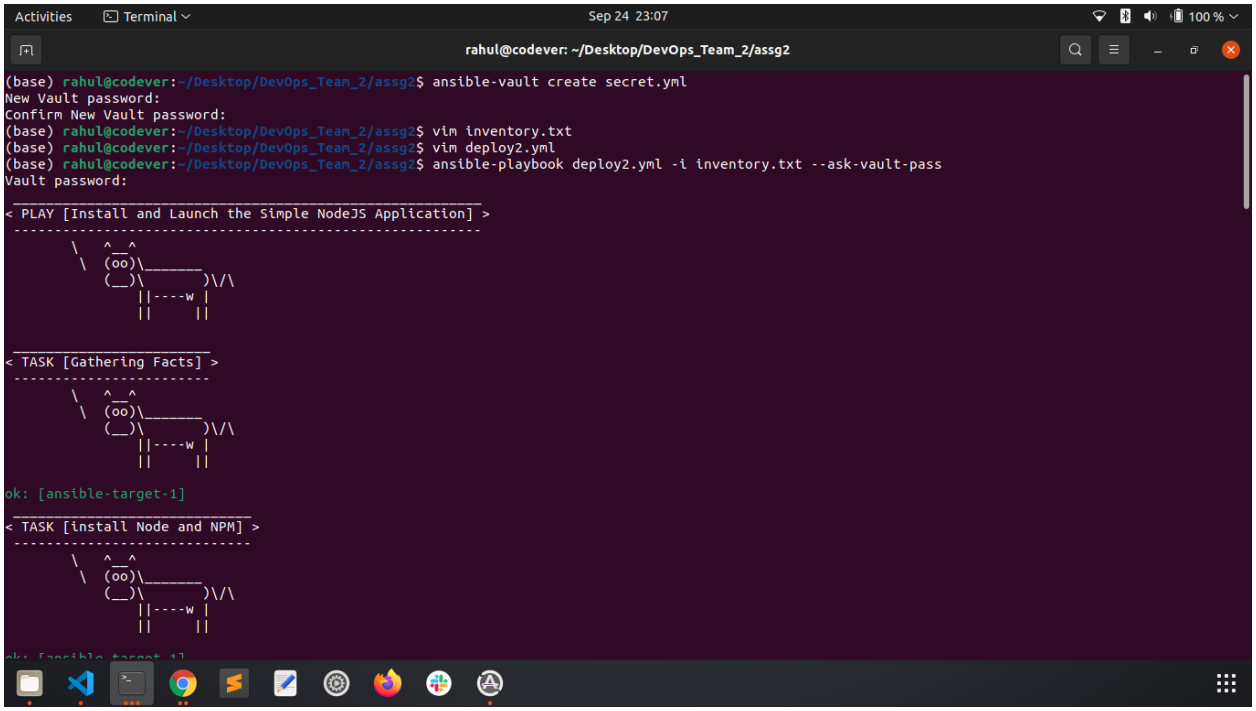
Step 4: *Then we have to create our Ansible Playbook (deploy2.yml here). The contents of the playbook have been shown in three screenshots below.*

