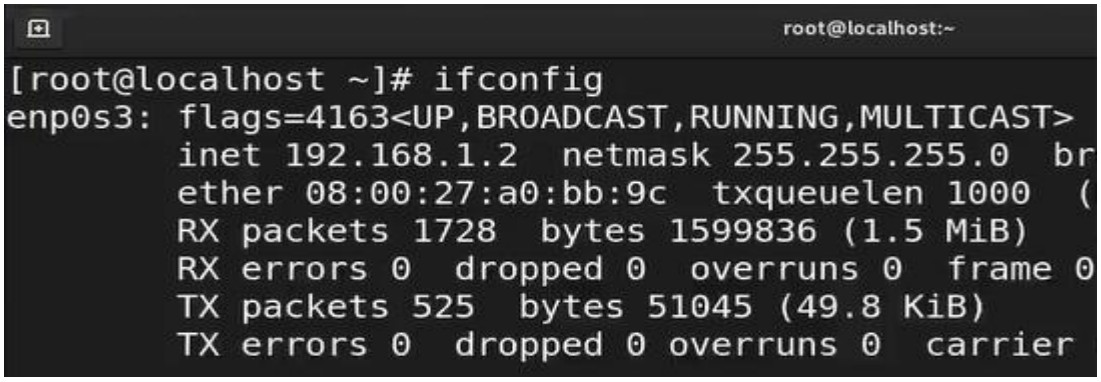
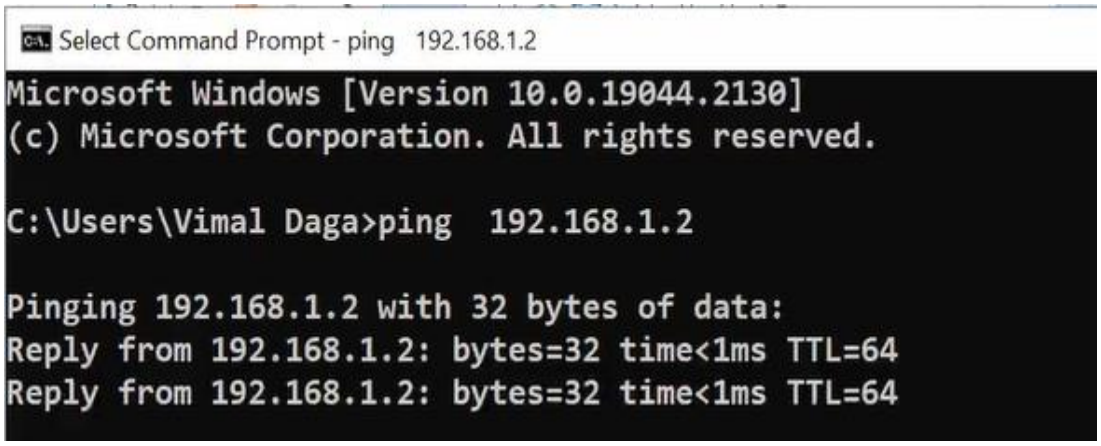
RHEL9

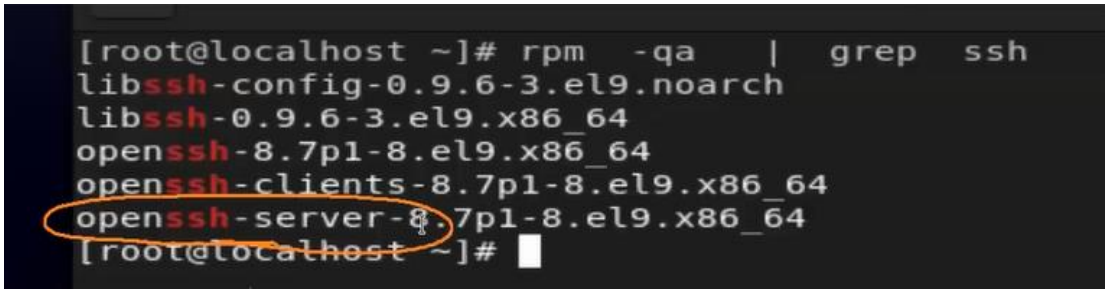
Session 5 – 29th October 2022 Summary

- To check connectivity between two systems-





- To configure server as SSH Server- before installing the software, we can check software already installed



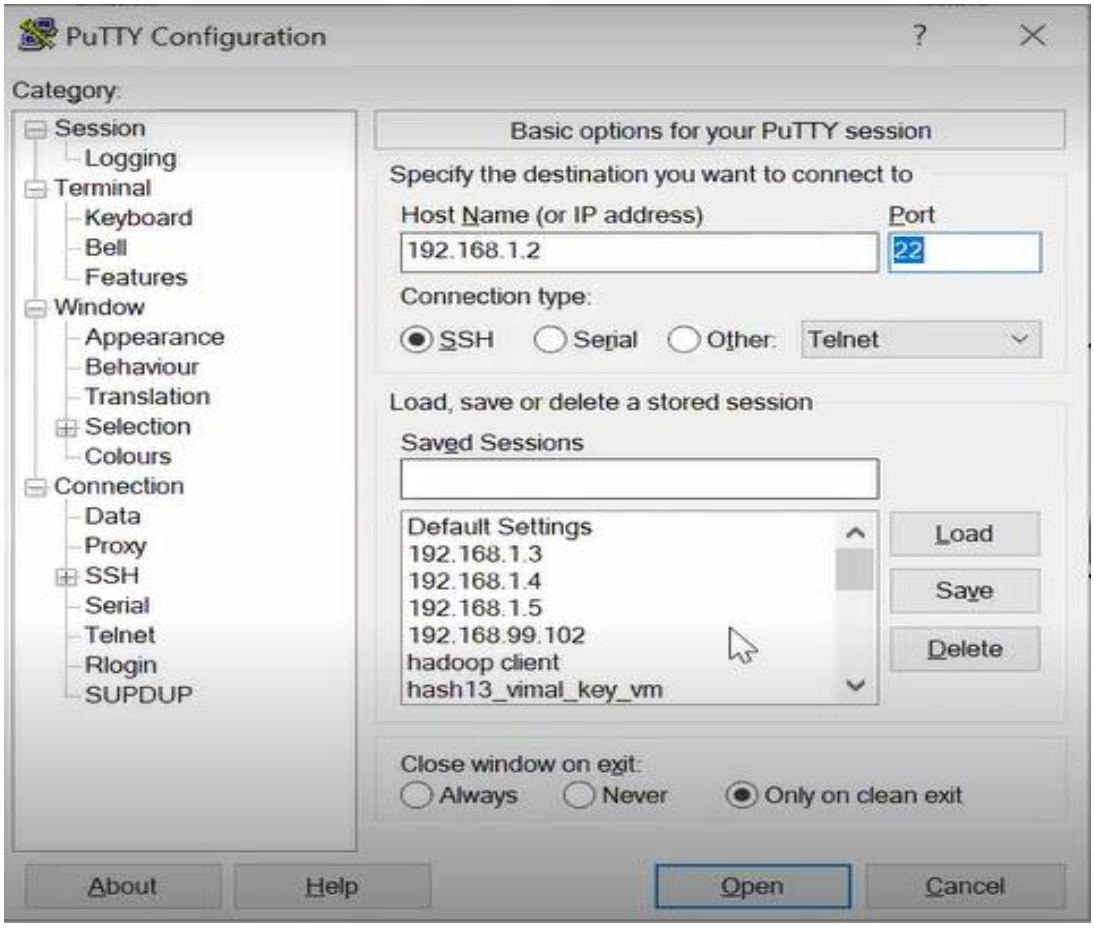
```
[root@localhost ~]#
[root@localhost ~]# rpm  -q  openssh-server
openssh-server-8.7p1-8.el9.x86_64
[root@localhost ~]# yum  install  openssh-server
```

- To start the service-

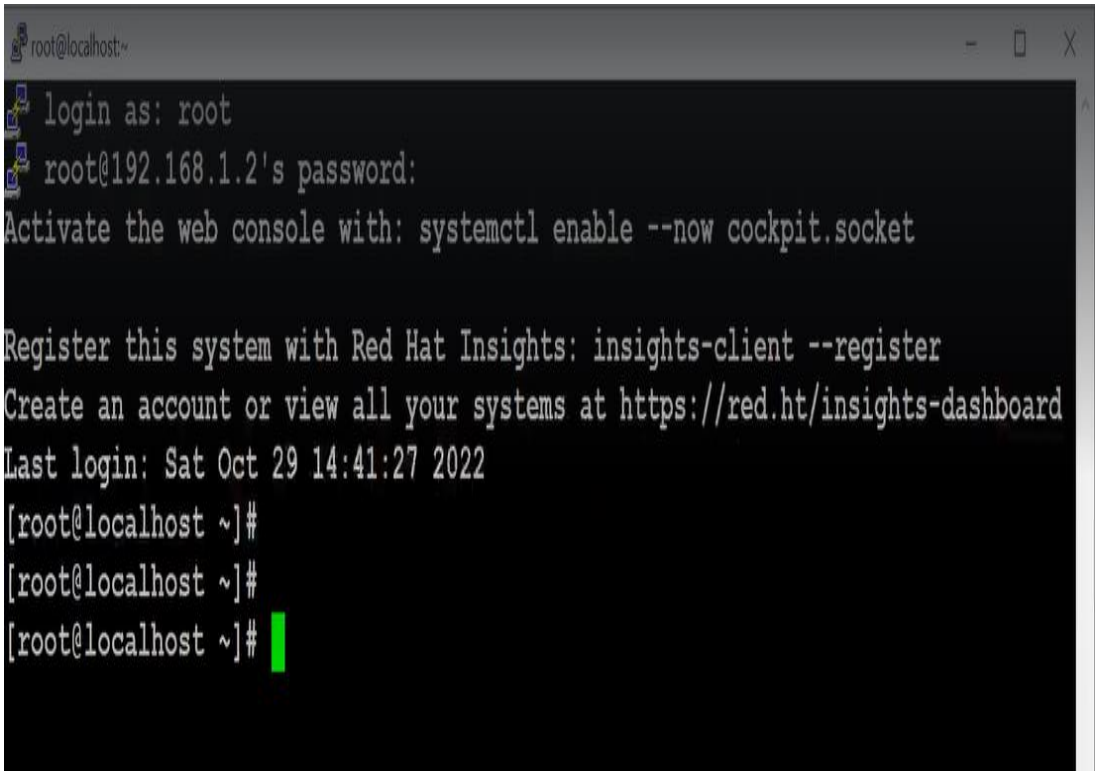
```
[root@localhost ~]# systemctl start  sshd
[root@localhost ~]# systemctl status   sshd
● sshd.service - OpenSSH server daemon
     Loaded: loaded (/usr/lib/systemd/system/sshd.service; enabled; vendor pres>
     Active: active (running) since Sat 2022-10-29 14:24:40 IST; 24min ago
       Docs: man:sshd(8)
             man:sshd_config(5)
   Main PID: 821 (sshd)
      Tasks: 1 (limit: 50436)
     Memory: 3.7M
        CPU: 30ms
     CGroup: /system.slice/sshd.service
             └─821 "sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups"

Oct 29 14:24:40 localhost systemd[1]: Starting OpenSSH server daemon...
Oct 29 14:24:40 localhost sshd[821]: Server listening on 0.0.0.0 port 22.
Oct 29 14:24:40 localhost sshd[821]: Server listening on :: port 22.
Oct 29 14:24:40 localhost systemd[1]: Started OpenSSH server daemon.
lines 1-16/16 (END)
```

- The sshd service is working on port no 22

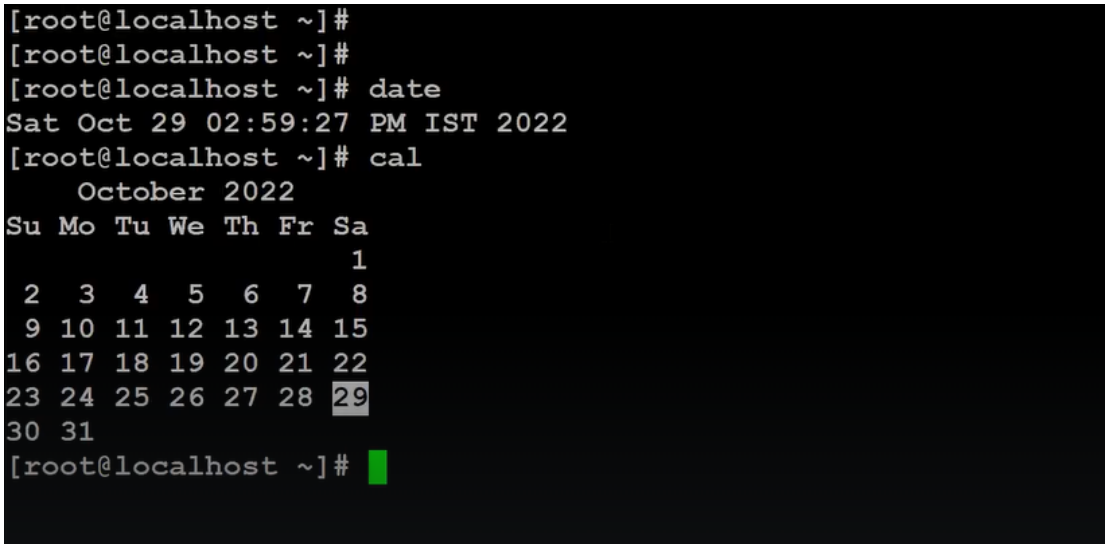
```
[root@localhost ~]# ss  -tnlp
State     Recv-Q    Send-Q       Local Address:Port        Peer Address:Port
Process
LISTEN    0         4096               0.0.0.0:111              0.0.0.0:*
 users:(("rpcbind",pid=735,fd=4),("systemd",pid=1,fd=42))
LISTEN    0         511                0.0.0.0:8080             0.0.0.0:*
 users:(("httpd",pid=972,fd=4),("httpd",pid=971,fd=4),("httpd",pid=970,fd=4),("h
ttpd",pid=934,fd=4))
LISTEN    0         511                0.0.0.0:80               0.0.0.0:*
 users:(("httpd",pid=972,fd=3),("httpd",pid=971,fd=3),("httpd",pid=970,fd=3),("h
ttpd",pid=934,fd=3))
LISTEN    0         128                0.0.0.0:22               0.0.0.0:*
 users:(("sshd",pid=821,fd=3))
LISTEN    0         128              127.0.0.1:631              0.0.0.0:*
 users:(("cupsd",pid=818,fd=7))
LISTEN    0         4096                  [::]:111                 [::]:*
 users:(("rpcbind",pid=735,fd=6),("systemd",pid=1,fd=44))
LISTEN    0         128                   [::]:22                  [::]:*
 users:(("sshd",pid=821,fd=4))
LISTEN    0         128                 [::1]:631                  [::]:*
 users:(("cupsd",pid=818,fd=6))
```



