Toronto Metropolitan University

ITM820

GROUP 13

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Part A: Installation of Linux/Fedora (23-25) Workstation

Instructions:

1. This is a group assignment, a single submission for each group is expected.
2. All submissions are to be via turnitin.com. Late submissions won't be accepted.
3. Please feel free to explore more references from any sources (e.g., RFCs, technical reports, research papers, technical magazines and journals), and to support your answers with adequate documentation and screenshots.
4. This project is not about teaching you Linux OS, for students interested in learning advanced features of a Linux OS, I recommend you take ITM315 elective course.
5. The instruction for this project is based on Linux Fedora 23-25. Because they contain all the security features required for this course, they are less demanding on resources (e.g., HD, memory, and CUP). However, if you plan to use the latest Linux OS, please consult its documentation to match the project outline described below.

Purpose and Objectives

The purpose of this assignment is to introduce Linux to a virtualized environment and prepare you for the term project implementation environment.

Success Criteria

- To be capable of installing a virtual machine player as a means of a Hypervisor.
- To be able to create a virtual machine.
- To be able to install Linux OS as a guest operating system.
- To be able to use some of the operating systems commands.
- To be able to install an application within the environment.
- To be able to start and test the Apache web server.
- To be able to recognize the basic aspects of Discretionary Access Control Mechanism.

Keywords

Virtual machine, guest, host, linux, fedora, httpd, discretionary access control, ifconfig, pwd, ls, nslookup, passwd, useradd, groupadd, usermod, chmod

Readings and Resources

Fedora Documentation: https://docs.fedoraproject.org/en-US/index.html

Deliverables

- Report

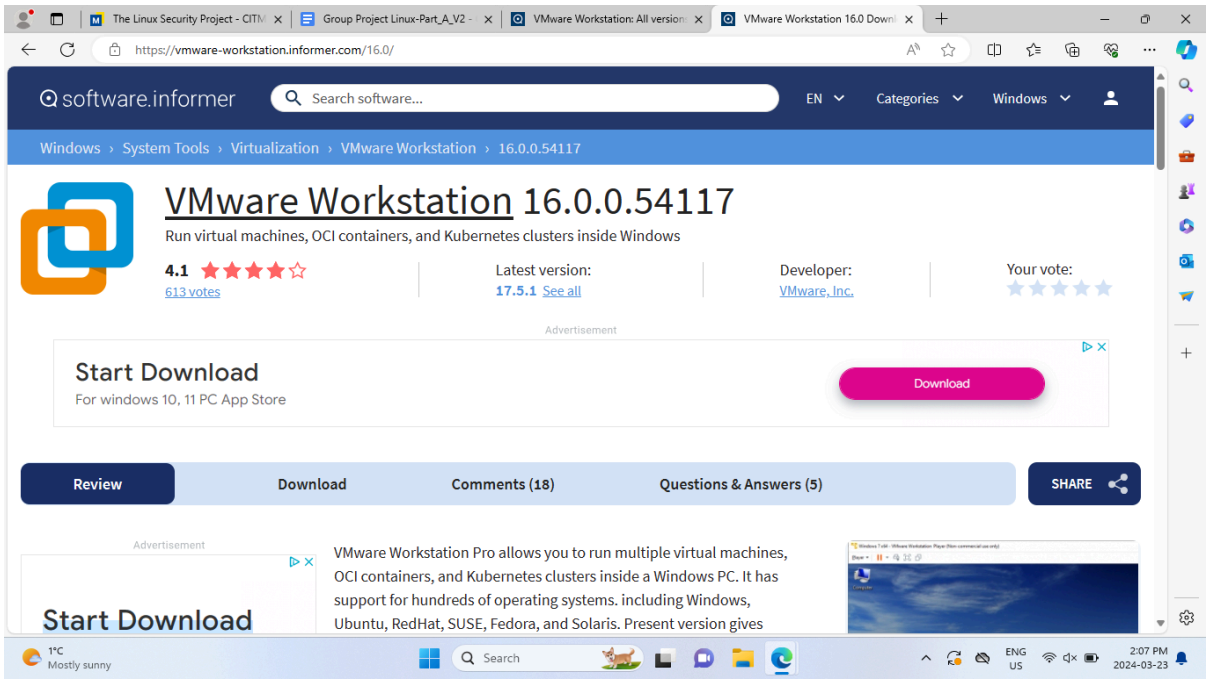
Part A Project Report

- Document your work with support of screenshots.
- Submit your work along with PART B in PDF file
- Upload your solution/Report (parts A & B) to assignment folder (one submission per group)

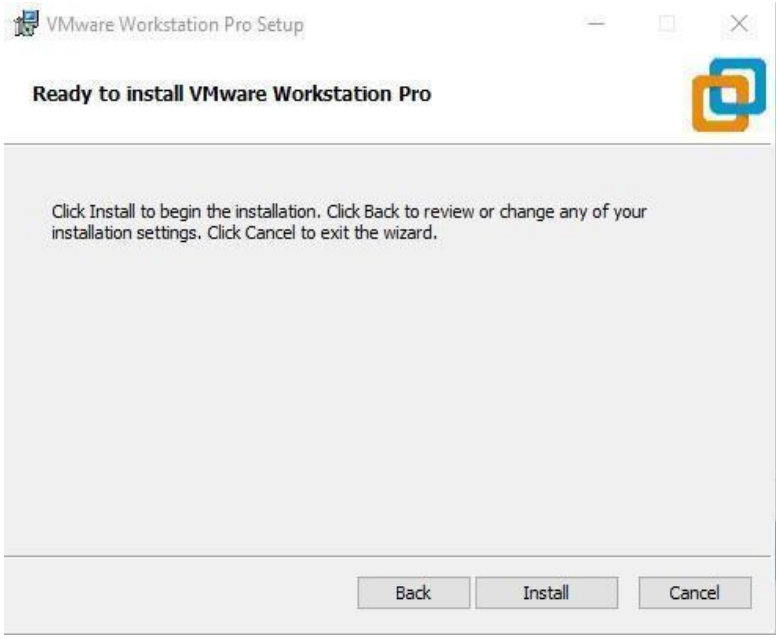
Part 1: Software Installing VMware

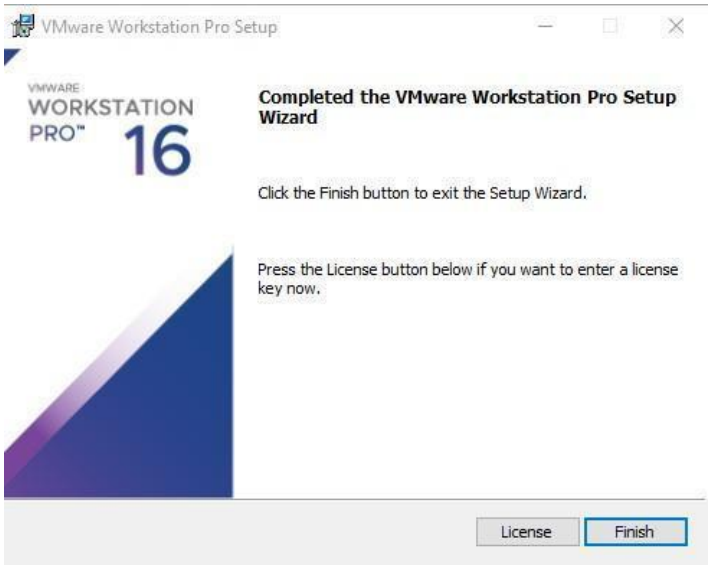
1.1 Download and VMware Workstation 16

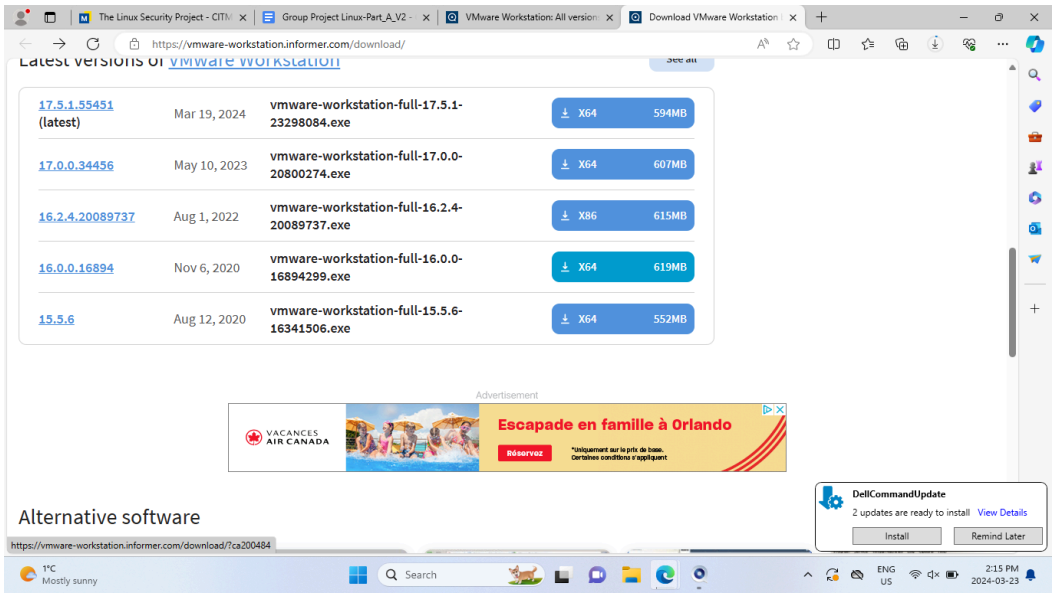
- There are many other versions available: https://vmwareworkstation.informer.com/versions/

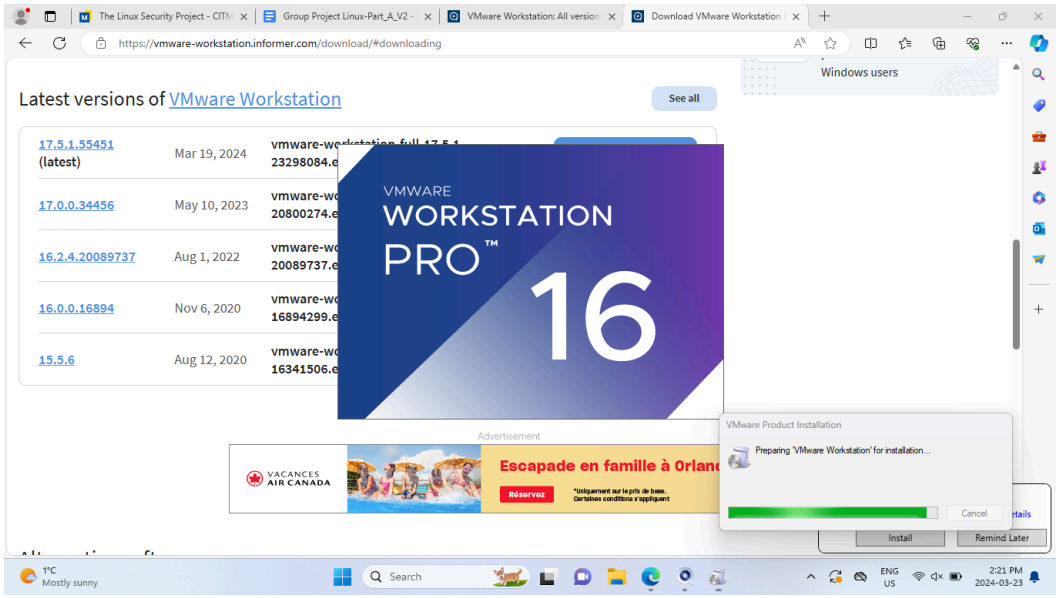


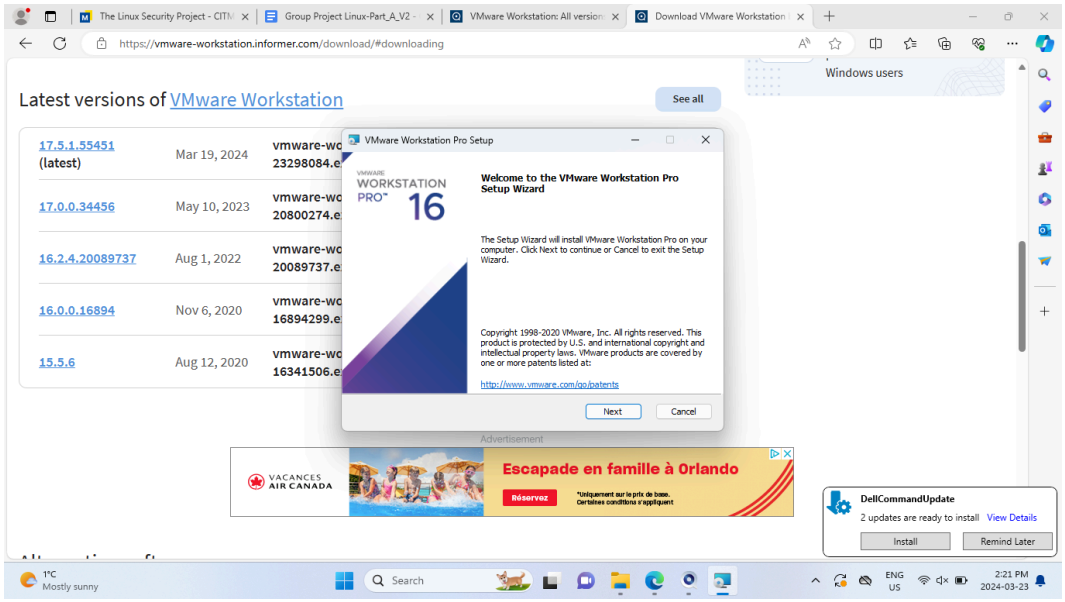
1.2 Install VMware Workstation Player 16

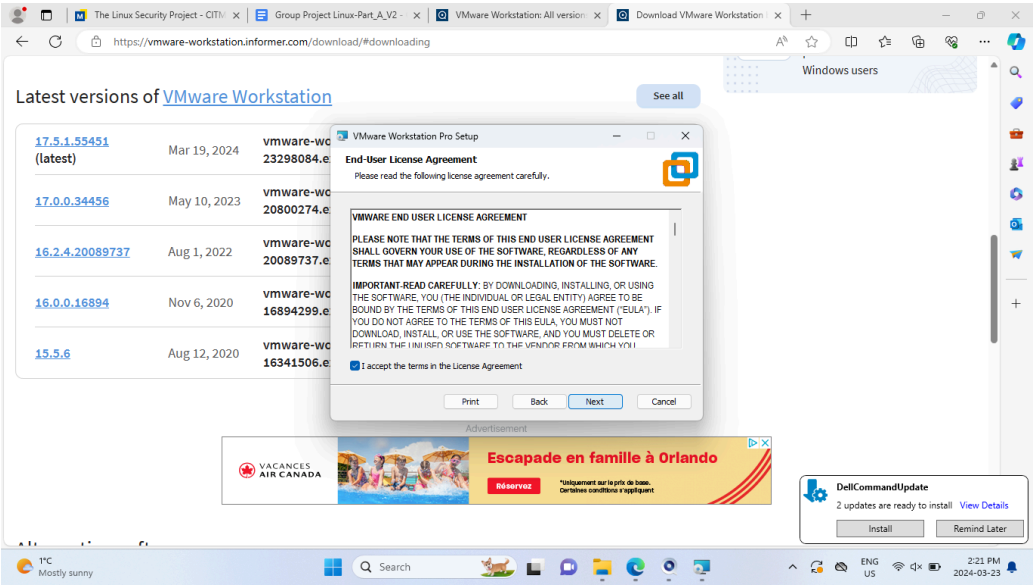


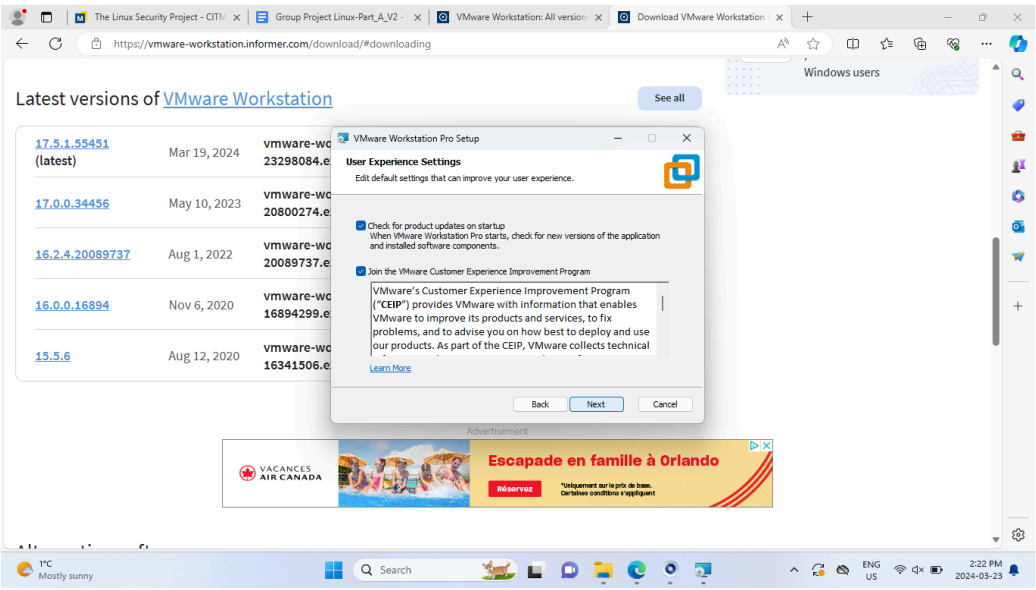


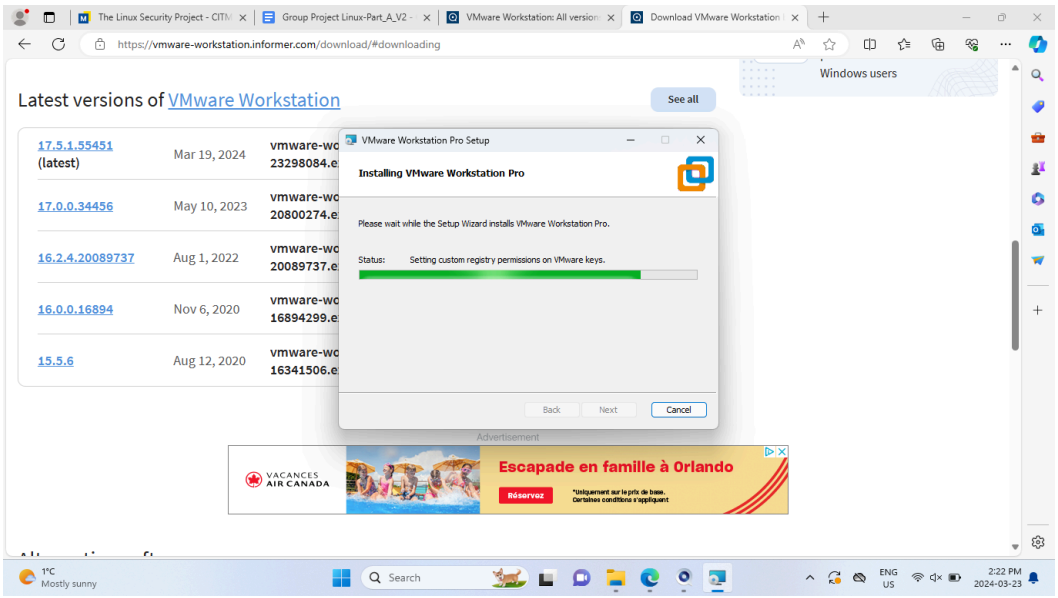

Latest versions of VMware Workstation
17.5.1.55451 (latest) Mar 19, 2024 vmware-workstation-full-17.5.1-23298084.exe X64 594MB
17.0.0.34456 May 10, 2023 vmware-workstation-full-17.0.0-20800274.exe X64 607MB
16.2.4.20089737 Aug 1, 2022 vmware-workstation-full-16.2.4-20089737.exe X86 615MB
16.0.0.16894 Nov 6, 2020 vmware-workstation-full-16.0.0-16894299.exe X64 619MB
15.5.6 Aug 12, 2020 vmware-workstation-full-15.5.6-16341506.exe X64 552MB
Escapade en famille à Orlando
Alternative software
DellCommandUpdate
2 updates are ready to install View Details
Install
Remind Later

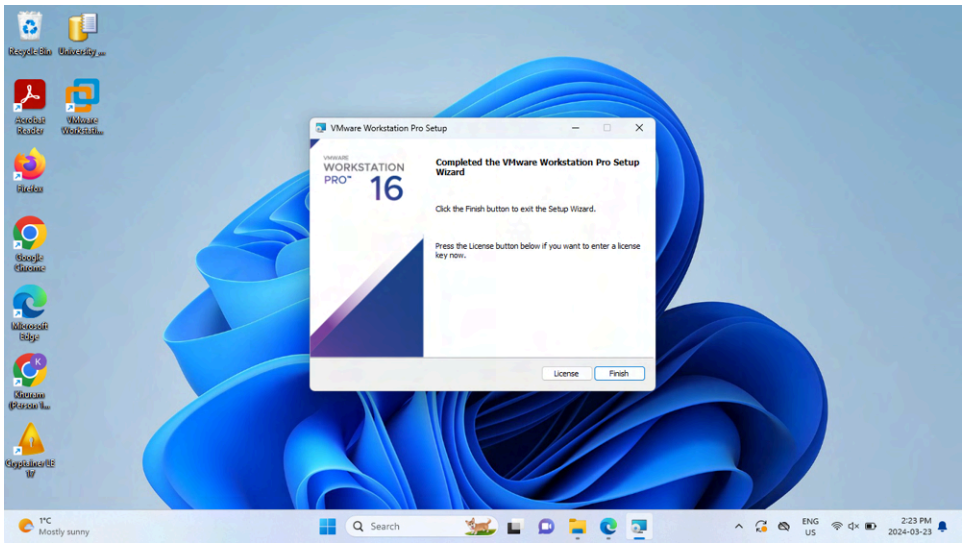

Latest versions of VMware Workstation
See all
Windows users
VMWARE WORKSTATION PRO™ 16
VMware Product Installation
Preparing 'VMware Workstation' for installation...
Cancel
Install
Remind Later


Latest versions of VMware Workstation
See all
Windows users
VMware Workstation Pro Setup
Welcome to the VMware Workstation Pro Setup Wizard
The Setup Wizard will install VMware Workstation Pro on your computer. Click Next to continue or Cancel to exit the Setup Wizard.
Next
Cancel
Escapade en famille à Orlando
DellCommandUpdate
2 updates are ready to install View Details
Install
Remind Later

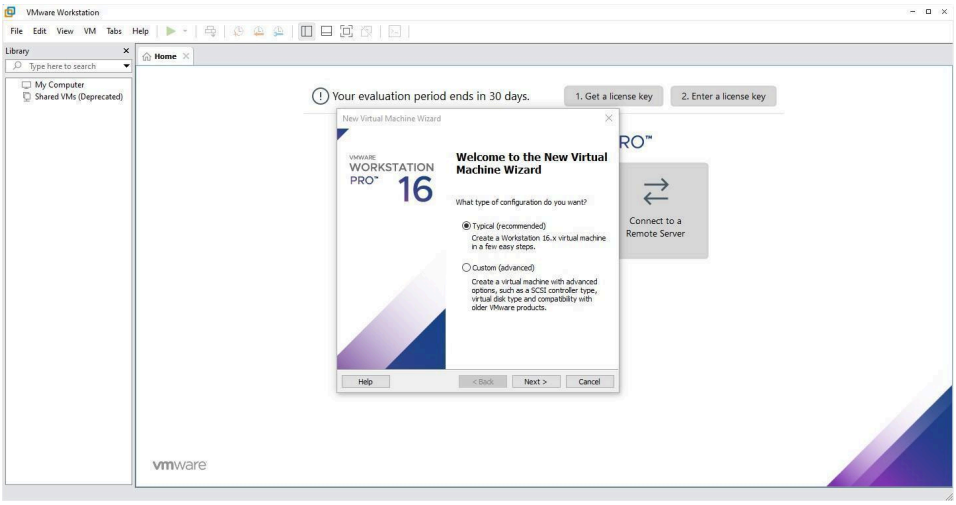

Latest versions of VMware Workstation
See all
Windows users
17.5.1.55451 (latest) Mar 19, 2024
17.0.0.34456 May 10, 2023
16.2.4.20089737 Aug 1, 2022
16.0.0.16894 Nov 6, 2020
15.5.6 Aug 12, 2020
VMware Workstation Pro Setup
End-User License Agreement
Please read the following license agreement carefully.
VMWARE END USER LICENSE AGREEMENT
PLEASE NOTE THAT THE TERMS OF THIS END USER LICENSE AGREEMENT SHALL GOVERN YOUR USE OF THE SOFTWARE, REGARDLESS OF ANY TERMS THAT MAY APPEAR DURING THE INSTALLATION OF THE SOFTWARE.
IMPORTANT-READ CAREFULLY: BY DOWNLOADING, INSTALLING, OR USING THE SOFTWARE, YOU (THE INDIVIDUAL OR LEGAL ENTITY) AGREE TO BE BOUND BY THE TERMS OF THIS END USER LICENSE AGREEMENT ("EULA"). IF YOU DO NOT AGREE TO THE TERMS OF THIS EULA, YOU MUST NOT DOWNLOAD, INSTALL, OR USE THE SOFTWARE, AND YOU MUST DELETE OR
I accept the terms in the License Agreement
Print
Back
Next
Cancel
Escapade en famille à Orlando
DellCommandUpdate
2 updates are ready to install View Details
Install
Remind Later

