

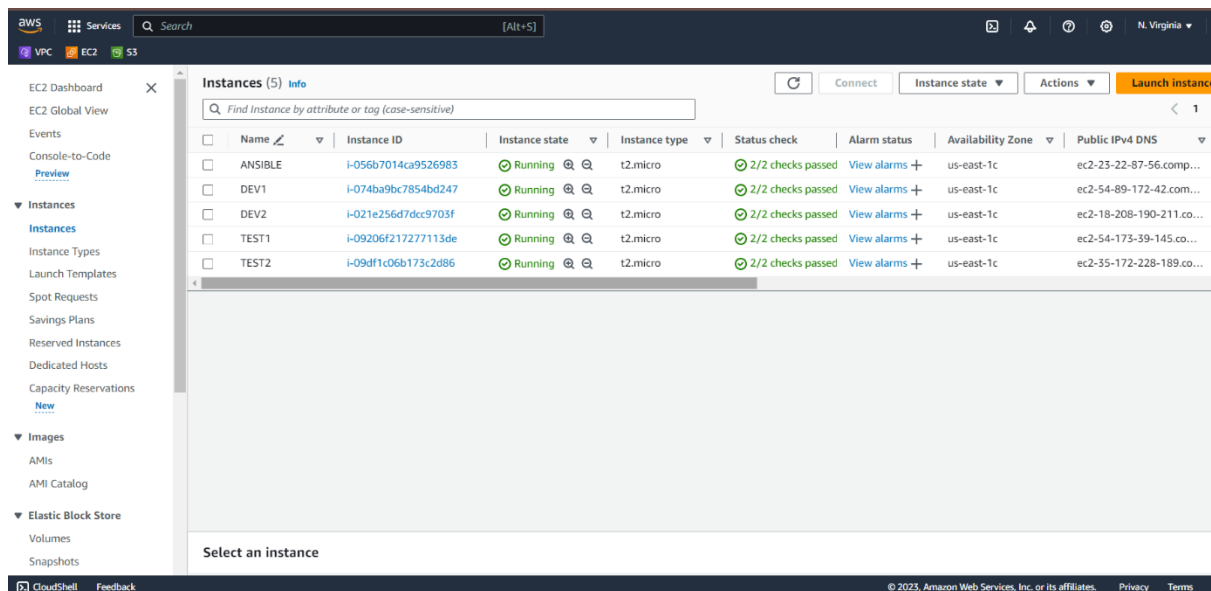
Task 1: Setting up Ansible Master and Slave Cluster

Objective: Create an Ansible Master and Slave Cluster with nodes named dev1, dev2, test1, and test2.

Task 1 Subtasks:

Set up Ansible Master and Slave Cluster with the following nodes:

- dev1
- dev2
- test1
- test2



Objective: Write a playbook to transfer a .war file to dev1 and test2 nodes. Transfer should only occur if the node's operating system family is RedHat. Print a success message, extracting information from a .txt file.

Task 1 Subtasks:

- Write an Ansible playbook to transfer a .war file.
- Ensure that the transfer only occurs if the node's operating system family is RedHat.
- Print a success message, extracting information from a .txt file

The screenshot displays the MobaXterm application window. The top menu bar includes Terminal, Sessions, View, X server, Tools, Games, Settings, Macros, and Help. Below the menu is a toolbar with icons for Session, Servers, Tools, Games, Sessions, View, Split, MultiExec, Tunneling, Packages, Settings, and Help. The main area shows a terminal session with the following content:

```
root@ansible~  
- hosts: dev[0] test[1]  
vars:  
  a: "{{lookup('file', '/root/tomcat-creds.txt')}}"  
tasks:  
  - name: copy .war file  
    copy: src=task.war dest=/root  
    when: ansible_os_family == "RedHat"  
  - name: print message  
    debug:  
      msg: "My task.war files are transferred successfully, My saved Credentials in tomcat-creds.txt are : {{a}}"
```

The terminal output shows several tilde (~) characters, indicating that the tasks were executed successfully. In the bottom right corner, there is a page number "2,7".

