```
amaan@DESKTOP-PHKDCPR:~/ansible$ nano Dockerfile
amaan@DESKTOP-PHKDCPR:~/ansible$ cd ..
amaan@DESKTOP-PHKDCPR:~$ mkdir node
amaan@DESKTOP-PHKDCPR:~$ cd node
amaan@DESKTOP-PHKDCPR:~/node$ nano Dockerfile
amaan@DESKTOP-PHKDCPR:~/node$ cd ..
amaan@DESKTOP-PHKDCPR:~$ cat docker-compose.yml
version: '3'
services:
  ansible:
    build:
      dockerfile: ./ansible/Dockerfile
    container_name: ansible
    image: ansible
    tty: true
    stdin_open: true
    networks:
      - net

  remote-host-one:
    build:
      dockerfile: ./node/Dockerfile
    container_name: node1
    image: node1
    networks:
      - net
```

```
amaan@DESKTOP-PHKDCPR:~$ docker-compose up -d
Creating network "amaan_net" with the default driver
Building ansible
Step 1/4 : FROM ubuntu
 ---> ca2b0f26964c
Step 2/4 : ENV DEBIAN_FRONTEND=noninteractive
 ---> Running in bf6fd17df866
 ---> Removed intermediate container bf6fd17df866
 ---> 53e855ee6591
Step 3/4 : RUN apt-get update
 ---> Running in aa9550c4efab
Get:1 http://archive.ubuntu.com/ubuntu jammy InRelease [270 kB]
Get:2 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Get:3 http://archive.ubuntu.com/ubuntu jammy-updates InRelease [119 kB]
Get:4 http://archive.ubuntu.com/ubuntu jammy-backports InRelease [109 kB]
Get:5 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [1076 kB]
Get:6 http://archive.ubuntu.com/ubuntu jammy/restricted amd64 Packages [164 kB]
Get:7 http://security.ubuntu.com/ubuntu jammy-security/main amd64 Packages [1561 kB]
Get:8 http://archive.ubuntu.com/ubuntu jammy/main amd64 Packages [1792 kB]
Get:9 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 Packages [44.6 kB]
Get:10 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 Packages [1951 kB]
Get:11 http://archive.ubuntu.com/ubuntu jammy/universe amd64 Packages [17.5 MB]
Get:12 http://archive.ubuntu.com/ubuntu jammy/multiverse amd64 Packages [266 kB]
Get:13 http://archive.ubuntu.com/ubuntu jammy-updates/restricted amd64 Packages [1994 kB]
Get:14 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 Packages [1843 kB]
Get:15 http://archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 Packages [50.4 kB]
Get:16 http://archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages [1349 kB]
Get:17 http://archive.ubuntu.com/ubuntu jammy-backports/universe amd64 Packages [28.1 kB]
Get:18 http://archive.ubuntu.com/ubuntu jammy-backports/main amd64 Packages [50.4 kB]
Fetched 30.2 MB in 5s (5530 kB/s)
Reading package lists...
 ---> Removed intermediate container aa9550c4efab
 ---> 8e3df52c2d07
Step 4/4 : RUN apt install ansible -y &&     apt install vim -y
 ---> Running in 309bdcc81cb6
```

```
Successfully built c89be62ffd07
Successfully tagged amaan_remote-host-two:latest
WARNING: Image for service remote-host-two was built because it did not already exist. To rebuild this image you must use `docker-compose build` or `docker-compose up --build`.
Creating node1   ... done
Creating ansible ... done
Creating node2   ... done
amaan@DESKTOP-PHKDCPR:~$ docker exec -it ansible ansible --version
ansible 2.10.8
  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
  executable location = /usr/bin/ansible
  python version = 3.10.12 (main, Nov 20 2023, 15:14:05) [GCC 11.4.0]
```

```
amaan@DESKTOP-PHKDCPR:~$ docker exec -it ansible /bin/bash
root@ff1477ef18bd:/# which ssh
/usr/bin/ssh
root@ff1477ef18bd:/# ssh remote-host-one
The authenticity of host 'remote-host-one (172.19.0.2)' can't be established.