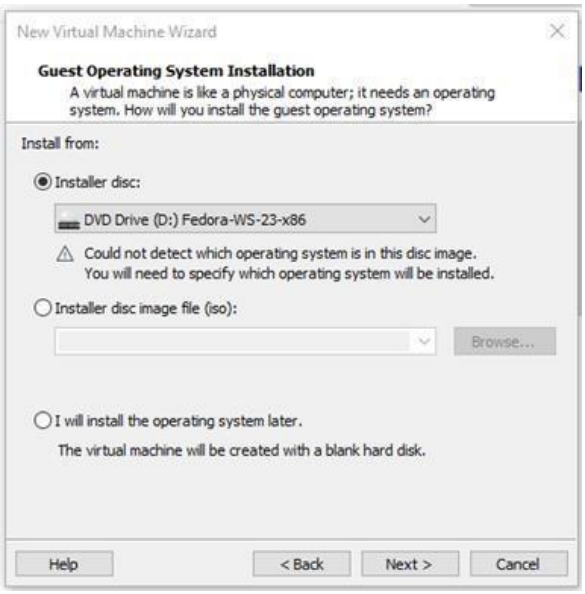

Latest versions of VMware Workstation
See all
Windows users
VMware Workstation Pro Setup
User Experience Settings
Edit default settings that can improve your user experience.
Check for product updates on startup
When VMware Workstation Pro starts, check for new versions of the application and installed software components.
Join the VMware Customer Experience Improvement Program
VMware's Customer Experience Improvement Program ("CEIP") provides VMware with information that enables VMware to improve its products and services, to fix problems, and to advise you on how best to deploy and use our products. As part of the CEIP, VMware collects technical
Learn More
Back
Next
Cancel
Escapade en famille à Orlando


Latest versions of VMware Workstation
See all
Windows users
VMware Workstation Pro Setup
Installing VMware Workstation Pro
Please wait while the Setup Wizard installs VMware Workstation Pro.
Status: Setting custom registry permissions on VMware keys.
Back
Next
Cancel
Escapade en famille à Orlando


VMware Workstation Pro Setup
WORKSTATION PRO™ 16
Completed the VMware Workstation Pro Setup Wizard
Click the Finish button to exit the Setup Wizard.
Press the License button below if you want to enter a license key now.
License
Finish

1.3 In VMware Player, click Create new Virtual Machine (with all the default values)

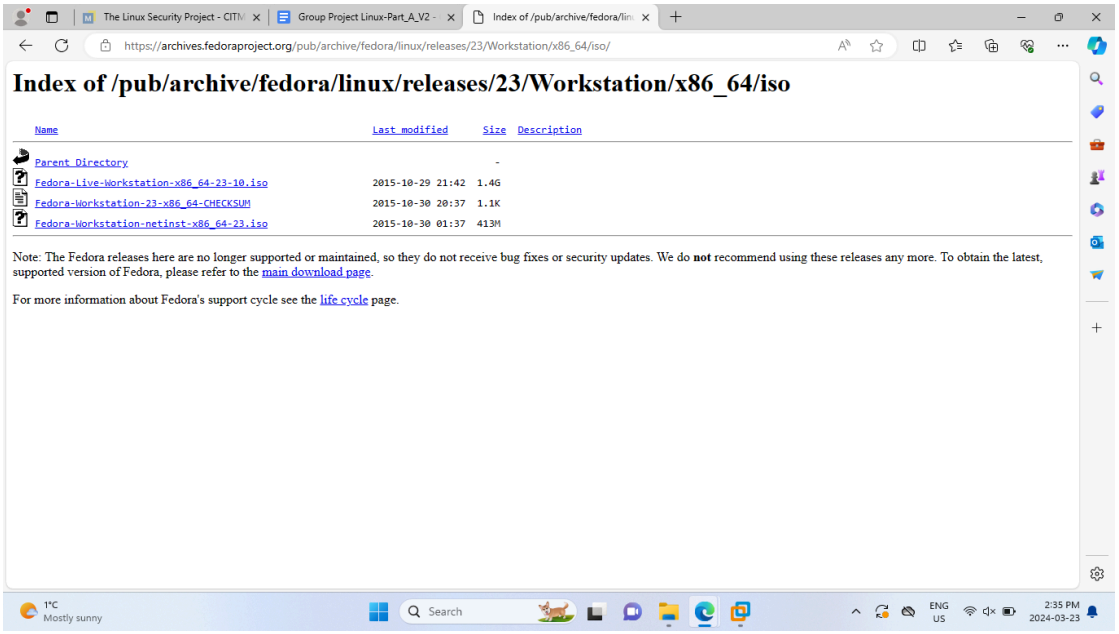


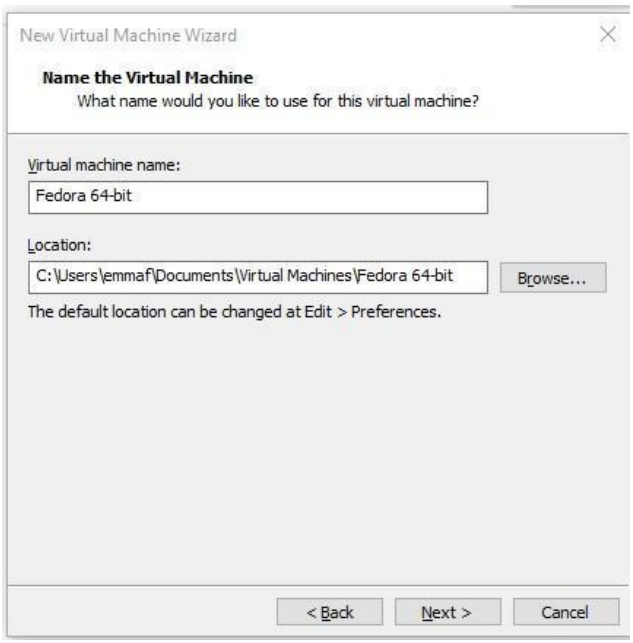


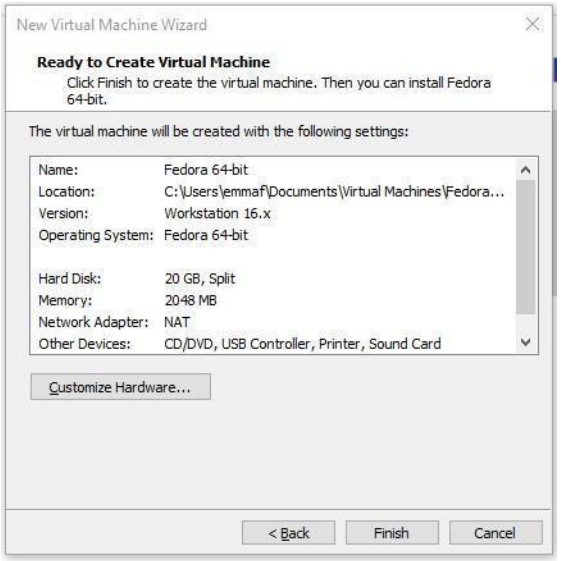
Part 2: Installing Linux

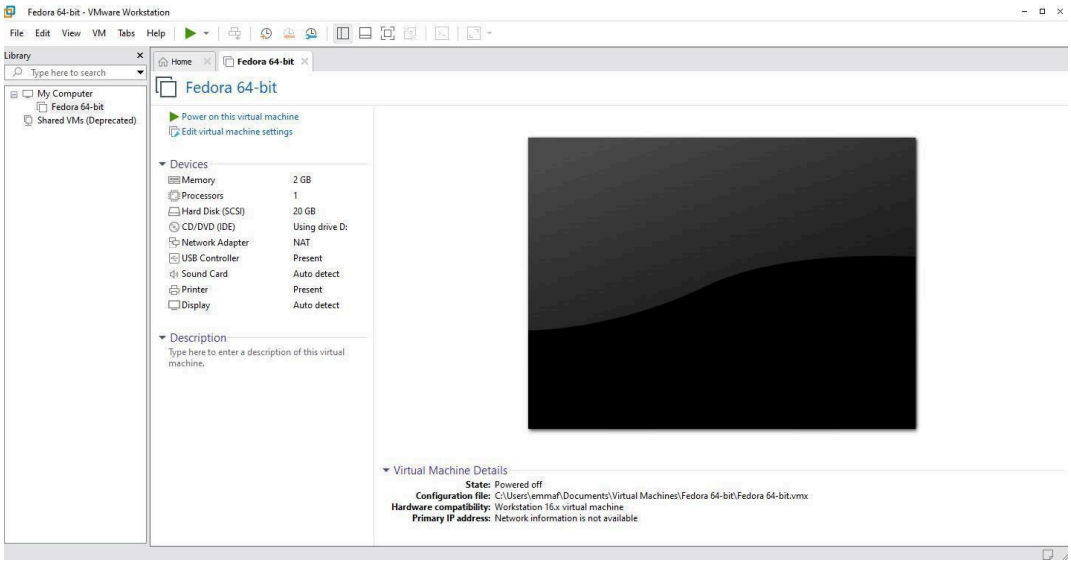
2.1 Download Fedora Workstation 23

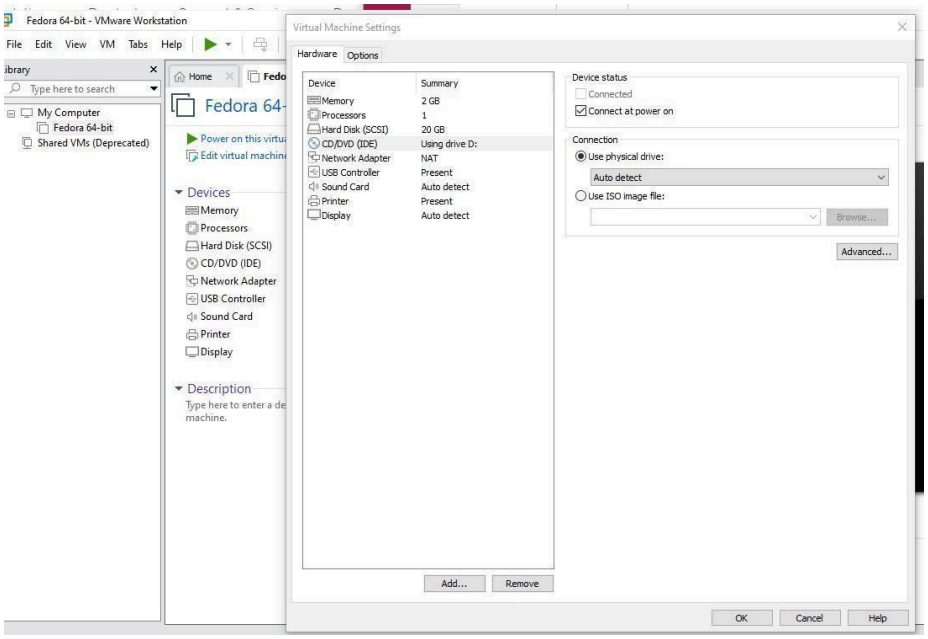
https://archives.fedoraproject.org/pub/archive/fedora/linux/releases/23/Workstation/x86_64/iso/

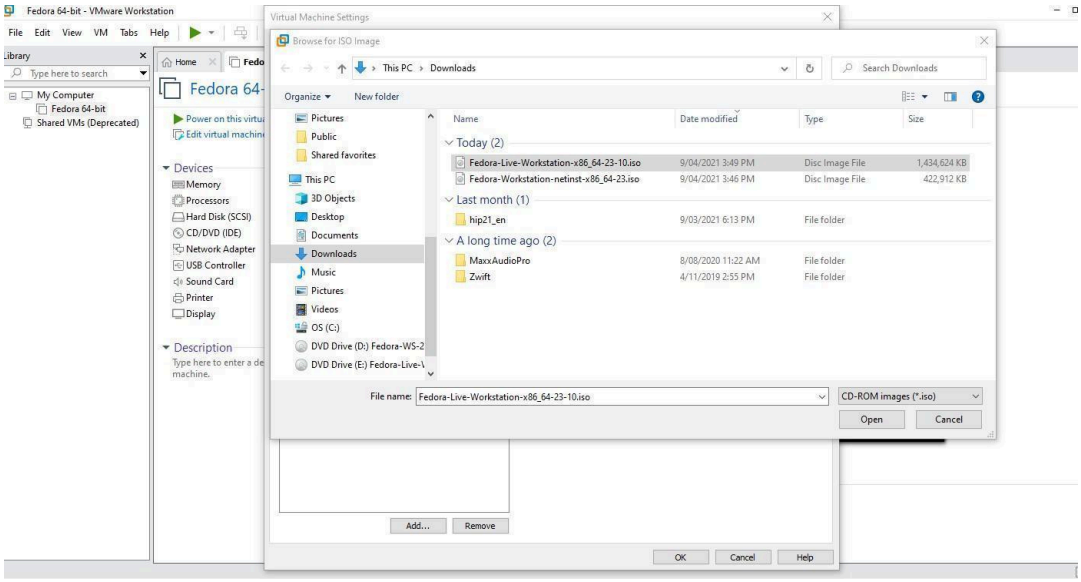


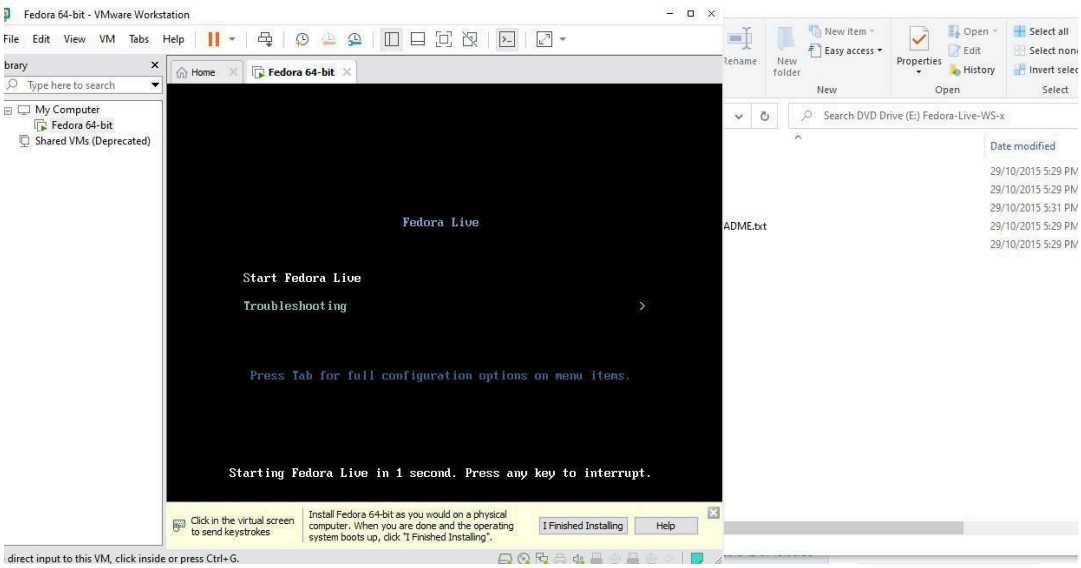


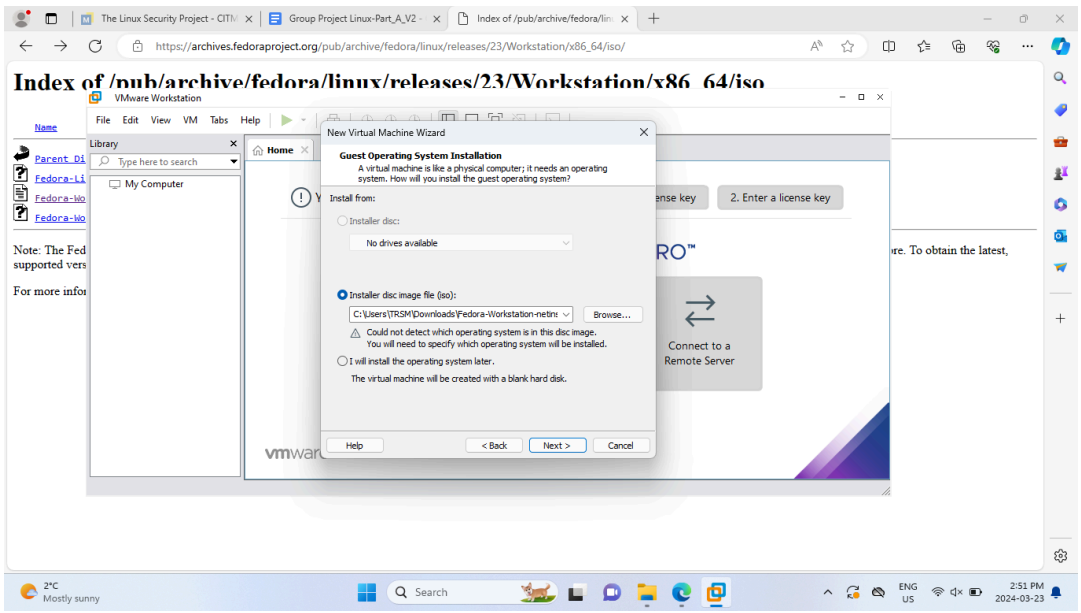

New Virtual Machine Wizard
Ready to Create Virtual Machine
Click Finish to create the virtual machine. Then you can install Fedora 64-bit.
The virtual machine will be created with the following settings:
Name: Fedora 64-bit
Location: C:\Users\emmaf\Documents\Virtual Machines\Fedora...
Version: Workstation 16.x
Operating System: Fedora 64-bit
Hard Disk: 20 GB, Split
Memory: 2048 MB
Network Adapter: NAT
Other Devices: CD/DVD, USB Controller, Printer, Sound Card
Customize Hardware...
< Back
Finish
Cancel

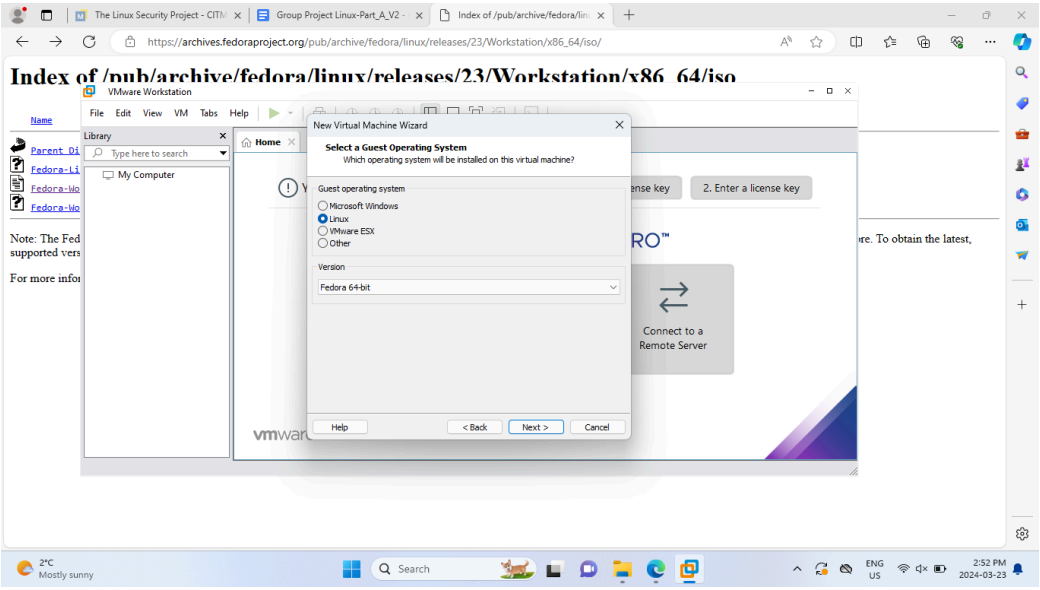

Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Library
Type here to search
My Computer
Fedora 64-bit
Shared VMs (Deprecated)
Home
Fedora 64-bit
Power on this virtual machine
Edit virtual machine settings
Devices
Memory 2 GB
Processors 1
Hard Disk (SCSI) 20 GB
CD/DVD (IDE) Using drive D:
Network Adapter NAT
USB Controller Present
Sound Card Auto detect
Printer Present
Display Auto detect
Description
Type here to enter a description of this virtual machine.
Virtual Machine Details
State: Powered off
Configuration file: C:\Users\emmaf\Documents\Virtual Machines\Fedora 64-bit\Fedora 64-bit.vmx
Hardware compatibility: Workstation 16.x virtual machine
Primary IP address: Network information is not available

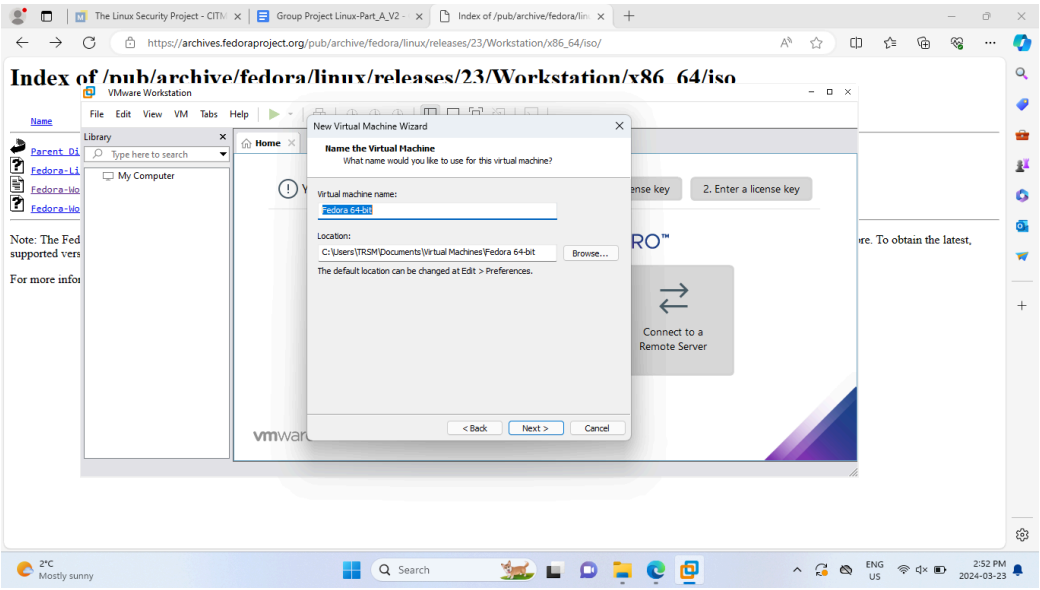

Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Virtual Machine Settings
Hardware
Options
Device
Summary
Memory 2 GB
Processors 1
Hard Disk (SCSI) 20 GB
CD/DVD (IDE) Using drive D:
Network Adapter NAT
USB Controller Present
Sound Card Auto detect
Printer Present
Display Auto detect
Device status
Connected
Connect at power on
Connection
Use physical drive:
Auto detect
Use ISO image file:
Browse...
Advanced...
Add...
Remove
OK
Cancel
Help

