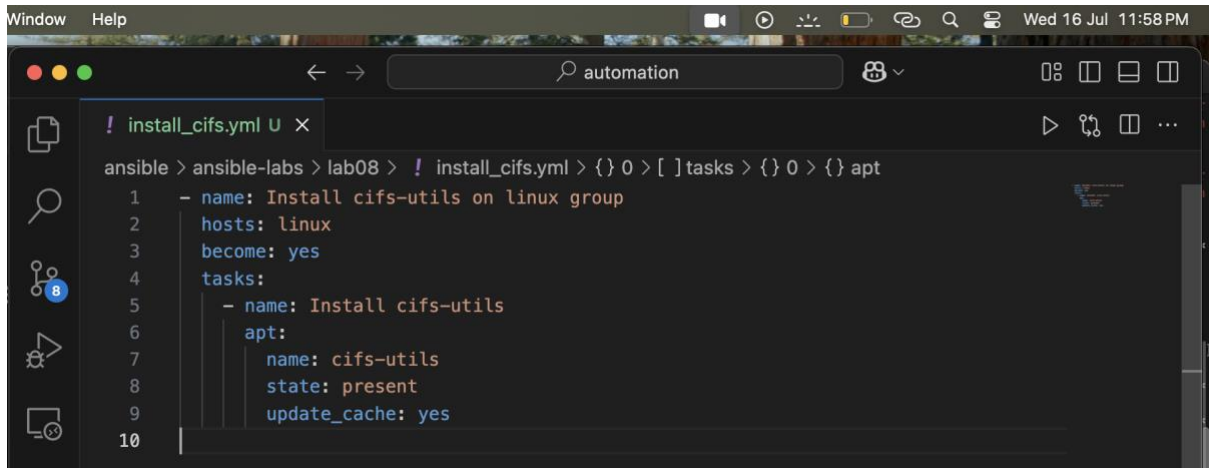


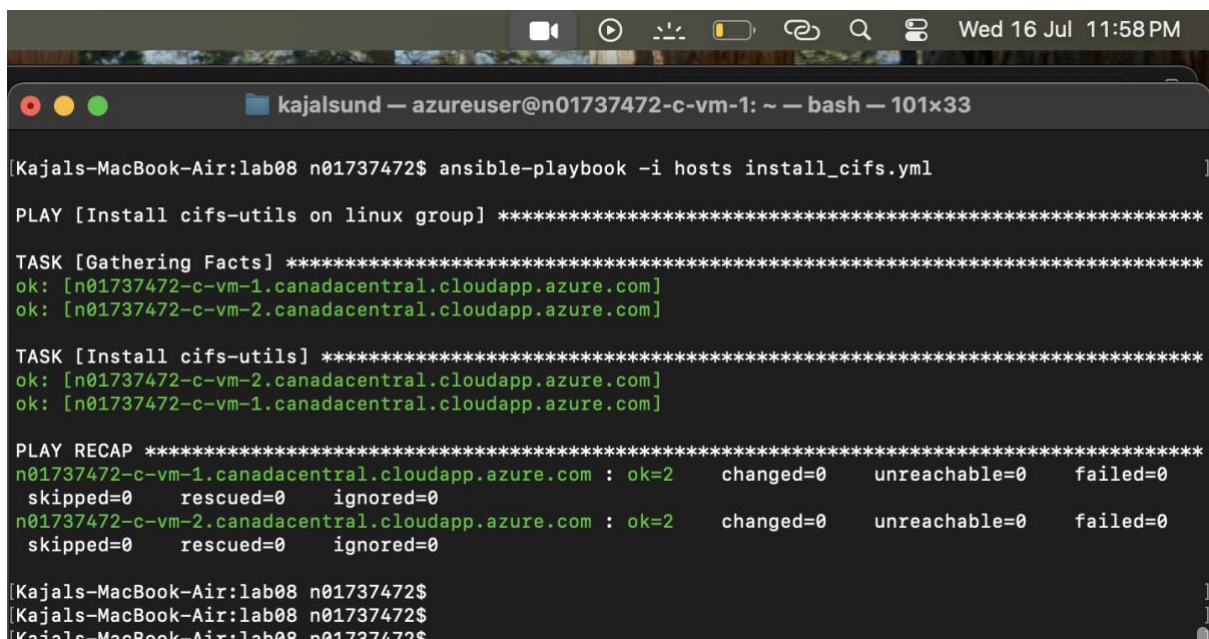
Lab 8

Part 1: Create a playbook with one play and one task:

1. Convert the ad-hoc command “Use the dnf module to install the package called cifs-utils on localhost” portion into a single-task playbook and run it against the linux inventory group machines. Hint: use the dnf module.



```
! install_cifs.yml U x
ansible > ansible-labs > lab08 > ! install_cifs.yml > {} 0 > [ ] tasks > {} 0 > {} apt
1  - name: Install cifs-utils on linux group
2    hosts: linux
3    become: yes
4    tasks:
5      - name: Install cifs-utils
6        apt:
7          name: cifs-utils
8          state: present
9          update_cache: yes
10
```



```
kajalsund — azureuser@n01737472-c-vm-1: ~ — bash — 101x33

[Kajals-MacBook-Air:lab08 n01737472$ ansible-playbook -i hosts install_cifs.yml

PLAY [Install cifs-utils on linux group] *****

TASK [Gathering Facts] *****
ok: [n01737472-c-vm-1.canadacentral.cloudapp.azure.com]
ok: [n01737472-c-vm-2.canadacentral.cloudapp.azure.com]

TASK [Install cifs-utils] *****
ok: [n01737472-c-vm-2.canadacentral.cloudapp.azure.com]
ok: [n01737472-c-vm-1.canadacentral.cloudapp.azure.com]

PLAY RECAP *****
n01737472-c-vm-1.canadacentral.cloudapp.azure.com : ok=2    changed=0    unreachable=0    failed=0
skipped=0    rescued=0    ignored=0
n01737472-c-vm-2.canadacentral.cloudapp.azure.com : ok=2    changed=0    unreachable=0    failed=0
skipped=0    rescued=0    ignored=0

[Kajals-MacBook-Air:lab08 n01737472$
[Kajals-MacBook-Air:lab08 n01737472$
[Kajals-MacBook-Air:lab08 n01737472$
```

Part 2: Create a playbook with one play and multiple tasks:

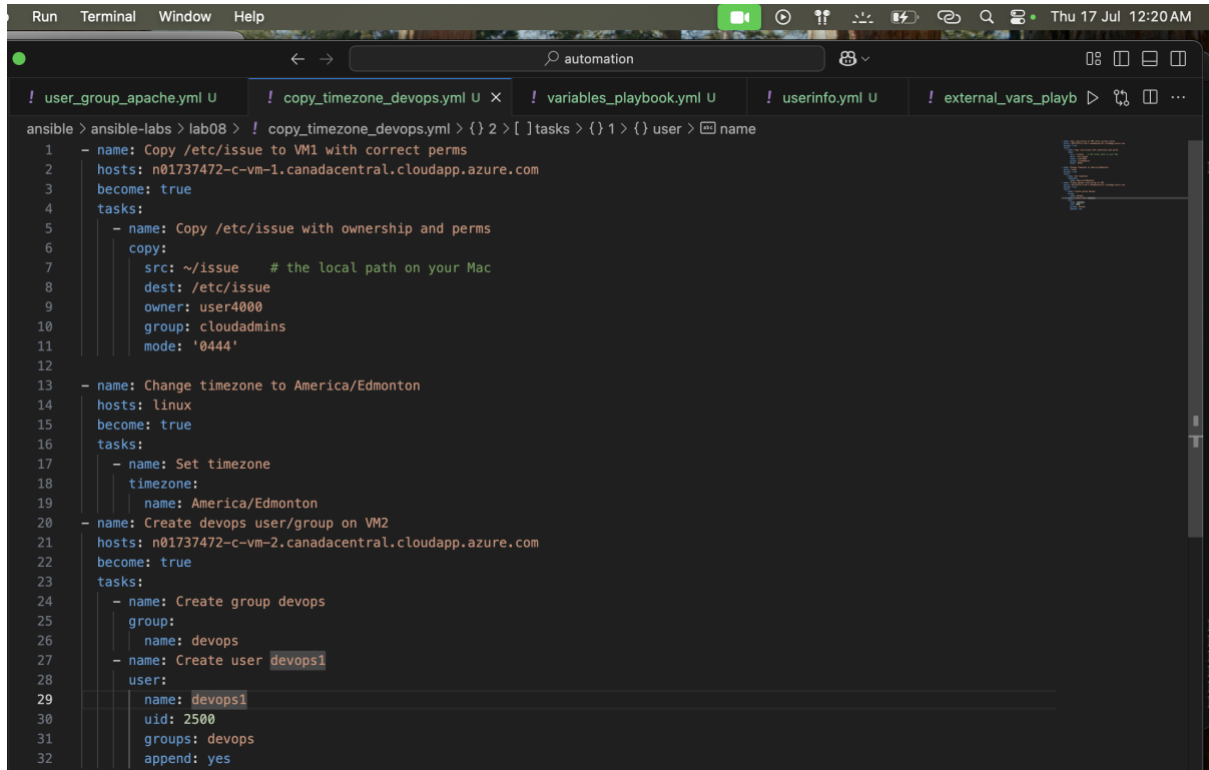
2. 3. Play 1, Tasks 1 and 2: Create a user account called user4000 with UID 5000 and a group account called cloudadmins with GID 3000. Hint: use the user and group modules.