ED25519 key fingerprint is SHA256:czxpXbdUva7UrB/hym65OR8wDoT0+JF0Wgfyge2M868.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'remote-host-one' (ED25519) to the list of known hosts.
```

```
root@ff1477ef18bd:/# ssh remote-host-one
root@remote-host-one's password:
Welcome to Ubuntu 16.04.7 LTS (GNU/Linux 5.15.146.1-microsoft-standard-WSL2 x86_64)

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

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@remote-host-two's password:
Welcome to Ubuntu 16.04.7 LTS (GNU/Linux 5.15.146.1-microsoft-standard-WSL2 x86_64)

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

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@ff1477ef18bd:/# ssh remote-host-one
root@remote-host-one's password:
Welcome to Ubuntu 16.04.7 LTS (GNU/Linux 5.15.146.1-microsoft-standard-WSL2 x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage
Last login: Sun Mar 10 07:29:20 2024 from 172.19.0.3
root@a370c09cf13a:~# ssh-keygen -t rsa -b 2048
Generating public/private rsa key pair.
Enter file in which to save the key (/root/.ssh/id_rsa):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /root/.ssh/id_rsa.
Your public key has been saved in /root/.ssh/id_rsa.pub.
The key fingerprint is:
SHA256:qDMw0ZSPHOrHfeH6lSgkXgFZDc4nQzwIu9aLk32UwIU root@a370c09cf13a
The key's randomart image is:
+---[RSA 2048]----+
|  ..oB=o         |
|   =E*o .         |
|  oo++*..         |
|  .+o..B.         |
| .=.o.*.S.        |
| ..BoB. o .       |
|   +.B oo. o      |
|    . +.. .        |
|        ..         |
+----[SHA256]-----+
root@a370c09cf13a:~#
```

```
root@a370c09cf13a:~# ssh-copy-id root@remote_host_one
/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/root/.ssh/id_rsa.pub"
/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: ERROR: ssh: Could not resolve hostname remote_host_one: Name or service not known

root@a370c09cf13a:~# ssh-copy-id root@remote-host-one
/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/root/.ssh/id_rsa.pub"
The authenticity of host 'remote-host-one (172.19.0.2)' can't be established.
ECDSA key fingerprint is SHA256:tFq32rN3aUKVKLrzlwZhtXG3TLR0A8wwHICSf/RhApw.
Are you sure you want to continue connecting (yes/no)? yes
/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: 1 key(s) remain to be installed -- if you are prompted now it is to install the new keys
root@remote-host-one's password:

Number of key(s) added: 1

Now try logging into the machine, with:   "ssh 'root@remote-host-one'"
and check to make sure that only the key(s) you wanted were added.
```

```
root@a370c09cf13a:~# ssh-copy-id root@remote-host-two
/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/root/.ssh/id_rsa.pub"
/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: 1 key(s) remain to be installed -- if you are prompted now it is to install the new keys
root@remote-host-two's password:

Number of key(s) added: 1

Now try logging into the machine, with:   "ssh 'root@remote-host-two'"
and check to make sure that only the key(s) you wanted were added.
```

```
root@a370c09cf13a:~# ansible --version
ansible 2.9.27
  config file = /etc/ansible/ansible.cfg
  configured module search path = [u'/root/.ansible/plugins/modules', u'/usr/share/ansible/plugins/modules']
  ansible python module location = /usr/lib/python2.7/dist-packages/ansible
  executable location = /usr/bin/ansible
  python version = 2.7.12 (default, Mar  1 2021, 11:38:31) [GCC 5.4.0 20160609]
root@a370c09cf13a:~# ansible all -i inventory.txt -m ping
[DEPRECATION WARNING]: Distribution Ubuntu 16.04 on host host1 should use /usr/bin/python3, but is using /usr/bin/python for backward compatibility with
prior Ansible releases. A future Ansible release will default to using the discovered platform python for this host. See
https://docs.ansible.com/ansible/2.9/reference_appendices/interpreter_discovery.html for more information. This feature will be removed in version 2.12.