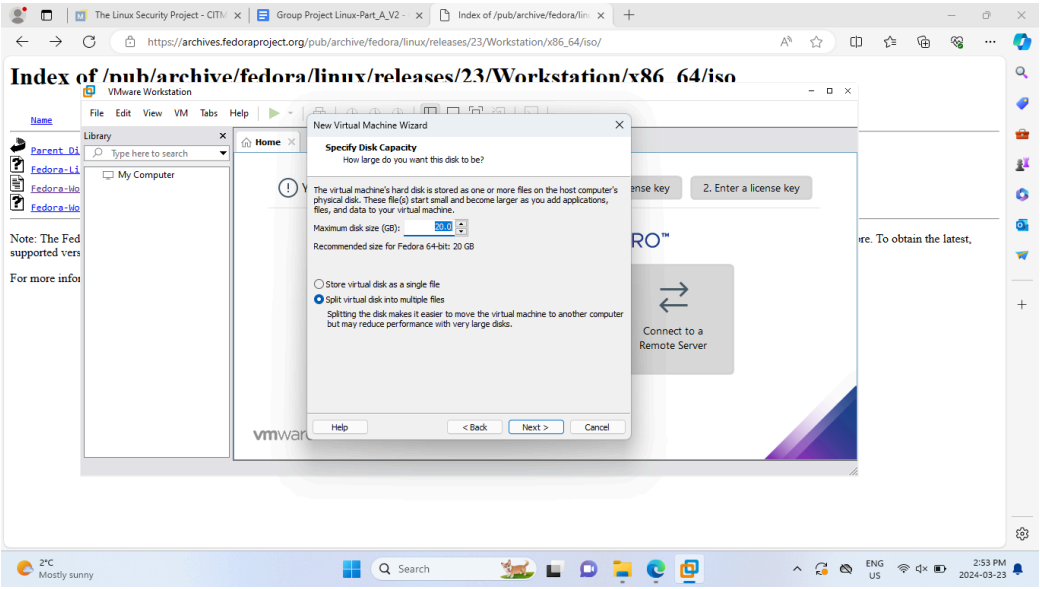

Fedora 64-bit - VMware Workstation
Virtual Machine Settings
Browse for ISO Image
This PC › Downloads
Search Downloads
Organize
New folder
Today (2)
Fedora-Live-Workstation-x86_64-23-10.iso
Fedora-Workstation-netinst-x86_64-23.iso
Last month (1)
hip21_en
A long time ago (2)
MaxxAudioPro
Zwift
File name: Fedora-Live-Workstation-x86_64-23-10.iso
CD-ROM images (*.iso)
Open
Cancel
Add...
Remove
OK
Help

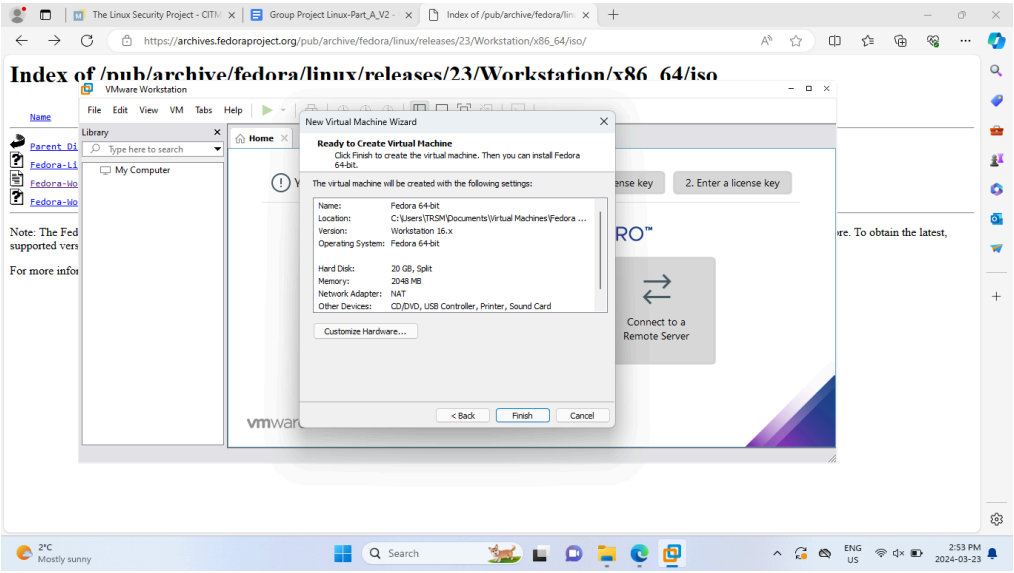

Fedora 64-bit - VMware Workstation
Fedora Live
Start Fedora Live
Troubleshooting
Press Tab for full configuration options on menu items.
Starting Fedora Live in 1 second. Press any key to interrupt.
Click in the virtual screen to send keystrokes
Install Fedora 64-bit as you would on a physical computer. When you are done and the operating system boots up, click "I Finished Installing".
I Finished Installing
Help

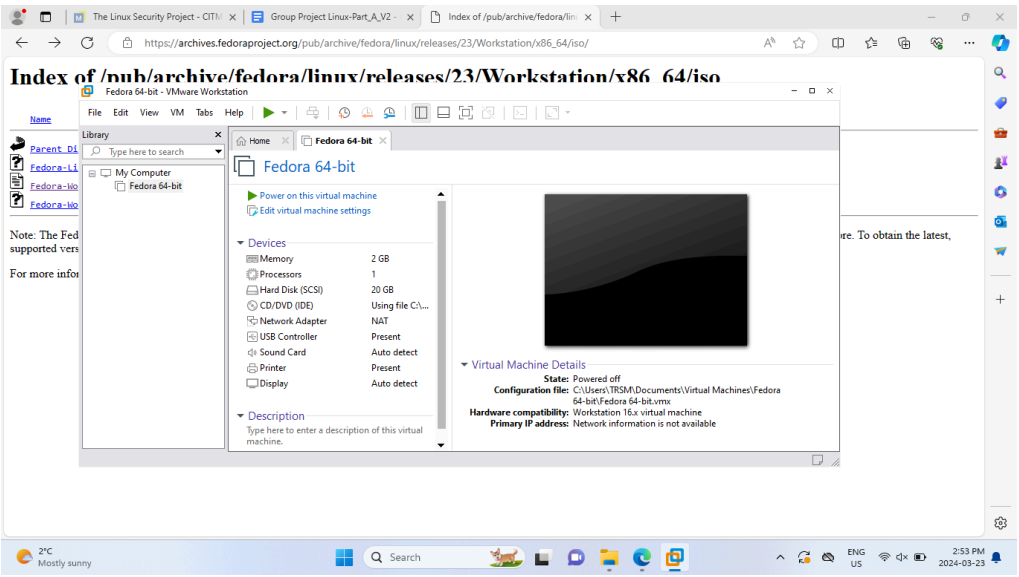

https://archives.fedoraproject.org/pub/archive/fedora/linux/releases/23/Workstation/x86_64/iso/
Index of /pub/archive/fedora/linux/releases/23/Workstation/x86_64/iso
New Virtual Machine Wizard
Guest Operating System Installation
A virtual machine is like a physical computer; it needs an operating system. How will you install the guest operating system?
Install from:
Installer disc:
No drives available
Installer disc image file (iso):
Could not detect which operating system is in this disc image.
You will need to specify which operating system will be installed.
I will install the operating system later.
The virtual machine will be created with a blank hard disk.
Help
< Back
Next >
Cancel
2. Enter a license key
Connect to a Remote Server

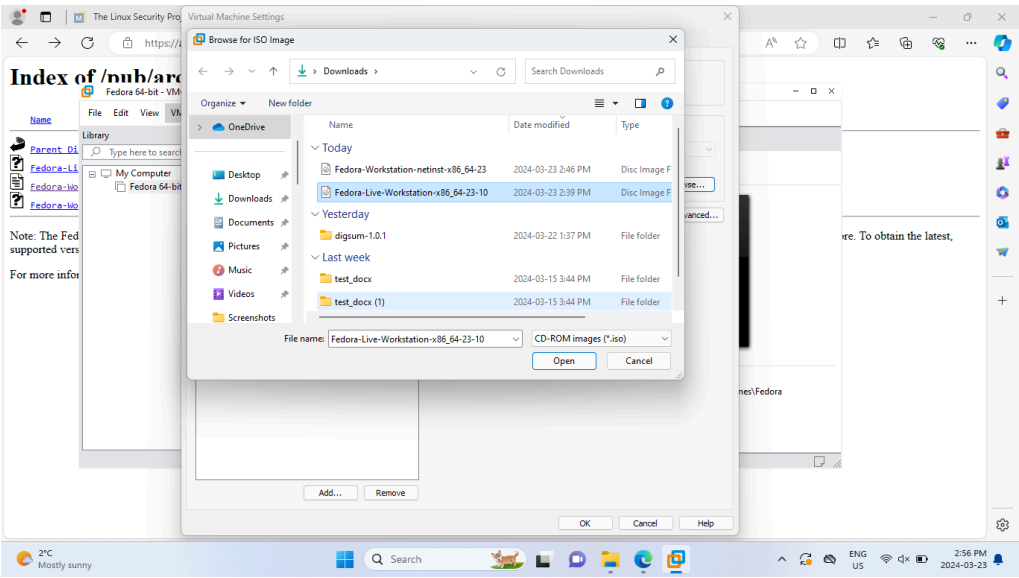

https://archives.fedoraproject.org/pub/archive/fedora/linux/releases/23/Workstation/x86_64/iso/
Index of /pub/archive/fedora/linux/releases/23/Workstation/x86_64/iso
VMware Workstation
New Virtual Machine Wizard
Select a Guest Operating System
Which operating system will be installed on this virtual machine?
Guest operating system
Microsoft Windows
Linux
VMware ESX
Other
Version
Fedora 64-bit
Help
< Back
Next >
Cancel

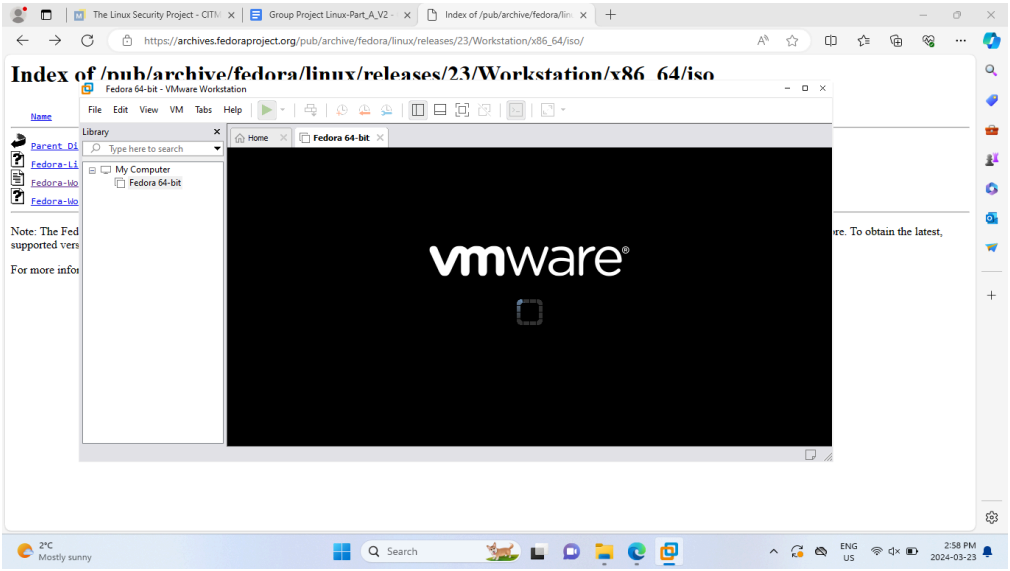

https://archives.fedoraproject.org/pub/archive/fedora/linux/releases/23/Workstation/x86_64/iso/
Index of /pub/archive/fedora/linux/releases/23/Workstation/x86_64/iso
VMware Workstation
New Virtual Machine Wizard
Name the Virtual Machine
What name would you like to use for this virtual machine?
Virtual machine name:
Fedora 64-bit
Location:
C:\Users\TRSM\Documents\Virtual Machines\Fedora 64-bit
Browse...
The default location can be changed at Edit > Preferences.
< Back
Next >
Cancel

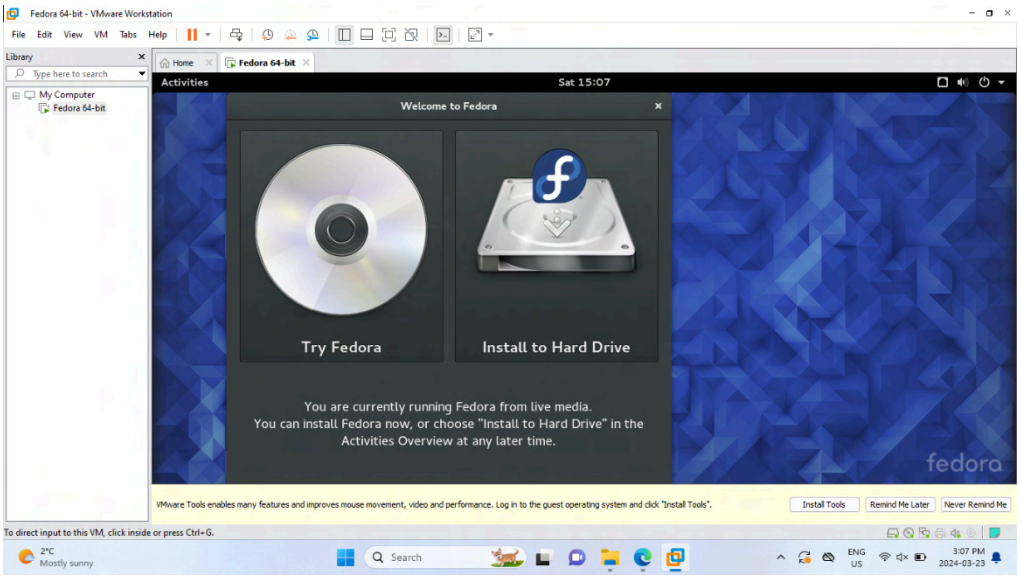

https://archives.fedoraproject.org/pub/archive/fedora/linux/releases/23/Workstation/x86_64/iso/
Index of /pub/archive/fedora/linux/releases/23/Workstation/x86_64/iso
VMware Workstation
New Virtual Machine Wizard
Specify Disk Capacity
How large do you want this disk to be?
The virtual machine's hard disk is stored as one or more files on the host computer's physical disk. These file(s) start small and become larger as you add applications, files, and data to your virtual machine.
Maximum disk size (GB):
20.0
Recommended size for Fedora 64-bit: 20 GB
Store virtual disk as a single file
Split virtual disk into multiple files
Splitting the disk makes it easier to move the virtual machine to another computer but may reduce performance with very large disks.
Help
< Back
Next >
Cancel

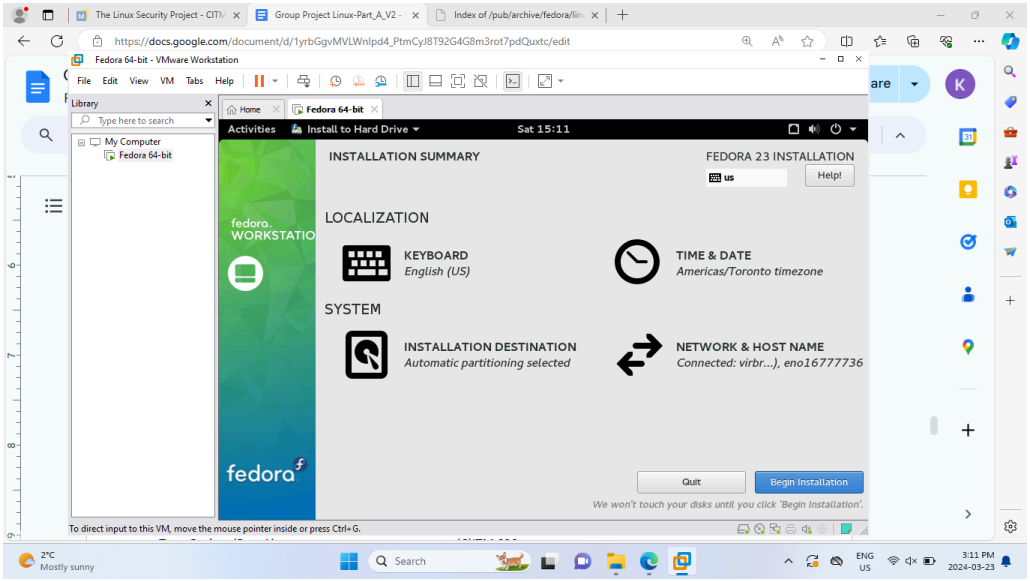

Index of /pub/archive/fedora/linux/releases/23/Workstation/x86_64/iso
VMware Workstation
New Virtual Machine Wizard
Ready to Create Virtual Machine
Click Finish to create the virtual machine. Then you can install Fedora 64-bit.
The virtual machine will be created with the following settings:
Name: Fedora 64-bit
Location: C:\Users\TRSM\Documents\Virtual Machines\Fedora ...
Version: Workstation 16.x
Operating System: Fedora 64-bit
Hard Disk: 20 GB, Split
Memory: 2048 MB
Network Adapter: NAT
Other Devices: CD/DVD, USB Controller, Printer, Sound Card
Customize Hardware...
< Back
Finish
Cancel
2. Enter a license key
Connect to a Remote Server

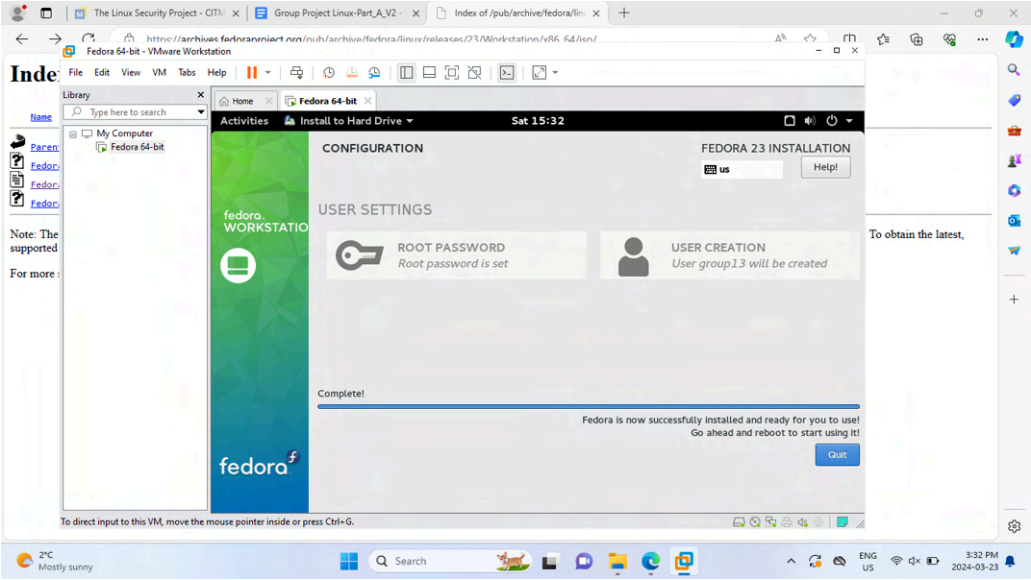

Index of /pub/archive/fedora/linux/releases/23/Workstation/x86_64/iso
Fedora 64-bit - VMware Workstation
Fedora 64-bit
Power on this virtual machine
Edit virtual machine settings
Devices
Memory 2 GB
Processors 1
Hard Disk (SCSI) 20 GB
CD/DVD (IDE) Using file C:\...
Network Adapter NAT
USB Controller Present
Sound Card Auto detect
Printer Present
Display Auto detect
Description
Virtual Machine Details
State: Powered off
Configuration file: C:\Users\TRSM\Documents\Virtual Machines\Fedora 64-bit\Fedora 64-bit.vmx
Hardware compatibility: Workstation 16.x virtual machine
Primary IP address: Network information is not available

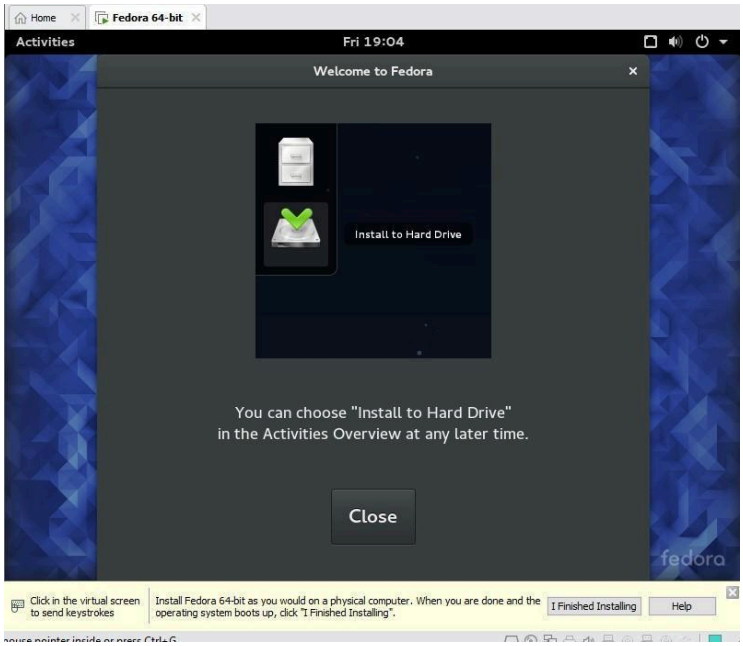

Virtual Machine Settings
Browse for ISO Image
Downloads
Today
Fedora-Workstation-netinst-x86_64-23
Fedora-Live-Workstation-x86_64-23-10
Yesterday
digsum-1.0.1
Last week
test_docx
test_docx (1)
File name: Fedora-Live-Workstation-x86_64-23-10
CD-ROM images (*.iso)
Open
Cancel
Add...
Remove
OK
Help

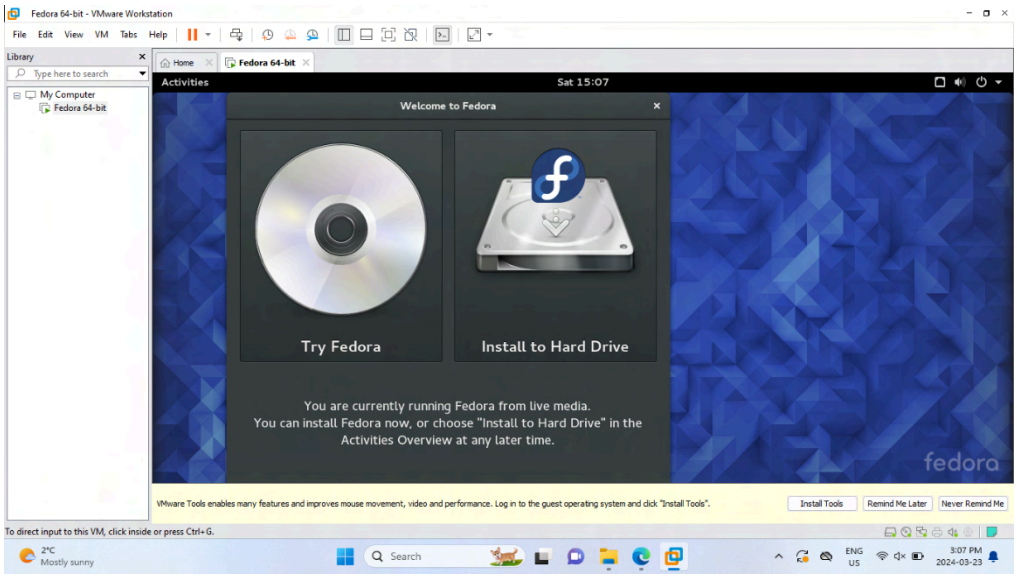

Index of /pub/archive/fedora/linux/releases/23/Workstation/x86_64/iso
Fedora 64-bit - VMware Workstation
vmware

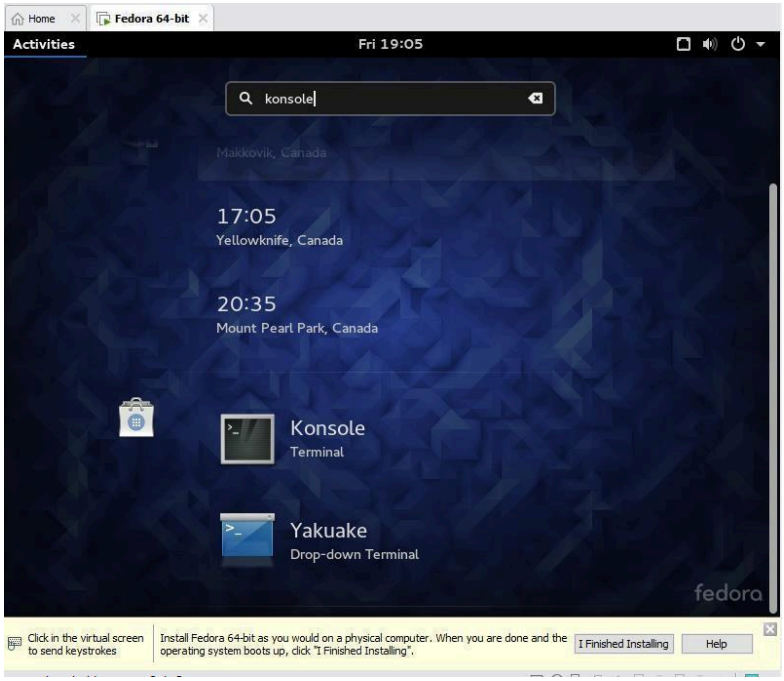

Fedora 64-bit - VMware Workstation
Activities
Sat 15:07
Welcome to Fedora
Try Fedora
Install to Hard Drive
You are currently running Fedora from live media.
You can install Fedora now, or choose "Install to Hard Drive" in the Activities Overview at any later time.
fedora

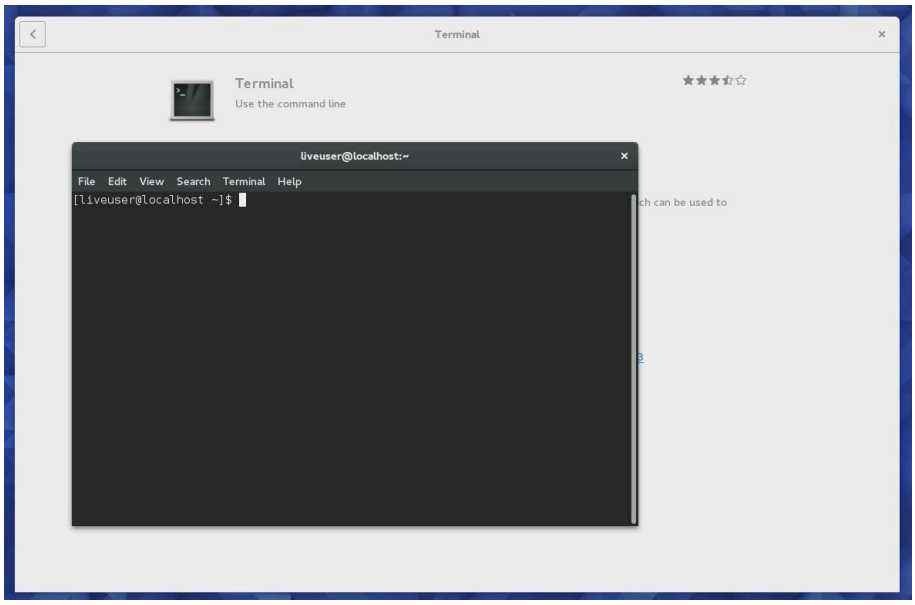

Fedora 64-bit - VMware Workstation
Activities
Install to Hard Drive
Sat 15:11
INSTALLATION SUMMARY
FEDORA 23 INSTALLATION
Help!
LOCALIZATION
KEYBOARD
English (US)
TIME & DATE
Americas/Toronto timezone
SYSTEM
INSTALLATION DESTINATION
Automatic partitioning selected
NETWORK & HOST NAME
Connected: virbr..., eno16777736
Quit
Begin Installation
We won't touch your disks until you click 'Begin Installation'.

