

LAB3

Name -jatin Deswal

Student no. 101522607

```
root@077ae6e86fe3: ~
jd@jd:~/BCDV4033/lab3/BCDV-4033/ansible/lab$ docker compose up -d
WARN[0000] /home/jd/BCDV4033/lab3/BCDV-4033/ansible/lab/docker-compose.yml: `version` is obsolete
[+] Running 2/2
! ansible Warning pull access denied for ansi... 0.5s
! remote-host-one Warning pull access denied ... 0.9s
[+] Building 259.2s (22/22) FINISHED docker:default
=> [ansible internal] load build definition from Dockerfile 0.3s
=> => transferring dockerfile: 159B 0.0s
=> [ansible internal] load .dockerignore 0.3s
=> => transferring context: 2B 0.0s
=> [remote-host-one internal] load .dockerignore 0.3s
=> => transferring context: 2B 0.0s
=> [remote-host-one internal] load build definition from Dockerfile 0.3s
=> => transferring dockerfile: 683B 0.0s
=> [ansible internal] load metadata for docker.io/library/ubuntu:latest 1.0s
=> [remote-host-one internal] load metadata for docker.io/library/ubuntu 0.0s
=> [remote-host-one 1/11] FROM docker.io/library/ubuntu:20.04 0.0s
=> [remote-host-one 2/11] RUN apt-get update && apt-get install -y op 113.3s
=> [ansible 1/3] FROM docker.io/library/ubuntu@sha256:2e863c44b718727c8 22.1s
=> => resolve docker.io/library/ubuntu@sha256:2e863c44b718727c860746568e 0.0s
=> => sha256:2e863c44b718727c860746568e1d54afd13b2fa71b1 1.13kB / 1.13kB 0.0s
=> => sha256:c920ba4cfca05503764b785c16b76d43c83a6df8d1ab107 424B / 424B 0.0s
=> => sha256:35a88802559dd2077e584394471ddaa1a2c5bfd1689 2.30kB / 2.30kB 0.0s
```

```
root@077ae6e86fe3: ~
jd@jd:~/BCDV4033/lab3/BCDV-4033/ansible/lab$ docker ps
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS
PORTS         NAMES
69c8a0fa52d5   node1     "/usr/sbin/sshd -D"     About a minute ago    Up About a minute
22/tcp        node1
30eeca84b225   ansible   "/bin/bash"            About a minute ago    Up About a minute
ansible

jd@jd:~/BCDV4033/lab3/BCDV-4033/ansible/lab$ docker exec -it 30eeca84b225 bash
root@30eeca84b225:/# 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, Apr 10 2024, 05:33:47) [GCC 13.2.0] (/usr/bin/python3)
  jinja version = 3.1.2
  libyaml = True
root@30eeca84b225:/# ssh root@node1
The authenticity of host 'node1 (172.21.0.3)' can't be established.
ED25519 key fingerprint is SHA256:lQ4L8bpZYadvqXESP+6abkeeP1QYvuiV8RgIHYUhc6g.
```

```
root@077ae6e86fe3: ~  
jd@jd:~/BCDV4033/lab3/BCDV-4033/ansible/lab$ docker exec -it 30eeca84b225 bash  
root@30eeca84b225:/# ssh root@node2  
The authenticity of host 'node2 (172.21.0.4)' can't be established.  
ED25519 key fingerprint is SHA256:lQ4L8bpZYadvqXESP+6abkeeP1QYvuiV8RgIHYUhc6g.  
This host key is known by the following other names/addresses:  
  ~/.ssh/known_hosts:1: [hashed name]  
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes  
Warning: Permanently added 'node2' (ED25519) to the list of known hosts.  
root@node2's password:  
Welcome to Ubuntu 20.04.6 LTS (GNU/Linux 6.5.0-35-generic x86_64)  
  
* Documentation:  https://help.ubuntu.com  
* Management:    https://landscape.canonical.com  
* Support:        https://ubuntu.com/pro  
  
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.
```

```
root@30eeca84b225: /
jd@jd: ~/BCDV4033/lab3/BCDV-4033/a...

