How to Reset the Password in Ubuntu?

written by sysadmin | 1 October 2025

I want to access the user on the Ubuntu server that has the privilege of root using the sudo command, but I forgot my user password.

Problem

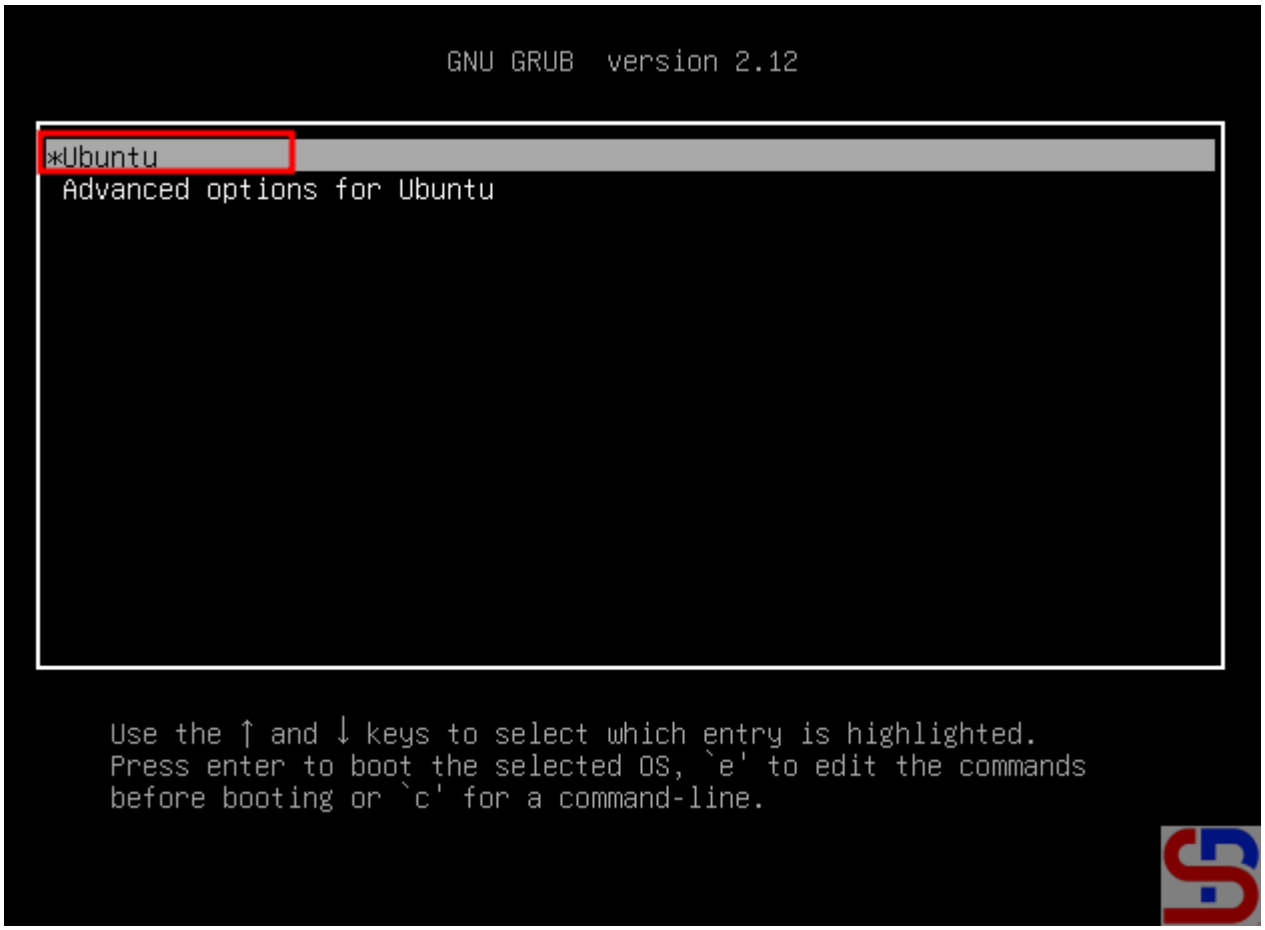
How to reset the password in Ubuntu?

Solution

Here are the steps to reset the password in Ubuntu:

1. Reboot the server

Reboot the server and press the **Esc** key or Shift key, and there should be a display like below:



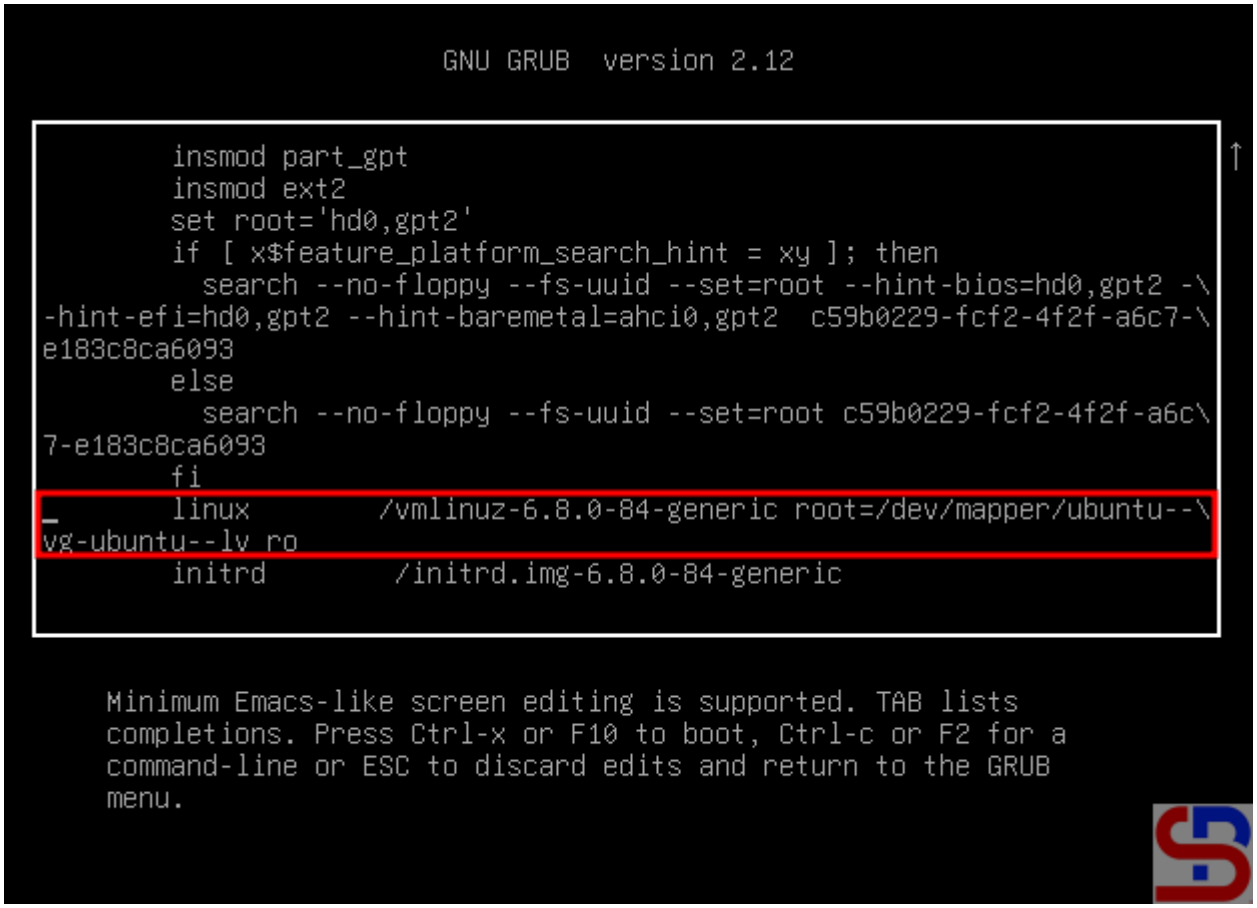
Choose the Ubuntu

2. Click the first option

To enter recovery mode, select the top part of the image above and push the **e** button, so that there will be a display like the image below:

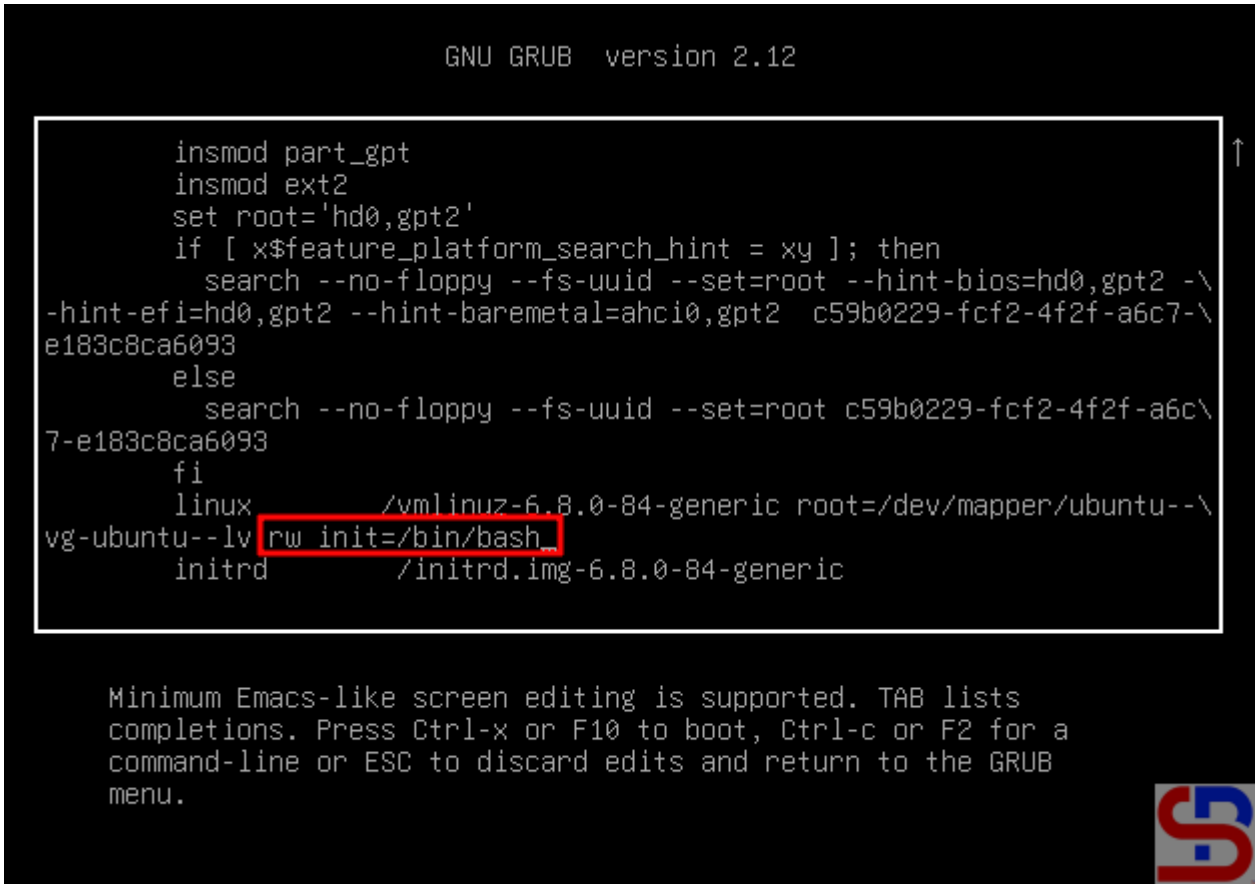
The GRUB options

Find the line starting with **linux**, similar to the picture below:



Find the line starting with linux

Remove everything from **ro** and append **rw init=/bin/bash** to the end of this line, like the picture below:



Change the script

After you change the script, press **F10** or **Ctrl+x** to boot these parameters.

3. Run the commands

In the recovery mode, run the command below:

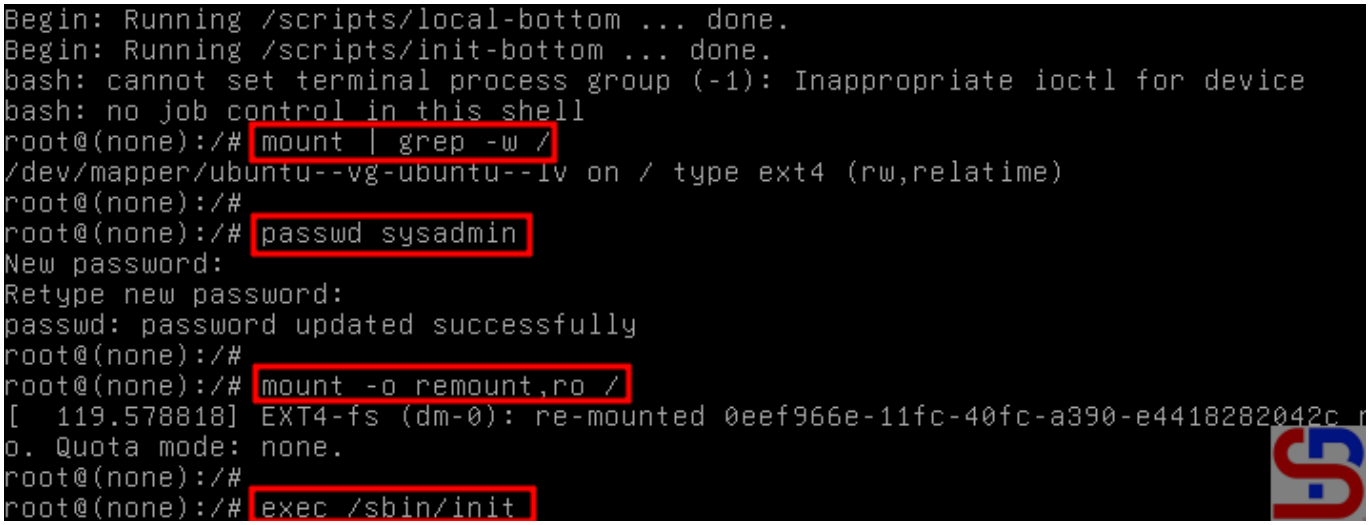
```
mount | grep -w /
```

After that, execute the command below to change the password:

```
passwd
```

After you change the password, run the commands below:

```
mount -o remount,ro /
exec /sbin/init
```



Run the commands

The Linux server will reboot, and after that, try to log in with the new password that you set before.

Note

By default, you cannot log in directly as root on Ubuntu, so you can’t change your password to root because to be root on Ubuntu, you only need to use your sudo command and enter your user password.