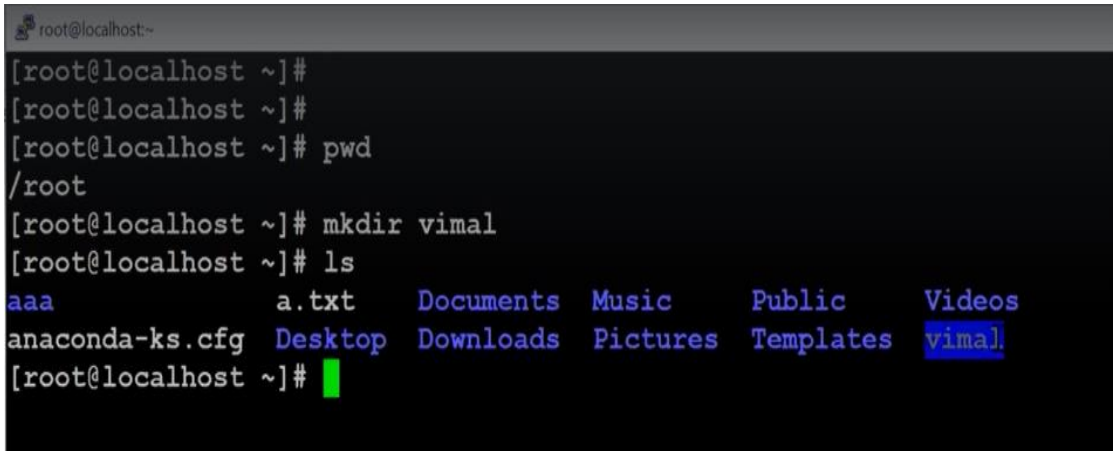
- For remote login – we use login name and password



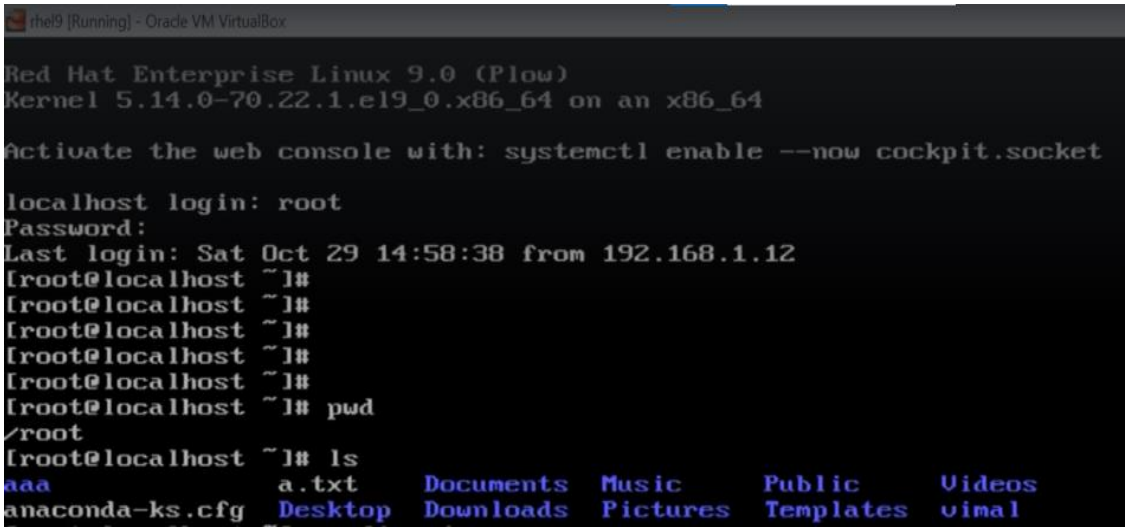
- The shell is given by the ssh protocol



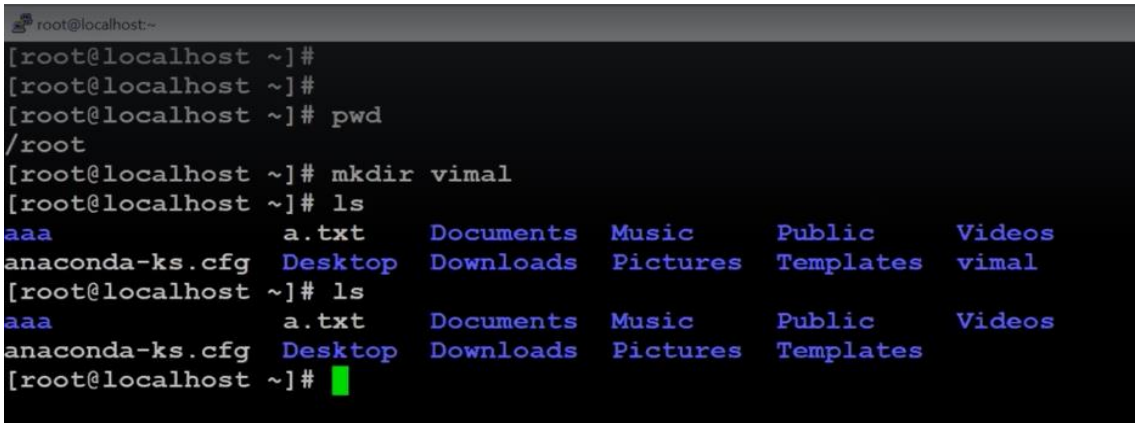
- From here we create a folder - remotely



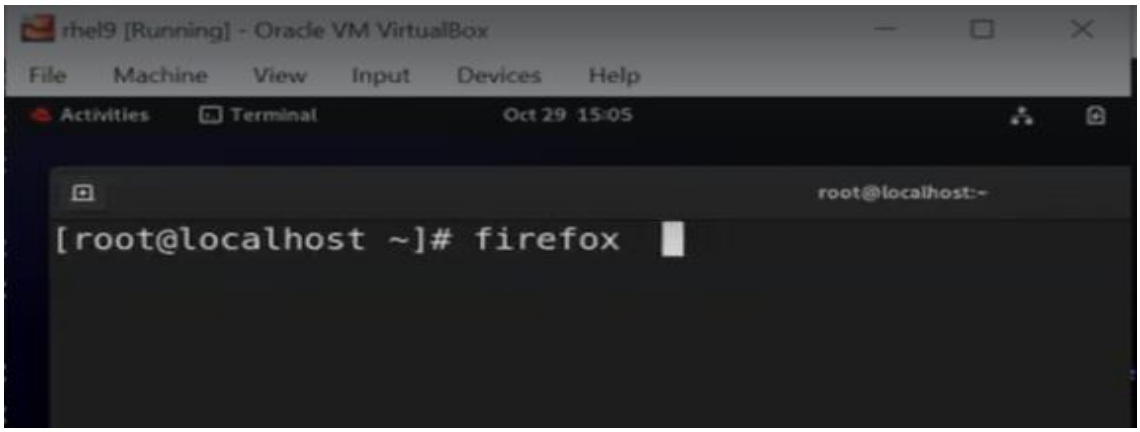
- We can see the same – locally



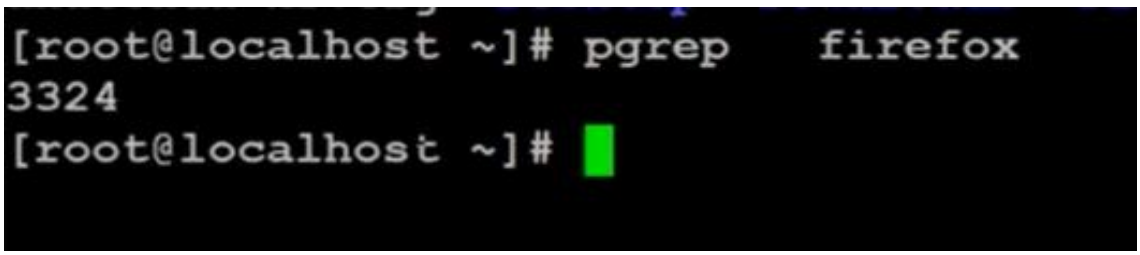
- If we remove the directory locally – the same thing is visible remotely



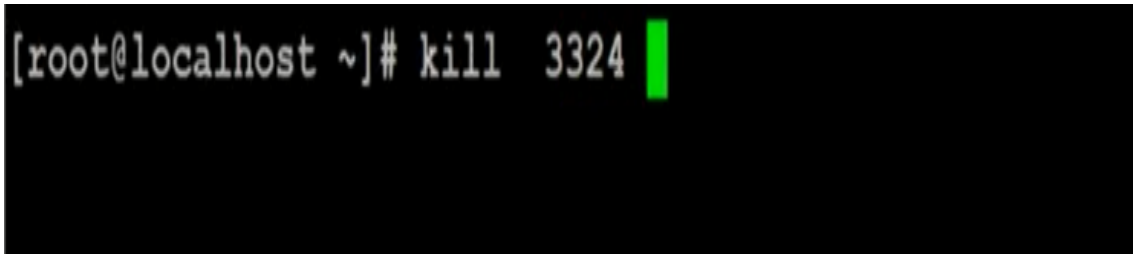
- Start the firefox locally- from GUI

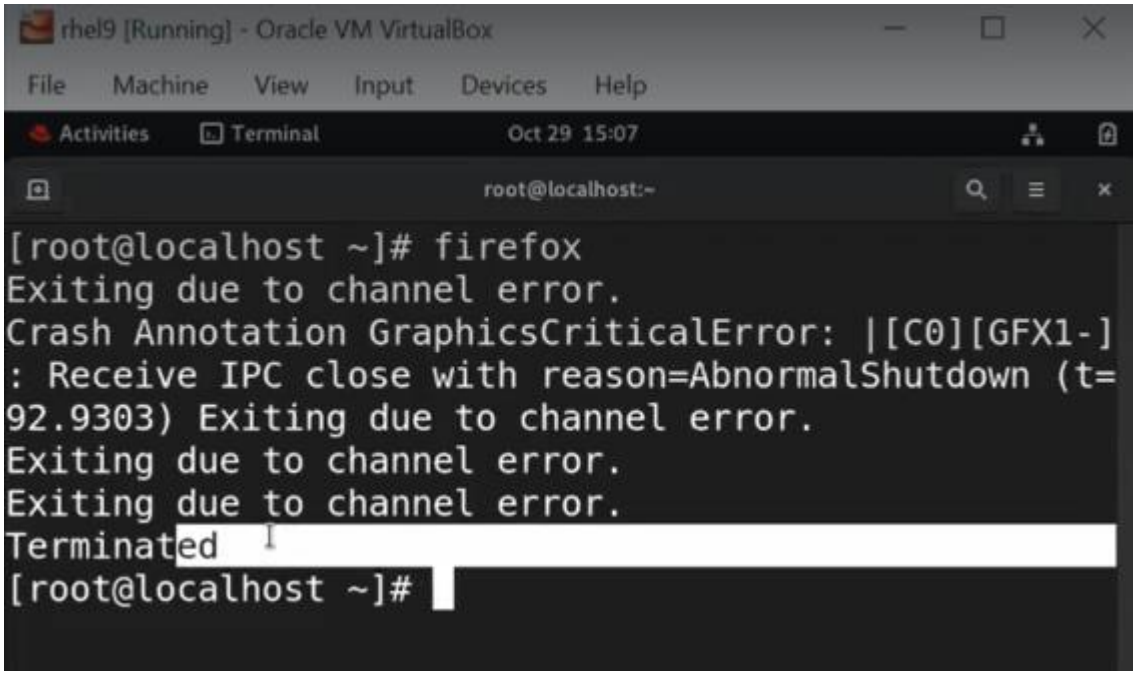


- The firefox is a graphical program, we cannot see from black screen but we can see the process using the command

