

```
8ea688f61d3 bash
root@8ea688f61d3:/# 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]
root@8ea688f61d3:/# ssh root@node1
ssh: Could not resolve hostname ode1: Name or service not known
root@8ea688f61d3:/# ssh root@node1
The authenticity of host 'node1 (172.19.0.3)' can't be established.
ED25519 key fingerprint is SHA256:4wGPTyG75Xerak+mR04efKJlWBDN/2eh1jufG02JUBE.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'node1' (ED25519) to the list of known hosts.
root@node1'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@8ea688f61d3:/#
```

```
root@8ea688f61d3:/# exit
-bash: EXIT: command not found
root@8ea688f61d3:/# exit
logout
Connection to node1 closed.
root@8ea688f61d3:/# ssh root@node2
The authenticity of host 'node2 (172.19.0.2)' can't be established.
ED25519 key fingerprint is SHA256:4wGPTyG75Xerak+mR04efKJlWBDN/2eh1jufG02JUBE.
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 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
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applicable law.

root@3ec6e0595033:/#
```

The screenshot shows the Visual Studio Code interface with the Explorer pane on the left displaying a project structure for 'BCDV 4033 - DevOps'. The main editor area shows the terminal output of an SSH key generation and copy process. The process starts with generating an RSA key pair using 'ssh-keygen -t rsa -b 2048'. The user is prompted to enter a file name, a passphrase, and confirm the passphrase. The public key is saved in '/root/.ssh/id\_rsa.pub' and the private key in '/root/.ssh/id\_rsa'. The key fingerprint is displayed as 'SHA256:ApFX]KqTlFX3eTlVmlaUEgqyLFTB/GANZ6n9nGeF+GY'. The key is then copied to the remote host 'root@08ea688f61d3' using 'ssh-copy-id root@node1'. The output shows that the key is successfully installed and the user is prompted to log in with the new key. The process then repeats for 'root@node2'.

```
root@08ea688f61d3:/# 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:ApFX]KqTlFX3eTlVmlaUEgqyLFTB/GANZ6n9nGeF+GY root@08ea688f61d3
The key's randomart image is:
+----[RSA 2048]-----+
|.o+..+o. .|
|.. 0Bo.o o|
|. + @. .o.|
|...+ . .o.|
|. + + St..|
|. o o .+E..|
|. o . o=o|
|. = .|
|_|
+----[SHA256]-----+
root@08ea688f61d3:/# ssh-copy-id root@node1
/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@node1's password:
Permission denied, please try again.
root@node1's password:

Number of key(s) added: 1

Now try logging into the machine, with: "ssh 'root@node1'"
and check to make sure that only the key(s) you wanted were added.

root@08ea688f61d3:/# 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 prompted now it is to install the new keys
root@node2's password:
Permission denied, please try again.
root@node2's password:
```

The screenshot shows the Visual Studio Code interface with the Explorer pane on the left displaying a project structure for 'BCDV 4033 - DevOps'. The main editor area shows the terminal output of an SSH key generation and copy process. The process starts with generating an RSA key pair using 'ssh-keygen -t rsa -b 2048'. The user is prompted to enter a file name, a passphrase, and confirm the passphrase. The public key is saved in '/root/.ssh/id\_rsa.pub' and the private key in '/root/.ssh/id\_rsa'. The key fingerprint is displayed as 'SHA256:ApFX]KqTlFX3eTlVmlaUEgqyLFTB/GANZ6n9nGeF+GY'. The key is then copied to the remote host 'root@08ea688f61d3' using 'ssh-copy-id root@node1'. The output shows that the key is successfully installed and the user is prompted to log in with the new key. The process then repeats for 'root@node2'.

```
root@08ea688f61d3:/# 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:ApFX]KqTlFX3eTlVmlaUEgqyLFTB/GANZ6n9nGeF+GY root@08ea688f61d3
The key's randomart image is:
+----[RSA 2048]-----+
|.o+..+o. .|
|.. 0Bo.o o|
|. + @. .o.|
|...+ . .o.|
|. + + St..|
|. o o .+E..|
|. o . o=o|
|. = .|
|_|
+----[SHA256]-----+
root@08ea688f61d3:/# ssh-copy-id root@node1
/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
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root@node1's password:
Permission denied, please try again.
root@node1's password:

Number of key(s) added: 1

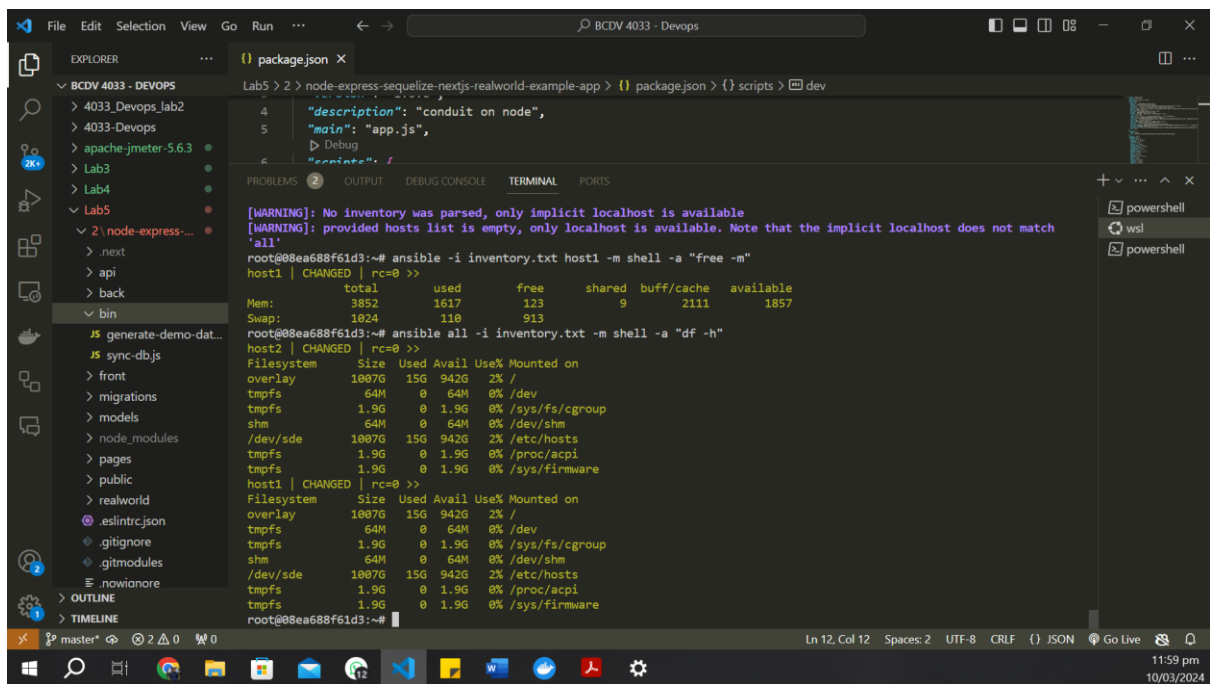
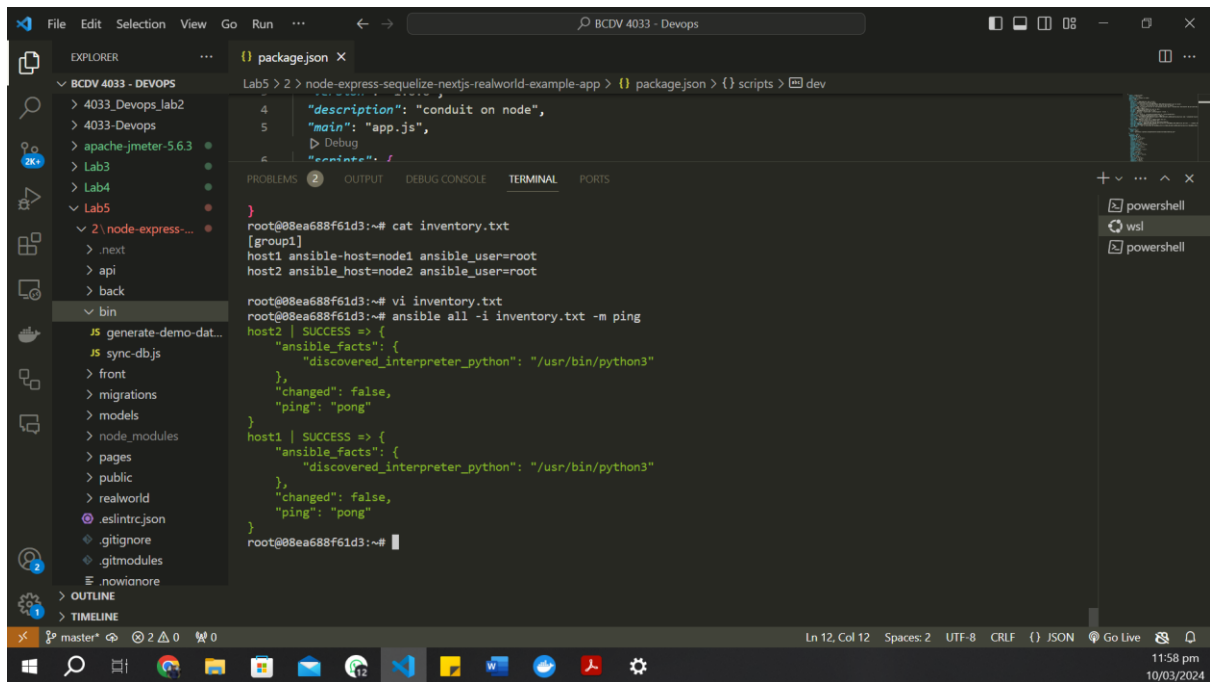
Now try logging into the machine, with: "ssh 'root@node1'"
and check to make sure that only the key(s) you wanted were added.

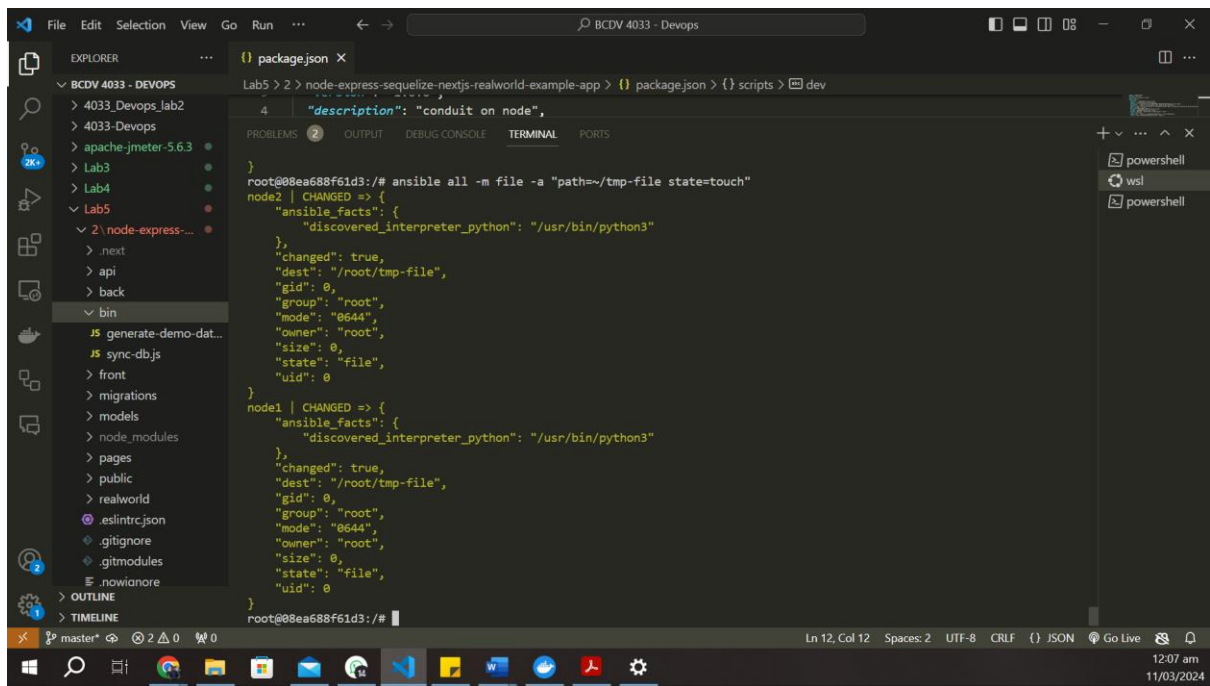
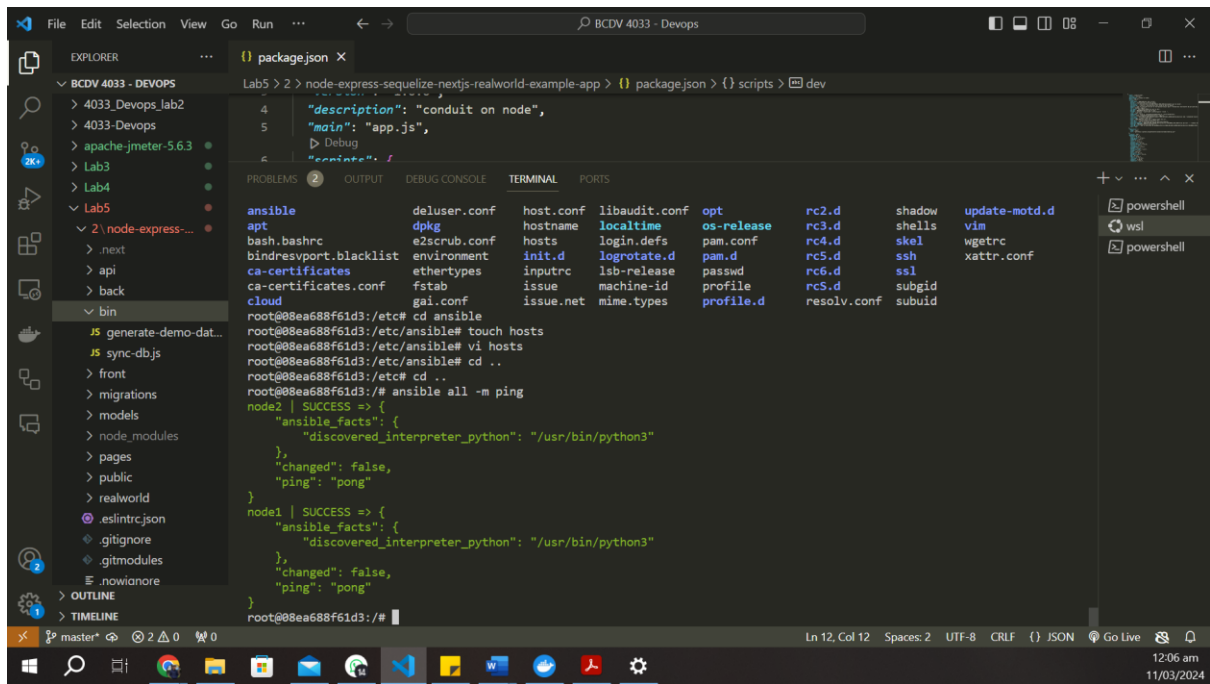
root@08ea688f61d3:/# ssh-copy-id root@node2
/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/root/.ssh/id_rsa.pub"
/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any that are already installed
/usr/bin/ssh-copy-id: INFO: 1 key(s) remain to be installed -- if you are prompted now it is to install the new keys
root@node2's password:
Permission denied, please try again.
root@node2's password:

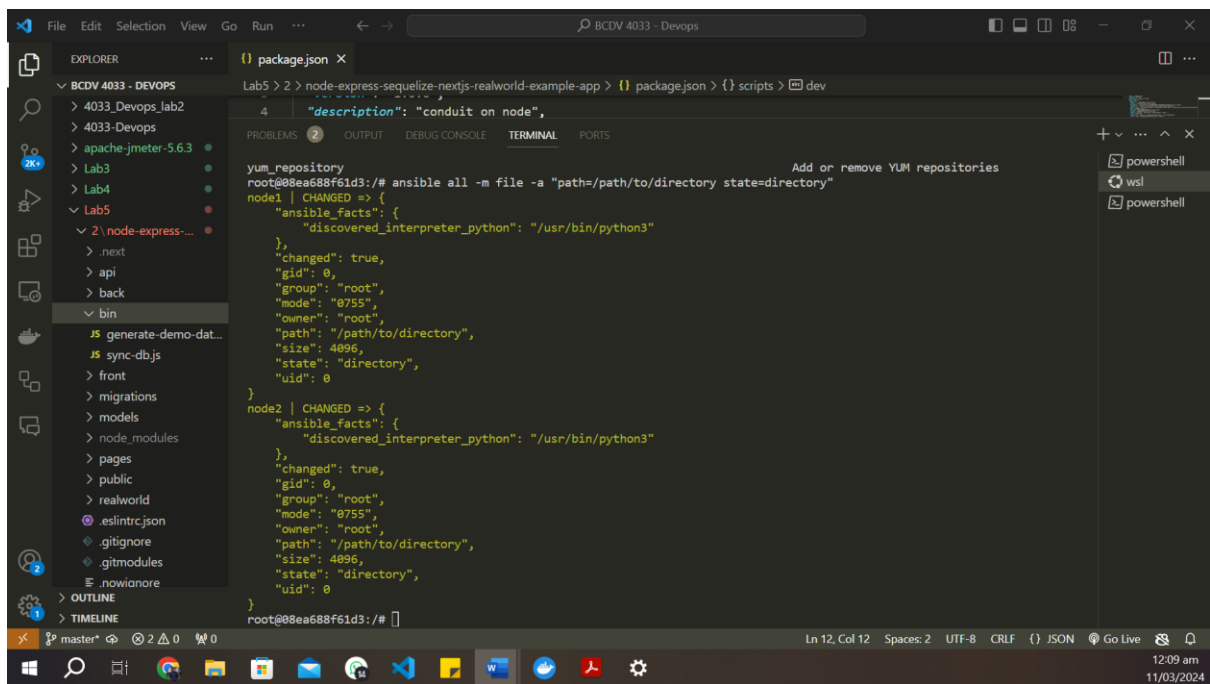
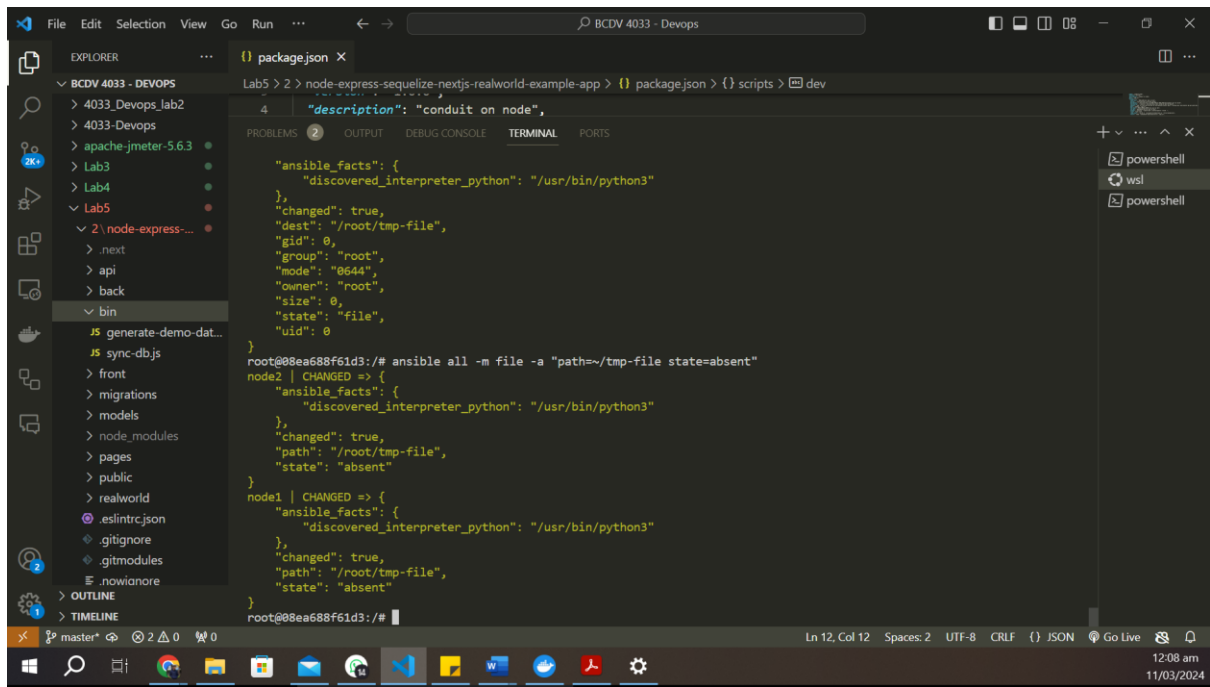
Number of key(s) added: 1

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@08ea688f61d3:/# cd
root@08ea688f61d3:/# ls
lib/ proc/ sys/
```