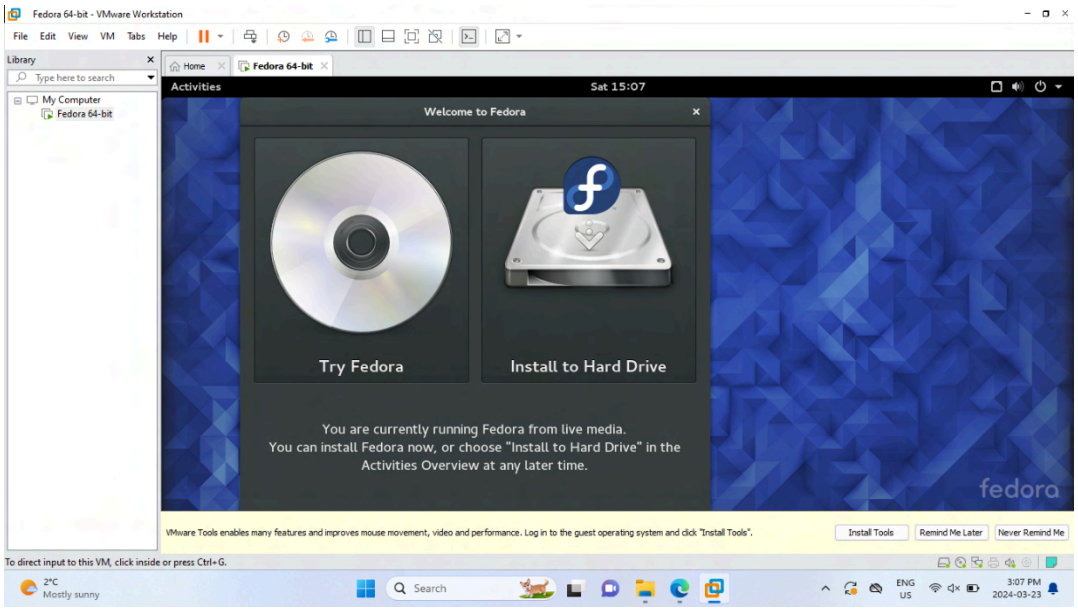

Fedora 64-bit - VMware Workstation
Activities
Install to Hard Drive
Sat 15:32
CONFIGURATION
FEDORA 23 INSTALLATION
Help!
USER SETTINGS
ROOT PASSWORD
Root password is set
USER CREATION
User group13 will be created
Complete!
Fedora is now successfully installed and ready for you to use!
Go ahead and reboot to start using it!
Quit
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.


Activities
Fri 19:04
Welcome to Fedora
Install to Hard Drive
You can choose "Install to Hard Drive"
in the Activities Overview at any later time.
Close
fedora
Click in the virtual screen to send keystrokes
Install Fedora 64-bit as you would on a physical computer. When you are done and the operating system boots up, click "I Finished Installing".
I Finished Installing
Help


Fedora 64-bit - VMware Workstation
Activities
Sat 15:07
Welcome to Fedora
Try Fedora
Install to Hard Drive
You are currently running Fedora from live media.
You can install Fedora now, or choose "Install to Hard Drive" in the Activities Overview at any later time.
fedora
VMware Tools enables many features and improves mouse movement, video and performance. Log in to the guest operating system and click "Install Tools".
Install Tools
Remind Me Later
Never Remind Me
To direct input to this VM, click inside or press Ctrl+G.


Home
Fedora 64-bit
Activities
Fri 19:05
konsole
Makkovik, Canada
17:05
Yellowknife, Canada
20:35
Mount Pearl Park, Canada
Konsole
Terminal
Yakuake
Drop-down Terminal
fedora
Click in the virtual screen to send keystrokes
Install Fedora 64-bit as you would on a physical computer. When you are done and the operating system boots up, click "I Finished Installing".
I Finished Installing
Help


Terminal
Terminal
Use the command line
liveuser@localhost:~
File Edit View Search Terminal Help
[liveuser@localhost ~]$


Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Library
Type here to search
My Computer
Fedora 64-bit
Home
Fedora 64-bit
Activities
Sat 15:07
Welcome to Fedora
Try Fedora
Install to Hard Drive
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You can install Fedora now, or choose "Install to Hard Drive" in the Activities Overview at any later time.
fedora
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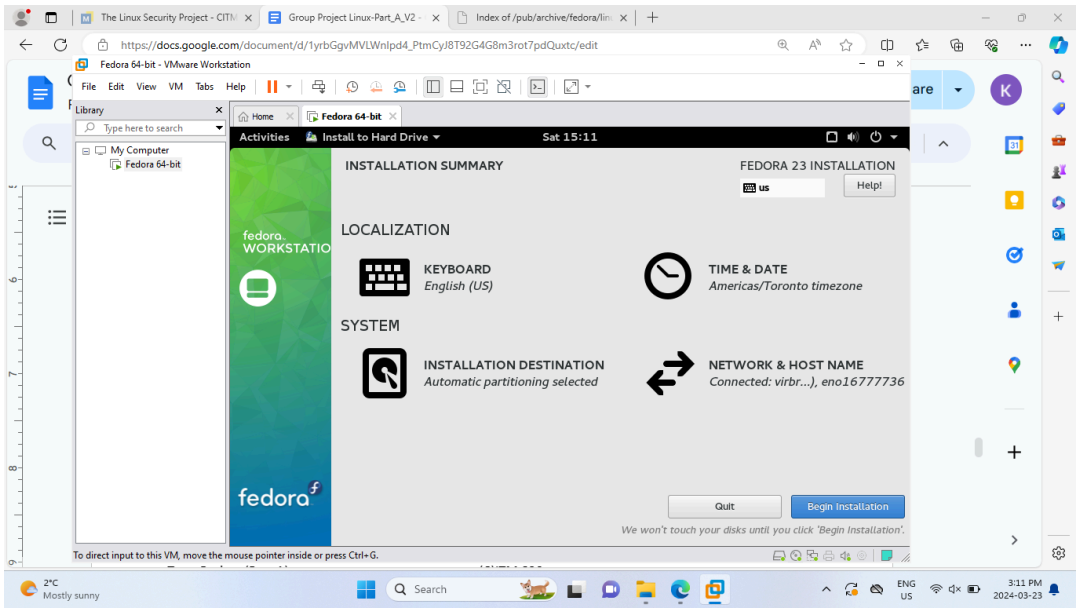
Install Tools
Remind Me Later
Never Remind Me
To direct input to this VM, click inside or press Ctrl+G.


https://docs.google.com/document/d/1yrbGgvMVLWnlpd4_PtmCyJ8T92G4G8m3rot7pdQuxtc/edit
Fedora 64-bit - VMware Workstation
Activities
Install to Hard Drive
Sat 15:11
INSTALLATION SUMMARY
FEDORA 23 INSTALLATION
Help!
LOCALIZATION
KEYBOARD
English (US)
TIME & DATE
Americas/Toronto timezone
SYSTEM
INSTALLATION DESTINATION
Automatic partitioning selected
NETWORK & HOST NAME
Connected: virbr...), eno16777736
Quit
Begin Installation
We won't touch your disks until you click 'Begin Installation'.
fedora
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.

Part 3: The Operating System Environment

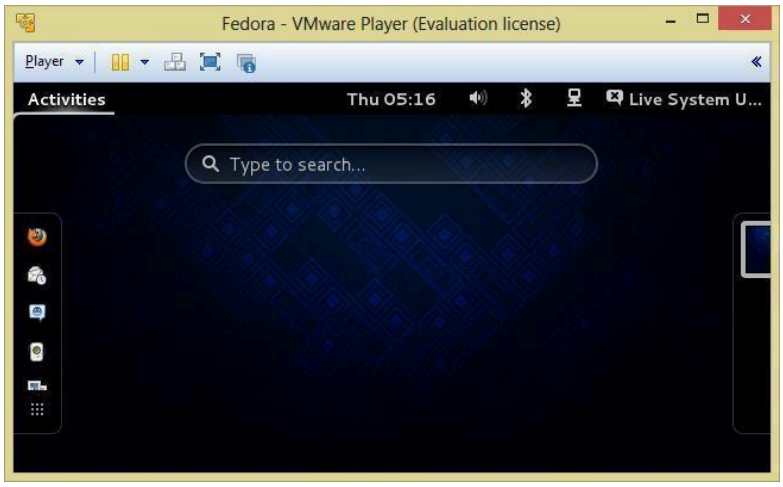
3.1 Click Play Virtual Machine

3.2 Fulfill the process of installing Fedora including specifying time and location, specifying root password, and specifying a new user account.

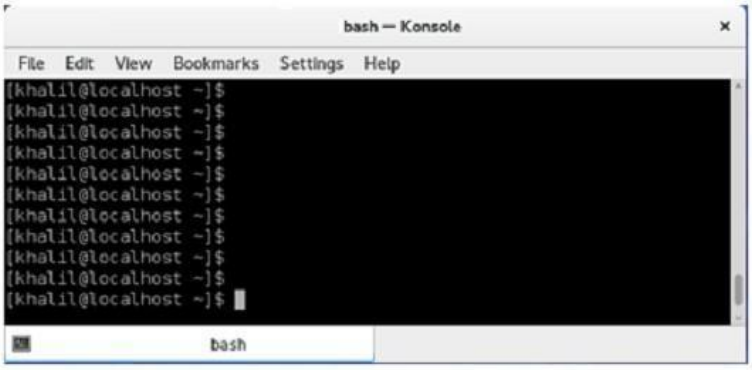
3.3 Click on Activities.

3.4 Type Konsole or Terminal in the search dialog box.

3.5 Right click the mouse on the Terminal icon and select add to favorites.

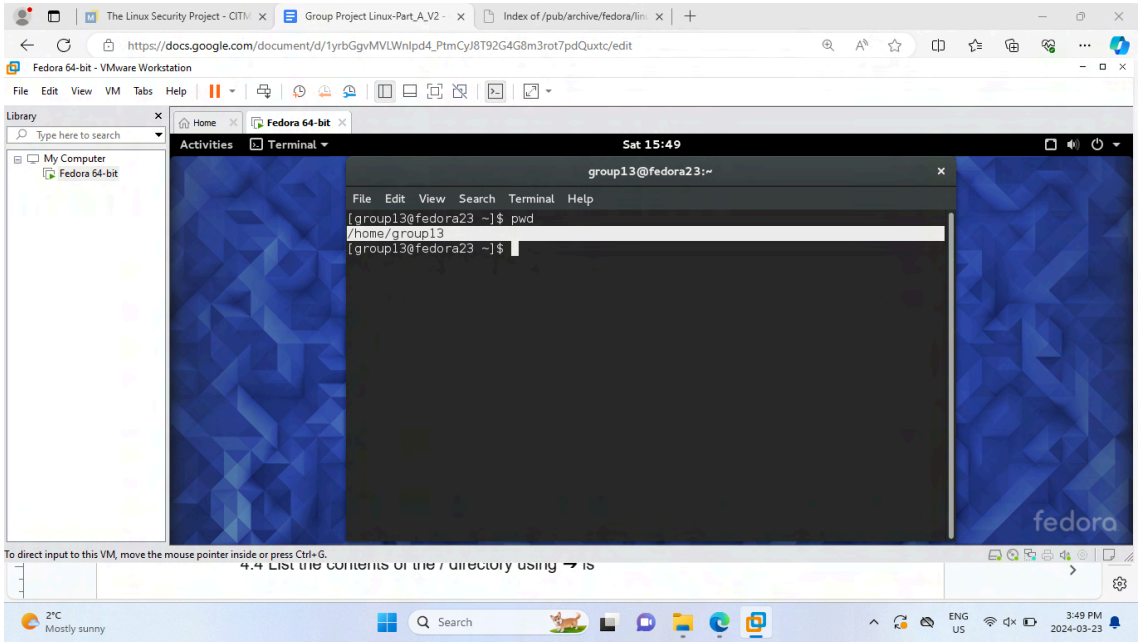


3.6 Start a terminal session.

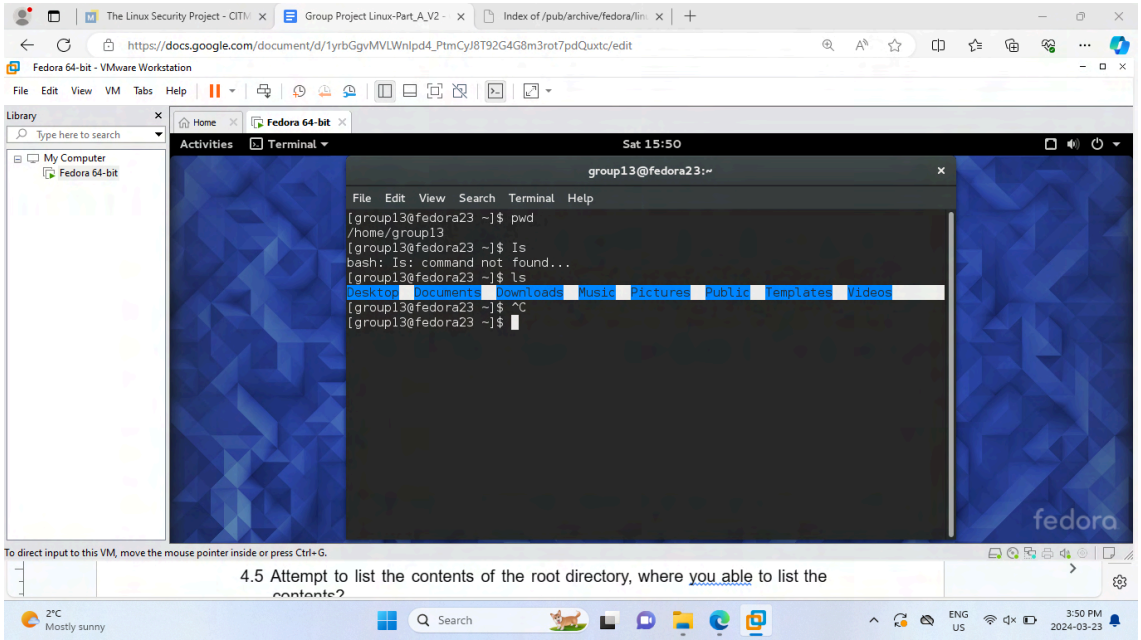


Part 4: The Linux Terminal Environment (command prompt)

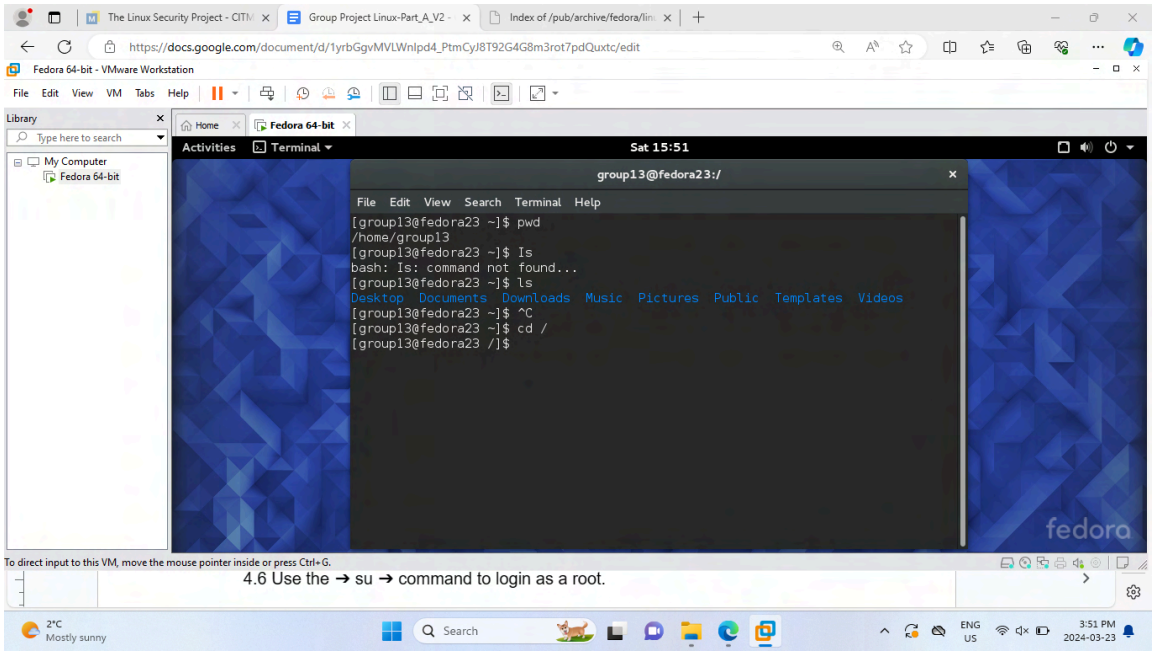
4.1 List the current working directory using the command ➔ pwd /home/group13



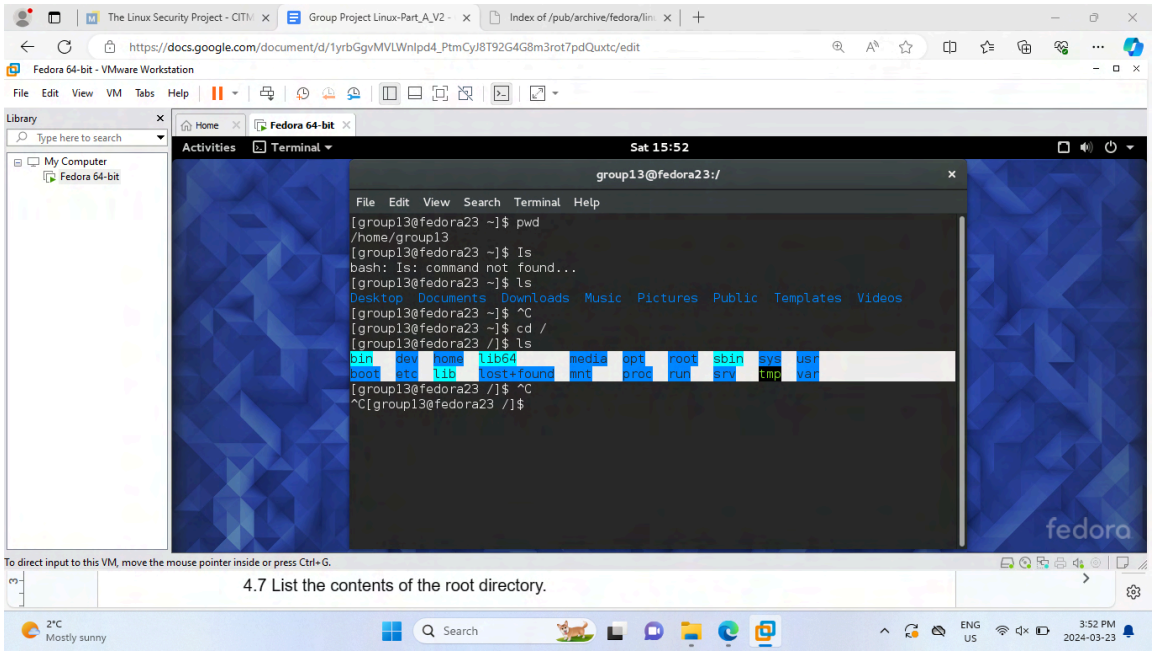
4.2 List contents of the working directory using the command ➔ ls
Desktop Documents Downloads Music Pictures Public Templates Videos



4.3 Change the directory using ➔ cd /

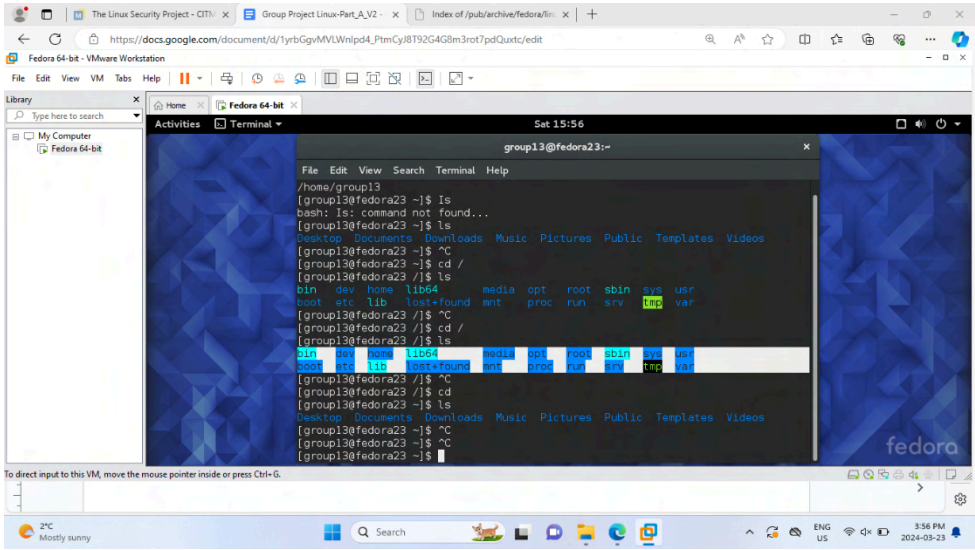


4.4 List the contents of the / directory using ➔ ls
bin dev home lib64 media opt root sbin sys usr
boot etc lib lost+found mnt proc run srv tmp var