Deprecation warnings can be disabled by setting deprecation_warnings=False in ansible.cfg.
host1 | SUCCESS => {
    "ansible_facts": {
        "discovered_interpreter_python": "/usr/bin/python"
    },
    "changed": false,
    "ping": "pong"
}
host2 | SUCCESS => {
    "changed": false,
    "ping": "pong"
}
root@a370c09cf13a:~#
```

```
root@a370c09cf13a:~# ansible all -i inventory.txt -m ping --private-key=/root/.ssh/id_rsa
[DEPRECATION WARNING]: Distribution Ubuntu 16.04 on host host1 should use /usr/bin/python3, but is using /usr/bin/python for backward compatibility with
prior Ansible releases. A future Ansible release will default to using the discovered platform python for this host. See
https://docs.ansible.com/ansible/2.9/reference_appendices/interpreter_discovery.html for more information. This feature will be removed in version 2.12.
Deprecation warnings can be disabled by setting deprecation_warnings=False in ansible.cfg.
host1 | SUCCESS => {
    "ansible_facts": {
        "discovered_interpreter_python": "/usr/bin/python"
    },
    "changed": false,
    "ping": "pong"
}
host2 | SUCCESS => {
    "changed": false,
    "ping": "pong"
}
```

```
root@a370c09cf13a:~# ansible all -i inventory.txt -m file -a "path=/tmp/test_dir state=directory" --private-key=/root/.ssh/id_rsa -vvv
ansible 2.9.27
  config file = /etc/ansible/ansible.cfg
  configured module search path = [u'/root/.ansible/plugins/modules', u'/usr/share/ansible/plugins/modules']
  ansible python module location = /usr/lib/python2.7/dist-packages/ansible
  executable location = /usr/bin/ansible
  python version = 2.7.12 (default, Mar  1 2021, 11:38:31) [GCC 5.4.0 20160609]
Using /etc/ansible/ansible.cfg as config file
host_list declined parsing /root/inventory.txt as it did not pass its verify_file() method
script declined parsing /root/inventory.txt as it did not pass its verify_file() method
auto declined parsing /root/inventory.txt as it did not pass its verify_file() method
yaml declined parsing /root/inventory.txt as it did not pass its verify_file() method
Parsed /root/inventory.txt inventory source with ini plugin
Skipping callback 'actionable', as we already have a stdout callback.
Skipping callback 'counter_enabled', as we already have a stdout callback.
Skipping callback 'debug', as we already have a stdout callback.
Skipping callback 'dense', as we already have a stdout callback.
Skipping callback 'dense', as we already have a stdout callback.
Skipping callback 'full_skip', as we already have a stdout callback.
Skipping callback 'json', as we already have a stdout callback.
Skipping callback 'minimal', as we already have a stdout callback.
Skipping callback 'null', as we already have a stdout callback.
Skipping callback 'oneline', as we already have a stdout callback.
Skipping callback 'selective', as we already have a stdout callback.
Skipping callback 'skippy', as we already have a stdout callback.
Skipping callback 'stderr', as we already have a stdout callback.
Skipping callback 'unixy', as we already have a stdout callback.
Skipping callback 'yaml', as we already have a stdout callback.
META: ran handlers
<node1> ESTABLISH SSH CONNECTION FOR USER: root
<node1> SSH: EXEC ssh -C -o ControlMaster=auto -o ControlPersist=60s -o 'IdentityFile="/root/.ssh/id_rsa"' -o KbdInteractiveAuthentication=no -o PreferredAu
thentications=gssapi-with-mic,gssapi-keyex,hostbased,publickey -o PasswordAuthentication=no -o 'User="root"' -o ConnectTimeout=10 -o ControlPath=/root/.ansi
ble/cp/74e350e49d node1 '/bin/sh -c '"'"'echo ~root && sleep 0'"'"''
<node2> ESTABLISH SSH CONNECTION FOR USER: root
<node2> SSH: EXEC ssh -C -o ControlMaster=auto -o ControlPersist=60s -o 'IdentityFile="/root/.ssh/id_rsa"' -o KbdInteractiveAuthentication=no -o PreferredAu
thentications=gssapi-with-mic,gssapi-keyex,hostbased,publickey -o PasswordAuthentication=no -o 'User="root"' -o ConnectTimeout=10 -o ControlPath=/root/.ansi
ble/cp/b7aec89ae9 node2 '/bin/sh -c '"'"'echo ~root && sleep 0'"'"''
<node1> (0, '/root\n', '')
```

```
/.ansible/cp/b7aec09ae9 '[node2]'
<node1> (0, '', '')
[DEPRECATION WARNING]: Distribution Ubuntu 16.04 on host host1 should use /usr/bin/python3, but is using /usr/bin/python for backward compatibility with
prior Ansible releases. A future Ansible release will default to using the discovered platform python for this host. See
https://docs.ansible.com/ansible/2.9/reference_appendices/interpreter_discovery.html for more information. This feature will be removed in version 2.12.
