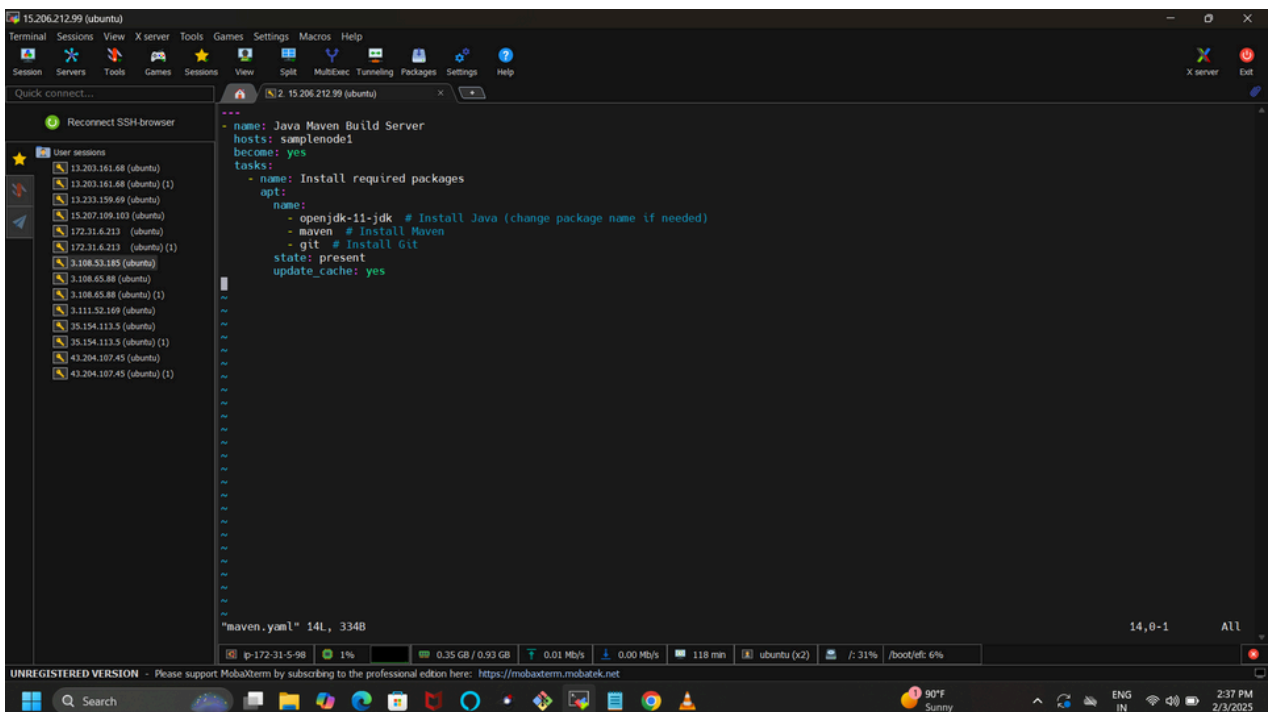


Module - Configuration Automation using Ansible

Date of submission - 3/02/25

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L1 - Create and Execute Ansible Playbook to Setup Java Maven Application Build Server



The screenshot shows a MobaXterm terminal window with a dark theme. The title bar indicates the connection is to 15.206.212.99 (ubuntu). The left sidebar shows a list of user sessions. The main terminal area displays the execution of an Ansible playbook named 'Java Maven Build Server'. The playbook is configured for the host 'samplenode1' and the user 'yes'. The tasks section includes an 'apt' task to install required packages: 'openjdk-11-jdk' (commented as 'Install Java (change package name if needed)'), 'maven' (commented as 'Install Maven'), and 'git' (commented as 'Install Git'). The 'state' is set to 'present' and 'update_cache' is set to 'yes'. The terminal output shows the playbook running successfully on the host. The status bar at the bottom indicates the terminal is running on 'ubuntu (x2)' with 31% memory usage and 6% disk usage. The system tray shows the date and time as 2:37 PM on 2/3/2025.

```
---
- name: Java Maven Build Server
  hosts: samplenode1
  become: yes
  tasks:
    - name: Install required packages
      apt:
        name:
          - openjdk-11-jdk # Install Java (change package name if needed)
          - maven # Install Maven
          - git # Install Git
        state: present
        update_cache: yes
```