References

tecmint.com
askubuntu.com
infotechys.com

How to Disable a Welcome Message in Ubuntu?

written by sysadmin | 1 October 2025

By default, when you connect to an Ubuntu server using SSH, Ubuntu will display a welcome message. But sometimes, the

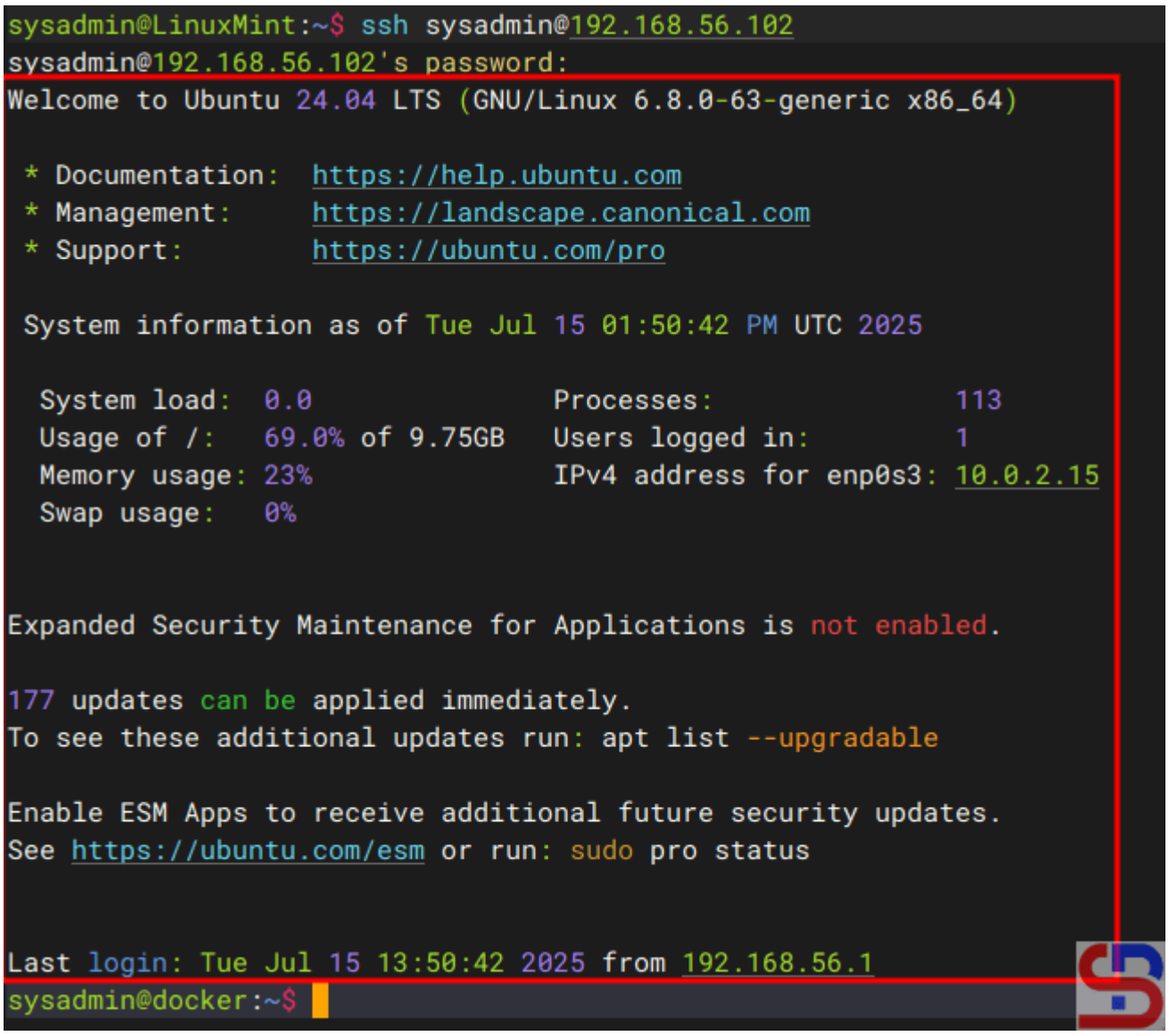
welcome message is not needed or even annoying, so you want to disable the welcome message.

Problem

How to disable a welcome message in Ubuntu?

Solution

Usually, the welcome message looks like Ubuntu displays information about the Ubuntu server, as shown in the image below:



The welcome message in Ubuntu

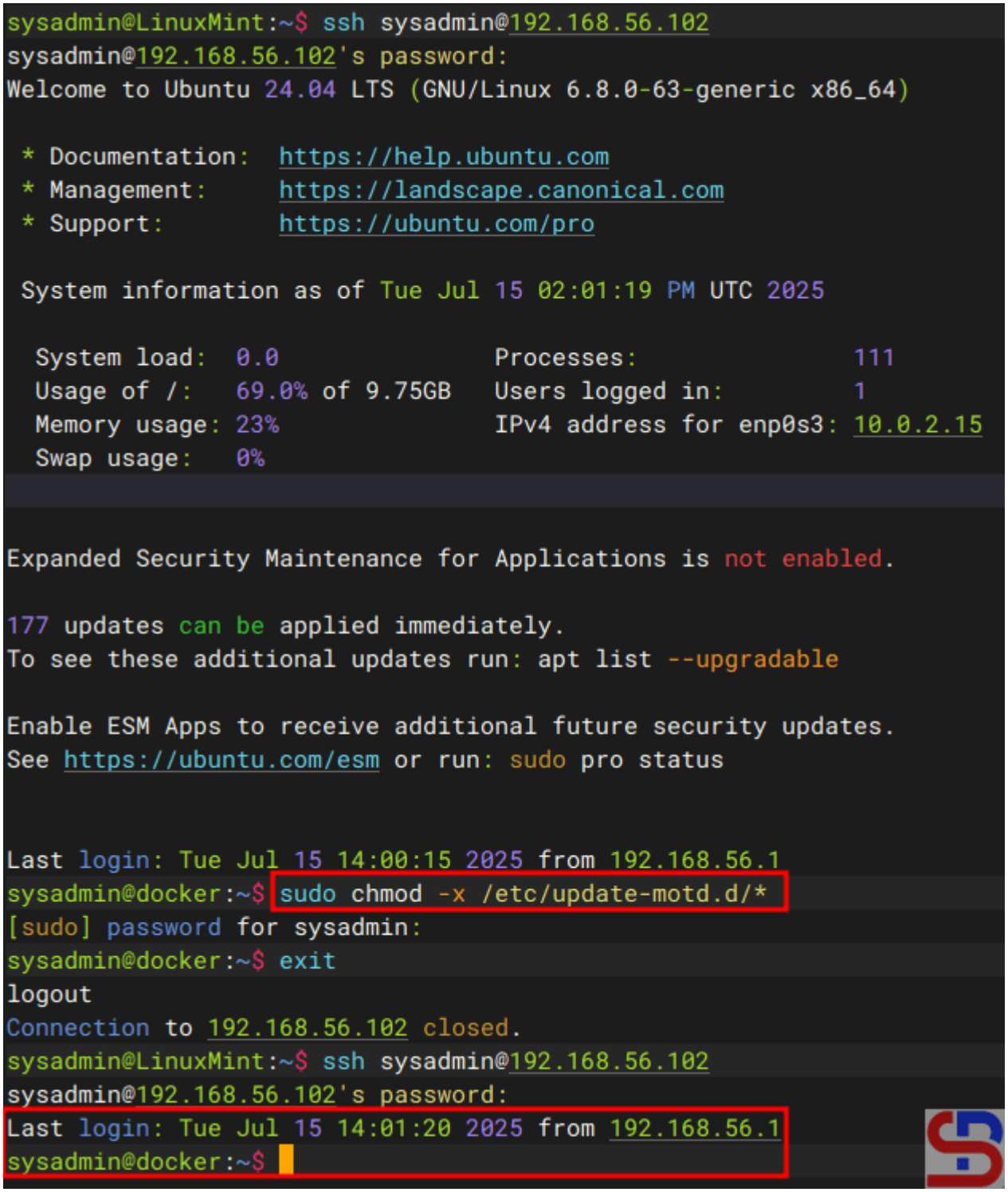
There are 2 methods to disable the welcome message:

1. Remove the execute

You have to know that the welcome messages are generated by the files residing in **/etc/update-motd.d/.** So, use the command below to disable the welcome message in Ubuntu:

```
sudo chmod -x /etc/update-motd.d/*
```

After you run the above command, every time you access the Ubuntu server, the Ubuntu server does not display a welcome message anymore, but only displays the last login on this server as shown in the image below:



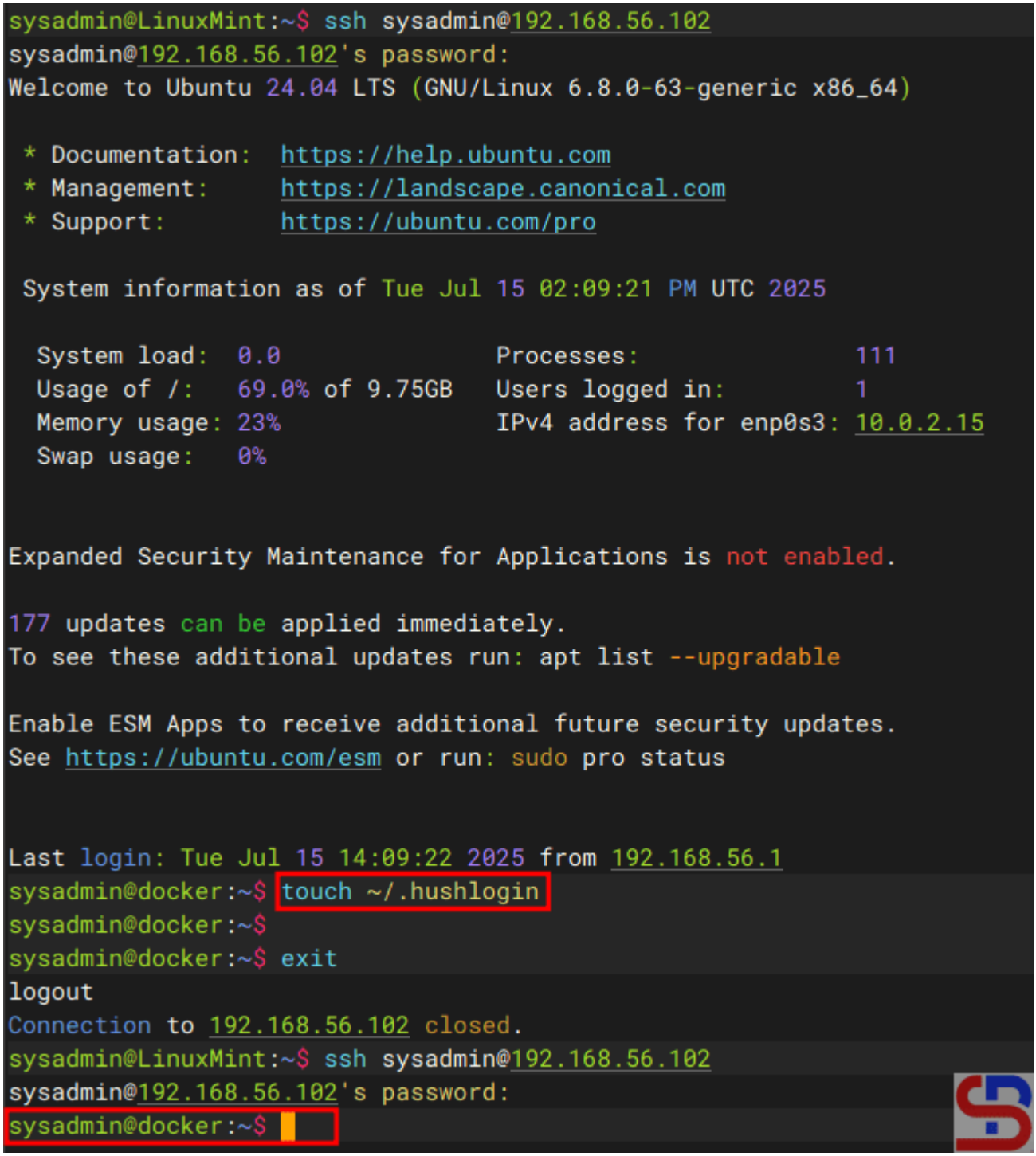
Disable the welcome message by removing the execute

2. Create a file

The second method is to create an empty file known as **.hushlogin** in your $HOME directory by using the command below:

```
touch ~/.hushlogin
```

It should be after you do the above command, every time you access the server, the Ubuntu server does not display a welcome message or last login at all, as shown in the image below:



Disable the welcome message by creating a file

Note

If you want to return the default welcome message after you

run one of the 2 methods above, then use the command below if you are using the first method:

```
sudo chmod +x /etc/update-motd.d/*
```

And use the command below if you are using the second method:

```
rm ~/.hushlogin
```

The default welcome message in Ubuntu should appear every time you access the Ubuntu server.

References

askubuntu.com
cyberciti.biz

How to Configure UFW to be Port Forwarding?

written by sysadmin | 1 October 2025

The previous article explained how to configure the firewalld to become a port forwarding. This article will explain how to configure ufw applications in Ubuntu to become a port forwarding.

Problem

How to configure ufw to be port forwarding?

Solution

There are 2 methods of port forwarding: forward the connection of a port to one IP/device and forward the connection of a port to a different IP/device.