Deprecation warnings can be disabled by setting deprecation_warnings=False in ansible.cfg.
host1 | CHANGED => {
    "ansible_facts": {
        "discovered_interpreter_python": "/usr/bin/python"
    },
    "changed": true,
    "diff": {
        "after": {
            "path": "/tmp/test_dir",
            "state": "directory"
        },
        "before": {
            "path": "/tmp/test_dir",
            "state": "absent"
        }
    },
    "gid": 0,
    "group": "root",
    "invocation": {
        "module_args": {
            "_diff_peek": null,
            "_original_basename": null,
            "access_time": null,
            "access_time_format": "%Y%m%d%H%M.%S",
            "attributes": null,
            "backup": null,
            "content": null,
            "delimiter": null,
            "directory_mode": null,
            "follow": true,
            "force": false,
            "group": null,
            "mode": null,
            "modification_time": null,
            "modification_time_format": "%Y%m%d%H%M.%S",
            "owner": null,
```

```
            "selevel": null,
            "serole": null,
            "setype": null,
            "seuser": null,
            "src": null,
            "state": "directory",
            "unsafe_writes": false
        }
    },
    "mode": "0755",
    "owner": "root",
    "path": "/tmp/test_dir",
    "size": 4096,
    "state": "directory",
    "uid": 0
}
<node2> (0, 'sftp> put /root/.ansible/tmp/ansible-local-3078Ry8qjD/tmpYWcZc9 /root/.ansible/tmp/ansible-tmp-1710096578.25-3084-187116534328491/AnsiballZ_fil
e.py\n', '')
<node2> ESTABLISH SSH CONNECTION FOR USER: root
<node2> SSH: EXEC ssh -C -o ControlMaster=auto -o ControlPersist=60s -o 'IdentityFile="/root/.ssh/id_rsa"' -o KbdInteractiveAuthentication=no -o PreferredAu
thentications=gssapi-with-mic,gssapi-keyex,hostbased,publickey -o PasswordAuthentication=no -o 'User="root"' -o ConnectTimeout=10 -o ControlPath=/root/.ansi
ble/cp/b7aec09ae9 node2 '/bin/sh -c '"'"'chmod u+x /root/.ansible/tmp/ansible-tmp-1710096578.25-3084-187116534328491/ /root/.ansible/tmp/ansible-tmp-1710096
578.25-3084-187116534328491/AnsiballZ_file.py && sleep 0'"'"''
<node2> (0, '', '')
<node2> ESTABLISH SSH CONNECTION FOR USER: root
<node2> SSH: EXEC ssh -C -o ControlMaster=auto -o ControlPersist=60s -o 'IdentityFile="/root/.ssh/id_rsa"' -o KbdInteractiveAuthentication=no -o PreferredAu
thentications=gssapi-with-mic,gssapi-keyex,hostbased,publickey -o PasswordAuthentication=no -o 'User="root"' -o ConnectTimeout=10 -o ControlPath=/root/.ansi
ble/cp/b7aec09ae9 -tt node2 '/bin/sh -c '"'"'/usr/bin/python3 /root/.ansible/tmp/ansible-tmp-1710096578.25-3084-187116534328491/AnsiballZ_file.py && sleep 0
'"'"''
<node2> (0, '\r\n{"path": "/tmp/test_dir", "state": "directory", "group": "root", "gid": 0, "uid": 0, "changed": true, "diff": {"before": {"path": "/tmp/tes
t_dir", "state": "absent"}, "after": {"path": "/tmp/test_dir", "state": "directory"}}, "invocation": {"module_args": {"path": "/tmp/test_dir", "group": null
