ANSIBLE 01

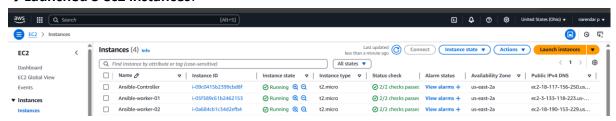
1) Watch ansible-01 video and write down notes.

Launched 3 ec2 instances:

→ watched ansible-01 video and made note of it

2) Setup one master and two worker nodes in ansible.

→ Launched 3 ec2 instances:



→ Connected to Ec2 controller server and checked python:

```
ubuntu@ip-172-31-7-71:~$ sudo -i
root@ip-172-31-7-71:~# python3 --version
Python 3.12.3
root@ip-172-31-7-71:~#

root@ip-172-31-7-7-7-7-*

root@ip-172-31-7-7-7-*

root@ip-172-31-7-7-7

root@ip-172-31-7

root@ip-172-31-7

root@ip-172-31-7

root@ip-172-31-7

root@ip-172-31-7

root@ip-172-31-7

root@ip-172-31-7

root@ip
```

#apt update

```
root@ip-172-31-7-71:~# apt update
Hit:1 http://us-east-2.ec2.archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://us-east-2.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:3 http://us-east-2.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:4 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
```

→Then installed ansible

```
no VM guests are running outdated hypervisor (qemu) binaries on this host.

root@ip-172-31-7-71:~# ansible --version

ansible [core 2.16.3]

config file = None

configured module search path = ['/root/.ansible/plugins/modules', '/usr/share/ansible/plugins/
ansible python module location = /usr/lib/python3/dist-packages/ansible

ansible collection location = /root/.ansible/collections:/usr/share/ansible/collections

executable location = /usr/bin/ansible

python version = 3.12.3 (main, Feb 4 2025, 14:48:35) [GCC 13.3.0] (/usr/bin/python3)

inia version = 3.1.2
jinja version = 3.1.2
libyaml = True
root@ip-172-31-7-71:~#
```

→ No configuration file

```
No VM guests are running outdated hypervisor (qemu) binaries on this host.

root@ip-172-31-7-71:-# ansible --version
ansible [core 2.16.3]
config file = None
configured module search path = ['/root/.ansible/plugins/modules', '/usr/share/ansible/plugins/modules']
ansible python module location = /usr/lib/python3/dist-packages/ansible
ansible collection location = /root/.ansible/collections:/usr/share/ansible/collections
executable location = /usr/bin/ansible
python version = 3.12.3 (main, Feb 4 2025, 14:48:35) [GCC 13.3.0] (/usr/bin/python3)
jinja version = 3.1.2
libyaml = True
root@ip-172-31-7-71:-# cd /etc/prife
       | Thyam | = True | True
```

→ Created manually configuration file:

```
* Documentation: https://help.ubuntu.com

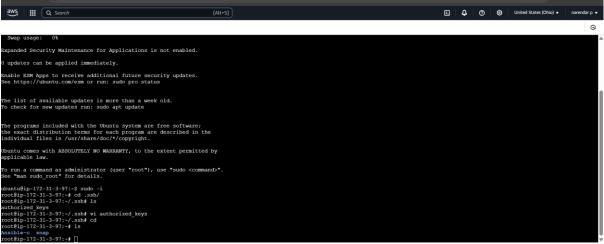
* Management: https://landscape.canonical.com

* Support: https://ubuntu.com/pro
 * Management:
 * Support:
 System information as of Tue Mar 25 11:12:41 UTC 2025
  System load: 0.0
Usage of /: 25.2% of 6.71GB
Memory usage: 21%
                                             Processes: 114
Users logged in: 1
IPv4 address for enX0: 172.31.13.44
  Swap usage:
Expanded Security Maintenance for Applications is not enabled.
O updates can be applied immediately.
Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status
The list of available updates is more than a week old.
To check for new updates run: sudo apt update
The programs included with the Ubuntu system are free software; the exact distribution terms for each program are described in the individual files in /usr/share/doc/*/copyright.
Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.
root@ip-172-31-13-44:~#
```

```
root@ip-172-31-7-71:-# cd /etc/ansible/
root@ip-172-31-7-71:/etc/ansible# vi hosts
root@ip-172-31-7-71:/etc/ansible# ansible all -m ping
[WARNING]: Invalid characters were found in group names but not replaced, use -vvvv to see details
The authentricity of host '172.31.13.44 (172.31.13.44)' can't be established.
ED25519 key fingerprint is SHA256:cKVsGSS2CQ7/YugLExZ/rFK9y4xihOoWjx1GMSOHX5Q.
This key is not known by any other names.
The authentricity of host '172.31.3.97 (172.31.3.97)' can't be established.
ED25519 key fingerprint is SHA256:26WXfYv6wnBhD33X4aNqhEQv1c3nRJF/QIOAKEIXBbc.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
172.31.13.44 | UNREACHABLE! => {
    "changed": false,
    "msg": "Failed to connect to the host via ssh: Warning: Permanently added '172.31.13.44' (ED25519) to the list of know publickey).",
    "unreachable": true
}

CC [ERROR]: User interrupted execution root@ip-172-31-7-71:/etc/ansible# cat hosts
[all]
172.31.13.44
172.31.33.97
[worker-01]
172.31.13.44
[worker-02]
```

→ Setup one master and connected two worker nodes in ansible.



```
Swap usage: 0%

Expanded Security Maintenance for Applications is not enabled.

O updates can be applied immediately.

Enable ESS Apps to receive additional future security updates.

See https://bbuntu.com/com or run: sudo pro status

The list of available updates is more than a week old.

The programs included with the Ubuntu system are free software;

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The programs included with the Ubuntu system are described in the individual files in /usr/share/doc/o/ program are described in the individual files in /usr/share/doc/o/ program;

To run a command as administrator (user *root*), use *sudo <command>*.

See *man sudo_root* for details.

Buntus[Ep-172-31-13-44:-/, snih ] is 

root@[Ep-172-31-13-44:-/, snih ] is 

root@[Ep-172-31-34-4:-/, s
```

3) Execute the adhoc command shared in #dvps-cloud-documents Channel:

→adhoc commands:

ansible all -m ping

→ To gather facts of slave machine

ansible all -m setup

```
},
"removable": "0",
"rotational": "0"
              "sas_address": null,
              "sas_device_handle": null,
              "scheduler_mode": "mq-deadline",
             "sectors": "16777216"
             "sectorsize": "512"
             "size": "8.00 GB",
"support_discard": "512",
"vendor": null,
              "virtual": 1
"ansible_distribution": "Ubuntu",
"ansible_distribution_file_parsed": true,
"ansible_distribution_file_path": "/etc/os-release",
"ansible_distribution_file_variety": "Debian",
"ansible_distribution_major_version": "24",
"ansible_distribution_release": "noble"
"ansible_distribution_version": "24.04"
"ansible_dns": {
    "nameservers":
              "127.0.0.53"
        options": {
    "edns0": true,
    "trust-ad": true
         search": [
              "us-east-2.compute.internal"
```

→ TO check the uptime of a slave machine

ansible all -m shell -a uptime

```
root@ip-172-31-7-71:~# ansible all -m shell -a uptime
[WARNING]: Invalid characters were found in group names but not replaced, use -vvvv to see details
172.31.13.44 | CHANGED | rc=0 >>
11:21:04 up 1:05, 2 users, load average: 0.08, 0.02, 0.01
172.31.3.97 | CHANGED | rc=0 >>
11:21:04 up 1:05, 2 users, load average: 0.08, 0.02, 0.01
```

→ Command to ctreate a directory

ansible all -m shell -a "mkdir Ansible"

```
root@ip-172-31-7-71:~# ansible all -m shell -a "mkdir Ansible-c"
[WARNING]: Invalid characters were found in group names but not replaced, use -vvvv to see details
172.31.3.97 | CHANGED | rc=0 >>
172.31.13.44 | CHANGED | rc=0 >>
```

→ check the free memory or memory usage of host

ansible all -a "free -m"

→ To install apache2 service :

ansible all -m apt -a "name=apache2 state=latest"

Installation is done in Ansible-contoller:

```
root@ip-172-31-7-71:-# ansible all -m apt -a "name=apache2 state=latest"
[WARNING]: Invalid characters were found in group names but not replaced, use -vvvv to see details
172.31.3.97 | CHANGED => {
    "ansible_facts": {
        "discovered_interpreter_python": "/usr/bin/python3"
    },
    "cache_update_time": 1741164292,
    "cache_updated": false,
    "changed": true,
    "stderr": "",
    "stderr": "",
    "stderr_lines": [],
    "stdout": "Reading package lists...\nBuilding dependency tree...\nReading state information...\nThe following addition.
he2-data apache2-utils libapr1t64 libaprutil1-dbd-sqlite3\n libaprutil1-ldap libaprutil1t64 liblua5.4-0 ssl-cert\nSuggest
e | apache2-suexec-custom www-browser\nThe following NEW packages will be installed:\n apache2 apache2-bin apache2-data a
        libaprutil1-ldap libaprutil1t64 liblua5.4-0 ssl-cert\nO upgraded, 10 newly installed, 0 to remove and 0 not upgraded.\nNe
n8094 kB of additional disk space will be used.\nGet:1 http://us-east-2.ec2.archive.ubuntu.com/ubuntu noble-updates/main
n81\nGet:2 http://us-east-2.ec2.archive.ubuntu? [11.2 kB]\nGet:4 http://us-east-2.ec2.archive.ubuntu.com/
ntu noble/main amd64 libaprutil1-dbd-sqlite3 amd64 1.6.3-1.1ubuntu7 [11.2 kB]\nGet:4 http://us-east-2.ec2.archive.ubuntu.com/
nbuntu noble-updates/main amd64 3pache2-bin amd64 2.4.58-1ubuntu8.5 [1329 kB]\nGet:7 http://us-east-2.ec2.archive.ubuntu.com/
ache2-data all 2.4.58-1ubuntu8.5 [163 kB]\nGet:8 http://us-east-2.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 a
```

→ To start apache2 service:

ansible all -m service -a "name=apache2 state=started enabled=yes"

```
root@ip-172-31-7-71:~# ansible all -m service -a "name=apache2 state=started enabled=yes"
[WARNING]: Invalid characters were found in group names but not replaced, use -vvvv to see details
172.31.13.44 | SUCCESS => {
    "ansible_facts": {
        "discovered_interpreter_python": "/usr/bin/python3"
    },
    "changed": false,
    "enabled": true,
    "name": "apache2",
    "state": "started",
    "status": {
        "ActiveEnterTimestamp": "Tue 2025-03-25 12:31:58 UTC",
        "ActiveEnterTimestampMonotonic": "8185331719",
        "ActiveExitTimestampMonotonic": "0",
        "ActiveExitTimestampMonotonic": "0",
        "ActiveExitTimestampMonotonic": "0",
        "After": "network.target remote-fs.target system.slice sysinit.target -.mount systemd-tmpfiles-setup.service sup.target",
```

Status checked in Worker-01:

Status checked in Worker-02:

```
root@ip-172-31-3-97:~/.ssh# ls
authorized keys
root@ip-172-31-3-97:~/.ssh# vi authorized_keys
root@ip-172-31-3-97:~/.ssh# cd
root@ip-172-31-3-97:~# ls
Ansible-c snap
root@ip-172-31-3-97:~# systemctl status apache2
apache2.service - The Apache HTTP Server
     Loaded: loaded (/usr/lib/systemd/system/apache2_service; enabled; preset: enabled)
     Active: active (running) since Tue 2025-03-25 12:31:57 UTC; 10min ago
      Docs: https://httpd.apache.org/docs/2.4/
  Main PID: 3103 (apache2)
Tasks: 55 (limit: 1129)
     Memory: 5.5M (peak: 5.7M)
        CPU: 62ms
     CGroup: /system.slice/apache2.service
              -3103 /usr/sbin/apache2 -k start
             —3106 /usr/sbin/apache2 -k start
—3107 /usr/sbin/apache2 -k start
Mar 25 12:31:57 ip-172-31-3-97 systemd[1]: Starting apache2.service - The Apache HTTP Server...
Mar 25 12:31:57 ip-172-31-3-97 systemd[1]: Started apache2.service - The Apache HTTP Server.
root@ip-172-31-3-97:~#
```

i-0a684cb1c34d2efb4 (Ansible-worker-02)

