

CA-2

BUILD AND RELEASE MANAGEMENT

B-Tech CSE (DevOps)

Submitted by:

Nandana S

12317635

K23DV – A – 07

GitHub Link: <https://github.com/nandanaShaji77/CA-2-BUILD-AND-RELEASE-MANAGEMENT.git>



PART 1:

1.

```
environment.ini
1  [all:vars]
2  ansible_user=ec2-user
3  ansible_private_key_file=C:/Users/jitna/.ssh/ansibleJupiter.pem
4
5  [frontend_servers]
6  44.197.115.175
7
8  [utility_servers]
9  44.197.115.175
10
```

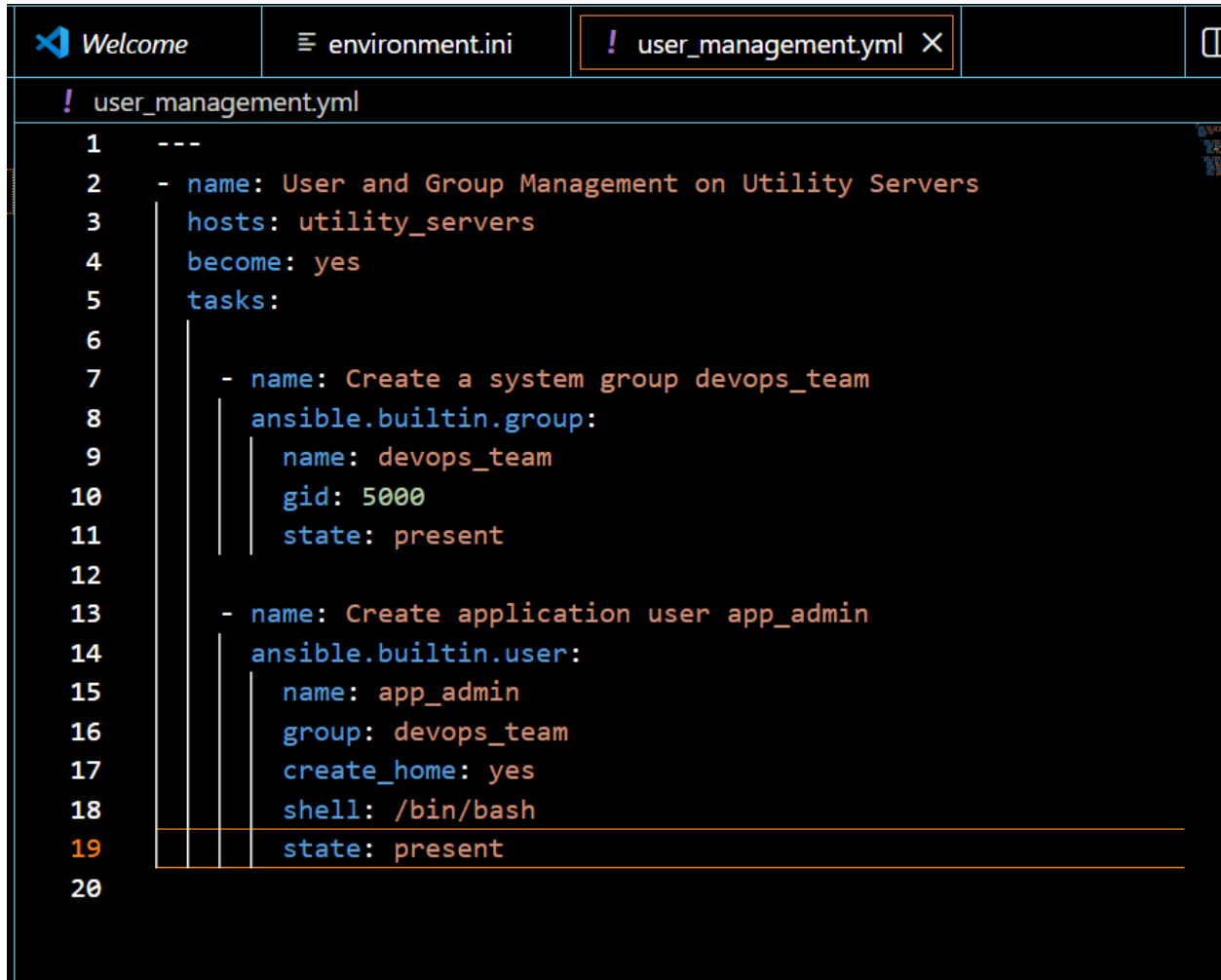
2.

```
jupiter@JupiterPC:/mnt/c/Users/jitna/CA2 Ansible$ ansible frontend_servers -i environment.ini -m ping
[WARNING]: Host '44.197.115.175' is using the discovered Python interpreter at '/usr/bin/python3.9', but future installation of another Python interpreter could cause a different interpreter to be discovered. See https://docs.ansible.com/ansible-core/2.19/reference_appendices/interpreter_discovery.html for more information.
44.197.115.175 | SUCCESS => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3.9"
  },
  "changed": false,
  "ping": "pong"
}

jupiter@JupiterPC:/mnt/c/Users/jitna/CA2 Ansible$ ansible utility_servers -i environment.ini -m ping
[WARNING]: Host '44.197.115.175' is using the discovered Python interpreter at '/usr/bin/python3.9', but future installation of another Python interpreter could cause a different interpreter to be discovered. See https://docs.ansible.com/ansible-core/2.19/reference_appendices/interpreter_discovery.html for more information.
44.197.115.175 | SUCCESS => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3.9"
  },
  "changed": false,
  "ping": "pong"
}
```