A. Forward to the same IP/device

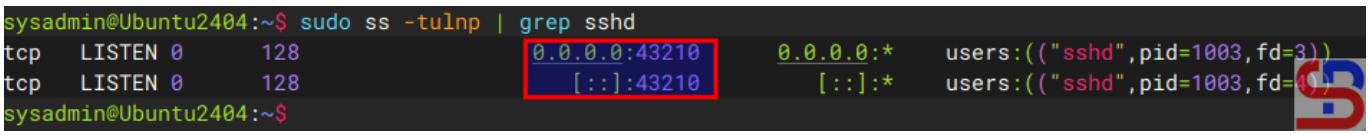
Suppose you have an Ubuntu server with IP address 192.168.56.102 and want to close port 22 but open port 43210 if someone wants to access the server via SSH. Change the SSH port like in this article, and you have to enable ufw in the server using the command below:

```
sudo ufw enable
```

Answer the question by pushing the **y** button. Now type the below commands to open port 22 and port 43210:

```
 sudo ufw allow 43210/tcp
```

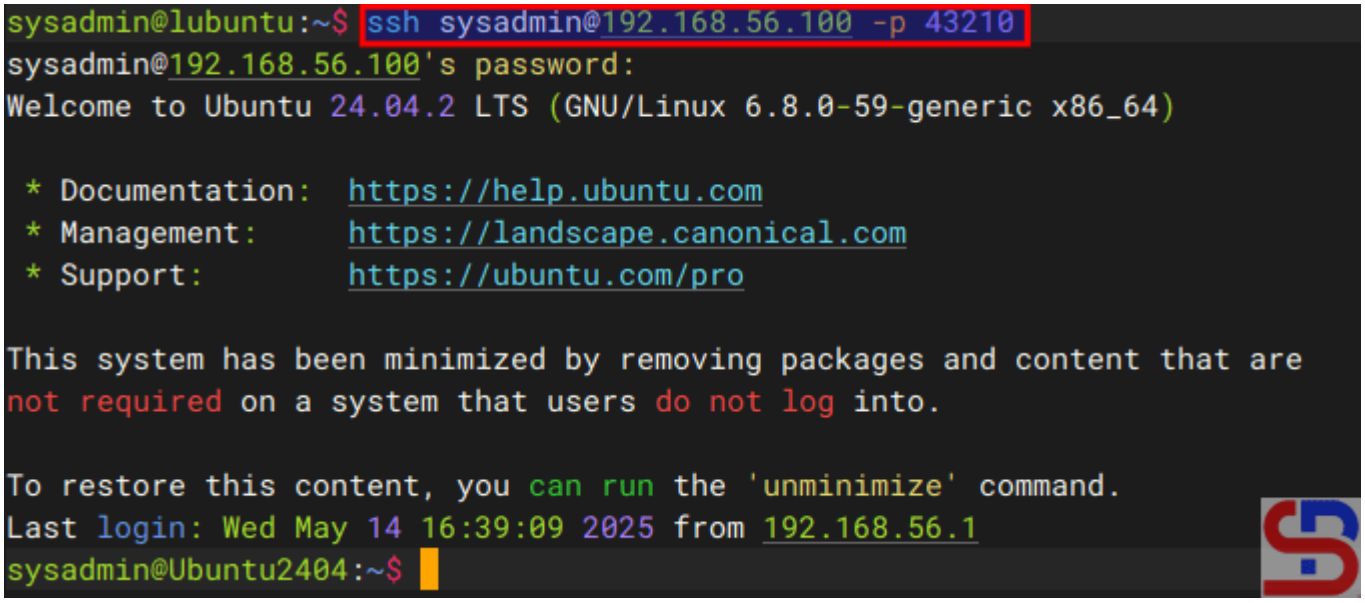
Check the SSH port using the below command and make sure the SSH port is pointed to the new port (port 43210) like in the below image:



Check the port

If the port is still connected to port 22, you can go to this article to change the SSH port. Now, try to access the server using the command below:

```
ssh sysadmin@192.168.56.102 -p 43210
```



Access to the server via SSH using the port

You should access the server like in the image above. Now, you want to implement the port forwarding in the ufw so the sysadmin doesn't need to write **-p 43210** anymore. So, you have to configure the **before.rules** file in the **/etc/ufw** folder. In short, before.rules typically contains rules that handle essential network traffic before ufw's User-Defined Rules are applied. I think you have to backup the file before you configure the file using the below command:

```
sudo cp /etc/ufw/before.rules /etc/ufw/before.rules.ori
sudo vi /etc/ufw/before.rules
```

After that, copy the script below to the file **before the *filter** section:

```
# Port forwarding from port 22 to port 43210
*nat
:PREROUTING ACCEPT [0:0]
-A PREROUTING -p tcp --dport 22 -j REDIRECT --to-port 43210
COMMIT
```

```
#
# rules.before
#
# Rules that should be run before the ufw command line added rules. Custom
# rules should be added to one of these chains:
#   ufw-before-input
#   ufw-before-output
#   ufw-before-forward
#

# Port forwarding from port 22 to port 43210
*nat
:PREROUTING ACCEPT [0:0]
-A PREROUTING -p tcp --dport 22 -j REDIRECT --to-port 43210
COMMIT

# Don't delete these required lines, otherwise there will be errors
*filter
:ufw-before-input - [0:0]
:ufw-before-output - [0:0]
:ufw-before-forward - [0:0]
:ufw-not-local - [0:0]
# End required lines
```

Configure the before.rules file

Restart ufw using the command below:

```
sudo ufw reload
```

Now, try to access using the command below:

```
ssh sysadmin@192.168.56.102
```

You should access to the server without writing the port anymore like in the image below:

```
sysadmin@lubuntu:~$ ssh sysadmin@192.168.56.102
sysadmin@192.168.56.102's password:
Welcome to Ubuntu 24.04.2 LTS (GNU/Linux 6.8.0-60-generic x86_64)

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

This system has been minimized by removing packages and content that are
not required on a system that users do not log into.

To restore this content, you can run the 'unminimize' command.
Last login: Sat May 17 08:10:38 2025 from 192.168.56.1
sysadmin@Ubuntu2404:~$
```

Access to the server without writing the port

B. Forward to the different IP/device

Suppose you have a Ubuntu server with IP address 192.168.56.102 and port 22 is available. You would like users who access the server using SSH to forward to port 22 with IP address 192.168.56.2 using RockyLinux. So, these are the steps:

1. Configure ufw

Check your Ubuntu server to see whether UFW is running on the server using the command below:

```
sudo ufw status
```

If it still doesn't run, use the command below to have ufw run on that server:

```
sudo ufw enable
```

Answer the question by pushing the **y** button. Then, open port 22 by using the command below:

```
sudo ufw allow 22/tcp
```

To run the forwarding port on UFW, you must configure the **before.rules** file in the **/etc/ufw** folder. In short, before.rules typically contains rules that handle essential network traffic before ufw's User-Defined Rules are applied. I think you have to backup the file before you configure the file using the below command:

```
sudo cp /etc/ufw/before.rules /etc/ufw/before.rules.ori
sudo vi /etc/ufw/before.rules
```

After that, copy the script below to the file **before the *filter** section:

```
*nat
:PREROUTING ACCEPT [0:0]
:POSTROUTING ACCEPT [0:0]

# Forward traffic from 192.168.56.102:22 → 192.168.56.2:22
-A PREROUTING -d 192.168.56.102 -p tcp --dport 22 -j DNAT --to-destination
192.168.56.2:22

# Masquerade outgoing traffic (adjust eth0 to your outgoing interface)
-A POSTROUTING -s 192.168.56.0/24 -o eth0 -j MASQUERADE

COMMIT
```

```
#
# rules.before
#
# Rules that should be run before the ufw command line added rules. Custom
# rules should be added to one of these chains:
#   ufw-before-input
#   ufw-before-output
#   ufw-before-forward
#

*nat
:PREROUTING ACCEPT [0:0]
:POSTROUTING ACCEPT [0:0]

# Forward traffic from 192.168.56.102:22 → 192.168.56.2:22
-A PREROUTING -d 192.168.56.102 -p tcp --dport 22 -j DNAT --to-destination 192.168.56.2:22

# Masquerade outgoing traffic (adjust eth0 to your outgoing interface)
#-A POSTROUTING -s 192.168.56.0/24 -o enp0s8 -j MASQUERADE
-A POSTROUTING -s 192.168.56.0/24 -j MASQUERADE
COMMIT

# Don't delete these required lines, otherwise there will be errors
*filter
:ufw-before-input - [0:0]
:ufw-before-output - [0:0]
:ufw-before-forward - [0:0]
:ufw-not-local - [0:0]
# End required lines
```

Configure the before.rules file

2. Enable IP Forwarding

Go to the **/etc/default/ufw** file and change the file from:

```
DEFAULT_FORWARD_POLICY="DROP"
```

to

```
DEFAULT_FORWARD_POLICY="ACCEPT"
```

After that, go to the **/etc/sysctl.conf** file and uncomment or add in the file:

```
net.ipv4.ip_forward=1
```

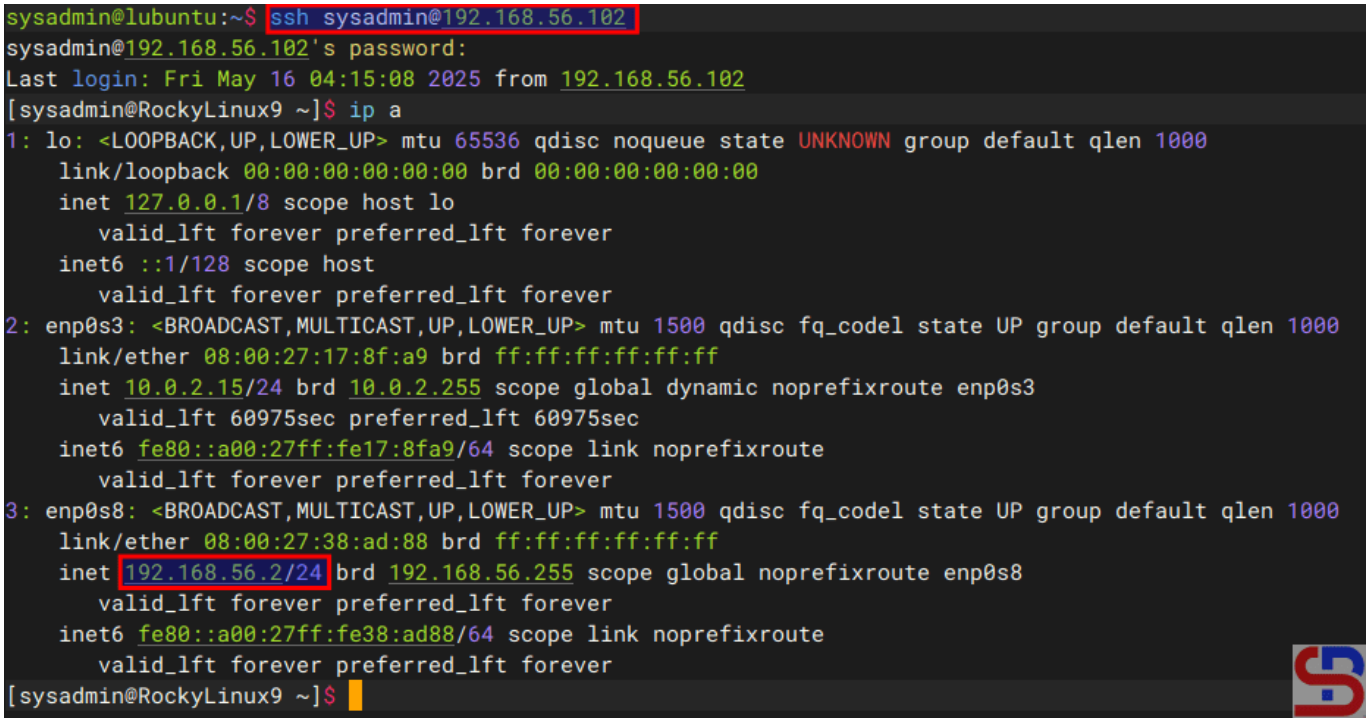
And run the below commands:

```
sudo sysctl -p
sudo ufw reload
```

3. Test the result

Now, try to access the Ubuntu server which has an IP 192.168.56.102 and you should be forwarded to the Rockylinux server that uses IP 192.168.56.2 like the below image:

```
ssh sysadmin@192.168.56.102
```



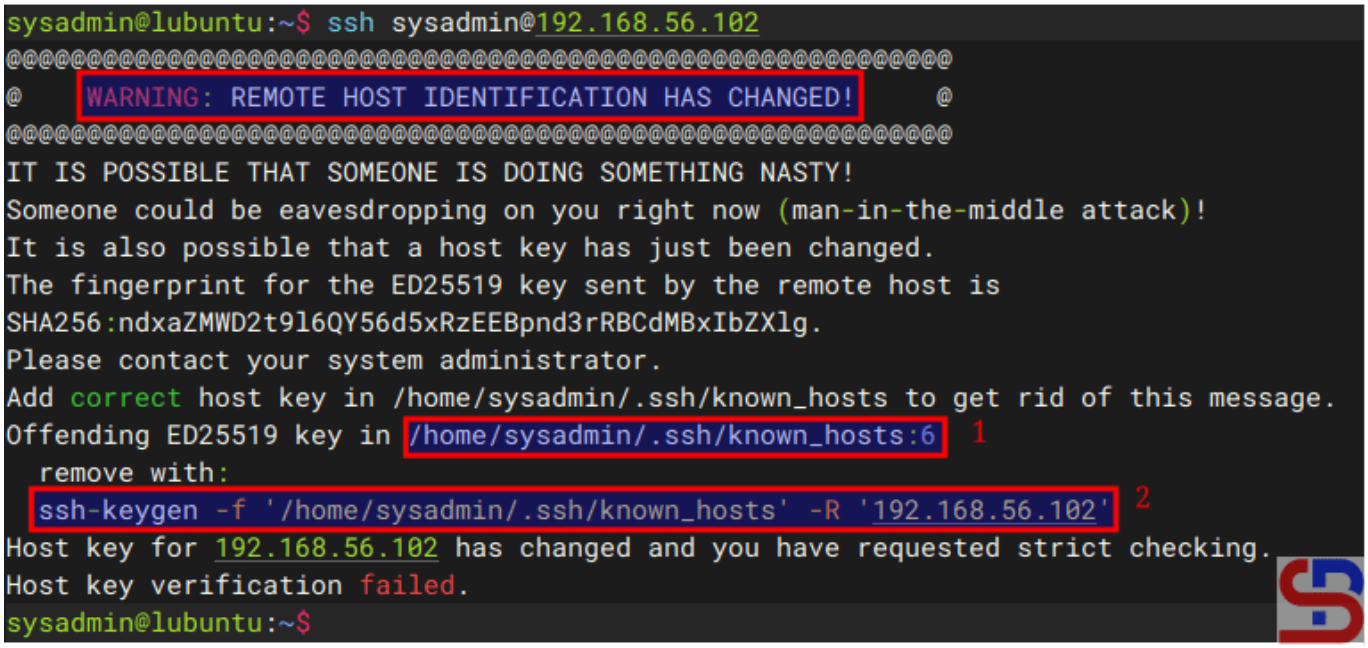
Test access

If you have a display like the image above, you have succeeded in making ufw as a forwarding port to a different IP/device.

Note

If you get an error like this:

```
WARNING: REMOTE HOST IDENTIFICATION HAS CHANGED!
```



Error when connecting the server via SSH

When you get this error, the system gives the clue to solve this error. Based on the picture above, you can go to the **/home/sysadmin/.ssh/known_hosts** file and **delete line 6** or you run the command below:

```
ssh-keygen -f '/home/sysadmin/.ssh/known_hosts' -R '192.168.56.102'
```

References

baeldung.com
gist.github.com
tecadmin.net
bobcares.com

How to Configure Virtual Hosts in Apache on Ubuntu?

written by sysadmin | 1 October 2025

Virtual hosts are a feature on a web server, such as Apache or Nginx, to run more than one site on a server. By using this feature, you can easily configure multiple domains on a

server and save on operational costs because you only need one server or a public IP. This article will explain how to configure virtual hosts in Apache on Ubuntu.

Problem

How to configure virtual hosts in Apache on Ubuntu?

Solution

Before starting the configuration, make sure that on the Ubuntu server, the Apache application is installed by using the command:

```
apt update
apt install -y apache2
```

To see the default settings of Apache in Ubuntu, type the command below:

```
sudo apache2ctl -S
```

Display default Apache configuration

2 types of virtual hosts can be used, name-based and IP-based, and the difference between the two can be seen in the image below:

Aspect	Name-Based	IP-Based
Definition	Uses the domain name (hostname) to distinguish between websites on the same IP.	Uses different IP addresses for each website hosted on the server.
How it Works	Server identifies the requested site by the hostname in the Host header.	Server identifies the site based on the destination IP address.
IP Requirements	Only one IP address is needed for multiple sites.	Each site requires its own unique IP address.
SSL Compatibility	May require SNI (Server Name Indication) to support multiple SSL certificates.	Easier SSL management, as each site can have its own SSL certificate.
Resource Efficiency	More efficient, as multiple sites share the same IP.	Less efficient, as each site requires its own IP.
Isolation	Sites share the same IP, so there is no isolation between them at the IP level.	Sites are isolated at the IP level, which can be beneficial for network management.
Performance	Slightly slower with SSL if SNI is not supported, otherwise similar.	No performance hit for SSL, as each site has its own IP.
Use Cases	Ideal for hosting many websites on the same server, especially for shared hosting.	Ideal for scenarios requiring multiple SSL certificates or when isolation is necessary.

Comparison of name-based and IP-based in virtual hosts

WARNING

This article uses a private IP, not a public IP.

A. name-based virtual hosts

The meaning of name-based is that you have many websites or domains, but you only have one IP. For example, you have 2 domain names: **website1.com** and **website2.com,** but you only have 1 IP, which is **192.168.56.100**. Here are the steps to get all three domains to use the same IP:

1. Create the directories and the files

By default, Apache uses the **/var/www/html** folder as its rootdocument, as shown in the image above. However, to make it easier to configure it, you should create a folder for each of these websites, as shown in the image below:

```
sudo mkdir -p /var/www/html/website1.com/
sudo mkdir -p /var/www/html/website2.com/
```

WARNING
You can change the above directory to another directory, but for the next steps, you have to follow the directory you created.

After that, create an index.html file for each domain:

```
sudo sh -c 'echo "<h1> This is for website1.com domain</h1>" >
/var/www/html/website1.com/index.html'
sudo sh -c 'echo "<h1> This is for website2.com domain</h1>" >
/var/www/html/website2.com/index.html'
```

2. Change ownership

Change the ownership of the folders:

```
sudo chown -R www-data:www-data /var/www/html/website1.com/
sudo chown -R www-data:www-data /var/www/html/website2.com/
sudo chmod -R 755 /var/www/html
```

3. Configuration of virtual hosts

By default, 2 directories are used to manage the many domains in the virtual hosts running on that server: the **sites-available** and **sites-enabled** directories located in the **/etc/apache2** directory. The sites-enabled directory contains all the configurations of the website (virtual host) that are available on the server but are not yet activated automatically. In contrast, the sites-enabled directory contains a symlink (symbolic link) to the configuration file that exists in the sites-available directory, and only the files that exist in the sites-enabled directory will be executed and activated by the web server if the web server is restarted or reloaded. Use the command below to create two websites on virtual hosts:

```
echo '<VirtualHost *:80>' | sudo tee /etc/apache2/sites-
available/website1.com.conf > /dev/null
echo '    ServerName website1.com' | sudo tee -a /etc/apache2/sites-
available/website1.com.conf > /dev/null
echo '    ServerAlias www.website1.com' | sudo tee -a /etc/apache2/sites-
available/website1.com.conf > /dev/null
echo '    ServerAdmin webmaster@website1.com' | sudo tee -a
/etc/apache2/sites-available/website1.com.conf > /dev/null
```

```
echo '    DocumentRoot /var/www/html/website1.com' | sudo tee -a
/etc/apache2/sites-available/website1.com.conf > /dev/null
echo '    ErrorLog ${APACHE_LOG_DIR}/website1-error.log' | sudo tee -a
/etc/apache2/sites-available/website1.com.conf > /dev/null
echo '    CustomLog ${APACHE_LOG_DIR}/website1-access.log combined' | sudo
tee -a /etc/apache2/sites-available/website1.com.conf > /dev/null
echo '</VirtualHost>' | sudo tee -a /etc/apache2/sites-
available/website1.com.conf > /dev/null

echo '<VirtualHost *:80>' | sudo tee /etc/apache2/sites-
available/website2.com.conf > /dev/null
echo '    ServerName website2.com' | sudo tee -a /etc/apache2/sites-
available/website2.com.conf > /dev/null
echo '    ServerAlias www.website2.com' | sudo tee -a /etc/apache2/sites-
available/website2.com.conf > /dev/null
echo '    ServerAdmin webmaster@website2.com' | sudo tee -a
/etc/apache2/sites-available/website2.com.conf > /dev/null
echo '    DocumentRoot /var/www/html/website2.com' | sudo tee -a
/etc/apache2/sites-available/website2.com.conf > /dev/null
echo '    ErrorLog ${APACHE_LOG_DIR}/website2-error.log' | sudo tee -a
/etc/apache2/sites-available/website2.com.conf > /dev/null
echo '    CustomLog ${APACHE_LOG_DIR}/website2-access.log combined' | sudo
tee -a /etc/apache2/sites-available/website2.com.conf > /dev/null
echo '</VirtualHost>' | sudo tee -a /etc/apache2/sites-
available/website2.com.conf > /dev/null
```

WARNING
You can change ***:80** to your IP server like **192.168.56.102:80**.

Then type the command below to enable the Virtual Hosts configuration:

```
sudo a2ensite website1.com.conf
sudo a2ensite website2.com.conf
```

Type the command below to disable the default virtual hosts configuration:

```
sudo a2dissite 000-default.conf
```

WARNING
If you want to change the configuration of virtual hosts, you have to **change**

it in the sites-available directory and not in the sites-enabled directory.

5. Check the configuration

Use the command below to check whether there is an Apache configuration that is an error or not by using the command below:

```
sudo apache2ctl configtest
```

If there is no error, then reload Apache using the command below:

```
sudo systemctl reload apache2
```

WARNING
Use the command above if there is a change in the configuration of virtual hosts in each domain.

6. Check in the browser

Because this article uses a private IP, you must configure it in the hosts file before you check the browser. If you use Windows, change the hosts file in **C:\Windows\System32\drivers\etc\hosts** or in **/etc/hosts** if you use Linux. In the hosts file, add the below script:

```
192.168.56.102  website1.com website2.com
```

Info
Change IP 192.168.56.102 with your Ubuntu IP server.

If your Ubuntu server uses a firewall, type the command below to open the port for Apache:

```
sudo ufw allow 'Apache Full'
```

Open your browser and type each of these domains, then there should be a site displayed as in the image below:

http://website1.com

Site website1.com

http://website2.com

site website2.com

If you use Linux, you can use the command below to check the result:

```
curl http://website1.com
curl http://website2.com
```

```
sysadmin@lubuntu:~$ cat /etc/hosts
# Standard host addresses
127.0.0.1  localhost
::1        localhost ip6-localhost ip6-loopback
ff02::1    ip6-allnodes
ff02::2    ip6-allrouters
# This host address
127.0.1.1  lubuntu
192.168.56.102 site1.com
192.168.56.103 site2.com
sysadmin@lubuntu:~$
sysadmin@lubuntu:~$ curl http://site1.com
<h1> This is for site1.com domain</h1>
sysadmin@lubuntu:~$
sysadmin@lubuntu:~$ curl http://site2.com
<h1> This is for site2.com domain</h1>
sysadmin@lubuntu:~$
```

Using the curl command

By default, websites work on the web server using port 80. But you can change port 80 to another port as long as the port is not used on the server. For example, if you want the website1.com site to use port **8080**, change the **/etc/apache2/sites-available/website1.com.conf** file and change its contents to something like this:

```
Listen 8080
<VirtualHost *:8080>
     ServerName website1.com
     ServerAlias www.website1.com
     ServerAdmin webmaster@website1.com
     DocumentRoot /var/www/html/website1.com
     ErrorLog ${APACHE_LOG_DIR}/website1-error.log
     CustomLog ${APACHE_LOG_DIR}/website1-access.log combined
</VirtualHost>
```

If you use the firewall in the Ubuntu server, don’t forget to open port 8080 using the command below:

```
sudo ufw allow 8080
```

Reload Apache and open it in the browser by typing the command:

http://website1.com:8080

Site website1.com:8080

B. IP-based virtual hosts

The meaning of IP-based is that you use a different IP address for each website. For example, you have 2 IPs and 2 domains, where IP **192.168.56.102 is for site1.com,** and IP **192.168.56.103 is for site2.com**. This article will use a server that has 2 IPs, as shown below:

```
sysadmin@Ubuntu2404:~$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host noprefixroute
       valid_lft forever preferred_lft forever
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
    link/ether 08:00:27:29:a3:f1 brd ff:ff:ff:ff:ff:ff
    inet 192.168.56.103/24 metric 100 brd 192.168.56.255 scope global dynamic enp0s3
       valid_lft 573sec preferred_lft 573sec
    inet6 fe80::a00:27ff:fe29:a3f1/64 scope link
       valid_lft forever preferred_lft forever
3: enp0s8: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
    link/ether 08:00:27:83:09:85 brd ff:ff:ff:ff:ff:ff
    inet 192.168.56.102/24 metric 100 brd 192.168.56.255 scope global dynamic enp0s8
       valid_lft 565sec preferred_lft 565sec
    inet6 fe80::a00:27ff:fe83:985/64 scope link
       valid_lft forever preferred_lft forever
sysadmin@Ubuntu2404:~$
```

Using 2 NICs in a server

1. Create the directories and the files

By default, Apache uses the **/var/www/html** folder as its rootdocument, as shown in the image above. However, to make it easier to configure it, you should create a folder for each of these websites, as shown in the image below:

```
sudo mkdir -p /var/www/html/site1.com/
sudo mkdir -p /var/www/html/site2.com/
```

WARNING
You can change the above directory to another directory, but for the next steps, you have to follow the directory you created.

After that, create an index.html file for each domain:

```
sudo sh -c 'echo "<h1> This is for site1.com domain</h1>" >
/var/www/html/site1.com/index.html'
sudo sh -c 'echo "<h1> This is for site2.com domain</h1>" >
/var/www/html/site2.com/index.html'
```

2. Change ownership

Change the ownership of the folders:

```
sudo chown -R www-data:www-data /var/www/html/site1.com/
sudo chown -R www-data:www-data /var/www/html/site2.com/
sudo chmod -R 755 /var/www/html
```

3. Configuration of virtual hosts

By default, 2 directories are used to manage the many domains in the virtual hosts running on that server: the **sites-available** and **sites-enabled** directories located in the **/etc/apache2** directory. The sites-enabled directory contains all the configuration of the website (virtual host) that is available on the server, but is not yet activated automatically while the sites-enabled directory contains a symlink (symbolic link) to the configuration file that exists in the sites-available directory and only the files that exist in the site-enabled directory will be executed and activated by the web server if the webserver is restarted or reloaded. Use the command below to create a virtual hosts directory:

```
echo '<VirtualHost 192.168.56.102:80>' | sudo tee /etc/apache2/sites-
available/site1.com.conf > /dev/null
echo '    ServerName site1.com' | sudo tee -a /etc/apache2/sites-
available/site1.com.conf > /dev/null
echo '    ServerAlias www.site1.com' | sudo tee -a /etc/apache2/sites-
```

```
available/site1.com.conf > /dev/null
echo '    ServerAdmin webmaster@site1.com' | sudo tee -a /etc/apache2/sites-
available/site1.com.conf > /dev/null
echo '    DocumentRoot /var/www/html/site1.com' | sudo tee -a
/etc/apache2/sites-available/site1.com.conf > /dev/null
echo '    ErrorLog ${APACHE_LOG_DIR}/site1-error.log' | sudo tee -a
/etc/apache2/sites-available/site1.com.conf > /dev/null
echo '    CustomLog ${APACHE_LOG_DIR}/site1-access.log combined' | sudo tee -
a /etc/apache2/sites-available/site1.com.conf > /dev/null
echo '</VirtualHost>' | sudo tee -a /etc/apache2/sites-
available/site1.com.conf > /dev/null

echo '<VirtualHost 192.168.56.103:80>' | sudo tee /etc/apache2/sites-
available/site2.com.conf > /dev/null
echo '    ServerName site2.com' | sudo tee -a /etc/apache2/sites-
available/site2.com.conf > /dev/null
echo '    ServerAlias www.site2.com' | sudo tee -a /etc/apache2/sites-
available/site2.com.conf > /dev/null
echo '    ServerAdmin webmaster@site2.com' | sudo tee -a /etc/apache2/sites-
available/site2.com.conf > /dev/null
echo '    DocumentRoot /var/www/html/site2.com' | sudo tee -a
/etc/apache2/sites-available/site2.com.conf > /dev/null
echo '    ErrorLog ${APACHE_LOG_DIR}/site2-error.log' | sudo tee -a
/etc/apache2/sites-available/site2.com.conf > /dev/null
echo '    CustomLog ${APACHE_LOG_DIR}/site2-access.log combined' | sudo tee -
a /etc/apache2/sites-available/site2.com.conf > /dev/null
echo '</VirtualHost>' | sudo tee -a /etc/apache2/sites-
available/site2.com.conf > /dev/null
```

WARNING

If you want to change the configuration of virtual hosts, you have to **change it in the sites-available directory** and not in the sites-enabled directory.

Then type the command below to enable the Virtual Hosts configuration:

```
sudo a2ensite site1.com.conf
sudo a2ensite site2.com.conf
```

Type the command below to disable the default virtual hosts configuration:

```
sudo a2dissite 000-default.conf
```

5. Check the configuration

Use the command below to check whether there is an Apache configuration that is an error or not by using the command below:

```
sudo apache2ctl configtest
```

If there is no error, then reload Apache using the command below:

```
sudo systemctl reload apache2
```

WARNING
Use the command above if there is a change in the configuration of virtual hosts in each domain.

6. Check in the browser

Because this article uses a private IP, you must configure it in the hosts file before you check the browser. If you use Windows, change the hosts file in **C:\Windows\System32\drivers\etc\hosts** or in **/etc/hosts** if you use Linux. In the hosts file, add the below script:

```
192.168.56.102  site1.com
192.168.56.103   site2.com
```

Info
Change IP 192.168.56.102 and IP 192.168.56.103 with your Ubuntu IP server.

If your Ubuntu server uses a firewall, type the command below to open the port for Apache:

```
sudo ufw allow 'Apache Full'
```

Open your browser and type each of these domains, then there should be a site displayed as in the image below:

http://site1.com

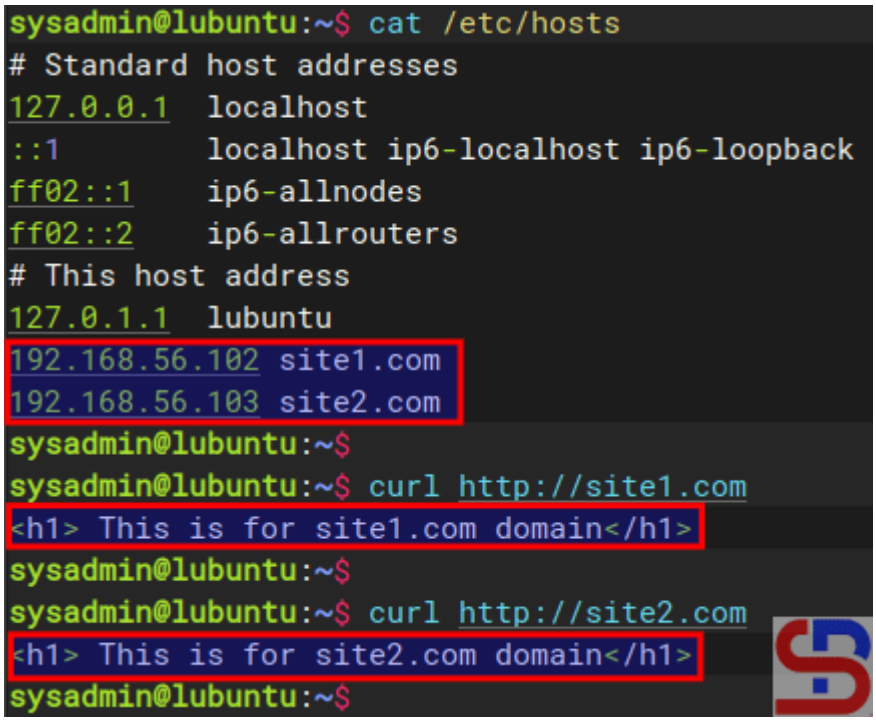
Site site1.com

http://site2.com

Site site2.com

If you use Linux, you can use the command below to check the result:

```
curl http://site1.com
curl http://site2.com
```



Using the curl command

By default, websites work on the web server using port 80. But you can change port 80 to another port as long as the port is not used on the server. So, if you want the site1.com site to use port **8181**, change the **/etc/apache2/sites-available/site1.com.conf** file and change its contents to something like this:

```
Listen 8181
<VirtualHost 192.168.56.102:8181>
     ServerName site1.com
     ServerAlias www.site1.com
     ServerAdmin webmaster@site1.com
     DocumentRoot /var/www/html/site1.com
     ErrorLog ${APACHE_LOG_DIR}/site1-error.log
     CustomLog ${APACHE_LOG_DIR}/site1-access.log combined
</VirtualHost>
```

If you use the firewall in your Ubuntu server, don’t forget to open port 8181 using the command below:

```
sudo ufw allow 8181
```

Reload Apache and open it in the browser by typing the command:

```
http://site1.com:8181
```


```
Site site1.com:8181
```

Note

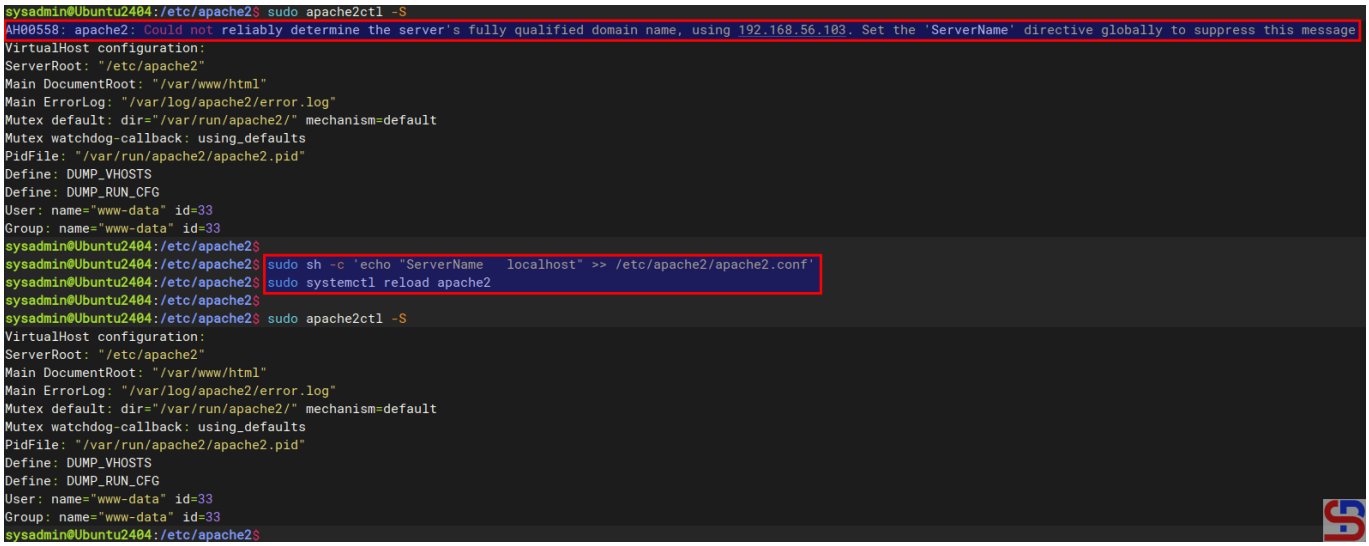
If you want to remove the error like this:

```
AH00558: apache2: Could not reliably determine the server’s fully qualified domain name, using 192.168.56.103. Set the ‘ServerName’ directive globally to suppress this message
```

Go to the **/etc/apache2/apache2.conf** and insert the script below:

```
ServerName localhost
```

Reload the Apache, and the error will disappear, like in the image below:



Remove error AH00558

WARNING
You can change the localhost to your domain name, like website1.com or another domain name.

References

httpd.apache.org
phoenixnap.com
medium.com
digitalocean.com
stackoverflow.com
serverfault.com
baeldung.com
askubuntu.com

How to Install and Configure NFS on Linux?

written by sysadmin | 1 October 2025

NFS or Network File Sharing is a protocol that allows you to share directories and files with other Linux clients over a network. Similar to locally created folders, an NFS file share is accessible when mounted on a client computer. When you have limited disk space and need to share public data between client machines, NFS is especially helpful.

Problem

How to install and configure NFS on Linux?

Solution

This article will explain how to install and configure NFS on 3 Linux distros: Rockylinux, Ubuntu, and OpenSuse and this article should work in each of their derivatives of the three distros.

A. On the server

Following are the steps to install and configure NFS:

1. Install NFS

I install NFS in the server with IP 192.168.56.2, and to install the NFS application on the Linux server, use the command below:

RockyLinux

```
sudo dnf install -y nfs-utils
```

Ubuntu

```
sudo apt update -y
```

```
sudo apt-get install -y nfs-kernel-server
```

OpenSUSE

```
sudo zypper install -y nfs-kernel-server nfs-utils
```

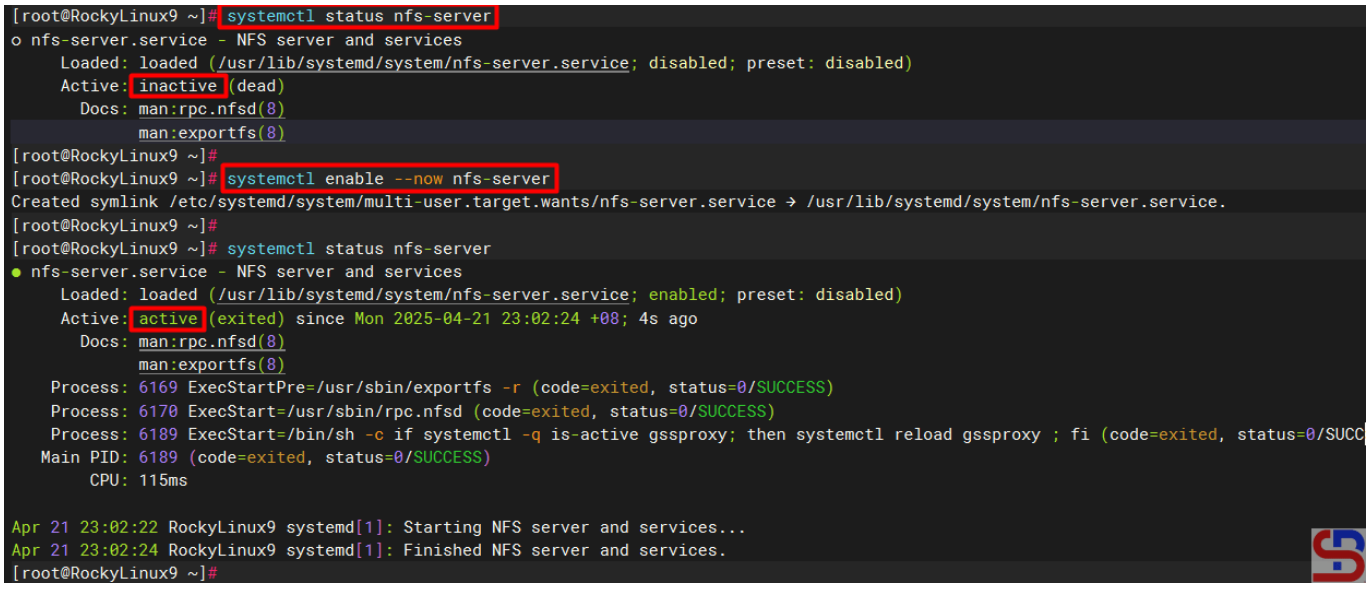
2. Check NFS status

Type the command below to check the NFS status:

```
systemctl status nfs-server
```

If you see the NFS status is still not on, use the command below to turn on the NFS service:

```
sudo systemctl enable --now nfs-server
```



Check the NFS service status

Sometimes you have to check the **nfs-mountd** service using the command below:

```
sudo systemctl status nfs-mountd
```

If the service is not on the server, then use the command

below to turn on the service:

```
sudo systemctl start nfs-mountd
```

3. Check the rpcbind status

Make sure that the **rpcbind** service is actively used by NFS for the mapping port. Use the command below to check the status of the service:

```
sudo systemctl status rpcbind
```

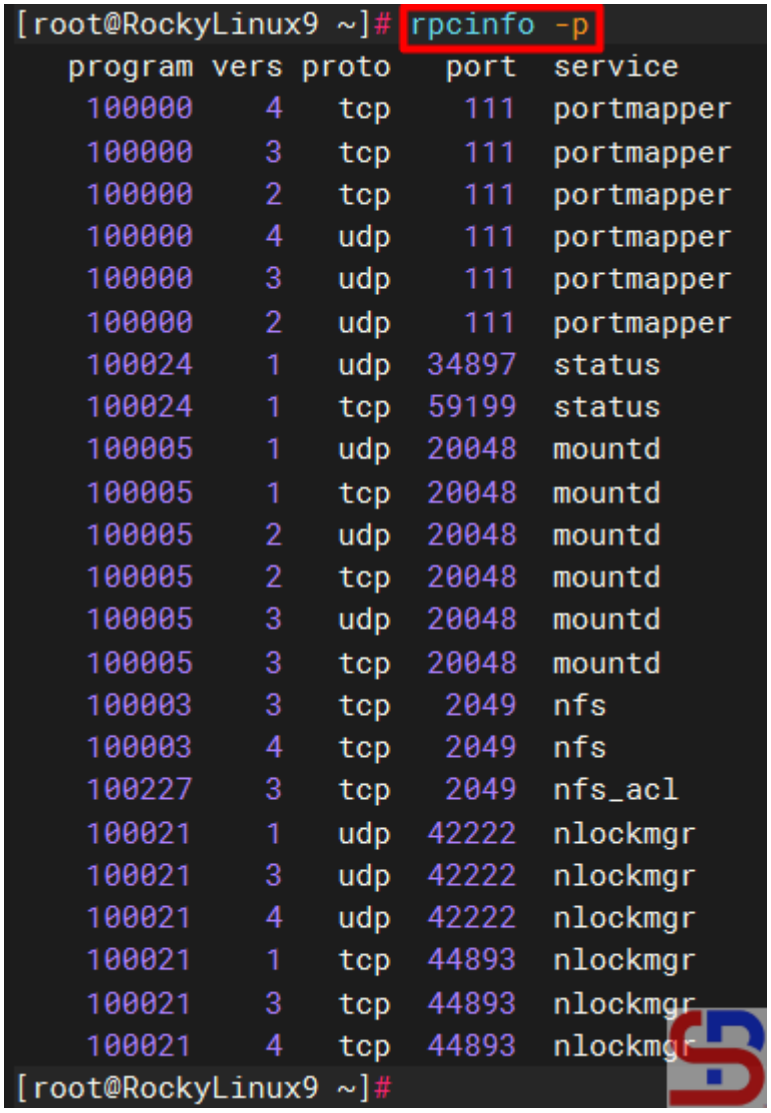
If the service is not active, use the command below to start the service:

```
sudo systemctl enable -now rpcbind
```

4. Check NFS and Portmap

To see if NFS and portmap (Portmap is a server that converts RPC program numbers into DARPA protocol port numbers. It must be running to make RPC calls) are running on the server, use the command below:

```
sudo rpcinfo -p
```



Check whether NFS and portmap run in the server or not

5. Configure firewall

If you still turn on the firewall on Linux, use the command below to open the NFS port (Port NFS is TCP Port 2049):

RockyLinux & OpenSUSE

```
firewall-cmd --add-service nfs --permanent
firewall-cmd --reload
firewall-cmd --list-services
```

```
[root@RockyLinux9 ~]# firewall-cmd --add-service nfs --permanent
success
[root@RockyLinux9 ~]#
[root@RockyLinux9 ~]# firewall-cmd --reload
success
[root@RockyLinux9 ~]#
[root@RockyLinux9 ~]# firewall-cmd --list-services
cockpit dhcpv6-client nfs ssh
[root@RockyLinux9 ~]#
```

Open the NFS port in RockyLinux

Ubuntu

```
sudo ufw allow nfs
sudo ufw status verbose
```

Use the command below to open the rpcbind port (rpcbind port is TCP Port 111):

Rockylinux & OpenSUSE

```
firewall-cmd --add-port=111/tcp --permanent
firewall-cmd --reload
firewall-cmd --list-ports
```

Ubuntu

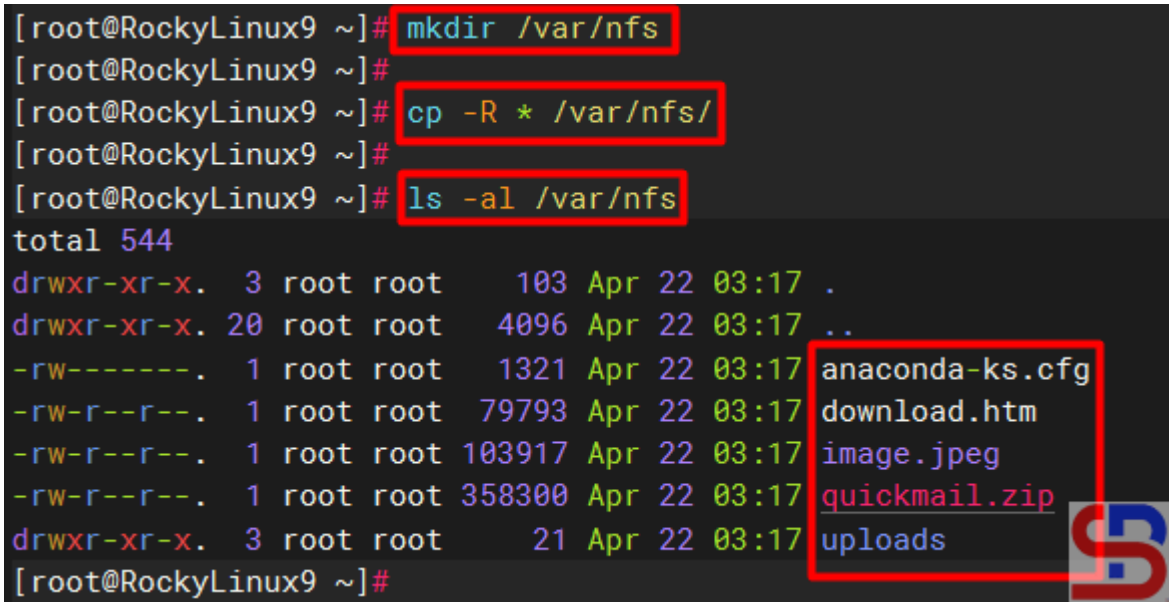
```
sudo ufw allow 111
sudo ufw status verbose
```

6. Make a folder sharing

Create a folder to collect NFS files and folders and I make it in the folder **/var/nfs** using the command below:

```
mkdir /var/nfs
```

After that, copy the file(s) and folder(s) that you want to share into the folder as shown below:



Copy the file(s) and folder(s) into the folder sharing

7. Define an Export File

To grant access to NFS clients, you need to define an export file and it is typically located at **/etc/exports**. Use the format below to define an export file:

```
/folder/path    accessible-host-ip-address(options)
```

The options you can use can be seen in the image below:

Option	Description
ro,rw	Read-only, Read-write (default)
rw=list	Hosts in the list can do rw, others ro only
root_squash	Maps UID 0 and GID 0 to the value of anonuid and anongid (default)
no_root_squash	Allow root access
all_squash	Maps all UID and GID to anonymous one
subtree_check	Check that the accessed file is in the appropriate filesystem and in the exported tree.
no_subtree_check	Disables subtree checking
anonuid=xxx	Related to root_squash
anongid=xxx	Related to root_squash
secure	Require remote access from privileged port
insecure	Allow remote access from any port
noaccess	Prevent access to this dir and it's subdir

Options in NFS (Image credit for slideplayer.com)

You can use more than one option like (rw,sync,no_subtree_check). By default, NFS uses the **ro** option where the client can only read the file or folder in the folder sharing. In this article, I only want the folder sharing can only be accessed by users who only use IP 192.168.56.0/24 and the folder can be changed by the users, then use the command below to enter the script into the exports file:

```
sudo echo "/var/nfs                192.168.56.0/24(rw)" > /etc/exports
```

Then change the permissions so that the files and folders in the folder sharing can be changed using the command below:

RockyLinux & OpenSUSE

```
chown -R nobody:nobody /var/nfs
sudo chmod -R 775 /var/nfs
```

Ubuntu

```
chown -R nobody:nogroup /var/nfs
sudo chmod -R 775 /var/nfs
```

8. Export exports file

Use the command below to make the folder sharing available to the clients:

```
sudo exportfs -r
```

Use the command below to view the exports file:

```
showmount -e
```

To see which hosts access file sharing, use the command below:

```
sudo netstat -an | grep 2049
```

B. On the client

Following are the steps to install and configure NFS:

1. Install NFS client

Use the command below to install the NFS client:

RockyLinux

```
sudo dnf install -y nfs-utils
```

Ubuntu

```
sudo apt-get install -y nfs-common
```

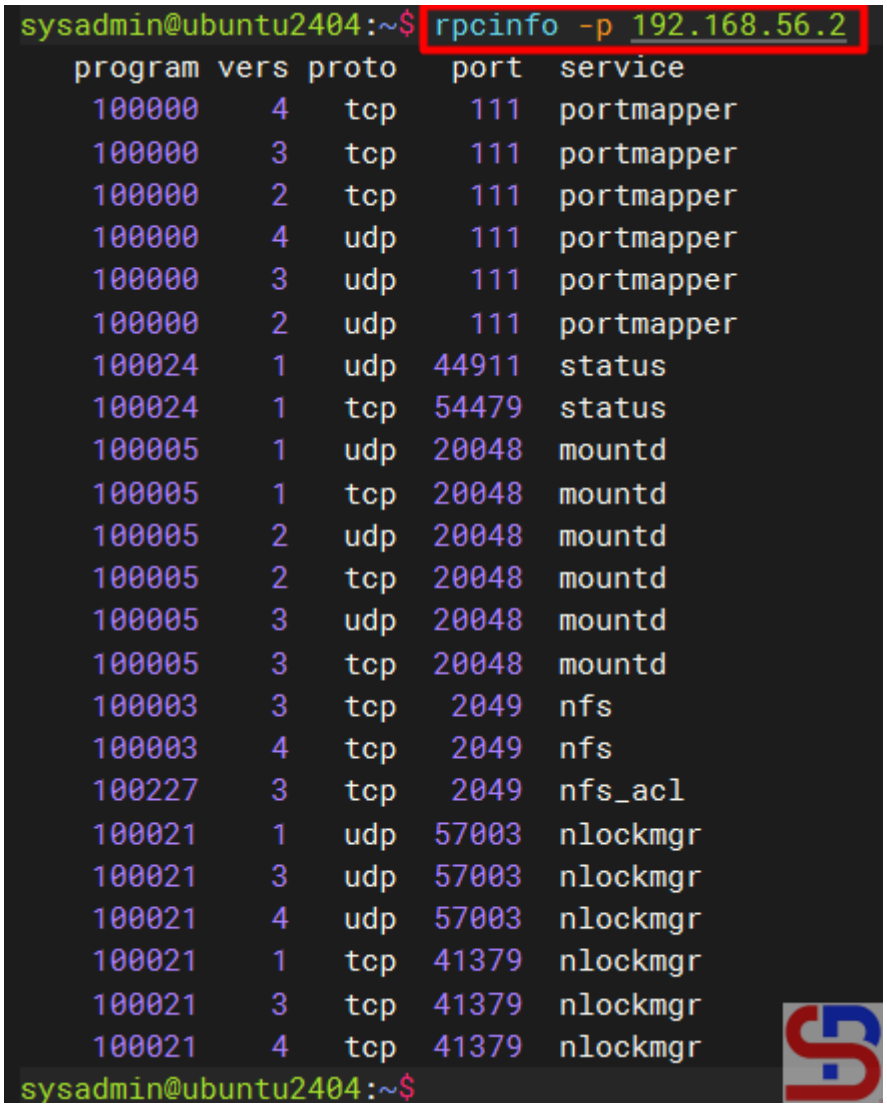
OpenSUSE

```
zypper install -y nfs-client*
```

2. Check the ports in the NFS server

Use the command below to check whether the client can access the ports (port 2049 and 111) in the NFS server or not (the IP server NFS is 192.168.56.2):

```
rpcinfo -p 192.168.56.2
```



Check the connection between the client to the NFS server

2. Make and mount a folder

Make the folder where we want to mount the NFS shares from the server, for example, I made a folder in **/tmp/nfs**:

```
mkdir /tmp/nfs
```

After that the mount folder with the NFS server using the format below:

```
sudo mount -t nfs 192.168.56.2:/var/nfs /tmp/nfs
```

```
sysadmin@ubuntu2404:~$ mkdir /tmp/nfs
sysadmin@ubuntu2404:~$
sysadmin@ubuntu2404:~$ sudo mount -t nfs 192.168.56.2:/var/nfs /tmp/nfs
sysadmin@ubuntu2404:~$
sysadmin@ubuntu2404:~$ df -h
Filesystem                         Size  Used Avail Use% Mounted on
tmpfs                               97M  1.1M   96M   2% /run
/dev/mapper/ubuntu--vg-ubuntu--lv  9.8G  4.8G  4.6G  52% /
tmpfs                              481M     0  481M   0% /dev/shm
tmpfs                              5.0M     0  5.0M   0% /run/lock
/dev/sda2                          1.7G   95M  1.5G   6% /boot
tmpfs                               97M   12K   97M   1% /run/user/1000
192.168.56.2:/var/nfs               17G  1.6G   16G  10% /tmp/nfs
sysadmin@ubuntu2404:~$
```

Mount the folder to the folder-sharing

INFO

You can use the **-v** option so that the above command becomes:
sudo mount -v -t nfs 192.168.56.2:/var/nfs /tmp/nfs
to display the logs when mounting so that you can know if there is an error when mounting.

You should access the folder sharing on the NFS server as shown below:

```
sysadmin@ubuntu2404:~$ sudo mount -t nfs 192.168.56.2:/var/nfs /tmp/nfs
sysadmin@ubuntu2404:~$
sysadmin@ubuntu2404:~$ df -h
Filesystem                         Size  Used Avail Use% Mounted on
tmpfs                               97M  1.1M   96M   2% /run
/dev/mapper/ubuntu--vg-ubuntu--lv  9.8G  4.3G  5.0G  47% /
tmpfs                              481M     0  481M   0% /dev/shm
tmpfs                              5.0M     0  5.0M   0% /run/lock
/dev/sda2                          1.7G   95M  1.5G   6% /boot
tmpfs                               97M   12K   97M   1% /run/user/1000
192.168.56.2:/var/nfs               17G  1.7G   16G  10% /tmp/nfs
sysadmin@ubuntu2404:~$
sysadmin@ubuntu2404:~$ ls /tmp/nfs
anaconda-ks.cfg  download.htm  image.jpg  quickmail.zip  uploads
sysadmin@ubuntu2404:~$
```

Access to the NFS server

You can use the command below to see the NFS client connection:

```
sudo mount | grep -i nfs
```

```
sysadmin@ubuntu2404:~$ sudo mount | grep -i nfs
192.168.56.2:/var/nfs on /tmp/nfs type nfs4 (rw,relatime,vers=4.2,rsize=131072,wsize=131072,namlen=255,hard,proto=tcp,timeo=600,retrans=2,sec=sys,clientaddr=192.168.56.100,local_lock=none,addr=192.168.56.2)
sysadmin@ubuntu2404:~$
```

Check the status of the NFS client

4. Simulation test

Try to do the simulation by changing the file name in the folder sharing. I try to rename the download.htm file to index.html using the command below:

```
sudo mv /tmp/nfs/download.htm /tmp/nfs/index.html
```

The file was successfully changed as shown below:

```
sysadmin@ubuntu2404:~$ ls /tmp/nfs
anaconda-ks.cfg  download.htm  image.jpeg  quickmail.zip  uploads
sysadmin@ubuntu2404:~$
sysadmin@ubuntu2404:~$ sudo mv /tmp/nfs/download.htm /tmp/nfs/index.html
sysadmin@ubuntu2404:~$
sysadmin@ubuntu2404:~$ ls /tmp/nfs
anaconda-ks.cfg  image.jpeg  index.html  quickmail.zip  uploads
sysadmin@ubuntu2404:~$
```

Rename the file in NFS

5. Configure the fstab file

To keep the folder sharing is still connected in the client after the client is rebooted, configure the **/etc/fstab** file using the command below:

```
echo '192.168.56.2:/var/nfs        /tmp/nfs        nfs        rw 0 0' | sudo tee -a /etc/fstab
```

```
[root@RockyLinux9 ~]# df -h
Filesystem                      Size  Used Avail Use% Mounted on
devtmpfs                        4.0M     0  4.0M   0% /dev
tmpfs                           385M     0  385M   0% /dev/shm
tmpfs                           154M  3.1M  151M   2% /run
/dev/mapper/rl_rockylinux9-root  17G  1.8G   16G  11% /
/dev/sda1                      1014M  395M  620M  39% /boot
192.168.56.12:/var/nfs           10G  3.4G  5.8G  37% /tmp/nfs
tmpfs                            77M     0   77M   0% /run/user/1000
[root@RockyLinux9 ~]#
[root@RockyLinux9 ~]# sudo echo '192.168.56.12:/var/nfs /tmp/nfs        nfs     rw 0 0' | sudo tee -a /etc/fstab
192.168.56.12:/var/nfs /tmp/nfs        nfs     rw 0 0
[root@RockyLinux9 ~]#
[root@RockyLinux9 ~]# cat /etc/fstab

#
# /etc/fstab
# Created by anaconda on Thu Sep 19 07:29:32 2024
#
# Accessible filesystems, by reference, are maintained under '/dev/disk/'.
# See man pages fstab(5), findfs(8), mount(8) and/or blkid(8) for more info.
#
# After editing this file, run 'systemctl daemon-reload' to update systemd
# units generated from this file.
#
/dev/mapper/rl_rockylinux9-root /                       xfs     defaults        0 0
UUID=066eb699-fd9c-45ae-bba8-6c220e767ed7 /boot                   xfs     defaults        0 0
/dev/mapper/rl_rockylinux9-swap none                    swap    defaults        0 0
192.168.56.12:/var/nfs /tmp/nfs        nfs     rw 0 0
[root@RockyLinux9 ~]#
```

Insert the script to fstab file

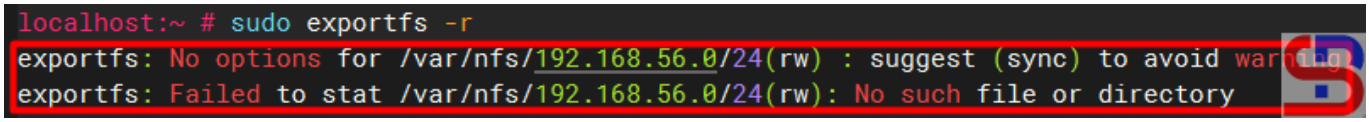
C. Errors and solutions

Below are errors that often appear and their solutions:

1. No options for /var/nfs

Sometimes when you run the **exportfs -r** command, there is an error as below:

```
exportfs: No options for /var/nfs/192.168.56.0/24(rw) : suggest (sync) to avoid warning
exportfs: Failed to stat /var/nfs/192.168.56.0/24(rw): No such file or directory
```



Error failed to stat

To eliminate the error, check in the **/etc/exports** file and you have to fix the writing in the file from:

/var/nfs/192.168.56.0/24(rw)

changed into

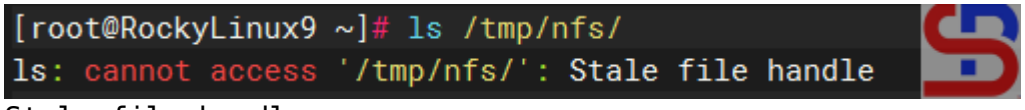
/var/nfs 192.168.56.0/24(rw)

After that, run the **exportfs -r** command again and the error should disappear.

2. Error Stale file handle

When you want to connect a client to the NFS server there is an error like the below (usually this happens if there is an error like number 1 or other causes on the NFS server):

```
Stale file handle
```



Stale file handle error

To solve this error you have to unmount on the side of the client and then mount back as shown below:

```
[root@RockyLinux9 ~]# ls /tmp/nfs/
ls: cannot access '/tmp/nfs/': Stale file handle
[root@RockyLinux9 ~]# sudo umount -f /tmp/nfs
[root@RockyLinux9 ~]# df -h
Filesystem                         Size  Used Avail Use% Mounted on
devtmpfs                           4.0M     0  4.0M   0% /dev
tmpfs                              385M     0  385M   0% /dev/shm
tmpfs                              154M  3.1M  151M   2% /run
/dev/mapper/rl_rockylinux9-root     17G  1.8G   16G  11% /
/dev/sda1                         1014M  395M  620M  39% /boot
tmpfs                               77M     0   77M   0% /run/user/1000
[root@RockyLinux9 ~]#
[root@RockyLinux9 ~]# sudo mount -t nfs 192.168.56.12:/var/nfs /tmp/nfs
[root@RockyLinux9 ~]# df -h
Filesystem                         Size  Used Avail Use% Mounted on
devtmpfs                           4.0M     0  4.0M   0% /dev
tmpfs                              385M     0  385M   0% /dev/shm
tmpfs                              154M  3.1M  151M   2% /run
/dev/mapper/rl_rockylinux9-root     17G  1.8G   16G  11% /
/dev/sda1                         1014M  395M  620M  39% /boot
tmpfs                               77M     0   77M   0% /run/user/1000
192.168.56.12:/var/nfs              10G  3.4G  5.8G  37% /tmp/nfs
[root@RockyLinux9 ~]# ls /tmp/nfs/
bin  get-docker.sh
[root@RockyLinux9 ~]#
```

Solve the stale file handle error

3. RPC: Program not registered

When typing the **showmount -e** command on the NFS server there is an error as below:

```
clnt_create: RPC: Program not registered
```

```
localhost:~ # showmount -e
clnt_create: RPC: Program not registered
```

Error Program Not Registered

The solution is that you have to run the command below so that the nfs-mountd service runs on the server:

```
systemctl start nfs-mountd
```

4. Permission denied

When you want to connect to the NFS server or when you want to change the file in the NFS, there is an error like this:

Permission denied

```
sysadmin@ubuntu2404:~$ cp /tmp/nfs/anaconda-ks.cfg /tmp/nfs/test.cfg
cp: cannot create regular file '/tmp/nfs/test.cfg': Permission denied
```

Error Permission denied

The solution is to check the exports file on the NFS server and make sure that the folder has been given permissions as in step 5 in the server section.

Note

If you want to block an IP address of a host so the host can't access the NFS server, use the command below to block the IP host:

```
sudo firewall-cmd --permanent --add-rich-rule='rule family="ipv4" source
address="192.168.56.100" port port="2049" protocol="tcp" reject'
sudo firewall-cmd --permanent --add-rich-rule='rule family="ipv4" source
address="192.168.56.100" port port="111" protocol="tcp" reject'
sudo firewall-cmd --permanent --add-rich-rule='rule family="ipv4" source
address="192.168.56.100" port port="2049" protocol="udp" reject'
sudo firewall-cmd --permanent --add-rich-rule='rule family="ipv4" source
address="192.168.56.100" port port="111" protocol="udp" reject'
sudo firewall-cmd --reload
sudo firewall-cmd --list-rich-rules
```

and should the client with IP 192.168.56.100 not be able to access the folder sharing as shown in the image below:

```
sysadmin@ubuntu2404:~$ ip a | grep 56
    inet 192.168.56.100/24 brd 192.168.56.255 scope global enp0s8
sysadmin@ubuntu2404:~$
sysadmin@ubuntu2404:~$ sudo mount -t nfs 192.168.56.2:/var/nfs /tmp/nfs
mount.nfs: Connection refused for 192.168.56.2:/var/nfs on /tmp/nfs
sysadmin@ubuntu2404:~$
```

Can not mount to NFS server

If you want to delete an IP address of a host then the option **--add-rich-rule** becomes **--remove-rich-rule** so that the command becomes as command below:

```
sudo firewall-cmd --permanent --remove-rich-rule='rule family="ipv4" source
address="192.168.56.100" port port="2049" protocol="tcp" reject'
sudo firewall-cmd --permanent --remove-rich-rule='rule family="ipv4" source
address="192.168.56.100" port port="111" protocol="tcp" reject'
sudo firewall-cmd --permanent --remove-rich-rule='rule family="ipv4" source
address="192.168.56.100" port port="2049" protocol="udp" reject'
sudo firewall-cmd --permanent --remove-rich-rule='rule family="ipv4" source
address="192.168.56.100" port port="111" protocol="udp" reject'
sudo firewall-cmd --reload
sudo firewall-cmd --list-rich-rules
```

WARNING
In my experience, you can’t immediately block a client to NFS if the client is still connected to the NFS. You have to wait until the client disconnects to the NFS server, either the host reboots or others.

References

bluexp.netapp.com
redhat.com
phoenixnap.com
howtoforge.com
youtube.com
docs.oracle.com
linux.die.net

How to Upgrade Ubuntu to the Latest Version?

written by sysadmin | 1 October 2025

I have a Linux Ubuntu server version 22.04, and I want to upgrade to the latest version of Ubuntu.

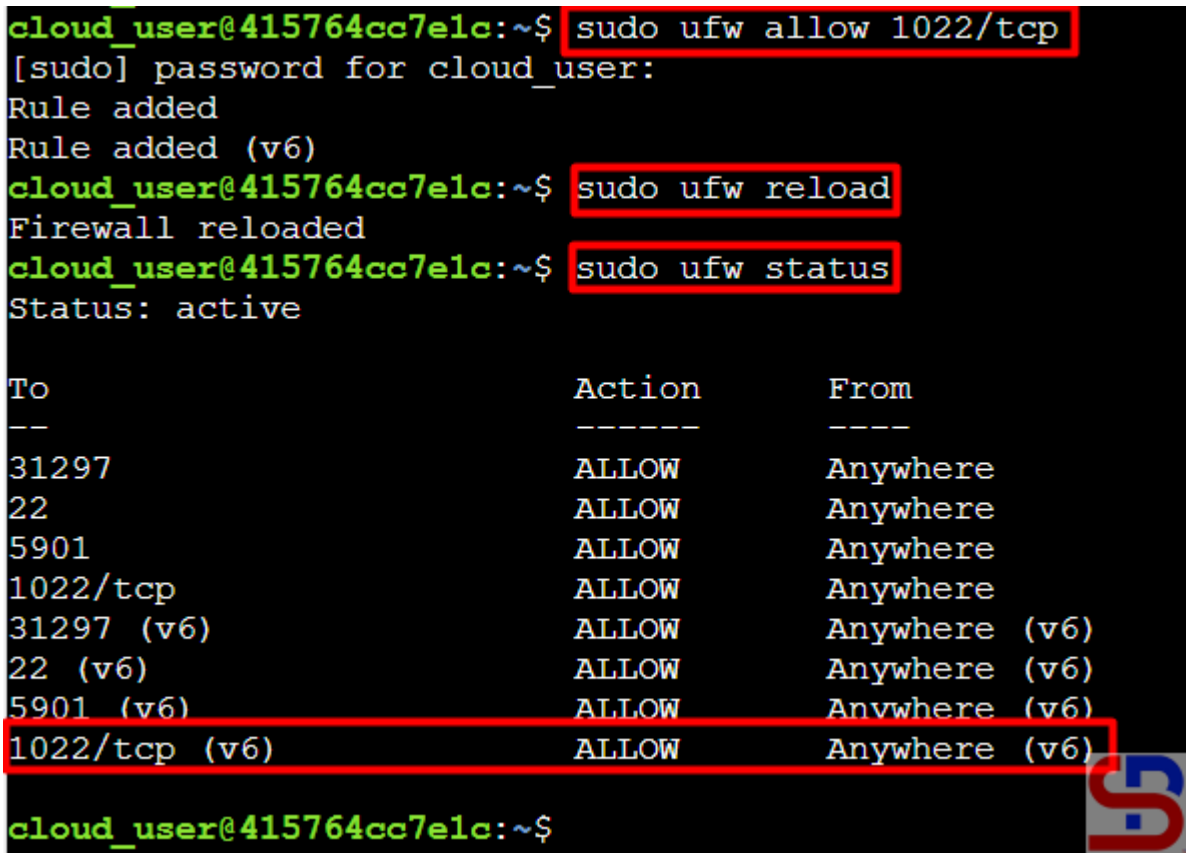
Problem

How to upgrade Ubuntu to the latest version?

Solution

Before you upgrade your Ubuntu version, I think you have to back up your important data to other devices, and have internet to download the packages needed to upgrade. After that, **open port 1022** on your laptop or server if you use the firewall using the below commands:

```
sudo ufw allow 1022/tcp
sudo ufw reload
sudo ufw status
```



Open the port

You should know that the Ubuntu version **upgrade process can only be done to one major LTS version**. So if you have Ubuntu version 20.04 and want to upgrade to the latest version

(version 24.04 in November 2024), you have to do a 2x upgrade process, upgrading to version 22.04 first and then to version 24.04. I have Ubuntu version 22.04, like in the image below:

```
cloud_user@415764cc7e1c:~$ cat /etc/*release
DISTRIB_ID=Ubuntu
DISTRIB_RELEASE=22.04
DISTRIB_CODENAME=jammy
DISTRIB_DESCRIPTION="Ubuntu 22.04.5 LTS"
PRETTY_NAME="Ubuntu 22.04.5 LTS"
NAME="Ubuntu"
VERSION_ID="22.04"
VERSION="22.04.5 LTS (Jammy Jellyfish)"
VERSION_CODENAME=jammy
ID=ubuntu
ID_LIKE=debian
HOME_URL="https://www.ubuntu.com/"
SUPPORT_URL="https://help.ubuntu.com/"
BUG_REPORT_URL="https://bugs.launchpad.net/ubuntu/"
PRIVACY_POLICY_URL="https://www.ubuntu.com/legal/terms-and-policies/privacy-policy"
UBUNTU_CODENAME=jammy
cloud_user@415764cc7e1c:~$
```

Check the version of Ubuntu

So, I type the command below:

```
sudo apt update
sudo apt upgrade -y
```

After that, reboot the server using the command below:

```
sudo reboot
```

After reboot, run the command below:

```
sudo do-release-upgrade
```

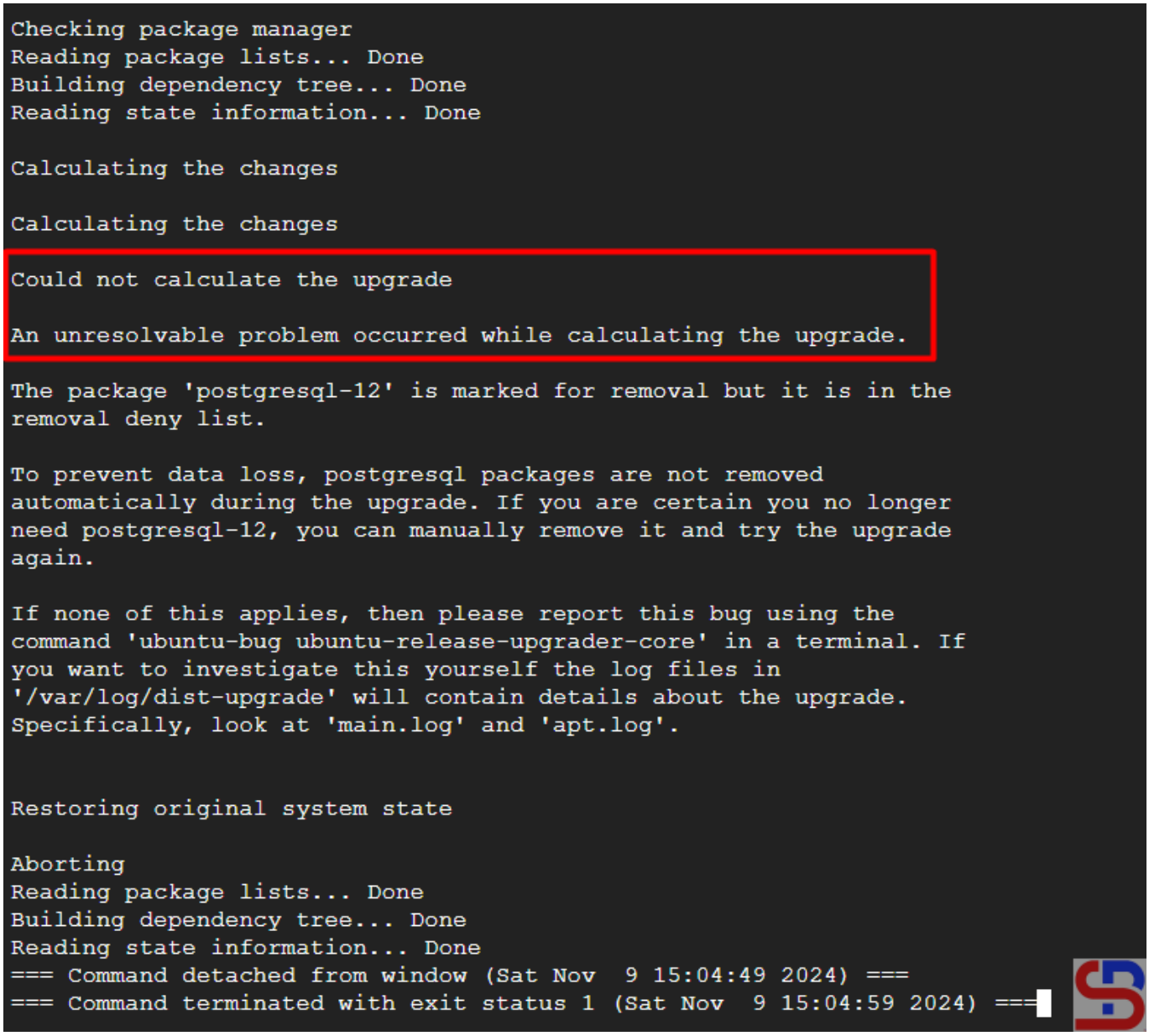
The server will start upgrading to Ubuntu version 24.04. Wait until finished, and sometimes you have to answer the questions asked by the Linux system when upgrading. After the upgrade finishes, check the version of Ubuntu, like in the image below:

Ubuntu was successfully upgraded

If during the upgrade process, there is a notification like the picture below:

Could not calculate the upgrade

An unresolvable problem occurred while calculating the upgrade.

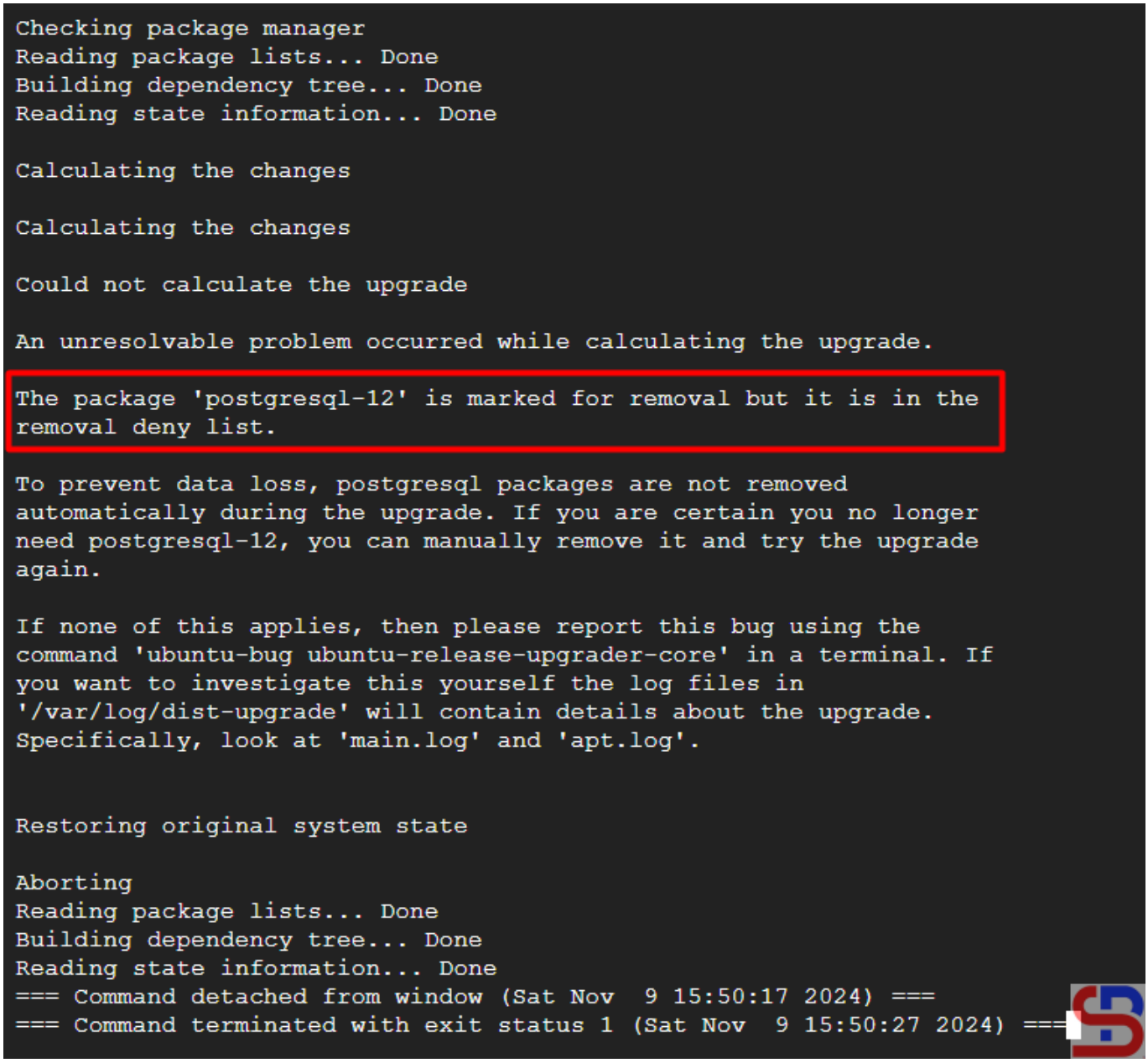


Error when upgrading Ubuntu

Type the command below to see the errors that occurred during the upgrade process:

```
cat /var/log/dist-upgrade/main.log | grep ERROR
```

In the log, you have to search for the cause of the error, but actually, you can find the root cause in the notification, like in the image below:



Find the root cause of the error

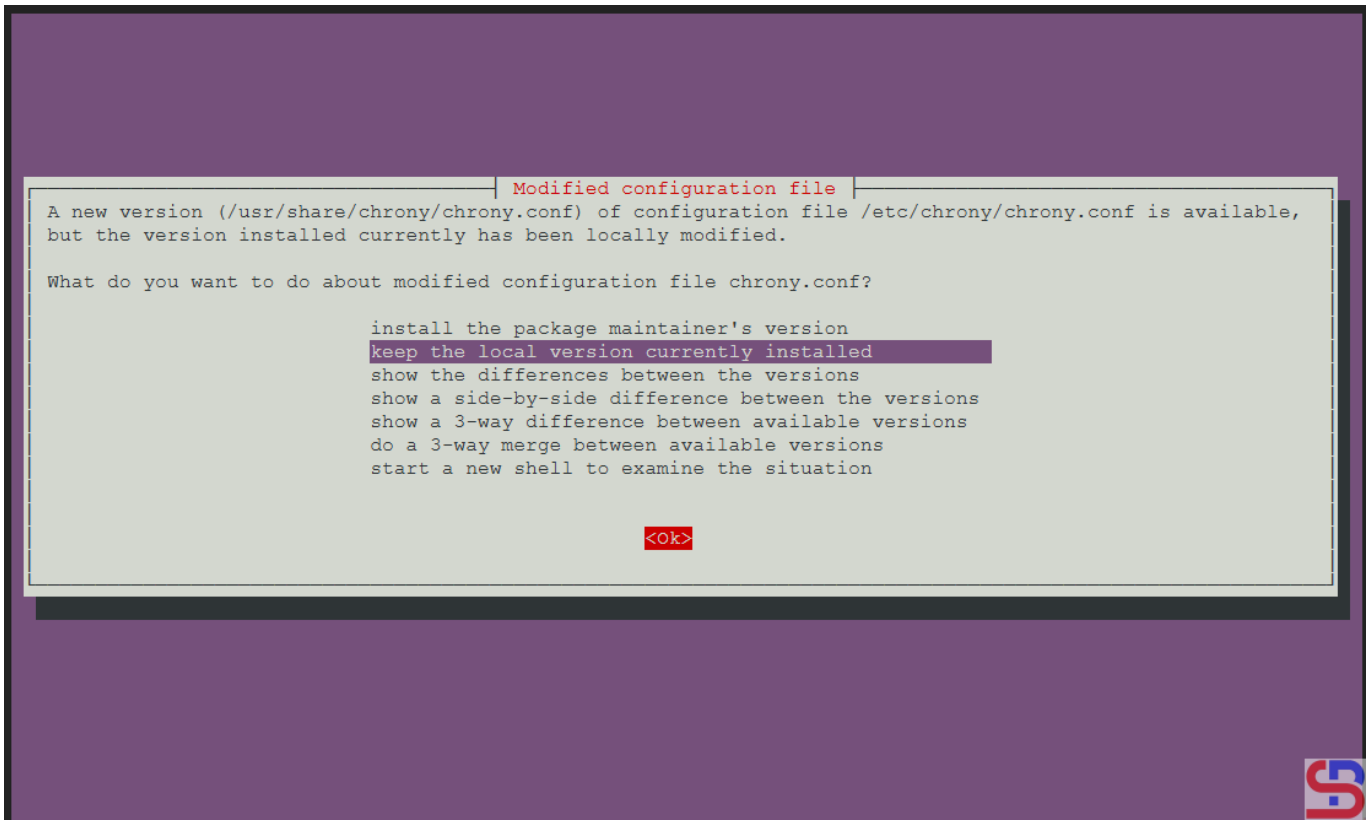
The root cause is in the postgresql-12 package, so I removed the package and then ran the command below to carry out the upgrade process again:

```
sudo do-release-upgrade
```

The Ubuntu upgrade process should be completed until it is finished.

Note

When you upgrade Ubuntu, you have to answer the questions from the Ubuntu system, like in the image below:



Choose the answer when upgrading to Ubuntu

If you don’t want to be bothered by the questions asked by the Linux system during the upgrade process, then use the command below:

```
sudo do-release-upgrade -f DistUpgradeViewNonInteractive
```

References

ubuntu.com
serverpilot.io
jumpcloud.com
askubuntu.com

How to Protect the Linux Server From an Accidental Reboot?

written by sysadmin | 1 October 2025

As a Sysadmin, accessing a Linux server is a normal daily activity. But sometimes we accidentally make mistakes rebooting or shutting down the production server, causing the server to be inaccessible. Therefore, we need a tool to confirm if someone reboots or shuts down a Linux server.

Problem

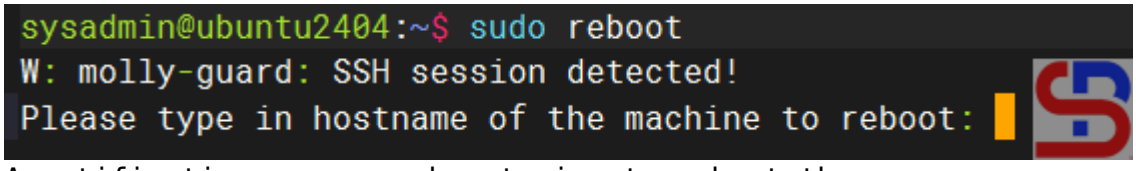
How to protect the Linux server from an accidental reboot or shutdown?

Solution

In the Debian/Ubuntu distribution, the molly-guard tool can be used to protect the Linux server from an accidental reboot or shutdown. Use the two commands below to install molly-guard:

```
sudo apt update
sudo apt-get install molly-guard
```

After that, try to reboot the server, and there should be a notification like the image below:



A notification appears when trying to reboot the server

Someone who wants to reboot the server must write the server's hostname. If the nameserver does not match the hostname on the server, the reboot process will not be

continued, but if it matches the hostname on the server, the reboot process will be continued.

```
sysadmin@ubuntu2404:~$ sudo reboot
W: molly-guard: SSH session detected!
Please type in hostname of the machine to reboot: ubuntu2403
Good thing I asked; I won't reboot ubuntu2404 ...
W: aborting reboot due to 30-query-hostname exiting with code 1.
sysadmin@ubuntu2404:~$
sysadmin@ubuntu2404:~$
sysadmin@ubuntu2404:~$ sudo reboot
W: molly-guard: SSH session detected!
Please type in hostname of the machine to reboot: ubuntu2404

Broadcast message from root@ubuntu2404 on pts/1 (Mon 2025-03-17 15:20:46 UTC):

The system will reboot now!

sysadmin@ubuntu2404:~$
```

Try to reboot the server

This is very useful if the sysadmin accidentally types the reboot command on the server. However, this tool not only protects the server from the reboot command, but also other commands such as the **poweroff**, **shutdown**, **coldreboot**, **pm-hibernate**, **pm-suspend**, and **pm-suspend-hybrid** commands.

```
sysadmin@ubuntu2404:~$ sudo poweroff
W: molly-guard: SSH session detected!
Please type in hostname of the machine to poweroff: ^Z
[3]+  Stopped                 sudo poweroff
sysadmin@ubuntu2404:~$
sysadmin@ubuntu2404:~$ sudo shutdown -h now
W: molly-guard: SSH session detected!
Please type in hostname of the machine to shutdown: ^Z
[4]+  Stopped                 sudo shutdown -h now
sysadmin@ubuntu2404:~$
sysadmin@ubuntu2404:~$
sysadmin@ubuntu2404:~$ sudo halt
W: molly-guard: SSH session detected!
Please type in hostname of the machine to halt: ^Z
[5]+  Stopped                 sudo halt
sysadmin@ubuntu2404:~$
```

Try to turn off the server

Note

Keep in mind that this molly-guard tool can only work in the Debian/Ubuntu distribution and its derivatives, and this tool only works on SSH connections. If you access the Linux server without an SSH connection, for example, by directly connecting the keyboard to the Linux server, this tool will not work, so if you run the reboot command, the Linux server will immediately reboot.

References

manpages.ubuntu.com
launchpad.net
techbits.io