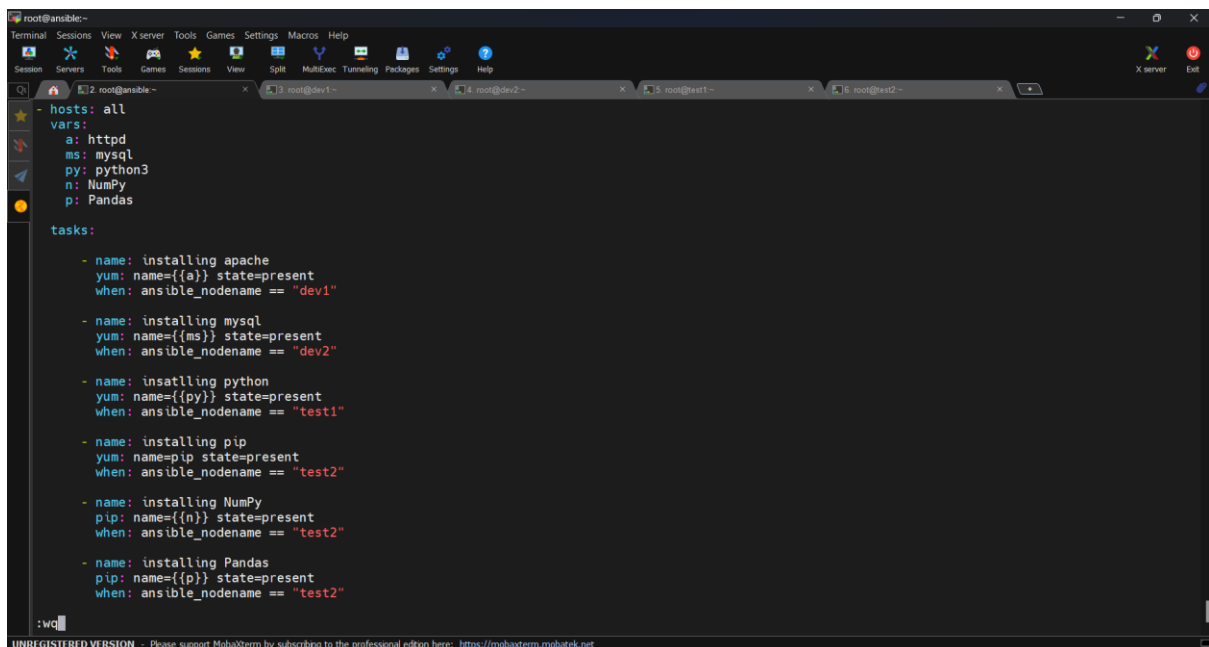
The image shows a MobaXterm terminal window with a dark background. At the top, there's a menu bar with options like Terminal, Sessions, View, Xserver, Tools, Games, Settings, Macros, and Help. Below the menu is a toolbar with icons for Session, Servers, Tools, Games, Sessions, View, Split, MultiExec, Tunneling, Packages, Settings, and Help. The terminal window has several tabs open, with the active tab being '2. root@ansible-'. The terminal output shows the execution of an Ansible playbook named 'task.yml'. The first task is 'Gathering Facts', which runs on two hosts: 172.31.30.79 and 172.31.23.120. Both hosts show a warning about the Python interpreter. The second task is 'copy .war file', which also runs on the same two hosts. The output shows that the files were successfully copied. The third task is 'print message', which also runs on the same two hosts. The output shows that the messages were successfully printed. The final output is a 'PLAY RECAP' showing that the playbook ran successfully on two hosts with 3 OK, 1 changed, and 0 failed results. At the bottom of the terminal, there's a command prompt showing the file permissions and timestamps for the files created on the hosts. The terminal also shows the file permissions and timestamps for the files created on the hosts. At the bottom of the terminal, there's a command prompt showing the file permissions and timestamps for the files created on the hosts. The terminal also shows the file permissions and timestamps for the files created on the hosts.

Task 2: Install Software on Cluster Nodes

Objective: Use variables in an Ansible playbook to install software on specific nodes. Install Apache on dev1, MySQL on dev2, Python on test1, and Numpy/Pandas on test2.