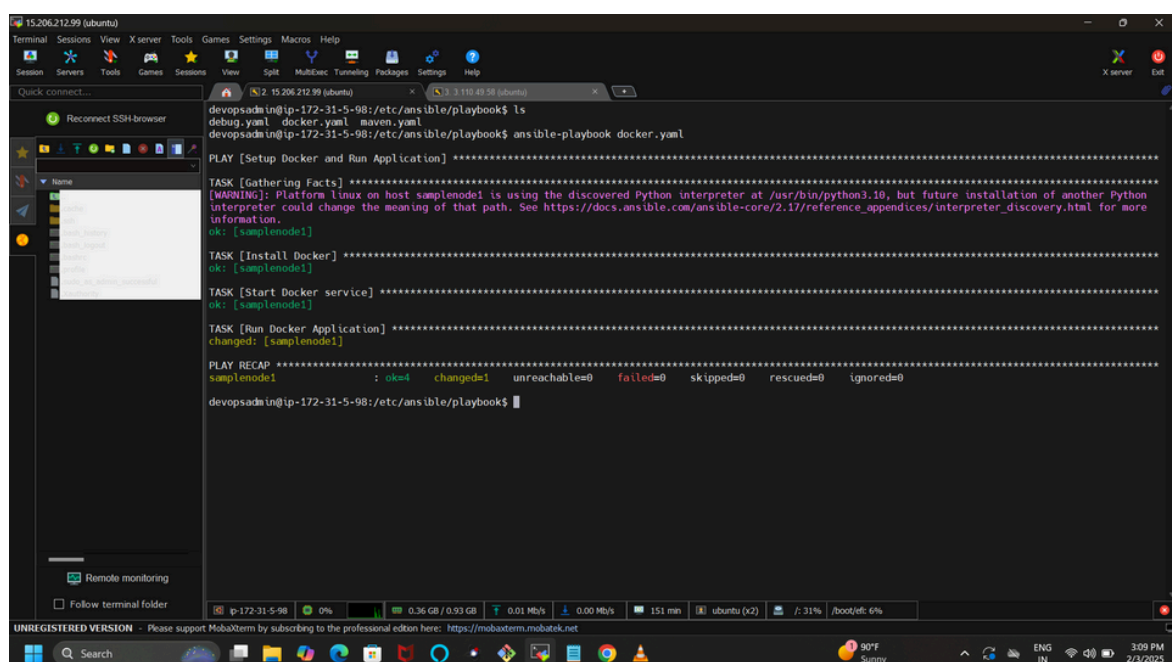
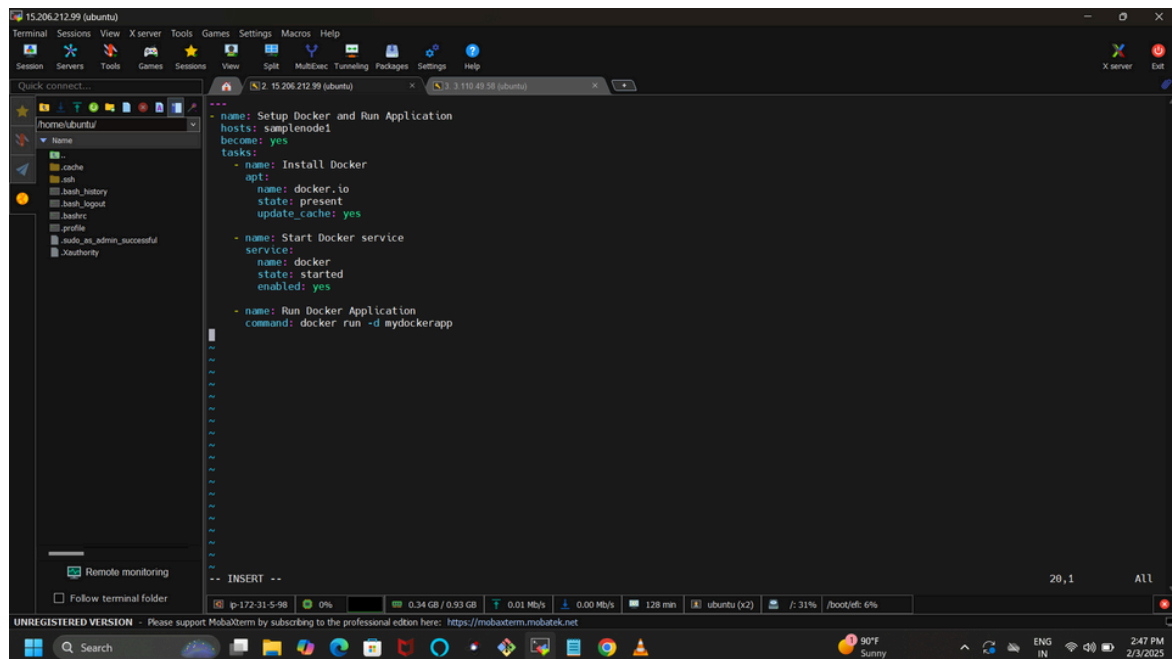
```
15.206.212.99 (ubuntu)
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
Quick connect...
Reconnect SSH-browser
User sessions
13.203.161.68 (ubuntu)
13.203.161.68 (ubuntu) (1)
13.233.159.69 (ubuntu)
15.207.109.103 (ubuntu)
172.31.4.213 (ubuntu)
172.31.4.213 (ubuntu) (1)
3.108.53.185 (ubuntu)
3.108.45.88 (ubuntu)
3.108.45.88 (ubuntu) (1)
3.111.52.169 (ubuntu)
35.154.113.5 (ubuntu)
35.154.113.5 (ubuntu) (1)
43.204.107.45 (ubuntu)
43.204.107.45 (ubuntu) (1)
devopsadm@ip-172-31-5-98:/etc/ansible/playbook$ ansible-playbook maven.yml
PLAY [Java Maven Build Server] *****
TASK [Gathering Facts] *****
[WARNING]: Platform linux on host samplenode1 is using the discovered Python interpreter at /usr/bin/python3.10, but future installation of another Python interpreter could change the meaning of that path. See https://docs.ansible.com/ansible-core/2.17/reference_appendices/interpreter_discovery.html for more information.
ok: [samplenode1]
TASK [Install required packages] *****
changed: [samplenode1]
PLAY RECAP *****
samplenode1 : ok=2 changed=1 unreachable=0 failed=0 skipped=0 rescued=0 ignored=0
devopsadm@ip-172-31-5-98:/etc/ansible/playbook$
```