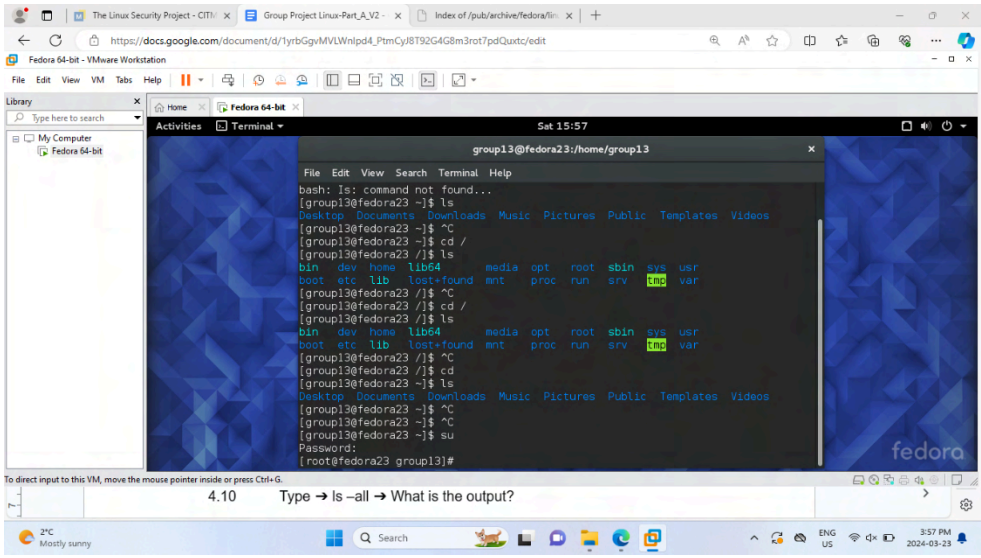


4.5 Attempt to list the contents of the root directory, were you able to list the contents?

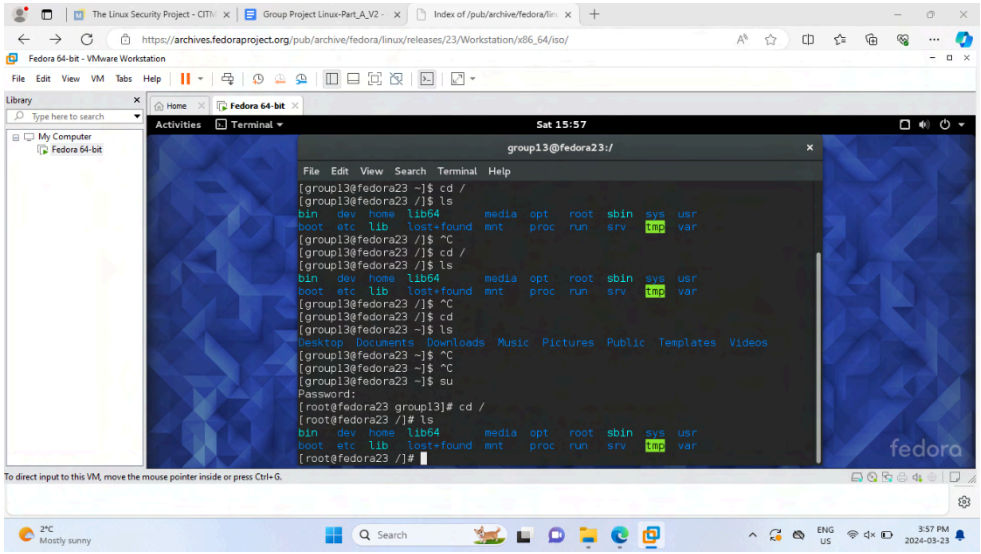
- Yes.
  bin dev home lib64 media opt root sbin sys usr
  boot etc lib lost+found mnt proc run srv tmp var



4.6 Use the ➔ su ➔ command to login as a root.

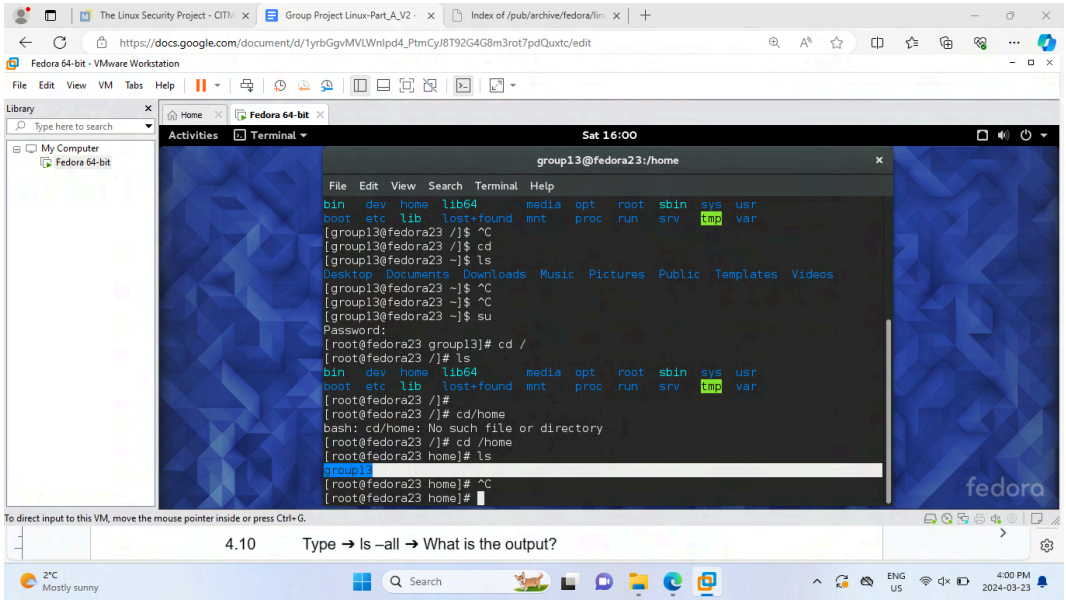


4.7 List the contents of the root directory.



4.8 Switch to the home directory using ➔ cd /home ➔ What is the output?

- Switching to the home directory alone does not produce any output. If I try to show the contents of the home directory all that shows is “group13” username.



4.9 Type ➔ man ls (what does the command do?) ← ctrl-z to exit. ➔ What is the output?

- The man ls command shows the manual documentation for the l’s command.

“ -x list entries by lines instead of by columns

-X sort alphabetically by entry extension

-Z, --context

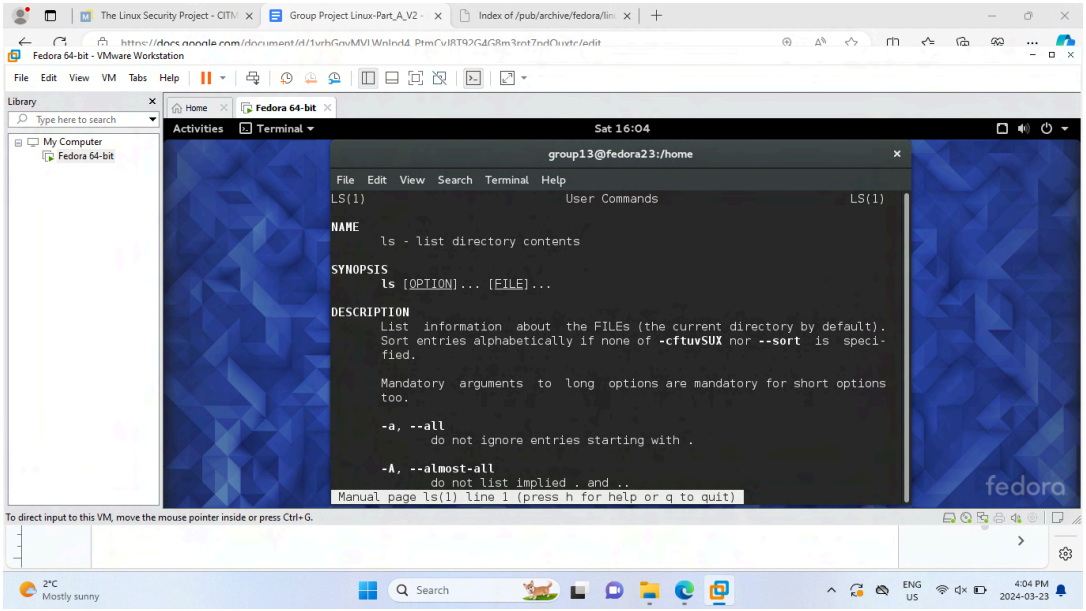
print any security context of each file

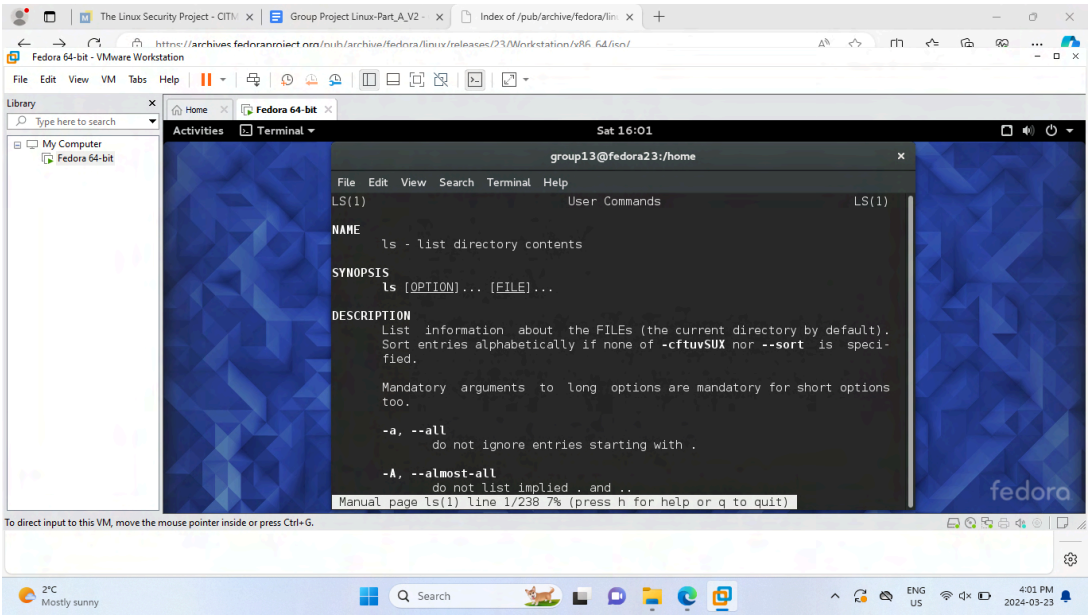
-1 list one file per line. Avoid '\n' with -q or -b

--help display this help and exit

--version

output version information and exit “

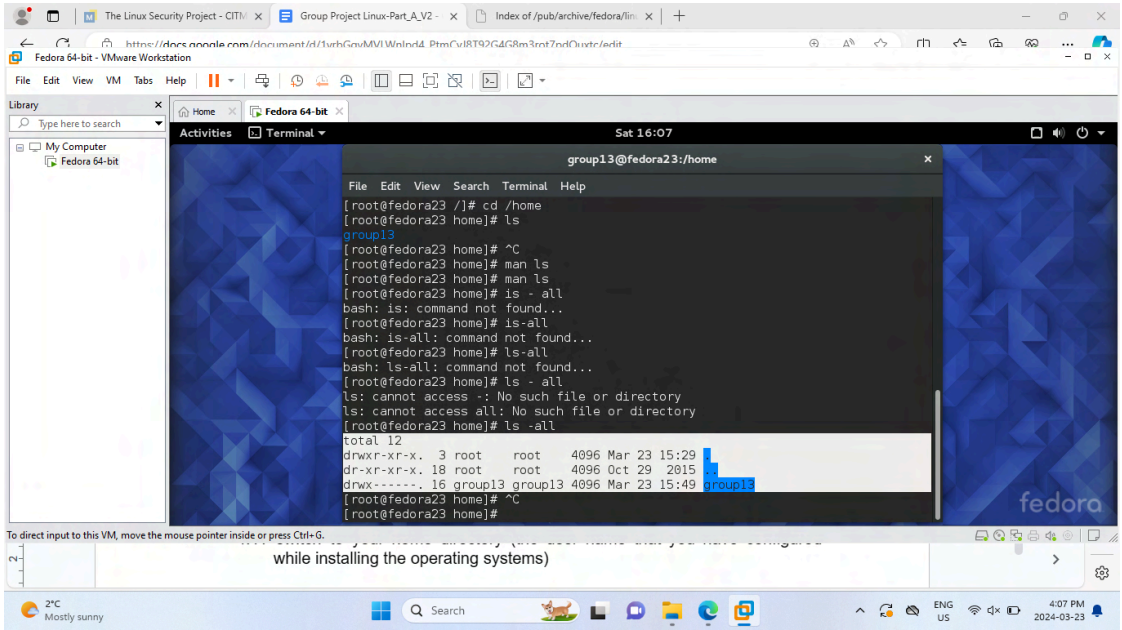

Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Library
Type here to search
My Computer
Fedora 64-bit
Home
Fedora 64-bit
Activities
Terminal
Sat 16:04
group13@fedora23:/home
File Edit View Search Terminal Help
LS(1) User Commands LS(1)
NAME
ls - list directory contents
SYNOPSIS
ls [OPTION]... [FILE]...
DESCRIPTION
List information about the FILEs (the current directory by default).
Sort entries alphabetically if none of -cftuvSUX nor --sort is speci-
fied.
Mandatory arguments to long options are mandatory for short options
too.
-a, --all
do not ignore entries starting with .
-A, --almost-all
do not list implied . and ..
Manual page ls(1) line 1 (press h for help or q to quit)
fedora
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
2°C
Mostly sunny
Search
ENG
US
4:04 PM
2024-03-23


Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Library
Type here to search
My Computer
Fedora 64-bit
Home
Fedora 64-bit
Activities
Terminal
Sat 16:01
group13@fedora23:/home
File Edit View Search Terminal Help
LS(1) User Commands LS(1)
NAME
ls - list directory contents
SYNOPSIS
ls [OPTION]... [FILE]...
DESCRIPTION
List information about the FILEs (the current directory by default).
Sort entries alphabetically if none of -cftuvSUX nor --sort is speci-
fied.
Mandatory arguments to long options are mandatory for short options
too.
-a, --all
do not ignore entries starting with .
-A, --almost-all
do not list implied . and ..
Manual page ls(1) line 1/238 7% (press h for help or q to quit)
fedora
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
2°C
Mostly sunny
Search
ENG
US
4:01 PM
2024-03-23

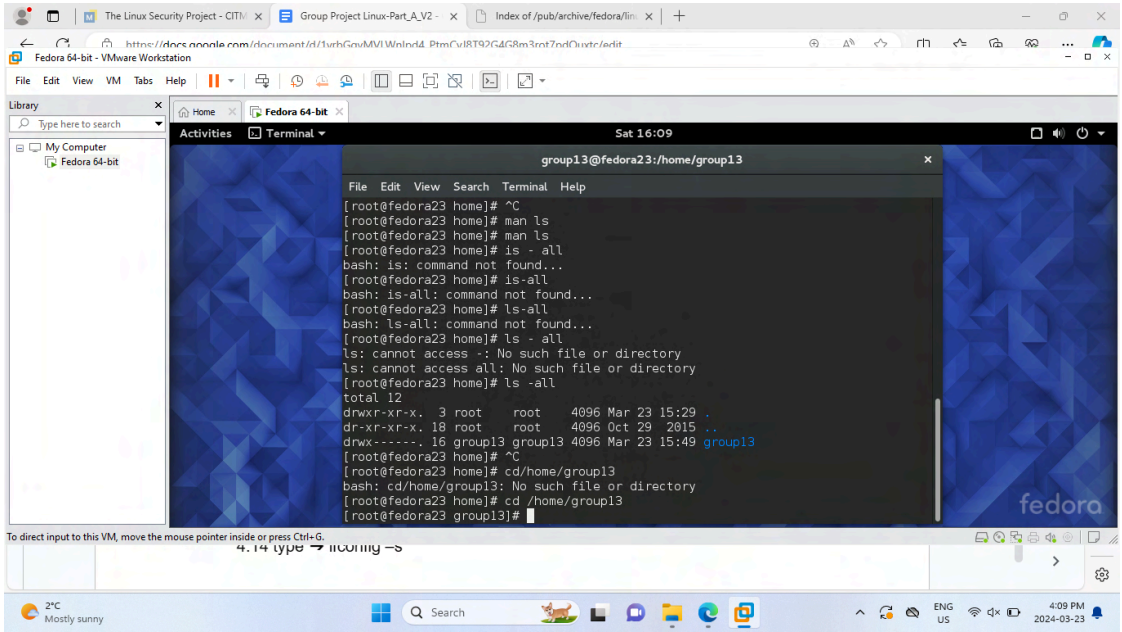
4.10 Type ➔ ls –all ➔ What is the output?

- This command lists all the files and directories in the current directory.

```
total 12
drwxr-xr-x.  3 root    root    4096 Mar 23 15:29 .
dr-xr-xr-x. 18 root    root    4096 Oct 29  2015 ..
drwx------. 16 group13 group13 4096 Mar 23 15:49 group13
```

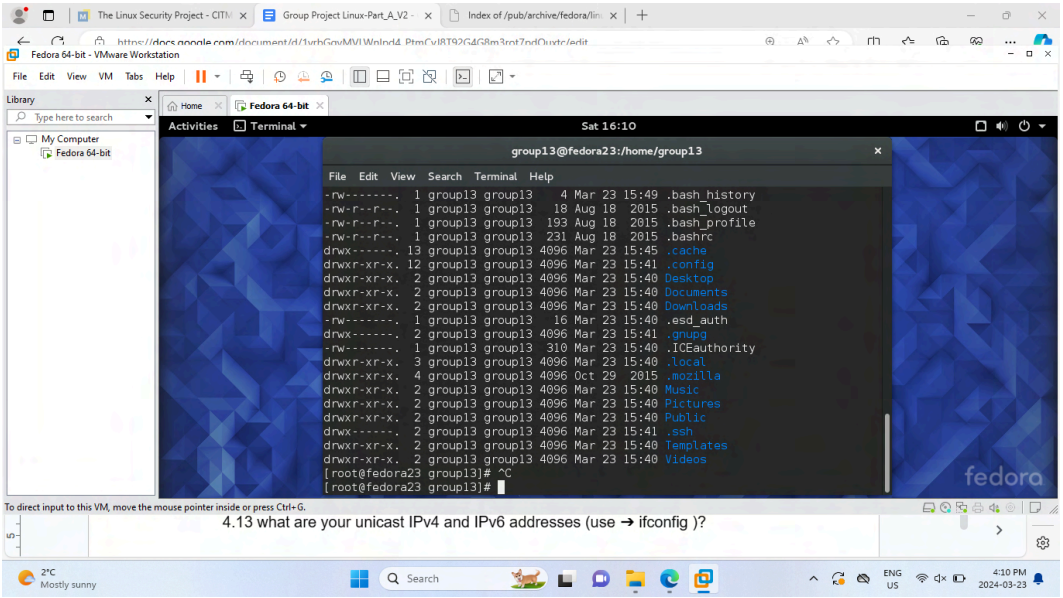


4.11 switch to your home directory (the username that you have configured while installing the operating systems)



4.12 type ➔ ls –all

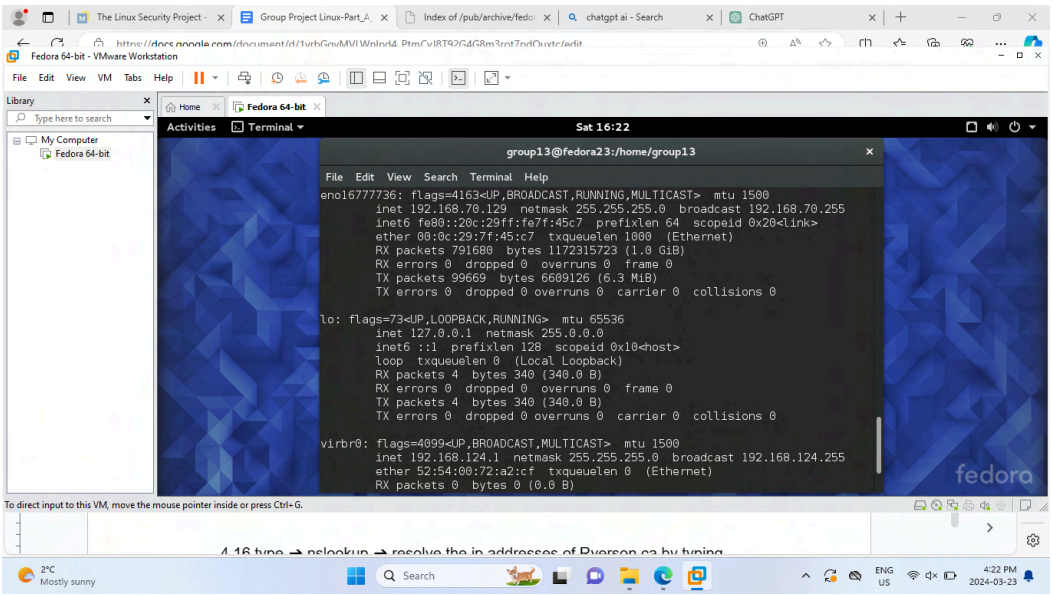
```
total 12
drwxr-xr-x.  3 root    root    4096 Mar 23 15:29 .
dr-xr-xr-x. 18 root    root    4096 Oct 29  2015 ..
drwx------. 16 group13 group13 4096 Mar 23 15:49 group13
[root@fedora23 home]# ^C
[root@fedora23 home]# cd/home/group13
bash: cd/home/group13: No such file or directory
[root@fedora23 home]# cd /home/group13
[root@fedora23 group13]# ls -all
total 88
drwx------. 16 group13 group13 4096 Mar 23 15:49 .
drwxr-xr-x.  3 root    root    4096 Mar 23 15:29 ..
-rw-------.  1 group13 group13    4 Mar 23 15:49 .bash_history
-rw-r--r--.  1 group13 group13   18 Aug 18  2015 .bash_logout
-rw-r--r--.  1 group13 group13  193 Aug 18  2015 .bash_profile
-rw-r--r--.  1 group13 group13  231 Aug 18  2015 .bashrc
drwx------. 13 group13 group13 4096 Mar 23 15:45 .cache
drwxr-xr-x. 12 group13 group13 4096 Mar 23 15:41 .config
drwxr-xr-x.  2 group13 group13 4096 Mar 23 15:40 Desktop
drwxr-xr-x.  2 group13 group13 4096 Mar 23 15:40 Documents
drwxr-xr-x.  2 group13 group13 4096 Mar 23 15:40 Downloads
-rw-------.  1 group13 group13   16 Mar 23 15:40 .esd_auth
drwx------.  2 group13 group13 4096 Mar 23 15:41 .gnupg
-rw-------.  1 group13 group13  310 Mar 23 15:40 .ICEauthority
drwxr-xr-x.  3 group13 group13 4096 Mar 23 15:40 .local
drwxr-xr-x.  4 group13 group13 4096 Oct 29  2015 .mozilla
drwxr-xr-x.  2 group13 group13 4096 Mar 23 15:40 Music
drwxr-xr-x.  2 group13 group13 4096 Mar 23 15:40 Pictures
drwxr-xr-x.  2 group13 group13 4096 Mar 23 15:40 Public
drwx------.  2 group13 group13 4096 Mar 23 15:41 .ssh
drwxr-xr-x.  2 group13 group13 4096 Mar 23 15:40 Templates
drwxr-xr-x.  2 group13 group13 4096 Mar 23 15:40 Videos
[root@fedora23 group13]#
```



4.13 what are your unicast IPv4 and IPv6 addresses (use ➔ ifconfig)?

Unicast IPv4 Addresses:
Interface eno16777736 has an IPv4 address of 192.168.70.129.
Interface virbr0 has an IPv4 address of 192.168.124.1.

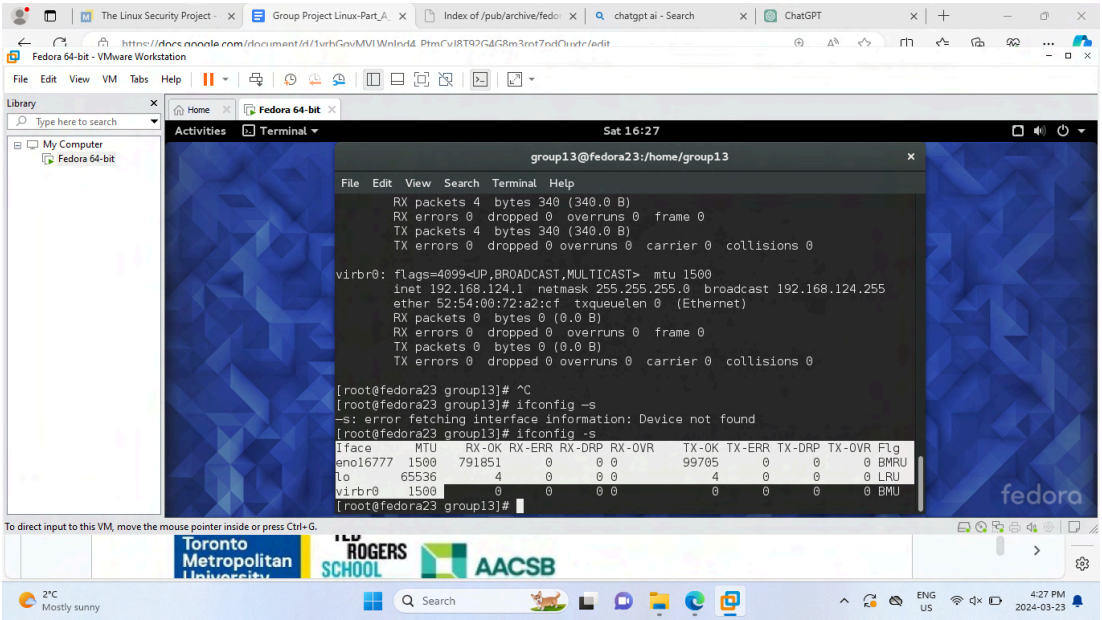
Interface eno16777736 has an IPv6 link-local address of fe80::20c:29ff:fe7f:45c7
Interface virbr0 has IPv6 Address: ::1



4.14 type ➔ ifconfig –s

4.15 what is interface maximum transmission unit size?

