

Experiment 7: Configuration Management with Ansible: Basics of Ansible: Inventory, Playbooks, and Modules, Automating Server Configurations with Playbooks, Hands-On: Writing and Running a Basic Playbook



Step 1: Create 3 virtual machines on any cloud; one as ansible-controller and two as client machines

The screenshot shows the AWS EC2 Instances page with the following details:

- Instances (3) Info:** Last updated less than a minute ago.
- Actions:** Instance state, Actions, Launch instances.
- Table Headers:** Name, Instance ID, Instance state, Instance type, Status check, Alarm status, Availability Zone.
- Table Data:**
 - ansible-controller (i-0df1788baa60a3a35): Running, t2.micro, 2/2 checks passed, View alarms, ap-south-1b
 - ansible-client-1 (i-043cb941fa78175d2): Running, t2.micro, 2/2 checks passed, View alarms, ap-south-1b
 - ansible-client-2 (i-0cee3779a1fce34e9): Running, t2.micro, 2/2 checks passed, View alarms, ap-south-1b
- Select an instance:** A dropdown menu for selecting an instance.
- Sidebar:** EC2 navigation menu including Dashboard, EC2 Global View, Events, Instances (selected), Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations, Images (AMIs, AMI Catalog), and Elastic Block Store (Volumes, Snapshots, Lifecycle Manager).
- Bottom Bar:** CloudShell, Feedback, Weather (30°C, Mostly sunny), Search bar, various icons (piggy bank, file, browser, etc.), and system status (ENG US, 12:34, 03-03-2025).

vtricks
Technologies

Step 2: Access the all the Virtual machines

Step 2.1: Copy the Public IP of virtual machines

The screenshot shows the AWS EC2 Instances page. On the left, there's a navigation sidebar with sections like EC2, Instances, Images, and Elastic Block Store. The main area displays a table of instances:

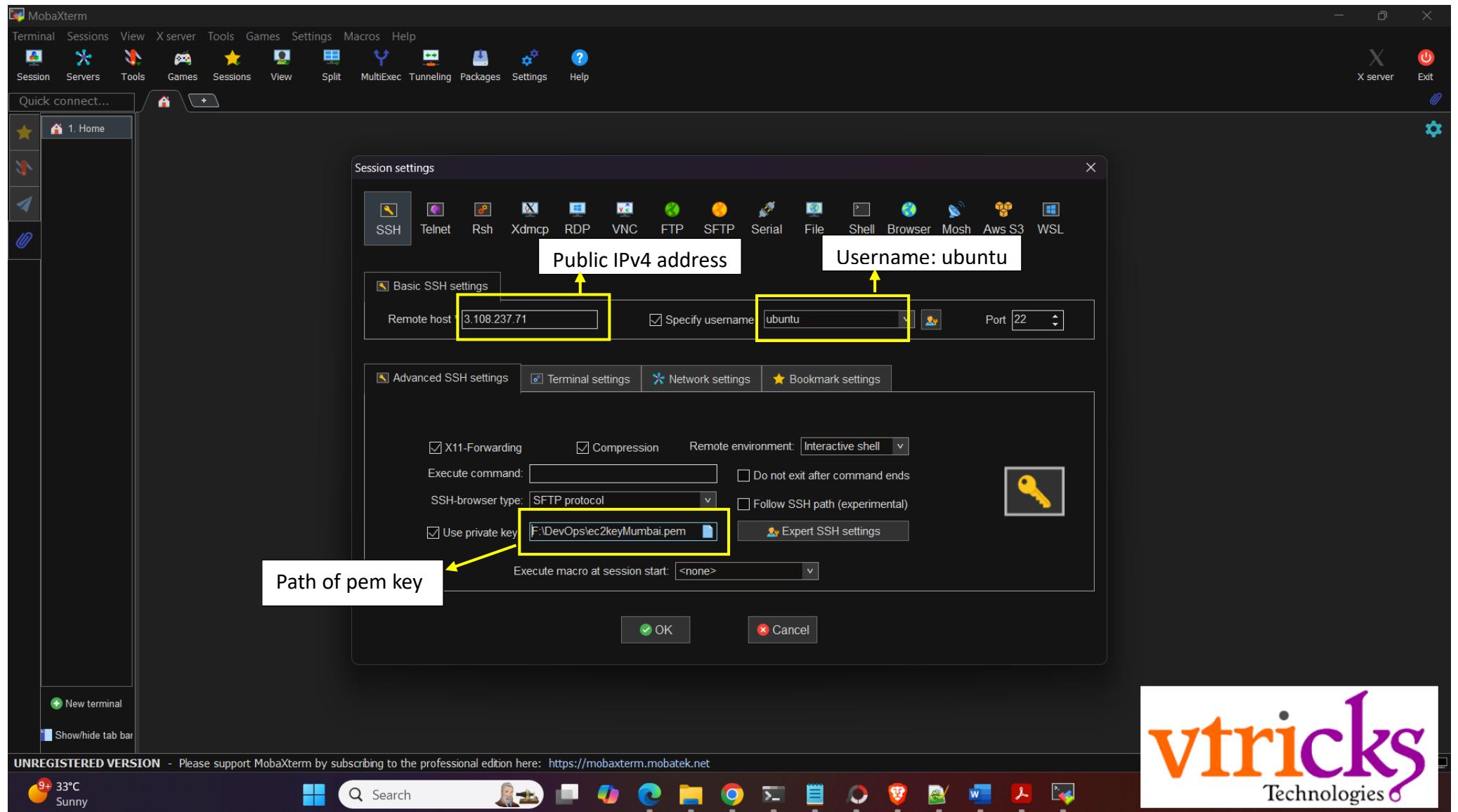
Name	Instance ID	Instance state	Instance type	Status check	Alarm status
ansible	i-0f0ea5b82c7f45a68	Running	t2.micro	Initializing	View alarms
ansible-client-1	i-066f4c5d912921518	Running	t2.micro	2/2 checks passed	View alarms
ansible-client-2	i-06e3fc6701964ae7	Running	t2.micro	2/2 checks passed	View alarms

For the selected instance 'ansible' (i-0f0ea5b82c7f45a68), the details page is shown. It includes tabs for Details, Status and alarms, Monitoring, Security, Networking, Storage, and Tags. Under the Details tab, the Instance summary section shows:

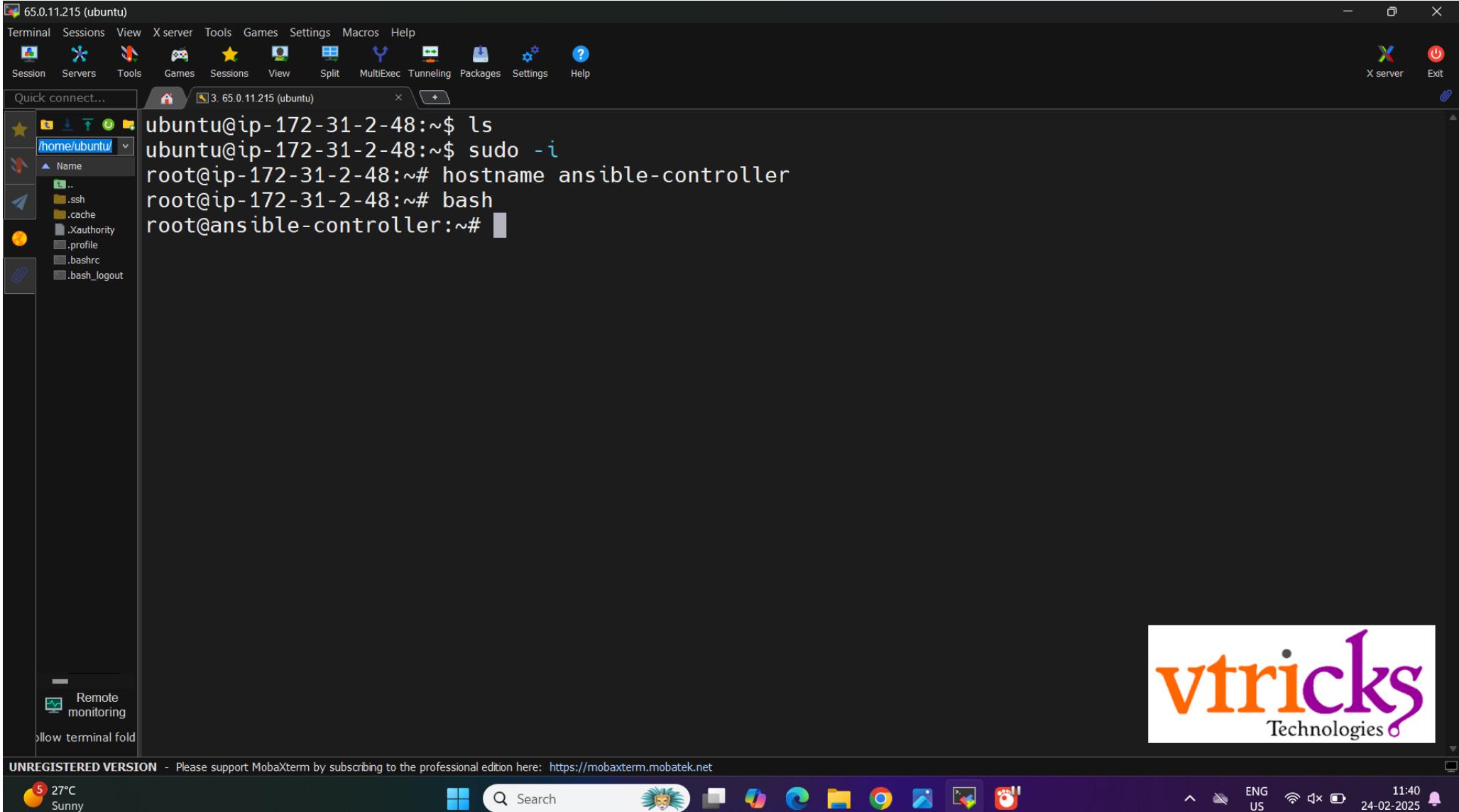
- Instance ID: i-0f0ea5b82c7f45a68
- Public IPv4 address: 3.108.237.71 ([Open address](#))
- Private IPv4 addresses: 172.31.1.180
- Public IPv4 DNS: ec2-3-108-237-71.1.compute.amazonaws.com ([Open address](#))
- IPv6 address: -
- Instance state: Running

At the bottom of the page, there's a footer with links for CloudShell, Feedback, and a weather widget showing 9°C and sunny. The page is from the Asia Pacific (Mumbai) region, and the user is VIJAY DESAI.

Step 2.2: Open mobaxterm → click on “Session” → “Session settings” window appears → click on “SSH” and fill the fields → click “OK”



Step 3: Set the host name of controller machine to “ansible-controller” for the identification. Execute the commands as in the following image.



```
ubuntu@ip-172-31-2-48:~$ ls
ubuntu@ip-172-31-2-48:~$ sudo -i
root@ip-172-31-2-48:~# hostname ansible-controller
root@ip-172-31-2-48:~# bash
root@ansible-controller:~#
```

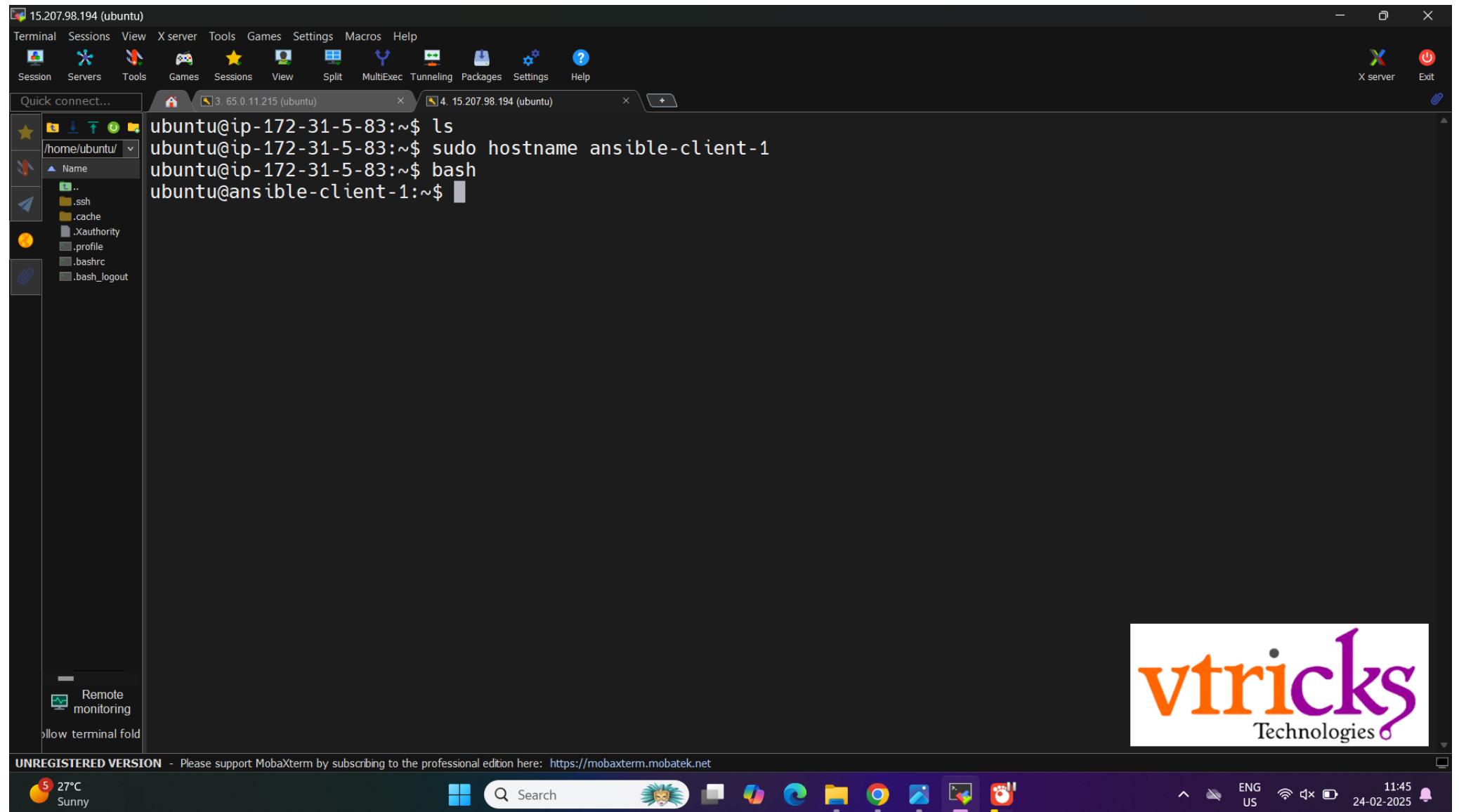
The screenshot shows a MobaXterm window titled "65.0.11.215 (ubuntu)". The terminal session is labeled "3. 65.0.11.215 (ubuntu)". The user is executing commands to change the host name:

- ls
- sudo -i
- hostname ansible-controller
- bash
- bash

The terminal window has a sidebar with "Quick connect..." and a file browser showing the contents of "/home/ubuntu". The status bar at the bottom indicates an unregistered version and provides a link to support the professional edition. The taskbar at the bottom includes icons for the Start button, Search, File Explorer, Edge, Google Chrome, FileZilla, and Task View, along with system status icons for weather, battery, and connectivity.



Step 4: Set the host name of one client machine to “ansible-client-1” for the identification. Execute the commands as in the following image.



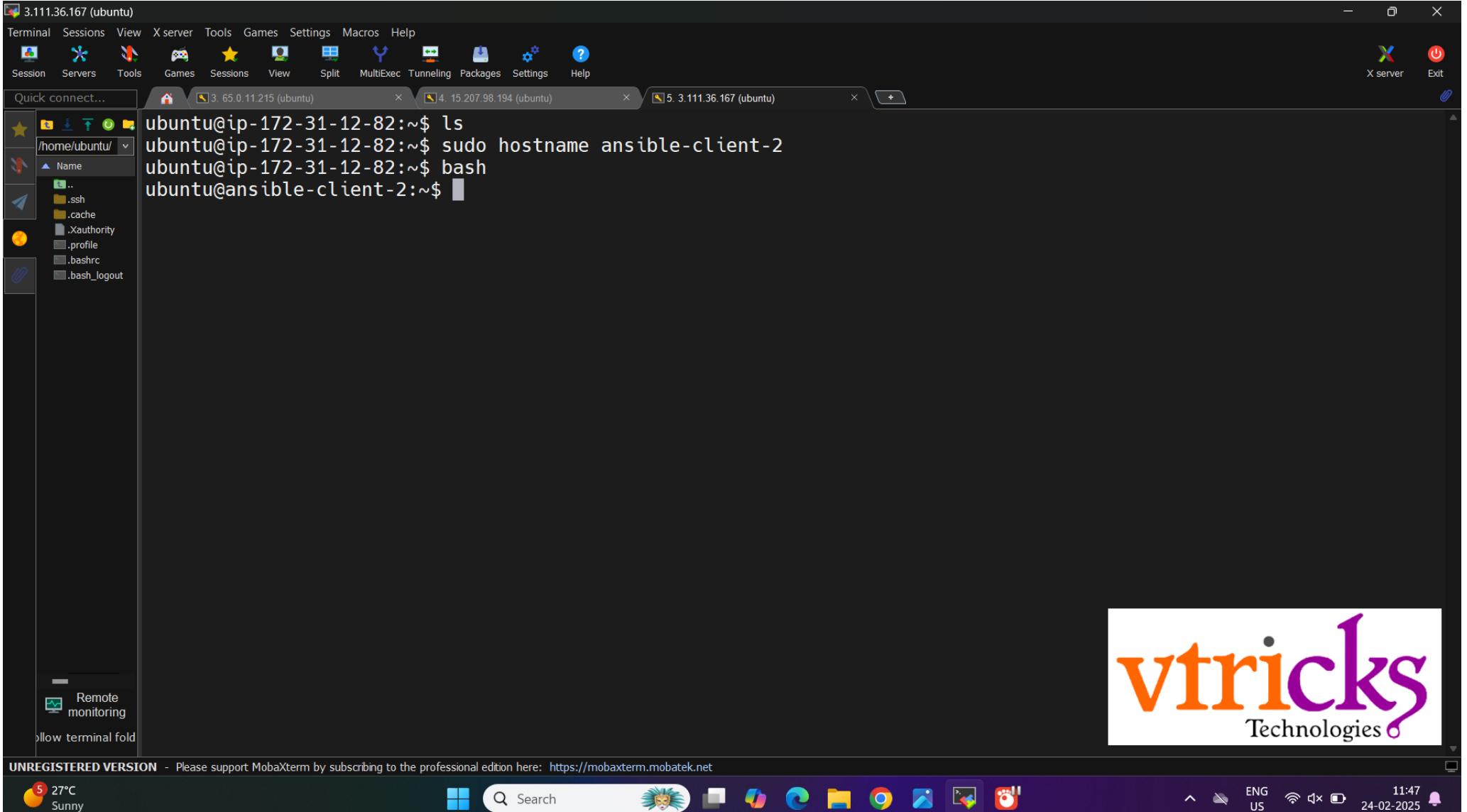
The screenshot shows a MobaXterm interface with two sessions open. Session 3 (65.0.11.215) shows the command 'ls' being run. Session 4 (15.207.98.194) shows the command 'sudo hostname ansible-client-1' being run, followed by 'bash' to switch to the new user. The terminal window has a dark theme with a sidebar containing file navigation and monitoring tools.

```
ubuntu@ip-172-31-5-83:~$ ls
ubuntu@ip-172-31-5-83:~$ sudo hostname ansible-client-1
ubuntu@ip-172-31-5-83:~$ bash
ubuntu@ansible-client-1:~$
```

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

vtricks Technologies

Step 5: Set the host name of another client machine to “ansible-client-2” for the identification. Execute the commands as in the following image.



The screenshot shows a MobaXterm interface with four terminal sessions open:

- Session 3.111.36.167 (ubuntu): The current active session. It shows the user's home directory and the command history:

```
ubuntu@ip-172-31-12-82:~$ ls
ubuntu@ip-172-31-12-82:~$ sudo hostname ansible-client-2
ubuntu@ip-172-31-12-82:~$ bash
ubuntu@ansible-client-2:~$
```
- Session 4. 15.207.98.194 (ubuntu)
- Session 5. 3.111.36.167 (ubuntu)
- Session 6. 3.65.0.11.215 (ubuntu)

The left sidebar includes icons for Session, Servers, Tools, Games, Sessions, View, Split, MultiExec, Tunneling, Packages, Settings, and Help. A "Quick connect..." dropdown is also present. The bottom status bar displays the MobaXterm version as UNREGISTERED VERSION, a weather icon for 5°C and Sunny, system icons for search, file, browser, and others, and a system tray with network, battery, and date/time information.