root@30eeca84b225:/# ansible all -m ping
[WARNING]: No inventory was parsed, only implicit localhost is available
[WARNING]: provided hosts list is empty, only localhost is available. Note that
the implicit localhost does not match 'all'
root@30eeca84b225:/# 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:ysF6XXf30htZh10FyIWEgMcc5HGq1g+orh6ZP/L5whc root@30eeca84b225
The key's randomart image is:
+---[RSA 2048]---+
|      ==0.+..+0..|
|      ..+++. +   |
|      .o         |
|      . +       o.|
|      * S . . o =|
|      o =E+ + . . ++|
|      +.o +.. .   .oo|
|      .++o.       .o|
|      .o+=.       . |
```

```
root@30eeca84b225: /  
jd@jd: ~/BCDV4033/lab3/BCDV-4033/a...  
jd@jd:~/BCDV4033/lab3/BCDV-4033/ansible/lab3$ docker exec -it 30eeca84b225 bash  
root@30eeca84b225:/# ssh-copy-id root@node2  
/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 prompt  
ed now it is to install the new keys  
root@node2's password:  
  
Number of key(s) added: 1  
  
Now try logging into the machine, with: "ssh 'root@node2'"  
and check to make sure that only the key(s) you wanted were added.  
  
root@30eeca84b225:/# nano inventory.txt  
bash: nano: command not found  
root@30eeca84b225:/# vim inventory.txt  
root@30eeca84b225:/# sudo apt install nano  
bash: sudo: command not found  
root@30eeca84b225:/# apt install nano  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
Suggested packages:
```

```
root@30eeca84b225: /
jd@jd: ~/BCDV4033/lab3/BCDV-4033/a...
root@30eeca84b225:/# nano inventory.txt
root@30eeca84b225:/# ansible-inventory -i inventory.txt --list
{
  "_meta": {
    "hostvars": {
      "host1": {
        "ansible_host": "node1",
        "ansible_user": "root"
      },
      "host2": {
        "ansible_host": "node2",
        "ansible_user": "root"
      }
    }
  },
  "all": {
    "children": [
      "ungrouped",
      "group1"
    ]
  },
  "group1": {
    "hosts": [
      "host1",
```

from the clipboard.

root@30eeca84b225: /

root@30eeca84b225: /

jd@jd: ~/BCDV4033/lab3/BCDV-4033/a...

```
    },
    "group1": {
      "hosts": [
        "host1",
        "host2"
      ]
    }
  }
}
root@30eeca84b225:/# ansible all -i inventory.txt -m ping
host1 | SUCCESS => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "changed": false,
  "ping": "pong"
}
host2 | SUCCESS => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "changed": false,
  "ping": "pong"
}
root@30eeca84b225:/#
```



```
root@30eeca84b225: /home/ubuntu
root@30eeca84b225: /home/ubuntu
root@30eeca84b225: /home/ubuntu# ^C
root@30eeca84b225: /home/ubuntu# ^C
root@30eeca84b225: /home/ubuntu# ansible all -i inventory.txt -m shell -a "df -h"
host1 | CHANGED | rc=0 >>
Filesystem      Size  Used Avail Use% Mounted on
overlay          234G  112G  110G   51% /
tmpfs             64M    0    64M    0% /dev
shm              64M    0    64M    0% /dev/shm
/dev/sda2        234G  112G  110G   51% /etc/hosts
tmpfs             3.9G    0   3.9G    0% /proc/asound
tmpfs             3.9G    0   3.9G    0% /proc/acpi
tmpfs             3.9G    0   3.9G    0% /proc/scsi
tmpfs             3.9G    0   3.9G    0% /sys/firmware
host2 | CHANGED | rc=0 >>
Filesystem      Size  Used Avail Use% Mounted on
overlay          234G  112G  110G   51% /
tmpfs             64M    0    64M    0% /dev
shm              64M    0    64M    0% /dev/shm
/dev/sda2        234G  112G  110G   51% /etc/hosts