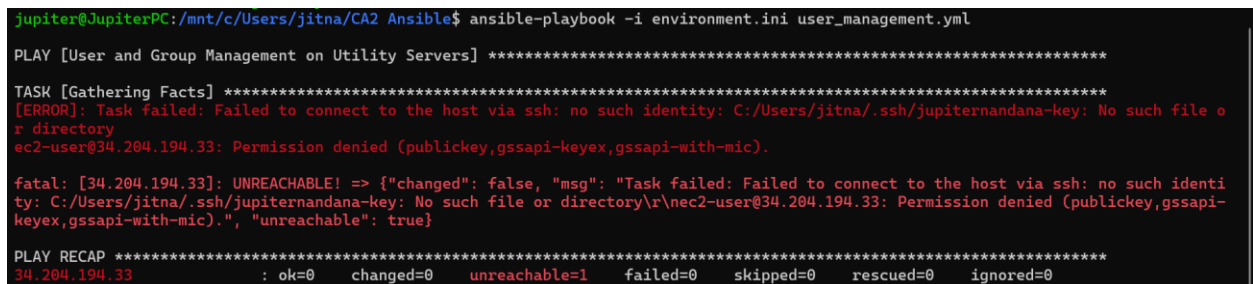
PART 2:

1., 2.



The screenshot shows a code editor with a dark theme. At the top, there are three tabs: 'Welcome' with a blue icon, 'environment.ini' with a hamburger menu icon, and 'user_management.yml' with a red exclamation mark icon and a close button. The 'user_management.yml' tab is active, and the file content is displayed below it. The content is an Ansible playbook with line numbers 1 through 20 on the left margin. The playbook has a title 'User and Group Management on Utility Servers' and targets 'utility_servers'. It includes two tasks: 'Create a system group devops_team' and 'Create application user app_admin'. The first task uses the 'ansible.builtin.group' module to create a group named 'devops_team' with gid '5000' and state 'present'. The second task uses the 'ansible.builtin.user' module to create a user named 'app_admin' in the 'devops_team' group, with a home directory, shell '/bin/bash', and state 'present'.

```
1  ---
2  - name: User and Group Management on Utility Servers
3    hosts: utility_servers
4    become: yes
5    tasks:
6
7      - name: Create a system group devops_team
8        ansible.builtin.group:
9          name: devops_team
10         gid: 5000
11         state: present
12
13      - name: Create application user app_admin
14        ansible.builtin.user:
15          name: app_admin
16          group: devops_team
17          create_home: yes
18          shell: /bin/bash
19          state: present
20
```



The screenshot shows a terminal window with a dark theme. The prompt is 'jupiter@JupiterPC:/mnt/c/Users/jitna/CA2 Ansible\$'. The command executed is 'ansible-playbook -i environment.ini user_management.yml'. The output shows the playbook execution starting with 'PLAY [User and Group Management on Utility Servers]'. It then shows 'TASK [Gathering Facts]' which fails with an error: '[ERROR]: Task failed: Failed to connect to the host via ssh: no such identity: C:/Users/jitna/.ssh/jupiternandana-key: No such file or directory'. The error is repeated for 'ec2-user@34.204.194.33: Permission denied (publickey,gssapi-keyex,gssapi-with-mic)'. The terminal then shows a 'fatal: [34.204.194.33]: UNREACHABLE!' message. Finally, a 'PLAY RECAP' is shown with the following statistics: '34.204.194.33 : ok=0 changed=0 unreachable=1 failed=0 skipped=0 rescued=0 ignored=0'.

```
jupiter@JupiterPC:/mnt/c/Users/jitna/CA2 Ansible$ ansible-playbook -i environment.ini user_management.yml

PLAY [User and Group Management on Utility Servers] *****

TASK [Gathering Facts] *****
[ERROR]: Task failed: Failed to connect to the host via ssh: no such identity: C:/Users/jitna/.ssh/jupiternandana-key: No such file or directory
ec2-user@34.204.194.33: Permission denied (publickey,gssapi-keyex,gssapi-with-mic).

fatal: [34.204.194.33]: UNREACHABLE! => {"changed": false, "msg": "Task failed: Failed to connect to the host via ssh: no such identity: C:/Users/jitna/.ssh/jupiternandana-key: No such file or directory\r\nec2-user@34.204.194.33: Permission denied (publickey,gssapi-keyex,gssapi-with-mic).", "unreachable": true}

PLAY RECAP *****
34.204.194.33 : ok=0 changed=0 unreachable=1 failed=0 skipped=0 rescued=0 ignored=0
```