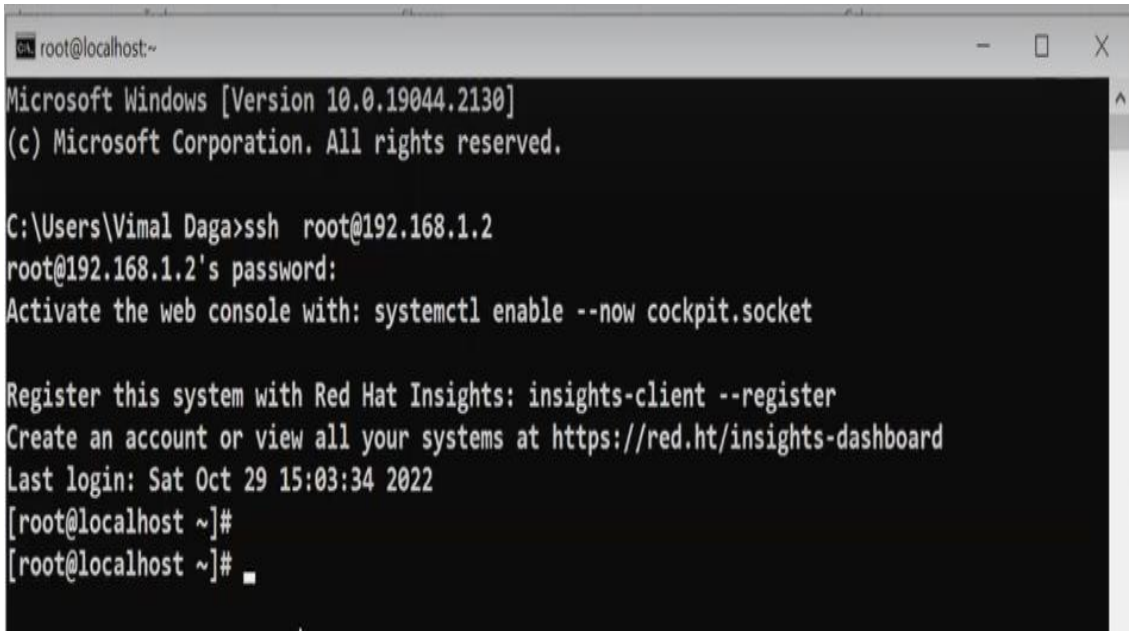


- The command to stop the firefox –

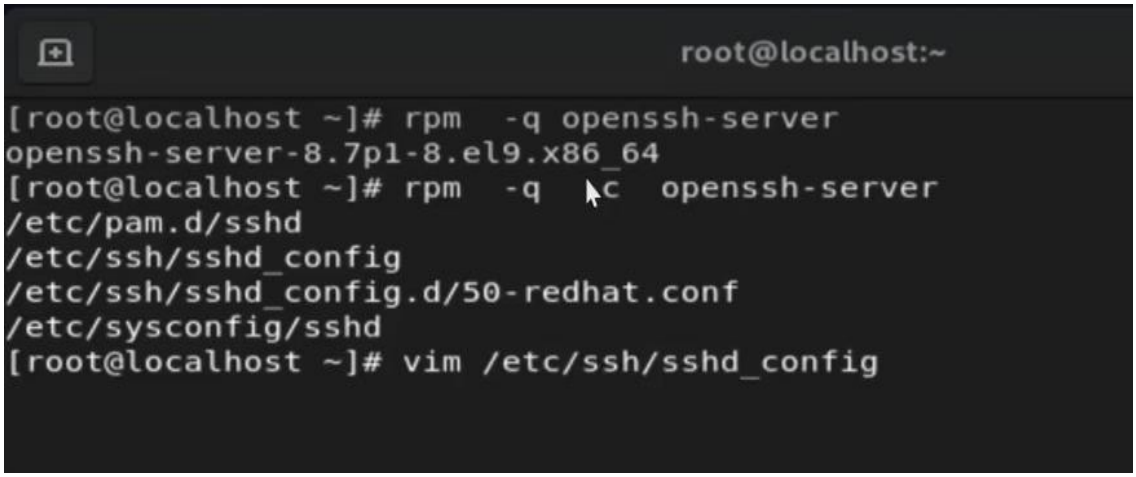


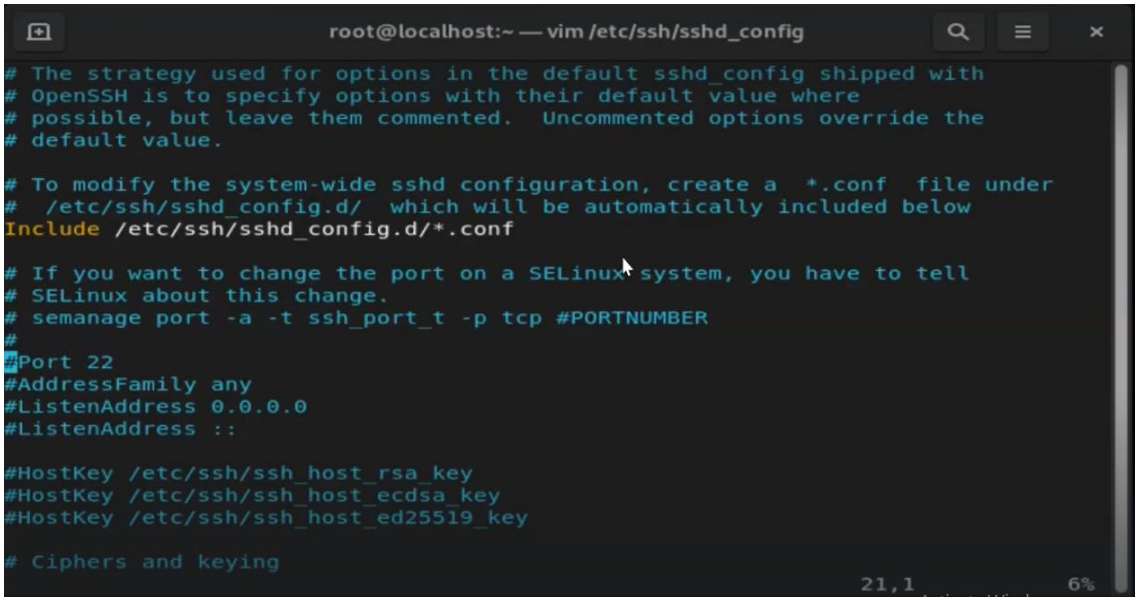


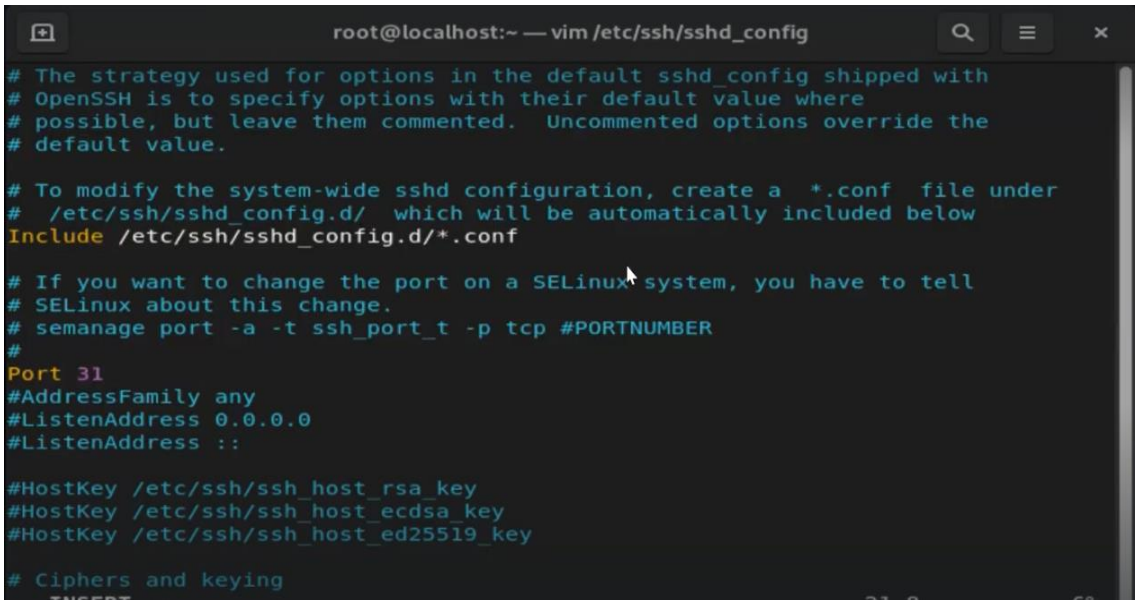
- For remote login-

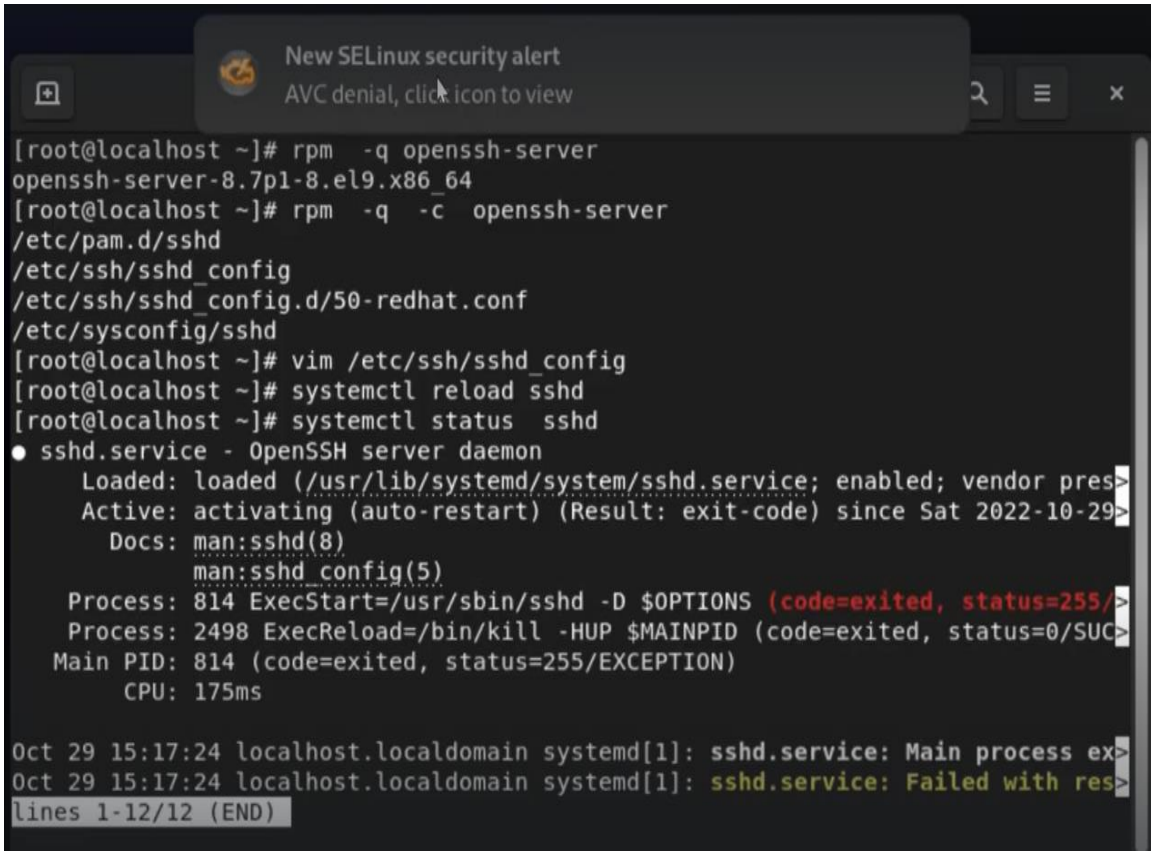


- The command to see the configuration file

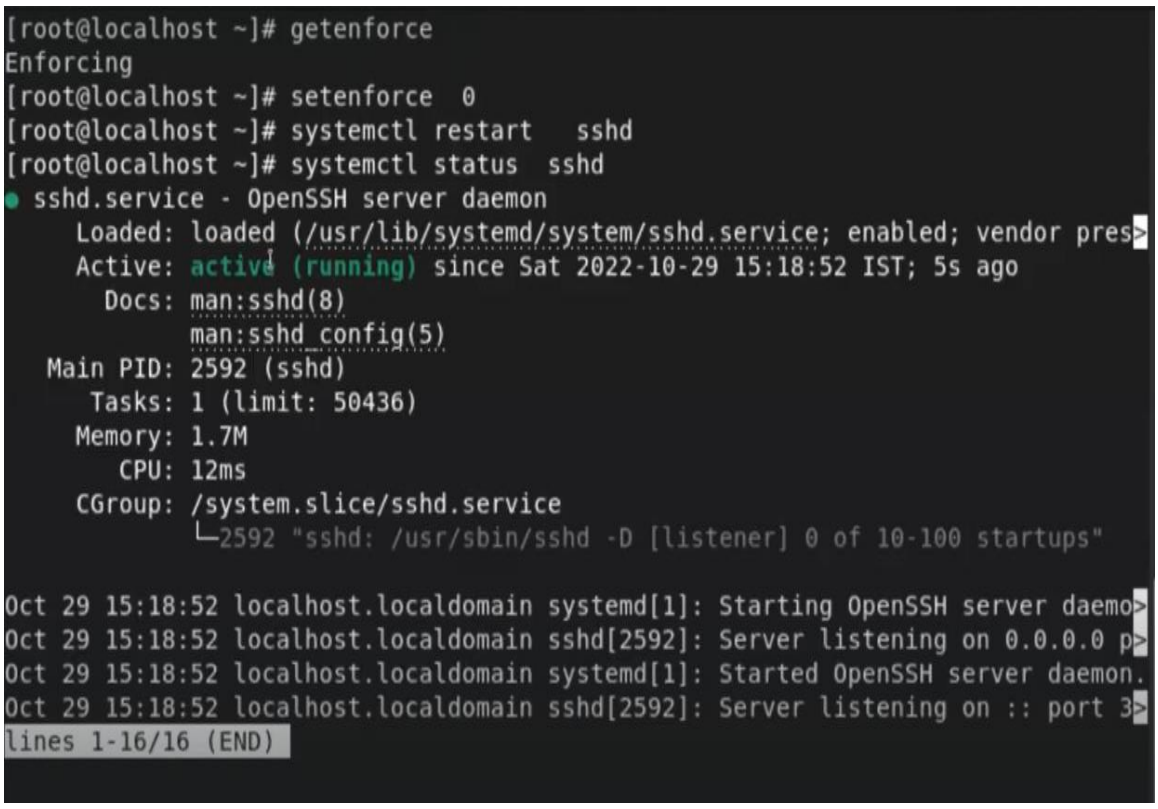








- Disable the SELinux and check the port no

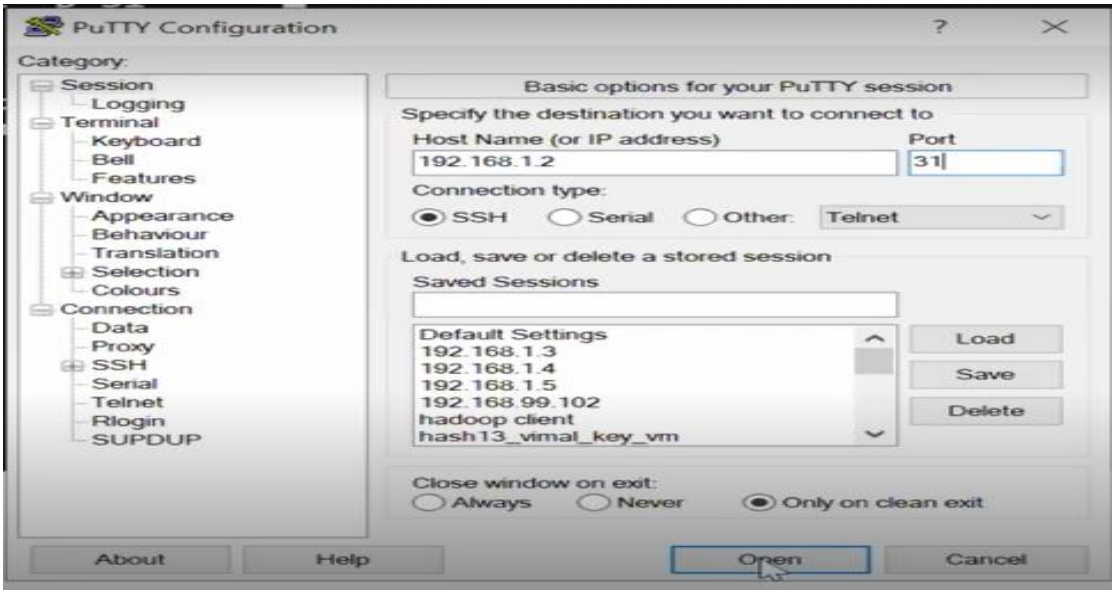


```
[root@localhost ~]# getenforce
Permissive
[root@localhost ~]# netstat  -tnlp
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
PID/Program name
tcp        0      0 0.0.0.0:111             0.0.0.0:*               LISTEN
1/systemd
tcp        0      0 0.0.0.0:8080            0.0.0.0:*               LISTEN
907/httpd
tcp        0      0 0.0.0.0:80              0.0.0.0:*               LISTEN
907/httpd
tcp        0      0 127.0.0.1:631           0.0.0.0:*               LISTEN
811/cupsd
tcp        0      0 0.0.0.0:31              0.0.0.0:*               LISTEN
2592/sshd: /usr/sbi
tcp6       0      0 :::111                  :::*                    LISTEN
1/systemd
tcp6       0      0 ::1:631                 :::*                    LISTEN
811/cupsd
tcp6       0      0 :::31                   :::*                    LISTEN
2592/sshd: /usr/sbi
[root@localhost ~]#
```