Play 1, Tasks 3 and 4: Install the latest versions of apache and nmap software. Start the Apache service and set it to auto-start on system reboots. Hint: use the dnf and systemd modules. SCREENSHOT of the playbook

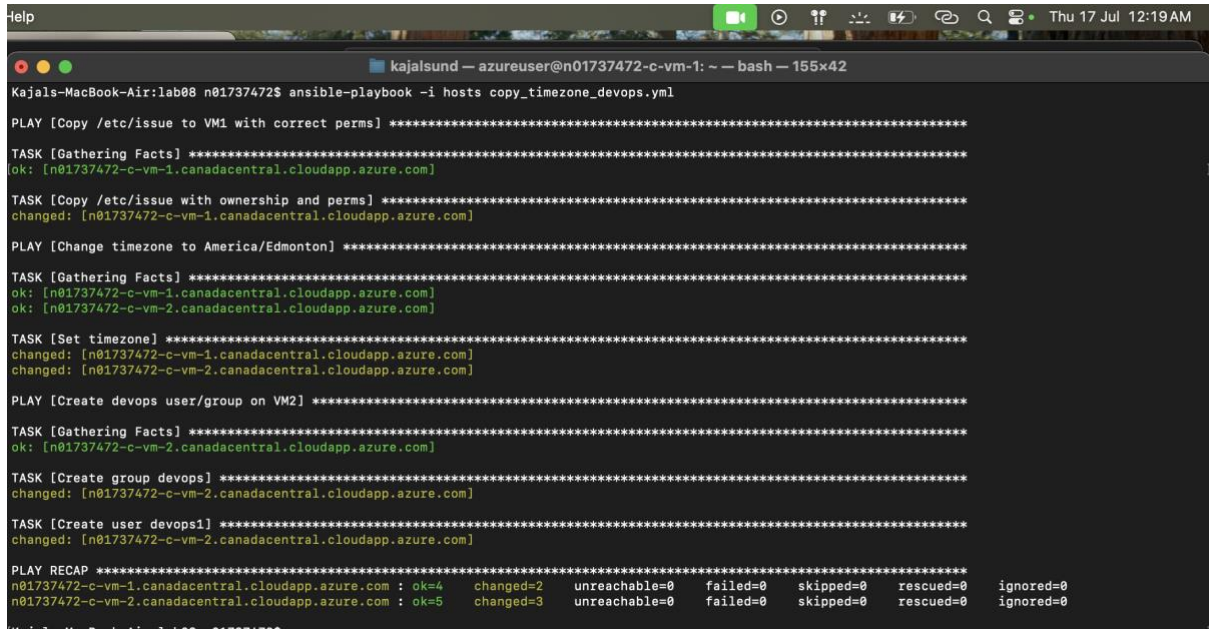
4. Run the above playbook against linux inventory group

```
Go Run Terminal Window Help Thu 17 Jul 12:12 AM
automation
! user_group_apache.yml U X ! copy_timezone_devops.yml U ! variables_playbook.yml U ! userinfo.yml
ansible > ansible-labs > lab08 > ! user_group_apache.yml > {} 0 > [ ] tasks > {} 3 > {} apt > state
1 - name: Create user, group, and install apache/nmap
2   hosts: linux
3   become: true
4   tasks:
5     - name: Create group cloudadmins
6       group:
7         name: cloudadmins
8         gid: 3000
9
10    - name: Create user user4000
11      user:
12        name: user4000
13        uid: 5000
14        group: cloudadmins
15
16    - name: Install apache2
17      apt:
18        name: apache2
19        state: latest
20        update_cache: true
21
22    - name: Install nmap
23      apt:
24        name: nmap
25        state: latest
26
27    - name: Ensure apache2 is started and enabled
28      service:
29        name: apache2
30        state: started
31        enabled: true
```

7. Play 3, Task 1 and 2: Perform the following on ansible-c-vm2. Create a group called devops. Create a user called devops1 with UID 2500 and supplementary membership to devops group. Hint: use user and group modules. 8. Run the above playbook



```
! user_group_apache.yml U ! copy_timezone_devops.yml X ! variables_playbook.yml U ! userinfo.yml U ! external_vars_playb >
ansible > ansible-labs > lab08 > ! copy_timezone_devops.yml > {} 2 > [ ] tasks > {} 1 > {} user > name
1  - name: Copy /etc/issue to VM1 with correct perms
2    hosts: n01737472-c-vm-1.canadacentral.cloudapp.azure.com
3    become: true
4    tasks:
5      - name: Copy /etc/issue with ownership and perms
6        copy:
7          src: ~/issue # the local path on your Mac
8          dest: /etc/issue
9          owner: user4000
10         group: cloudadmins
11         mode: '0444'
12
13  - name: Change timezone to America/Edmonton
14    hosts: linux
15    become: true
16    tasks:
17      - name: Set timezone
18        timezone:
19          name: America/Edmonton
20  - name: Create devops user/group on VM2
21    hosts: n01737472-c-vm-2.canadacentral.cloudapp.azure.com
22    become: true
23    tasks:
24      - name: Create group devops
25        group:
26          name: devops
27      - name: Create user devops1
28        user:
29          name: devops1
30          uid: 2500
31          groups: devops
32          append: yes
```



```
Help
kajalsund — azureuser@n01737472-c-vm-1: ~ — bash — 155x42
Kajals-MacBook-Air:lab08 n01737472$ ansible-playbook -i hosts copy_timezone_devops.yml

PLAY [Copy /etc/issue to VM1 with correct perms] *****
TASK [Gathering Facts] *****
ok: [n01737472-c-vm-1.canadacentral.cloudapp.azure.com]

TASK [Copy /etc/issue with ownership and perms] *****
changed: [n01737472-c-vm-1.canadacentral.cloudapp.azure.com]

PLAY [Change timezone to America/Edmonton] *****
TASK [Gathering Facts] *****
ok: [n01737472-c-vm-1.canadacentral.cloudapp.azure.com]
ok: [n01737472-c-vm-2.canadacentral.cloudapp.azure.com]

TASK [Set timezone] *****
changed: [n01737472-c-vm-1.canadacentral.cloudapp.azure.com]
changed: [n01737472-c-vm-2.canadacentral.cloudapp.azure.com]

PLAY [Create devops user/group on VM2] *****
TASK [Gathering Facts] *****
ok: [n01737472-c-vm-2.canadacentral.cloudapp.azure.com]

TASK [Create group devops] *****
changed: [n01737472-c-vm-2.canadacentral.cloudapp.azure.com]

TASK [Create user devops1] *****
changed: [n01737472-c-vm-2.canadacentral.cloudapp.azure.com]

PLAY RECAP *****
n01737472-c-vm-1.canadacentral.cloudapp.azure.com : ok=4  changed=2  unreachable=0  failed=0  skipped=0  rescued=0  ignored=0
n01737472-c-vm-2.canadacentral.cloudapp.azure.com : ok=5  changed=3  unreachable=0  failed=0  skipped=0  rescued=0  ignored=0
```