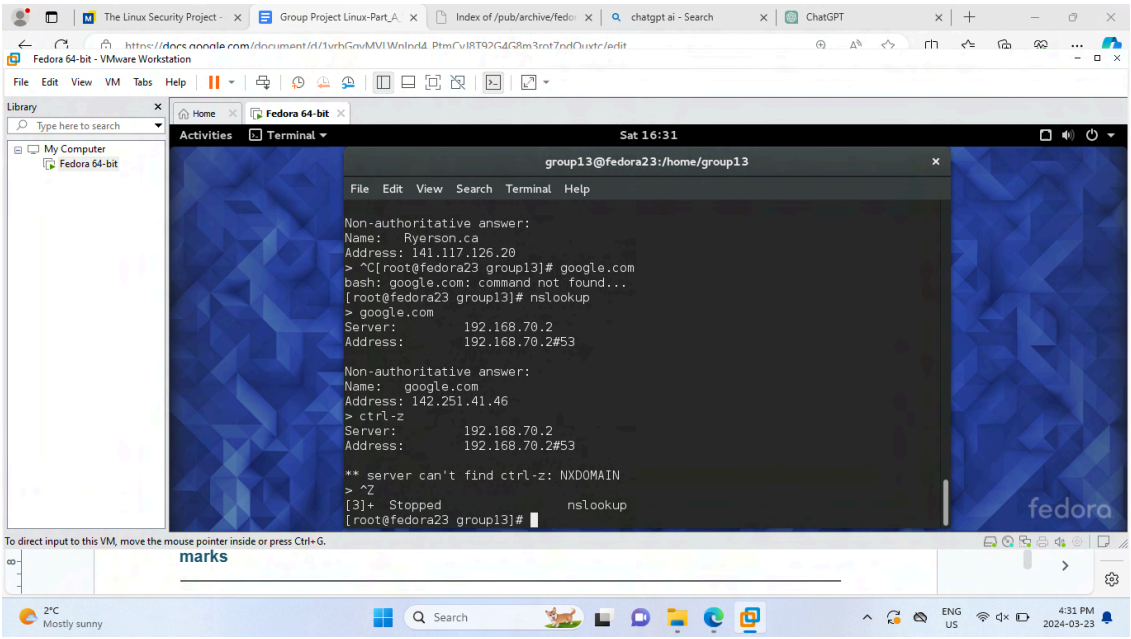
Iface	MTU
eno	16777
lo	65536
virbr0	1500



4.16 type ➔ nslookup ➔ resolve the ip addresses of Ryerson.ca by typing Ryerson.ca in the prompt, what is ip address of the server: 141.117.126.20.

4.17 type ➔ google.com

4.18 type ➔ ctrl-z or exit

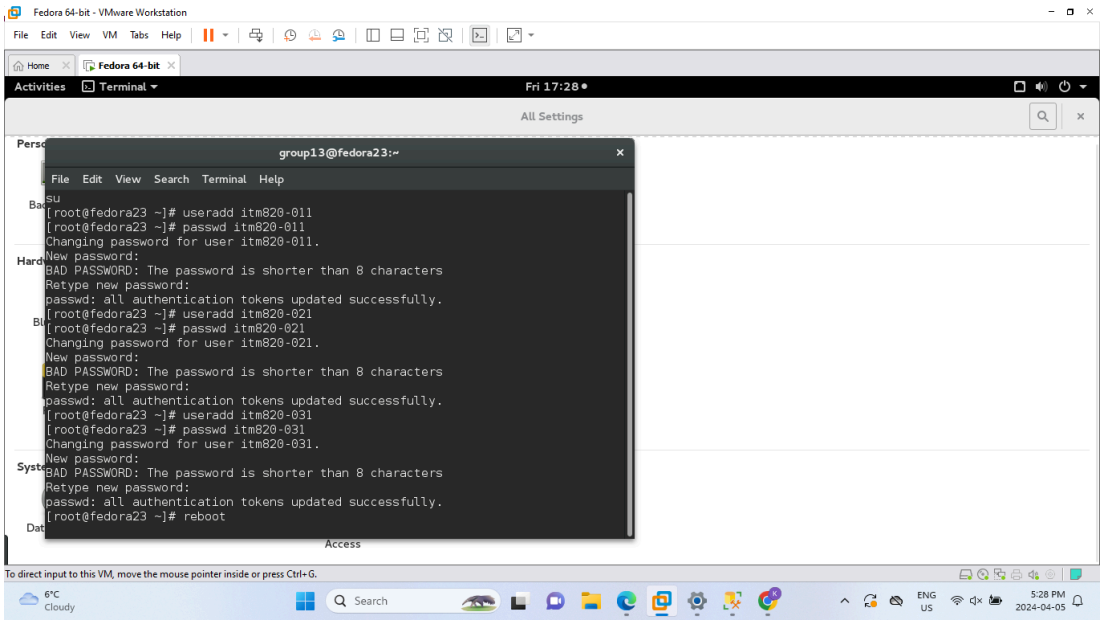


Part 5: Creating Users & Groups

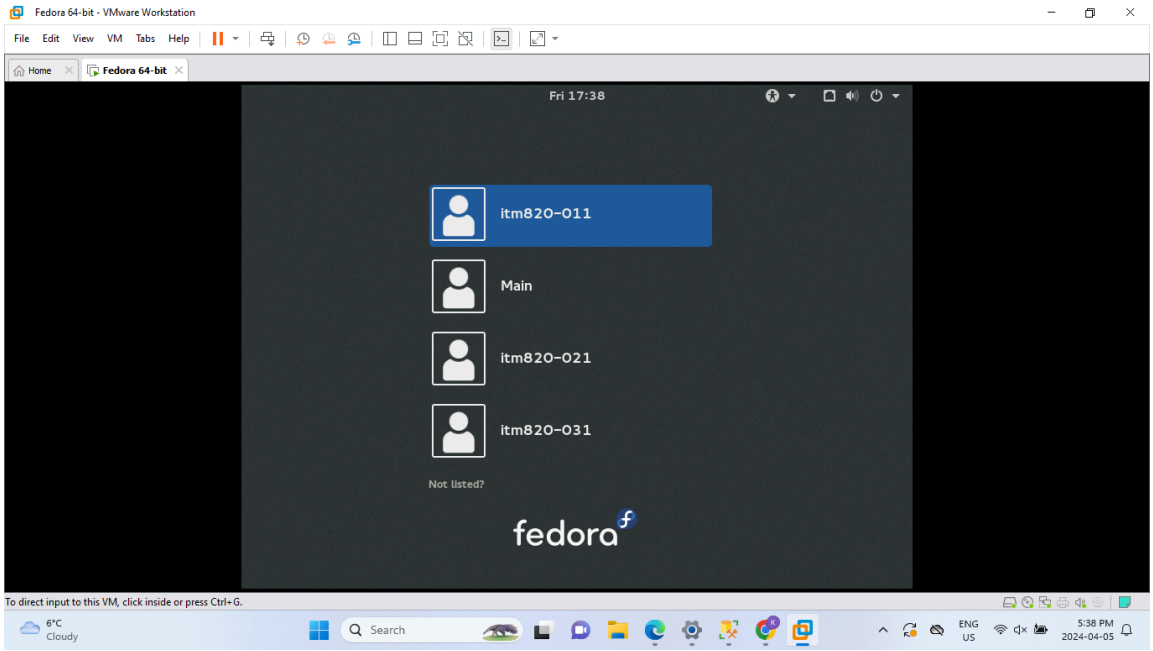
5.1 create a new user: itm820-011 and specify password of a12345 ➔ useradd itm820-011, passwd a12345

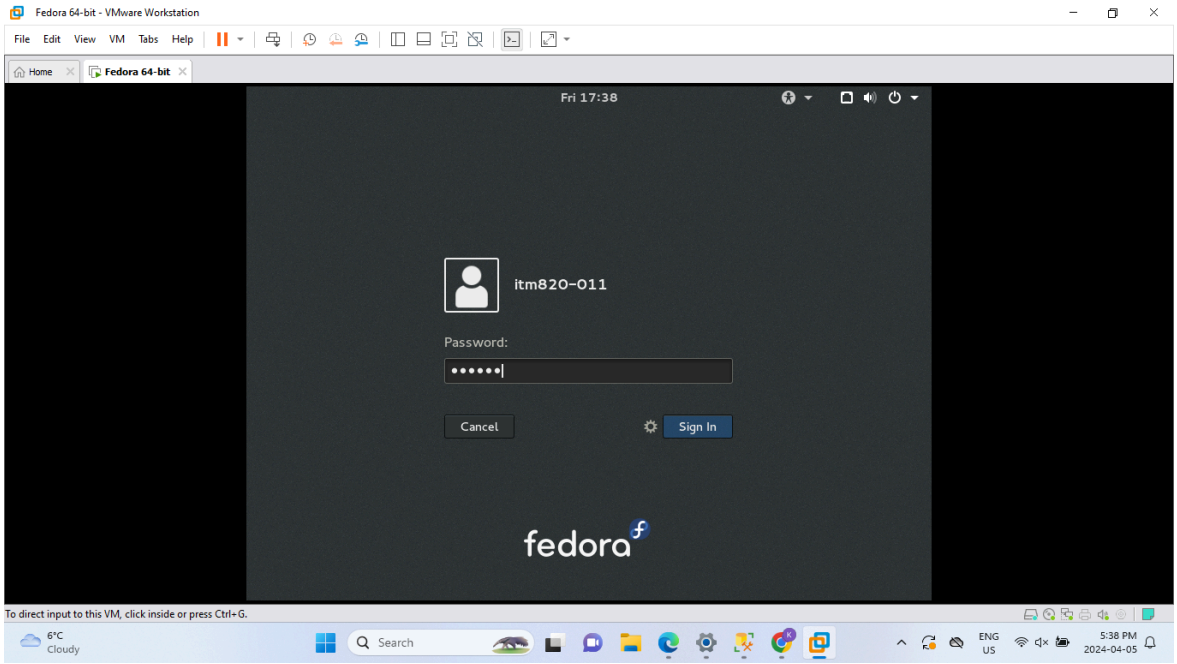
5.2 Create the user/password set
itm820-021 / b12345
itm820-031 / c12345

5.3 reboot the system using ➔ reboot

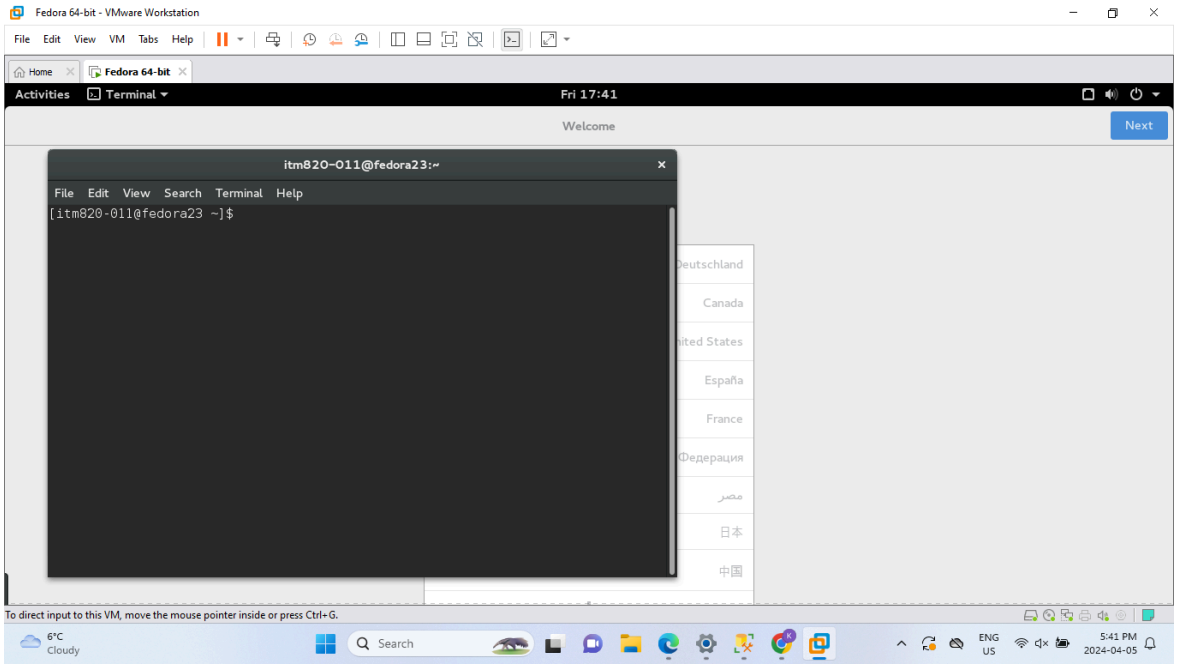


5.4 login using the credentials of itm820-011 account.





5.5 start a terminal session.



5.6 create the group: project1 ➔ groupadd project1

5.7 List all members of the group project1 using ➔ lid –g project1

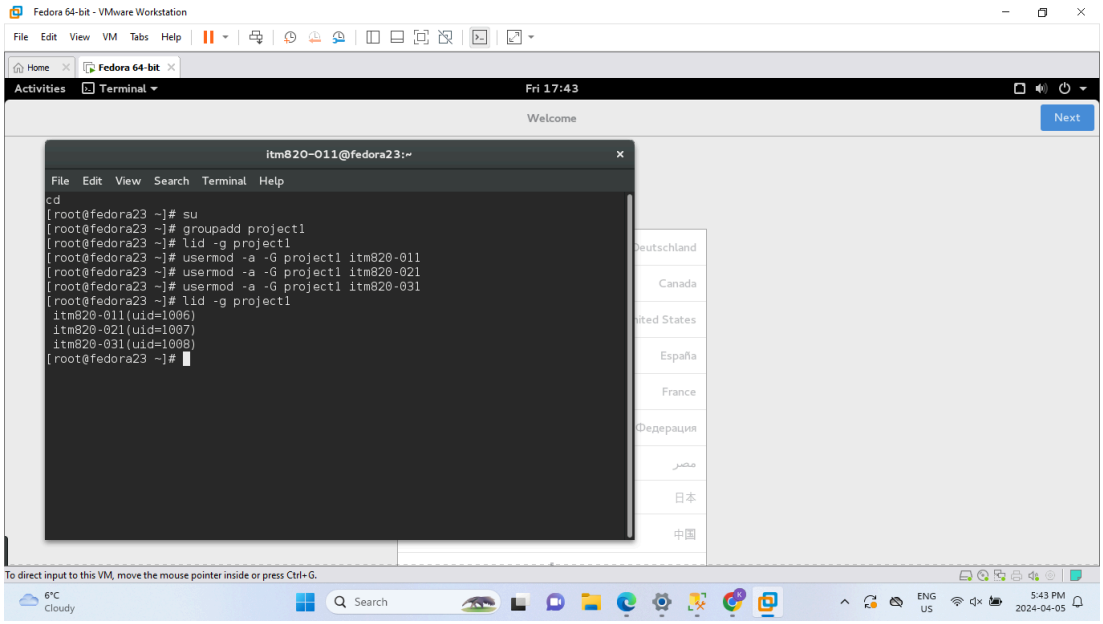
5.8 Add the three users to the project1 group

➔ usermod –a –G project1 itm820-011

usermod –a –G project1 itm820-021

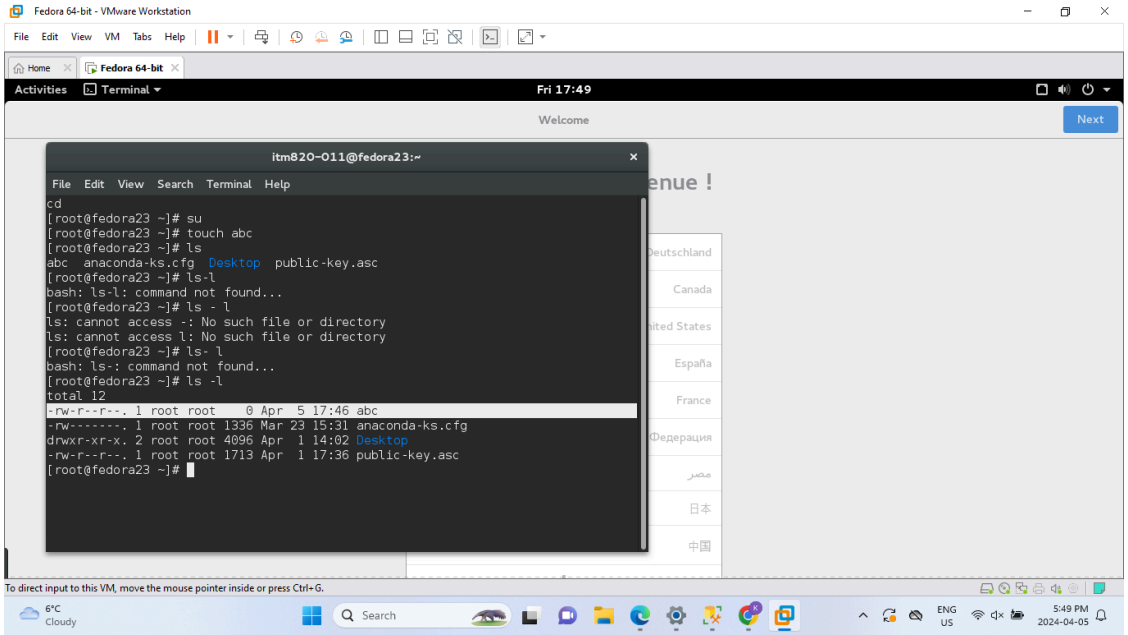
usermod –a –G project1 itm820-031

5.9 List all members of the group project1 using ➔ lid –g project1


Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Home
Fedora 64-bit
Activities
Terminal
Fri 17:43
Welcome
Next
itm820-011@fedora23:~
File Edit View Search Terminal Help
cd
[root@fedora23 ~]# su
[root@fedora23 ~]# groupadd project1
[root@fedora23 ~]# lid -g project1
[root@fedora23 ~]# usermod -a -G project1 itm820-011
[root@fedora23 ~]# usermod -a -G project1 itm820-021
[root@fedora23 ~]# usermod -a -G project1 itm820-031
[root@fedora23 ~]# lid -g project1
itm820-011(uid=1006)
itm820-021(uid=1007)
itm820-031(uid=1008)
[root@fedora23 ~]#
Deutschland
Canada
United States
España
France
Федерация
مصر
日本
中国
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
6°C
Cloudy
Search
ENG
US
5:43 PM
2024-04-05

Part 6: Discretionary Access Control (Files)

6.1 Login as a super user using the command ➔ su
6.2 create a new blank file 'abc' using ➔ touch abc
6.3 using the ls command verify that the file was created ➔ ls

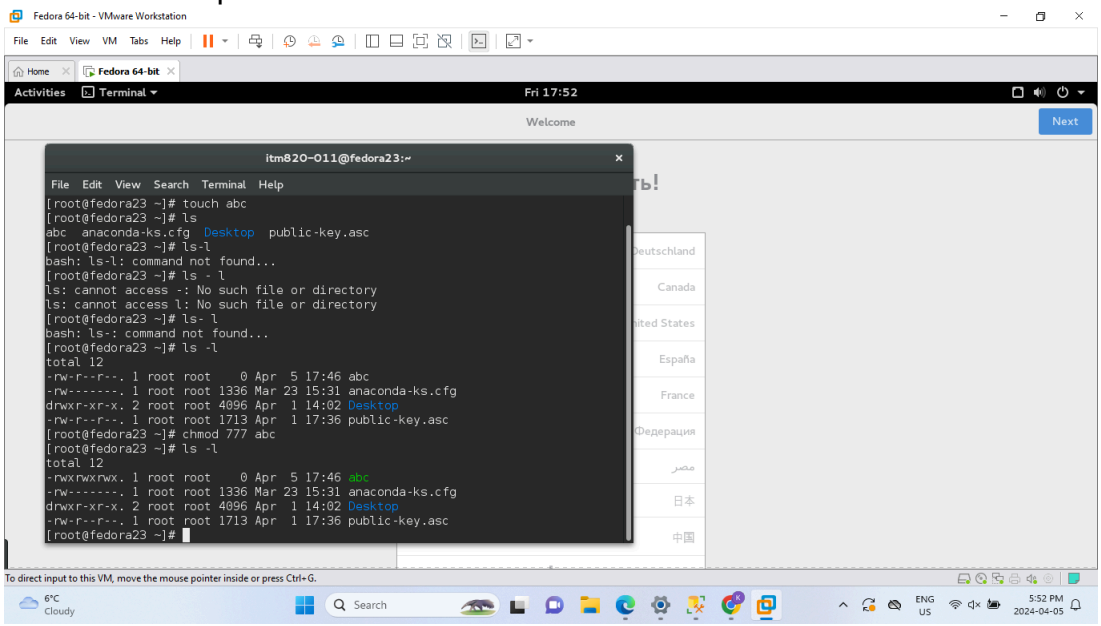


6.4 List file using the switch –l ➔ ls-l (what are the associated permissions?)

- Root, or the owner has read and write permissions. The group, root, has read-only permissions. And all other users not in the group `root`, have read-only permissions.

6.5 Change the permissions using ➔ chmod 777 abc
6.6 List file using the switch –l ➔ ls-l (what are the associated permissions?)

- The owner, group, and all other users not in the group all have read, write, and execute permissions.



Part B: SELinux Server Services

Installation and Configuration

Instructions:

1. This is a group project. Each group must submit a single solution for the required deliverables.
2. All submissions are to be via the turnitin.com system; no other way of submission is accepted.
3. Please feel free to explore more references from any sources (e.g., RFCs, technical reports, research papers, technical magazines and journals), and to support your answers with adequate documentations.
4. Support your report through screenshots.

Purpose and Objective

The purpose of this assignment is to gain some experience in identifying the basic requirement for creating a virtualized e-commerce solution. The project requires the following processes:

- Installation of Linux operating system (Fedora) in VM.
- Installation of the Apache Web Server.
- Installation of PHP programming interpreter.
- Installation of MySQL or MariaDB Database Management System.
- Installation of Anonymous FTP server.
- Enabling and configuring MLS.

The main objective is to successfully be able to configure server services in Linux platform and to demonstrate Multilevel Security in SELinux.

Success Criteria

- To be able to configure Apache server
- To be able to configure MySQL server.
- To be able to configure PHP interpreter.
- To be able to configure NTP server.
- To be able to configure FTP server
- To be able to implement an access control mechanism for the purpose of authorizing webpages and directory.
- Configuring MLS.

