How to Check a Public IP in the Spam List Using a PHP Script?

written by sysadmin | 12 March 2025

The spam list is a list of public IPs that spread spam based on the analysis made by various institutions (DNSBL or Domain Name System Blacklists) such as Spamhaus, SpamCop, and so on. This list is handy because by looking at this list, sysadmins know which public IPs are on the spam list, so they can take analysis and actions regarding their mail servers. So, I want to see if a public IP is in the spam list on the internet or not in my Linux serve,r so that I no longer need to search the internet for its status.

Problem

How to check a public IP in the spam list using a PHP script?

Solution

There are 2 solutions if you want to see if a public IP in the spam list on the internet or not in your Linux server, using a PHP script or a bash script. In this article, I use a PHP script to detect if a public IP is in the spam list on the internet or not, and I created a simple site to make it easier to check a public IP. I use the PHP application and Apache web server, and I use Ubuntu (but you can use any Linux OS you like). Install the applications needed to create the site:

```
sudo apt-get install apache2 php
```

After that, copy the script below and name the file **check_ip_spam.php**:

```
<html>
```

```
<head>
<title>DNSBL Lookup Tool - IP Blacklist Check Script</title>
</head>
<body>
<CENTER>
<h1>Check IP SPAM</h1>
<form action="" method="get">
<input type="text" value="" name="ip" placeholder="Insert a Public  IP ..."
/>
<input type="submit" value="LOOKUP" />
</form>

<?php
/**************************************************************************
***********
This is a simple PHP script to lookup for blacklisted IP against multiple
DNSBLs at once.

You are free to use the script, modify it, and/or redistribute the files as
you wish.

Homepage: http://dnsbllookup.com
**************************************************************************
***********/
function dnsbllookup($ip){
        $dnsbl_lookup=array(
        "bl.spamcop.net",
        "cbl.abuseat.org",
        "dnsbl.justspam.org",
        "dnsbl.sorbs.net",
        "relays.mail-abuse.org",
        "spam.dnsbl.sorbs.net",
        "spamguard.leadmon.net",
        "zen.spamhaus.org"); // Add your preferred list of DNSBL's

if($ip){
        $reverse_ip=implode(".",array_reverse(explode(".",$ip)));
foreach($dnsbl_lookup as $host){
        if(checkdnsrr($reverse_ip.".".$host.".","A")){
                $listed.=$reverse_ip.'.'.$host.' <font
color=red>Listed</font><br />';
                }
        }
}

if($listed){
        echo $listed;
}else{
        echo "<font size=4>IP $ip <b>not listed</b> in SPAM list</font>";
        }
}
```

```
$ip=$_GET['ip'];

if(isset($_GET['ip']) && $_GET['ip']!=null){
        if(filter_var($ip,FILTER_VALIDATE_IP)){
                echo dnsbllookup($ip);
}else{
        echo "<font color=red><font size=4>Please enter a valid
IP</font></font>";
        }
}

?>

<br>
<br>

<table border="0">
        <tr><td><b>This website use multiple DNSBLs:</b></td></tr>
        <tr><td>bl.spamcop.net</td></tr>
        <tr><td>cbl.abuseat.org</td></tr>
        <tr><td>dnsbl.justspam.org</td></tr>
        <tr><td>dnsbl.sorbs.net</td></tr>
        <tr><td>relays.mail-abuse.org</td></tr>
        <tr><td>spam.dnsbl.sorbs.net</td></tr>
        <tr><td>spamguard.leadmon.net</td></tr>
        <tr><td>zen.spamhaus.org</td></tr>
</table>

</CENTER>
</body>
</html>
```

After that, open your browser and type the URL below:

```
http://ip_server_address/check_ip_spam.php
```

Then there should be a display like below:

The PHP Application

Enter the IP you want to check in the public IP field, such as IP **172.217.194.113**, then press the **LOOKUP** button, then there will be results like the picture below:

Display when a public IP is not on the spam list

If the public IP that you put in the spam list, e.g., IP **24.209.96.220**, then the result is like in the image below:

Display when a public IP is on the spam list

If you are wrong to enter a public IP, there is an error like the image below:

Display when mistyping a public IP

Note

If you want to change the DNSBL or Domain Name System Blacklists list, then you can change it in lines 23-30 of the script and you can add the DNSBL list here. The more you enter the DNSBL list, the more valid the output will be.

References

gist.github.com
freecodecamp.org

How to Install the Latest Version of MariaDB on the Linux Server?

written by sysadmin | 12 March 2025

MariaDB is one of the widely used open-source database applications that was first released in 2009. This database was named MySQL, but in 2008, Sun Microsystems acquired MySQL, so the MySQL database maker made MariaDB as a free version. But sometimes when you install MariaDB on your Linux server, your MariaDB version is not the latest version.

Problem

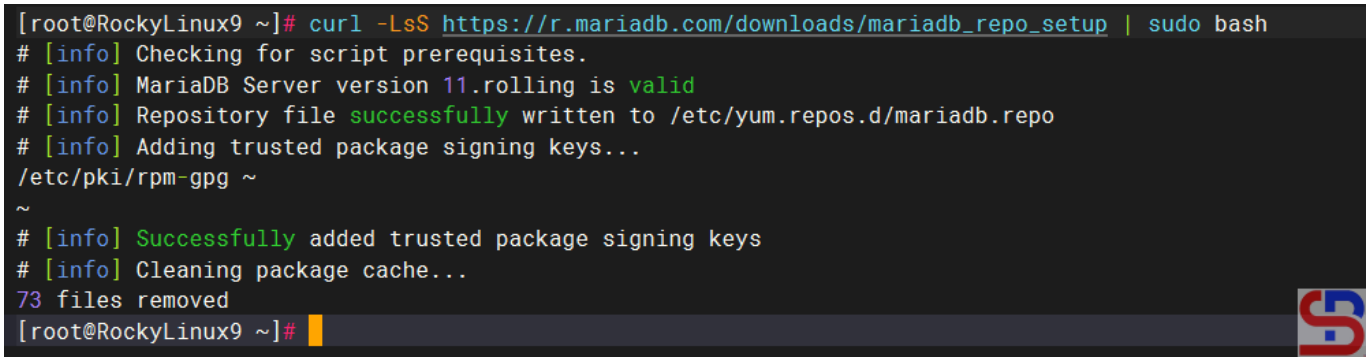
How to install the latest version of MariaDB on the Linux server?

Solution

As of this writing, the latest MariaDB version is 11.7.2. Use the command below to create a MariaDB repository on your Linux server:

```
curl -LsS https://r.mariadb.com/downloads/mariadb_repo_setup | sudo bash
```

and the process will occur as shown image below:



Running the command

After that, install MariaDB based on the Linux server distribution that you use:

Redhat-Based Version (Centos, Almalinux, Rockylinux)

```
yum install MariaDB-server MariaDB-client MariaDB-backup
```

Ubuntu/Debian

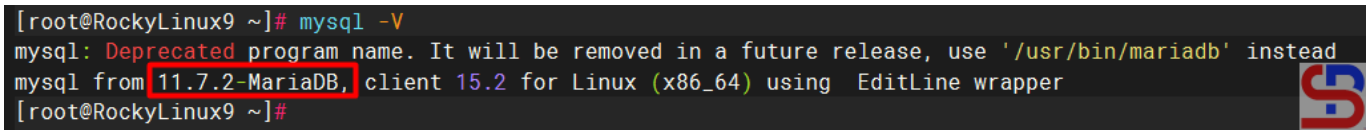
```
sudo apt-get install mariadb-server mariadb-client mariadb-backup
```

OpenSUSE

```
sudo zypper install MariaDB-server MariaDB-client MariaDB-backup
```

After MariaDB has been installed on your Linux server, use the command below to see the MariaDB version that you have installed:

```
mysql -V
```