tmpfs             3.9G    0   3.9G    0% /proc/asound
tmpfs             3.9G    0   3.9G    0% /proc/acpi
tmpfs             3.9G    0   3.9G    0% /proc/scsi
tmpfs             3.9G    0   3.9G    0% /sys/firmware
root@30eeca84b225: /home/ubuntu#
```

```
root@30eeca84b225: /home/ubuntu
root@30eeca84b225: /home/ubuntu x jd@jd: ~/BCDV4033/lab3/BCDV-4033/a... x
root@30eeca84b225: /home/ubuntu# ansible host2 -i inventory.txt -m apt -a "name=curl state=present" -b
host2 | CHANGED => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "cache_update_time": 1718667621,
  "cache_updated": false,
  "changed": true,
  "stderr": "debconf: delaying package configuration, since apt-utils is not installed\n",
  "stderr_lines": [
    "debconf: delaying package configuration, since apt-utils is not installed"
  ],
  "stdout": "Reading package lists...\nBuilding dependency tree...\nReading state information...\nThe following additional packages will be installed:\n libasn1-8-heimdal libbrotli1 libcurl4 libgssapi3-heimdal libhcrypto4-heimdal\n libheimbase1-heimdal libheimntlm0-heimdal libhx509-5-heimdal\n libk5-26-heimdal libldap-2.4-2 libldap-common libnghttp2-14\n libroken18-heimdal librtmp1 libsasl2-2 libsasl2-modules libsasl2-modules-db\n libssh-4 libwind0-heimdal\nSuggested packages:\n libsasl2-modules-gssapi-mit | libsasl2-modules-gssapi-heimdal\n libsasl2-modules-ldap libsasl2-modules-otp libsasl2-modules-sql\nThe following NEW packages will be installed:\n curl libasn1-8-heimdal libbrotli1 libcurl4 libgssapi3-heimdal libhcrypto4-heimdal\n libheimbase1-heimdal libheimntlm0-heimdal libhx509-5-heimdal\n libk5-26-heimdal libldap-2.4-2 libldap-common libnghttp2-14\n libroken18-heimdal librtmp1 libsasl2-2 libsasl2-modules libsasl2-modules-db\n libssh-4 libwind0-heimdal\n0 upgraded, 25 newly installed, 0 to remove and 0 not upgraded.\nNeed to get 11.5 MB of archives.\nAfter this operation, 42.9 MB of additional disk space will be used.\nDo you want to continue? [Y/n] y\nGet:1 http://archive.ubuntu.com/ubuntu focal/main amd64 curl amd64 7.81.0-1ubuntu1 [289 kB]\nGet:2 http://archive.ubuntu.com/ubuntu focal/main amd64 libasn1-8-heimdal amd64 1.10.3-1ubuntu1 [28.5 kB]\nGet:3 http://archive.ubuntu.com/ubuntu focal/main amd64 libbrotli1 amd64 1.0.9-2build1 [309 kB]\nGet:4 http://archive.ubuntu.com/ubuntu focal/main amd64 libcurl4 amd64 7.81.0-1ubuntu1 [349 kB]\nGet:5 http://archive.ubuntu.com/ubuntu focal/main amd64 libgssapi3-heimdal amd64 1.10.3-1ubuntu1 [28.5 kB]\nGet:6 http://archive.ubuntu.com/ubuntu focal/main amd64 libhcrypto4-heimdal amd64 1.10.3-1ubuntu1 [28.5 kB]\nGet:7 http://archive.ubuntu.com/ubuntu focal/main amd64 libheimbase1-heimdal amd64 1.10.3-1ubuntu1 [28.5 kB]\nGet:8 http://archive.ubuntu.com/ubuntu focal/main amd64 libheimntlm0-heimdal amd64 1.10.3-1ubuntu1 [28.5 kB]\nGet:9 http://archive.ubuntu.com/ubuntu focal/main amd64 libhx509-5-heimdal amd64 1.10.3-1ubuntu1 [28.5 kB]\nGet:10 http://archive.ubuntu.com/ubuntu focal/main amd64 libk5-26-heimdal amd64 1.10.3-1ubuntu1 [28.5 kB]\nGet:11 http://archive.ubuntu.com/ubuntu focal/main amd64 libldap-2.4-2 amd64 2.4-2+deb10u1 [223 kB]\nGet:12 http://archive.ubuntu.com/ubuntu focal/main amd64 libldap-common all 2.4-2+deb10u1 [61.2 kB]\nGet:13 http://archive.ubuntu.com/ubuntu focal/main amd64 libnghttp2-14 amd64 1.41.0-1ubuntu1 [72.3 kB]\nGet:14 