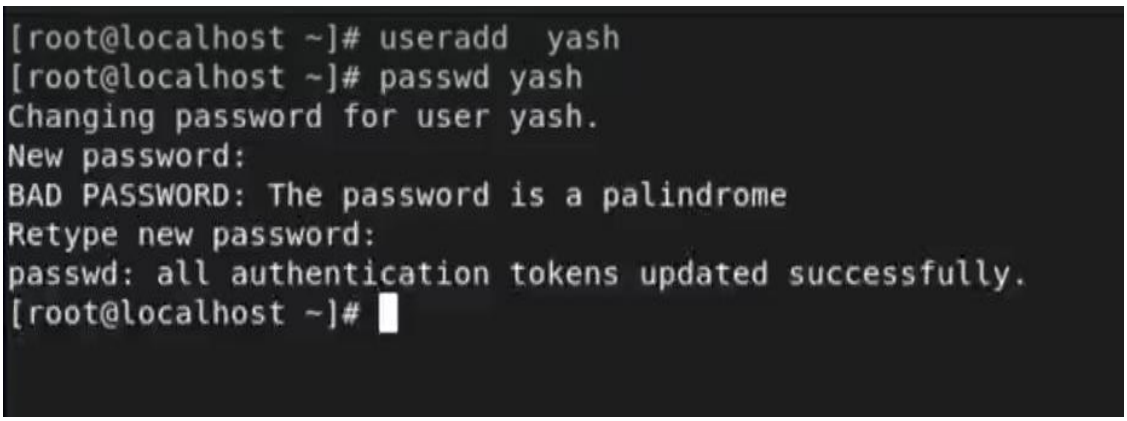
- From the client when we login, the connection refused-

```
root@localhost:~
C:\Users\Vimal Daga>ssh  root@192.168.1.2
ssh: connect to host 192.168.1.2 port 22: Connection refused

C:\Users\Vimal Daga>ssh  root@192.168.1.2 -p 31
root@192.168.1.2's password:
Activate the web console with: systemctl enable --now cockpit.socket

Register this system with Red Hat Insights: insights-client --register
Create an account or view all your systems at https://red.ht/insights-dashboard
Last login: Sat Oct 29 15:13:56 2022
[root@localhost ~]# date
Sat Oct 29 03:21:19 PM IST 2022
[root@localhost ~]# cal
    October 2022
Su Mo Tu We Th Fr Sa
                   1
 2  3  4  5  6  7  8
 9 10 11 12 13 14 15
16 17 18 19 20 21 22
23 24 25 26 27 28 29
30 31
[root@localhost ~]#
```

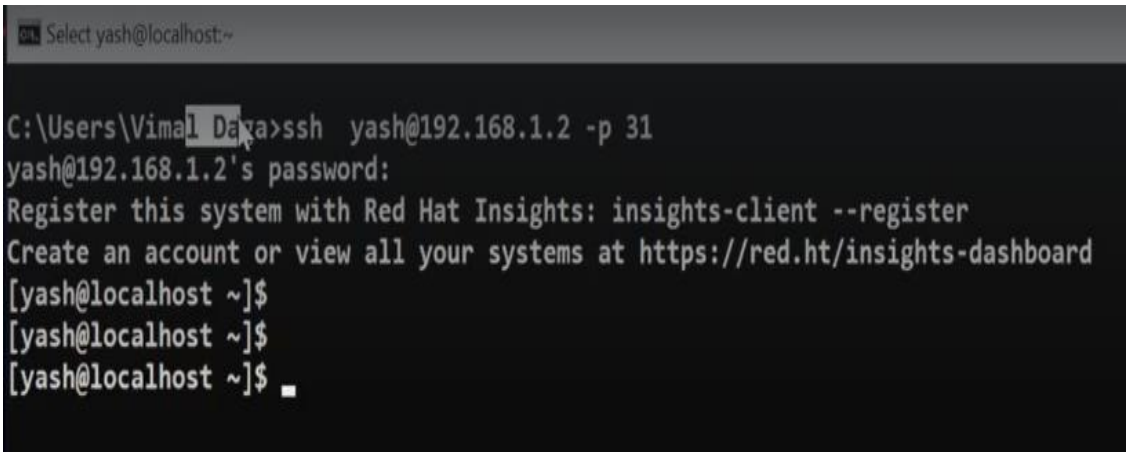
- Similarly with putty



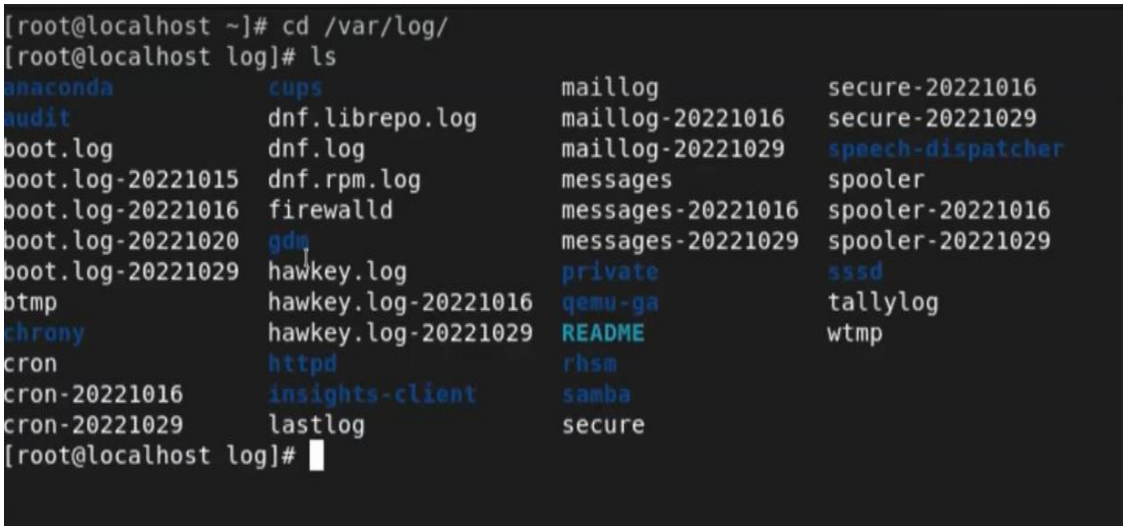
- Create a user- locally

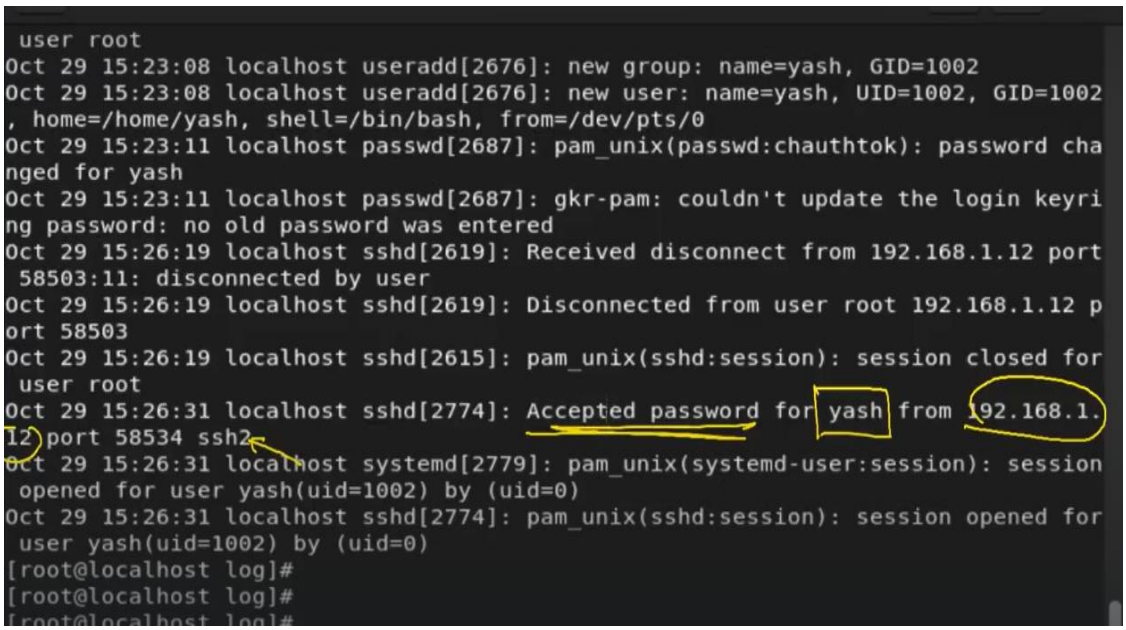


- Login from windows

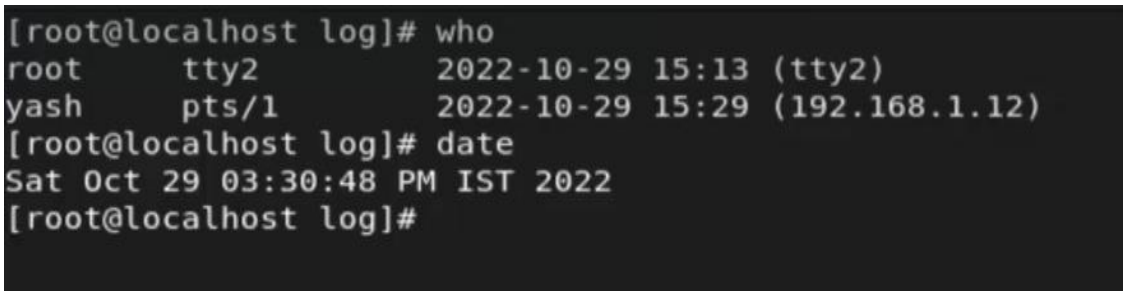


- Whatever done on ssh server will be recorded

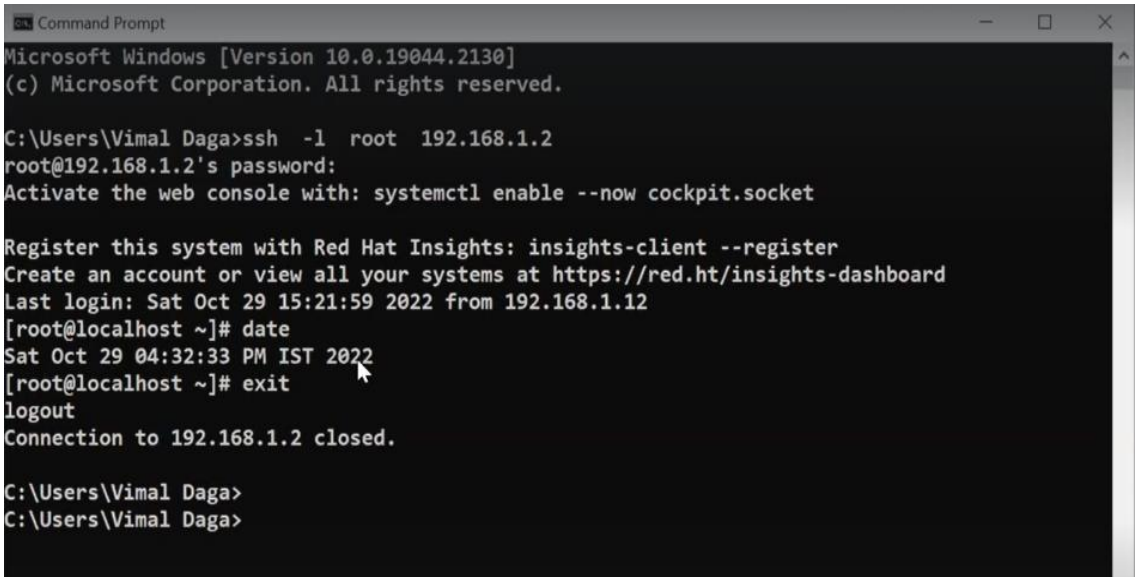




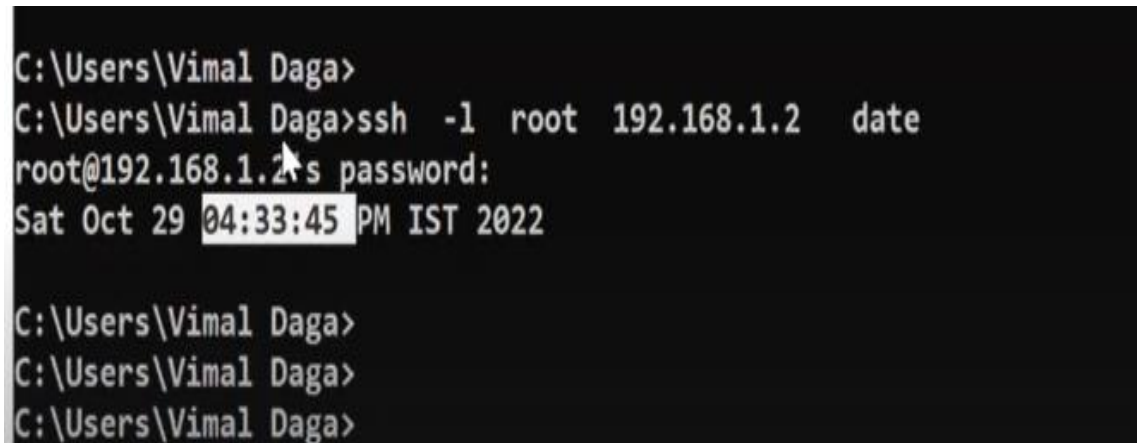
- The “who” command gives more clear picture