Section 2

Objectives:

- Demonstrate the use of variables defined inside a playbook and in external files

Part 1: Demonstrate in-playbook variable definitions:

```
Thu 17 Jul 12:27 AM
automation
! variables_playbook.yml U X
ansible > ansible-labs > lab08 > ! variables_playbook.yml > {} 0
1  - name: Use in-playbook variables
2    hosts: n01737472-c-vm-1.canadacentral.cloudapp.azure.com
3    become: true
4    vars:
5      grouplist1: group10
6      grouplist2: group20
7      userlist1: user10
8      userlist2: user20
9    tasks:
10   - name: Create groups
11     group:
12       name: "{{ item }}"
13     loop:
14       - "{{ grouplist1 }}"
15       - "{{ grouplist2 }}"
16
17   - name: Create user10 with group10
18     user:
19       name: "{{ userlist1 }}"
20       uid: 1800
21       groups: "{{ grouplist1 }}"
22       append: yes
23
24   - name: Create user20 with group20 and shell/home
25     user:
26       name: "{{ userlist2 }}"
27       uid: 1900
28       shell: /bin/bash
29       home: "/home/{{ userlist2 }}"
30       groups: "{{ grouplist2 }}"
31       append: yes
32
```

```
Thu 17 Jul 12:28 AM
kajalsund — azureuser@n01737472-c-vm-1: ~ — bash — 110x33
Kajals-MacBook-Air:lab08 n01737472$ ansible-playbook -i hosts variables_playbook.yml
PLAY [Use in-playbook variables] *****

TASK [Gathering Facts] *****
ok: [n01737472-c-vm-1.canadacentral.cloudapp.azure.com]

TASK [Create groups] *****
changed: [n01737472-c-vm-1.canadacentral.cloudapp.azure.com] => (item=group10)
changed: [n01737472-c-vm-1.canadacentral.cloudapp.azure.com] => (item=group20)

TASK [Create user10 with group10] *****
changed: [n01737472-c-vm-1.canadacentral.cloudapp.azure.com]

TASK [Create user20 with group20 and shell/home] *****
changed: [n01737472-c-vm-1.canadacentral.cloudapp.azure.com]

PLAY RECAP *****
n01737472-c-vm-1.canadacentral.cloudapp.azure.com : ok=4    changed=3    unreachable=0    failed=0    skipped=
0    rescued=0    ignored=0

Kajals-MacBook-Air:lab08 n01737472$
```