The screenshot shows a Visual Studio Code window with the Explorer sidebar on the left displaying a file tree for 'BCDV 4033 - DEVOPS'. The main editor area shows a terminal window with the following content:

```
Lab5 > 2 > node-express-sequelize-nextjs-realworld-example-app > {} package.json > {} scripts > dev
4 "description": "conduit on node",

"ansible_facts": {
  "discovered_interpreter_python": "/usr/bin/python3"
},
"changed": true,
"gid": 0,
"group": "root",
"mode": "0755",
"owner": "root",
"path": "/path/to/directory",
"size": 4096,
"state": "directory",
"uid": 0
}
root@08eae688f61d3:/# vi file1.yaml
root@08eae688f61d3:/# ansible-playbook -i inventory.txt file1.yaml

PLAY [all] *****

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

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

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@08eae688f61d3:/#
```

The screenshot shows the same Visual Studio Code window, but the terminal session has progressed further. The output now includes the execution of a second playbook, 'file2.yaml'.

```
root@08eae688f61d3:/# vi file2.yaml
root@08eae688f61d3:/# ansible-playbook -i inventory.txt file2.yaml

PLAY [all] *****

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

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

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@08eae688f61d3:/#
```



File Edit Selection View Go Run ... BCDV 4033 - Devops

EXPLORER ... package.json Lab5\node-express-sequelize-nextjs-realworld-example-app

Lab5

node-express-sequeliz...

api

back

bin

front

migrations

models

node\_modules

pages

public

realworld

.eslintrc.json

.gitignore

.gitmodules

.nowignore

.prettierrc

.sequelizerc

.travis.yml

app.js

auth.js

db.sqlite3

OUTLINE

TIMELINE

root@08ea688f61d3:~# ansible-playbook -i inventory.txt file3.yaml

ERROR! We were unable to read either as JSON nor YAML, these are the errors we got from each:

JSON: Expecting value: line 1 column 1 (char 0)

Syntax Error while loading YAML.

did not find expected '-' indicator

The error appears to be in '/file3.yaml': line 5, column 5, but may be elsewhere in the file depending on the exact syntax problem.

The offending line appears to be:

```
- name: update task
  debug:
    ^ here
```

root@08ea688f61d3:~# vi file3.yaml

root@08ea688f61d3:~# 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@08ea688f61d3:~#

Ln 12, Col 31 (511 selected) Spaces: 2 UTF-8 CRLF {} JSON Go Live

Type here to search

1:55 am 11/03/2024

File Edit Selection View Go Run ... BCDV 4033 - Devops

EXPLORER ... package.json Lab5\node-express-sequelize-nextjs-realworld-example-app

Lab5

node-express-sequeliz...

api

back

bin

front

migrations

models

node\_modules

pages

public

realworld

.eslintrc.json

.gitignore

.gitmodules

.nowignore

.prettierrc

.sequelizerc

.travis.yml

app.js

auth.js

db.sqlite3

db.ts

demo.productionread...

front.ts

heroku.sh

lib.js

next-env.d.ts

next.config.js

package-lock.json

package.json

prod.sh

project-logo.png

README.adoc

style.scss

test\_lib.js

OUTLINE

TIMELINE

root@08ea688f61d3:~# ansible-playbook -i inventory.txt file4.yaml

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

TASK [Gathering Facts] \*\*\*\*\*

ok: [host1]

ok: [host2]

TASK [Update apt cache] \*\*\*\*\*

changed: [host1]

changed: [host2]

TASK [Install Node.js dependencies] \*\*\*\*\*

ok: [host2] => (item=curl)

ok: [host1] => (item=curl)

ok: [host2] => (item=software-properties-common)

ok: [host1] => (item=software-properties-common)

TASK [Add NodeSource repository] \*\*\*\*\*

ok: [host1]

ok: [host2]

TASK [Install Node.js] \*\*\*\*\*

ok: [host1]

ok: [host2]

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@08ea688f61d3:~#

Ln 12, Col 31 (511 selected) Spaces: 2 UTF-8 CRLF {} JSON Go Live

Type here to search

2:40 am 11/03/2024