Step 6: Search for official document to install ansible on ansible-controller machine

The screenshot shows a Google search results page with the query "install ansible on ubuntu" highlighted in a red box. The first result is from the Ansible Documentation site, titled "Installing Ansible on specific operating systems". This result is also highlighted with a red box. Below it, another result from the Ansible Documentation site is shown, titled "Installing Ansible — Ansible Community Documentation". At the bottom of the page, there is a link to "How To Install and Configure Ansible on Ubuntu 20.04" from DigitalOcean.

Google search results for "install ansible on ubuntu":

- Ansible Documentation**
https://docs.ansible.com › ... · එකුත්වනු අනුවාදී ·
[Installing Ansible on specific operating systems](#)
Installing Ansible on Ubuntu . Ubuntu builds are available in a PPA here. To configure the PPA on your system and install Ansible run these commands: \$ sudo ...
- Ansible Documentation**
https://docs.ansible.com › ... · එකුත්වනු අනුවාදී ·
[Installing Ansible — Ansible Community Documentation](#)
For your control node (the machine that runs Ansible), you can use nearly any UNIX-like machine with Python installed. This includes Red Hat, Debian, Ubuntu ...
[Installing Ansible on specific...](#) [Using Ansible on Windows](#)
- DigitalOcean**
https://www.digitalocean.com › ... · එකුත්වනු අනුවාදී ·
[How To Install and Configure Ansible on Ubuntu 20.04](#)
අප්‍රේල් 8, 2022 — In this guide, we'll discuss how to install Ansible on an Ubuntu 20.04 server and go over some basics of how to use this software.

Page footer:

https://docs.ansible.com/ansible/latest/installation_guide/installation_distros.html

28°C Sunny Search

ENG US 12:00 24-02-2025

vtricks
Technologies

Step 7: In this “Ansible community Documentation” click on “Installing Ansible on Ubuntu”

The screenshot shows a web browser window with the URL docs.ansible.com/ansible/latest/installation_guide/installation_distros.html. The page is titled "Ansible Community Documentation". On the left sidebar, there is a list of links under "Installing Ansible on specific operating systems", with "Installing Ansible on Ubuntu" highlighted by a red box. The main content area has a heading "Installing Ansible on specific operating systems" and a note: "This is the latest (stable) Ansible community documentation. For Red Hat Ansible Automation Platform subscriptions, see [Life Cycle](#) for version details." A "Note" section states: "These instructions are provided by their respective communities. Any bugs/issues should be filed with that community to update these instructions. Ansible maintains only the `pip install` instructions." Below this, it says: "The `ansible` package can always be installed from PyPI using `pip` on most systems but it is also packaged and maintained by the community for a variety of Linux distributions." It also mentions that the document guides you through installing Ansible from different distribution's package repositories. There is a list of steps for package maintainers to add instructions for other distributions, including ensuring up-to-date versions and providing contact information. At the bottom, there is a footer with the vtricks Technologies logo.

Scroll down in this window

Step 8: Copy the provided commands and install ansible on ansible-controller machine.

install ansible on ubuntu - Google

Installing Ansible on specific op

docs.ansible.com/ansible/latest/installation_guide/installation_distros.html#installing-ansible-on-ubuntu

Ansible Community Documentation

Installing Ansible on Ubuntu

Ubuntu builds are available in a PPA here.

To configure the PPA on your system and install Ansible run these commands:

```
$ sudo apt update  
$ sudo apt install software-properties-common  
$ sudo add-apt-repository --yes --update ppa:ansible/ansible  
$ sudo apt install ansible
```

Note

On older Ubuntu distributions, "software-properties-common" is called "python-software-properties". You may want to use `apt-get` rather than `apt` in older versions. Also, be aware that only newer distributions (that is, 18.04, 18.10, and later) have a `-u` or `--update` flag. Adjust your script as needed.

File any issues in [the PPA's issue tracker](#).

Installing Ansible on Debian

While Ansible is available from the [main Debian repository](#), it can be out of date.

To get a more recent version, Debian users can use the Ubuntu PPA according to the following table:

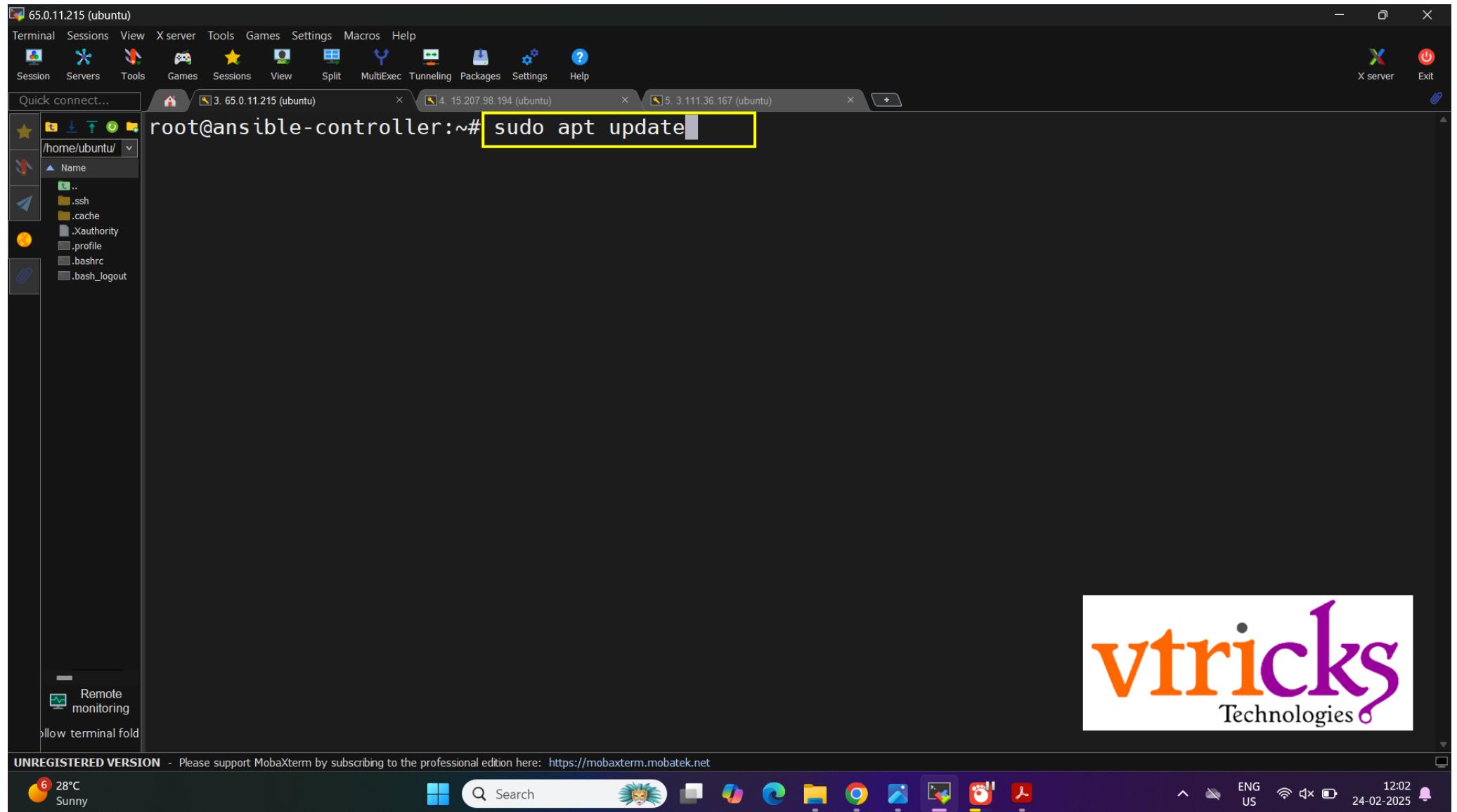
Debian		Ubuntu	UBUNTU_CODENAME
Debian 12 (Bookworm)	->	Ubuntu 22.04 (Jammy)	jammy
Debian 11 (Bullseye)	->	Ubuntu 20.04 (Focal)	focal

6 28°C Sunny

Search

vtricks Technologies

12:01 24-02-2025



65.0.11.215 (ubuntu)

Terminal Sessions View X server Tools Games Settings Macros Help

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

X server Exit

Quick connect... 3. 65.0.11.215 (ubuntu) 4. 15.207.98.194 (ubuntu) 5. 3.111.36.167 (ubuntu) +

ta [116 B]
Get:35 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 Components [212 B]
Get:36 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 c-n-f Metadata [116 B]
Get:37 http://security.ubuntu.com/ubuntu noble-security/main amd64 Packages [618 kB]
Get:38 http://security.ubuntu.com/ubuntu noble-security/main Translation-en [118 kB]
Get:39 http://security.ubuntu.com/ubuntu noble-security/main amd64 Components [8984 B]
Get:40 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Packages [804 kB]
Get:41 http://security.ubuntu.com/ubuntu noble-security/universe Translation-en [172 kB]
Get:42 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Components [51.9 kB]
Get:43 http://security.ubuntu.com/ubuntu noble-security/universe amd64 c-n-f Metadata [13.5 kB]
Get:44 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 Packages [625 kB]
Get:45 http://security.ubuntu.com/ubuntu noble-security/restricted Translation-en [121 kB]
Get:46 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 Components [208 B]
Get:47 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 Packages [12.4 kB]
Get:48 http://security.ubuntu.com/ubuntu noble-security/multiverse Translation-en [2940 B]
Get:49 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 Components [208 B]
Get:50 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 c-n-f Metadata [356 B]
Fetched 32.3 MB in 21s (1569 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
106 packages can be upgraded. Run 'apt list --upgradable' to see them.
root@ansible-controller:~# sudo apt install software-properties-common

vtricks Technologies

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

6 28°C Sunny

Search

ENG US

12:03 24-02-2025

65.0.11.215 (ubuntu)

Terminal Sessions View X server Tools Games Settings Macros Help

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

X server Exit

Quick connect... 3. 65.0.11.215 (ubuntu) 4. 15.207.98.194 (ubuntu) 5. 3.111.36.167 (ubuntu) +

```
Get:39 http://security.ubuntu.com/ubuntu noble-security/main amd64 Components [8984 B]
Get:40 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Packages [804 kB]
Get:41 http://security.ubuntu.com/ubuntu noble-security/universe Translation-en [172 kB]
Get:42 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Components [51.9 kB]
Get:43 http://security.ubuntu.com/ubuntu noble-security/universe amd64 c-n-f Metadata [13.5 kB]
Get:44 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 Packages [625 kB]
Get:45 http://security.ubuntu.com/ubuntu noble-security/restricted Translation-en [121 kB]
Get:46 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 Components [208 B]
Get:47 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 Packages [12.4 kB]
Get:48 http://security.ubuntu.com/ubuntu noble-security/multiverse Translation-en [2940 B]
Get:49 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 Components [208 B]
Get:50 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 c-n-f Metadata [356 B]
Fetched 32.3 MB in 21s (1569 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
106 packages can be upgraded. Run 'apt list --upgradable' to see them.
root@ansible-controller:~# sudo apt install software-properties-common
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
software-properties-common is already the newest version (0.99.49.1).
software-properties-common set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 106 not upgraded.
root@ansible-controller:~# sudo add-apt-repository --yes --update ppa:ansible/ansible
```

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

6 28°C Sunny

Search

vtricks Technologies

12:04 24-02-2025

65.0.11.215 (ubuntu)

Terminal Sessions View X server Tools Games Settings Macros Help

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

X server Exit

Quick connect...

3. 65.0.11.215 (ubuntu) 4. 15.207.98.194 (ubuntu) 5. 3.111.36.167 (ubuntu)

Hit:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Hit:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease
Hit:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease
Hit:4 http://security.ubuntu.com/ubuntu noble-security InRelease
Get:5 https://ppa.launchpadcontent.net/ansible/ansible/ubuntu noble InRelease [17.8 kB]
Get:6 https://ppa.launchpadcontent.net/ansible/ansible/ubuntu main amd64 Packages [776 B]
Get:7 https://ppa.launchpadcontent.net/ansible/ansible/ubuntu noble/main Translation-en [472 B]
Fetched 19.1 kB in 1s (17.5 kB/s)
Reading package lists... Done
root@ansible-controller:~# sudo apt install ansible
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
ansible-core python3-kerberos python3-nacl python3-ntlm-auth python3-paramiko
python3-requests-ntlm python3-resolvelib python3-winrm python3-xmltodict sshpass
Suggested packages:
python-nacl-doc python3-gssapi python3-invoke
The following NEW packages will be installed:
ansible ansible-core python3-kerberos python3-nacl python3-ntlm-auth python3-paramiko
python3-requests-ntlm python3-resolvelib python3-winrm python3-xmltodict sshpass
0 upgraded, 11 newly installed, 0 to remove and 106 not upgraded.
Need to get 19.2 MB of archives.
After this operation, 213 MB of additional disk space will be used.
Do you want to continue? [Y/n] y

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

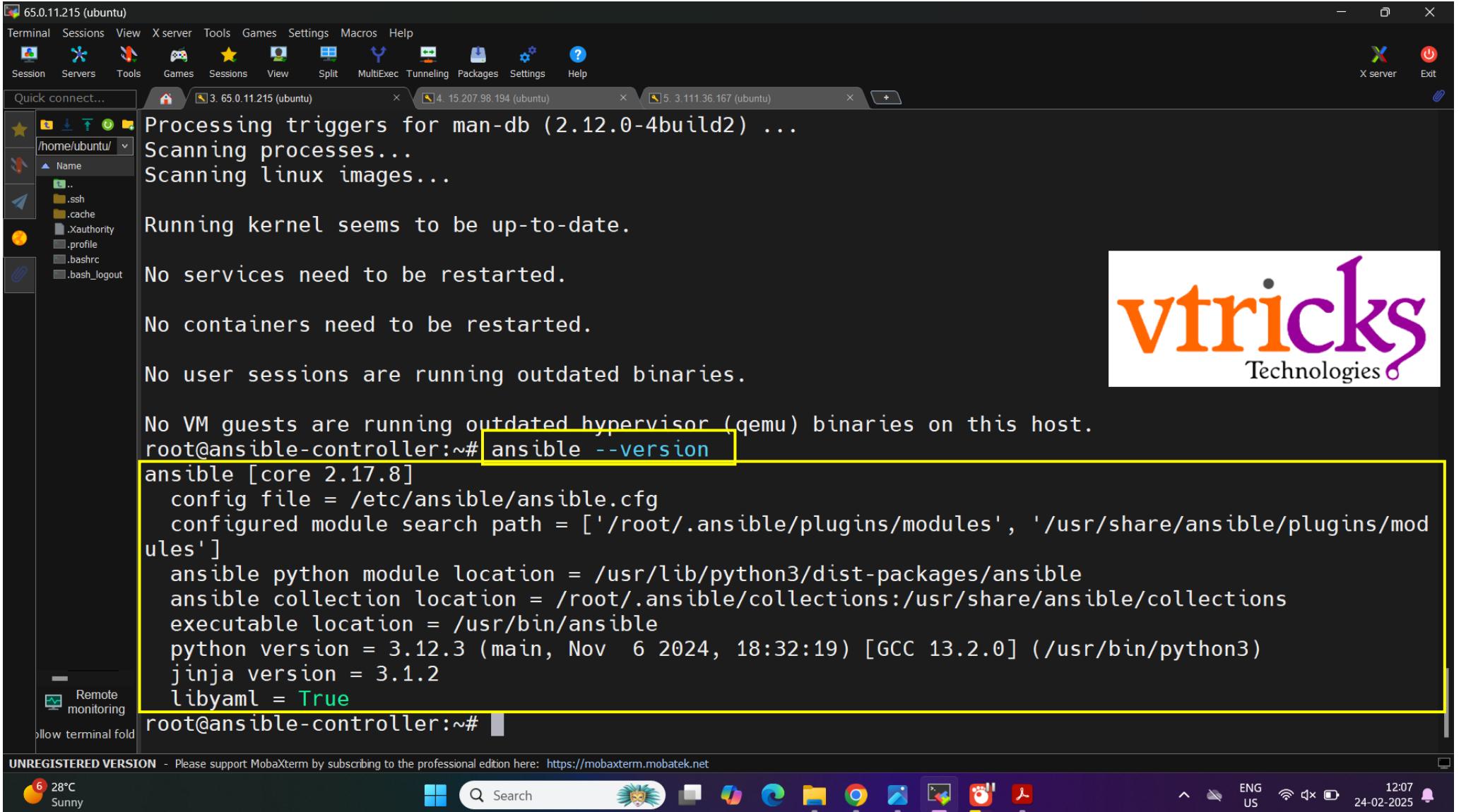
6 28°C Sunny

Search

12:04 24-02-2025



Step 9: Run “ansible --version” command to verify the installation of ansible.



The screenshot shows the MobaXterm application running on a Windows host. It has three X server sessions open:

- Session 3: 65.0.11.215 (ubuntu) - This session is active and shows the output of the `ansible --version` command.
- Session 4: 4. 15.207.98.194 (ubuntu)
- Session 5: 5. 3.111.36.167 (ubuntu)

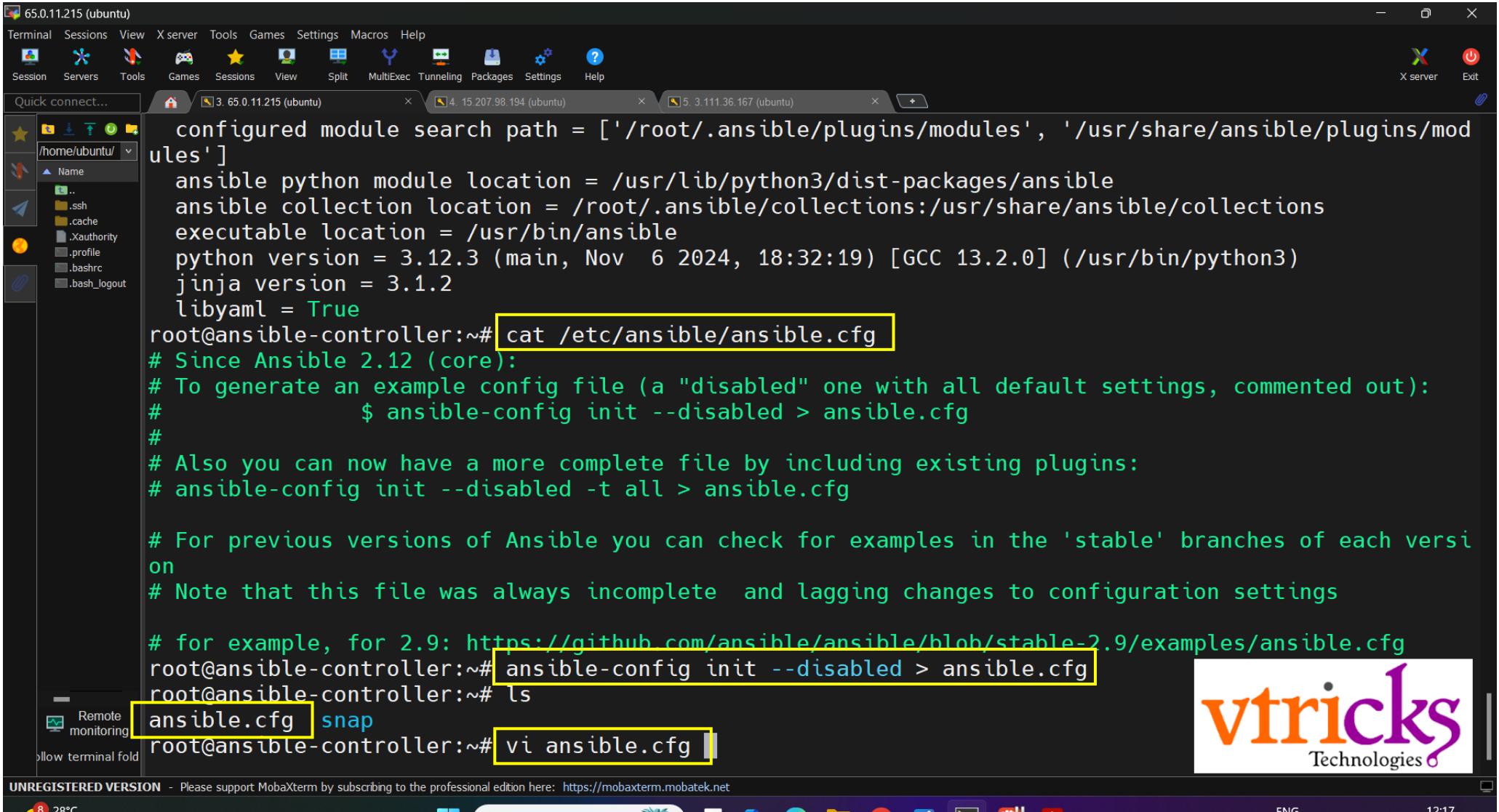
The terminal window displays the following output:

```
Processing triggers for man-db (2.12.0-4build2) ...
Scanning processes...
Scanning linux images...
Running kernel seems to be up-to-date.
No services need to be restarted.
No containers need to be restarted.
No user sessions are running outdated binaries.
No VM guests are running outdated hypervisor (qemu) binaries on this host.
root@ansible-controller:~# ansible --version
ansible [core 2.17.8]
  config file = /etc/ansible/ansible.cfg
  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, Nov  6 2024, 18:32:19) [GCC 13.2.0] (/usr/bin/python3)
  jinja version = 3.1.2
  libyaml = True
root@ansible-controller:~#
```

A yellow box highlights the command `ansible --version` and its output. The MobaXterm interface includes a sidebar with icons for Session, Servers, Tools, Games, Sessions, View, Split, MultiExec, Tunneling, Packages, Settings, and Help. The bottom status bar shows the date and time (24-02-2025), battery level (28%), and system status (ENG US). A watermark for "vtricks Technologies" is visible on the right side of the terminal window.