3.

```
jupiter@JupiterPC:/mnt/c/Users/jitna/CA2 Ansible$ cat custom_vhost.conf
Listen 8080
<VirtualHost *:8080>
    DocumentRoot /var/www/html
    <Directory /var/www/html>
        AllowOverride All
        Require all granted
    </Directory>
</VirtualHost>
jupiter@JupiterPC:/mnt/c/Users/jitna/CA2 Ansible$ |
```

```
jupiter@JupiterPC:/mnt/c/Users/jitna/CA2 Ansible$ ansible-playbook -i environment.ini user_management.yml

PLAY [User and Group Management on Utility Servers] *****

TASK [Gathering Facts] *****
[WARNING]: Host '44.197.115.175' is using the discovered Python interpreter at '/usr/bin/python3.9', but future installation of another Python interpreter could cause a different interpreter to be discovered. See https://docs.ansible.com/ansible-core/2.19/reference_appendices/interpreter_discovery.html for more information.
ok: [44.197.115.175]

TASK [Create a system group devops_team] *****
changed: [44.197.115.175]

TASK [Create application user app_admin] *****
changed: [44.197.115.175]

PLAY RECAP *****
44.197.115.175      : ok=3    changed=2    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

jupiter@JupiterPC:/mnt/c/Users/jitna/CA2 Ansible$
```

PART 3:

```
! web_deployment.yml
1 ---
2 - name: Web Deployment on Frontend Servers
3   hosts: frontend_servers
4   become: yes
5
6   vars:
7     apache_pkg: apache2      # For Ubuntu
8     apache_service: apache2  # For Ubuntu
9     config_src: custom_vhost.conf
10    config_dest: /etc/apache2/conf-available/custom.conf
11
12   tasks:
13
14     - name: Install Apache web server
15       ansible.builtin.apt:
16         name: "{{ apache_pkg }}"
17         state: present
18         update_cache: yes
19
20     - name: Deploy custom Apache configuration
21       ansible.builtin.copy:
22         src: "{{ config_src }}"
23         dest: "{{ config_dest }}"
24         owner: root
25         group: root
26         mode: '0644'
27       notify: Restart Apache
28
29     - name: Ensure Apache service is started and enabled
30       ansible.builtin.service:
31         name: "{{ apache_service }}"
32         state: started
33         enabled: yes
34
35   handlers:
36     - name: Restart Apache
37       ansible.builtin.service:
38         name: "{{ apache_service }}"
39         state: restarted
40
```

```

customv_host.conf
1 Listen 8080
2 <VirtualHost *:8080>
3     DocumentRoot /var/www/html
4     <Directory /var/www/html>
5         AllowOverride All
6         Require all granted
7     </Directory>
8 </VirtualHost>
9

```

```

jupiter@JupiterPC:/mnt/c/Users/jitna/CA2 Ansible$ ansible-playbook -i environment.ini web_deployment.yml

PLAY [Web Deployment on Frontend Servers] *****

TASK [Gathering Facts] *****
[WARNING]: Host '44.197.115.175' is using the discovered Python interpreter at '/usr/bin/python3.9', but future installation of another Python interpreter could cause a different interpreter to be discovered. See https://docs.ansible.com/ansible-core/2.19/reference_appendices/interpreter_discovery.html for more information.
ok: [44.197.115.175]

TASK [Install Apache web server] *****
[WARNING]: Updating cache and auto-installing missing dependency: python3-apt
[ERROR]: Task failed: Module failed: Error executing command: [Errno 2] No such file or directory: b'update'
Origin: /mnt/c/Users/jitna/CA2 Ansible/web_deployment.yml:14:7

12 tasks:
13
14 - name: Install Apache web server
   ^ column 7

fatal: [44.197.115.175]: FAILED! => {"changed": false, "cmd": "update", "msg": "Error executing command.", "rc": 2, "stderr": "", "stderr_lines": [], "stdout": "", "stdout_lines": []}

PLAY RECAP *****
44.197.115.175 : ok=1 changed=0 unreachable=0 failed=1 skipped=0 rescued=0 ignored=0

```