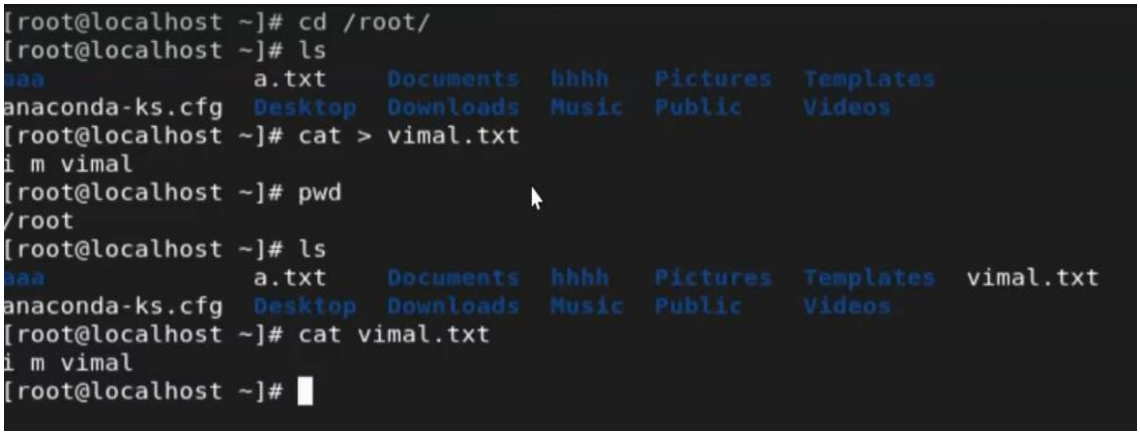
- The ssh protocol provides lots of facilities- by remote login we can run commands



- Without login we can perform remote program/command execution



- It also supports file transfer – "scp" command is used



```
C:\Users\Vimal Daga>scp  root@192.168.1.2:/root/vimal.txt   "C:\Users\Vimal Daga\Desktop\icon
"
root@192.168.1.2's password:
vimal.txt                                     100%   10    10.0KB/s   00:00

C:\Users\Vimal Daga>
```

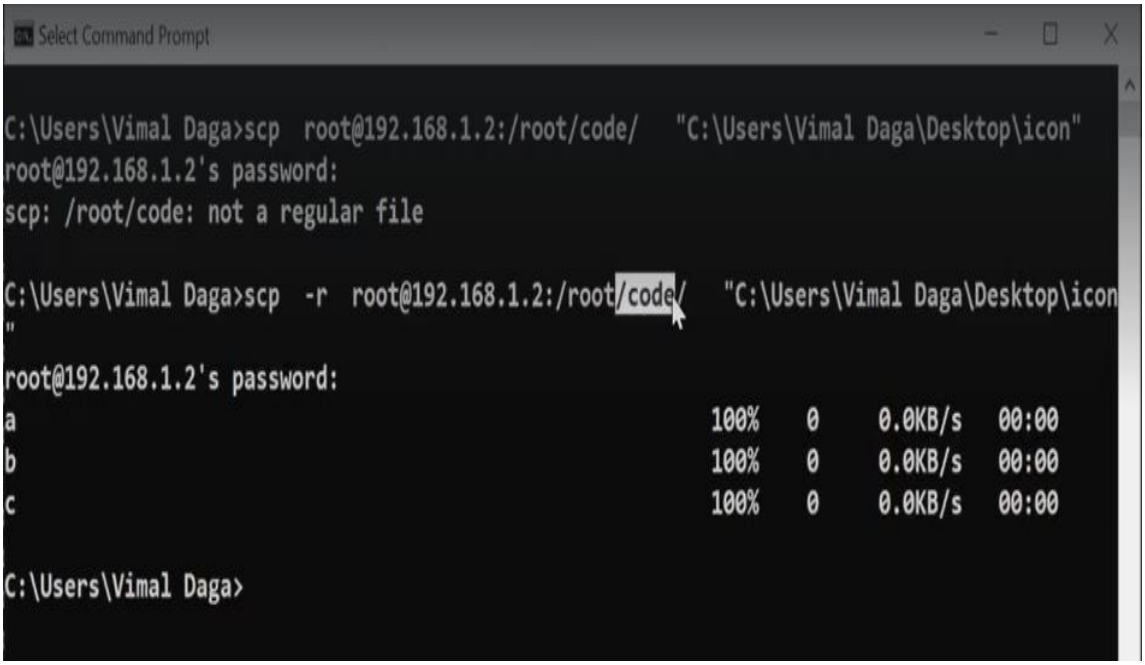
```
C:\Users\Vimal Daga>scp  "C:\Users\Vimal Daga\Desktop\icon\hello.txt"  root@192.168.1.2:/root
/yy.txt
root@192.168.1.2's password:
hello.txt                                     100%    9     3.0KB/s   00:00

C:\Users\Vimal Daga>
```

- This can be verified locally

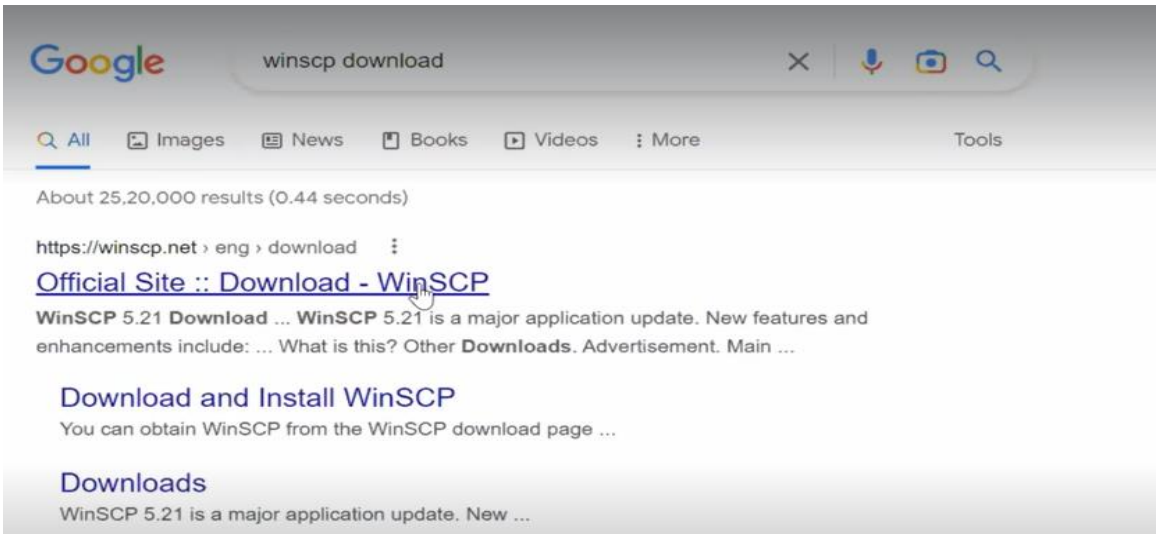
```
[root@localhost ~]# pwd
/root
[root@localhost ~]# ls
aaa             a.txt    Documents  hhhh   Pictures   Templates  vimal.txt
anaconda-ks.cfg  Desktop  Downloads  Music  Public     Videos     yy.txt
[root@localhost ~]# cat yy.txt
i m hello[root@localhost ~]#
```

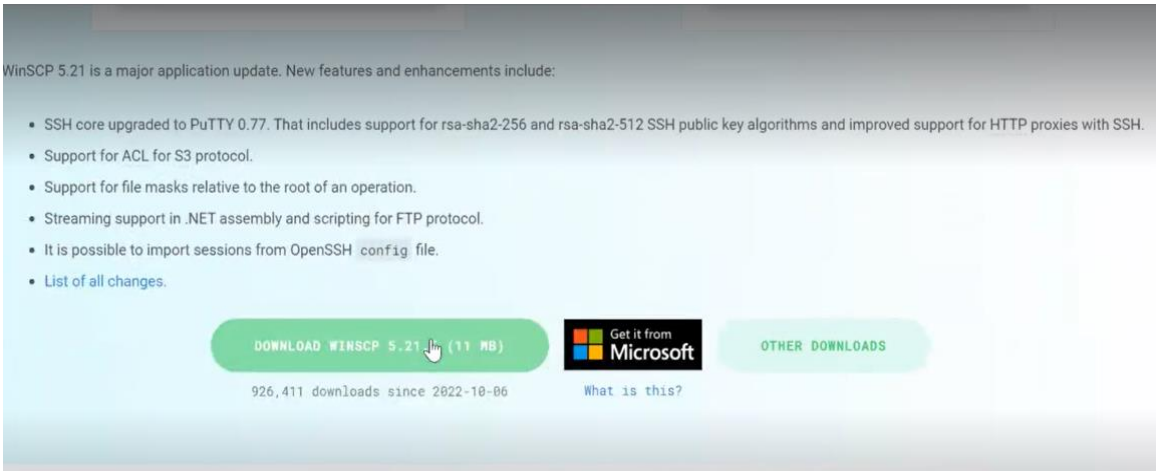
- If we want to transfer entire folder

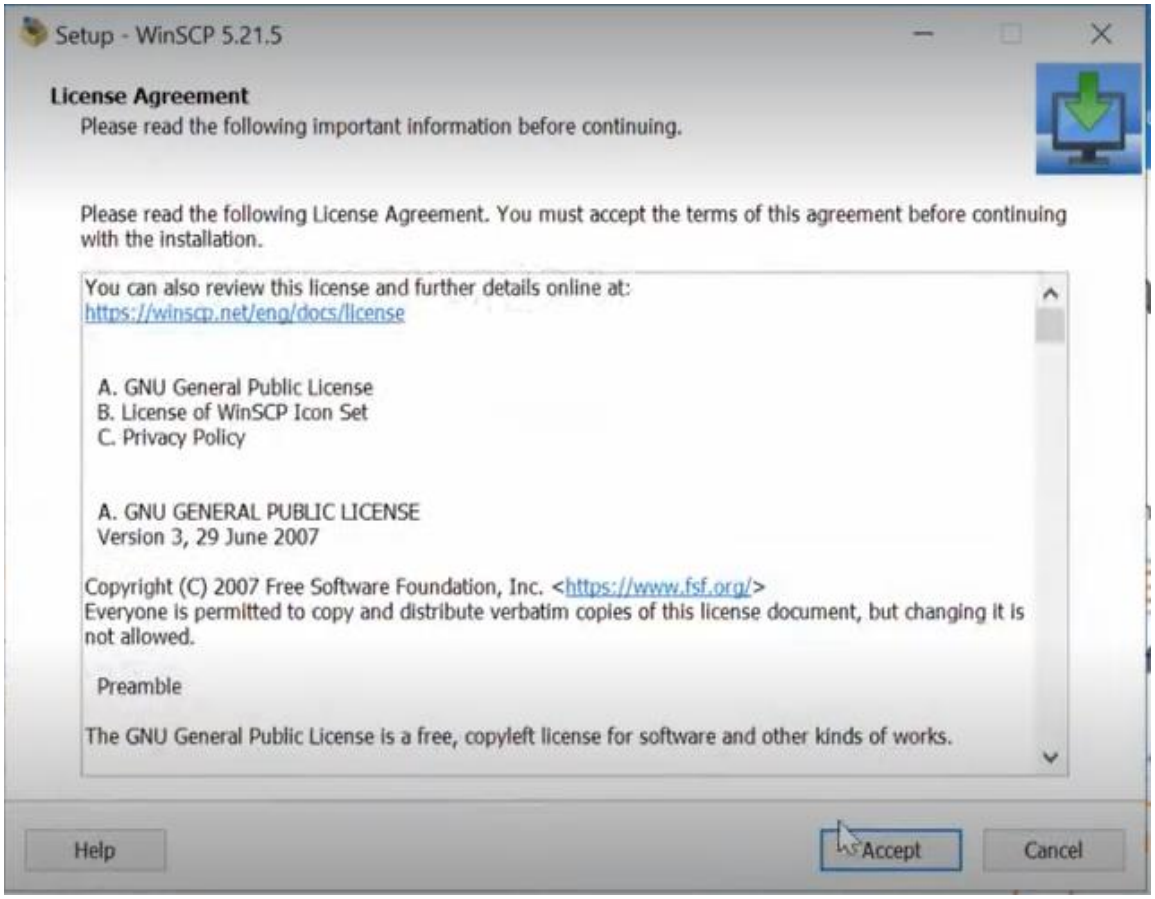
```
[root@localhost ~]# mkdir code
[root@localhost ~]# cd code/
[root@localhost code]# ls
[root@localhost code]# touch a b c
[root@localhost code]# ls
a  b  c
[root@localhost code]# pwd
/root/code
[root@localhost code]# cd /root/
[root@localhost ~]# lls
bash: lls: command not found...
Similar command is: 'ls'
[root@localhost ~]# ls
aaa              code        Downloads  Pictures   Videos
anaconda-ks.cfg  Desktop     hhhh       Public     vimal.txt
a.txt            Documents   Music      Templates  yy.txt
[root@localhost ~]#
```