http://archive.ubuntu.com/ubuntu focal/main amd64 libroken18-heimdal amd64 1.10.3-1ubuntu1 [28.5 kB]\nGet:15 http://archive.ubuntu.com/ubuntu focal/main amd64 librtmp1 amd64 2.4+20191226gitfa25614ee1-1ubuntu1 [55.4 kB]\nGet:16 http://archive.ubuntu.com/ubuntu focal/main amd64 libsasl2-2 amd64 2:2.1.27-1ubuntu1 [63.8 kB]\nGet:17 http://archive.ubuntu.com/ubuntu focal/main amd64 libsasl2-modules-db amd64 2:2.1.27-1ubuntu1 [10.3 kB]\nGet:18 http://archive.ubuntu.com/ubuntu focal/main amd64 libssh-4 amd64 0.9.6-2ubuntu1 [191 kB]\nGet:19 http://archive.ubuntu.com/ubuntu focal/main amd64 libwind0-heimdal amd64 1.10.3-1ubuntu1 [28.5 kB]\nFetched 11.5 MB in 2s (5450 kB/s)\ndebconf: delaying package configuration, since apt-utils is not installed\n(Reading database ... 1234567890 files and directories currently installed.)\nPreparing to unpack .../curl_7.81.0-1ubuntu1_amd64.deb ...\nUnpacking curl (7.81.0-1ubuntu1) ...\nSelecting previously unselected package libasn1-8-heimdal:amd64.\nPreparing to unpack .../libasn1-8-heimdal_1.10.3-1ubuntu1_amd64.deb ...\nUnpacking libasn1-8-heimdal:amd64 (1.10.3-1ubuntu1) ...\nSelecting previously unselected package libbrotli1:amd64.\nPreparing to unpack .../libbrotli1_1.0.9-2build1_amd64.deb ...\nUnpacking libbrotli1:amd64 (1.0.9-2build1) ...\nSelecting previously unselected package libcurl4:amd64.\nPreparing to unpack .../libcurl4_7.81.0-1ubuntu1_amd64.deb ...\nUnpacking libcurl4:amd64 (7.81.0-1ubuntu1) ...\nSelecting previously unselected package libgssapi3-heimdal:amd64.\nPreparing to unpack .../libgssapi3-heimdal_1.10.3-1ubuntu1_amd64.deb ...\nUnpacking libgssapi3-heimdal:amd64 (1.10.3-1ubuntu1) ...\nSelecting previously unselected package libhcrypto4-heimdal:amd64.\nPreparing to unpack .../libhcrypto4-heimdal_1.10.3-1ubuntu1_amd64.deb ...\nUnpacking libhcrypto4-heimdal:amd64 (1.10.3-1ubuntu1) ...\nSelecting previously unselected package libheimbase1-heimdal:amd64.\nPreparing to unpack .../libheimbase1-heimdal_1.10.3-1ubuntu1_amd64.deb ...\nUnpacking libheimbase1-heimdal:amd64 (1.10.3-1ubuntu1) ...\nSelecting previously unselected package libheimntlm0-heimdal:amd64.\nPreparing to unpack .../libheimntlm0-heimdal_1.10.3-1ubuntu1_amd64.deb ...\nUnpacking libheimntlm0-heimdal:amd64 (1.10.3-1ubuntu1) ...\nSelecting previously unselected package libhx509-5-heimdal:amd64.\nPreparing to unpack .../libhx509-5-heimdal_1.10.3-1ubuntu1_amd64.deb ...\nUnpacking libhx509-5-heimdal:amd64 (1.10.3-1ubuntu1) ...\nSelecting previously unselected package libk5-26-heimdal:amd64.\nPreparing to unpack .../libk5-26-heimdal_1.10.3-1ubuntu1_amd64.deb ...\nUnpacking libk5-26-heimdal:amd64 (1.10.3-1ubuntu1) ...\nSelecting previously unselected package libldap-2.4-2:amd64.\nPreparing to unpack .../libldap-2.4-2_2.4-2+deb10u1_amd64.deb ...\nUnpacking libldap-2.4-2:amd64 (2.4-2+deb10u1) ...\nSelecting previously unselected package libldap-common.\nPreparing to unpack .../libldap-common_2.4-2+deb10u1_all.deb ...\nUnpacking libldap-common (2.4-2+deb10u1) ...\nSelecting previously unselected package libnghttp2-14:amd64.\nPreparing to unpack .../libnghttp2-14_1.41.0-1ubuntu1_amd64.deb ...\nUnpacking libnghttp2-14:amd64 (1.41.0-1ubuntu1) ...\nSelecting previously unselected package libroken18-heimdal:amd64.\nPreparing to unpack .../libroken18-heimdal_1.10.3-1ubuntu1_amd64.deb ...\nUnpacking libroken18-heimdal:amd64 (1.10.3-1ubuntu1) ...\nSelecting previously unselected package librtmp1:amd64.\nPreparing to unpack .../librtmp1_2.4+20191226gitfa25614ee1-1ubuntu1_amd64.deb ...\nUnpacking librtmp1:amd64 (2.4+20191226gitfa25614ee1-1ubuntu1) ...\nSelecting previously unselected package libsasl2-2:amd64.\nPreparing to unpack .../libsasl2-2_2:2.1.27-1ubuntu1_amd64.deb ...\nUnpacking libsasl2-2:amd64 (2:2.1.27-1ubuntu1) ...\nSelecting previously unselected package libsasl2-modules-db:amd64.\nPreparing to unpack .../libsasl2-modules-db_2:2.1.27-1ubuntu1_amd64.deb ...\nUnpacking libsasl2-modules-db:amd64 (2:2.1.27-1ubuntu1) ...\nSelecting previously unselected package libssh-4:amd64.\nPreparing to unpack .../libssh-4_0.9.6-2ubuntu1_amd64.deb ...\nUnpacking libssh-4:amd64 (0.9.6-2ubuntu1) ...\nSelecting previously unselected package libwind0-heimdal:amd64.\nPreparing to unpack .../libwind0-heimdal_1.10.3-1ubuntu1_amd64.deb ...\nUnpacking libwind0-heimdal:amd64 (1.10.3-1ubuntu1) ...\nSetting up curl (7.81.0-1ubuntu1) ...\nSetting up libasn1-8-heimdal:amd64 (1.10.3-1ubuntu1) ...\nSetting up libbrotli1:amd64 (1.0.9-2build1) ...\nSetting up libcurl4:amd64 (7.81.0-1ubuntu1) ...\nSetting up libgssapi3-heimdal:amd64 (1.10.3-1ubuntu1) ...\nSetting up libhcrypto4-heimdal:amd64 (1.10.3-1ubuntu1) ...\nSetting up libheimbase1-heimdal:amd64 (1.10.3-1ubuntu1) ...\nSetting up libheimntlm0-heimdal:amd64 (1.10.3-1ubuntu1) ...\nSetting up libhx509-5-heimdal:amd64 (1.10.3-1ubuntu1) ...\nSetting up libk5-26-heimdal:amd64 (1.10.3-1ubuntu1) ...\nSetting up libldap-2.4-2:amd64 (2.4-2+deb10u1) ...\nSetting up libldap-common (2.4-2+deb10u1) ...\nSetting up libnghttp2-14:amd64 (1.41.0-1ubuntu1) ...\nSetting up libroken18-heimdal:amd64 (1.10.3-1ubuntu1) ...\nSetting up librtmp1:amd64 (2.4+20191226gitfa25614ee1-1ubuntu1) ...\nSetting up libsasl2-2:amd64 (2:2.1.27-1ubuntu1) ...\nSetting up libsasl2-modules-db:amd64 (2:2.1.27-1ubuntu1) ...\nSetting up libssh-4:amd64 (0.9.6-2ubuntu1) ...\nSetting up libwind0-heimdal:amd64 (1.10.3-1ubuntu1) ...
```

```
root@30eeca84b225: /home/ubuntu
jd@jd: ~/BCDV4033/lab3/BCDV-4033/ansible/lab$ docker cp create-file.yml ansible:/home/ubuntu
Successfully copied 2.05kB to ansible:/home/ubuntu
jd@jd:~/BCDV4033/lab3/BCDV-4033/ansible/lab$ docker exec -it 30eeca84b225 bash
root@30eeca84b225:/# cd /home/ubuntu/
root@30eeca84b225:/home/ubuntu# ls
create-file.yml  inventory.txt
root@30eeca84b225:/home/ubuntu# ansible-playbook create-file.yml

PLAY [all] *****

TASK [Gathering Facts] *****
ok: [node2]
ok: [node1]

TASK [create a file] *****
changed: [node1]
changed: [node2]

PLAY RECAP *****
node1      : ok=2    changed=1    unreachable=0    failed=0    s
kipped=0    rescued=0    ignored=0
node2      : ok=2    changed=1    unreachable=0    failed=0    s
```

```
root@30eeca84b225: /home/ubuntu
jd@jd: ~/BCDV4033/lab3/BCDV-4033/ansible/lab$ nano delete-file.yml
jd@jd: ~/BCDV4033/lab3/BCDV-4033/ansible/lab$ docker cp delete-file.yml ansible:/home/ubuntu
Successfully copied 2.05kB to ansible:/home/ubuntu
jd@jd: ~/BCDV4033/lab3/BCDV-4033/ansible/lab$ docker exec -it 30eeca84b225 bash
root@30eeca84b225:/# cd /home/ubuntu
root@30eeca84b225:/home/ubuntu# ls
create-file.yml delete-file.yml inventory.txt
root@30eeca84b225:/home/ubuntu# ansible-playbook delete-file.yml

PLAY [Delete the file on both nodes] *****

TASK [Gathering Facts] *****
ok: [node2]
ok: [node1]

TASK [Remove the test file] *****
ok: [node2]
ok: [node1]

PLAY RECAP *****
node1                : ok=2    changed=0    unreachable=0    failed=0    s
kipped=0             rescued=0    ignored=0
node2                : ok=2    changed=0    unreachable=0    failed=0    s
```

```
root@30eeca84b225: /home/ubuntu
root@30eeca84b225: /home/ubuntu# nano host
root@30eeca84b225: /home/ubuntu# ls
create-file.yml delete-file.yml host inventory.txt
root@30eeca84b225: /home/ubuntu# exit
exit
jd@jd: ~/BCDV4033/lab3/BCDV-4033/ansible/lab$ docker cp create-file-dev.yml ansib
le:/home/ubuntu
Successfully copied 2.05kB to ansible:/home/ubuntu
jd@jd: ~/BCDV4033/lab3/BCDV-4033/ansible/lab$ docker exec -it 30eeca84b225 bash
root@30eeca84b225: /# cd /home/ubuntu/
root@30eeca84b225: /home/ubuntu# ls
create-file-dev.yml create-file.yml delete-file.yml host inventory.txt
root@30eeca84b225: /home/ubuntu# nano create-file-dev.yml
root@30eeca84b225: /home/ubuntu# mv create-file-dev.yml create-file-test.yml
root@30eeca84b225: /home/ubuntu# ls
create-file-test.yml create-file.yml delete-file.yml host inventory.txt
root@30eeca84b225: /home/ubuntu# cat create-file-test.yml
---
- hosts: test
  tasks:
    - name: create a file
      file:
        path: /tmp/file-playbook1
        state: touch
```

```
root@30eeca84b225: /home/ubuntu
root@30eeca84b225: /home/ubuntu x jd@jd: ~/BCDV4033/lab3/BCDV-4033/a... x
root@30eeca84b225:/home/ubuntu# cat hosts
cat: hosts: No such file or directory
root@30eeca84b225:/home/ubuntu# cat host
[dev]
host1 ansible_host=node1 ansible_user=root

[test]
host2 ansible_host=node2 ansible_user=root
root@30eeca84b225:/home/ubuntu# mv host hosts
root@30eeca84b225:/home/ubuntu# ansible-playbook create-file-test.yml -i ./hosts

PLAY [test] *****

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

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

PLAY RECAP *****
host2 : ok=2 changed=1 unreachable=0 failed=0 s
kipped=0 rescued=0 ignored=0

root@30eeca84b225:/home/ubuntu#
```

```
root@30eeca84b225: /home/ubuntu
root@30eeca84b225: /home/ubuntu x jd@jd: ~/BCDV4033/lab3/BCDV-4033/a... x
root@30eeca84b225: /home/ubuntu# nano nodejs.yaml
root@30eeca84b225: /home/ubuntu# ansible-playbook nodejs.yaml

PLAY [all] *****

TASK [Gathering Facts] *****
ok: [node2]
ok: [node1]

TASK [Update apt cache] *****
ok: [node2]
ok: [node1]

TASK [Install Node.js dependencies] *****
ok: [node1] => (item=curl)
ok: [node2] => (item=curl)
ok: [node2] => (item=software-properties-common)
ok: [node1] => (item=software-properties-common)

TASK [Add NodeSource repository GPG key] *****
changed: [node2]
changed: [node1]

TASK [Add NodeSource repository] *****
```

```
root@30eeca84b225: /home/ubuntu
jd@jd: ~/BCDV4033/lab3/BCDV-4033/a...

TASK [Add NodeSource repository] *****
changed: [node2]
changed: [node1]

TASK [Install Node.js] *****
changed: [node1]
changed: [node2]

TASK [Install build-essential] *****
changed: [node1]
changed: [node2]

PLAY RECAP *****
node1      : ok=7    changed=4    unreachable=0    failed=0    s
kipped=0    rescued=0    ignored=0
node2      : ok=7    changed=4    unreachable=0    failed=0    s
kipped=0    rescued=0    ignored=0

root@30eeca84b225:/home/ubuntu# cat nodejs.yaml
---
- hosts: all
  gather_facts: yes
  become: yes
  tasks:
```



```
root@30eeca84b225: /home/ubuntu
jd@jd: ~/BCDV4033/lab3/BCDV-4033/a...