PublicIPs: 18.190.153.229 PrivateIPs: 172.31.3.97

→To stop apache2 service:

ansible all -m service -a "name=apache2 state=stopped enabled=yes"

Checked status in worker -01

```
root@ip-172-31-13-44:~# systemctl status apache2
o apache2.service - The Apache HTTP Server
    Loaded: loaded (/usr/lib/systemd/system/apache2.service; enabled; preset: enabled)
    Active: inactive (dead) since Tue 2025-03-25 12:54:05 UTC; 3min 41s ago
    Duration: 22min 6.724s
    Docs: https://httpd.apache.org/docs/2.4/
    Process: 4767 ExecStop=/usr/sbin/apachectl graceful-stop (code=exited, status=0/SUCCESS)
    Main PID: 3877 (code=exited, status=0/SUCCESS)
    CPU: 103ms

Mar 25 12:31:58 ip-172-31-13-44 systemd[1]: Starting apache2.service - The Apache HTTP Server...
Mar 25 12:31:58 ip-172-31-13-44 systemd[1]: Stopping apache2.service - The Apache HTTP Server...
Mar 25 12:54:04 ip-172-31-13-44 systemd[1]: Stopping apache2.service - The Apache HTTP Server...
Mar 25 12:54:05 ip-172-31-13-44 systemd[1]: apache2.service: Deactivated successfully.
Mar 25 12:54:05 ip-172-31-13-44 systemd[1]: Stopped apache2.service - The Apache HTTP Server...
Troot@ip-172-31-13-44:~#
```

i-05f389c61b2462153 (Ansible-worker-01)

PublicIPs: 3.133.118.223 PrivateIPs: 172.31.13.44

Checked status in worker -02

```
root@ip-172-31-3-97:~# systemctl status apache2
o apache2.service - The Apache HTTP Server
Loaded: loaded (/usr/lib/systemd/system/apache2.service; enabled; preset: enabled)
Active: inactive (dead) since Tue 2025-03-25 12:54:05 UTC; 17s ago
Duration: 22min 7.114s
Docs: https://httpd.apache.org/docs/2.4/
Process: 3988 ExecStop=/usr/sbin/apachectl graceful-stop (code=exited, status=0/SUCCESS)
Main PID: 3103 (code=exited, status=0/SUCCESS)
CPU: 111ms

Mar 25 12:31:57 ip-172-31-3-97 systemd[1]: Starting apache2.service - The Apache HTTP Server.
Mar 25 12:34:04 ip-172-31-3-97 systemd[1]: Stopping apache2.service - The Apache HTTP Server.
Mar 25 12:54:05 ip-172-31-3-97 systemd[1]: apache2.service: Deactivated successfully.
Mar 25 12:54:05 ip-172-31-3-97 systemd[1]: Stopped apache2.service - The Apache HTTP Server.
Toot@ip-172-31-3-97:~# []
```

→ What if you do not have SSH key-based? How to pass username and password?

Yes we can create by using below command:

----> ansible all -m ping --user=ansadm --ask-pass

First generate ssh key

root@ip-172-31-7-71:~# cat /root/.ssh/id_ed25519.pub ssh-ed25519 AAAAC3NzaC1]ZDI1NTE5AAAAII/vZeIp9x4JNIb2DM0ssVjYE7FvfFxHX9DYfItuuHVp root@ip-172-31-7-71

Here user=root

So now command is

ansible all -m ping --user=root --ask-pass

then ask password enter that key as password

```
root@ip-172-31-7-71:~# ansible all -m ping --user=root --ask-pass
SSH password:
[WARNING]: Invalid characters were found in group names but not replaced, use -vvvv to see details
172.31.3.44 | SUCCESS => {
    "ansible_facts": {
        "discovered_interpreter_python": "/usr/bin/python3"
    },
    "changed": false,
    "ping": "pong"
}
172.31.3.97 | SUCCESS => {
    "ansible_facts": {
        "discovered_interpreter_python": "/usr/bin/python3"
    },
    "changed": false,
    "ping": "pong"
}
root@ip-172-31-7-71:~# |
```

→ Execute a command as root user (sudo) on host:

ansible all -m shell -a "cat /etc/passwd|grep -i root" -s --ask-sudo-pass