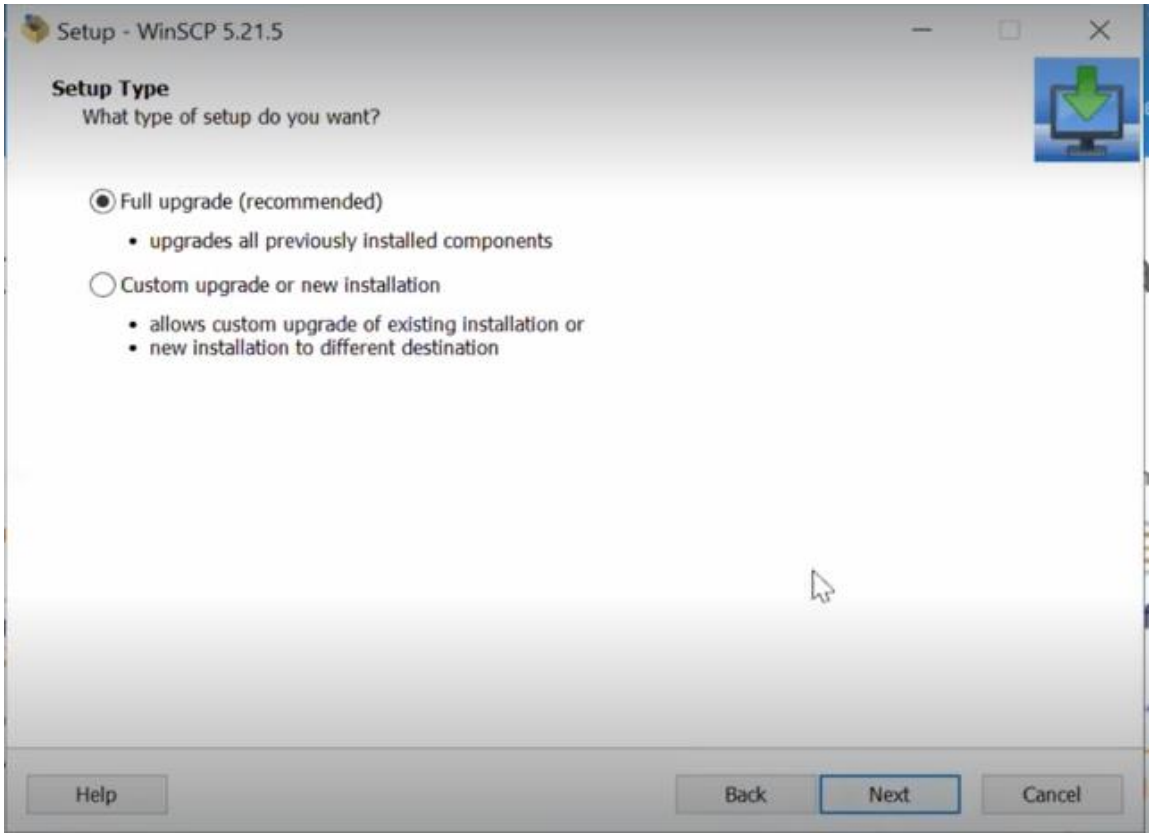


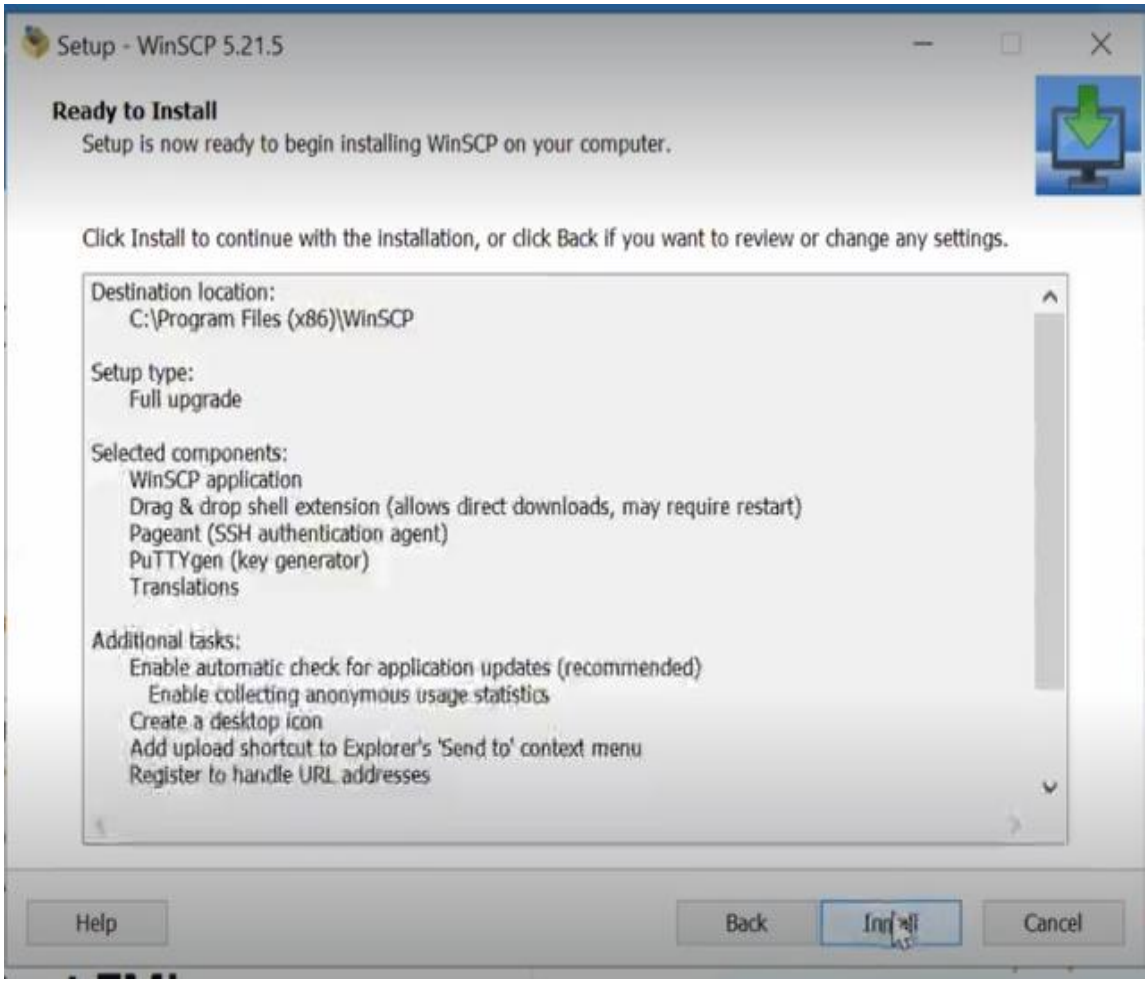
- The file transfer using GUI- winscp – graphical way to transfer files





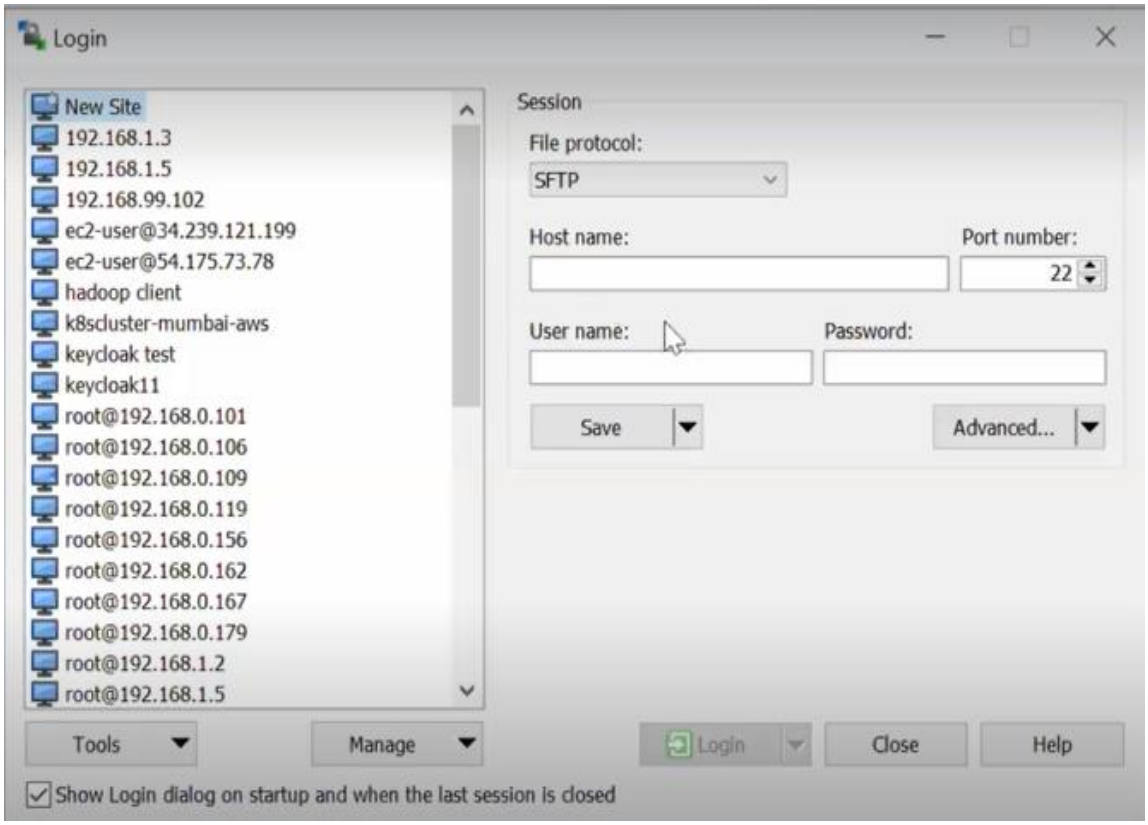

Setup - WinSCP 5.21.5
License Agreement
Please read the following important information before continuing.
Please read the following License Agreement. You must accept the terms of this agreement before continuing with the installation.
You can also review this license and further details online at:
https://winscp.net/eng/docs/license
A. GNU General Public License
B. License of WinSCP Icon Set
C. Privacy Policy
A. GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007
Copyright (C) 2007 Free Software Foundation, Inc. <https://www.fsf.org/>
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.
Preamble
The GNU General Public License is a free, copyleft license for software and other kinds of works.
Help
Accept
Cancel

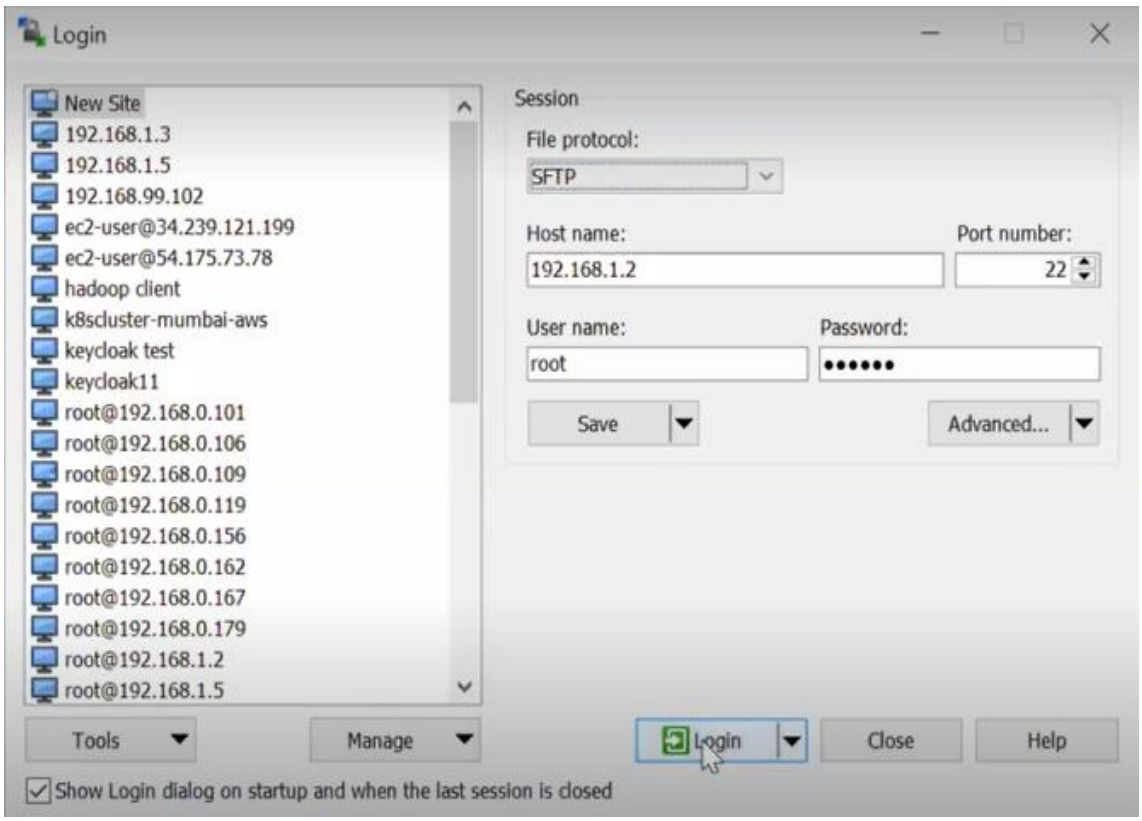

Setup - WinSCP 5.21.5
Setup Type
What type of setup do you want?
Full upgrade (recommended)
• upgrades all previously installed components
Custom upgrade or new installation
• allows custom upgrade of existing installation or
• new installation to different destination
Help
Back
Next
Cancel