Checking the MariaDB version

After that, use the command below to see the status of MariaDB:

```
systemctl status mariadb
```

```
sysadmin@ubuntu2404:~$ systemctl status mariadb
● mariadb.service - MariaDB 11.7.2 database server
     Loaded: loaded (/usr/lib/systemd/system/mariadb.service; enabled; preset: enabled)
    Drop-In: /etc/systemd/system/mariadb.service.d
             └─migrated-from-my.cnf-settings.conf
     Active: active (running) since Sat 2025-04-19 09:42:52 UTC; 1min 0s ago
       Docs: man:mariadbd(8)
             https://mariadb.com/kb/en/library/systemd/
    Process: 2604 ExecStartPre=/usr/bin/install -m 755 -o mysql -g root -d /var/run/mysqld (code=exited, status=0/SUCCESS)
    Process: 2606 ExecStartPre=/bin/sh -c [ ! -e /usr/bin/galera_recovery ] && VAR= ||   VAR=`/usr/bin/galera_recovery`; [ $? -eq 0 ]   &&
    Process: 2648 ExecStartPost=/bin/rm -f /run/mysqld/wsrep-start-position (code=exited, status=0/SUCCESS)
    Process: 2650 ExecStartPost=/etc/mysql/debian-start (code=exited, status=0/SUCCESS)
   Main PID: 2629 (mariadbd)
     Status: "Taking your SQL requests now..."
      Tasks: 10 (limit: 7054)
     Memory: 174.9M (peak: 264.2M)
        CPU: 24.956s
     CGroup: /system.slice/mariadb.service
             └─2629 /usr/sbin/mariadbd

Apr 19 09:42:40 ubuntu2404 mariadbd[2629]: 2025-04-19  9:42:40 0 [Note] Plugin 'wsrep-provider' is disabled.
Apr 19 09:42:40 ubuntu2404 mariadbd[2629]: 2025-04-19  9:42:40 0 [Note] InnoDB: Buffer pool(s) load completed at 250419  9:42:40
Apr 19 09:42:51 ubuntu2404 mariadbd[2629]: 2025-04-19  9:42:51 0 [Note] Server socket created on IP: '127.0.0.1'.
Apr 19 09:42:51 ubuntu2404 mariadbd[2629]: 2025-04-19  9:42:51 0 [Note] mariadbd: Event Scheduler: Loaded 0 events
Apr 19 09:42:51 ubuntu2404 mariadbd[2629]: 2025-04-19  9:42:51 0 [Note] /usr/sbin/mariadbd: ready for connections.
Apr 19 09:42:51 ubuntu2404 mariadbd[2629]: Version: '11.7.2-MariaDB-ubu2404'  socket: '/run/mysqld/mysqld.sock'  port: 3306  mariadb.org b
Apr 19 09:42:52 ubuntu2404 systemd[1]: Started mariadb.service - MariaDB 11.7.2 database server.
Apr 19 09:42:52 ubuntu2404 /etc/mysql/debian-start[2652]: Upgrading MariaDB tables if necessary.
Apr 19 09:42:53 ubuntu2404 /etc/mysql/debian-start[2665]: Checking for insecure root accounts.
Apr 19 09:42:54 ubuntu2404 /etc/mysql/debian-start[2669]: Triggering myisam-recover for all MyISAM tables and aria-recover for all Ar
sysadmin@ubuntu2404:~$
```

Display the status of service

You can see the image above that MariaDB's service is on. However, if MariaDB's service is still not on, use the command below to turn on the MariaDB service:

```
systemctl start mariadb
```

To run MariaDB after turning on the server, use the command below:

```
systemctl enable mariadb
```

```
sysadmin@ubuntu2404:~$ sudo systemctl enable mariadb
Synchronizing state of mariadb.service with SysV service script with /usr/lib/systemd/systemd-sysv-install.
Executing: /usr/lib/systemd/systemd-sysv-install enable mariadb
sysadmin@ubuntu2404:~$
```

Enable MariaDB

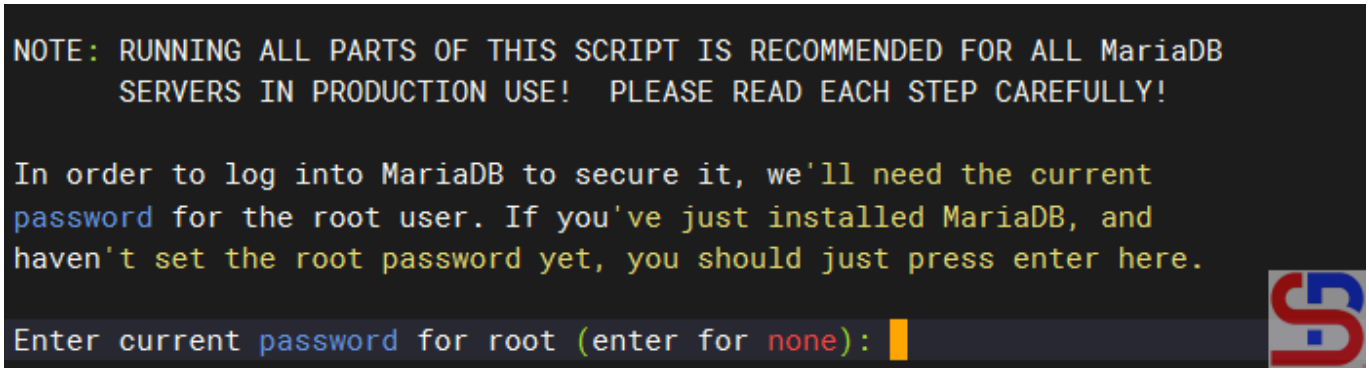
After that, to MariaDB becomes safe, use one of the commands below:

```
sudo mariadb_secure_installation
```

OR

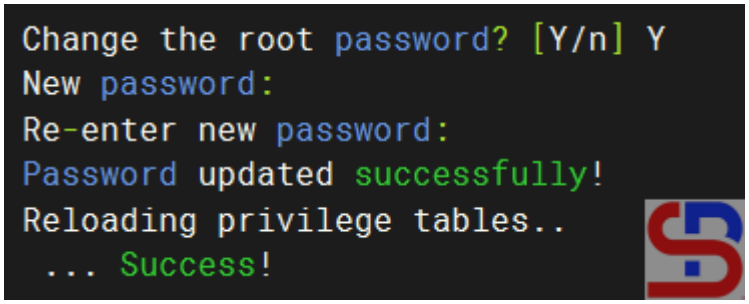
```
sudo mariadb-secure-installation
```

Then there will be a display as in the image below:



Running the command

By default, there is no password when accessing MariaDB so press the **Enter** button to continue the process. After that, you must answer the questions displayed, including creating a new password as shown below:



Write the password

Then, continue until the process is finished. The next article will explain how to manage a database and its table(s) in MariaDB.

Note

Use the command below if you want to see the option when you run the command to make a repo:

```
curl -LsS https://r.mariadb.com/downloads/mariadb_repo_setup | sudo bash -s -- --help
```

If you want to install a certain version of MariaDB, for

example, version 11.4, then you can use the command below:

```
curl -LsS https://r.mariadb.com/downloads/mariadb_repo_setup | sudo bash -s -- --mariadb-server-version="mariadb-11.4"
```

If you want to download a script, use the command below:

```
curl -LO https://r.mariadb.com/downloads/mariadb_repo_setup
```

References

mariadb.com
devopscube.com

How to Make a Virtual Machine's IP Address on Hyper-V Static?