Keywords

SELinux, Apache, php, mysql, mariadb, ntp, smtp, pop, localhost, htaccess, htpasswd, ftp, MLS

Resources

- Option-A: LAMP (Linux, Apache, MySQL, and PHP) Servers hosted in a virtual machine.
- Option-B: XAMPP Servers (XML, Apache, MySQL, PHP, and Perl) installed on Windows OS.
- Red Hat Enterprise Linux 6.0: https://access.redhat.com/documentation/en-US/Red_Hat_Enterprise_Linux/6/html/Security-Enhanced_Linux/creating-a-user-with-a- specific-mls-range.html

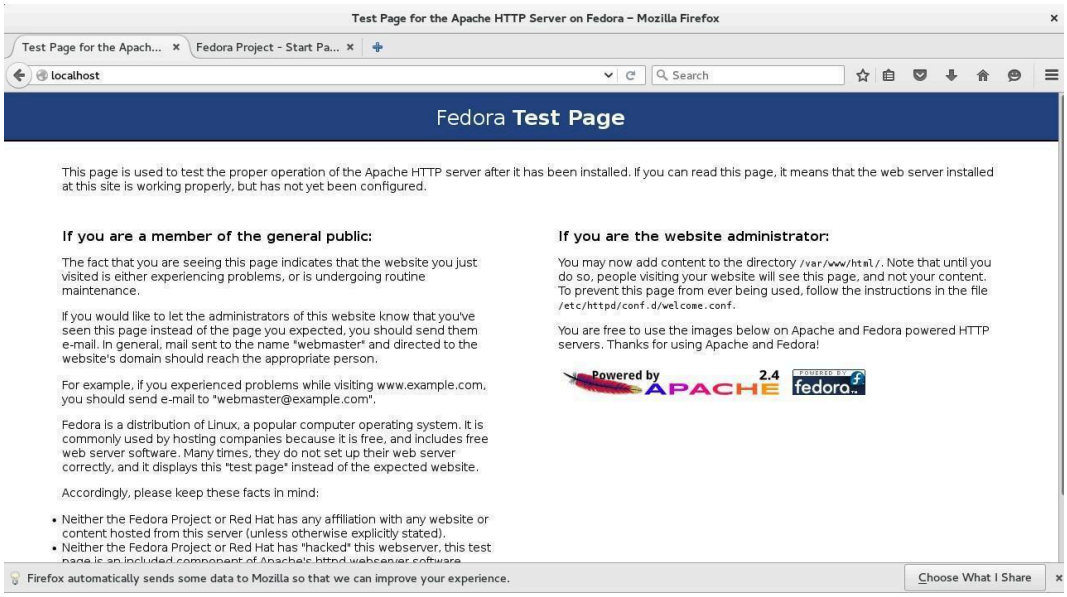
- SELinux Project:
  - http://selinuxproject.org/page/NB_MLS#Multi-Level_Security_and_Multi-Category_Security

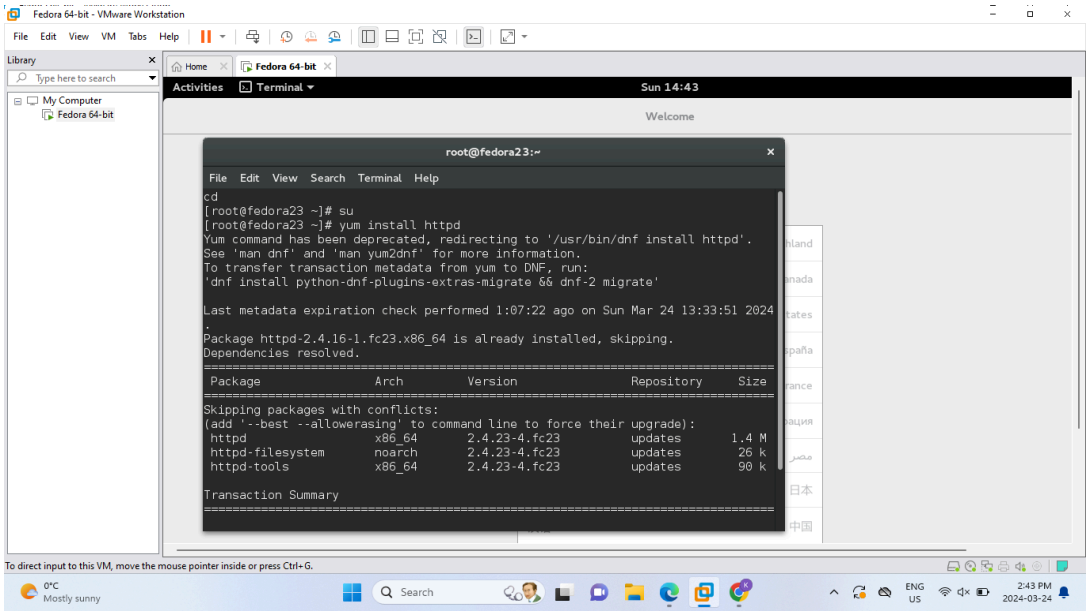
Project Preparation: Installing the LAMP Platform

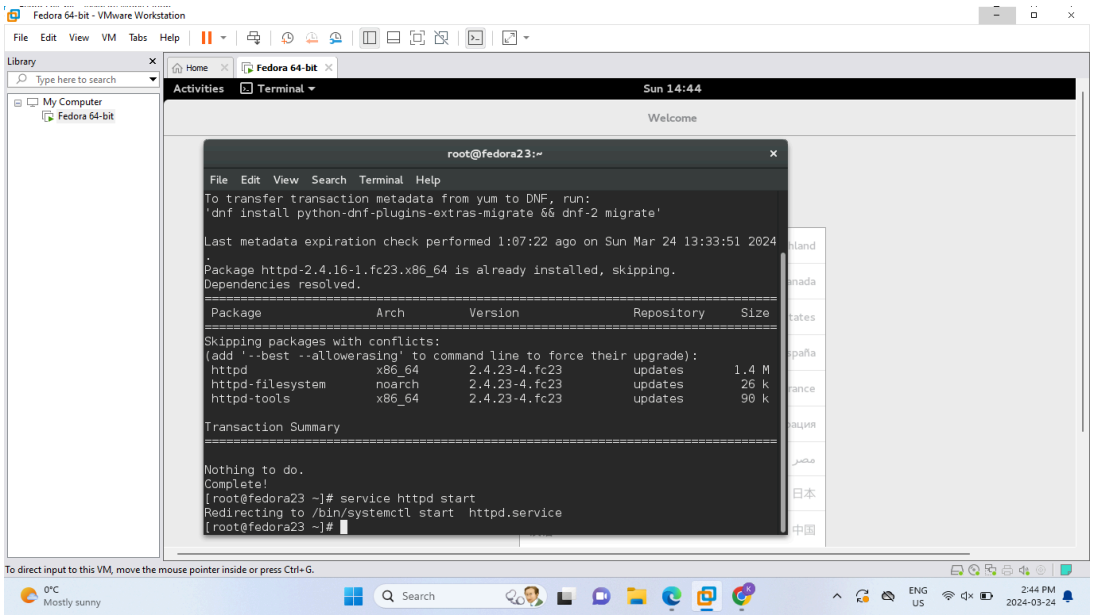
1. **Install Fedora SELinux 23 (or 2 5 later VMware virtual machine.**
2. **Install Apache server.**
   - yum install httpd
   - service httpd start (note: after httpd started, make sure the Firefox is installed)
     i. test successful installation by browsing the URL: localhost

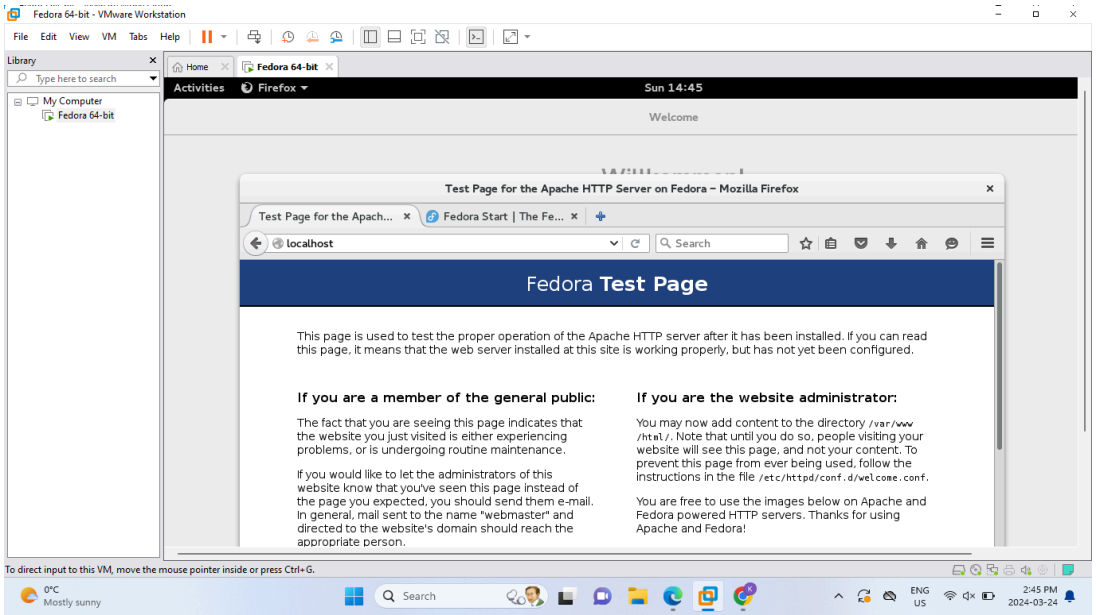
The test page should be displayed.

```
[itm820-011@localhost ~]$ cd
[itm820-011@localhost ~]$ su
[root@localhost itm820-011]# yum install httpd
Yum command has been deprecated, redirecting to
See 'man dnf' and 'man yum2dnf' for more informa
To transfer transaction metadata from yum to DNF
'dnf install python-dnf-plugins-extras-migrate &

Fedora 23 - x86_64 - Updates
Fedora 23 - x86_64
Last metadata expiration check performed 0:00:18
.
Package httpd-2.4.16-1.fc23.x86_64 is already in
Dependencies resolved.
================================================
 Package                Arch         Version
================================================
Skipping packages with conflicts:
(add '--best --allowerasing' to command line to
 httpd                  x86_64       2.4.23-4.fc
 httpd-filesystem       noarch       2.4.23-4.fc
 httpd-tools            x86_64       2.4.23-4.fc

Transaction Summary
================================================

Nothing to do.
Complete!
[root@localhost itm820-011]#
```




Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Library
Type here to search
My Computer
Fedora 64-bit
Home
Fedora 64-bit
Activities
Terminal
Sun 14:43
Welcome
root@fedora23:~
File Edit View Search Terminal Help
cd
[root@fedora23 ~]# su
[root@fedora23 ~]# yum install httpd
Yum command has been deprecated, redirecting to '/usr/bin/dnf install httpd'.
See 'man dnf' and 'man yum2dnf' for more information.
To transfer transaction metadata from yum to DNF, run:
'dnf install python-dnf-plugins-extras-migrate && dnf-2 migrate'
Last metadata expiration check performed 1:07:22 ago on Sun Mar 24 13:33:51 2024
.
Package httpd-2.4.16-1.fc23.x86_64 is already installed, skipping.
Dependencies resolved.
Package Arch Version Repository Size
Skipping packages with conflicts:
(add '--best --allowerasing' to command line to force their upgrade):
httpd x86_64 2.4.23-4.fc23 updates 1.4 M
httpd-filesystem noarch 2.4.23-4.fc23 updates 26 k
httpd-tools x86_64 2.4.23-4.fc23 updates 90 k
Transaction Summary
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
0°C
Mostly sunny
Search
ENG
US
2:43 PM
2024-03-24

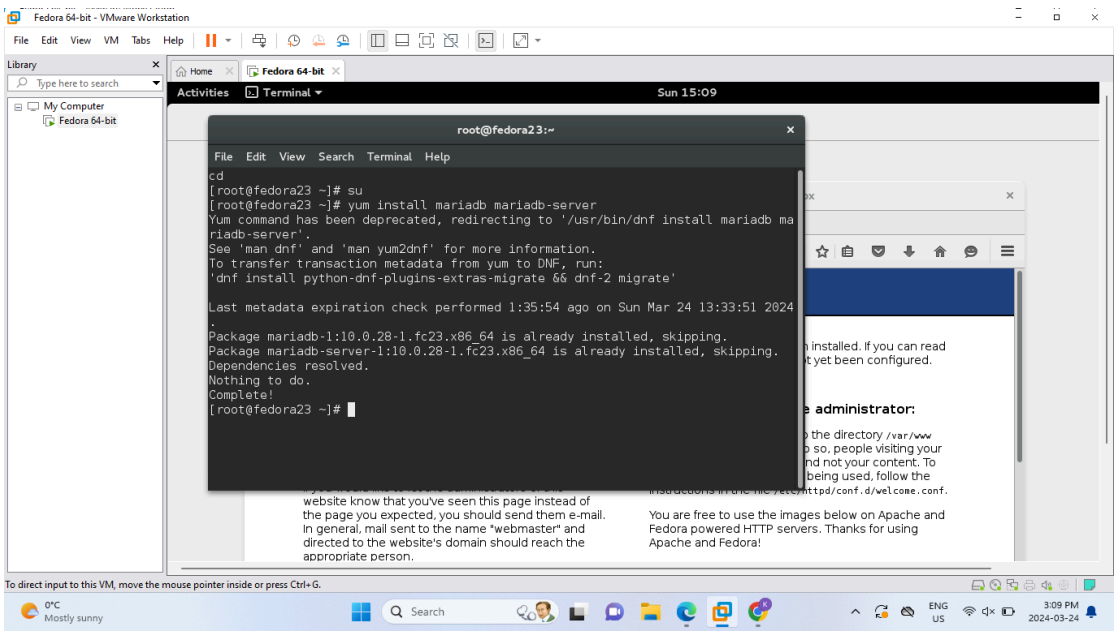

Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Library
Type here to search
My Computer
Fedora 64-bit
Home
Fedora 64-bit
Activities
Terminal
Sun 14:44
Welcome
root@fedora23:~
File Edit View Search Terminal Help
To transfer transaction metadata from yum to DNF, run:
'dnf install python-dnf-plugins-extras-migrate && dnf-2 migrate'
Last metadata expiration check performed 1:07:22 ago on Sun Mar 24 13:33:51 2024
.
Package httpd-2.4.16-1.fc23.x86_64 is already installed, skipping.
Dependencies resolved.
Package Arch Version Repository Size
Skipping packages with conflicts:
(add '--best --allowerasing' to command line to force their upgrade):
httpd x86_64 2.4.23-4.fc23 updates 1.4 M
httpd-filesystem noarch 2.4.23-4.fc23 updates 26 k
httpd-tools x86_64 2.4.23-4.fc23 updates 90 k
Transaction Summary
Nothing to do.
Complete!
[root@fedora23 ~]# service httpd start
Redirecting to /bin/systemctl start httpd.service
[root@fedora23 ~]#
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
0°C
Mostly sunny
Search
ENG
US
2:44 PM
2024-03-24

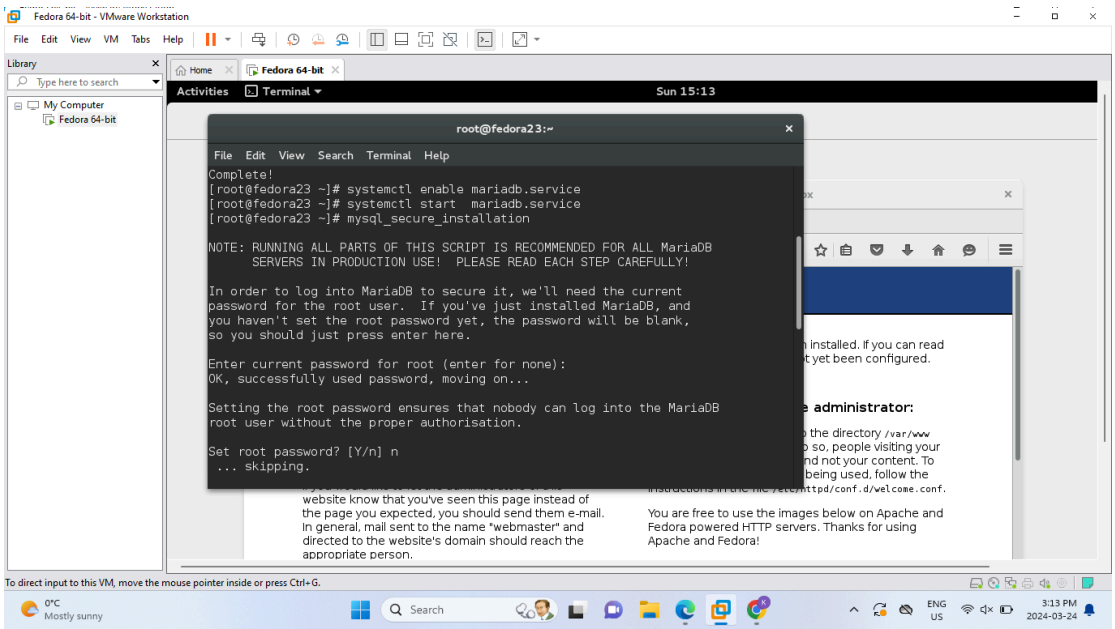


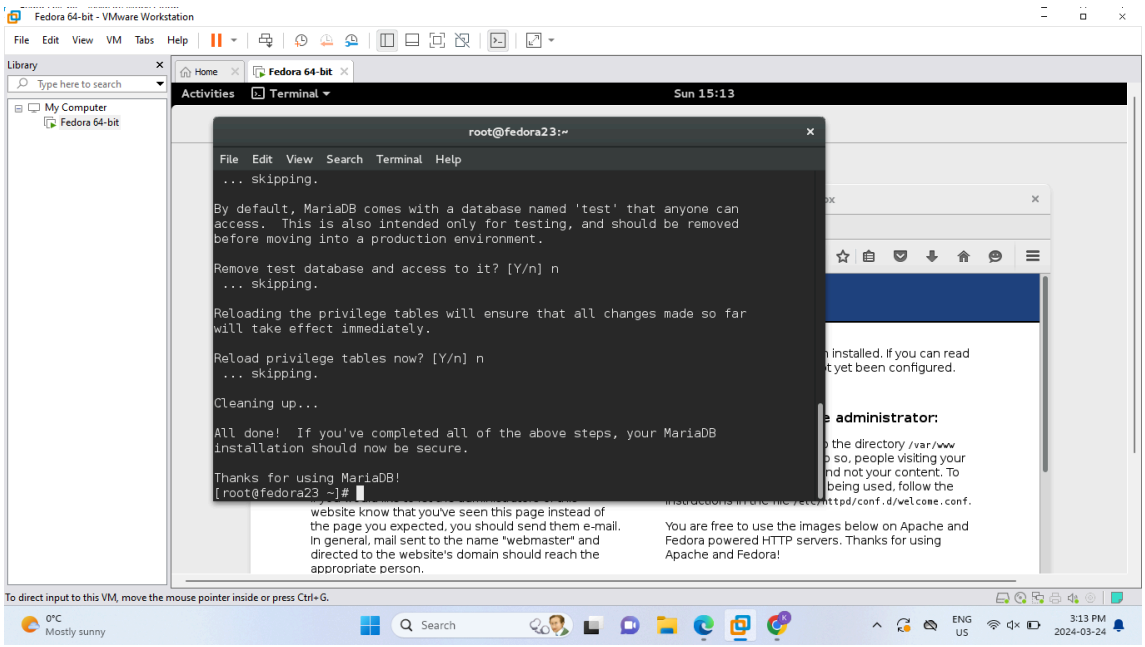
3. **Install MySQL or MariaDB Database (for SELinux version 23)**
   a. yum install mysql mysql-server
   b. systemctl enable mysqld.service
   c. systemctl start mysqld.service
   d. mysql_secure_installation

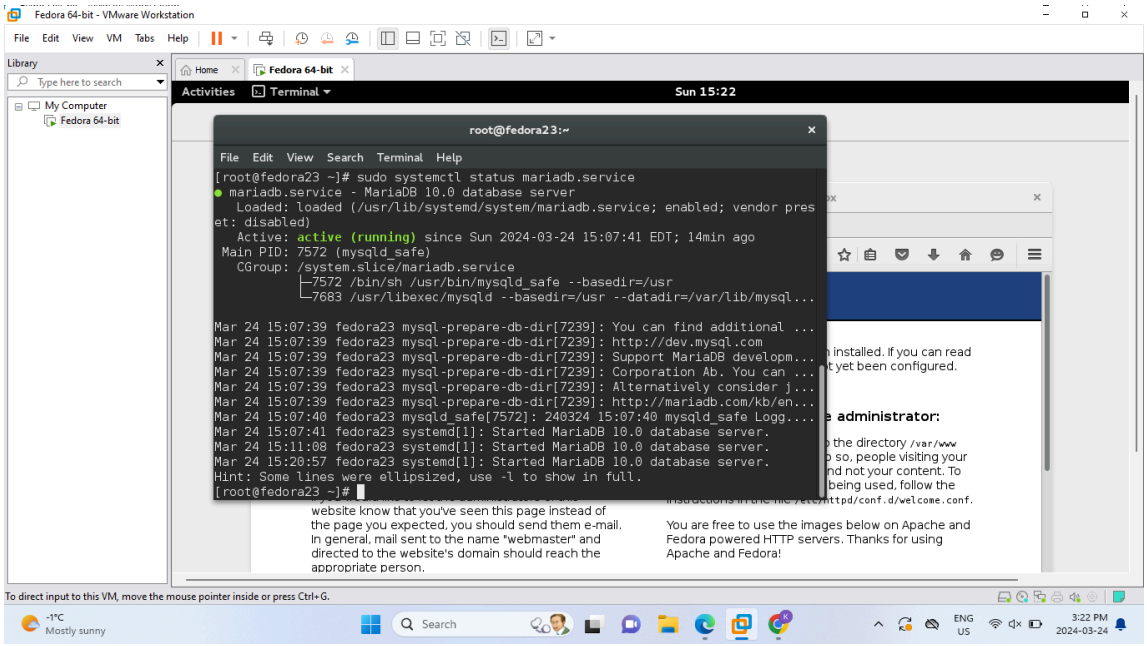
Note: If you are installing a later version (e.g., Fedora 25). MySQL has changed the name to MariaDB. You need to do the following:

   a. yum install mariadb mariadb-server
   b. systemctl enable mariadb.service
   c. systemctl start mariadb.service
   d. mysql_secure_installation




Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Library
Type here to search
My Computer
Fedora 64-bit
Home
Fedora 64-bit
Activities
Terminal
Sun 15:13
root@fedora23:~
File Edit View Search Terminal Help
Complete!
[root@fedora23 ~]# systemctl enable mariadb.service
[root@fedora23 ~]# systemctl start mariadb.service
[root@fedora23 ~]# mysql_secure_installation
NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MariaDB
SERVERS IN PRODUCTION USE! PLEASE READ EACH STEP CAREFULLY!
In order to log into MariaDB to secure it, we'll need the current
password for the root user. If you've just installed MariaDB, and
you haven't set the root password yet, the password will be blank,
so you should just press enter here.
Enter current password for root (enter for none):
OK, successfully used password, moving on...
Setting the root password ensures that nobody can log into the MariaDB
root user without the proper authorisation.
Set root password? [Y/n] n
... skipping.
website know that you've seen this page instead of
the page you expected, you should send them e-mail.
In general, mail sent to the name "webmaster" and
directed to the website's domain should reach the
appropriate person.
You are free to use the images below on Apache and
Fedora powered HTTP servers. Thanks for using
Apache and Fedora!
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
0°C
Mostly sunny
Search
ENG
US
3:13 PM
2024-03-24






```
[root@localhost itm820-011]# systemctl enable mariadb.service
Created symlink from /etc/systemd/system/multi-user.target.wants/mariadb.service
 to /usr/lib/systemd/system/mariadb.service.
```

And then:

```
[root@localhost liveuser]# systemctl start mariadb
```

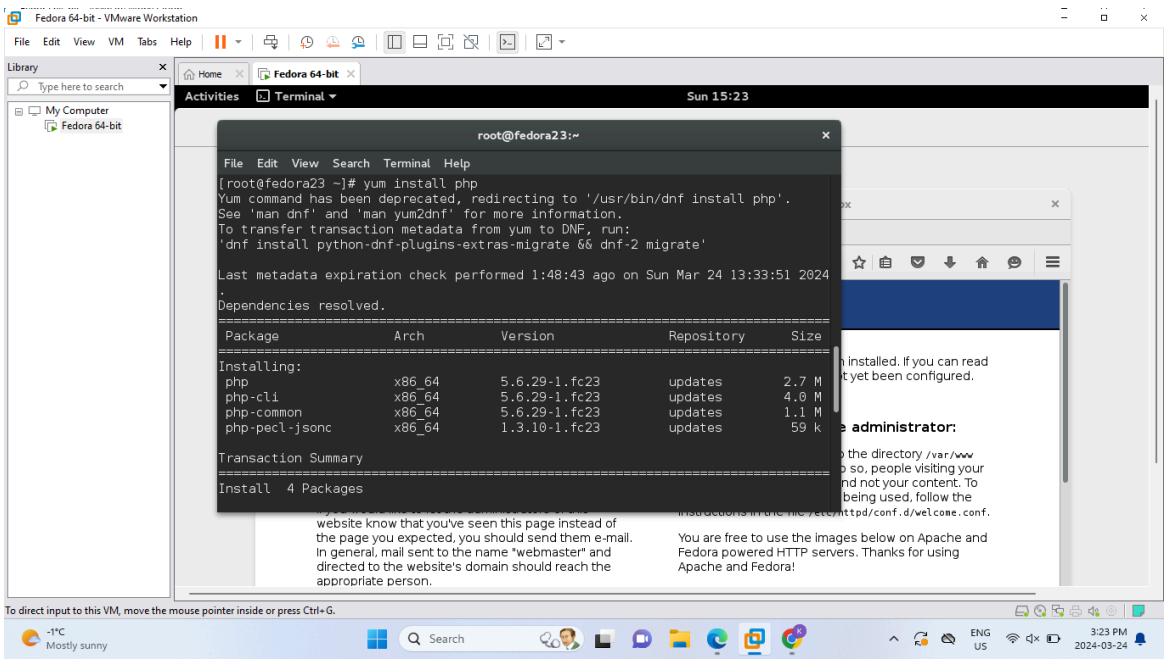
4. **Install PHP 5**
   a. yum install php
   b. systemctl restart httpd.service
   c. test PHP5 by creating a PHP document
      i. vi /var/www/html/info.php
         <?php
         phpinfo (
         );