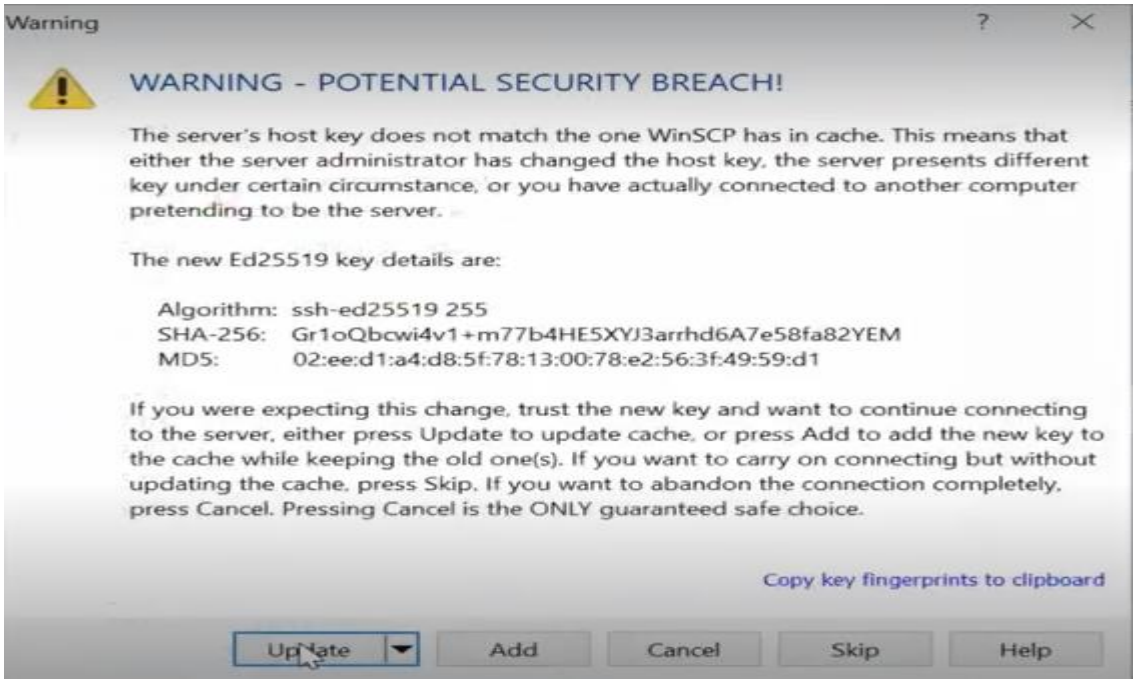

Setup - WinSCP 5.21.5
Ready to Install
Setup is now ready to begin installing WinSCP on your computer.
Click Install to continue with the installation, or click Back if you want to review or change any settings.
Destination location:
C:\Program Files (x86)\WinSCP
Setup type:
Full upgrade
Selected components:
WinSCP application
Drag & drop shell extension (allows direct downloads, may require restart)
Pageant (SSH authentication agent)
PuTTYgen (key generator)
Translations
Additional tasks:
Enable automatic check for application updates (recommended)
Enable collecting anonymous usage statistics
Create a desktop icon
Add upload shortcut to Explorer's 'Send to' context menu
Register to handle URL addresses
Help
Back
Cancel

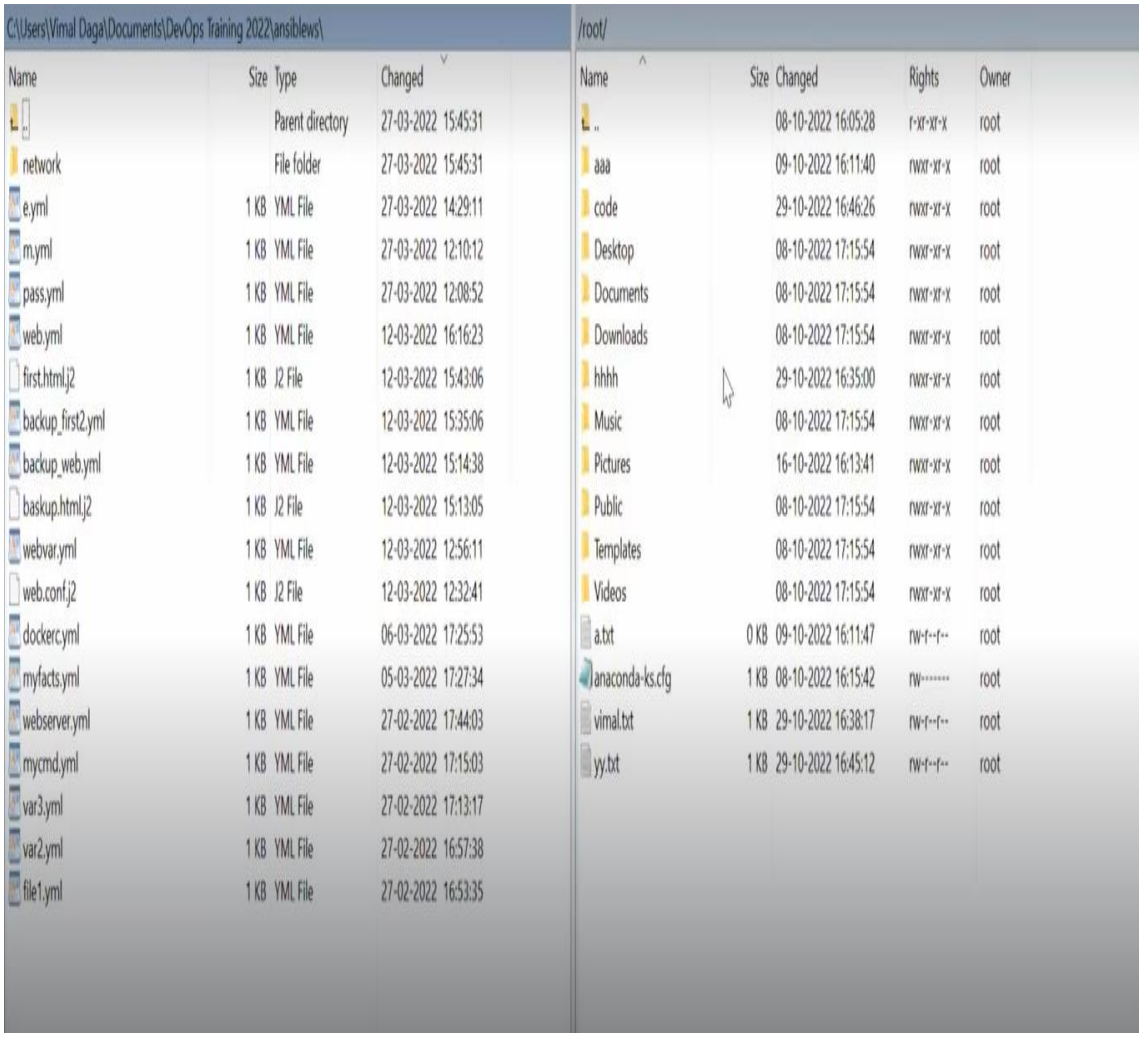

Setup - WinSCP 5.21.5
Completing the WinSCP Setup Wizard
Setup has finished installing WinSCP on your computer. The application may be launched by selecting the installed shortcuts.
Click Finish to exit Setup.
Launch WinSCP
Open Getting started page
Please consider donating to support WinSCP development.
Donate $9
Donate $19
Donate $49
About donations
PayPal
Help
Finish

- Click on New Site

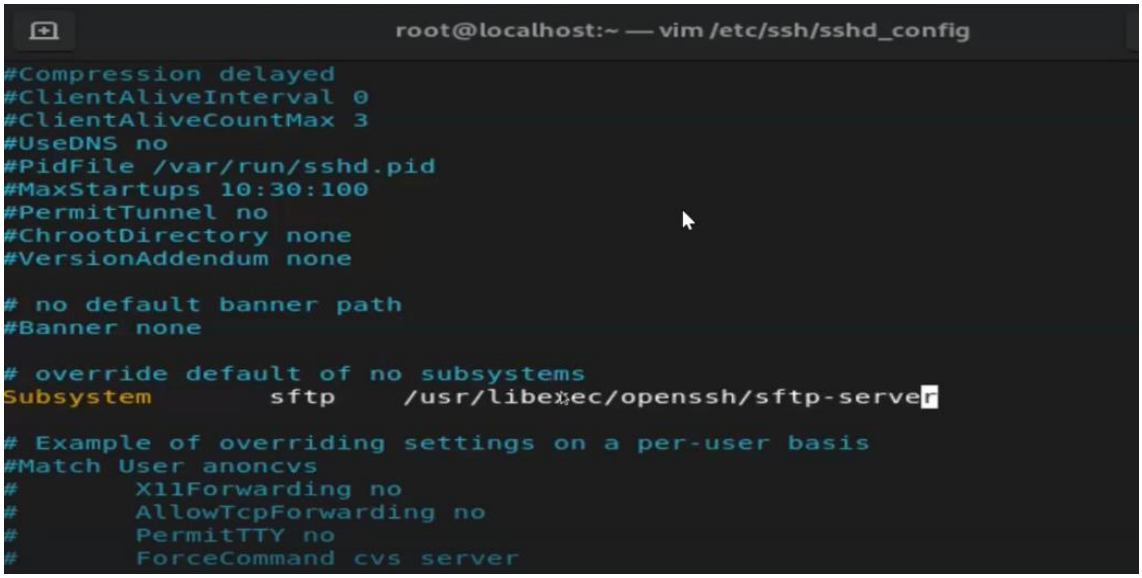




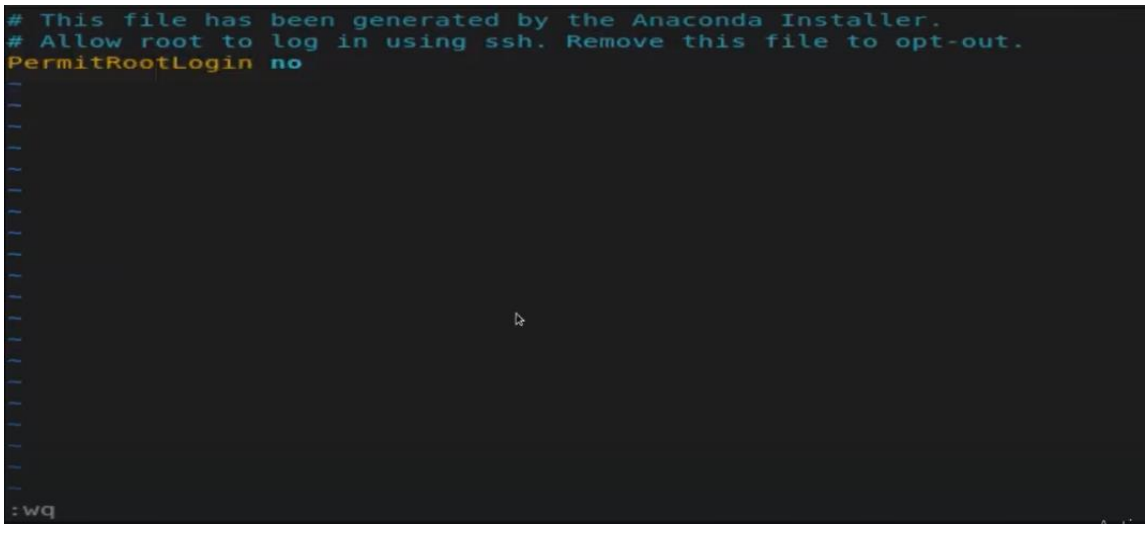

Warning
WARNING - POTENTIAL SECURITY BREACH!
The server's host key does not match the one WinSCP has in cache. This means that either the server administrator has changed the host key, the server presents different key under certain circumstance, or you have actually connected to another computer pretending to be the server.
The new Ed25519 key details are:
Algorithm: ssh-ed25519 255
SHA-256: Gr1oQbcwi4v1+m77b4HE5XYJ3arrhd6A7e58fa82YEM
MD5: 02:ee:d1:a4:d8:5f:78:13:00:78:e2:56:3f:49:59:d1
If you were expecting this change, trust the new key and want to continue connecting to the server, either press Update to update cache, or press Add to add the new key to the cache while keeping the old one(s). If you want to carry on connecting but without updating the cache, press Skip. If you want to abandon the connection completely, press Cancel. Pressing Cancel is the ONLY guaranteed safe choice.
Copy key fingerprints to clipboard
Update
Add
Cancel
Skip
Help

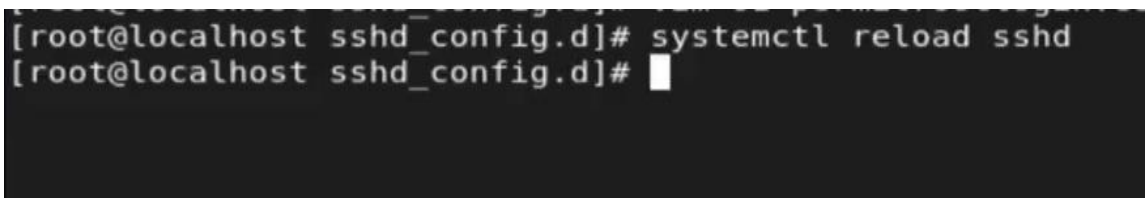

C:\Users\Vimal Daga\Documents\DevOps Training 2022\ansiblews\
Name Size Type Changed
.. Parent directory 27-03-2022 15:45:31
network File folder 27-03-2022 15:45:31
e.yml 1 KB YML File 27-03-2022 14:29:11
m.yml 1 KB YML File 27-03-2022 12:10:12
pass.yml 1 KB YML File 27-03-2022 12:08:52
web.yml 1 KB YML File 12-03-2022 16:16:23
first.html.j2 1 KB J2 File 12-03-2022 15:43:06
backup_first2.yml 1 KB YML File 12-03-2022 15:35:06
backup_web.yml 1 KB YML File 12-03-2022 15:14:38
baskup.html.j2 1 KB J2 File 12-03-2022 15:13:05
webvar.yml 1 KB YML File 12-03-2022 12:56:11
web.conf.j2 1 KB J2 File 12-03-2022 12:32:41
dockerc.yml 1 KB YML File 06-03-2022 17:25:53
myfacts.yml 1 KB YML File 05-03-2022 17:27:34
webserver.yml 1 KB YML File 27-02-2022 17:44:03
mycmd.yml 1 KB YML File 27-02-2022 17:15:03
var3.yml 1 KB YML File 27-02-2022 17:13:17
var2.yml 1 KB YML File 27-02-2022 16:57:38
file1.yml 1 KB YML File 27-02-2022 16:53:35
/root/
Name Size Changed Rights Owner
.. 08-10-2022 16:05:28 r-xr-xr-x root
aaa 09-10-2022 16:11:40 rwxr-xr-x root
code 29-10-2022 16:46:26 rwxr-xr-x root
Desktop 08-10-2022 17:15:54 rwxr-xr-x root
Documents 08-10-2022 17:15:54 rwxr-xr-x root
Downloads 08-10-2022 17:15:54 rwxr-xr-x root
hhhh 29-10-2022 16:35:00 rwxr-xr-x root
Music 08-10-2022 17:15:54 rwxr-xr-x root
Pictures 16-10-2022 16:13:41 rwxr-xr-x root
Public 08-10-2022 17:15:54 rwxr-xr-x root
Templates 08-10-2022 17:15:54 rwxr-xr-x root
Videos 08-10-2022 17:15:54 rwxr-xr-x root
a.txt 0 KB 09-10-2022 16:11:47 rw-r--r-- root
anaconda-ks.cfg 1 KB 08-10-2022 16:15:42 rw------- root
vimal.txt 1 KB 29-10-2022 16:38:17 rw-r--r-- root
yy.txt 1 KB 29-10-2022 16:45:12 rw-r--r-- root

