

# **Mostafa Mohamed Eid - Configuration Management (Ansible)**

## **DevOps Track - Lab 1**

# 1. Install ansible

```
mostafa@MostafaEid:~$ ansible --version
ansible [core 2.12.10]
  config file = /etc/ansible/ansible.cfg
  configured module search path = ['/home/mostafa/.ansible/plugins/modules', '/usr/share/ansible/plugins/modules']
  ansible python module location = /usr/lib/python3/dist-packages/ansible
  ansible collection location = /home/mostafa/.ansible/collections:/usr/share/ansible/collections
  executable location = /usr/bin/ansible
  python version = 3.8.10 (default, May 26 2023, 14:05:08) [GCC 9.4.0]
  jinja version = 2.10.1
  libyaml = True
```

# 2. Create a new user on control machine and new user on host 1

```
mostafa@MostafaEid:~$ useradd a_user
useradd: Permission denied.
useradd: cannot lock /etc/passwd; try again later.
mostafa@MostafaEid:~$ sudo useradd a_user
[sudo] password for mostafa:
mostafa@MostafaEid:~$ id a_user
uid=1001(a_user) gid=1001(a_user) groups=1001(a_user)
mostafa@MostafaEid:~$
```

```
ubuntu@ip-10-0-0-6:~$ sudo useradd -m an_host1
ubuntu@ip-10-0-0-6:~$ id an_host1
uid=1002(an_host1) gid=1002(an_host1) groups=1002(an_host1)
ubuntu@ip-10-0-0-6:~$ sudo passwd an_host1
New password:
Retype new password:
passwd: password updated successfully
ubuntu@ip-10-0-0-6:~$
```

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

```
Include /etc/ssh/sshd_config.d/*.conf

#Port 22
#AddressFamily any
#ListenAddress 0.0.0.0
#ListenAddress ::

#HostKey /etc/ssh/ssh_host_rsa_key
#HostKey /etc/ssh/ssh_host_ecdsa_key
#HostKey /etc/ssh/ssh_host_ed25519_key

# Ciphers and keying
#RekeyLimit default none

# Logging
#SyslogFacility AUTH
#LogLevel INFO

# Authentication:

#LoginGraceTime 2m
#PermitRootLogin prohibit-password
#StrictModes yes
#MaxAuthTries 6
#MaxSessions 10

#PubkeyAuthentication yes


# Expect .ssh/authorized_keys2 to be disregarded by default in future.
#AuthorizedKeysFile .ssh/authorized_keys .ssh/authorized_keys2

#AuthorizedPrincipalsFile none

#AuthorizedKeysCommand none
#AuthorizedKeysCommandUser nobody

# For this to work you will also need host keys in /etc/ssh/ssh_known_hosts
#HostbasedAuthentication no
# Change to yes if you don't trust ~/.ssh/known_hosts for
# HostbasedAuthentication
#IgnoreUserKnownHosts no
# Don't read the user's ~/.rhosts and ~/.shosts files
#IgnoreRhosts yes

# To disable tunneled clear text passwords, change to no here!
PasswordAuthentication yes
#PermitEmptyPasswords no
```



```
mostafa@MostafaEid:~$ ssh an_host1@52.90.175.72
an_host1@52.90.175.72's password:
Welcome to Ubuntu 22.04.3 LTS (GNU/Linux 6.2.0-1011-aws x86_64)

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

System information as of Fri Sep 15 15:22:04 UTC 2023

System load:  0.0               Processes:            104
Usage of /:   30.0% of 7.57GB   Users logged in:     1
Memory usage: 23%              IPv4 address for eth0: 10.0.0.6
Swap usage:   0%

 * Ubuntu Pro delivers the most comprehensive open source security and
   compliance features.

   https://ubuntu.com/aws/pro

Expanded Security Maintenance for Applications is not enabled.

0 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 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.

$ _
```



## 4. Generate SSH key pair on control machine

```
mostafa@MostafaEid:~$ ssh-keygen -t rsa
Generating public/private rsa key pair.
Enter file in which to save the key (/home/mostafa/.ssh/id_rsa):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/mostafa/.ssh/id_rsa
Your public key has been saved in /home/mostafa/.ssh/id_rsa.pub
The key fingerprint is:
SHA256:kxoFaqG+t1I8/yD7beSvpVV6xKDvVwSwH6YF6C7Rz/4 mostafa@MostafaEid
The key's randomart image is:
+---[RSA 3072]-----+
|
| . o o
| . o . + .
| . o . * o
| ... + S = +
| .+o =.B *
| ..+o+o+ * o
| .. =.+O= o
| .o..o*+E.o.
+---[SHA256]-----+
mostafa@MostafaEid:~$ cat .ssh/id_rsa.pub
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQGDQK1dUjaABXiStJ5NSP8s4axQGxPPi1gE7jY/IwV3OunMNCw1xBipLsDNfCdEmbEA7X1
IVNOB8xubX3ZdXpTJR6IvoLYKSt7orM2lDqpqXbuNr6twqiWzTGYHceMNa/atcfTxgzWx75gM10oPeIUqBu31+7WlhI/zwXFWBOc49
LGTxnVU+0nifyH7yhXhdsqbUTK1sAyrPAT8FvoOtDLrcp6Qom6L6Y2LVAPjx1fL/4de94frphV1sEYQ9bjB2w/VRLozaKZL0NggN+VK35
z1S36hZEUCc7qbJQNpo5zqlbWBvJHjsJ6w4mEe9VfZQDgtiOZcjdxpAqvsQeUbImZ+n94LOcGe1gsa109m+09zY+B7JiOIRSZMctt54
BwnbeaqU9uNtjton4EyMGo2KODV0J79VrCn/mMmYyFAhVf1fpOKZBxs+sMLHhpNvLguv6Cp4fZOMu434kmtlo3axa3ZdvZe1uNP1ymYUT
pAdbROqKZU9n75XTklT1mmW/KM= mostafa@MostafaEid
mostafa@MostafaEid:~$
```