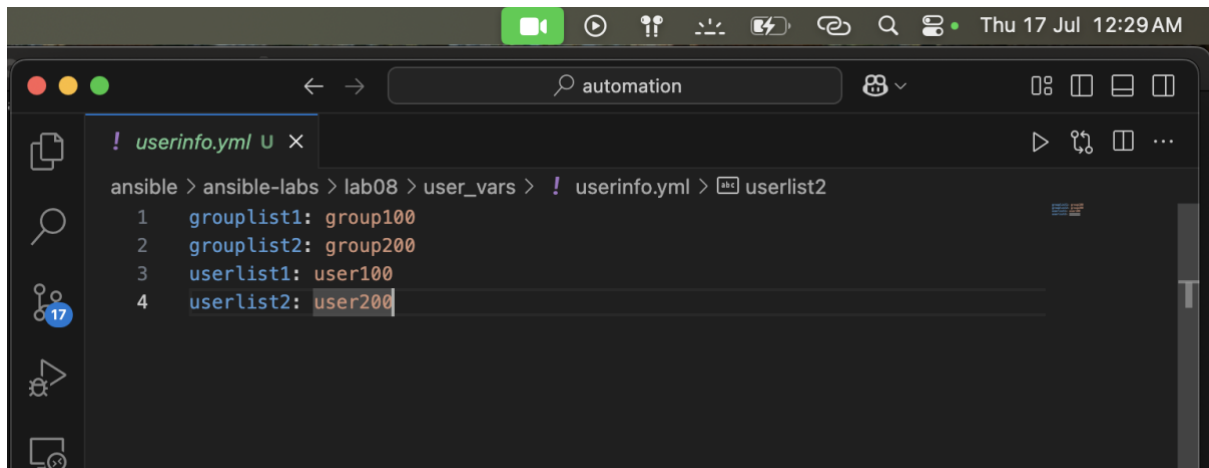
Part 2: Demonstrate the definition and use of variables from an external file:

9. Make a copy of the above playbook

10. Modify the copied playbook and move the variables out to an external file called `userinfo` under the `vars` directory. Change `group10` to `group100`, `group20` to `group200`, `user10` to `user100`, `user20` to `user200`, `UID 1800` to `2800`, and `UID 1900` to `2900`.

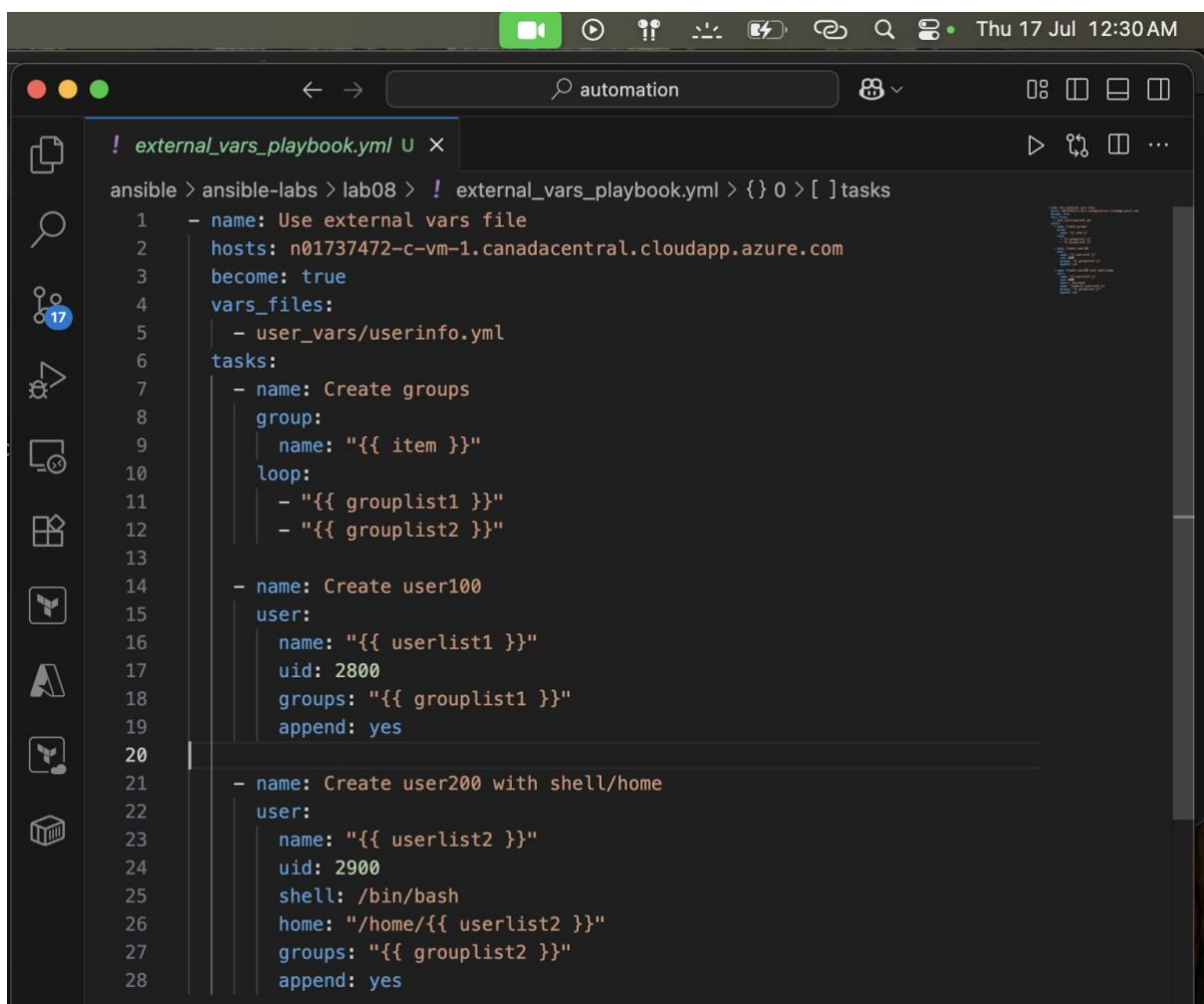
11. Run this playbook against `ansible-c-vm1` only