- The ssh protocol supports file transfer



- The setting changes is made – in the secondary configuration file





- To create an empty password

```
[root@localhost sshd_config.d]# useradd  jack
[root@localhost sshd_config.d]#
[root@localhost sshd_config.d]# passwd -d jack
Removing password for user jack.
passwd: Note: deleting a password also unlocks the password.
passwd: Success
[root@localhost sshd_config.d]#
```

- To login without password via ssh

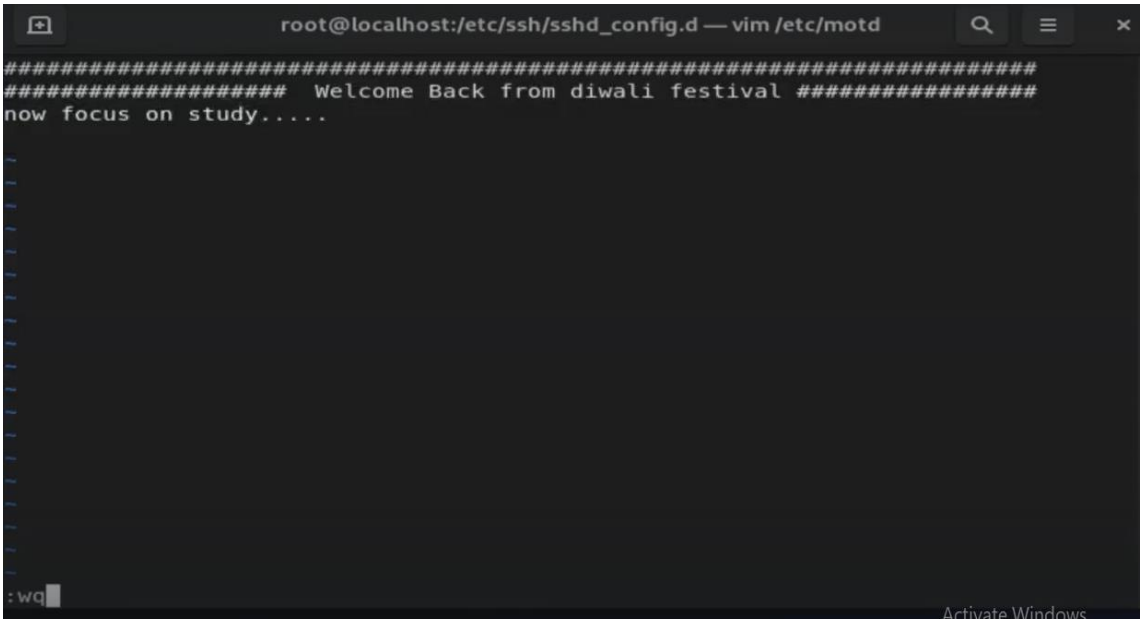
```
# For this to work you will also need host keys in /etc/ssh/ssh_known_hosts
#HostbasedAuthentication no
# Change to yes if you don't trust ~/.ssh/known_hosts for
# HostbasedAuthentication
#IgnoreUserKnownHosts no
# Don't read the user's ~/.rhosts and ~/.shosts files
#IgnoreRhosts yes

# To disable tunneled clear text passwords, change to no here!
#PasswordAuthentication yes
PermitEmptyPasswords yes

# Change to no to disable s/key passwords
#KbdInteractiveAuthentication yes

# Kerberos options
#KerberosAuthentication no
#KerberosOrLocalPasswd yes
#KerberosTicketCleanup yes
#KerberosGetAFSToken no
#KerberosUseKuserok yes
```

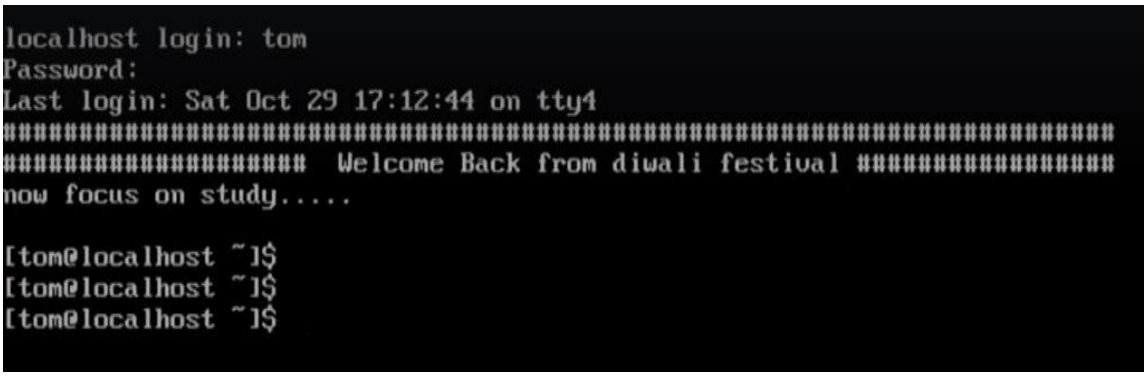
```
[root@localhost sshd_config.d]# systemctl reload sshd
[root@localhost sshd_config.d]#
```

```
C:\Users\Vimal Daga>
C:\Users\Vimal Daga>ssh jack@192.168.1.2
Register this system with Red Hat Insights: insights-client --register
Create an account or view all your systems at https://red.ht/insights-dashboard
Last failed login: Sat Oct 29 17:07:51 IST 2022 from 192.168.1.12 on ssh:notty
There were 2 failed login attempts since the last successful login.
Last login: Sat Oct 29 17:07:27 2022
```

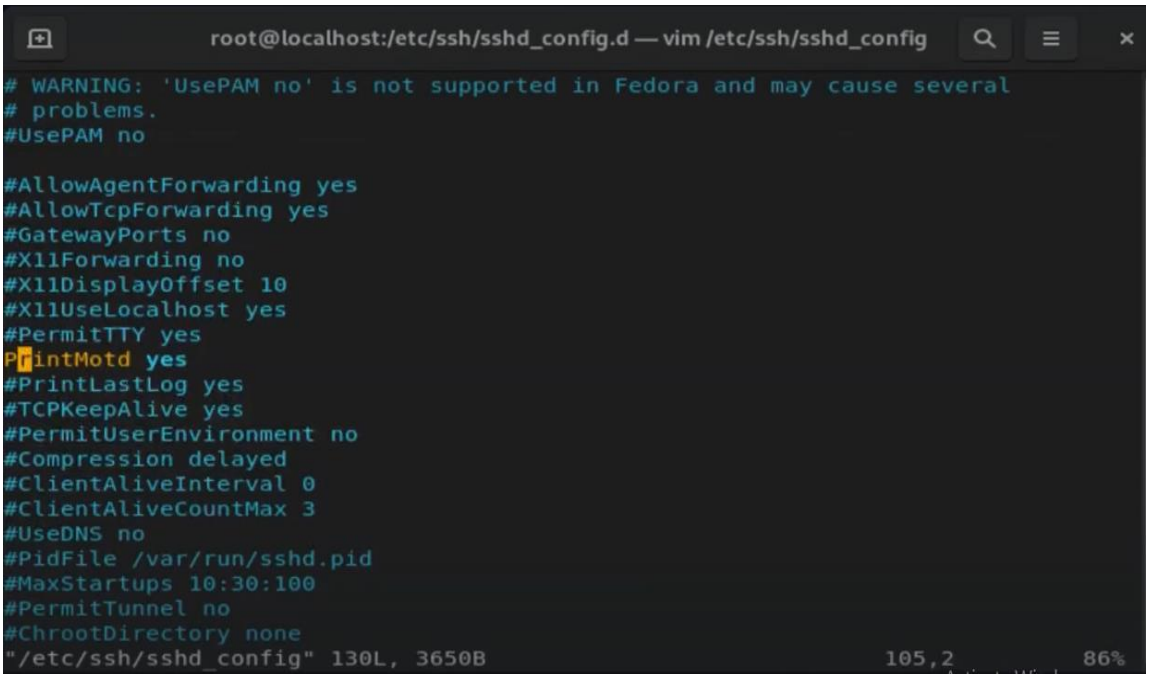
- To set message of the day

```
[root@localhost sshd_config.d]# vim /etc/motd
```





- Any one login via ssh they will also get the message of the day

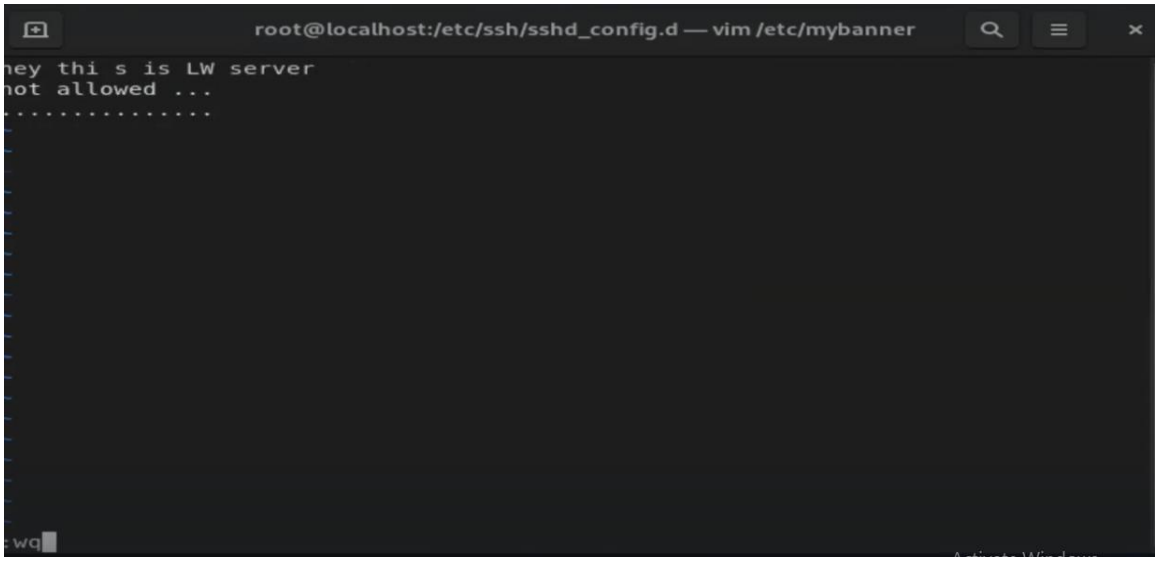


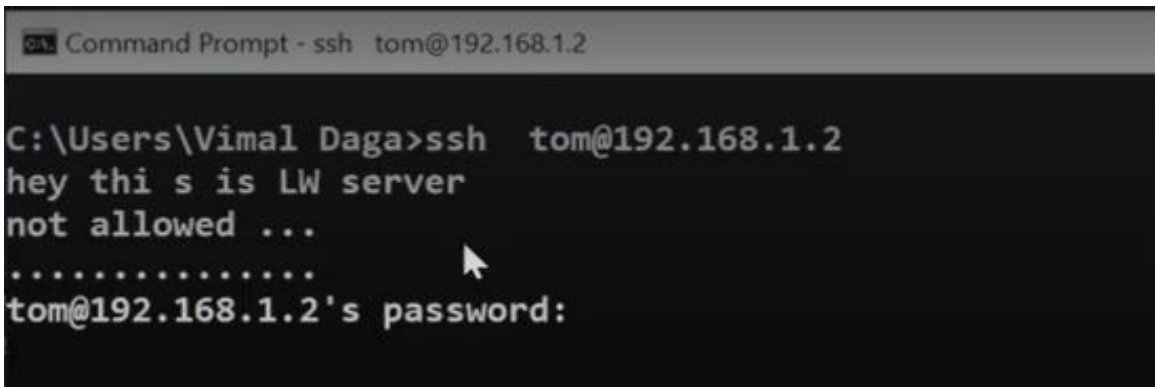
```
C:\Users\Vimal Daga>
C:\Users\Vimal Daga>
C:\Users\Vimal Daga>ssh  tom@192.168.1.2
tom@192.168.1.2's password:
##############################################################################
###################  Welcome Back from diwali festival ###############
now focus on study.....

Register this system with Red Hat Insights: insights-client --register
Create an account or view all your systems at https://red.ht/insights-dashboard
Last login: Sat Oct 29 17:14:30 2022
[tom@localhost ~]$
```

- To set message of the before the password

```
root@localhost:/etc/ssh/sshd_config.d — vim /etc/ssh/sshd_config
#X11UseLocalhost yes
#PermitTTY yes
PrintMotd yes
#PrintLastLog yes
#TCPKeepAlive yes
#PermitUserEnvironment no
#Compression delayed
#ClientAliveInterval 0
#ClientAliveCountMax 3
#UseDNS no
#PidFile /var/run/sshd.pid
#MaxStartups 10:30:100
#PermitTunnel no
#ChrootDirectory none
#VersionAddendum none

# no default banner path
Banner /etc/mybanner
```

```
[root@localhost sshd_config.d]# vim  /etc/mybanner
```


root@localhost:/etc/ssh/sshd_config.d — vim /etc/mybanner
hey thi s is LW server
not allowed ...
:wq


Command Prompt - ssh tom@192.168.1.2
C:\Users\Vimal Daga>ssh tom@192.168.1.2
hey thi s is LW server
not allowed ...
tom@192.168.1.2's password: