install ansible

Create a new user on control machine and new user on host 1

```
root@6c9af830bd33:/# useradd -ms /bin/bash host1
root@6c9af830bd33:/# passwd host1
New password:
Retype new password:
passwd: password updated successfully
root@6c9af830bd33:/#
```

Make sure you can ssh into host 1 (using password)

```
ahmed@Caster-IdeaPad-5-15ITL05:~/ansible_d1$ ssh host1@172.17.0.2
The authenticity of host '172.17.0.2 (172.17.0.2)' can't be established.
ED25519 key fingerprint is SHA256:X99xyLd5VoQzqARb659udkKvcuigYxIgNk9eLJfFMPQ.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '172.17.0.2' (ED25519) to the list of known hosts.
host1@172.17.0.2's password:
Welcome to Ubuntu 22.04.3 LTS (GNU/Linux 6.2.0-34-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage

This system has been minimized by removing packages and content that are
not required on a system that users do not log into.

To restore this content, you can run the 'unminimize' command.

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.

host1@6c9af830bd33:~$
```

Generate SSH key pair on control machine

```
ahmed@Caster-IdeaPad-5-15ITL05:~/ansible_d1$ ssh-keygen -t rsa
Generating public/private rsa key pair.
Enter file in which to save the key (/home/ahmed/.ssh/id_rsa): /home/ahmed/.ssh/mykey2
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/ahmed/.ssh/mykey2
Your public key has been saved in /home/ahmed/.ssh/mykey2.pub
The key fingerprint is:
SHA256:TuZ9djWCqWcEtQCw8vdmwnhZ/ZLsChGWLd6Nf3tTx/w ahmed@Caster-IdeaPad-5-15ITL05
The key's randomart image is:
+---[RSA 3072]----+
|     .....  .     |
|      . o o .     |
|     . . = o .    |
|    o o + = o     |
|     . +S+ * . +. |
|      +==.= o ..*|
|     . *o=.Boo. +|
|      . = +oo..oE|
|         ... .. .|
+----[SHA256]-----+
ahmed@Caster-IdeaPad-5-15ITL05:~/ansible_d1$
```

Copy the public key to host 1

```
ahmed@Caster-IdeaPad-5-15ITL05:~/ansible_d1$ ssh-copy-id host1@172.17.0.2
/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any that are already installed
/usr/bin/ssh-copy-id: INFO: 3 key(s) remain to be installed -- if you are prompted now it is to install the new keys
host1@172.17.0.2's password:

Number of key(s) added: 3

Now try logging into the machine, with:   "ssh 'host1@172.17.0.2'"
and check to make sure that only the key(s) you wanted were added.

ahmed@Caster-IdeaPad-5-15ITL05:~/ansible_d1$
```

Make sure you can ssh into host 1 (using prv/pub)

```
ahmed@Caster-IdeaPad-5-15ITL05:~/ansible_d1$ ssh -i ~/.ssh/mykey2 host1@172.17.0.2
Welcome to Ubuntu 22.04.3 LTS (GNU/Linux 6.2.0-34-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage

This system has been minimized by removing packages and content that are
not required on a system that users do not log into.

To restore this content, you can run the 'unminimize' command.
Last login: Thu Sep 14 13:40:43 2023 from 172.17.0.1
host1@6c9af830bd33:~$
```

Create the inventory file

Put the IP of host 1 in the inventory file

```
ahmed@Caster-IdeaPad-5-15ITL05: ~/ansible_d1                                    ×

[day1]
172.17.0.2
~
```

Use the inventory file path in your ad-hoc command instead of using the IP hard-coded

```
ahmed@Caster-IdeaPad-5-15ITL05:~/ansible_d1$ ansible all -i inventory --private-key ~/.ssh/mykey2 -u host1 -m ping
172.17.0.2 | SUCCESS => {
    "ansible_facts": {
        "discovered_interpreter_python": "/usr/bin/python3"
    },
    "changed": false,
    "ping": "pong"
}
ahmed@Caster-IdeaPad-5-15ITL05:~/ansible_d1$
```

Create the configuration file

Insert some values in the configuration file

```
ahmed@Caster-IdeaPac
[defaults]
inventory = ./inventory
private-key = ~/.ssh/mykey2
remote_user = host1

~
```

Run the minimized ad-hoc command

Example: ansible all -m ping

```
ahmed@Caster-IdeaPad-5-15ITL05:~/ansible_d1$ ansible all -m ping
172.17.0.2 | SUCCESS => {
    "ansible_facts": {
        "discovered_interpreter_python": "/usr/bin/python3"
    },
    "changed": false,
    "ping": "pong"
}
ahmed@Caster-IdeaPad-5-15ITL05:~/ansible_d1$
```

Insert the correct values in the configuration file

```
[privilege_escalation]
become = true
become_method = sudo
become_ask_pass = true

~
~
```

Example: ansible all -m command -a "whoami"

What is the output of the command?

```
ahmed@Caster-IdeaPad-5-15ITL05:~/ansible_d1$ ansible all -m command -a "whoami"
BECOME password:
172.17.0.2 | CHANGED | rc=0 >>
root
ahmed@Caster-IdeaPad-5-15ITL05:~/ansible_d1$
```