Step 10: Set-up the ansible configuration file.

Step 10.1: Run “cat /etc/ansible/ansible.cfg” to view the contents of your Ansible configuration → Run “ansible-config init --disabled > ansible.cfg” to generate a config file → Run “vi ansible.cfg” to edit the ansible.cfg file



```
65.0.11.215 (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...
3. 65.0.11.215 (ubuntu) 4. 15.207.98.194 (ubuntu) 5. 3.111.36.167 (ubuntu)

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, Nov 6 2024, 18:32:19) [GCC 13.2.0] (/usr/bin/python3)
jinja version = 3.1.2
libyaml = True
root@ansible-controller:~# cat /etc/ansible/ansible.cfg
# Since Ansible 2.12 (core):
# To generate an example config file (a "disabled" one with all default settings, commented out):
#         $ ansible-config init --disabled > ansible.cfg
#
# Also you can now have a more complete file by including existing plugins:
# ansible-config init --disabled -t all > ansible.cfg

# For previous versions of Ansible you can check for examples in the 'stable' branches of each version
# Note that this file was always incomplete and lagging changes to configuration settings

# for example, for 2.9: https://github.com/ansible/ansible/blob/stable-2.9/examples/ansible.cfg
root@ansible-controller:~# ansible-config init --disabled > ansible.cfg
root@ansible-controller:~# ls
ansible.cfg snap
root@ansible-controller:~# vi ansible.cfg

UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: https://mobaxterm.mobatek.net
8 28°C
Sunny
Search
ENG US
12:17
24-02-2025
```

The screenshot shows a MobaXterm window with three terminal sessions open. The current session (3. 65.0.11.215 (ubuntu)) displays the command 'cat /etc/ansible/ansible.cfg' and its output, which includes configuration details like module search paths and Python executable locations. Below this, it shows the command 'ansible-config init --disabled > ansible.cfg' and its execution. The terminal then lists files in the current directory ('ansible.cfg' and 'snap'). Finally, it shows the command 'vi ansible.cfg' being run. A watermark for 'vtricks Technologies' is visible in the bottom right corner.

Ansible.cfg file appears as follows → search for “host_key_checking”

65.0.11.215 (ubuntu)

Terminal Sessions View X server Tools Games Settings Macros Help

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

X server Exit

Quick connect... 3. 65.0.11.215 (ubuntu) 4. 15.207.98.194 (ubuntu) 5. 3.111.36.167 (ubuntu)

Quick connect... 3. 65.0.11.215 (ubuntu) 4. 15.207.98.194 (ubuntu) 5. 3.111.36.167 (ubuntu)

This does not affect explicit calls to the 'setup' module, but does always affect the 'gather_facts' action (implicit or explicit).
;facts_modules=smart

(boolean) Set this to "False" if you want to avoid host key checking by the underlying connection plugin Ansible uses to connect to the host.
Please read the documentation of the specific connection plugin used for details.
;host_key_checking=True

(boolean) Facts are available inside the `ansible_facts` variable, this setting also pushes them as their own vars in the main namespace.
Unlike inside the `ansible_facts` dictionary where the prefix `ansible_` is removed from fact names, these will have the exact names that are returned by the module.
;inject_facts_as_vars=True

(string) Path to the Python interpreter to be used for module execution on remote targets, or an automatic discovery mode. Supported discovery modes are ``auto`` (the default), ``auto_silent``, ``auto_legacy``, and ``auto_legacy_silent``. All discovery modes employ a lookup table to use the included system Python (on distributions known to include one), falling back to a fixed ordered list of well-known Python interpreter locations if a platform-specific default is not available. The fallback behavior will issue a warning that the interpreter should be set explicitly (since interpreters installed later may change which one is used). This warning behavior can be disabled by setting ``auto_silent`` or ``auto_legacy_silent``. The value of ``auto_legacy`` provides all the same behavior, but @@@
/host_key

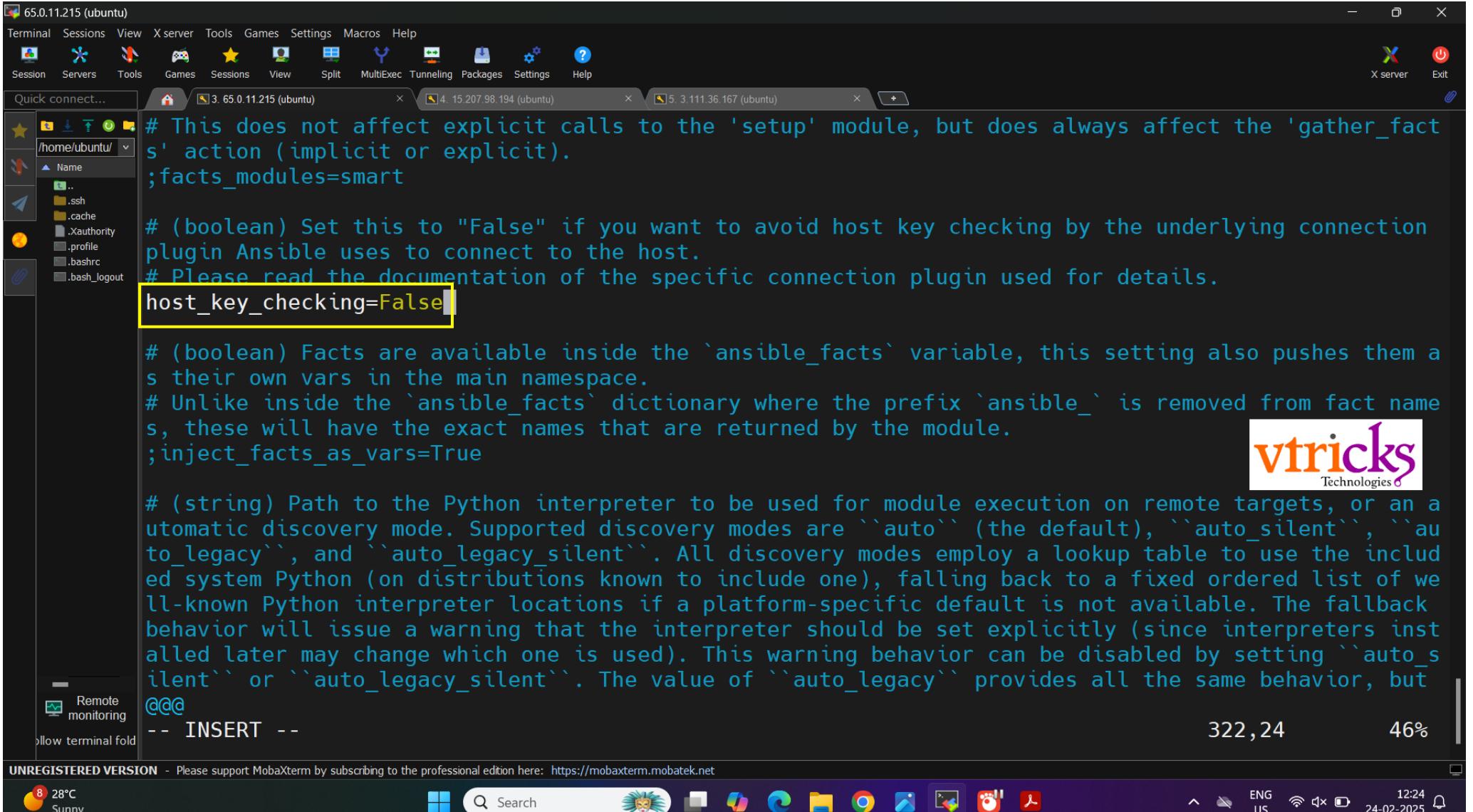
Remote monitoring Follow terminal fold

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

8 28°C Sunny Search ENG US 12:23 24-02-2025

vtricks Technologies

Step 10.2: change “host_key_checking=True” to “host_key_checking=False” → save and exit



The screenshot shows the MobaXterm application interface. At the top, there's a menu bar with options like Terminal, Sessions, View, X server, Tools, Games, Settings, Macros, Help, and a toolbar with icons for Session, Servers, Tools, Games, Sessions, View, Split, MultiExec, Tunneling, Packages, Settings, and Help.

In the center, there are three tabs representing different sessions: "3. 65.0.11.215 (ubuntu)", "4. 15.207.98.194 (ubuntu)", and "5. 3.111.36.167 (ubuntu)". The third tab is currently active.

The terminal window displays Ansible configuration code. A specific line, "host_key_checking=False", is highlighted with a yellow box. The code also includes comments explaining host key checking and facts modules.

```
# This does not affect explicit calls to the 'setup' module, but does always affect the 'gather_facts' action (implicit or explicit).
;facts_modules=smart

# (boolean) Set this to "False" if you want to avoid host key checking by the underlying connection plugin Ansible uses to connect to the host.
# Please read the documentation of the specific connection plugin used for details.

host_key_checking=False

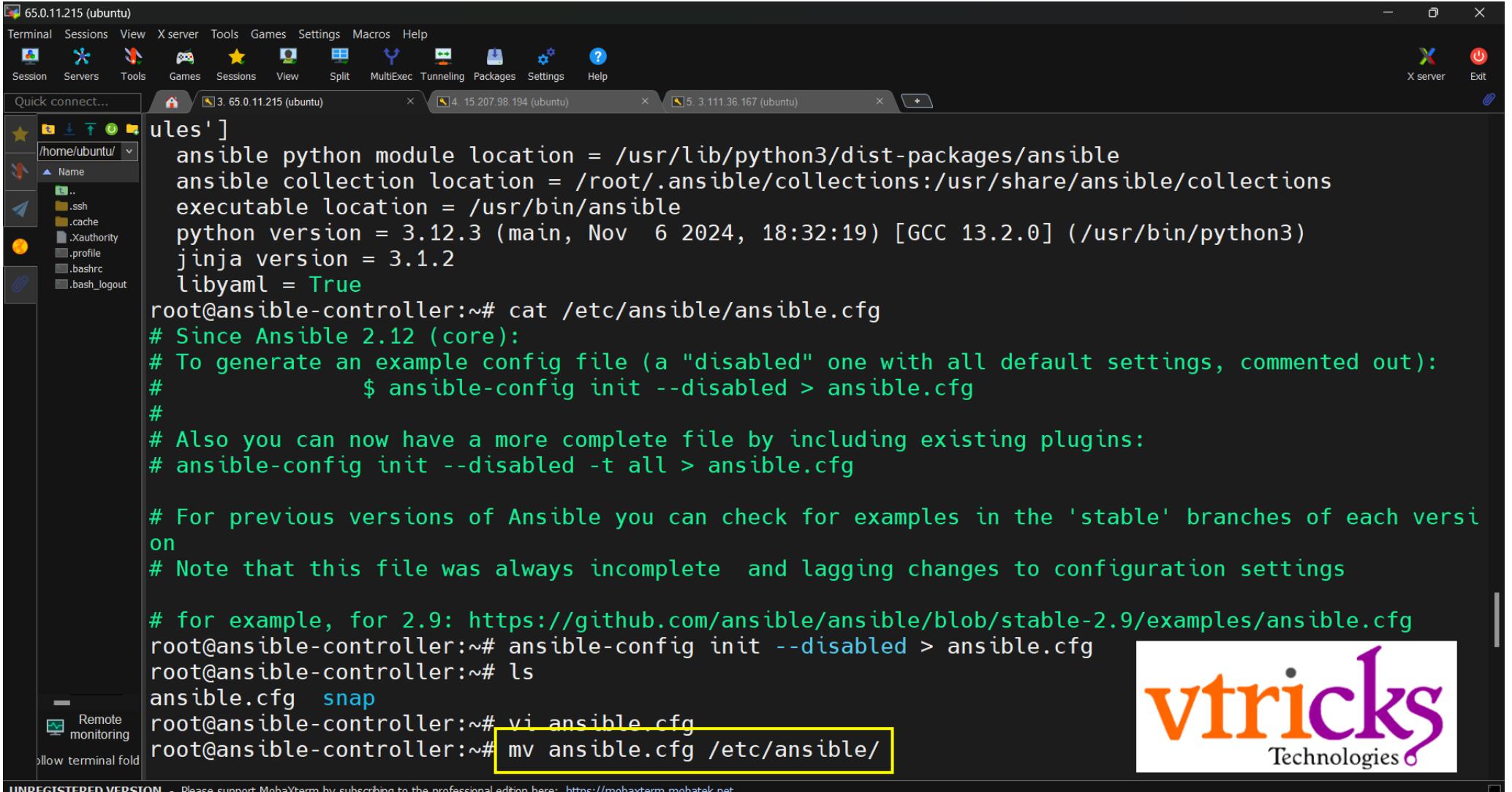
# (boolean) Facts are available inside the `ansible_facts` variable, this setting also pushes them as their own vars in the main namespace.
# Unlike inside the `ansible_facts` dictionary where the prefix `ansible_` is removed from fact names, these will have the exact names that are returned by the module.
;inject_facts_as_vars=True

# (string) Path to the Python interpreter to be used for module execution on remote targets, or an automatic discovery mode. Supported discovery modes are ``auto`` (the default), ``auto_silent``, ``auto_legacy``, and ``auto_legacy_silent``. All discovery modes employ a lookup table to use the included system Python (on distributions known to include one), falling back to a fixed ordered list of well-known Python interpreter locations if a platform-specific default is not available. The fallback behavior will issue a warning that the interpreter should be set explicitly (since interpreters installed later may change which one is used). This warning behavior can be disabled by setting ``auto_silent`` or ``auto_legacy_silent``. The value of ``auto_legacy`` provides all the same behavior, but @@
-- INSERT --
```

On the right side of the terminal window, there are status indicators for battery level (322,24), CPU usage (46%), and a watermark for "vtricks Technologies".

At the bottom, there's a taskbar with various icons for file operations, a search bar, and system status indicators like weather (28°C, Sunny), language (ENG US), and date/time (12:24, 24-02-2025).

Step 10.3: move “ansible.cfg” file to “/etc/ansible”



The screenshot shows the MobaXterm application interface. At the top, there are tabs for three sessions: "3. 65.0.11.215 (ubuntu)", "4. 15.207.98.194 (ubuntu)", and "5. 3.111.36.167 (ubuntu)". The main area is a terminal window displaying the following command-line session:

```
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, Nov  6 2024, 18:32:19) [GCC 13.2.0] (/usr/bin/python3)
jinja version = 3.1.2
libyaml = True
root@ansible-controller:~# cat /etc/ansible/ansible.cfg
# Since Ansible 2.12 (core):
# To generate an example config file (a "disabled" one with all default settings, commented out):
#           $ ansible-config init --disabled > ansible.cfg
#
# Also you can now have a more complete file by including existing plugins:
# ansible-config init --disabled -t all > ansible.cfg

# For previous versions of Ansible you can check for examples in the 'stable' branches of each version
# Note that this file was always incomplete and lagging changes to configuration settings

# for example, for 2.9: https://github.com/ansible/ansible/blob/stable-2.9/examples/ansible.cfg
root@ansible-controller:~# ansible-config init --disabled > ansible.cfg
root@ansible-controller:~# ls
ansible.cfg  snap
root@ansible-controller:~# vi ansible.cfg
root@ansible-controller:~# mv ansible.cfg /etc/ansible/
```

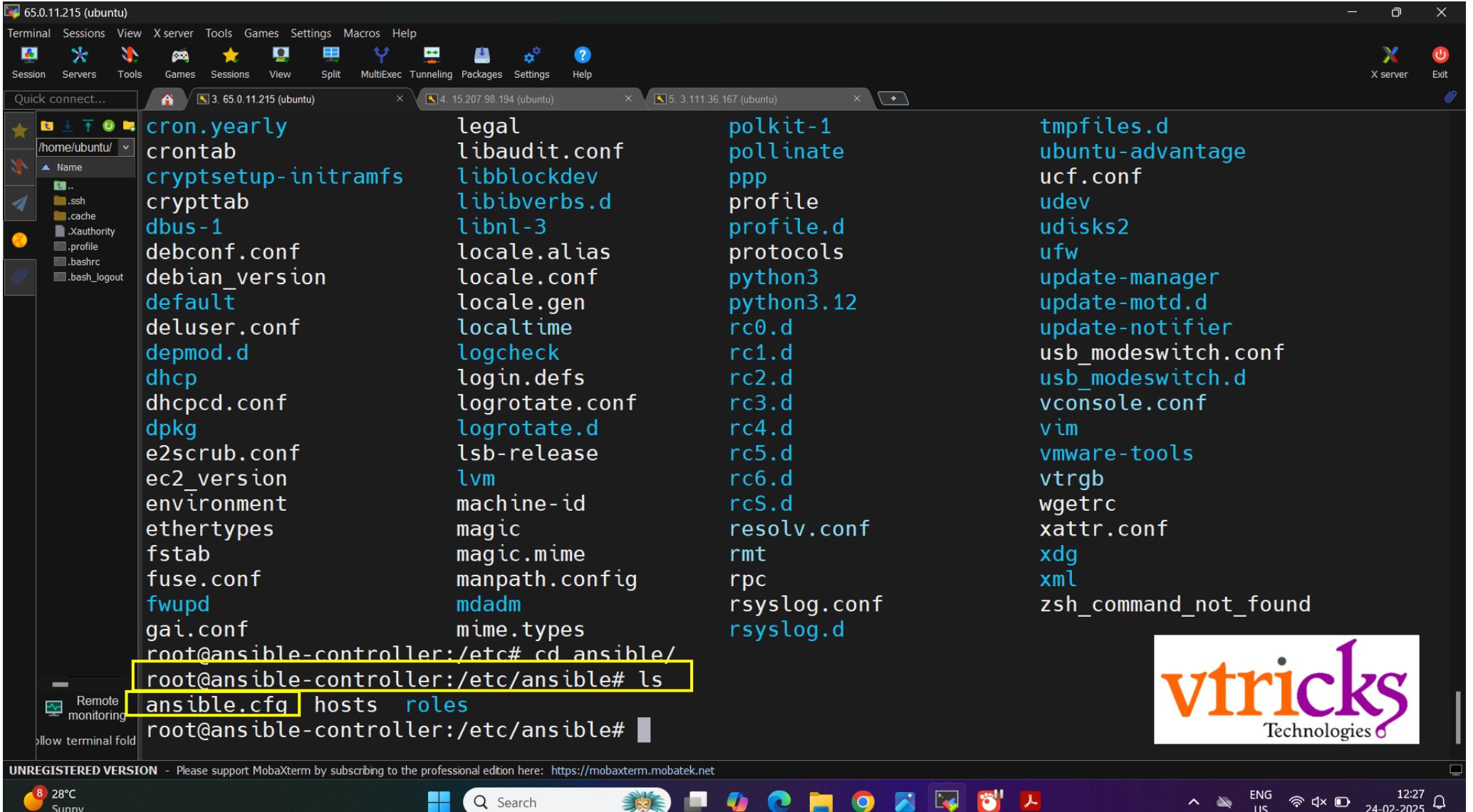
A yellow box highlights the command `mv ansible.cfg /etc/ansible/`.

At the bottom of the terminal window, there is a footer bar with the text "UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: <https://mobaxterm.mobatek.net>".

The system tray at the bottom right shows the date and time as "24-02-2025 12:26".



Step 10.4: Verify the presence of “ansible.cfg” file in “/etc/ansible” location



The screenshot shows a MobaXterm interface with four sessions open:

- Session 1: 65.0.11.215 (ubuntu)
- Session 2: 3. 65.0.11.215 (ubuntu)
- Session 3: 4. 15.207.98.194 (ubuntu)
- Session 4: 5. 3.111.36.167 (ubuntu)

The terminal window (Session 1) displays the contents of the /etc/ansible directory:

```
root@ansible-controller:/etc# cd ansible/
root@ansible-controller:/etc/ansible# ls
ansible.cfg  hosts  roles
root@ansible-controller:/etc/ansible#
```

A yellow box highlights the command "ls" and its output, which includes "ansible.cfg".