, "attributes": null, "access_time": null, "follow": true, "setype": null, "directory_mode": null, "access_time_format": "%Y%m%d%H%M.%S", "modification_time
": null, "mode": null, "unsafe_writes": false, "_diff_peek": null, "regexp": null, "force": false, "serole": null, "remote_src": null, "delimiter": null, "_
original_basename": null, "modification_time_format": "%Y%m%d%H%M.%S", "selevel": null, "content": null, "state": "directory", "recurse": false, "backup": n
ull, "seuser": null, "owner": null, "src": null}}, "mode": "0755", "size": 4096, "owner": "root"}\r\n', 'Shared connection to node2 closed.\r\n')
<node2> ESTABLISH SSH CONNECTION FOR USER: root
<node2> SSH: EXEC ssh -C -o ControlMaster=auto -o ControlPersist=60s -o 'IdentityFile="/root/.ssh/id_rsa"' -o KbdInteractiveAuthentication=no -o PreferredAu
thentications=gssapi-with-mic,gssapi-keyex,hostbased,publickey -o PasswordAuthentication=no -o 'User="root"' -o ConnectTimeout=10 -o ControlPath=/root/.ansi
ble/cp/b7aec09ae9 node2 '/bin/sh -c '"'"'rm -f -r /root/.ansible/tmp/ansible-tmp-1710096578.25-3084-187116534328491/ > /dev/null 2>&1 && sleep 0'"'"''
<node2> (0, '', '')
host2 | CHANGED => {
```

```
<node2> (0, '', '')
host2 | CHANGED => {
    "changed": true,
    "diff": {
        "after": {
            "path": "/tmp/test_dir",
            "state": "directory"
        },
        "before": {
            "path": "/tmp/test_dir",
            "state": "absent"
        }
    },
    "gid": 0,
    "group": "root",
    "invocation": {
        "module_args": {
            "_diff_peek": null,
            "_original_basename": null,
            "access_time": null,
            "access_time_format": "%Y%m%d%H%M.%S",
            "attributes": null,
            "backup": null,
            "content": null,
            "delimiter": null,
            "directory_mode": null,
            "follow": true,
            "force": false,
            "group": null,
            "mode": null,
            "modification_time": null,
            "modification_time_format": "%Y%m%d%H%M.%S",
            "owner": null,
            "path": "/tmp/test_dir",
            "recurse": false,
            "regexp": null,
            "remote_src": null,
            "selevel": null,
            "serole": null,
            "setype": null,
            "seuser": null,
```

```
root@a370c09cf13a:~# ansible-playbook -i ~/inventory.txt ~/ansible/create_file.yml --private-key=/root/.ssh/id_rsa

PLAY [all] ******************************************************************************************************************************

TASK [Gathering Facts] ******************************************************************************************************************
ok: [host2]
[DEPRECATION WARNING]: Distribution Ubuntu 16.04 on host host1 should use /usr/bin/python3, but is using /usr/bin/python for backward compatibility with
prior Ansible releases. A future Ansible release will default to using the discovered platform python for this host. See
https://docs.ansible.com/ansible/2.9/reference_appendices/interpreter_discovery.html for more information. This feature will be removed in version 2.12.
