In this lab exercise you will use below hosts. Please note down some details about these hosts as given below :

student-node :- This host will act as an Ansible master node where you will create playbooks, inventory, roles etc and you will be running your playbooks from this host itself.

node01 :- This host will act as an Ansible client/remote host where you will setup/install some stuff using Ansible playbooks. Below are the SSH credentials for this host:

User: bob
Password: caleston123

node02 :- This host will also act as an Ansible client/remote host where you will setup/install some stuff using Ansible playbooks. Below are the SSH credentials for this host:

User: bob
Password: caleston123

Which of the following Ansible modules support free_form parameter? Command

Does Ansible support idempotancy? Yes

Which of the following commands we can use to see the information about Ansible modules from command line? Ansible-doc

Which Ansible module is used in the following playbook? user

- hosts: localhost
  become: yes
  become_user: root
  tasks:
   - name: create user
     user:
       name: admin

Which of the following statements are true about lineinfile Ansible module? A. It only adds the given line in file if that line doesn't exist in that file. ; D. It keeps the existing lines as well and add a new given line in the file.

What are Ansible system modules used for? B. System modules are actions to be performed at a system level such as modifying the users and groups on a system, modifying iptables, starting/stopping the service etc.

Update the playbook named playbook.yaml under /home/bob/playbooks directory with a task named Execute a script to run a script. The script is located at /tmp/install_script.sh on student-node. Use the script module.
Note: There is already an inventory file /home/bob/playbooks/inventory present on student-node system.

```
[bob@student-node playbooks]$ cat inventory
node01 ansible_host=node01 ansible_ssh_pass=caleston123
node02 ansible_host=node02 ansible_ssh_pass=caleston123
[web_nodes]
node01
node02
```

```
[bob@student-node playbooks]$ cat playbook.yaml
---
- name: 'hosts'
  hosts: all
  become: yes
  tasks:
          - name: 'Execute a script'
            script: /tmp/install_script.sh
[bob@student-node playbooks]$
```

```
[bob@student-node tmp]$ cat install_script.sh
#!/bin/bash
sudo yum install -y vim  httpd
```

```
[bob@student-node playbooks]$ ansible-playbook -i inventory playbook.yaml

PLAY [hosts] ********************************************************************

TASK [Gathering Facts] *********************************************************
ok: [node01]
ok: [node02]

TASK [Execute a script] ********************************************************
changed: [node01]
changed: [node02]

PLAY RECAP *********************************************************************
node01                     : ok=2    changed=1    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

node02                     : ok=2    changed=1    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
```

Update the playbook /home/bob/playbooks/playbook.yaml to add a new task to start httpd service on all web nodes defined in /home/bob/playbooks/inventory file.
Use the service module.

```
[bob@student-node playbooks]$ cat playbook.yaml
---
- name: 'hosts'
  hosts: all
  become: yes
  tasks:
    - name: 'Execute a script'
      script: '/tmp/install_script.sh'

    - name: 'Start httpd service'
      service:
              name: https
              state: started
```

```
[bob@student-node playbooks]$ ansible-playbook -i inventory playbook.yaml

PLAY [hosts] ******************************************************************************

TASK [Gathering Facts] ******************************************************************
ok: [node01]
ok: [node02]

TASK [Execute a script] ****************************************************************
changed: [node01]
changed: [node02]

TASK [Start httpd service] *************************************************************
changed: [node01]
changed: [node02]

PLAY RECAP ********************************************************************************
node01                 : ok=3   changed=2   unreachable=0   failed=0   skipped=0   rescued=0   ignored=0

node02                 : ok=3   changed=2   unreachable=0   failed=0   skipped=0   rescued=0   ignored=0
```

Update the playbook /home/bob/playbooks/playbook.yaml to append the /var/www/html/index.html file on all web nodes. The line needs to be added is Welcome to ansible-beginning course, create the index.html file if doesn't exist.
Use the lineinfile module.

```
[bob@student-node playbooks]$ cat playbook.yaml
---
- name: 'hosts'
  hosts: all
  become: yes
  tasks:
    - name: 'Execute a script'
      script: '/tmp/install_script.sh'
    - name: 'Start httpd service'
      service:
        name: 'httpd'
        state: 'started'
    - name: 'Append to file'
      lineinfile:
        path: /var/www/html/index.html
        line: 'Welcome to ansible-beginning course'
        create: true
[bob@student-node playbooks]$
```

```
[bob@student-node playbooks]$ ansible-playbook -i inventory playbook.yaml

PLAY [hosts] ***********************************************************************************

TASK [Gathering Facts] ************************************************************************
ok: [node01]
ok: [node02]

TASK [Execute a script] ***********************************************************************
changed: [node01]
changed: [node02]

TASK [Start httpd service] ********************************************************************
ok: [node02]
ok: [node01]

TASK [Append to file] *************************************************************************
changed: [node01]
changed: [node02]

PLAY RECAP ************************************************************************************
node01                     : ok=4    changed=2    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

node02                     : ok=4    changed=2    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
```

Update the playbook /home/bob/playbooks/playbook.yaml to add a new task to create a new user called web_user.
Use the user module for this task. You can find the user details as below.
Username: web_user
uid: 1040
group: developers

```
[bob@student-node playbooks]$ cat playbook.yaml
---
- name: 'hosts'
  hosts: all
  become: yes
  tasks:
    - name: 'Execute a script'
      script: '/tmp/install_script.sh'
    - name: 'Start httpd service'
      service:
        name: 'httpd'
        state: 'started'
    - name: "Update /var/www/html/index.html"
      lineinfile:
        path: /var/www/html/index.html
        line: "Welcome to ansible-beginning course"
        create: true
    - name: 'create a new user called web_user'
      user:
        name: 'web_user'
        uid: 1040
        group: developers
[bob@student-node playbooks]$
```

```
[bob@student-node playbooks]$ vi playbook.yaml
[bob@student-node playbooks]$ ansible-playbook -i inventory playbook.yaml

PLAY [hosts] ***********************************************************

TASK [Gathering Facts] ***********************************************
ok: [node01]
ok: [node02]

TASK [Execute a script] **********************************************
changed: [node01]
changed: [node02]

TASK [Start httpd service] *******************************************
ok: [node02]
ok: [node01]

TASK [Update /var/www/html/index.html] *****************************
ok: [node01]
ok: [node02]

TASK [create a new user called web_user] ***************************
changed: [node01]
changed: [node02]

PLAY RECAP **********************************************************
```