The status bar at the bottom of the terminal window shows:

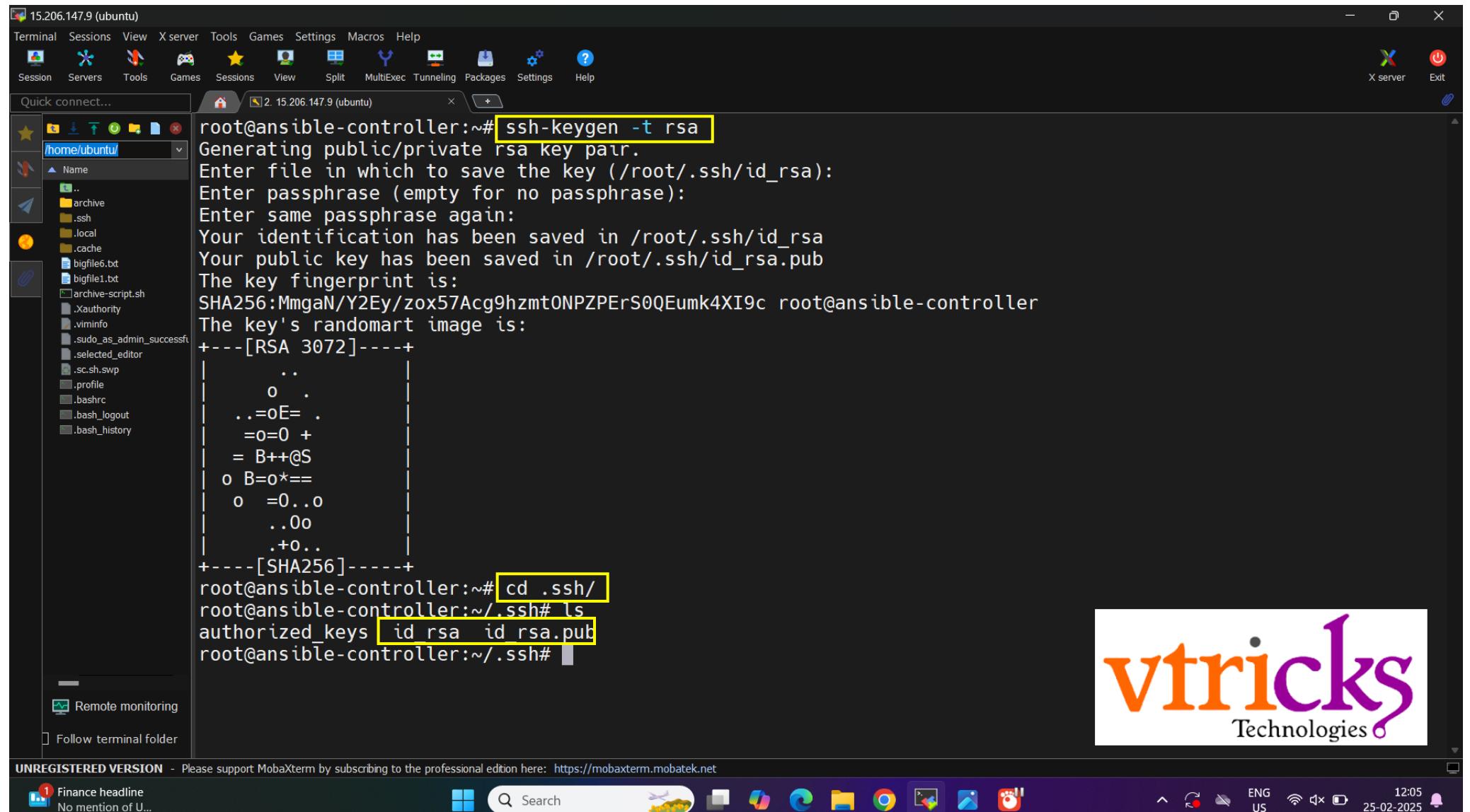
UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: <https://mobaxterm.mobatek.net>

Icons for weather (28°C, Sunny), search, taskbar, and system status (ENG US, 12:27, 24-02-2025).



Step 11: Allow the Ansible controller to authenticate itself with the client machine without needing to enter password

Step 11.1: Run “ssh-keygen -t rsa” to generate rsa key in the ansible-controller machine → run “cd .ssh/” to verify the creation of rsa key file



The screenshot shows a MobaXterm session titled "15.206.147.9 (ubuntu)". The terminal window displays the following command and its execution:

```
root@ansible-controller:~# ssh-keygen -t rsa
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:MmgAN/Y2Ey/zox57Acg9hzmt0NPZPErS0QEumk4XI9c root@ansible-controller
The key's randomart image is:
+---[RSA 3072]---+
| .. |
| o . |
| ..=oE= . |
| =o=0 + |
| = B++@S |
| o B=o*== |
| o =0..o |
| ..oo |
| .+o.. |
+---[SHA256]---+
root@ansible-controller:~# cd .ssh/
root@ansible-controller:~/ssh# ls
authorized_keys id_rsa id_rsa.pub
root@ansible-controller:~/ssh#
```

The terminal window also includes a sidebar with session management tools like Session, Servers, Tools, Games, and X server.



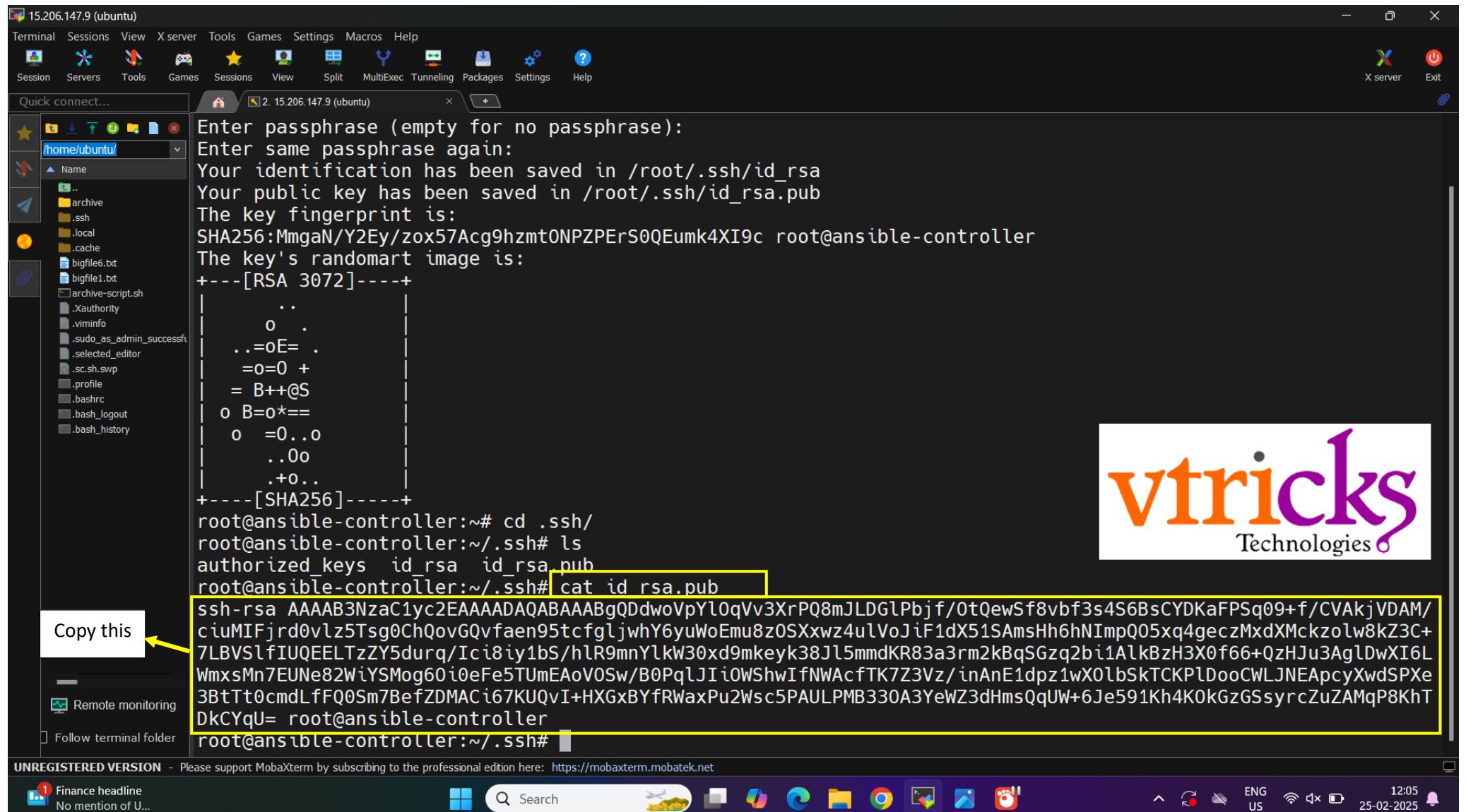
UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: <https://mobaxterm.mobatek.net>

1 Finance headline
No mention of U...



12:05 25-02-2025 ENG US

Step 11.2: copy rsa public-key



15.206.147.9 (ubuntu)

Terminal Sessions View X server Tools Games Settings Macros Help

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

X server Exit

Quick connect... 2. 15.206.147.9 (ubuntu) +

/home/ubuntu/

Name

- ..
- archive
- .ssh
- .local
- .cache
- bigfile6.txt
- bigfile1.txt
- archive-script.sh
- .Xauthority
- .viminfo
- .sudo_as_admin_successf
- .selected_editor
- .sc.sh.swp
- .profile
- .bashrc
- .bash_logout
- .bash_history

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:MmgaN/Y2Ey/zox57Acg9hzmt0NPZPErS0QEumk4XI9c root@ansible-controller
The key's randomart image is:
+---[RSA 3072]---+
| .. . |
| ..=oE= . |
| =o=0 + |
| = B++@S |
| o B=o*== |
| o =0..o |
| ..oo |
| .+o.. |
+---[SHA256]---+
root@ansible-controller:~# cd .ssh/
root@ansible-controller:~/ssh# ls
authorized_keys id_rsa id_rsa.pub
root@ansible-controller:~/ssh# cat id_rsa.pub
ssh-rsa AAAAB3NzaC1yc2EAAAQABAAQDdwoVpYl0qVv3XrPQ8mJLDG1Pbjf/0tQewSf8vb3s4S6BsCYDKaFPSq09+f/CVAkjVDAM/ciuMIFjrd0vlz5Tsg0ChQovGQvfaen95tcfgljwhY6yuWoEmu8z0SXwz4ulVoJiF1dX51SAmsHh6hNImpQ05xq4geczMxdXMckzolw8kZ3C+7LBVSlfIUQEELTzZY5durq/Ici8iy1bS/hLR9mnYlkW30xd9mkeyk38Jl5mmdKR83a3rm2kBqSGzq2bi1AlkBzH3X0f66+0zHJu3AgIDwXI6LWmxsMn7EUNe82WiYSMog60i0eFe5TUmAoVOSw/B0PqlJIi0WShwIfNWAcfTK7Z3Vz/inAnE1dpz1wX0lbSkTCKPlDooCWLJNEApncyXwdSPXe3BtTt0cmdLffQ0Sm7BefZDMACi67KUQvI+HXGxBYfRWaxPu2Wsc5PAULPMB330A3YeWZ3dHmsQqUW+6Je591Kh4K0kGzGSsrcZuZAMqP8KhTDkCYqU= root@ansible-controller
root@ansible-controller:~/ssh#

Copy this

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

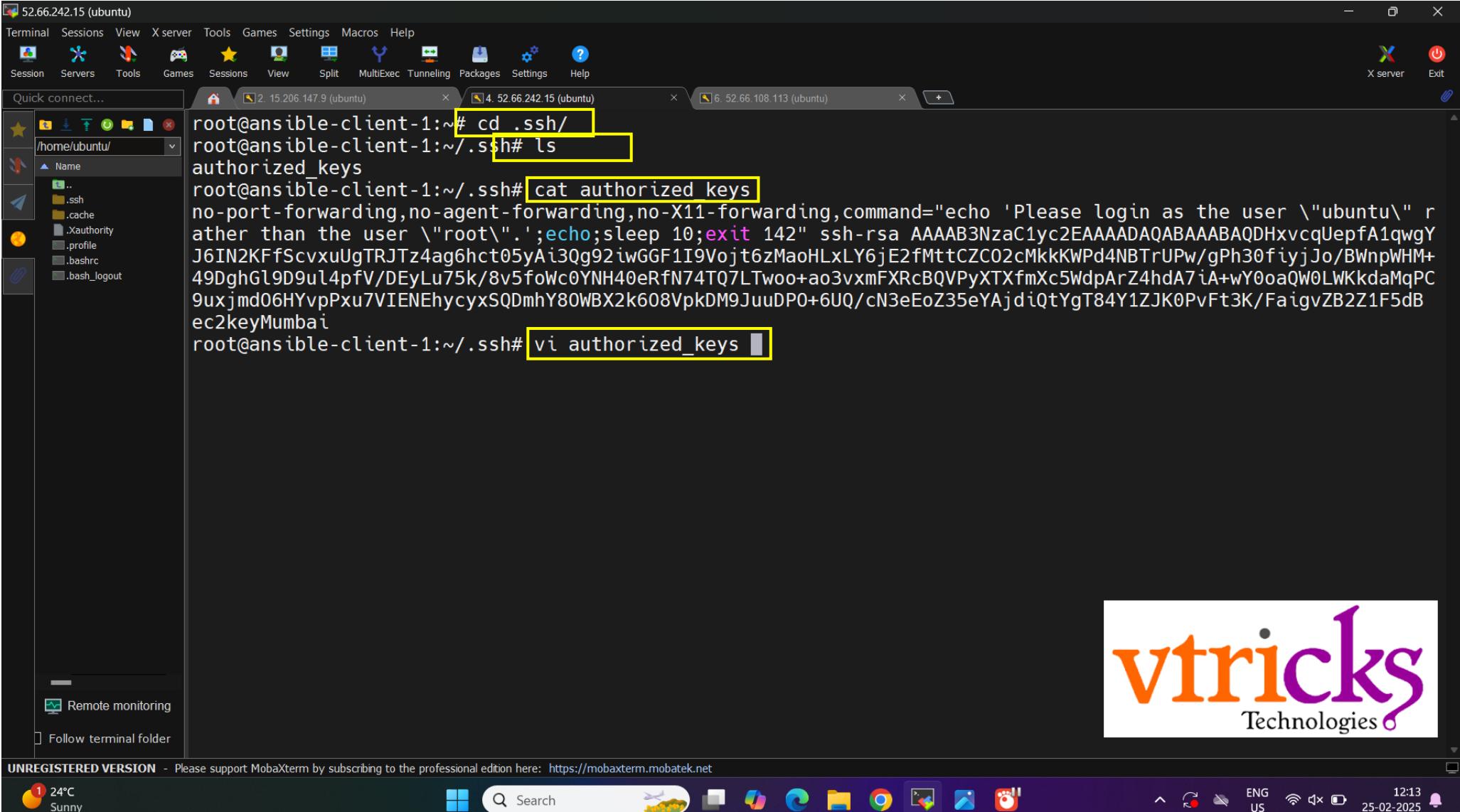
Finance headline
No mention of U...

Search

12:05 25-02-2025 ENG US



Step 11.3: On the ansible-client-1 machine, run the following commands in order ==> “cd .ssh/” → “ls” → “cat Authorised_keys” → “vi Authorised_keys”



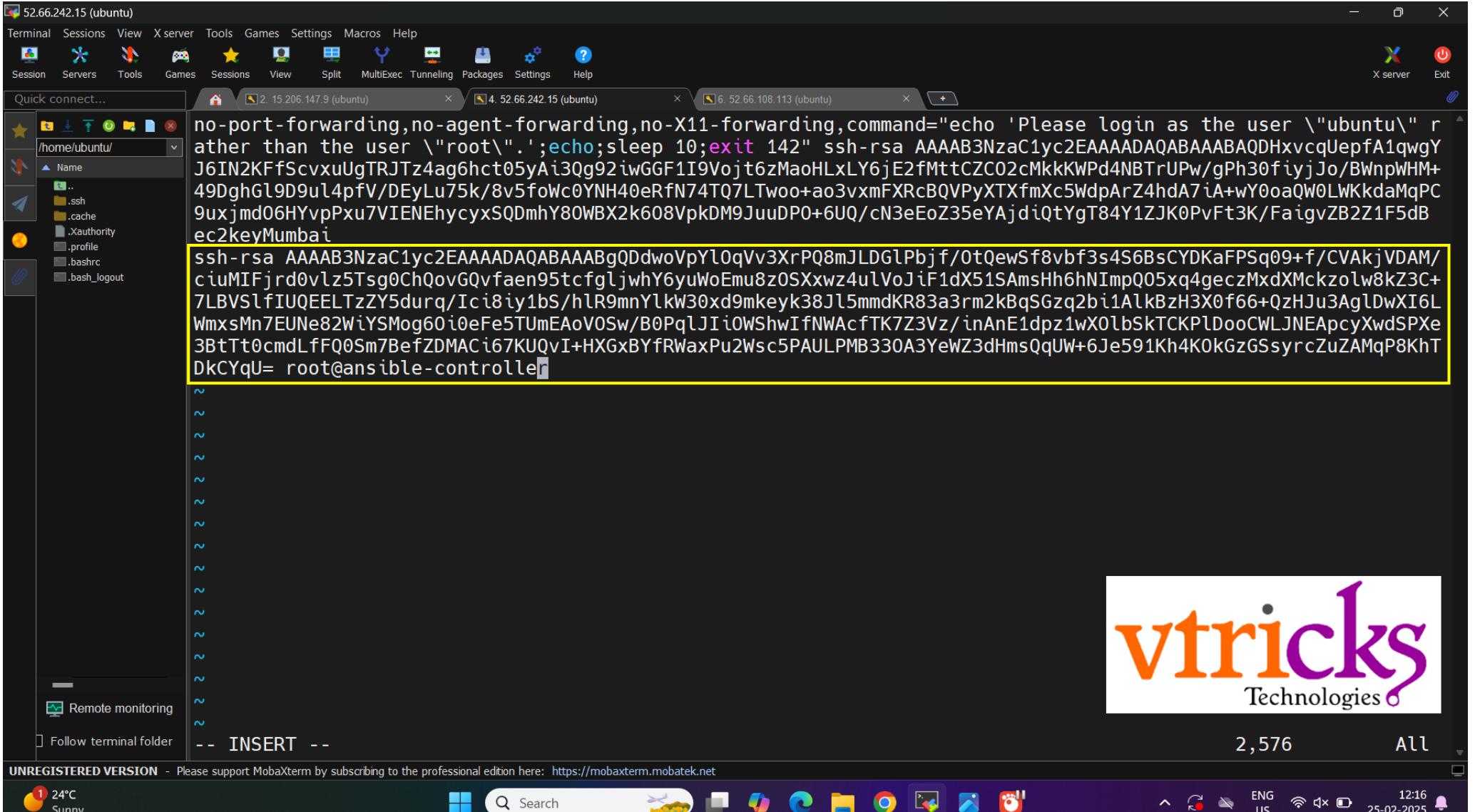
```
root@ansible-client-1:~# cd .ssh/
root@ansible-client-1:~/ssh# ls
authorized_keys
root@ansible-client-1:~/ssh# cat authorized_keys
no-port-forwarding,no-agent-forwarding,no-X11-forwarding,command="echo 'Please login as the user \"ubuntu\" rather than the user \"root\".';echo;sleep 10;exit 142" ssh-rsa AAAAB3NzaC1yc2EAAAQABAAQDHxvcqUepfA1qwgYJ6IN2KFfScvxuUgTRJTz4ag6hct05yAi3Qg92iwGGF1I9Vojt6zMaoHLxLY6jE2fMttCZC02cMkkWPd4NBTrUPw/gPh30fiyjJo/BWnpWHM+49DghGl9D9ul4pfV/DEyLu75k/8v5foWc0YNH40eRfN74TQ7LTwoo+ao3vxmFXRcBQVPyXTXfmXc5WdpArZ4hdA7iA+wY0oaQW0LWKdaMqPC9uxjmd06HYvpPxu7VIENehycyxSQDmhY80WBX2k608VpkDM9JuuDP0+6UQ/cN3eEoZ35eYAjdiQtYgT84Y1ZJK0PvFt3K/FaigvZB2Z1F5dB
ec2keyMumbai
root@ansible-client-1:~/ssh# vi authorized_keys
```

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

1 24°C Sunny ENG US 12:13 25-02-2025



Step 11.4: Paste copied ansible-controller's rsa public key and save.



The screenshot shows the MobaXterm application interface. At the top, there are tabs for sessions: 1. 2. 15.206.147.9 (ubuntu), 4. 52.66.242.15 (ubuntu), and 6. 52.66.108.113 (ubuntu). The main area displays a terminal window with the following content:

```
no-port-forwarding,no-agent-forwarding,no-X11-forwarding,command="echo 'Please login as the user \"ubuntu\" rather than the user \"root\".';echo;sleep 10;exit 142" ssh-rsa AAAAB3NzaC1yc2EAAAQABAAQDHxvcqUepfA1qwgYJ6IN2KFfScvxuUgTRJTz4ag6hct05yAi3Qg92iwGGF1I9Vojt6zMaoHLxLY6jE2fMttCZC02cMkkWkPd4NBTrUPw/gPh30fiyjJo/BWnpWHM+49DghG19D9u14pfV/DEyLu75k/8v5foWc0YNH40eRfN74TQ7LTwoo+ao3vxmFXRcBQVPyXTXfmXc5WdpArZ4hdA7iA+wY0oaQW0LWKkdaMqPC9uxjmd06HYvpPxu7VIENehycyxSQDmhY80WBX2k608VpkDM9JuuDP0+6UQ/cN3eEoZ35eYAjd1QtYgT84Y1ZJK0PvFt3K/FaigvZB2Z1F5dBec2keyMumbai
ssh-rsa AAAAB3NzaC1yc2EAAAQABAAQgQDdwoVpYl0qVv3XrPQ8mJLDGlPbjf/0tQewSf8vb3s4S6BsCYDKaFPSq09+f/CVAkjVDAM/ciuMIFjrd0vlz5Tsg0ChQovGQvfaen95tcfgljwhY6yuWoEmu8z0SXxz4ulVoJiF1dX51SAmsHh6hNImpQ05xq4geczMxdXMckzolw8kZ3C+7LBVSlfIUQEELTzZY5durq/Ici8iy1bS/hlR9mnYlkW30xd9mkeyk38Jl5mmdkR83a3rm2kBqSGzq2bi1AlkBzH3X0f66+QzHJu3Ag1DwXI6LWmxsMn7EUNe82WiYSMog60i0eFe5TUmAoVOSw/B0PqlJIi0WShwIfNWAcfTK7Z3Vz/inAnE1dpz1wX0lbSkTCKPLDooCWLJNEApcyXwdSPXe3BtTt0cmdLffQ0Sm7BefZDMACi67KUQvI+HXGxBYfRWaxPu2Wsc5PAULPMB330A3YeWZ3dHmsQqUW+6Je591Kh4K0kGzGSsyrZuZAMqP8KhTDkCYqU= root@ansible-controller
```

The terminal window has a yellow border around the pasted text. The bottom status bar shows "UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: <https://mobaxterm.mobatek.net>". The system tray at the bottom right includes icons for weather (24°C, Sunny), search, file explorer, browser, task manager, and system status.



2,576 All

12:16
25-02-2025

Verify the successful addition of rsa public key

The screenshot shows the MobaXterm interface with three terminal sessions open:

- Session 2.15.206.147.9 (ubuntu) displays the command: `root@ansible-client-1:~# cd .ssh/`
- Session 4.52.66.242.15 (ubuntu) displays the command: `root@ansible-client-1:~/ssh# ls authorized_keys`
- Session 6.52.66.108.113 (ubuntu) displays the command: `root@ansible-client-1:~/ssh# cat authorized_keys`

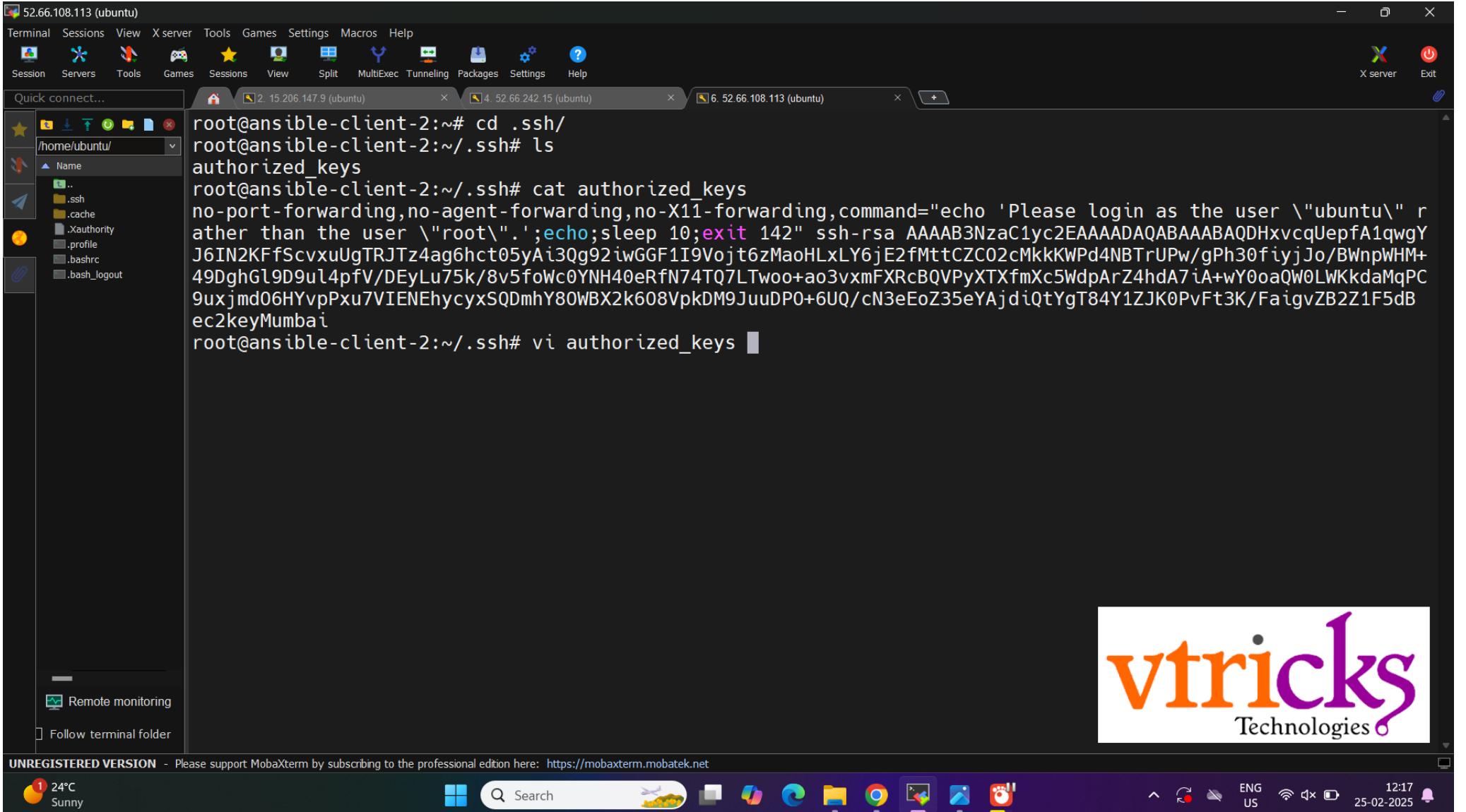
The output of Session 6 shows a long RSA key, with the command `cat authorized_keys` highlighted by a yellow box. The entire output of Session 6 is also highlighted by a larger yellow box.

The left sidebar shows a file tree under `/home/ubuntu/`, including `authorized_keys`. The bottom left also shows "Remote monitoring" and "Follow terminal folder" options.

The bottom status bar indicates "UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: <https://mobaxterm.mobatek.net>".

The bottom right corner features the vtricks Technologies logo.

Step 11.5: Repeat step 11.3 to step 11.4 for “ansible-client-2” machine

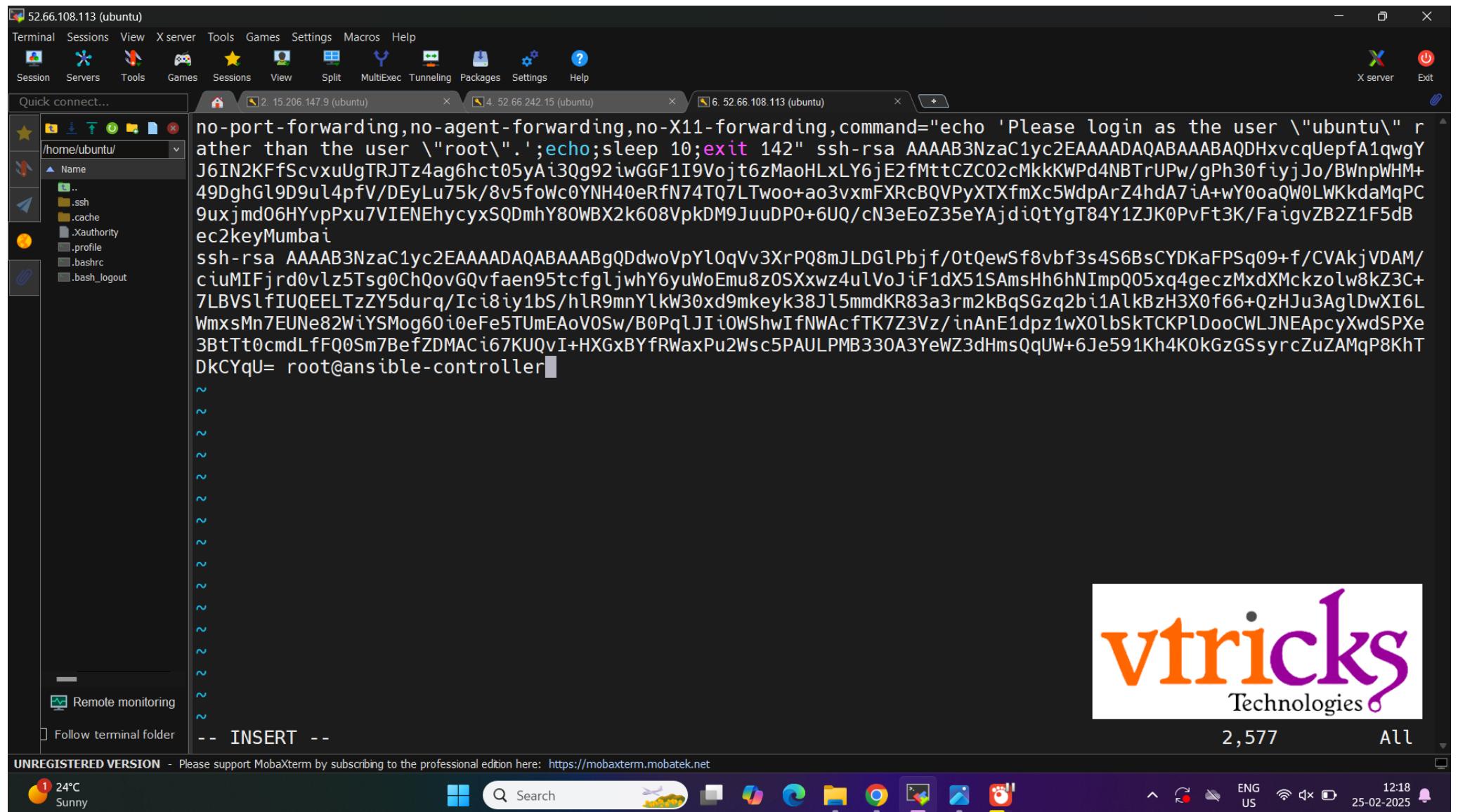


```
root@ansible-client-2:~# cd .ssh/
root@ansible-client-2:~/ssh# ls
authorized_keys
root@ansible-client-2:~/ssh# cat authorized_keys
no-port-forwarding,no-agent-forwarding,no-X11-forwarding,command="echo 'Please login as the user \\"ubuntu\\" rather than the user \\"root\\".';echo;sleep 10;exit 142" ssh-rsa AAAAB3NzaC1yc2EAAAQABAAQDHxvcqUepfA1qwgYJ6IN2KFfScvxuUgTRJTz4ag6hct05yAi3Qg92iwGGF1I9Vojt6zMaoHLxLY6jE2fMttCZC02cMkkWPd4NBTrUPw/gPh30fiyjJo/BWnpWHM+49DghGl9D9ul4pfV/DEyLu75k/8v5foWc0YNH40eRfN74TQ7LTwoo+ao3vxmFXRcBQVPyXTXfmXc5WdpArZ4hdA7iA+wY0oaQW0LWKdaMqPC9uxjmd06HYvpPxu7VIENehycyxSQDmhY80WBX2k608VpkDM9JuuDP0+6UQ/cN3eEoZ35eYAjdiQtYgT84Y1ZJK0PvFt3K/FaigvZB2Z1F5dBec2keyMumbai
root@ansible-client-2:~/ssh# vi authorized_keys
```

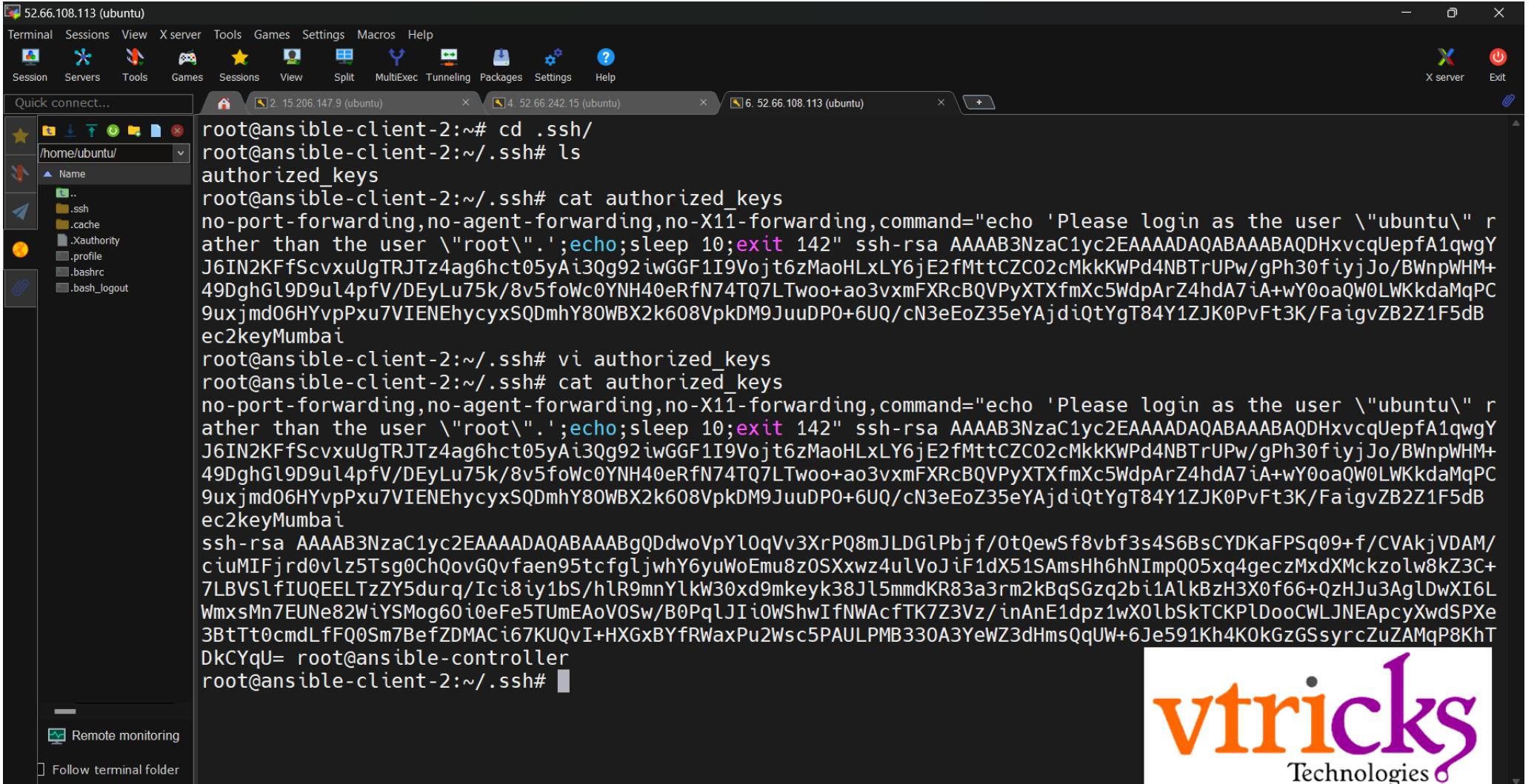
UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: <https://mobaxterm.mobatek.net>

24°C Sunny

vtricks Technologies



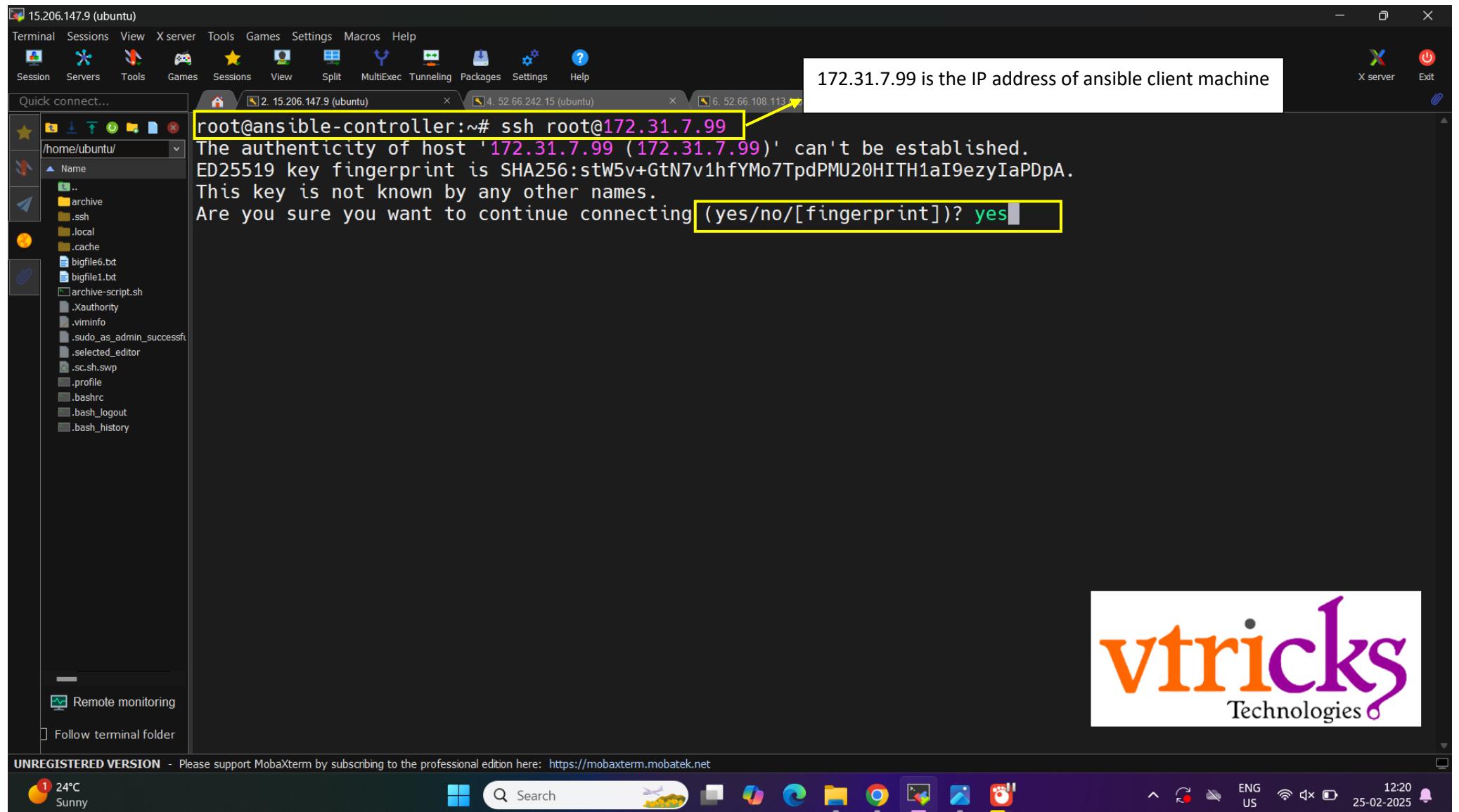
Verify the successful addition of rsa public key on ansible-client-2.



```
root@ansible-client-2:~# cd .ssh/
root@ansible-client-2:~/ssh# ls
authorized_keys
root@ansible-client-2:~/ssh# cat authorized_keys
no-port-forwarding,no-agent-forwarding,no-X11-forwarding,command="echo 'Please login as the user \"ubuntu\" rather than the user \"root\".';echo;sleep 10;exit 142" ssh-rsa AAAAB3NzaC1yc2EAAAQABAAQDHxvcqUepfA1qwgYJ6IN2KFfScvxuUgTRJTz4ag6hct05yAi3Qg92iwGGF1I9Vojt6zMaoHLxLY6jE2fMttCZC02cMkkWPd4NBTrUPw/gPh30fiyjJo/BWnpWHM+49DghGl9D9u14pfV/DEyLu75k/8v5foWc0YNH40eRfn74TQ7LTwoo+ao3vxmFXRcBQVPyXTXfmXc5WdpArZ4hdA7iA+wY0oaQW0LWKdaMqPC9uxjmd06HYvpPxu7VIENehycyxSQDmhY80WBX2k608VpkDM9JuDP0+6UQ/cN3eEoZ35eYAjdijQtYgT84Y1ZJK0PvFt3K/FaigvZB2Z1F5dBec2keyMumbai
root@ansible-client-2:~/ssh# vi authorized_keys
root@ansible-client-2:~/ssh# cat authorized_keys
no-port-forwarding,no-agent-forwarding,no-X11-forwarding,command="echo 'Please login as the user \"ubuntu\" rather than the user \"root\".';echo;sleep 10;exit 142" ssh-rsa AAAAB3NzaC1yc2EAAAQABAAQDHxvcqUepfA1qwgYJ6IN2KFfScvxuUgTRJTz4ag6hct05yAi3Qg92iwGGF1I9Vojt6zMaoHLxLY6jE2fMttCZC02cMkkWPd4NBTrUPw/gPh30fiyjJo/BWnpWHM+49DghGl9D9u14pfV/DEyLu75k/8v5foWc0YNH40eRfn74TQ7LTwoo+ao3vxmFXRcBQVPyXTXfmXc5WdpArZ4hdA7iA+wY0oaQW0LWKdaMqPC9uxjmd06HYvpPxu7VIENehycyxSQDmhY80WBX2k608VpkDM9JuDP0+6UQ/cN3eEoZ35eYAjdijQtYgT84Y1ZJK0PvFt3K/FaigvZB2Z1F5dBec2keyMumbai
ssh-rsa AAAAB3NzaC1yc2EAAAQABAAQDHxvcqUepfA1qwgYJ6IN2KFfScvxuUgTRJTz4ag6hct05yAi3Qg92iwGGF1I9Vojt6zMaoHLxLY6jE2fMttCZC02cMkkWPd4NBTrUPw/gPh30fiyjJo/BWnpWHM+49DghGl9D9u14pfV/DEyLu75k/8v5foWc0YNH40eRfn74TQ7LTwoo+ao3vxmFXRcBQVPyXTXfmXc5WdpArZ4hdA7iA+wY0oaQW0LWKdaMqPC9uxjmd06HYvpPxu7VIENehycyxSQDmhY80WBX2k608VpkDM9JuDP0+6UQ/cN3eEoZ35eYAjdijQtYgT84Y1ZJK0PvFt3K/FaigvZB2Z1F5dBec2keyMumbai
DkCYqu= root@ansible-controller
root@ansible-client-2:~/ssh#
```