## 5. Copy the public key to host 1

```
ubuntu@ip-10-0-0-6:~$ sudo vi .ssh/authorized_keys
ubuntu@ip-10-0-0-6:~$ sudo systemctl restart ssh
ubuntu@ip-10-0-0-6:~$ cat .ssh/authorized_keys
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQGDQK1dUjaABXiStJ5NSP8s4axQGxPPi1gE7jY/IwV3OunMNCw1xBipLsDNfCdEmbEA7X1IVNOB8xubX3ZdXpTJR6IvoLYKSt7orM2lDqpqXbuNr6twqiWzTGYHceMNa/atcfTxgzWx75gM10oPeIUqBu31+7WlhI/zwXFWBOc49LGTxnVU+0nifyH7yhXhdsqbUTK1sAyrPAT8FvoOtDLrcp6Qom6L6Y2LVAPjx1fL/4de94frphV1sEYQ9bjB2w/VRLozaKZL0NggN+VK35z1S36hZEUCc7qbJQNpo5zqlbWBvJHjsJ6w4mEe9VfZQDgtiOZcjdxpAqvsQeUbImZ+n94LOcGe1gsa109m+09zY+B7JiOIRSZMctt54BwnbeaqU9uNtjton4EyMGo2KODV0J79VrCn/mMmYyFAhVf1fpOKZBxs+sMLHhpNvLguv6Cp4fZOMu434kmtlo3axa3ZdvZe1uNP1ymYUTpAdbROqKZU9n75XTklT1mmW/KM= mostafa@MostafaEid
ubuntu@ip-10-0-0-6:~$
```

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

## . Using public key

```
mostafa@MostafaEid:~/.ssh$ cat id_rsa.pub
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQGDuHgF8sNUxa6FLO3CKG8FeHdqPAf11JmmvgifvLjaUesTsjRlS6tP8zWegYy8v6eesxvKKlX2IY6QLcKcW
DDZZxgyjmD0+57Wq4WoHBYzGyKvjgmFWAA32L+Di/HplCzNH03cjufjkfcmns4oF88d+jm9s7ZIatqSQJzE9QjieRE00FondLvoUKWnFYzaY9/645frBu9l
JBDfs6w0jTneDDVXlnR6bIiknQscHfOXpS8zqX89xoAX0+2znZr2D7itn910t0CpCVbVgDAjlejTeA3RnAeQ4/I8n6trc/05Uqm7i6uA3kzXbMdXdutRwB/R
KHwMEYkWLjuAP1LHVgPsicMhZC/B4s2gbC6AccxIs+9TxyhliALRBKaP/PTS6go0zc7lWK+89YlJg8h4uF+MLYkZnlLV2CXbLZrkI4HdSquRQ4udZ3b/JEa
mpieb/zKTmnfp1RgitGMZ54YjdVZDSQn7z0/0TeB2lcaigfVkj925MT7hR+pWBCBdKQFm3Yc= mostafa@MostafaEid
mostafa@MostafaEid:~/.ssh$ ssh ubuntu@52.90.175.72
Welcome to Ubuntu 22.04.3 LTS (GNU/Linux 6.2.0-1011-aws x86_64)

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System information as of Fri Sep 15 16:57:02 UTC 2023

System load:  0.0          Processes:           99
Usage of /:   30.0% of 7.57GB Users logged in:       1
Memory usage: 23%         IPv4 address for eth0: 10.0.0.6
Swap usage:   0%

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Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

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See https://ubuntu.com/esm or run: sudo pro status

Last login: Fri Sep 15 16:34:16 2023 from 18.206.107.28
ubuntu@ip-10-0-0-6:~$
```

## . Using private key

```
mostafa@MostafaEid:~$ sudo vi prv.key
mostafa@MostafaEid:~$ ssh ubuntu@52.90.175.72
Welcome to Ubuntu 22.04.3 LTS (GNU/Linux 6.2.0-1011-aws x86_64)

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

System information as of Fri Sep 15 17:20:09 UTC 2023

System load:  0.0               Processes:            103
Usage of /:   30.0% of 7.57GB   Users logged in:     1
Memory usage: 23%              IPv4 address for eth0: 10.0.0.6
Swap usage:   0%

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   https://ubuntu.com/aws/pro

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

Last login: Fri Sep 15 16:57:03 2023 from 154.181.79.32
ubuntu@ip-10-0-0-6:~$
```