written by sysadmin | 12 March 2025

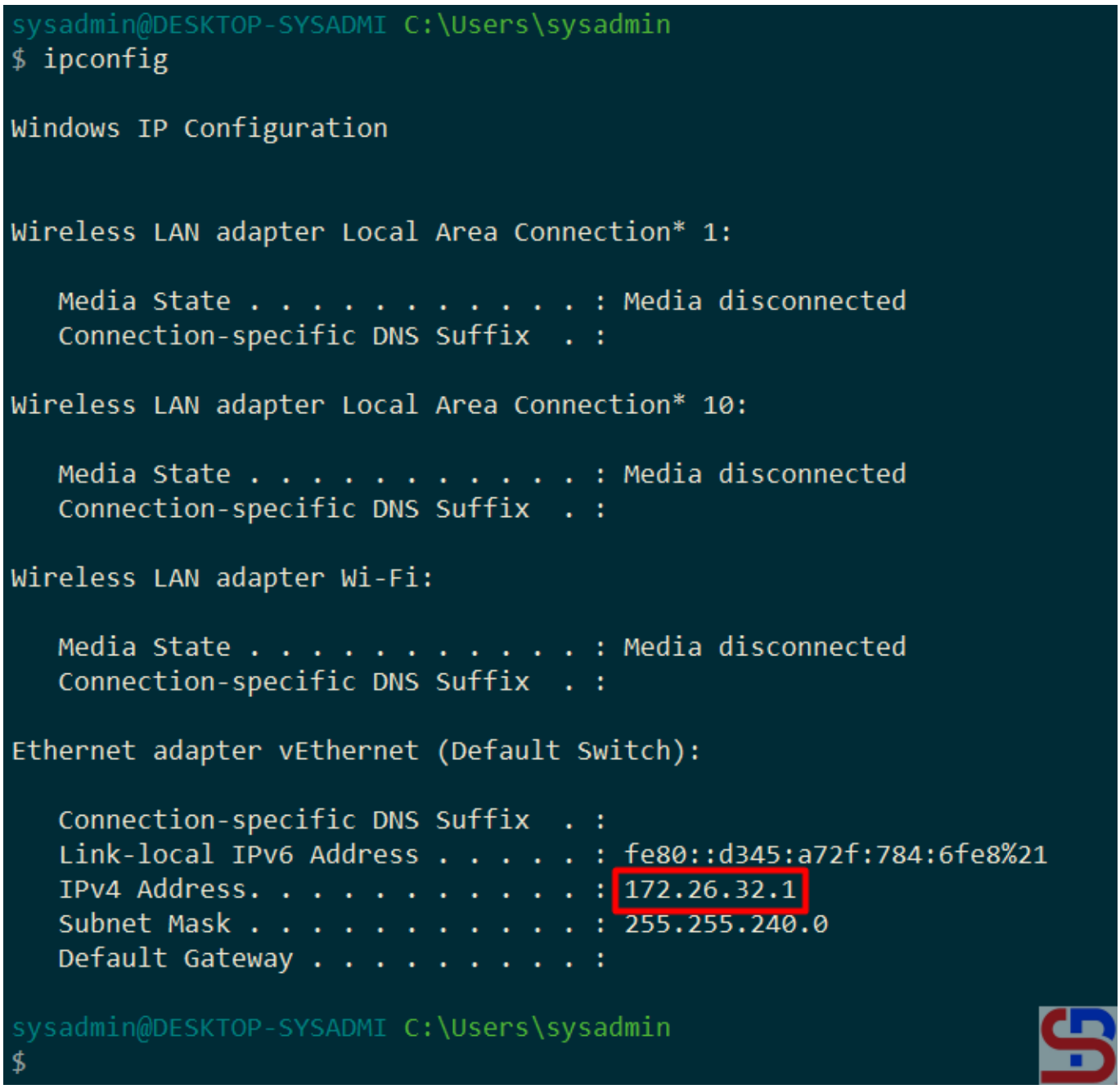
Throughout my experience using Hyper-V on Windows, if my virtual machine is using a static IP, then if my virtual machine or my laptop is restarted, my virtual machine's IP will change automatically, even though I have created a static IP on my virtual machine. So I had to change the settings in a few places to keep up with the IP changes on my virtual machine, and it's very tiring. However, I plan to make the virtual machine's IP address on Hyper-V static.

Problem

How to make a virtual machine's IP address on Hyper-V static?

Solution

When you create a virtual machine in Hyper-V, it will use the **Default-Switch** connection by default. This connection usually has a class B IP, like in the image below on my laptop:



The IP of the Default Switch in my laptop

If I create a virtual machine in Hyper-V, it will usually get an IP in class B as well, and it will change if there is a restart on my virtual machine or my Windows laptop. Therefore, I want to create a static IP in class C on my

virtual machine in Hyper-V.

A. On Windows

First, I have to create a new Virtual Switch, which I call **StaticIP**, and I write the following command in PowerShell:

```
New-VMSwitch -SwitchName "StaticIP" -SwitchType Internal
```

On the new Virtual Switch, I have to enter the IP address 192.168.100.0/24, so I type in PowerShell like the command below:

```
New-NetIPAddress -IPAddress 192.168.100.1 -PrefixLength 24 -InterfaceAlias
"vEthernet (StaticIP)"
```

After that, I created an IP NAT for the new Virtual Switch by typing in PowerShell:

```
New-NetNAT -Name NATStaticIP -InternalIPInterfaceAddressPrefix
192.168.100.0/24
```

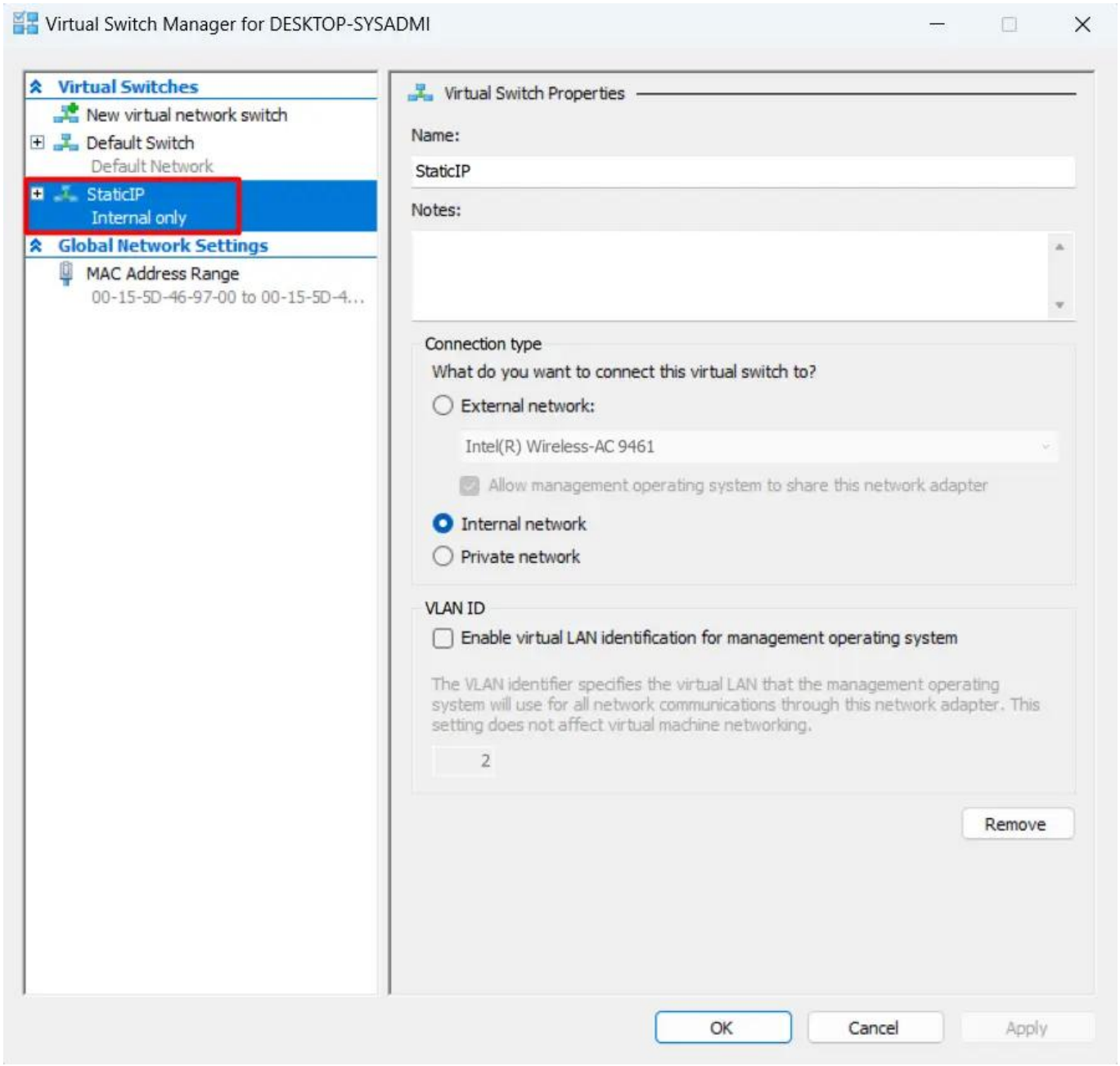
Then there should be a display as in the image below:

```
PS C:\Users\sysadmin> New-VMSwitch -SwitchName "StaticIP" -SwitchType Internal

Name     SwitchType NetAdapterInterfaceDescription
----     ---------- ----------------------------
StaticIP Internal


PS C:\Users\sysadmin> New-NetIPAddress -IPAddress 192.168.100.1 -PrefixLength 24 -InterfaceAlias "vEthernet (StaticIP)"


IPAddress         : 192.168.100.1
InterfaceIndex    : 37
InterfaceAlias    : vEthernet (StaticIP)
AddressFamily     : IPv4
Type              : Unicast
PrefixLength      : 24
PrefixOrigin      : Manual
SuffixOrigin      : Manual
AddressState      : Tentative
ValidLifetime     :
PreferredLifetime :
SkipAsSource      : False
PolicyStore       : ActiveStore

IPAddress         : 192.168.100.1
InterfaceIndex    : 37
InterfaceAlias    : vEthernet (StaticIP)
AddressFamily     : IPv4
Type              : Unicast
PrefixLength      : 24
PrefixOrigin      : Manual
SuffixOrigin      : Manual
AddressState      : Invalid
ValidLifetime     :
PreferredLifetime :
SkipAsSource      : False
PolicyStore       : PersistentStore


PS C:\Users\sysadmin> New-NetNAT -Name NATStaticIP -InternalIPInterfaceAddressPrefix 192.168.100.0/24


Name                             : NATStaticIP
ExternalIPInterfaceAddressPrefix :
InternalIPInterfaceAddressPrefix : 192.168.100.0/24
IcmpQueryTimeout                 : 30
TcpEstablishedConnectionTimeout  : 1800
TcpTransientConnectionTimeout    : 120
TcpFilteringBehavior             : AddressDependentFiltering
UdpFilteringBehavior             : AddressDependentFiltering
UdpIdleSessionTimeout            : 120
UdpInboundRefresh                : False
Store                            : Local
Active                           : True


PS C:\Users\sysadmin>
```