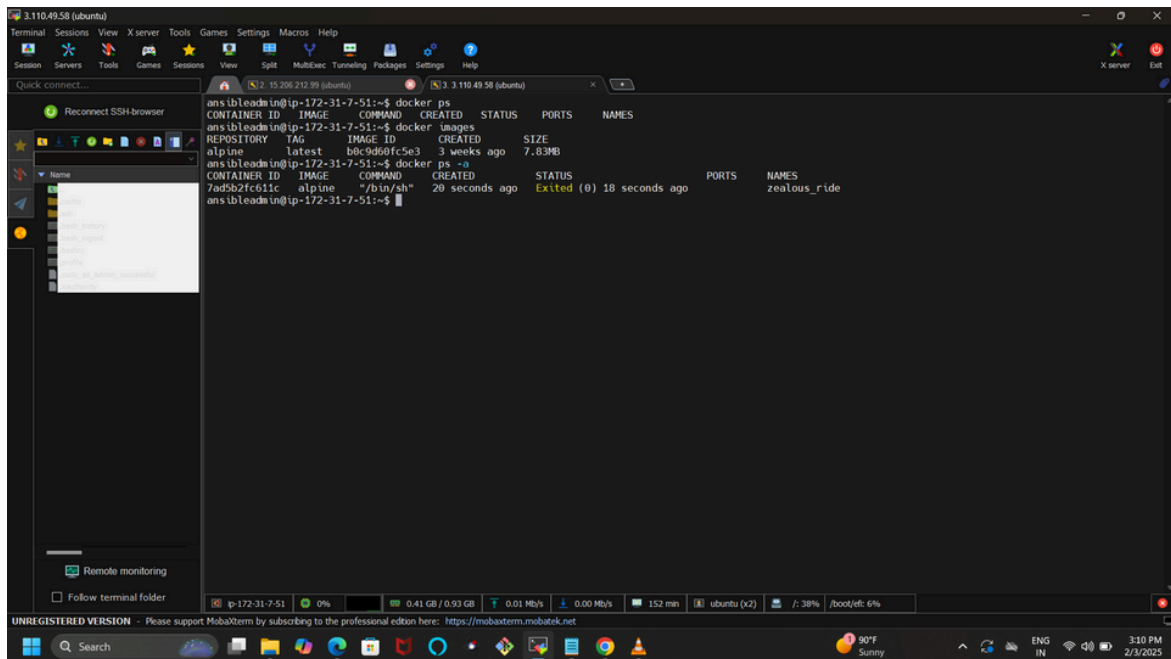
UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: <https://mobaxterm.mobatek.net>

```
3.110.49.58 (ubuntu)
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
Quick connect...
home/ubuntu
Name
.cach
.cah
.bash_history
.bash_logout
.bashrc
.profile
sudo_rc_admin_successful
.Xauthority
ansibleadm@ip-172-31-7-51:~$ git --version
git version 2.34.1
ansibleadm@ip-172-31-7-51:~$ java --version
openjdk 11.0.25 2024-10-15
OpenJDK Runtime Environment (build 11.0.25+9-post-Ubuntu-1ubuntu122.04)
OpenJDK 64-Bit Server VM (build 11.0.25+9-post-Ubuntu-1ubuntu122.04, mixed mode, sharing)
ansibleadm@ip-172-31-7-51:~$ mvn --version
Apache Maven 3.6.3
Maven home: /usr/share/maven
Java version: 11.0.25, vendor: Ubuntu, runtime: /usr/lib/jvm/java-11-openjdk-amd64
Default locale: en, platform encoding: UTF-8
OS name: "linux", version: "6.8.0-1021-aws", arch: "amd64", family: "unix"
ansibleadm@ip-172-31-7-51:~$
```

UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: <https://mobaxterm.mobatek.net>

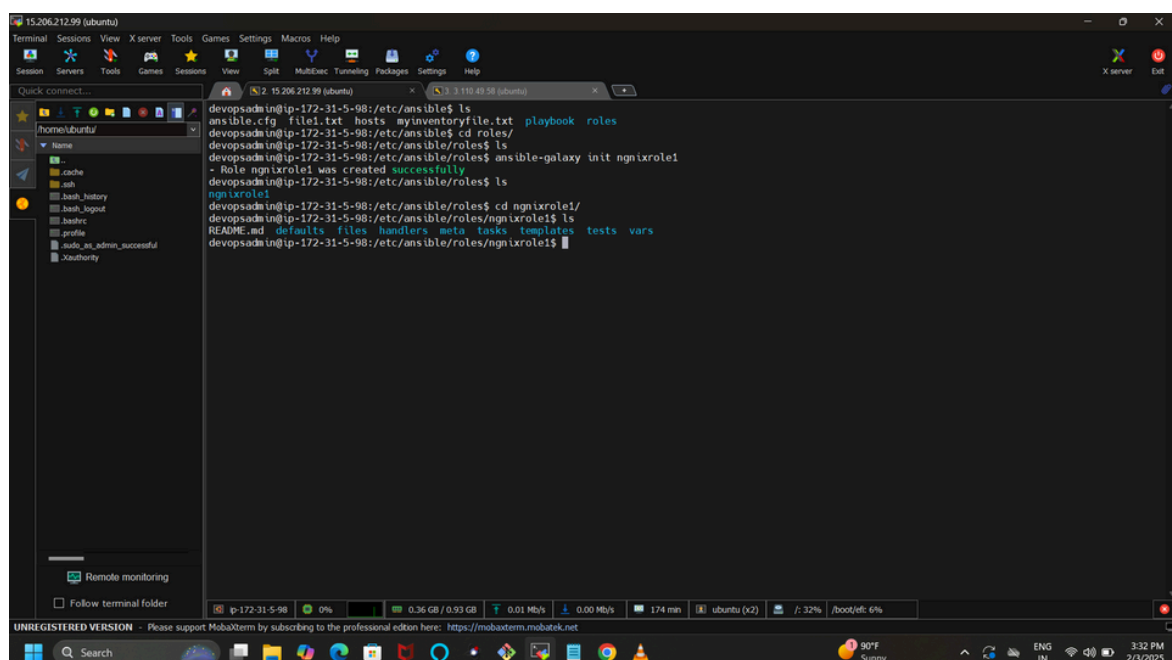
L-2 Create and Execute Ansible Playbook to Install Docker and Run the Docker Application Image created in Docker Module





L3 - Create Ansible Role to define the task, handler for Nginx Service Installation and invoke the role in Ansible playbook

creating an nginx role using galaxy command for reusability.