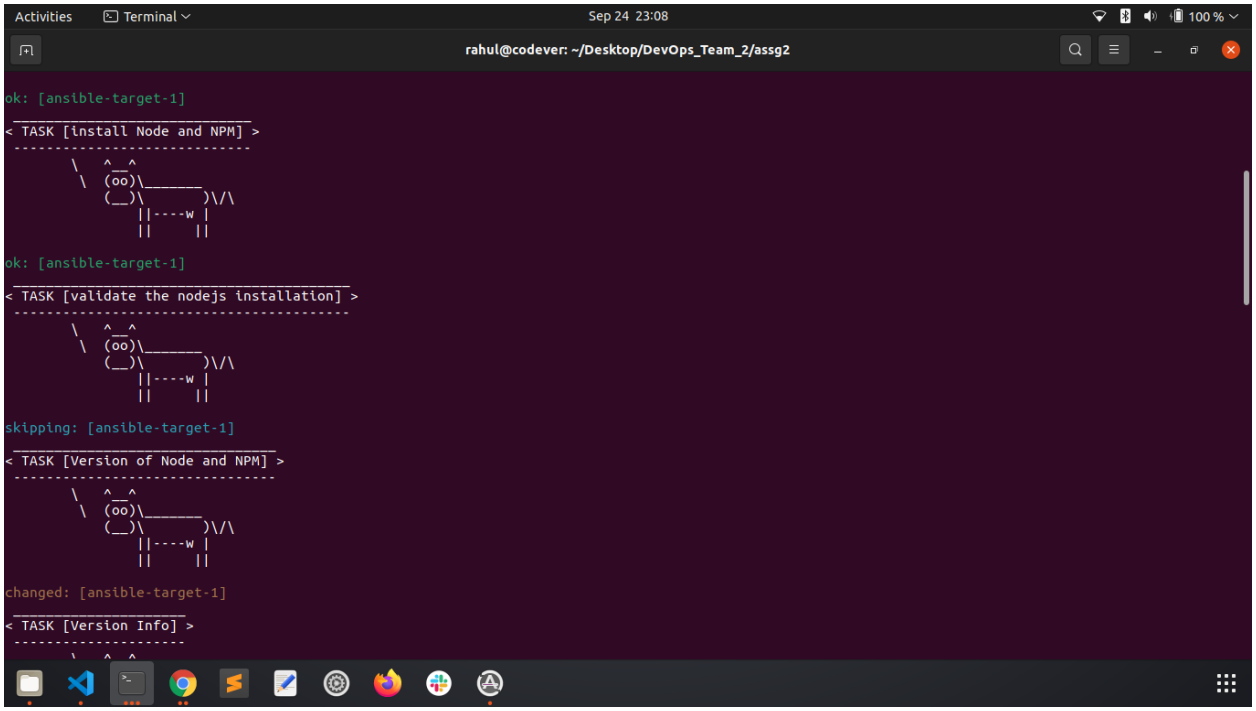


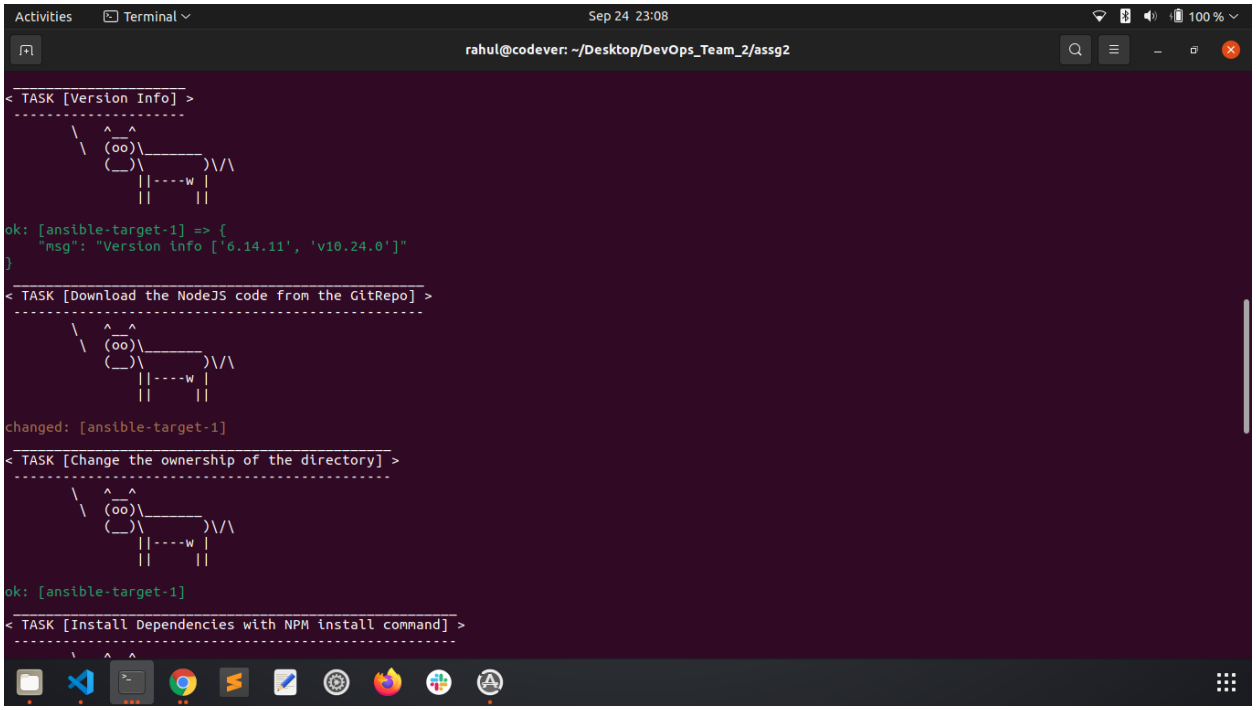

Activities
Terminal
Sep 24 23:03
100 %
rahul@codever: ~/Desktop/DevOps_Team_2/assg2
- name: Download the NodeJS code from the GitRepo
become: yes
git:
repo: 'https://{{gituser}}:{{gitpass}}@github.com/rahulp99/node-app.git'
dest: "{{ destdir }}"
- name: Change the ownership of the directory
become: yes
file:
path: "{{destdir}}"
owner: "ec2-user"
register: chgrpout
- name: Install Dependencies with NPM install command
shell:
"sudo 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 app.js > nodesrv.log 2>&1 &)"
args:
chdir: "{{ destdir }}"
register: appstart
35,18
76%

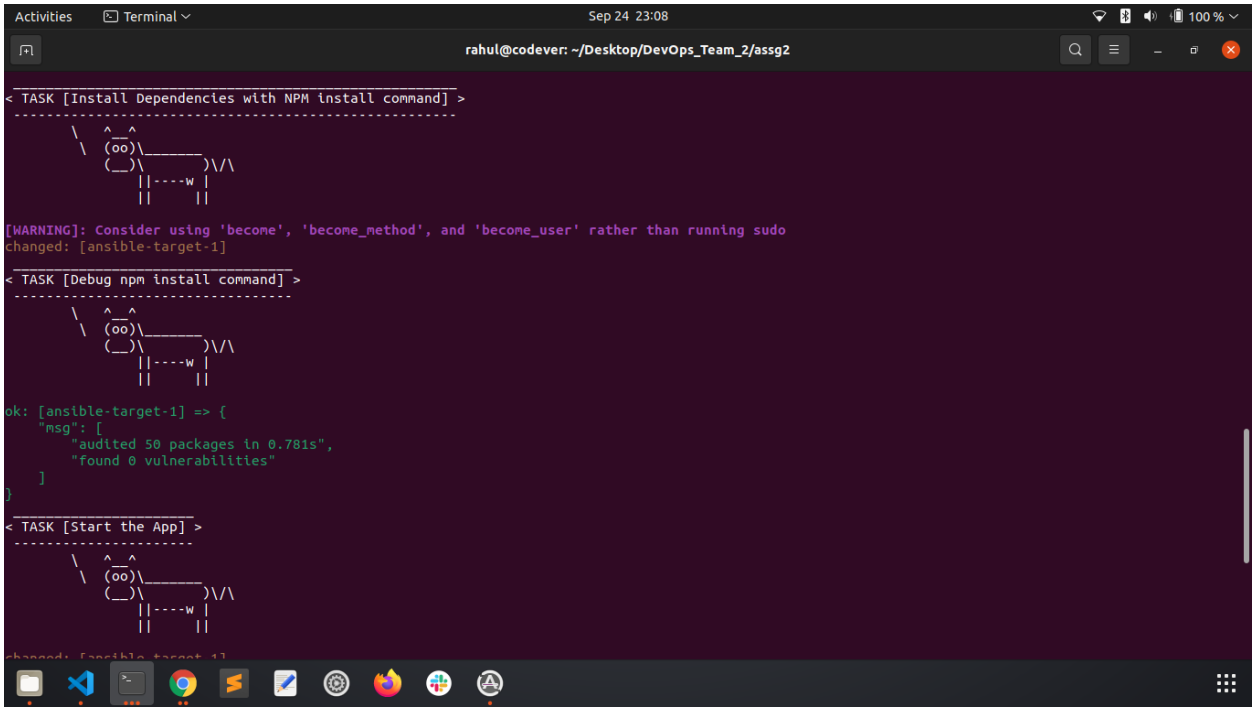

Activities
Terminal
Sep 24 23:03
100 %
rahul@codever: ~/Desktop/DevOps_Team_2/assg2
file:
path: "{{destdir}}"
owner: "ec2-user"
register: chgrpout
- name: Install Dependencies with NPM install command
shell:
"sudo npm install"
args:
chdir: "{{ destdir }}"
register: npminstlout
- name: Debug npm install command
debug: msg='{{npminstlout.stdout_lines}}'
- name: Start the App
async: 10
poll: 0
shell:
"(node app.js > nodesrv.log 2>&1 &)"
args:
chdir: "{{ destdir }}"
register: appstart
- name: Validating the port is open
tags: nodevalidate
wait_for:
host: "localhost"
port: 5000
delay: 10
timeout: 30
state: started
msg: "NodeJS server is not running"
71,18
Bot

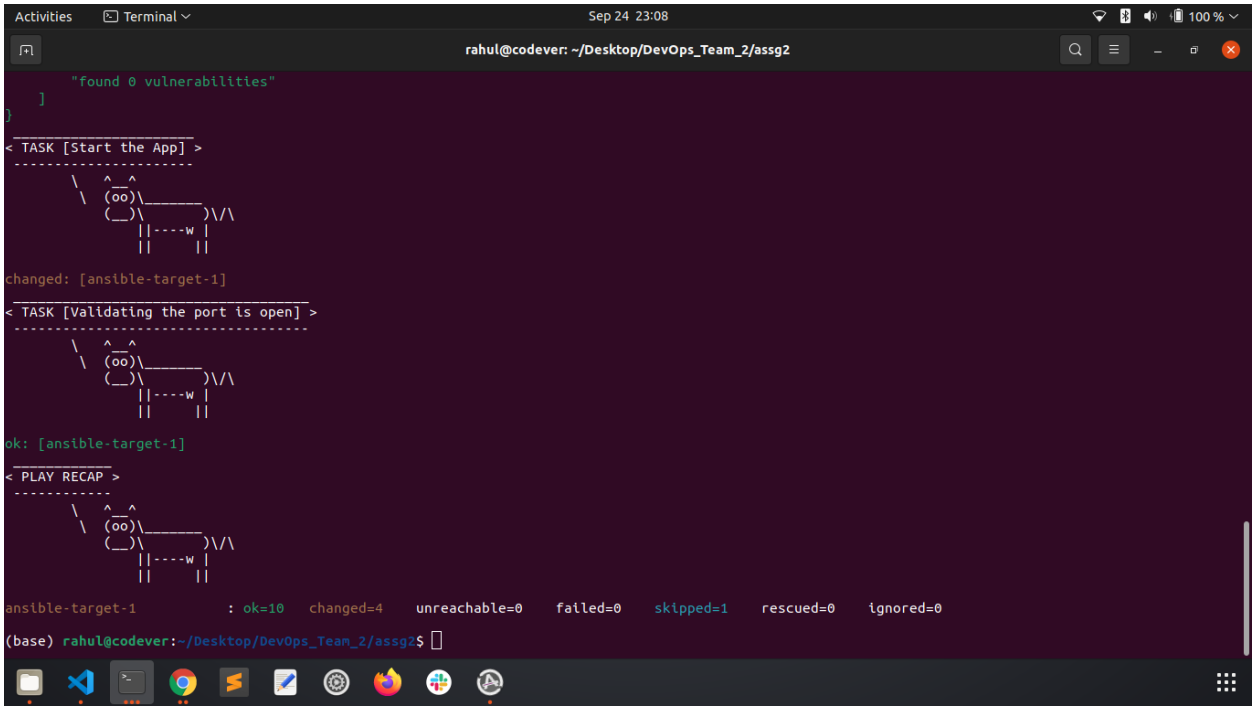
Step 5: *Now the final step is to run the Ansible Playbook that we have created above. Complete execution and workflow for this assignment have been shown in the five screenshots below.*






Activities
Terminal
Sep 24 23:08
100 %
rahul@codever: ~/Desktop/DevOps_Team_2/assg2
< TASK [Version Info] >
ok: [ansible-target-1] => {
"msg": "Version info ['6.14.11', 'v10.24.0']"
}
< TASK [Download the NodeJS code from the GitRepo] >
changed: [ansible-target-1]
< TASK [Change the ownership of the directory] >
ok: [ansible-target-1]
< TASK [Install Dependencies with NPM install command] >
\ ^__^
\ (oo)_______
(__)\ )\/\
||----w |
|| ||


Activities
Terminal
Sep 24 23:08
100 %
rahul@codever: ~/Desktop/DevOps_Team_2/assg2
< TASK [Install Dependencies with NPM install command] >
[WARNING]: Consider using 'become', 'become_method', and 'become_user' rather than running sudo
changed: [ansible-target-1]
< TASK [Debug npm install command] >
ok: [ansible-target-1] => {
"msg": [
"audited 50 packages in 0.781s",
"found 0 vulnerabilities"
]
}
< TASK [Start the App] >
\ ^__^
\ (oo)_______
(__)\ )\/\
||----w |
|| ||


Activities
Terminal
Sep 24 23:08
100 %
rahul@codever: ~/Desktop/DevOps_Team_2/assg2
"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=4 unreachable=0 failed=0 skipped=1 rescued=0 ignored=0
(base) rahul@codever:~/Desktop/DevOps_Team_2/assg2$

THE OUTCOME

After the complete execution of the Ansible Playbook above, the moment of truth is here! Our Web App is successfully deployed on the AWS EC2 instance from our GitHub repository. The Web App is running on Port 5000 of the EC2 instance as can be seen in the screenshot below along with our enthusiastic DevOps Team 2.