The screenshot shows the MobaXterm interface with three sessions open. The current session (3) is on '6. 52.66.108.113 (ubuntu)' where the command 'cat authorized_keys' has been run, displaying the RSA public key for the 'ansible-controller' user. The left sidebar shows the local directory structure of the user's home folder. The bottom status bar includes a weather icon (24°C, Sunny), a search bar, and system icons for network, battery, and date/time (12:18, 25-02-2025). A watermark for 'viricks Technologies' is visible in the bottom right corner.

Step 11.6: Ensure that the ansible-client-1 machine is accessible from the ansible-controller machine.



The screenshot shows a MobaXterm interface with multiple sessions open. The current session is titled 'root@ansible-controller:~#'. A command is being run: `ssh root@172.31.7.99`. A tooltip above the terminal window states: '172.31.7.99 is the IP address of ansible client machine'. The terminal output shows a warning about host authenticity:

```
The authenticity of host '172.31.7.99 (172.31.7.99)' can't be established.  
ED25519 key fingerprint is SHA256:stW5v+GtN7v1hfYMo7TpdpMU20HITH1aI9ezyIaPDpA.  
This key is not known by any other names.  
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
```

The 'yes' response is highlighted with a yellow box and an arrow pointing to it from the tooltip. The terminal also displays a file browser sidebar and a system tray at the bottom.



15.206.147.9 (ubuntu)

Terminal Sessions View X server Tools Games Settings Macros Help

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

X server Exit

Quick connect... 2. 15.206.147.9 (ubuntu) 4. 52.66.242.15 (ubuntu) 6. 52.66.108.113 (ubuntu)

Warning: Permanently added '172.31.7.99' (ED25519) to the list of known hosts.

Welcome to Ubuntu 24.04.1 LTS (GNU/Linux 6.8.0-1021-aws x86_64)

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

System information as of Tue Feb 25 06:50:38 UTC 2025

System load: 0.0	Processes: 117
Usage of /: 25.2% of 6.71GB	Users logged in: 1
Memory usage: 22%	IPv4 address for enX0: 172.31.7.99
Swap usage: 0%	

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 list of available updates is more than a week old.
To check for new updates run: sudo apt update

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@ansible-client-1:~# ansible-client-1 machine accessed from ansible-controller

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

24°C Sunny

vtricks Technologies

15.206.147.9 (ubuntu)

Terminal Sessions View X server Tools Games Settings Macros Help

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

X server Exit

Quick connect... 2. 15.206.147.9 (ubuntu) 4. 52.66.242.15 (ubuntu) 6. 52.66.108.113 (ubuntu)

/home/ubuntu/

Name

- ..
- archive
- .ssh
- .local
- .cache
- bigfile6.txt
- bigfile1.txt
- archive-script.sh
- .Xauthority
- .viminfo
- .sudo_as_admin_success
- .selected_editor
- .sc.sh.swp
- .profile
- .bashrc
- .bash_logout
- .bash_history

System information as of Tue Feb 25 06:50:38 UTC 2025

```
System load: 0.0          Processes: 117
Usage of /: 25.2% of 6.71GB  Users logged in: 1
Memory usage: 22%          IPv4 address for enX0: 172.31.7.99
Swap usage: 0%
```

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 list of available updates is more than a week old.
To check for new updates run: sudo apt update

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@ansible-client-1:~# exit
logout
Connection to 172.31.7.99 closed.
root@ansible-controller:~#
```

Run “exit” to come back to ansible-controller machine

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

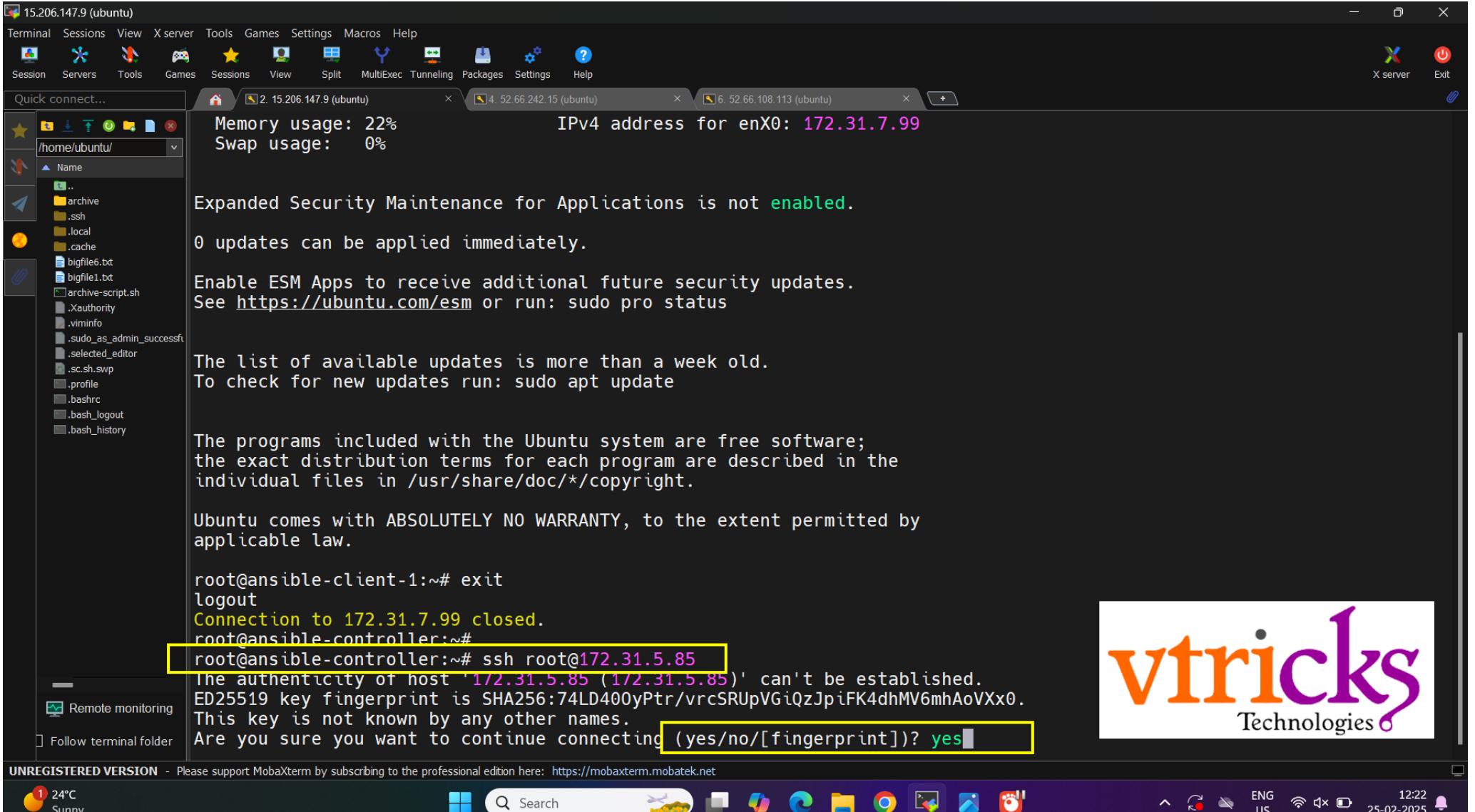
24°C Sunny

Search

ENG US 12:22 25-02-2025



Step 11.7: Ensure that the ansible-client-2 machine is accessible from the ansible-controller machine.



15.206.147.9 (ubuntu)

Terminal Sessions View X server Tools Games Settings Macros Help

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

X server Exit

Quick connect... 2. 15.206.147.9 (ubuntu) 4. 52.66.242.15 (ubuntu) 6. 52.66.108.113 (ubuntu)

Memory usage: 22% IPv4 address for enX0: 172.31.7.99
Swap usage: 0%

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 list of available updates is more than a week old.
To check for new updates run: sudo apt update

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@ansible-client-1:~# exit
logout
Connection to 172.31.7.99 closed.
root@ansible-controller:~#
root@ansible-controller:~# ssh root@172.31.5.85
The authenticity of host '172.31.5.85 (172.31.5.85)' can't be established.
ED25519 key fingerprint is SHA256:74LD400yPtr/vrcSRUpVGiQzJpiFK4dhMV6mhAoVXx0.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
```

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

24°C Sunny

Search

12:22 25-02-2025

vtricks Technologies

15.206.147.9 (ubuntu)

Terminal Sessions View X server Tools Games Settings Macros Help

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

X server Exit

Quick connect... 2. 15.206.147.9 (ubuntu) 4. 52.66.242.15 (ubuntu) 6. 52.66.108.113 (ubuntu)

Warning: Permanently added '172.31.5.85' (ED25519) to the list of known hosts.

Welcome to Ubuntu 24.04.1 LTS (GNU/Linux 6.8.0-1021-aws x86_64)

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

System information as of Tue Feb 25 06:52:52 UTC 2025

System load: 0.0	Processes: 117
Usage of /: 25.2% of 6.71GB	Users logged in: 1
Memory usage: 21%	IPv4 address for enX0: 172.31.5.85
Swap usage: 0%	

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 list of available updates is more than a week old.
To check for new updates run: sudo apt update

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@ansible-client-2:~#

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

24°C Sunny ENG US 12:23 25-02-2025



15.206.147.9 (ubuntu)

Terminal Sessions View X server Tools Games Settings Macros Help

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

X server Exit

Quick connect... 2. 15.206.147.9 (ubuntu) 4. 52.66.242.15 (ubuntu) 6. 52.66.108.113 (ubuntu)

System load: 0.0 Processes: 117
Usage of /: 25.2% of 6.71GB Users logged in: 1
Memory usage: 21% IPv4 address for enX0: 172.31.5.85
Swap usage: 0%

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 list of available updates is more than a week old.
To check for new updates run: sudo apt update

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@ansible-client-2:~# exit
logout
Connection to 172.31.5.85 closed.
root@ansible-controller:~#

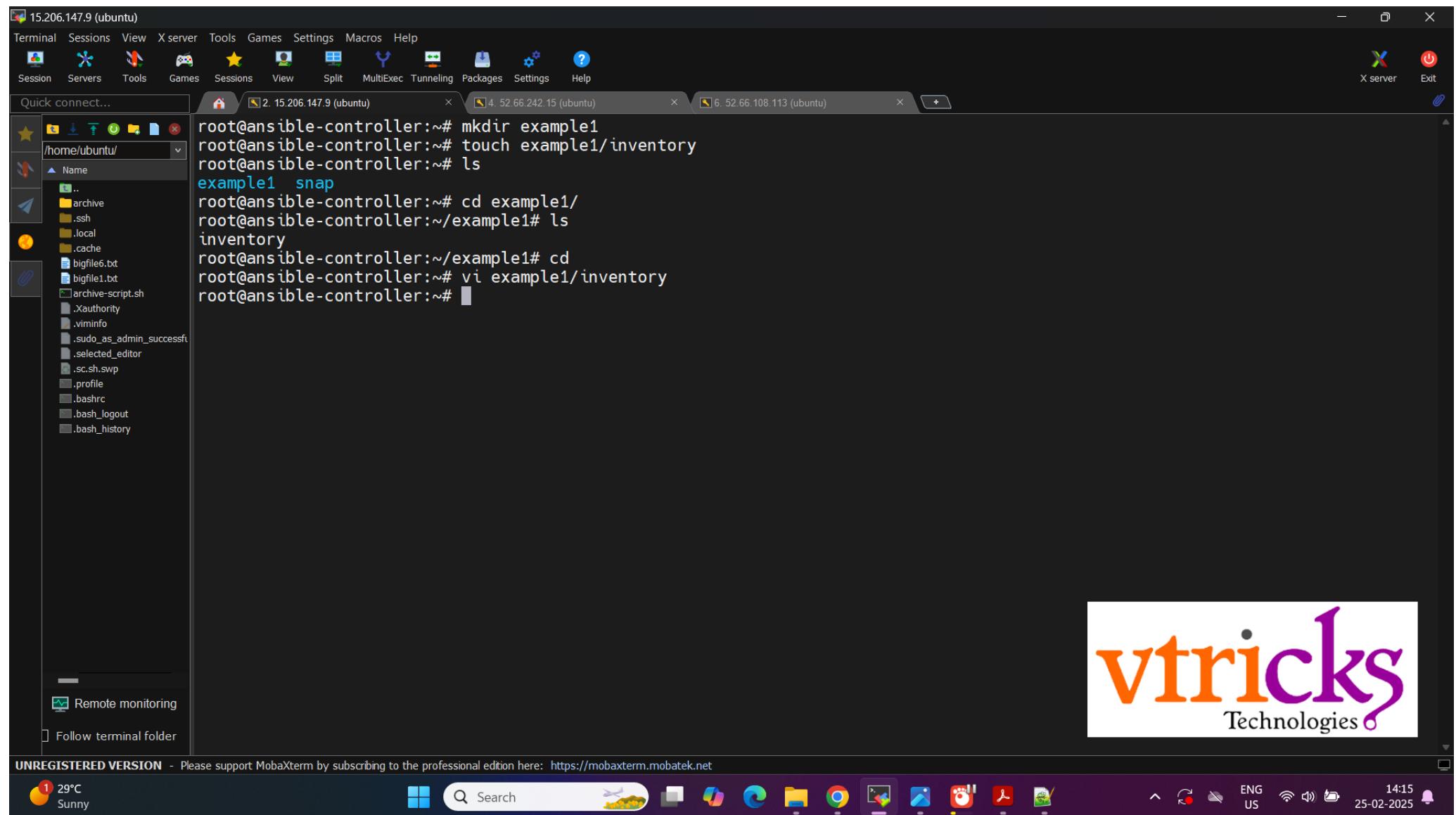
UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: <https://mobaxterm.mobatek.net>

24°C Sunny Search ENG US 12:23 25-02-2025



Step 12: Create inventory files

Step 12.1: On the Ansible controller machine, create a directory and an inventory file for the ansible-client-1 machine by following the commands shown in the image.



The screenshot shows a MobaXterm interface with three terminal sessions open:

- Session 1: 15.206.147.9 (ubuntu) - Root shell. The user runs `mkdir example1`, `touch example1/inventory`, and `ls`. The output shows the creation of the `example1` directory and the `inventory` file within it.
- Session 2: 15.206.147.9 (ubuntu) - Root shell. The user runs `cd example1/` and `ls`. The output shows the contents of the `example1` directory, including the `inventory` file.
- Session 3: 4. 52.66.242.15 (ubuntu) - Root shell. The user runs `cd example1/` and `vi example1/inventory`.

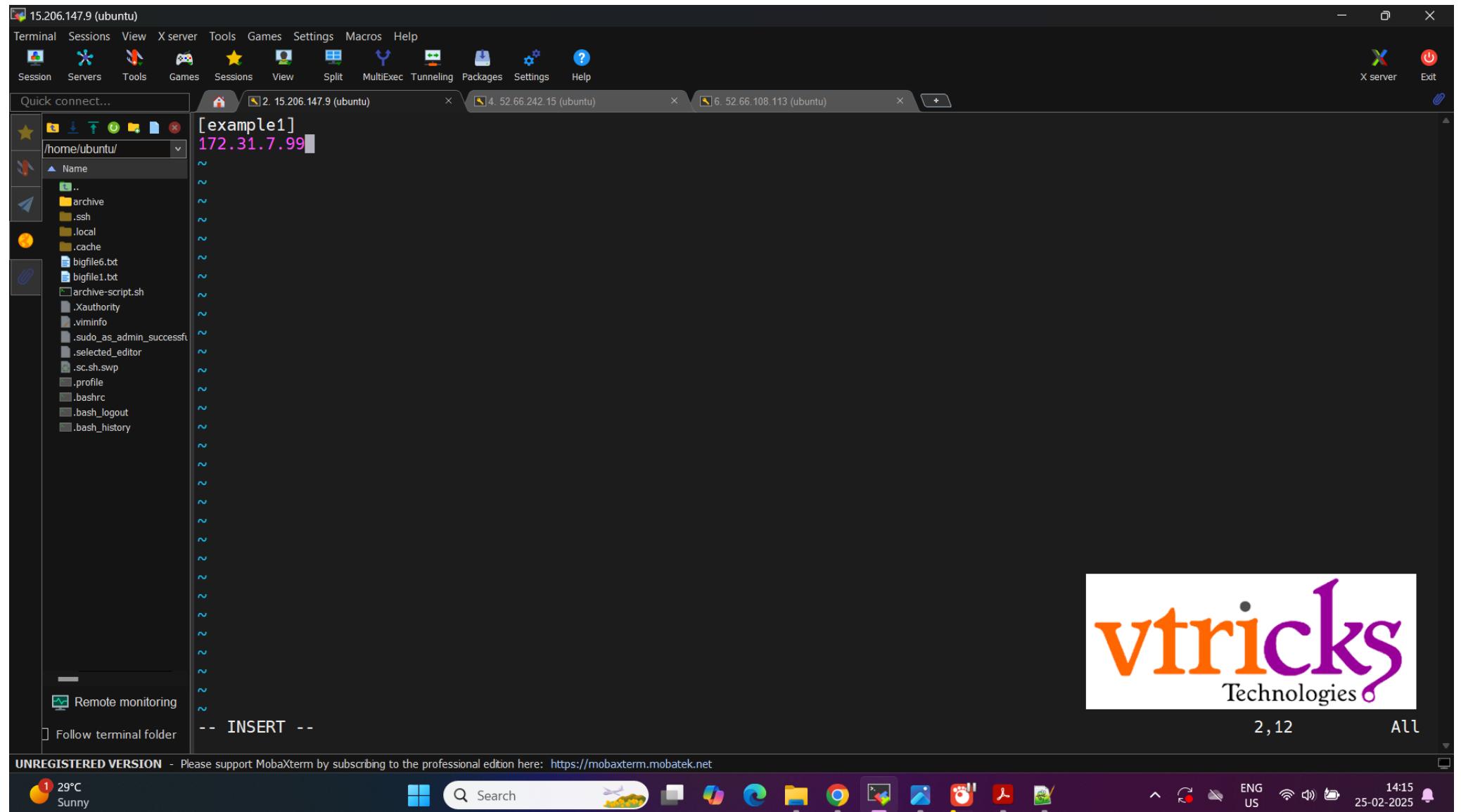
The left sidebar shows the file structure of the current working directory (`/home/ubuntu/`), including files like `archive`, `.ssh`, and `bigfile6.txt`. The bottom status bar indicates an unregistered version and provides a link to support the professional edition.



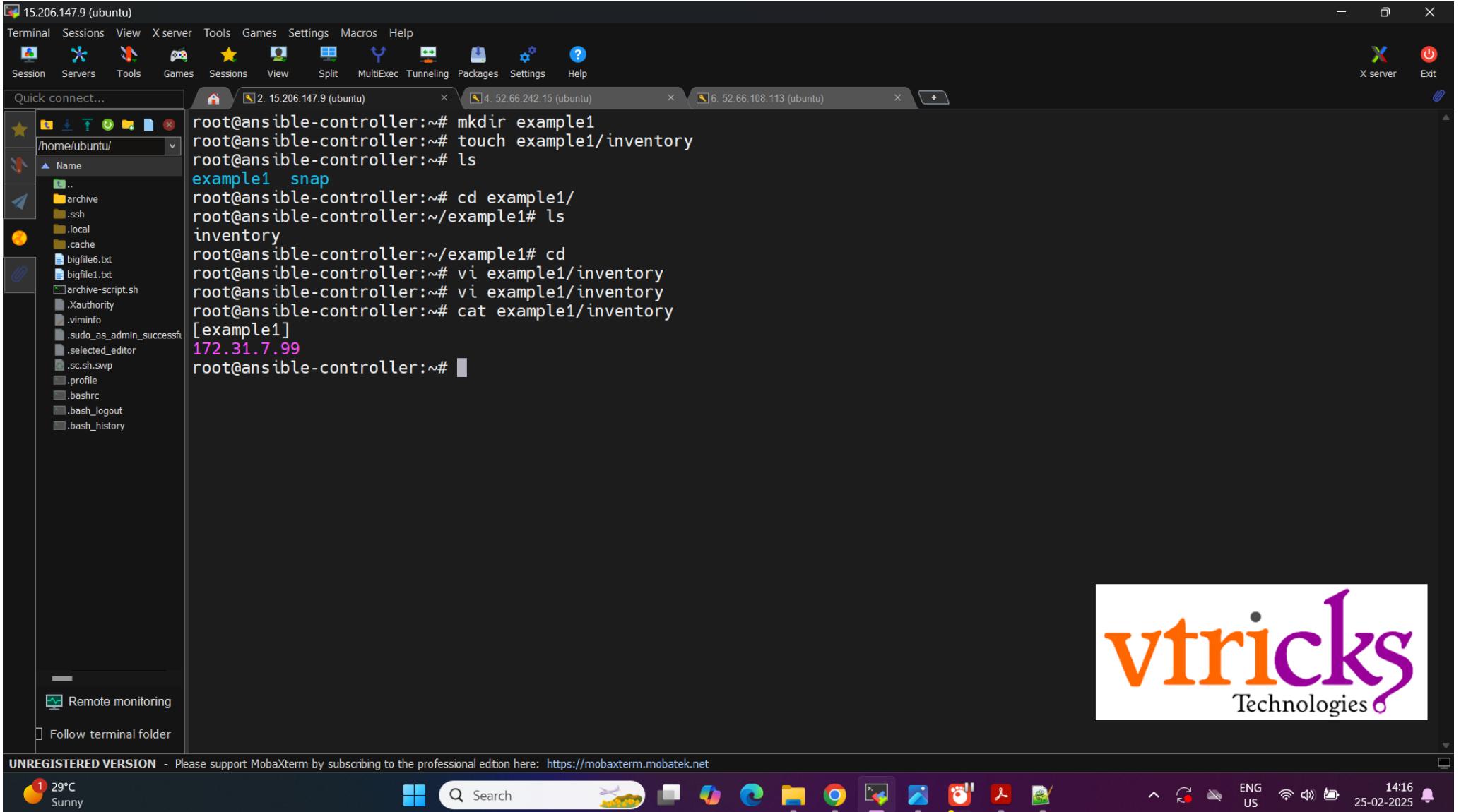
UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: <https://mobaxterm.mobatek.net>



Content of Inventory file should have Private IP address of ansible-client-1 machine



Verify inventory file



The screenshot shows the MobaXterm application interface. At the top, there's a menu bar with options like Terminal, Sessions, View, X server, Tools, Games, Settings, Macros, Help, and a toolbar with icons for Session, Servers, Tools, Games, Sessions, View, Split, MultiExec, Tunneling, Packages, Settings, and Help.

The main area displays three terminal tabs:

- Tab 1: 15.206.147.9 (ubuntu) - Shows the user navigating to a directory and creating an inventory file.
- Tab 2: 2. 15.206.147.9 (ubuntu) - Shows the user listing files in the directory.
- Tab 3: 4. 52.66.242.15 (ubuntu) - Shows the user listing files in the directory.

The left sidebar contains a file browser with a tree view of the user's home directory (`/home/ubuntu/`). The tree view is collapsed under the "Name" heading, showing sub-directories like `archive`, `.ssh`, `.local`, `.cache`, and files like `bigfile6.txt`, `bigfile1.txt`, `archive-script.sh`, etc.

At the bottom, there's a status bar with the text "UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: <https://mobaxterm.mobatek.net>". The status bar also includes weather information (29°C, Sunny), a search bar, and system icons for battery, signal, and date/time (14:16, 25-02-2025).

Terminal Output (Tab 1):

```
root@ansible-controller:~# mkdir example1
root@ansible-controller:~# touch example1/inventory
root@ansible-controller:~# ls
example1  snap
root@ansible-controller:~# cd example1/
root@ansible-controller:~/example1# ls
inventory
root@ansible-controller:~/example1# cd
root@ansible-controller:~# vi example1/inventory
root@ansible-controller:~# vi example1/inventory
root@ansible-controller:~# cat example1/inventory
[example1]
172.31.7.99
root@ansible-controller:~#
```



Step 12.2: On the Ansible controller machine, create a directory and an inventory file for the ansible-client-2 machine by following the commands shown in the image.

The screenshot shows a MobaXterm interface with three terminal sessions open:

- Session 1: 15.206.147.9 (ubuntu) - Root shell. The user has created a directory 'example1' and an inventory file 'example1/inventory'. The IP address '172.31.7.99' is listed in the inventory.
- Session 2: 2.15.206.147.9 (ubuntu) - This session is currently active, showing the file explorer sidebar and a list of files in the current directory.
- Session 3: 4.52.66.242.15 (ubuntu) - Another root shell session, likely for testing.

A yellow box highlights the command sequence in Session 1 that creates 'example2' and its inventory file.

```
root@ansible-controller:~# mkdir example2
root@ansible-controller:~# touch example2/inventory
root@ansible-controller:~# vi example2/inventory
```

At the bottom of the interface, there is a status bar with the vtricks Technologies logo.



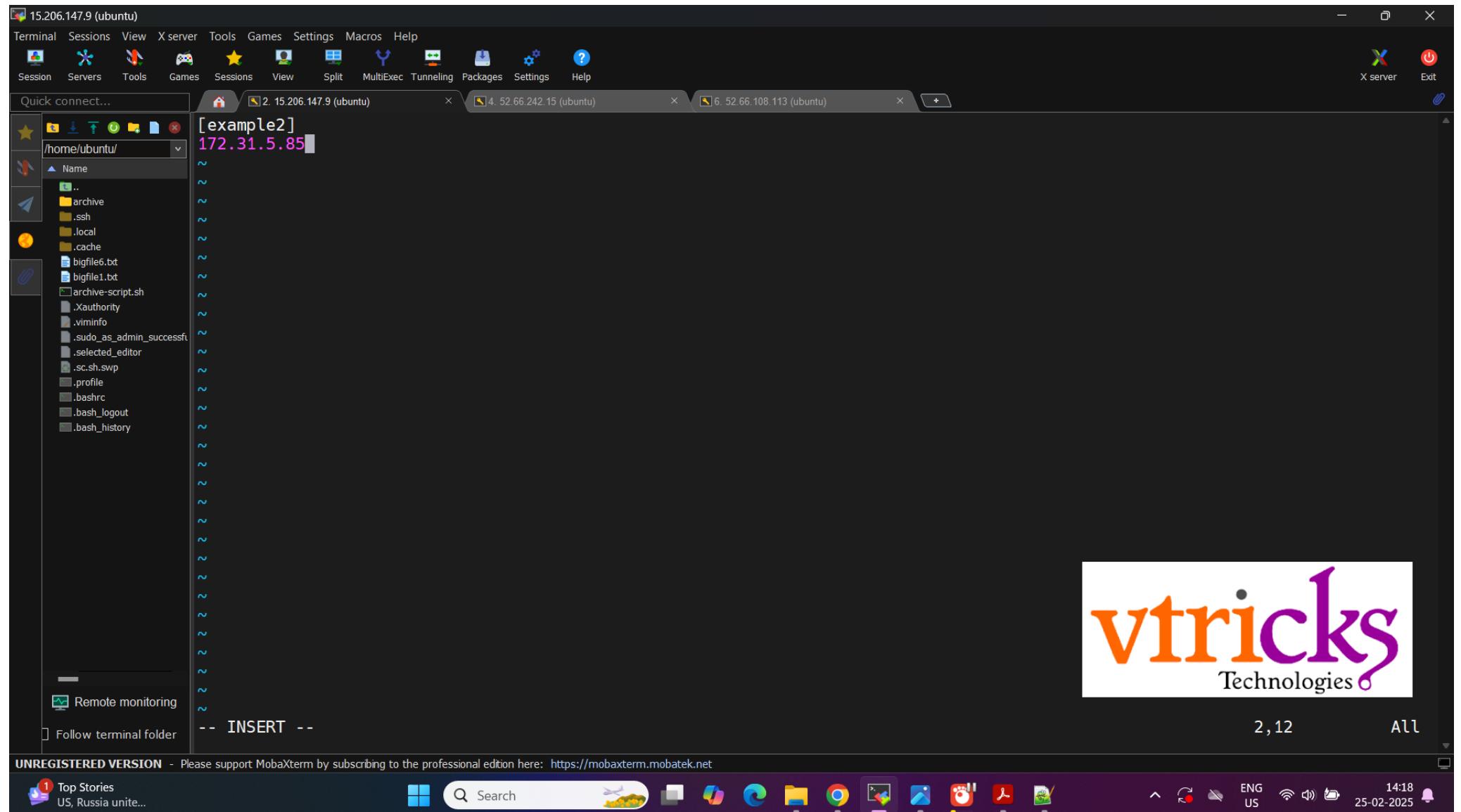
UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: <https://mobaxterm.mobatek.net>

Top Stories
US, Russia unite...



14:17
ENG US
25-02-2025

Content of Inventory file should have Private IP address of ansible-client-2 machine



Verify inventory file

The screenshot shows the MobaXterm interface with three terminal sessions open:

- Session 1: 15.206.147.9 (ubuntu) - Root user executing commands to create a directory and touch an inventory file, then listing its contents.
- Session 2: 2. 15.206.147.9 (ubuntu) - Root user creating a directory and touching an inventory file.
- Session 3: 4. 52.66.242.15 (ubuntu) - Root user creating a directory and touching an inventory file.

A yellow box highlights the command and output from Session 2, which creates a directory named 'example2' and contains the IP address '172.31.5.85' in its inventory file.

File Explorer sidebar:

- /home/ubuntu/
- Name
- ..
- archive
- .ssh
- .local
- .cache
- bigfile6.txt
- bigfile1.txt
- archive-script.sh
- Xauthority
- .viminfo
- .sudo_as_admin_successful
- .selected_editor
- .sc.sh.swp
- .profile
- .bashrc
- .bash_logout
- .bash_history

Bottom status bar:

- UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: <https://mobaxterm.mobatek.net>
- Top Stories US, Russia unite...
- Search bar
- Icons for File Explorer, Edge, Chrome, and other applications
- Network and system status icons (Wi-Fi, battery, volume)
- Language: ENG US
- Date and time: 25-02-2025 14:18



Step 13: Run the command as in following image to ping all hosts listed in your inventory files, it should result in success.

The screenshot shows a MobaXterm interface with three terminal sessions open:

- Session 1: 15.206.147.9 (ubuntu) - Shows the output of running Ansible commands on the controller host.
- Session 2: 2.15.206.147.9 (ubuntu) - Shows the contents of the example1/inventory file.
- Session 3: 4.52.66.242.15 (ubuntu) - Shows the contents of the example2/inventory file.

The terminal session on the controller host (Session 1) displays the following command and its output:

```
root@ansible-controller:~# ansible all -i example1/inventory -i example2/inventory -m ping
[WARNING]: Platform linux on host 172.31.5.85 is using the discovered Python interpreter at /usr/bin/python3.12, 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.

172.31.5.85 | SUCCESS => {
    "ansible_facts": {
        "discovered_interpreter_python": "/usr/bin/python3.12"
    },
    "changed": false,
    "ping": "pong"
}

[WARNING]: Platform linux on host 172.31.7.99 is using the discovered Python interpreter at /usr/bin/python3.12, 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.

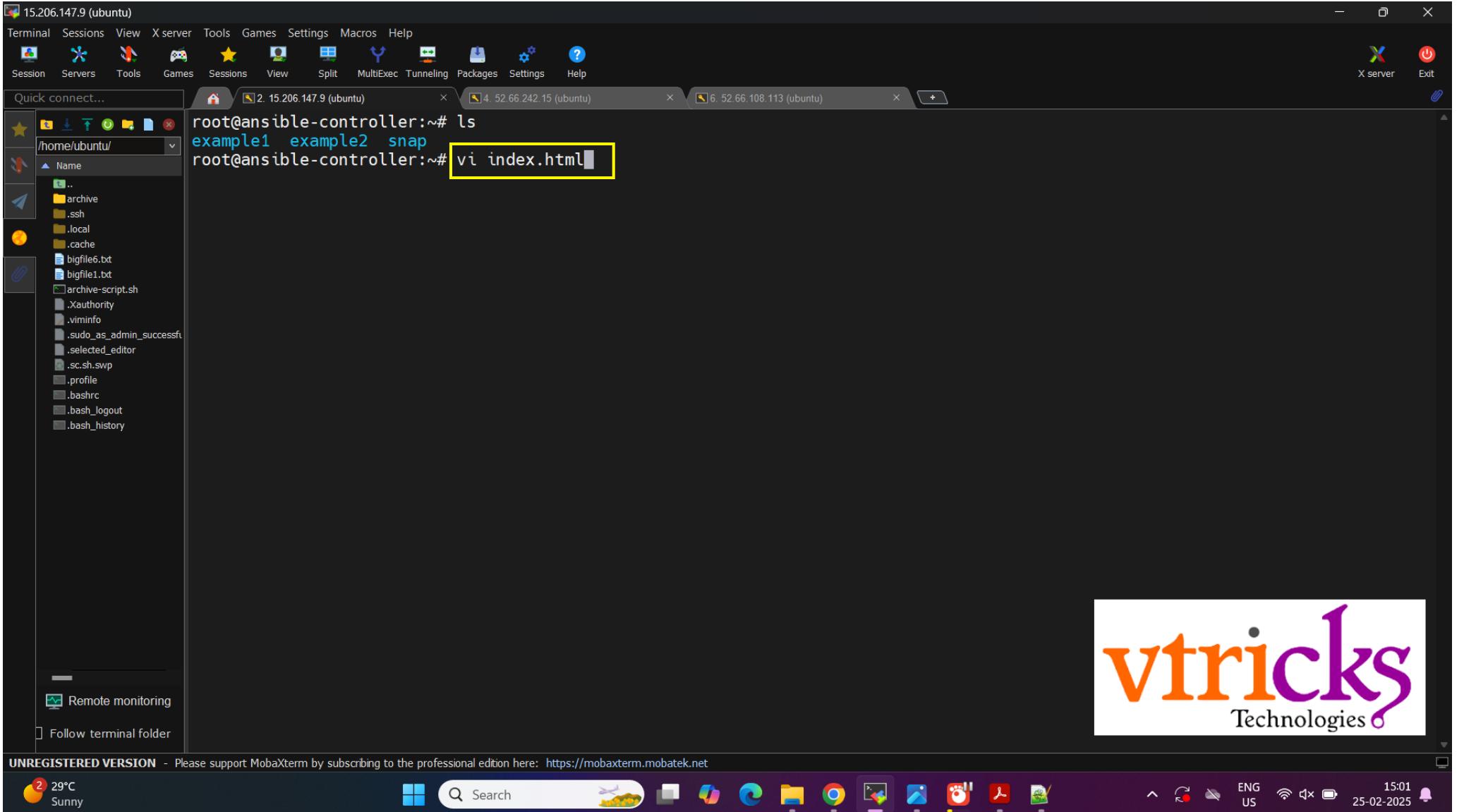
172.31.7.99 | SUCCESS => {
    "ansible_facts": {
        "discovered_interpreter_python": "/usr/bin/python3.12"
    },
    "changed": false,
    "ping": "pong"
}

root@ansible-controller:~#
```

The terminal window also includes a file browser sidebar on the left and a taskbar at the bottom with various icons and system status indicators.



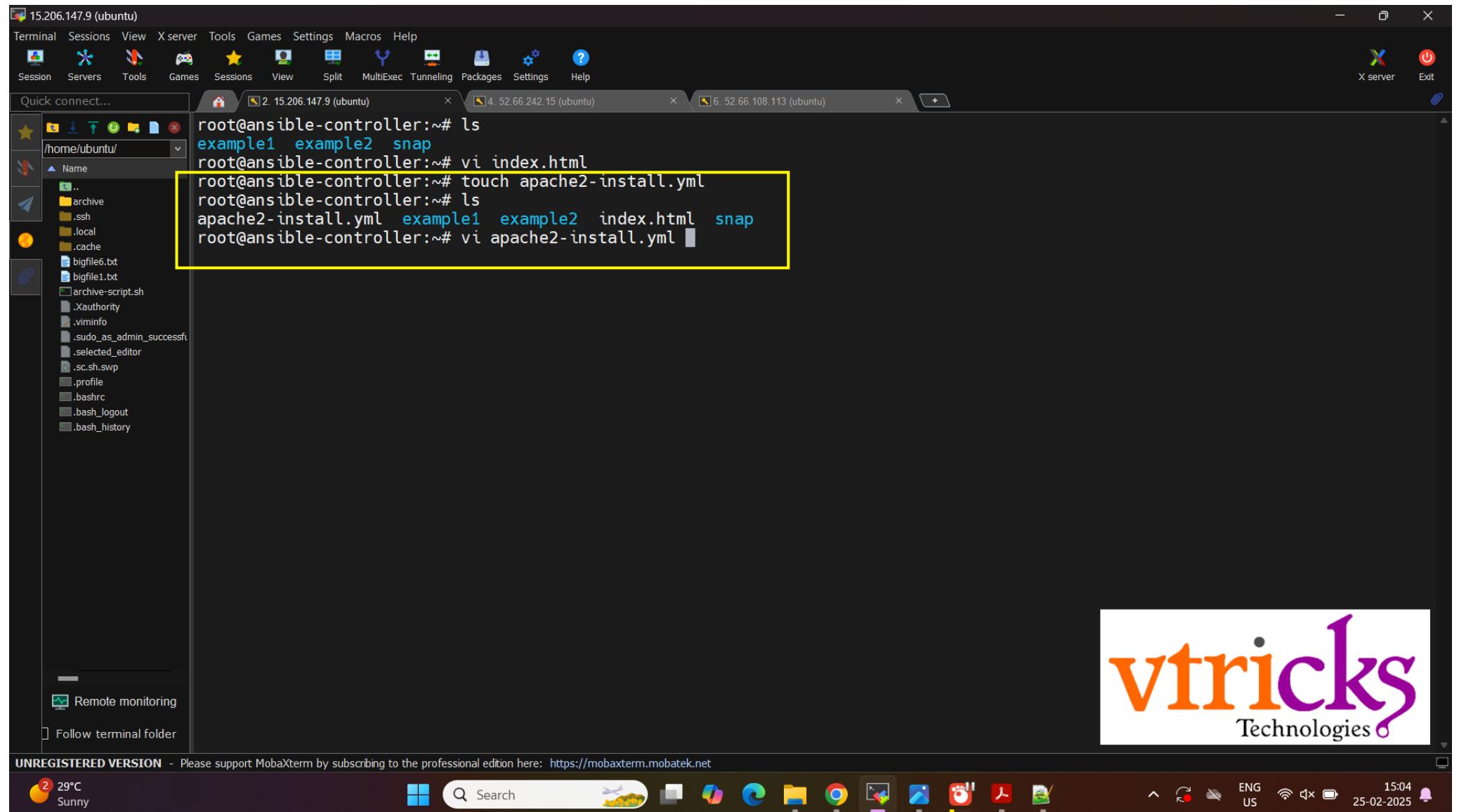
Step 14: Write a simple index.html file to deploy on client machines.



The screenshot shows the MobaXterm application interface. At the top, there are tabs for sessions: 1. 15.206.147.9 (ubuntu), 2. 15.206.147.9 (ubuntu), 4. 52.66.242.15 (ubuntu), and 6. 52.66.108.113 (ubuntu). The session 2 tab is active. The terminal window displays a root shell on the controller machine. The command `root@ansible-controller:~# vi index.html` is entered and highlighted with a yellow box. To the left of the terminal is a file explorer sidebar showing the contents of the `/home/ubuntu/` directory. The desktop taskbar at the bottom includes icons for the Start button, Search, File Explorer, Edge browser, Google Chrome, FileZilla, File Manager, Task View, Taskbar settings, and a system tray with weather, network, battery, and system status icons.



Step 14: Create an ansible playbook “apache2-install.yml” to install apache2 and copy index.html file on both client machines.



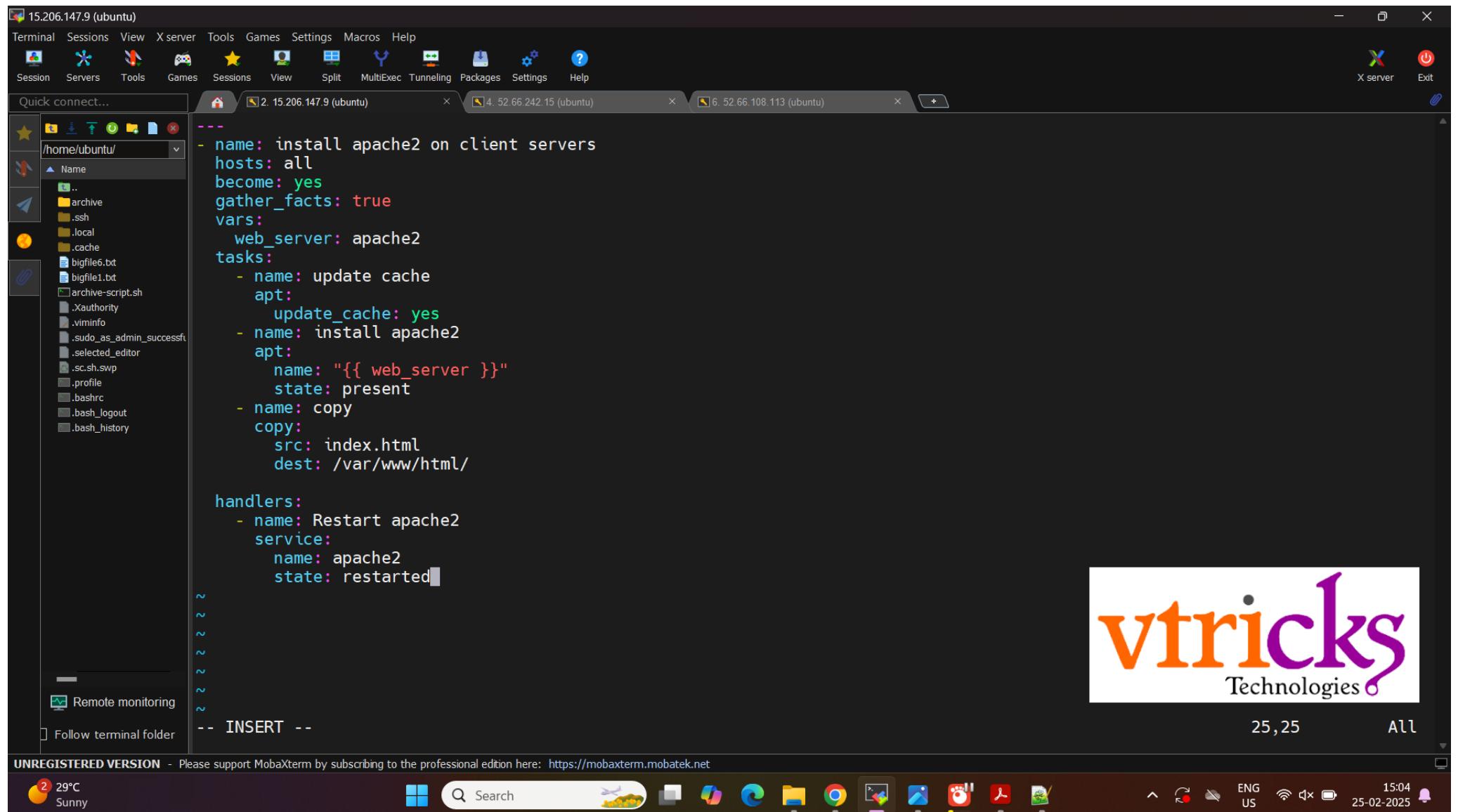
The screenshot shows the MobaXterm application interface. At the top, there are tabs for sessions: "15.206.147.9 (ubuntu)", "2. 15.206.147.9 (ubuntu)", "4. 52.66.242.15 (ubuntu)", and "6. 52.66.108.113 (ubuntu)". The main area is a terminal window where the following commands are being run:

```
root@ansible-controller:~# ls
example1 example2 snap
root@ansible-controller:~# vi index.html
root@ansible-controller:~# touch apache2-install.yml
root@ansible-controller:~# ls
apache2-install.yml example1 example2 index.html snap
root@ansible-controller:~# vi apache2-install.yml
```

The terminal window has a yellow box highlighting the command "vi apache2-install.yml". On the left side, there is a file explorer showing the directory structure at "/home/ubuntu/". The bottom of the screen shows a taskbar with various icons and system status information, including a weather icon for "29°C Sunny", a search bar, and a system tray with icons for network, battery, and date/time (25-02-2025, 15:04).



The Ansible playbook is shown in the following image.



A screenshot of the MobaXterm application interface. The main window displays an Ansible playbook in a terminal session titled "15.206.147.9 (ubuntu)". The playbook content is as follows:

```
---
- name: install apache2 on client servers
  hosts: all
  become: yes
  gather_facts: true
  vars:
    web_server: apache2
  tasks:
    - name: update cache
      apt:
        update_cache: yes
    - name: install apache2
      apt:
        name: "{{ web_server }}"
        state: present
    - name: copy
      copy:
        src: index.html
        dest: /var/www/html/
  handlers:
    - name: Restart apache2
      service:
        name: apache2
        state: restarted
```

The terminal window also shows a sidebar with file navigation and a status bar at the bottom indicating an unregistered version and system information like weather and date.



25,25 All

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



15:04

25-02-2025

ENG US

15.206.147.9 (ubuntu)

Terminal Sessions View X server Tools Games Settings Macros Help

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

X server Exit

Quick connect...

example1 example2 snap

```
root@ansible-controller:~# vi index.html
root@ansible-controller:~# touch apache2-install.yml
root@ansible-controller:~# ls
apache2-install.yml  example1  example2  index.html  snap
root@ansible-controller:~# vi apache2-install.yml
root@ansible-controller:~# cat apache2-install.yml
---
- name: install apache2 on client servers
  hosts: all
  become: yes
  gather_facts: true
  vars:
    web_server: apache2
  tasks:
    - name: update cache
      apt:
        update_cache: yes
    - name: install apache2
      apt:
        name: "{{ web_server }}"
        state: present
    - name: copy
      copy:
        src: index.html
        dest: /var/www/html/
  handlers:
    - name: Restart apache2
      service:
        name: apache2
        state: restarted
root@ansible-controller:~#
```

vtricks Technologies

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

29°C Sunny

Search

15:05 25-02-2025 ENG US

Step 15: Verify the syntax of the Ansible playbook and perform a dry run of the playbook.

The screenshot shows the MobaXterm interface. On the left, there's a file explorer window titled 'home/ubuntu' showing various files and folders. In the center, there are three terminal tabs:

- Tab 1: '2. 15.206.147.9 (ubuntu)' - Shows the command 'ls' outputting several files including 'apache2-install.yml', 'example1', 'example2', 'index.html', and 'snap'.
- Tab 2: '4. 52.66.242.15 (ubuntu)' - Shows the command 'ansible-playbook -i example1/inventory -i example2/inventory apache2-install.yml --syntax-check'.
- Tab 3: '6. 52.66.108.113 (ubuntu)' - This tab is partially visible.

The command in Tab 2 is highlighted with a yellow box. Below it, another command 'ansible-playbook -i example1/inventory -i example2/inventory apache2-install.yml -check' is also highlighted with a yellow box. The bottom status bar shows system information like weather (29°C, Sunny), date (25-02-2025), and time (15:09).



15.206.147.9 (ubuntu)

Terminal Sessions View X server Tools Games Settings Macros Help

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

X server Exit

Quick connect... 2. 15.206.147.9 (ubuntu) 4. 52.66.242.15 (ubuntu) 6. 52.66.108.113 (ubuntu)

--check

```
PLAY [install apache2 on client servers] *****
TASK [Gathering Facts] *****
[WARNING]: Platform linux on host 172.31.5.85 is using the discovered Python interpreter at /usr/bin/python3.12, 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: [172.31.5.85]
[WARNING]: Platform linux on host 172.31.7.99 is using the discovered Python interpreter at /usr/bin/python3.12, 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: [172.31.7.99]

TASK [update cache] *****
changed: [172.31.5.85]
changed: [172.31.7.99]

TASK [install apache2] *****
changed: [172.31.5.85]
changed: [172.31.7.99]

TASK [copy] *****
changed: [172.31.5.85]
changed: [172.31.7.99]
```

Dry-run successful

PLAY RECAP *****
172.31.5.85 : ok=4 changed=3 unreachable=0 failed=0 skipped=0 rescued=0 ig
nored=0
172.31.7.99 : ok=4 changed=3 unreachable=0 failed=0 skipped=0 rescued=0 ig

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

29°C Sunny

Search

vtricks Technologies

15:10 25-02-2025

Step 16: Run the command as in following image to carryout actual execution of the ansible-playbook.

The screenshot shows the MobaXterm interface with three tabs open:

- Tab 1: 15.206.147.9 (ubuntu)
- Tab 2: 2. 15.206.147.9 (ubuntu)
- Tab 3: 4. 52.66.242.15 (ubuntu)

The terminal window displays the output of an Ansible playbook run:

```
changed: [ 172.31.7.99]
TASK [install apache2] *****
changed: [ 172.31.5.85]
changed: [ 172.31.7.99]

TASK [copy] *****
changed: [ 172.31.5.85]
changed: [ 172.31.7.99]

PLAY RECAP *****
172.31.5.85      : ok=4    changed=3    unreachable=0    failed=0    skipped=0    rescued=0    ig
nored=0
172.31.7.99      : ok=4    changed=3    unreachable=0    failed=0    skipped=0    rescued=0    ig
nored=0

root@ansible-controller:~# ansible-playbook -i example1/inventory -i example2/inventory apache2-install.yml
PLAY [install apache2 on client servers] *****

TASK [Gathering Facts] *****
[WARNING]: Platform linux on host 172.31.5.85 is using the discovered Python interpreter at /usr/bin/python3.12, 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: [ 172.31.5.85]
[WARNING]: Platform linux on host 172.31.7.99 is using the discovered Python interpreter at /usr/bin/python3.12, 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: [ 172.31.7.99]

TASK [update cache] *****
```

A yellow box highlights the command `ansible-playbook -i example1/inventory -i example2/inventory apache2-install.yml`. The bottom right corner of the terminal window features the vtricks Technologies logo.

At the bottom of the screen, there is a taskbar with various icons, including a weather widget showing 29°C and sunny, a search bar, and system status indicators like battery level and network.

15.206.147.9 (ubuntu)

Terminal Sessions View X server Tools Games Settings Macros Help

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

X server Exit

Quick connect... 2. 15.206.147.9 (ubuntu) 4. 52.66.242.15 (ubuntu) 6. 52.66.108.113 (ubuntu)

```
root@ansible-controller:~# ansible-playbook -i example1/inventory -i example2/inventory apache2-install.yml
PLAY [install apache2 on client servers] ****
TASK [Gathering Facts] ****
[WARNING]: Platform linux on host 172.31.5.85 is using the discovered Python interpreter at /usr/bin/python3.12, 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: [172.31.5.85]
[WARNING]: Platform linux on host 172.31.7.99 is using the discovered Python interpreter at /usr/bin/python3.12, 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: [172.31.7.99]

TASK [update cache] ****
changed: [172.31.5.85]
changed: [172.31.7.99]

TASK [install apache2] ****
changed: [172.31.5.85]
changed: [172.31.7.99]

TASK [copy] ****
changed: [172.31.5.85]
changed: [172.31.7.99]

PLAY RECAP ****
172.31.5.85 : ok=4    changed=3    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
172.31.7.99 : ok=4    changed=3    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
```

Playbook run successful

vtricks Technologies

Remote monitoring

low terminal fold

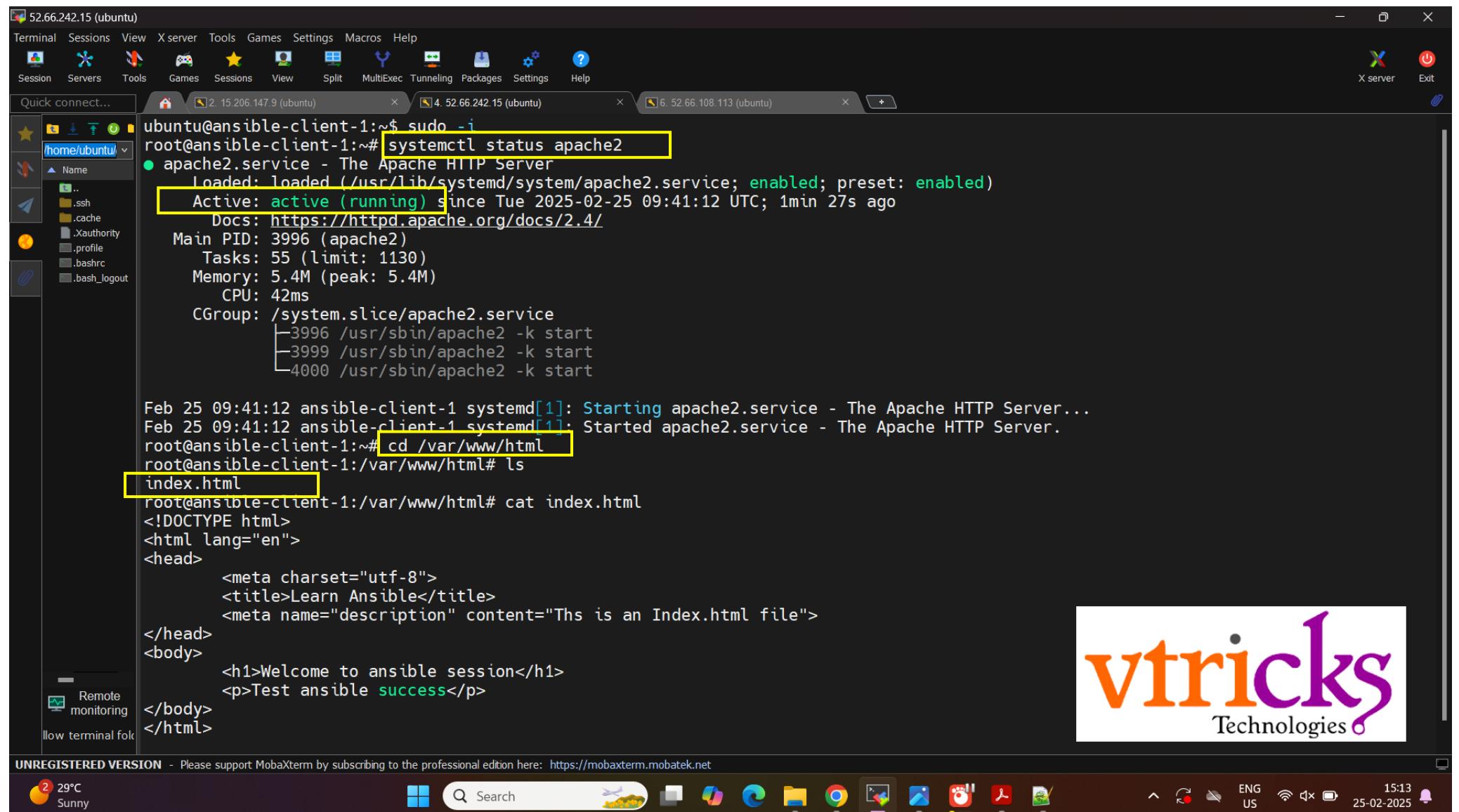
UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: <https://mobaxterm.mobatek.net>

29°C Sunny

Search

15:11 25-02-2025

Step 17: Access the ansible-client-1 machine to check the installation of apache2 and confirm that index.html has been copied to the location defined in the Ansible playbook.



The screenshot shows the MobaXterm interface with several windows open:

- Terminal window 1: Shows the command `sudo -i` followed by `systemctl status apache2`. The output indicates the Apache service is active and running.
- Terminal window 2: Shows the command `cd /var/www/html` followed by `ls`, which lists the file `index.html`.
- Terminal window 3: Shows the command `cat index.html`, displaying the contents of the `index.html` file.
- Session window 1: Shows the IP address 2.15.206.147.9 (ubuntu).
- Session window 2: Shows the IP address 4.52.66.108.113 (ubuntu).

System tray icons include weather (29°C, sunny), search, file manager, browser, and system notifications.

```
ubuntu@ansible-client-1:~$ sudo -i
root@ansible-client-1:~# systemctl status apache2
● apache2.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/apache2.service; enabled; preset: enabled)
   Active: active (running) since Tue 2025-02-25 09:41:12 UTC; 1min 27s ago
     Docs: https://httpd.apache.org/docs/2.4/
   Main PID: 3996 (apache2)
      Tasks: 55 (limit: 1130)
     Memory: 5.4M (peak: 5.4M)
        CPU: 42ms
      CGroup: /system.slice/apache2.service
              ├─3996 /usr/sbin/apache2 -k start
              ├─3999 /usr/sbin/apache2 -k start
              └─4000 /usr/sbin/apache2 -k start

Feb 25 09:41:12 ansible-client-1 systemd[1]: Starting apache2.service - The Apache HTTP Server...
Feb 25 09:41:12 ansible-client-1 systemd[1]: Started apache2.service - The Apache HTTP Server.
root@ansible-client-1:~# cd /var/www/html
root@ansible-client-1:/var/www/html# ls
index.html
root@ansible-client-1:/var/www/html# cat index.html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="utf-8">
    <title>Learn Ansible</title>
    <meta name="description" content="This is an Index.html file">
</head>
<body>
    <h1>Welcome to ansible session</h1>
    <p>Test ansible success</p>
</body>
</html>
```



Step 18: Access the ansible-client-2 machine to check the installation of apache2 and confirm that index.html has been copied to the location defined in the Ansible playbook.

The screenshot shows a MobaXterm interface with three tabs open:

- Tab 1: 2. 15 206 147.9 (ubuntu) - Shows the command: `root@ansible-client-2:~# systemctl status apache2`. The output indicates that the `apache2.service` is active (running) since Tue 2025-02-25 09:41:11 UTC, 3min 24s ago. It lists the main PID as 4052, tasks as 55, memory usage as 5.3M, and CPU usage as 40ms. It also shows the CGroup path and the three processes started by apache2.
- Tab 2: 4. 52 66 242.15 (ubuntu) - Shows the command: `root@ansible-client-2:~# cat /var/www/html/index.html`. The output displays the contents of the index.html file, which includes a meta charset of utf-8, a title of Learn Ansible, a description of "Ths is an Index.html file", and two paragraphs: "Welcome to ansible session" and "Test ansible success".
- Tab 3: 6. 52.66.108.113 (ubuntu) - This tab is currently selected and shows the command prompt: `root@ansible-client-2:~#`.

The left sidebar of MobaXterm includes icons for Session, Servers, Tools, Games, Sessions, View, Split, MultiExec, Tunneling, Packages, Settings, and Help. A "Quick connect..." search bar is at the top. The bottom status bar includes information about the session (29°C, Sunny), system status (ENG US), and date/time (25-02-2025).