Execute the commands

B. Check the Connections

On Hyper-V Manager, there will be a new Virtual Switch Manager named **StaticIP** as shown below:

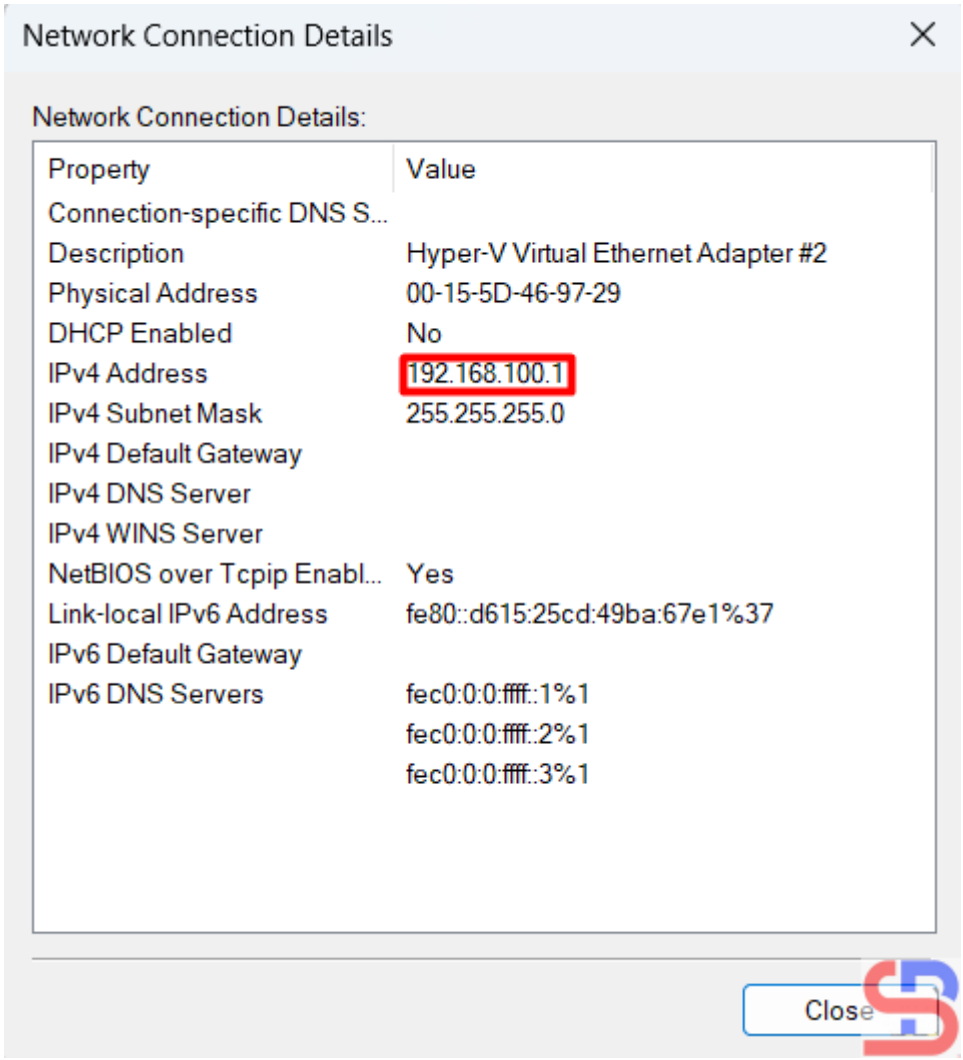


New Virtual Switch

In the **Network Connections** section, there will be a new adapter as shown below:

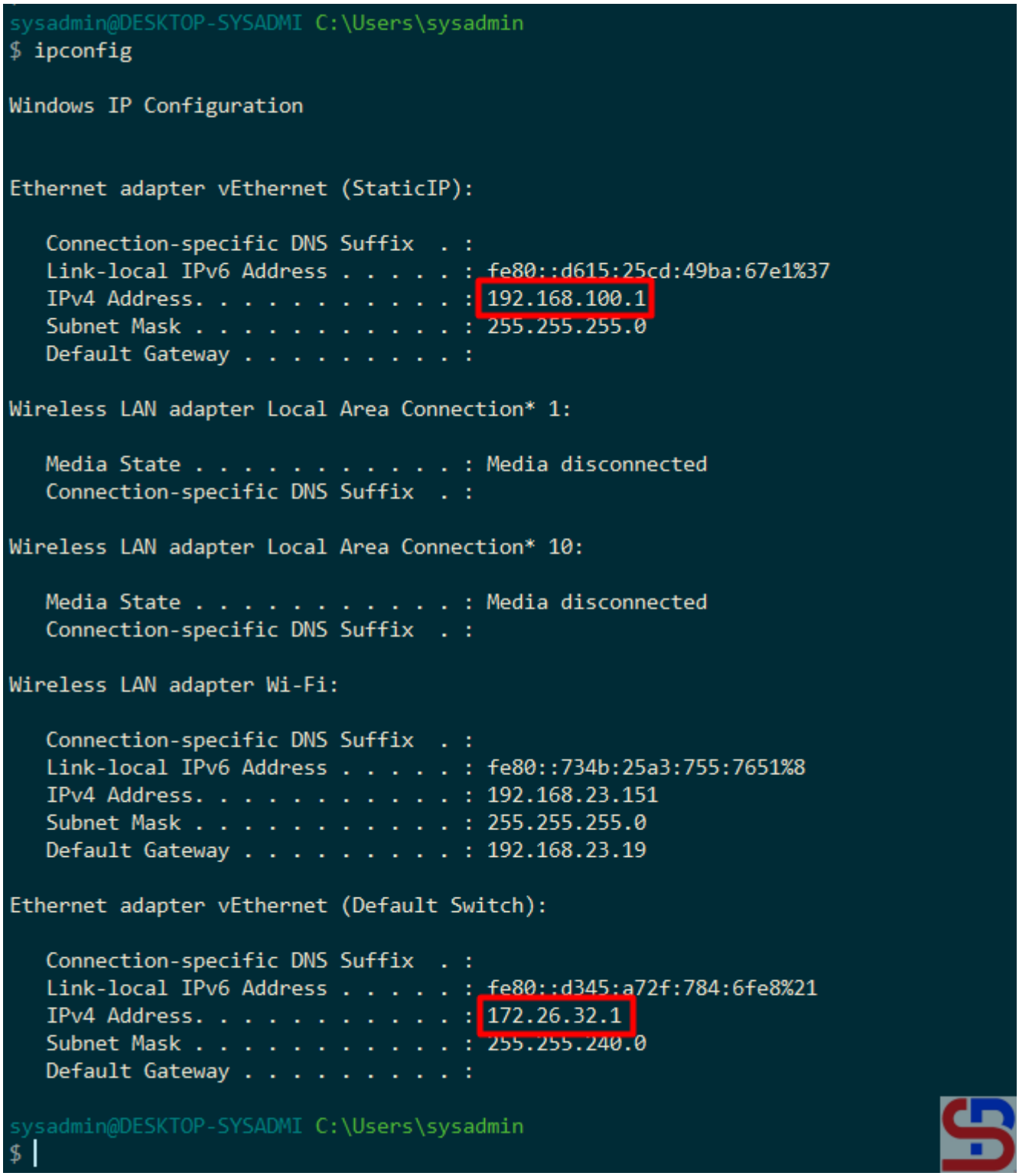
New adapter in the Network Connection

And the IP of the new adapter is 192.168.100.1 as shown below:



The IP of the new adapter

Or if you want a more complete IP for all adapters can be seen in the image below:

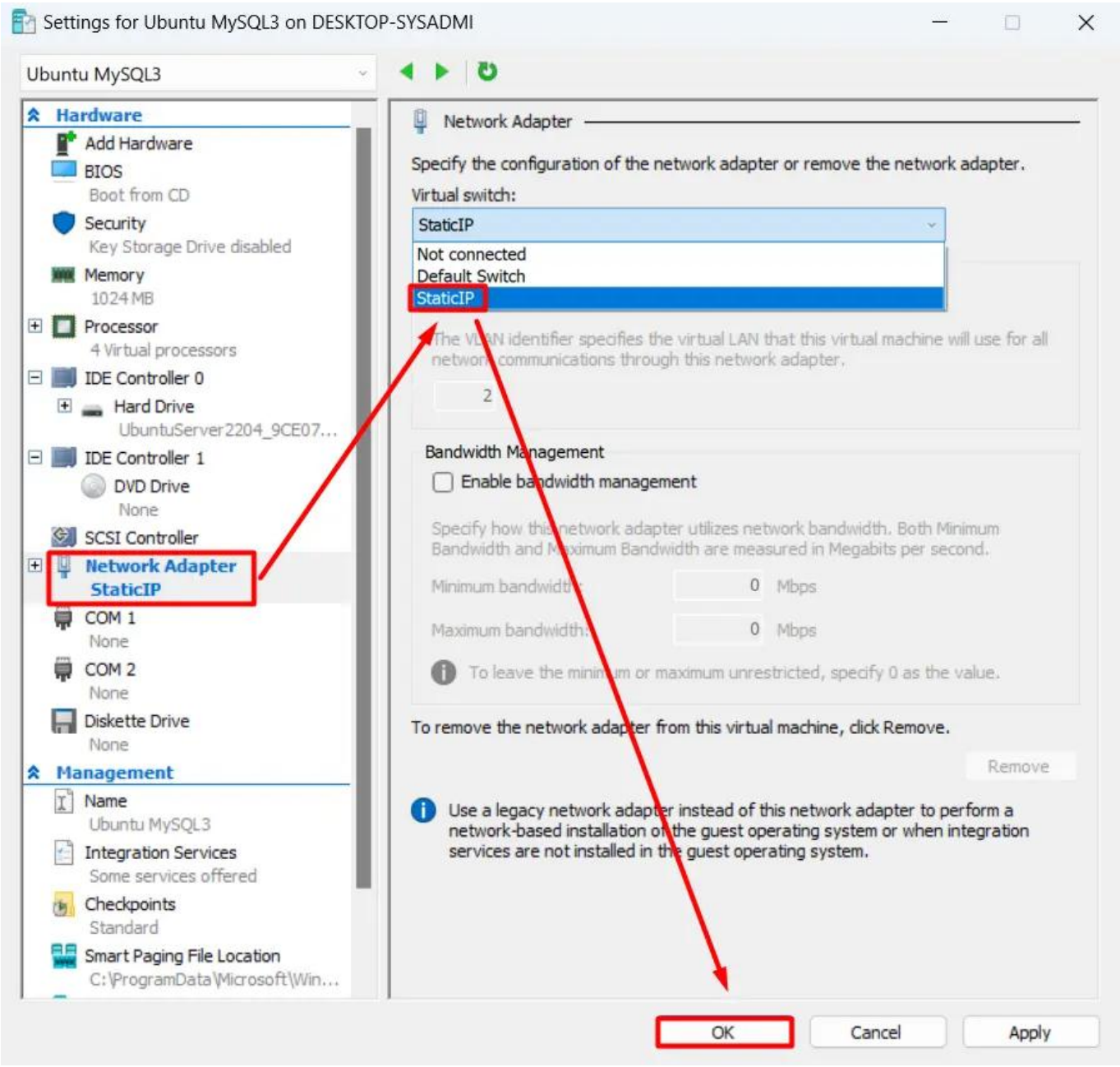


Display all IPs of adapters

B. On a Virtual Machine

If you have previously created a virtual machine, change the virtual machine settings in the **Virtual Switch** section,

select StaticIP as shown below, and then click the OK button:



Select the new Virtual Switch

After that, log in to the virtual machine and change the IP. Because I am using Ubuntu, I changed it in the netplan section as shown below:

```
# This is the network config written by 'subiquity'
network:
  ethernets:
    eth0:
      dhcp4: false
      addresses:
          - 192.168.100.11/24
      routes:
          - to: default
            via: 192.168.100.1
      nameservers:
        addresses:
          - 8.8.8.8
          - 8.8.4.4
  version: 2
```

Change IP in Ubuntu

After that, I restarted the network and saw the changed IP as in the picture below:

```
qwerty@server3:~$ sudo netplan apply
[  143.282259] blk_update_request: I/O error, dev fd0, sector 0 op 0x0:(READ) flags 0x80700 phys_seg 1 prio class 0
[  143.282598] blk_update_request: I/O error, dev fd0, sector 0 op 0x0:(READ) flags 0x0 phys_seg 1 prio class 0
[  143.282634] Buffer I/O error on dev fd0, logical block 0, async page read
qwerty@server3:~$
qwerty@server3:~$ 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
       valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq state UP group default qlen 1000
    link/ether 00:15:5d:46:97:22 brd ff:ff:ff:ff:ff:ff
    inet 192.168.100.11/24 brd 192.168.100.255 scope global eth0
       valid_lft forever preferred_lft forever
    inet6 fe80::215:5dff:fe46:9722/64 scope link
       valid_lft forever preferred_lft forever
qwerty@server3:~$
qwerty@server3:~$ ping -c2 google.com
PING google.com (142.250.4.113) 56(84) bytes of data.
64 bytes from sm-in-f113.1e100.net (142.250.4.113): icmp_seq=1 ttl=108 time=41.6 ms
64 bytes from sm-in-f113.1e100.net (142.250.4.113): icmp_seq=2 ttl=108 time=50.8 ms

--- google.com ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1001ms
rtt min/avg/max/mdev = 41.648/46.231/50.815/4.583 ms
qwerty@server3:~$
qwerty@server3:~$ _
```

Restart the network in the VM

Based on the picture above, my virtual machine can connect to the internet, making it easier for me to install something from the internet on my virtual machine. After that, I tried to reboot the virtual machine, and the IP of the virtual machine is still the same.

Note

You don’t need the above steps if your virtual machine uses DHCP.

References

mattwalsh.dev
devpress.csdn.net
superuser.com

How to Automatically Copy a File During Linux User Creation?

written by sysadmin | 12 March 2025

If you have been a sysadmin in a company for a long time, then you will usually change the Linux server settings according to what you want, for example, you create a recycle bin in your Linux server. If there is a new sysadmin, it will take a long time to explain what you are changing. Therefore, you plan to create a readme.txt file on the Linux server that contains the changes you made on the Linux server and automatically copy a file during Linux user creation.

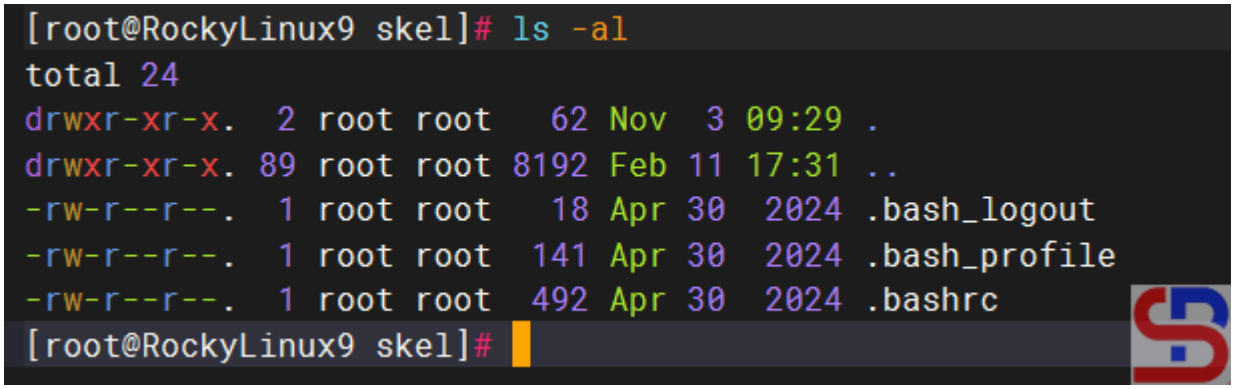
Problem

How to automatically copy a file during Linux user creation?

Solution

Go to the **/etc/skel** folder, which contains files and directories. If a new Linux user is created, all the files

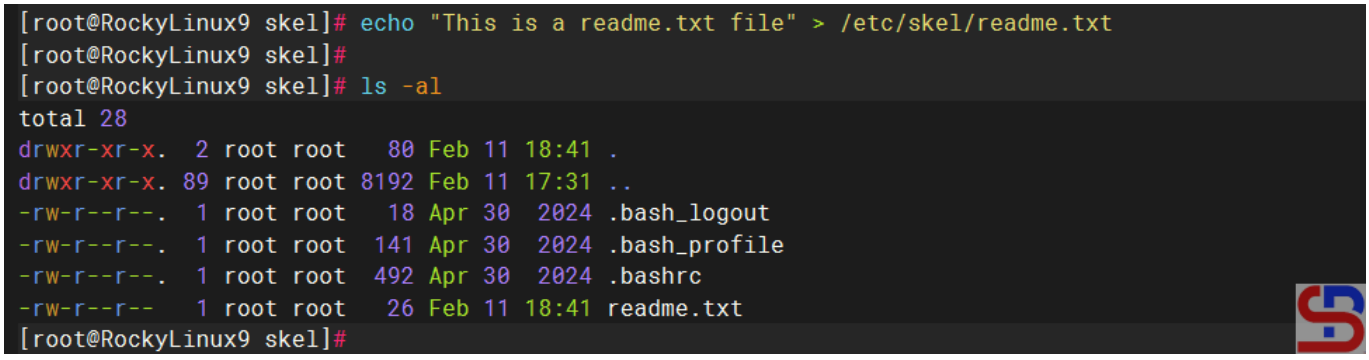
and directories in this folder will be copied to the Linux user's folder. Below is an image of the contents of the skel folder in the RockyLinux distro, and the contents of the skel folder can be different in each Linux distro:



The skel folder in the RockyLinux distro

If you want to copy a file to each new Linux user, create the file in the /etc/skel folder. For example, you create a readme.txt file like the following command:

```
echo 'This is a readme.txt file' > /etc/skel/readme.txt
```



Create a readme.txt file

After that, create a new Linux user, for example, bob. Use the command below to create a user named bob on Linux:

```
useradd -m bob
```

The **-m** option tells useradd to create the user's home directory. Then, check the bob folder if the readme.txt file is in the bob folder by using the command below:

```
ls -l /home/bob
```

```
cat /home/bob/readme.txt
```

```
[root@RockyLinux9 skel]# useradd -m bob
[root@RockyLinux9 skel]#
[root@RockyLinux9 skel]# ls -al /home/bob
total 16
drwx------  2 bob  bob   80 Feb 11 18:42 .
drwxr-xr-x. 5 root root  47 Feb 11 18:42 ..
-rw-r--r--  1 bob  bob   18 Apr 30  2024 .bash_logout
-rw-r--r--  1 bob  bob  141 Apr 30  2024 .bash_profile
-rw-r--r--  1 bob  bob  492 Apr 30  2024 .bashrc
-rw-r--r--  1 bob  bob   26 Feb 11 18:41 readme.txt
[root@RockyLinux9 skel]#
[root@RockyLinux9 skel]# cat /home/bob/readme.txt
This is a readme.txt file
[root@RockyLinux9 skel]#
```

Check in the user folder

From the image above, you can see that the readme.txt file is already in the bob folder automatically. To be more sure, try creating a new Linux user, and the readme.txt file should appear in your new user.

Note

Make sure to use the **-m** option when creating a new user in Linux so that the file(s) or folder(s) can be automatically copied from the skel folder.

References

youtube.com
linux.org

How to Create a Recycle Bin on Linux CLI?

written by sysadmin | 12 March 2025

By default, as of this writing (February 2025), there is no recycle bin function like in Windows in the Linux CLI. This is very dangerous if you accidentally delete an important file or folder on your Linux CLI; the file or folder will disappear forever. Therefore, you have to create a recycle bin on the Linux CLI.

Problem

How to create a Recycle Bin on Linux CLI?

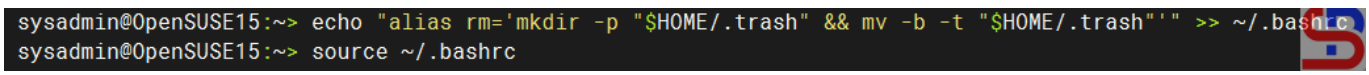
Solution

You must first determine where the recycle bin is located, and this article uses the **.trash** folder as a recycle bin on the Linux server. Then type the command below to carry out the folder function as a recycle bin (you can change the .trash folder to the name of the folder you want):

```
echo "alias rm='mkdir -p "$HOME/.trash" && mv -b -t "$HOME/.trash"'" >> ~/.bashrc
```

After that, run the command below:

```
source ~/.bashrc
```



Run the commands

Info
You have to change the .bashrc file in each of your Linux users, so that if there are 3 users on your Linux server, then you must change the three .bashrc files so that you can run the Recycle Bin function in each user.

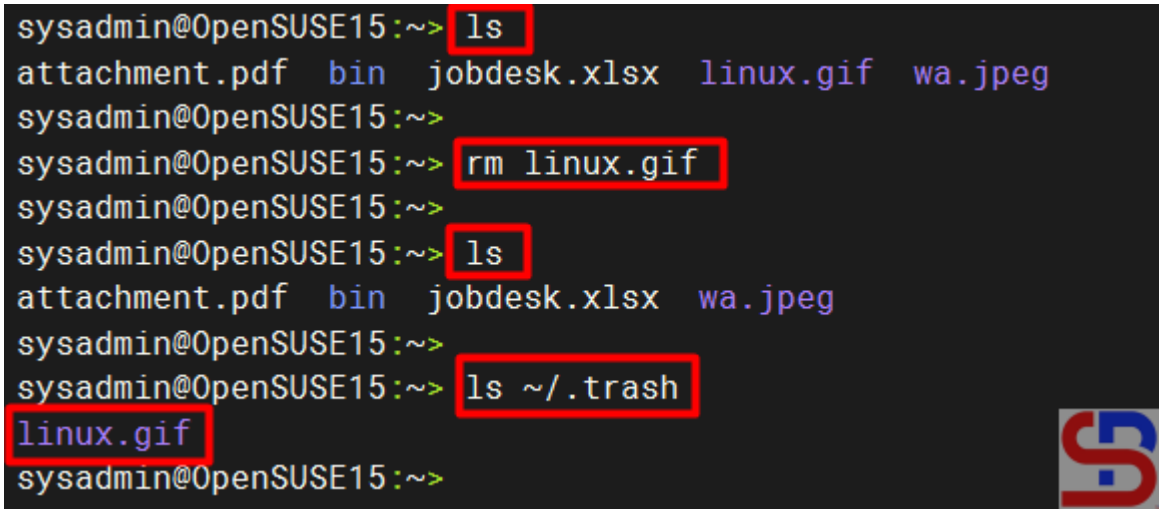
For example, you want to delete the Linux.gif file from the folder /home/sysadmin, so I use the command below to delete it:

```
rm /home/sysadmin/Linux.gif
```

Info

If you want to delete the folder, **use the rm command** only, not use rm -rf command..

After that, check the .trash folder and you will see that the file you deleted is still in the folder.



Delete the file after creating a recycle bin in Linux

So, now the Recycle Bin function in the Linux server runs normally. If you want to return the file to the previous folder, then type the command below:

```
mv ~/.trash/linux.gif /home/sysadmin
```

```
sysadmin@OpenSUSE15:~> ls
attachment.pdf  bin  jobdesk.xlsx  wa.jpeg
sysadmin@OpenSUSE15:~>
sysadmin@OpenSUSE15:~> ls ~/.trash
linux.gif
sysadmin@OpenSUSE15:~>
sysadmin@OpenSUSE15:~> mv ~/.trash/linux.gif /home/sysadmin
sysadmin@OpenSUSE15:~>
sysadmin@OpenSUSE15:~> ls
attachment.pdf  bin  jobdesk.xlsx  linux.gif  wa.jpeg
sysadmin@OpenSUSE15:~>
sysadmin@OpenSUSE15:~> ls ~/.trash/
sysadmin@OpenSUSE15:~>
```

Move the file from the .trash folder

But if you want to delete the file, you must enter the .trash folder, then type the commands below:

```
cd ~/.trash
alias rm='rm -i'
rm -rf Linux.gif
source ~/.bashrc
```

```
sysadmin@OpenSUSE15:~> cd ~/.trash/
sysadmin@OpenSUSE15:~/.trash>
sysadmin@OpenSUSE15:~/.trash> alias rm='rm -i'
sysadmin@OpenSUSE15:~/.trash>
sysadmin@OpenSUSE15:~/.trash> rm linux.gif
rm: remove regular file 'linux.gif'? y
sysadmin@OpenSUSE15:~/.trash>
sysadmin@OpenSUSE15:~/.trash> source ~/.bashrc
sysadmin@OpenSUSE15:~/.trash>
```

Delete the file in the .trash command

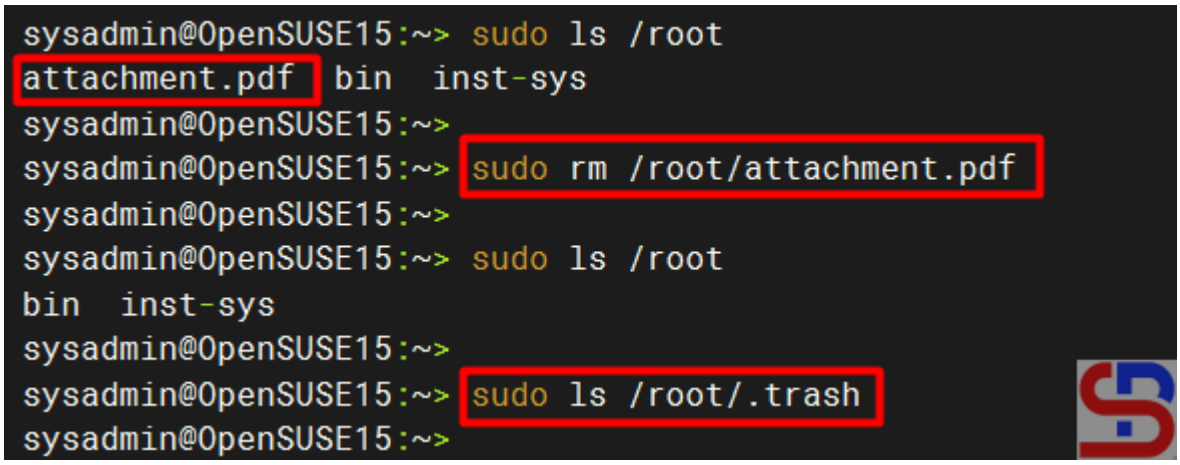
If you want to delete all files or folders in the .trash folder, then type the command below:

```
cd ~/.trash
alias rm='rm -i'
rm -rf *
source ~/.bashrc
```

Remember that you must always run the **source ~/.bashrc** command. After you delete the .trash folder, the file or folder you delete will be in the .trash folder. If not, the file or folder will disappear forever from your Linux server.

Note

You must know that if you use sudo to delete a file or folder, the file or folder will disappear forever and will not be stored in the .trash folder as shown below:



Delete a file using sudo

So, be careful when you delete file(s) or folder(s) using sudo.

References

unix.stackexchange.com
2daygeek.com
blog.desdelinux.net

How to Install PostgreSQL on a Linux

Server?

written by sysadmin | 12 March 2025

PostgreSQL, also known as Postgres, is a free and open-source Relational Database Management System (RDBMS) emphasizing extensibility and SQL compliance.

Problem

How to install PostgreSQL on a Linux server?

Solution

In this article, I use the Linux distro RockyLinux server version 9.5, Ubuntu Server version 24.04, and OpenSUSE version 15.6. As of this writing (January 2025), the version of PostgreSQL that has been released is version 17.2.

A. Install PostgreSQL

Here is how to install PostgreSQL on some Linux distros:

RockyLinux

```
dnf install -y
https://download.postgresql.org/pub/repos/yum/reporpms/EL-9-x86_64/pgdg-redha
t-repo-latest.noarch.rpm
dnf -qy module disable postgresql
dnf install -y postgresql17-server
/usr/pgsql-17/bin/postgresql-17-setup initdb
systemctl enable postgresql-17
systemctl start postgresql-17
```

Ubuntu

```
sudo apt install curl ca-certificates
sudo install -d /usr/share/postgresql-common/pgdg
sudo curl -o /usr/share/postgresql-common/pgdg/apt.postgresql.org.asc --fail
https://www.postgresql.org/media/keys/ACCC4CF8.asc
sudo sh -c 'echo "deb [signed-by=/usr/share/postgresql-
common/pgdg/apt.postgresql.org.asc] https://apt.postgresql.org/pub/repos/apt
```

```
$(lsb_release -cs)-pgdg main" > /etc/apt/sources.list.d/pgdg.list'
sudo apt update
sudo apt -y install postgresql
sudo systemctl enable postgresql
sudo systemctl start postgresql
```

Debian

```
sudo apt install curl ca-certificates
sudo install -d /usr/share/postgresql-common/pgdg
sudo curl -o /usr/share/postgresql-common/pgdg/apt.postgresql.org.asc --fail
https://www.postgresql.org/media/keys/ACCC4CF8.asc
sudo sh -c 'echo "deb [signed-by=/usr/share/postgresql-
common/pgdg/apt.postgresql.org.asc] https://apt.postgresql.org/pub/repos/apt
$(lsb_release -cs)-pgdg main" > /etc/apt/sources.list.d/pgdg.list'
sudo apt update
sudo apt -y install postgresql
sudo systemctl enable postgresql
sudo systemctl start postgresql
```

OpenSUSE

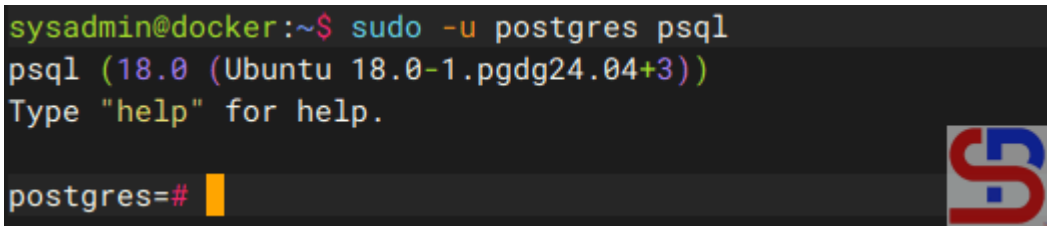
```
sudo zypper install -y postgresql17-server
sudo systemctl enable postgresql
sudo systemctl start postgresql
```

If you want to install the latest version of PostgreSQL, go to this page and choose based on your Linux distro.

B. Connect to PostgreSQL

Now, connect to PostgreSQL using the command below:

```
sudo -u postgres psql
```



Access to the PostgreSQL

Note

By default, only Postgres users can enter the PostgreSQL server, so you run the command **sudo -u postgres psql** to connect to PostgreSQL. If you want to connect to PostgreSQL using other users, such as the root user, use the command below:

```
sudo -u root psql
```

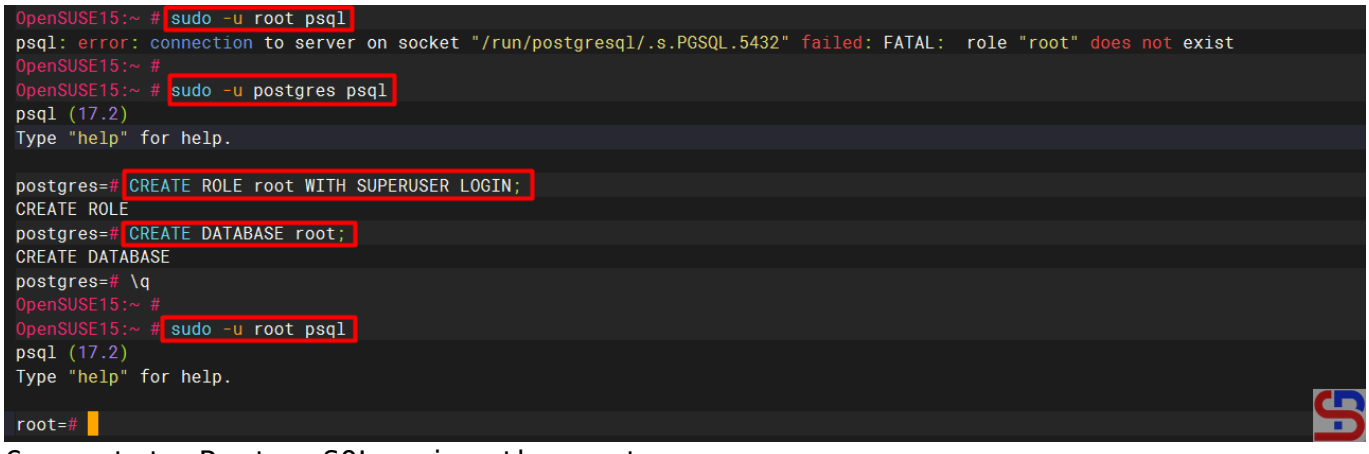
There will be an error like below:

```
psql: error: connection to server on socket "/run/postgresql/.s.PGSQL.5432" failed: FATAL: role "root" does not exist
```

So, you have to define a new role for the root user. Connect to PostgreSQL, and run the command below:

```
CREATE ROLE root WITH SUPERUSER LOGIN;
CREATE DATABASE root;
\q
```

After that, try to connect to PostgreSQL using the root user; it should connect to PostgreSQL as shown in the image below:



Connect to PostgreSQL using the root user

References

en.wikipedia.org
postgresql.org
devart.com
neon.com
openbasesystems.com

How to Change the Timezone on the Linux Server?

written by sysadmin | 12 March 2025

When you install Linux on a server for the first time, you are asked to select the regional zone where the server is located so that Linux will create the date and the time on the server based on that zone. But sometimes you want to change the timezone on your Linux server.

Problem

How to change the timezone on the Linux server?

Solution

To see the timezone currently used on the server, you can use the command:

```
timedatectl
```

```
[root@RockyLinux9 ~]# timedatectl
               Local time: Sat 2025-02-08 02:39:58 EST
           Universal time: Sat 2025-02-08 07:39:58 UTC
                 RTC time: Sat 2025-02-08 07:39:58
                Time zone: America/New_York (EST, -0500)
System clock synchronized: yes
              NTP service: active
          RTC in local TZ: no
[root@RockyLinux9 ~]#
```

The timedatectl command

From the image above, the server's time zone is in the American region in the New York area. To see the timezone provided by Linux, use the following command:

```
timedatectl list-timezones
```

```
[root@RockyLinux9 ~]# timedatectl list-timezones
Africa/Abidjan
Africa/Accra
Africa/Addis_Ababa
Africa/Algiers
Africa/Asmara
Africa/Asmera
Africa/Bamako
Africa/Bangui
Africa/Banjul
Africa/Bissau
Africa/Blantyre
Africa/Brazzaville
Africa/Bujumbura
Africa/Cairo
Africa/Casablanca
Africa/Ceuta
Africa/Conakry
```

List of timezones

If you want to change the timezone to Singapore, then you can type the command below:

```
timedatectl set-timezone Asia/Singapore
```

Then the time on the server will change to Singapore time, as in the image below:

```
[root@RockyLinux9 ~]# timedatectl set-timezone Asia/Singapore
[root@RockyLinux9 ~]#
[root@RockyLinux9 ~]# timedatectl
               Local time: Sat 2025-02-08 15:42:03 +08
           Universal time: Sat 2025-02-08 07:42:03 UTC
                 RTC time: Sat 2025-02-08 07:42:03
                Time zone: Asia/Singapore (+08, +0800)
System clock synchronized: yes
              NTP service: active
          RTC in local TZ: no
[root@RockyLinux9 ~]#
```

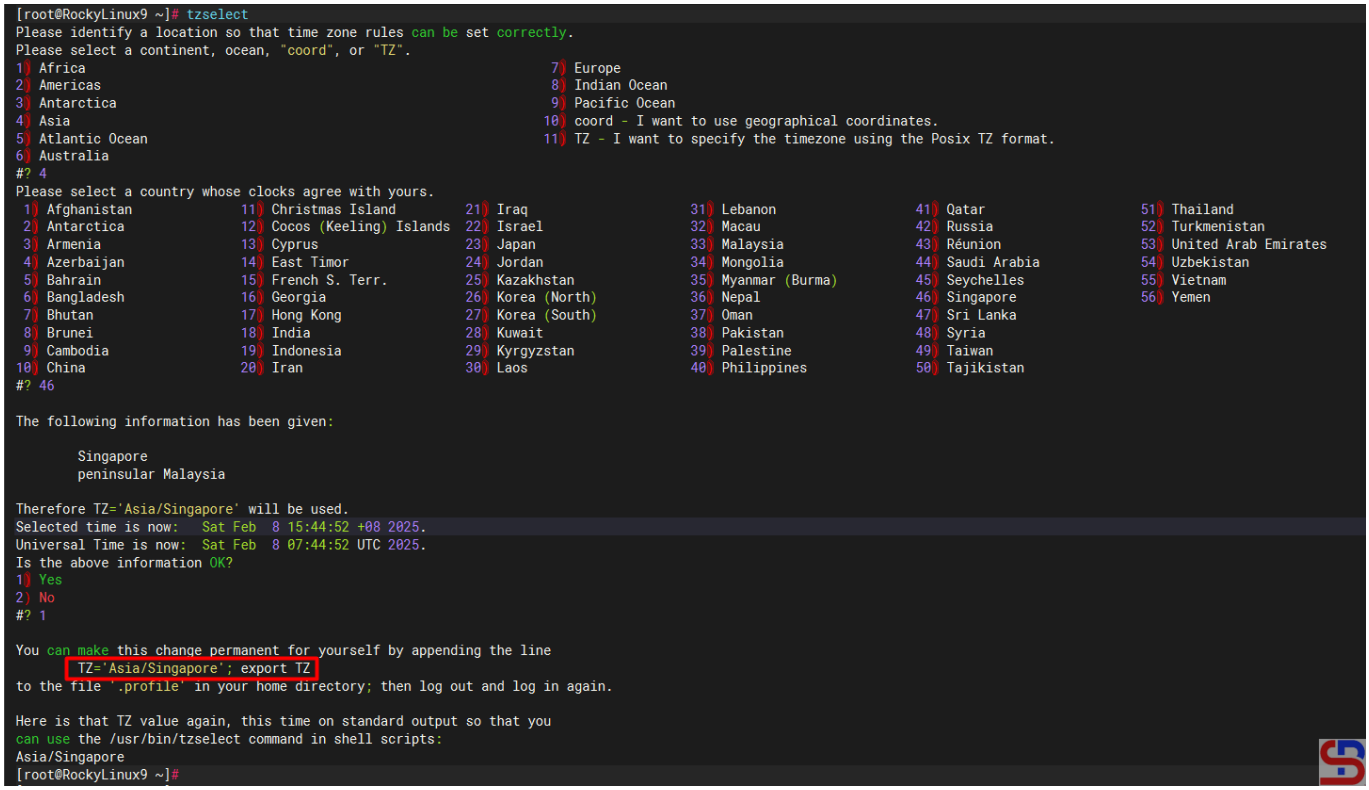
After updating the timezone

Note

Apart from using the timedatectl command, you can also use the command below:

```
tzselect
```

There is a list of the continents. Select the number that corresponds to the zone you want. For example, I choose Singapore as the timezone on my server, then I will choose number 5 for Asia, and will choose Singapore in the country selection, as in the image below:



Alternative to change the timezones

Once finished, the script in the red box must be inserted into the **.profile** or **.bashrc** file (if there is no .bashrc file on the server, then create the file manually). After that, use the command:

```
source ~/.bashrc
```

Then the timezone on the server will change.

References

linuxize.com
wikihow.com
baeldung.com
askubuntu.com
superuser.com