Deprecation warnings can be disabled by setting deprecation_warnings=False in ansible.cfg.
ok: [host1]

TASK [create a file] ********************************************************************************************************************
changed: [host1]
changed: [host2]

PLAY RECAP ******************************************************************************************************************************
host1                      : ok=2    changed=1    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
host2                      : ok=2    changed=1    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

root@a370c09cf13a:~#
```

```
root@a370c09cf13a:~# ssh root@node1
Welcome to Ubuntu 16.04.7 LTS (GNU/Linux 5.15.146.1-microsoft-standard-WSL2 x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage
Last login: Sun Mar 10 19:02:05 2024 from 172.19.0.2
root@a370c09cf13a:~# ssh root@node2
Welcome to Ubuntu 16.04.7 LTS (GNU/Linux 5.15.146.1-microsoft-standard-WSL2 x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage
Last login: Sun Mar 10 19:02:05 2024 from 172.19.0.2
```

```
root@a370c09cf13a:~/ansible# nano create_file.yml
root@a370c09cf13a:~/ansible# cat create_file.yml
---
- hosts: all
  tasks:
    - name: create a file
      file:
        path: /tmp/file-playbook1
        state: touch
```

```
root@a370c09cf13a:~# ansible-playbook -i ~/inventory.txt ~/ansible/create_file.yml --private-key=/root/.ssh/id_rsa

PLAY [all] ******************************************************************************************************************************

TASK [Gathering Facts] ******************************************************************************************************************
ok: [host2]
[DEPRECATION WARNING]: Distribution Ubuntu 16.04 on host host1 should use /usr/bin/python3, but is using /usr/bin/python for backward compatibility with
prior Ansible releases. A future Ansible release will default to using the discovered platform python for this host. See
https://docs.ansible.com/ansible/2.9/reference_appendices/interpreter_discovery.html for more information. This feature will be removed in version 2.12.
Deprecation warnings can be disabled by setting deprecation_warnings=False in ansible.cfg.
ok: [host1]

TASK [create a file] ********************************************************************************************************************
changed: [host1]
changed: [host2]

PLAY RECAP ******************************************************************************************************************************
host1                      : ok=2    changed=1    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
host2                      : ok=2    changed=1    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
```

```
root@a370c09cf13a:~/ansible# ansible-playbook -i ~/ansible/inventory.txt ~/ansible/delete_file.yml --private-key=/root/.ssh/id_rsa

PLAY [Delete file] **********************************************************************************************************************

TASK [Gathering Facts] ******************************************************************************************************************
[DEPRECATION WARNING]: Distribution Ubuntu 16.04 on host host1 should use /usr/bin/python3, but is using /usr/bin/python for backward compatibility with
prior Ansible releases. A future Ansible release will default to using the discovered platform python for this host. See
https://docs.ansible.com/ansible/2.9/reference_appendices/interpreter_discovery.html for more information. This feature will be removed in version 2.12.
Deprecation warnings can be disabled by setting deprecation_warnings=False in ansible.cfg.
ok: [host1]
ok: [host2]

TASK [Delete file] **********************************************************************************************************************
ok: [host1]
ok: [host2]

PLAY RECAP ******************************************************************************************************************************
host1                      : ok=2    changed=0    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
host2                      : ok=2    changed=0    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
```

```
root@a370c09cf13a:~/ansible# ansible-playbook -i ~/ansible/inventory.txt ~/ansible/test_group.yml --private-key=/root/.ssh/id_rsa
[WARNING]: Could not match supplied host pattern, ignoring: test

PLAY [performing test task] ********************************************************************************************************
skipping: no hosts matched

PLAY RECAP ************************************************************************************************************************

root@a370c09cf13a:~/ansible# cat inventory.txt
[group1]
host1 ansible_host=node1 ansible_user=root
host2 ansible_host=node2 ansible_user=root

root@a370c09cf13a:~/ansible# nano ~/ansible/inventory.txt
root@a370c09cf13a:~/ansible# ansible-playbook -i ~/ansible/inventory.txt ~/ansible/test_group.yml --private-key=/root/.ssh/id_rsa

PLAY [performing test task] ********************************************************************************************************

TASK [Gathering Facts] ************************************************************************************************************
[DEPRECATION WARNING]: Distribution Ubuntu 16.04 on host host1 should use /usr/bin/python3, but is using /usr/bin/python for backward compatibility with
prior Ansible releases. A future Ansible release will default to using the discovered platform python for this host. See
https://docs.ansible.com/ansible/2.9/reference_appendices/interpreter_discovery.html for more information. This feature will be removed in version 2.12.