[illegible]

Terminal Sessions View X server Tools Games Settings Macros Help

Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help

Quick connect...

Reconnect SSH-browser

Name

handlers file for testrole1

```

- name: start-nginx
  service:
    name: nginx
    state: started

```

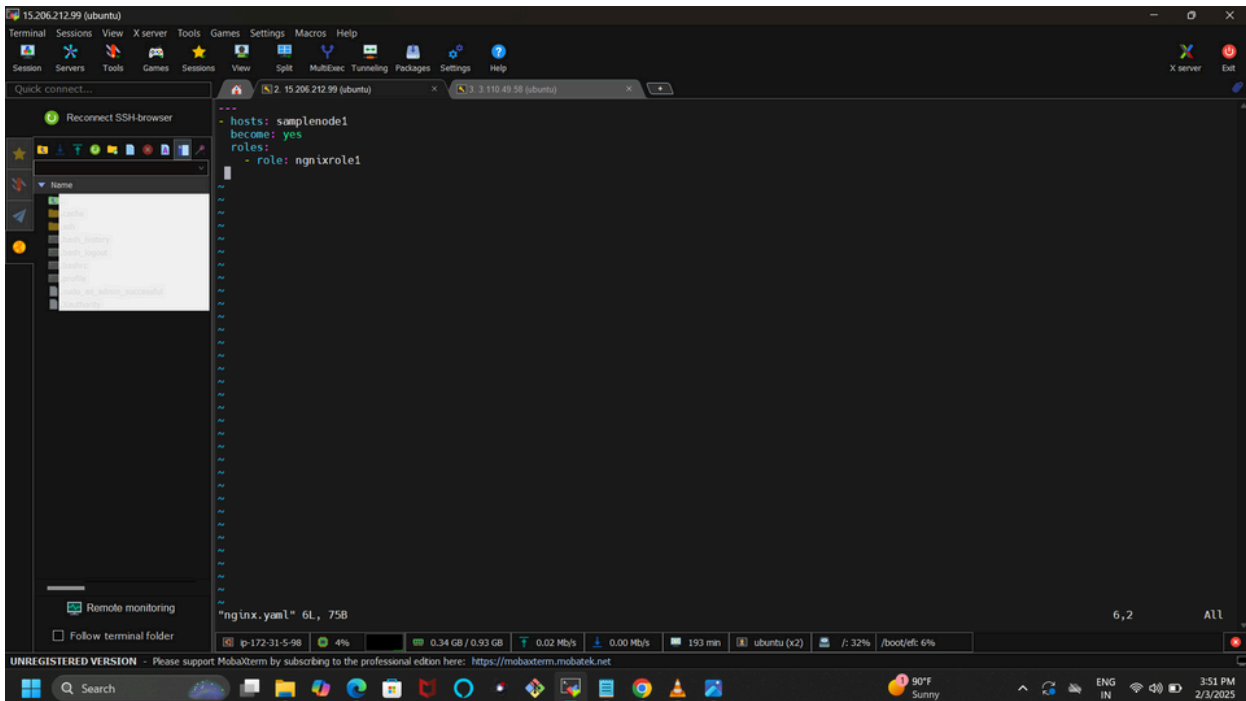