update_cache: yes

- name: Install Node.js dependencies
  apt:
    name: "{{ item }}"
    state: present
  loop:
    - curl
    - software-properties-common
- name: Add NodeSource repository GPG key
  apt_key:
    url: https://deb.nodesource.com/gpgkey/nodesource.gpg.key
    state: present
- name: Add NodeSource repository
  apt_repository:
    repo: "deb https://deb.nodesource.com/node 14.x {{ ansible_distribution_
release }} main"
    state: present
    update_cache: yes
    filename: nodesource

- name: Install Node.js
  apt:
    name: nodejs
    state: present
```

```
root@69c8a0fa52d5: ~
name: nodejs
state: present

- name: Install build-essential
  apt:
    name: build-essential
    state: present
root@30eeca84b225:/home/ubuntu# node -v
bash: node: command not found
root@30eeca84b225:/home/ubuntu# ssh root@node1
Welcome to Ubuntu 20.04.6 LTS (GNU/Linux 6.5.0-35-generic x86_64)

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

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: Tue Jun 18 01:03:16 2024 from 172.21.0.2
root@69c8a0fa52d5:~# node -v
v14.21.3
root@69c8a0fa52d5:~#
```

```
root@077ae6e86fe3: ~
jd@jd: ~/BCDV4033/lab3/BCDV-4033/a...

To restore this content, you can run the 'unminimize' command.
Last login: Tue Jun 18 01:03:16 2024 from 172.21.0.2
root@69c8a0fa52d5:~# node -v
v14.21.3
root@69c8a0fa52d5:~# exit
logout
Connection to node1 closed.
root@30eeca84b225:/home/ubuntu# ssh root@node2
Welcome to Ubuntu 20.04.6 LTS (GNU/Linux 6.5.0-35-generic x86_64)

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

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: Tue Jun 18 01:03:16 2024 from 172.21.0.2
root@077ae6e86fe3:~# node -v
v14.21.3
root@077ae6e86fe3:~# npm -v
6.14.18
root@077ae6e86fe3:~#
```

```
! example-node.yaml
1  ---
2  - hosts: localhost
3    become: yes
4    gather_facts: no
5    vars:
6      git_repo_url: https://github.com/jdjatin/BCDV4033-Lab1.git
7      repo_path: /your/local/repo/path
8      repo_branch: master
9    tasks:
10     - name: Run the equivalent of "apt-get update" as a separate step
11       apt:
12         update_cache: yes
13     - name: Ansible shell module multiple commands
14       shell: 'curl -fsSL https://deb.nodesource.com/setup_14.x | sudo -
15     - name: Install required packages
16       apt: name={{ item }} state=present
17     with_items:
```

```
exit
jd@jd:~/BCDV4033/lab3/BCDV-4033/ansible/lab$ docker cp example-node.yaml ansible:/home/ubuntu
Successfully copied 2.56kB to ansible:/home/ubuntu
jd@jd:~/BCDV4033/lab3/BCDV-4033/ansible/lab$ docker exec -it 30eeca84b225 bash
root@30eeca84b225:/# cd /home/ubuntu
root@30eeca84b225:/home/ubuntu# ls
create-file-test.yaml  delete-file.yaml  hosts  nodejs.yaml
create-file.yaml      example-node.yaml  inventory.txt
```

```
root@30eeca84b225:/home/ubuntu/BCDV4033-Lab1
root@30eeca84b225:/home/ubuntu/B... x jd@jd: ~/BCDV4033/lab3/BCDV-4033/a... x
root@30eeca84b225:/home/ubuntu# nano example-node.yaml
root@30eeca84b225:/home/ubuntu# ansible-playbook example-node.yaml

PLAY [localhost] *****

TASK [Clone the repository] *****
ok: [localhost]

TASK [Add NodeSource repository GPG key] *****
ok: [localhost]

TASK [Ansible shell module multiple commands] *****
changed: [localhost]

TASK [Install packages based on package.json using npm] *****
ok: [localhost]

TASK [Build app] *****
```