Deprecation warnings can be disabled by setting deprecation_warnings=False in ansible.cfg.
ok: [host1]
ok: [host2]

TASK [Test task] ******************************************************************************************************************
ok: [host1] => {
    "msg": "This task is executed on the nodes in the 'test' group"
}
ok: [host2] => {
    "msg": "This task is executed on the nodes in the 'test' group"
}

PLAY RECAP ************************************************************************************************************************
host1                      : ok=2    changed=0    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
host2                      : ok=2    changed=0    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

root@a370c09cf13a:~/ansible#
```

```
root@a370c09cf13a:~# ansible-playbook -i ~/ansible/inventory.txt ~/ansible/nodejsinstall.yml --private-key=/root/.ssh/id_rsa

PLAY [all] ************************************************************************************************************************

TASK [Gathering Facts] ************************************************************************************************************
[DEPRECATION WARNING]: Distribution Ubuntu 16.04 on host host1 should use /usr/bin/python3, but is using /usr/bin/python for backward compatibility with
prior Ansible releases. A future Ansible release will default to using the discovered platform python for this host. See
https://docs.ansible.com/ansible/2.9/reference_appendices/interpreter_discovery.html for more information. This feature will be removed in version 2.12.
Deprecation warnings can be disabled by setting deprecation_warnings=False in ansible.cfg.
ok: [host1]
ok: [host2]

TASK [Update apt cache] ***********************************************************************************************************
ok: [host2]
changed: [host1]

TASK [Install Node.js dependencies] ***********************************************************************************************
ok: [host1] => (item=curl)
ok: [host2] => (item=curl)
ok: [host1] => (item=software-properties-common)
ok: [host2] => (item=software-properties-common)
```

```
PLAY [all] ************************************************************************************************************************

TASK [Gathering Facts] ************************************************************************************************************
ok: [host1]
ok: [host2]

TASK [Update apt cache] ***********************************************************************************************************
changed: [host1]
changed: [host2]

TASK [Install Node.js dependencies] ***********************************************************************************************
ok: [host1] => (item=curl)
ok: [host2] => (item=curl)
ok: [host1] => (item=software-properties-common)
ok: [host2] => (item=software-properties-common)

TASK [Add NodeSource repository] **************************************************************************************************
ok: [host1]
ok: [host2]

TASK [Install Node.js] ************************************************************************************************************
ok: [host2]
ok: [host1]

TASK [Install build-essential] ****************************************************************************************************
changed: [host1]
changed: [host2]

PLAY RECAP ************************************************************************************************************************
host1                      : ok=6    changed=2    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
host2                      : ok=6    changed=2    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

root@e1aa69b2f0c9:/#
```

```
[root@e1aa69b2f0c9:/# vi inventory.txt
[root@e1aa69b2f0c9:/# vi file3.yaml
[root@e1aa69b2f0c9:/# ansible-playbook -i inventory.txt file3.yaml

PLAY [task] ************************************************************************************************

TASK [Gathering Facts] ***********************************************************************************
ok: [node1]

TASK [update task] ***************************************************************************************
ok: [node1] => {
    "msg": "test node"
}

PLAY RECAP ***********************************************************************************************
node1                      : ok=2    changed=0    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

root@e1aa69b2f0c9:/#
```

```
~/Desktop/lab3devops — root@e1aa69b2f0c9: / — com.docker.cli • docker exec -it e1aa69b2f0c9 bash          ~ — root@f8c26cb5a5df: / — com.docker.cli • docker exec -it f8c26cb5a5df ba
Preparing to unpack .../apt-transport-https_1.2.35_arm64.deb ...
Unpacking apt-transport-https (1.2.35) ...
Setting up apt-transport-https (1.2.35) ...
[root@c37a97125076:/# exit
exit
[simarchawla@Simars-Air ~ % docker exec -it f8c26cb5a5df bash
root@f8c26cb5a5df:/# apt-get install apt-transport-https
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following NEW packages will be installed:
  apt-transport-https
0 upgraded, 1 newly installed, 0 to remove and 2 not upgraded.
Need to get 24.8 kB of archives.