SCREENSHOT of the playbook, the variables file, and the last few lines of the output



The screenshot shows a terminal window with the file `userinfo.yml` open. The terminal prompt is `ansible > ansible-labs > lab08 > user_vars > ! userinfo.yml > userlist2`. The file contains the following content:

```
1 grouplist1: group100
2 grouplist2: group200
3 userlist1: user100
4 userlist2: user200
```



The screenshot shows a terminal window with the file `external_vars_playbook.yml` open. The terminal prompt is `ansible > ansible-labs > lab08 > ! external_vars_playbook.yml > {} 0 > [] tasks`. The file contains the following content:

```
1 - name: Use external vars file
2   hosts: n01737472-c-vm-1.canadacentral.cloudapp.azure.com
3   become: true
4   vars_files:
5     - user_vars/userinfo.yml
6   tasks:
7     - name: Create groups
8       group:
9         name: "{{ item }}"
10      loop:
11        - "{{ grouplist1 }}"
12        - "{{ grouplist2 }}"
13
14    - name: Create user100
15      user:
16        name: "{{ userlist1 }}"
17        uid: 2800
18        groups: "{{ grouplist1 }}"
19        append: yes
20
21    - name: Create user200 with shell/home
22      user:
23        name: "{{ userlist2 }}"
24        uid: 2900
25        shell: /bin/bash
26        home: "/home/{{ userlist2 }}"
27        groups: "{{ grouplist2 }}"
28        append: yes
```

```
kajalsund — azureuser@n01737472-c-vm-1: ~ — bash — 110x33
[Kajals-MacBook-Air:lab08 n01737472$ ansible-playbook -i hosts external_vars_playbook.yml]

PLAY [Use external vars file] *****

TASK [Gathering Facts] *****
ok: [n01737472-c-vm-1.canadacentral.cloudapp.azure.com]

TASK [Create groups] *****
changed: [n01737472-c-vm-1.canadacentral.cloudapp.azure.com] => (item=group100)
changed: [n01737472-c-vm-1.canadacentral.cloudapp.azure.com] => (item=group200)

TASK [Create user100] *****
changed: [n01737472-c-vm-1.canadacentral.cloudapp.azure.com]

TASK [Create user200 with shell/home] *****
changed: [n01737472-c-vm-1.canadacentral.cloudapp.azure.com]

PLAY RECAP *****
n01737472-c-vm-1.canadacentral.cloudapp.azure.com : ok=4    changed=3    unreachable=0    failed=0    skipped=
0    rescued=0    ignored=0

Kajals-MacBook-Air:lab08 n01737472$
```

Section 3

Objectives:

- Demonstrate the use of host variables and group variables

Part 1: Demonstrate the definition and use of host variables:

9. Create a playbook to install bind and evolution packages

10. Run this playbook against ansible-c-vm1 node using host variables

SCREENSHOT of the playbook, the variables file, and the last few lines of the output

```
automation
! n01737472-c-vm-1.canadacentral.cloudapp.azure.com.yml u x
ansible-labs > lab08 > host_vars > ! n01737472-c-vm-1.canadacentral.cloudapp.azure.com.yml > [ ] pkglist > 1
Ansible Vars File - Ansible variables File (vars.json)
1 pkglist:
2   - bind9
3   - evolution
```

```
! host_vars_playbook.yml U x
ansible > ansible-labs > lab08 > ! host_vars_playbook.yml > {} 0 > [ ] tasks > {} 0 > [ ] loop
1 - name: Install packages using host vars
2   hosts: n01737472-c-vm-1.canadacentral.cloudapp.azure.com
3   become: true
4   tasks:
5     - name: Install host-specific packages
6       apt:
7         name: "{{ item }}"
8         state: present
9         update_cache: true
10        loop: "{{ pkglist }}"
```

```
kajalsund — azureuser@n01737472-c-vm-1: ~ — bash — 110x33
[Kajals-MacBook-Air:lab08 n01737472$ ansible-playbook -i hosts host_vars_playbook.yml]
PLAY [Install packages using host vars] *****
TASK [Gathering Facts] *****
ok: [n01737472-c-vm-1.canadacentral.cloudapp.azure.com]
TASK [Install host-specific packages] *****
changed: [n01737472-c-vm-1.canadacentral.cloudapp.azure.com] => (item=bind9)
changed: [n01737472-c-vm-1.canadacentral.cloudapp.azure.com] => (item=evolution)
PLAY RECAP *****
n01737472-c-vm-1.canadacentral.cloudapp.azure.com : ok=2    changed=1    unreachable=0    failed=0    skipped=
0    rescued=0    ignored=0
Kajals-MacBook-Air:lab08 n01737472$
Kajals-MacBook-Air:lab08 n01737472$
Kajals-MacBook-Air:lab08 n01737472$
```

Part 2: Demonstrate the definition and use of group variables:

11. Create a playbook to install the ypserv package

12. Run this playbook against linux inventory group using group variables

SCREENSHOT of the playbook and the variables file, and the last few lines of the output

```
! linux.yml U x
ansible > ansible-labs > lab08 > group_vars > ! linux.yml > [ ] pkgname
Ansible Vars File - Ansible variables File (vars.json)
1 pkgname: ypserv
```

```
Thu 17 Jul 12:36 AM
automation
! group_vars_playbook.yml U x
ansible > ansible-labs > lab08 > ! group_vars_playbook.yml > {} 0 > [ ] tasks > {} 0 > {} apt > update_cache
1 - name: Install group-specific package
2   hosts: linux
3   become: true
4   tasks:
5     - name: Install group package
6       apt:
7         name: "{{ pkgname }}"
8         state: present
9         update_cache: true
```

```
Thu 17 Jul 12:37 AM
kajalsund — azureuser@n01737472-c-vm-1: ~ — bash — 110x33
Kajals-MacBook-Air:lab08 n01737472$ ansible-playbook -i hosts group_vars_playbook.yml

PLAY [Install group-specific package] *****

TASK [Gathering Facts] *****
ok: [n01737472-c-vm-1.canadacentral.cloudapp.azure.com]
ok: [n01737472-c-vm-2.canadacentral.cloudapp.azure.com]

TASK [Install group package] *****
changed: [n01737472-c-vm-1.canadacentral.cloudapp.azure.com]
changed: [n01737472-c-vm-2.canadacentral.cloudapp.azure.com]

PLAY RECAP *****
n01737472-c-vm-1.canadacentral.cloudapp.azure.com : ok=2    changed=1    unreachable=0    failed=0    skipped=
0    rescued=0    ignored=0
n01737472-c-vm-2.canadacentral.cloudapp.azure.com : ok=2    changed=1    unreachable=0    failed=0    skipped=
0    rescued=0    ignored=0
Kajals-MacBook-Air:lab08 n01737472$
```