main.yml" 7L, 121B

7,0-1 All

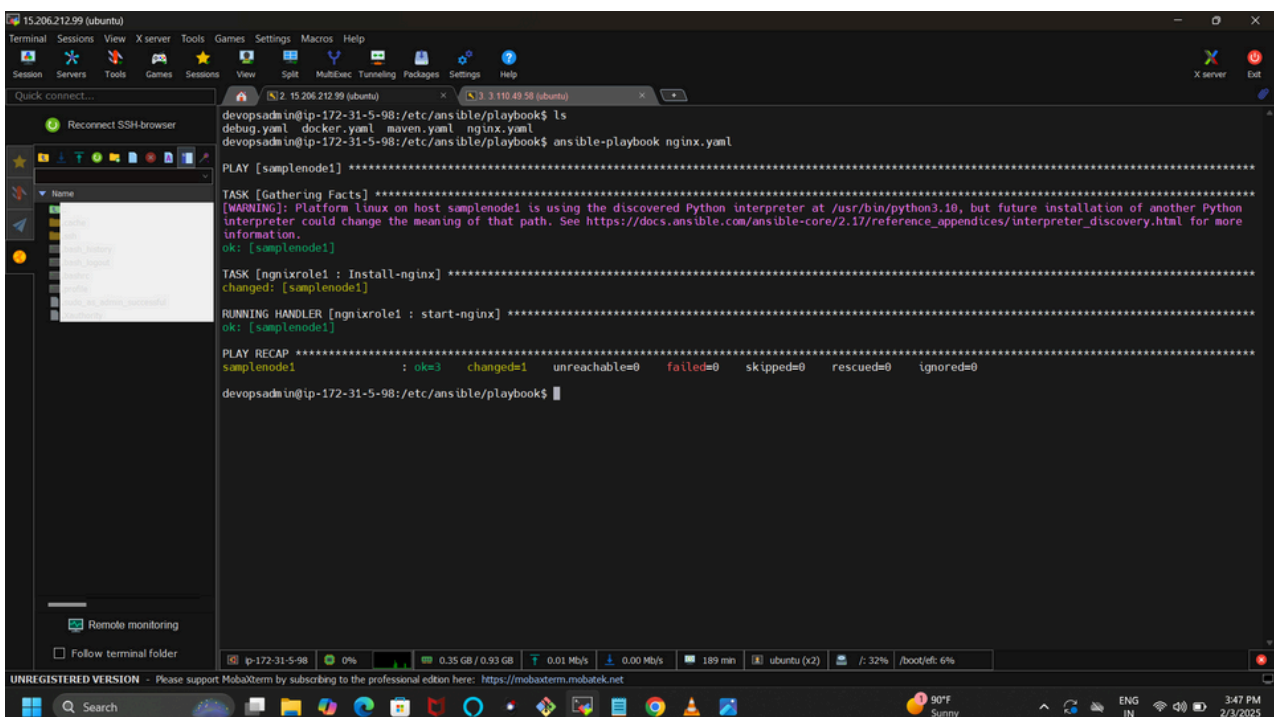
UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: <https://mobaxterm.mobatek.net>

90°F Sunny 3:45 PM 2/3/2022

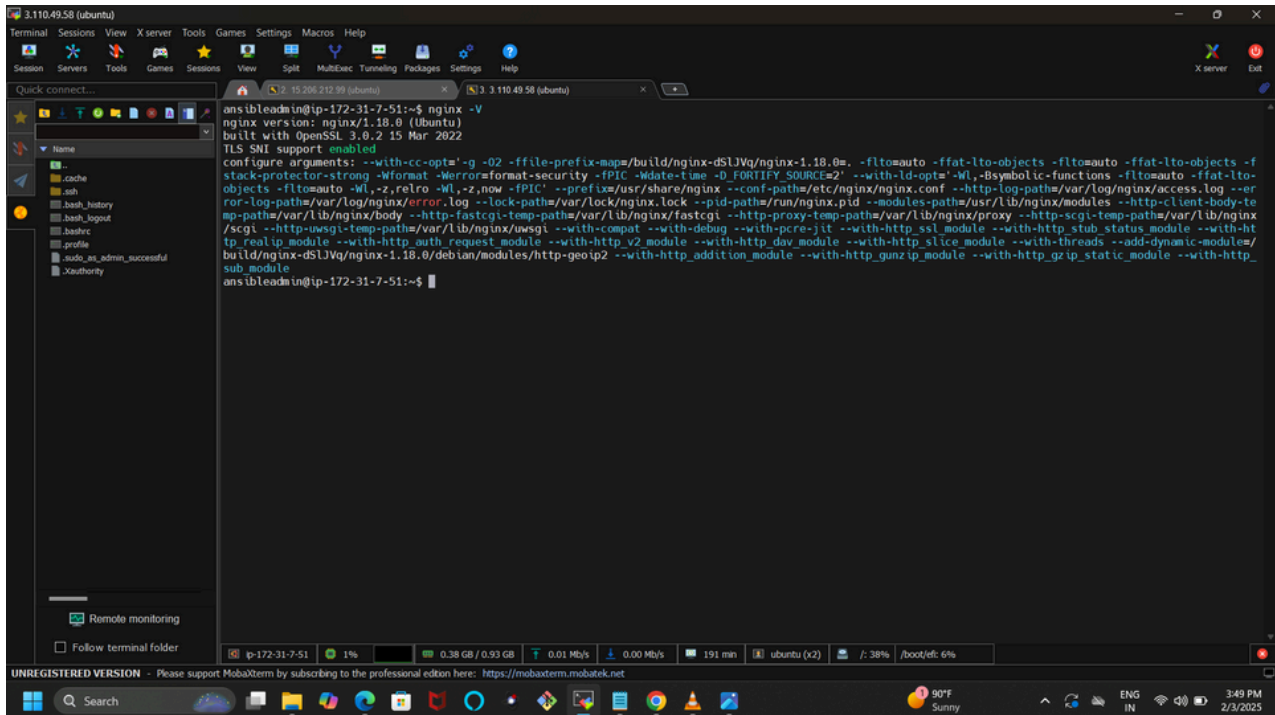
creating a simple playbook while mentioning role
as nginxrole1



running the playbook we can see a single task has
been done in sample node successfully



checking the samplenode1 for conformation by simply writing the command nginx -V



The screenshot shows a terminal window titled '3.110.49.58 (ubuntu)' with a menu bar (Terminal, Sessions, View, X server, Tools, Games, Settings, Macros, Help) and a toolbar. On the left is a sidebar with a 'Quick connect...' section and a file explorer showing folders like '.cache', '.ssh', and '.bash_history'. The terminal displays the command 'nginx -V' and its output:

```
ansibleadmin@ip-172-31-7-51:~$ nginx -V
nginx version: nginx/1.18.0 (Ubuntu)
built with OpenSSL 3.0.2 15 Mar 2022
TLS SNI support enabled
configure arguments: --with-cc-opt='-g -O2 -ffile-prefix-map=/build/nginx-dSLJvq/nginx-1.18.0=. -fstack-protector-strong -Wformat -Werror=format-security -fPIC -Wdate-time -D_FORTIFY_SOURCE=2' --with-ld-opt='-Wl,-Bsymbolic-functions -ffat-lto-objects -ffat-lto-objects -ffat-lto-objects -Wl,-z,relro -Wl,-z,now -fPIC' --prefix=/usr/share/nginx --conf-path=/etc/nginx/nginx.conf --http-log-path=/var/log/nginx/access.log --error-log-path=/var/log/nginx/error.log --lock-path=/var/lock/nginx.lock --pid-path=/run/nginx.pid --modules-path=/usr/lib/nginx/modules --http-client-body-temp-path=/var/lib/nginx/body --http-fastcgi-temp-path=/var/lib/nginx/fastcgi --http-proxy-temp-path=/var/lib/nginx/proxy --http-scgi-temp-path=/var/lib/nginx/scgi --http-uwsgi-temp-path=/var/lib/nginx/uwsgi --with-compat --with-debug --with-pcre-jit --with-http_ssl_module --with-http_stub_status_module --with-http_realip_module --with-http_auth_request_module --with-http_v2_module --with-http_dav_module --with-http_slice_module --with-threads --add-dynamic-module=/build/nginx-dSLJvq/nginx-1.18.0/debian/modules/http-geoip2 --with-http_addition_module --with-http_gunzip_module --with-http_gzip_static_module --with-http_sub_module
ansibleadmin@ip-172-31-7-51:~$
```

At the bottom of the terminal window, there is a status bar showing system information: 'UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: <https://mobaxterm.mobatek.net>', network status (ip-172-31-7-51, 1%), disk usage (0.38 GB / 0.93 GB), memory usage (0.01 MB/s, 0.00 MB/s), uptime (191 min), and system info (ubuntu (x2), 38% /boot/efi: 6%). The desktop environment at the bottom shows a Windows taskbar with a search bar, application icons, and system tray information (90°F Sunny, 3:49 PM, 2/3/2025).