Task 2 Subtasks:

- Create an Ansible playbook using variables.
- Install Apache on dev1 node
- Install MySQL on dev2 node.
- Install Python on test1 node
- Install Numpy and Pandas on test2 node.



```
root@ansible-  
Terminal Sessions View X server Tools Games Settings Macros Help  
2. root@ansible- 3. root@dev1- 4. root@dev2- 5. root@test1- 6. root@test2-  
- hosts: all  
  vars:  
    a: httpd  
    ms: mysql  
    py: python3  
    n: NumPy  
    p: Pandas  
  tasks:  
    - name: installing apache  
      yum: name={{a}} state=present  
      when: ansible_nodename == "dev1"  
    - name: installing mysql  
      yum: name={{ms}} state=present  
      when: ansible_nodename == "dev2"  
    - name: installing python  
      yum: name={{py}} state=present  
      when: ansible_nodename == "test1"  
    - name: installing pip  
      yum: name=pip state=present  
      when: ansible_nodename == "test2"  
    - name: installing NumPy  
      pip: name={{n}} state=present  
      when: ansible_nodename == "test2"  
    - name: installing Pandas  
      pip: name={{p}} state=present  
      when: ansible_nodename == "test2"  
:wq
```

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```
root@ansible-
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help

root@ansible ~# vi lamp.yml
root@ansible ~# ansible-playbook lamp.yml

PLAY [all] *****

TASK [Gathering Facts] *****
[WARNING]: Platform linux on host 172.31.23.120 is using the discovered Python interpreter at /usr/bin/python, but future installation of another Python interpreter could change this. See https://docs.ansible.com/ansible/2.9/reference_appendices/interpreter_discovery.html for more information.
ok: [172.31.23.120]
[WARNING]: Platform linux on host 172.31.30.79 is using the discovered Python interpreter at /usr/bin/python, but future installation of another Python interpreter could change this. See https://docs.ansible.com/ansible/2.9/reference_appendices/interpreter_discovery.html for more information.
ok: [172.31.30.79]
[WARNING]: Platform linux on host 172.31.18.213 is using the discovered Python interpreter at /usr/bin/python, but future installation of another Python interpreter could change this. See https://docs.ansible.com/ansible/2.9/reference_appendices/interpreter_discovery.html for more information.
ok: [172.31.18.213]
[WARNING]: Platform linux on host 172.31.16.229 is using the discovered Python interpreter at /usr/bin/python, but future installation of another Python interpreter could change this. See https://docs.ansible.com/ansible/2.9/reference_appendices/interpreter_discovery.html for more information.
ok: [172.31.16.229]

TASK [installing apache] *****
skipping: [172.31.18.213]
skipping: [172.31.23.120]
skipping: [172.31.16.229]
changed: [172.31.30.79]

TASK [installing mysql] *****
skipping: [172.31.18.213]
skipping: [172.31.23.120]
skipping: [172.31.30.79]
changed: [172.31.16.229]

TASK [installing python] *****
skipping: [172.31.23.120]
skipping: [172.31.30.79]
skipping: [172.31.16.229]
ok: [172.31.18.213]

TASK [installing pip] *****
skipping: [172.31.18.213]
skipping: [172.31.30.79]
skipping: [172.31.16.229]
changed: [172.31.23.120]

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```

```
root@ansible-
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help

root@ansible ~#
skipping: [172.31.18.213]
skipping: [172.31.23.120]
skipping: [172.31.16.229]
changed: [172.31.30.79]

TASK [installing mysql] *****
skipping: [172.31.18.213]
skipping: [172.31.23.120]
skipping: [172.31.30.79]
changed: [172.31.16.229]

TASK [installing python] *****
skipping: [172.31.23.120]
skipping: [172.31.30.79]
skipping: [172.31.16.229]
ok: [172.31.18.213]

TASK [installing pip] *****
skipping: [172.31.18.213]
skipping: [172.31.30.79]
skipping: [172.31.16.229]
changed: [172.31.23.120]

TASK [installing NumPy] *****
skipping: [172.31.18.213]
skipping: [172.31.30.79]
skipping: [172.31.16.229]
changed: [172.31.23.120]

TASK [installing Pandas] *****
skipping: [172.31.18.213]
skipping: [172.31.30.79]
skipping: [172.31.16.229]
changed: [172.31.23.120]

PLAY RECAP *****
172.31.16.229      : ok=2    changed=1    unreachable=0    failed=0    skipped=5    rescued=0    ignored=0
172.31.18.213     : ok=2    changed=0    unreachable=0    failed=0    skipped=5    rescued=0    ignored=0
172.31.23.120     : ok=4    changed=3    unreachable=0    failed=0    skipped=3    rescued=0    ignored=0
172.31.30.79      : ok=2    changed=1    unreachable=0    failed=0    skipped=5    rescued=0    ignored=0

root@ansible ~#
```

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