After this operation, 217 kB of additional disk space will be used.
Get:1 http://ports.ubuntu.com/ubuntu-ports xenial-updates/main arm64 apt-transport-https arm64 1.2.35 [24.8 kB]
Fetched 24.8 kB in 0s (87.6 kB/s)
debconf: delaying package configuration, since apt-utils is not installed
Selecting previously unselected package apt-transport-https.
(Reading database ... 10886 files and directories currently installed.)
Preparing to unpack .../apt-transport-https_1.2.35_arm64.deb ...
Unpacking apt-transport-https (1.2.35) ...
Setting up apt-transport-https (1.2.35) ...
root@f8c26cb5a5df:/# sudo apt-get update
bash: sudo: command not found
[root@f8c26cb5a5df:/#
[root@f8c26cb5a5df:/# apt-get update
Get:1 https://deb.nodesource.com/node_14.x xenial InRelease [4584 B]
Hit:2 http://ports.ubuntu.com/ubuntu-ports xenial InRelease
Ign:1 https://deb.nodesource.com/node_14.x xenial InRelease
Hit:3 http://ports.ubuntu.com/ubuntu-ports xenial-updates InRelease
Hit:4 http://ports.ubuntu.com/ubuntu-ports xenial-backports InRelease
Hit:5 http://ports.ubuntu.com/ubuntu-ports xenial-security InRelease
Fetched 4584 B in 0s (9090 B/s)
Reading package lists... Done
W: GPG error: https://deb.nodesource.com/node_14.x xenial InRelease: The following signatures couldn't be verified because the public key is not available: NO_PUBKEY 1655A0AB68576280
W: The repository 'https://deb.nodesource.com/node_14.x xenial InRelease' is not signed.
N: Data from such a repository can't be authenticated and is therefore potentially dangerous to use.
N: See apt-secure(8) manpage for repository creation and user configuration details.
root@f8c26cb5a5df:/# docker exec -it c37a97125076 bash
bash: docker: command not found
[root@f8c26cb5a5df:/# cd ..
[root@f8c26cb5a5df:/# exit
exit
[simarchawla@Simars-Air ~ % docker exec -it c37a97125076 bash
[root@c37a97125076:/# apt-get install apt-transport-https
Reading package lists... Done
Building dependency tree
Reading state information... Done
apt-transport-https is already the newest version (1.2.35).
0 upgraded, 0 newly installed, 0 to remove and 2 not upgraded.
[root@c37a97125076:/# exit
exit
[simarchawla@Simars-Air ~ % docker exec -it f8c26cb5a5df bash
[root@f8c26cb5a5df:/# apt-get install apt-transport-https
Reading package lists... Done
Building dependency tree
Reading state information... Done
apt-transport-https is already the newest version (1.2.35).
0 upgraded, 0 newly installed, 0 to remove and 2 not upgraded.
root@f8c26cb5a5df:/#
```

```
root@e1aa69b2f0c9:/# vi file5.yaml
[\root@e1aa69b2f0c9:/# ansible-playbook -i inventory.txt file5.yaml

PLAY [all] ***********************************************************************************************

TASK [Update package manager cache] *********************************************************************
changed: [host1]
changed: [host2]

TASK [Install required packages] ************************************************************************
ok: [host1] => (item=git)
ok: [host2] => (item=git)
ok: [host1] => (item=curl)
ok: [host2] => (item=curl)
ok: [host1] => (item=wget)
ok: [host2] => (item=wget)
ok: [host1] => (item=nginx)
ok: [host2] => (item=nginx)
ok: [host1] => (item=nodejs)
ok: [host2] => (item=nodejs)

TASK [Clone the repository] *****************************************************************************
changed: [host1]
changed: [host2]

TASK [Install Node.js dependencies] *********************************************************************
changed: [host2]
changed: [host1]

TASK [Build app] ****************************************************************************************
changed: [host2]
changed: [host1]

PLAY RECAP **********************************************************************************************
host1                      : ok=5    changed=4    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
host2                      : ok=5    changed=4    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

root@e1aa69b2f0c9:/#
```