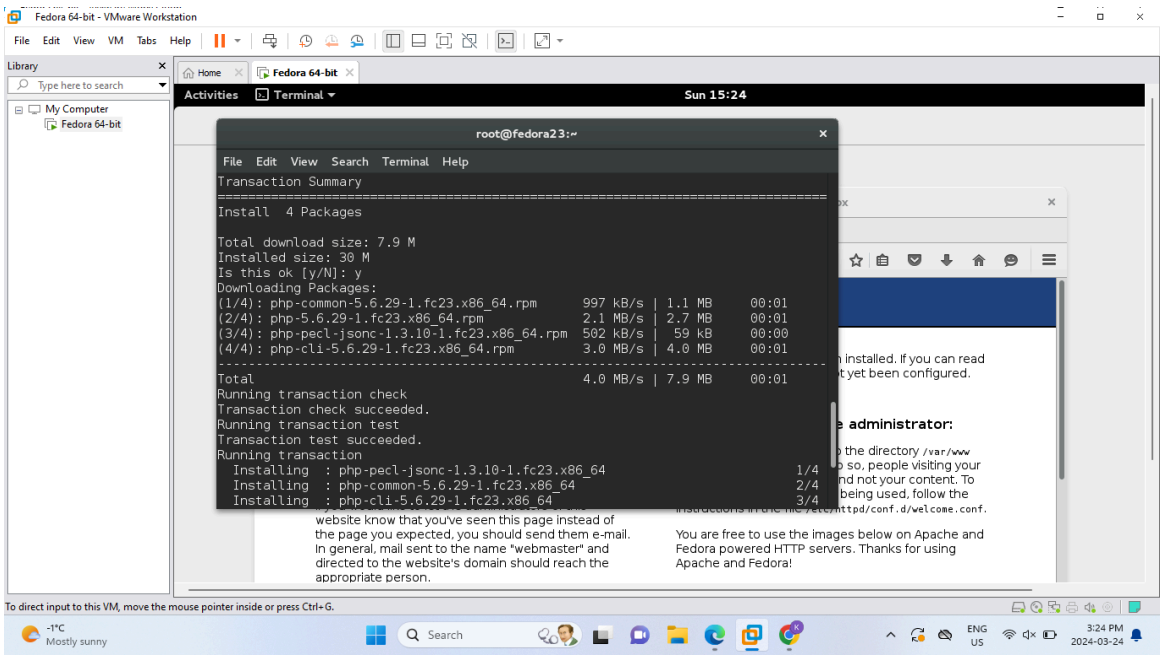
?>

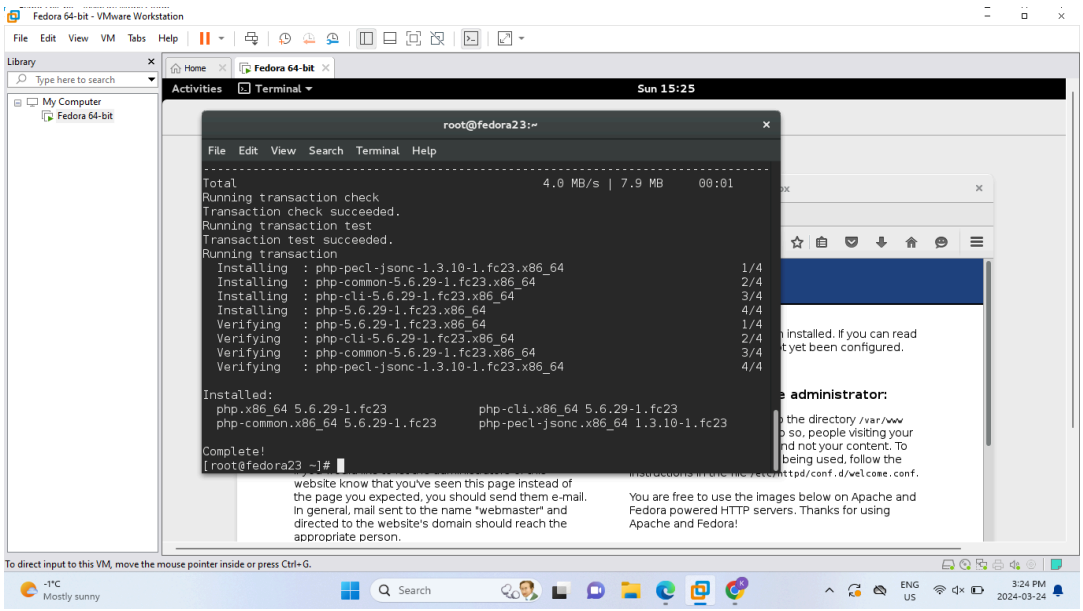
d. test the page in the browser using the http://localhost/info.php URL

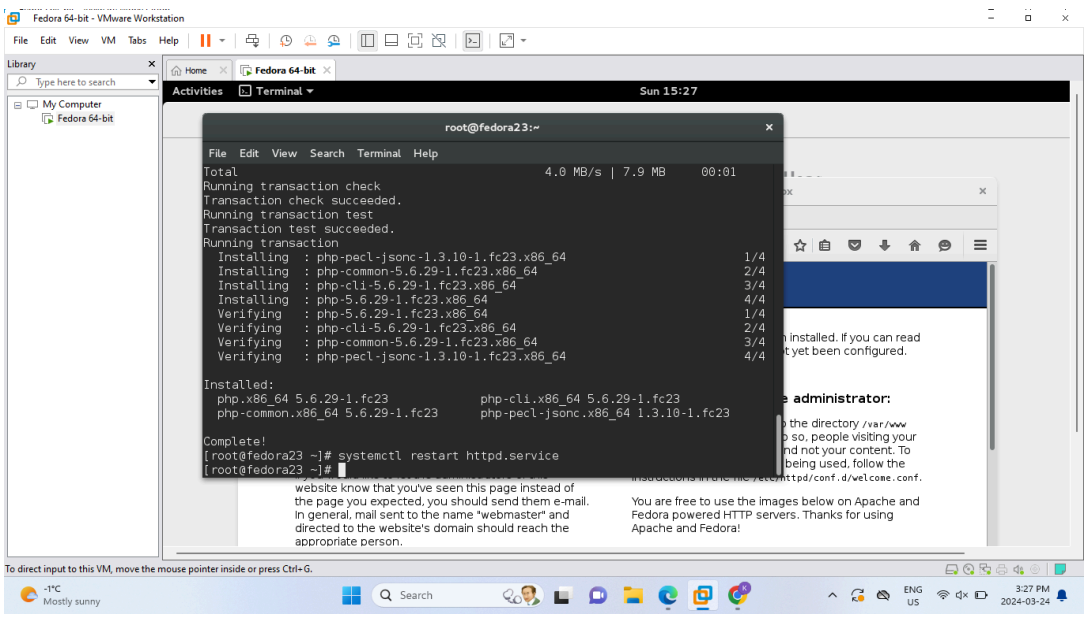
Note: After successful PHP installation you should get a following figure (or similar):

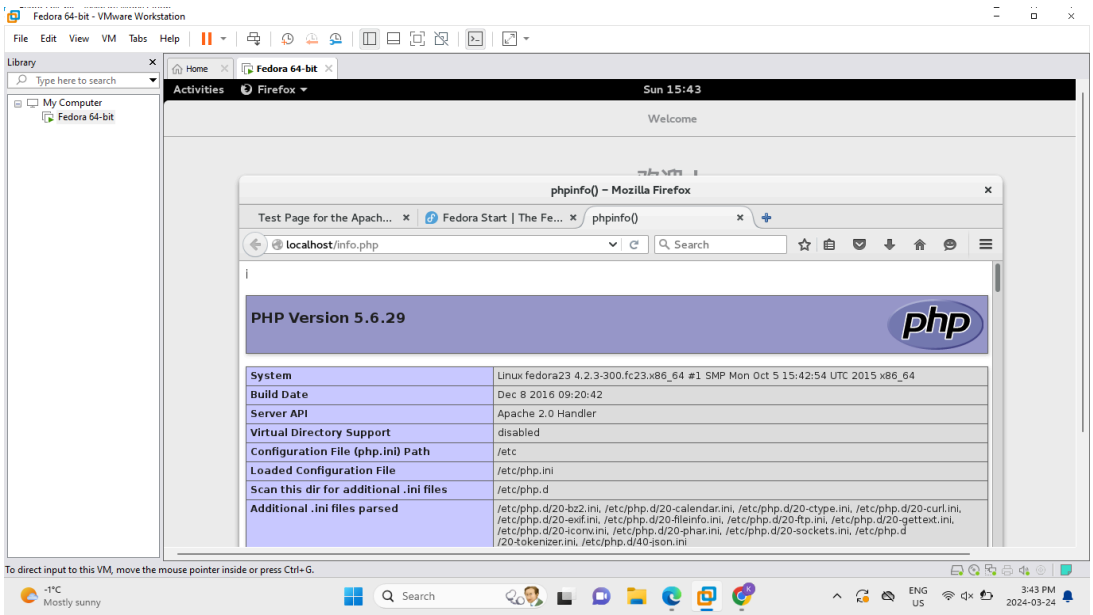
```
Running transaction
  Installing  : php-pecl-jsonc-1.3.10-1.fc23.x86_64                        1/4
  Installing  : php-common-5.6.29-1.fc23.x86_64                            2/4
  Installing  : php-cli-5.6.29-1.fc23.x86_64                               3/4
  Installing  : php-5.6.29-1.fc23.x86_64                                   4/4
  Verifying   : php-5.6.29-1.fc23.x86_64                                   1/4
  Verifying   : php-cli-5.6.29-1.fc23.x86_64                               2/4
  Verifying   : php-common-5.6.29-1.fc23.x86_64                            3/4
  Verifying   : php-pecl-jsonc-1.3.10-1.fc23.x86_64                        4/4

Installed:
  php.x86_64 5.6.29-1.fc23            php-cli.x86_64 5.6.29-1.fc23
  php-common.x86_64 5.6.29-1.fc23     php-pecl-jsonc.x86_64 1.3.10-1.fc23

Complete!
```



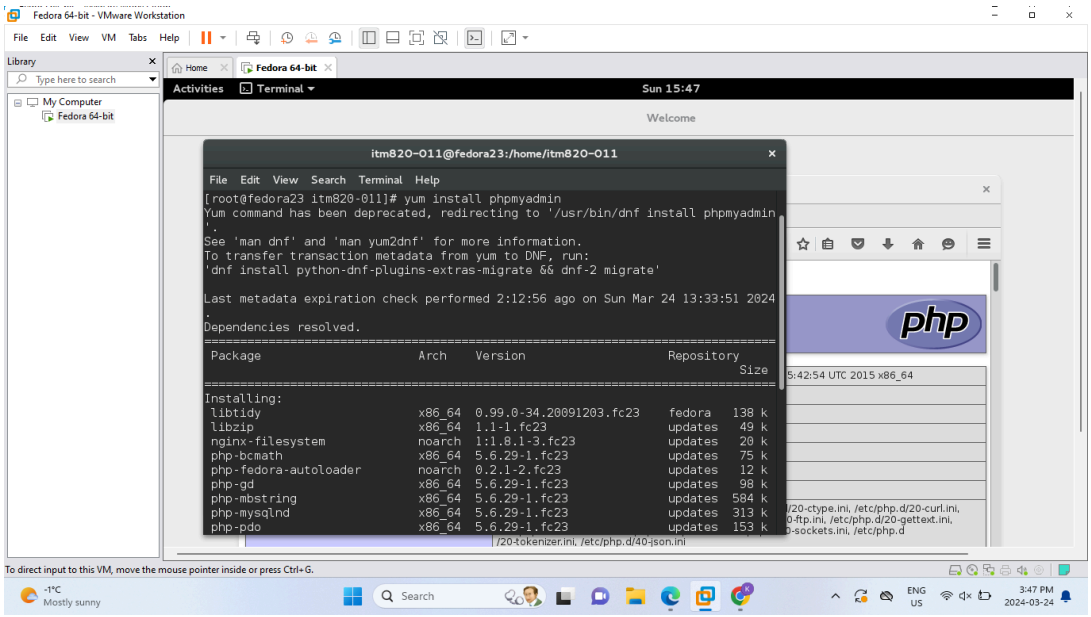

Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Library
Type here to search
My Computer
Fedora 64-bit
Home
Fedora 64-bit
Activities
Terminal
Sun 15:24
root@fedora23:~
File Edit View Search Terminal Help
Transaction Summary
Install 4 Packages
Total download size: 7.9 M
Installed size: 30 M
Is this ok [y/N]: y
Downloading Packages:
(1/4): php-common-5.6.29-1.fc23.x86_64.rpm 997 kB/s | 1.1 MB 00:01
(2/4): php-5.6.29-1.fc23.x86_64.rpm 2.1 MB/s | 2.7 MB 00:01
(3/4): php-pecl-jsonc-1.3.10-1.fc23.x86_64.rpm 502 kB/s | 59 kB 00:00
(4/4): php-cli-5.6.29-1.fc23.x86_64.rpm 3.0 MB/s | 4.0 MB 00:01
Total 4.0 MB/s | 7.9 MB 00:01
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
Installing : php-pecl-jsonc-1.3.10-1.fc23.x86_64 1/4
Installing : php-common-5.6.29-1.fc23.x86_64 2/4
Installing : php-cli-5.6.29-1.fc23.x86_64 3/4
administrator:
website know that you've seen this page instead of the page you expected, you should send them e-mail. In general, mail sent to the name "webmaster" and directed to the website's domain should reach the appropriate person.
You are free to use the images below on Apache and Fedora powered HTTP servers. Thanks for using Apache and Fedora!
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
Mostly sunny
Search
ENG US
3:24 PM
2024-03-24

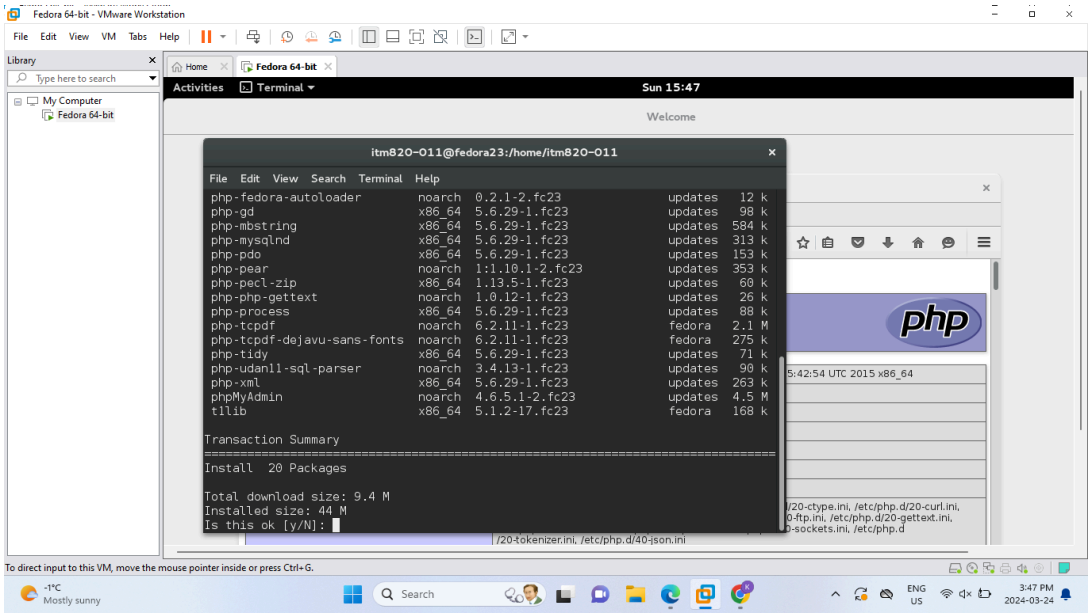

Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Library
Type here to search
My Computer
Fedora 64-bit
Home
Fedora 64-bit
Activities
Terminal
Sun 15:25
root@fedora23:~
File Edit View Search Terminal Help
Total 4.0 MB/s | 7.9 MB 00:01
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
Installing : php-pecl-jsonc-1.3.10-1.fc23.x86_64 1/4
Installing : php-common-5.6.29-1.fc23.x86_64 2/4
Installing : php-cli-5.6.29-1.fc23.x86_64 3/4
Installing : php-5.6.29-1.fc23.x86_64 4/4
Verifying : php-5.6.29-1.fc23.x86_64 1/4
Verifying : php-cli-5.6.29-1.fc23.x86_64 2/4
Verifying : php-common-5.6.29-1.fc23.x86_64 3/4
Verifying : php-pecl-jsonc-1.3.10-1.fc23.x86_64 4/4
Installed:
php.x86_64 5.6.29-1.fc23 php-cli.x86_64 5.6.29-1.fc23
php-common.x86_64 5.6.29-1.fc23 php-pecl-jsonc.x86_64 1.3.10-1.fc23
Complete!
[root@fedora23 ~]#
administrator:
You are free to use the images below on Apache and Fedora powered HTTP servers. Thanks for using Apache and Fedora!
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
Mostly sunny
Search
ENG US
3:24 PM
2024-03-24

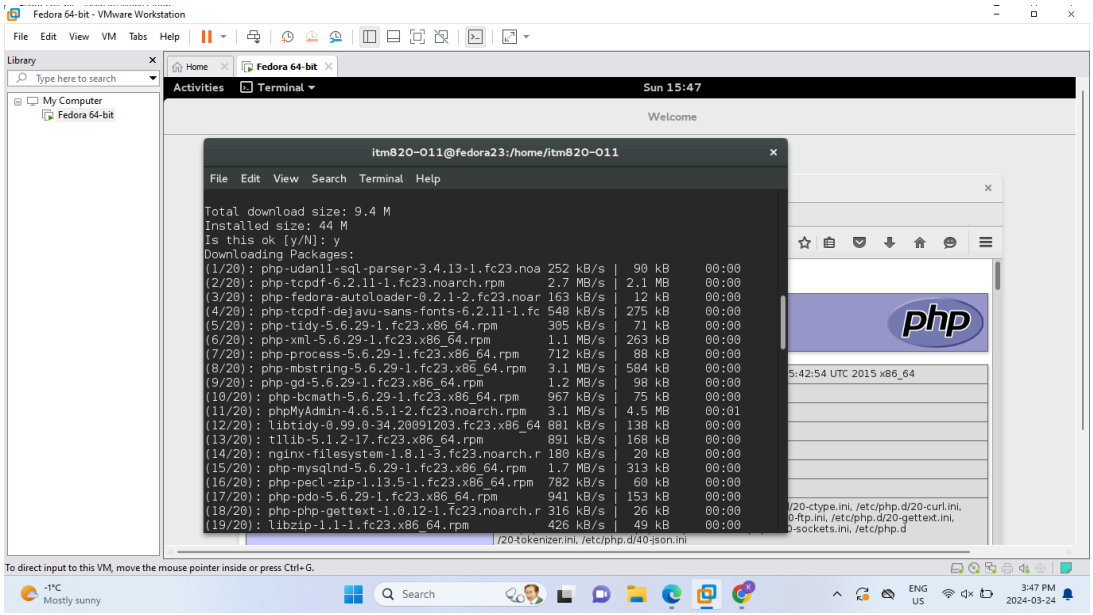

Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Library
Type here to search
My Computer
Fedora 64-bit
Home
Fedora 64-bit
Activities
Terminal
Sun 15:27
root@fedora23:~
File Edit View Search Terminal Help
Total 4.0 MB/s | 7.9 MB 00:01
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
Installing : php-pecl-jsonc-1.3.10-1.fc23.x86_64 1/4
Installing : php-common-5.6.29-1.fc23.x86_64 2/4
Installing : php-cli-5.6.29-1.fc23.x86_64 3/4
Installing : php-5.6.29-1.fc23.x86_64 4/4
Verifying : php-5.6.29-1.fc23.x86_64 1/4
Verifying : php-cli-5.6.29-1.fc23.x86_64 2/4
Verifying : php-common-5.6.29-1.fc23.x86_64 3/4
Verifying : php-pecl-jsonc-1.3.10-1.fc23.x86_64 4/4
Installed:
php.x86_64 5.6.29-1.fc23 php-cli.x86_64 5.6.29-1.fc23
php-common.x86_64 5.6.29-1.fc23 php-pecl-jsonc.x86_64 1.3.10-1.fc23
Complete!
[root@fedora23 ~]# systemctl restart httpd.service
[root@fedora23 ~]#
administrator:
You are free to use the images below on Apache and Fedora powered HTTP servers. Thanks for using Apache and Fedora!
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
Mostly sunny
Search
ENG US
3:27 PM
2024-03-24

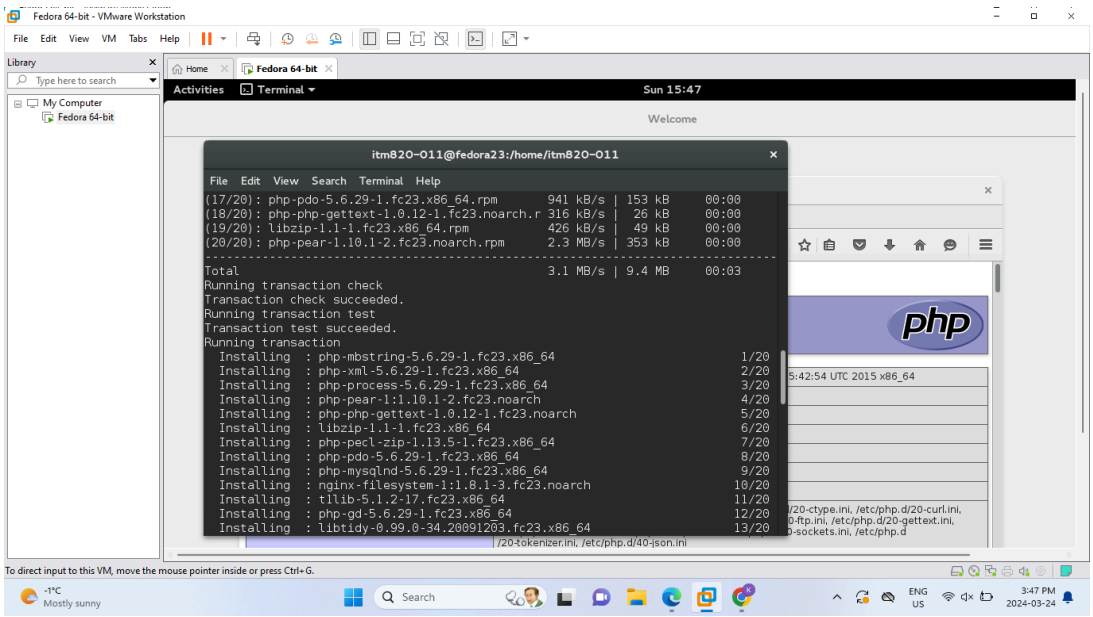


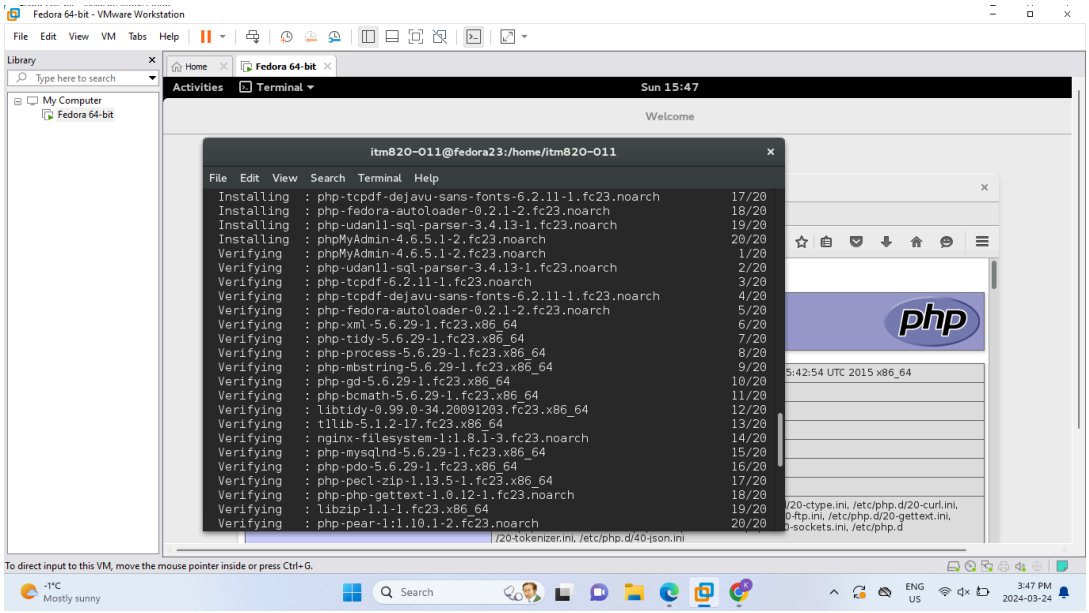
5. **Install phpMyAdmin**
   a. yum install phpmyadmin
   b. configure phpMyAdmin using the VI editor: vi /etc/httpd/conf.d/phpMyAdmin.conf

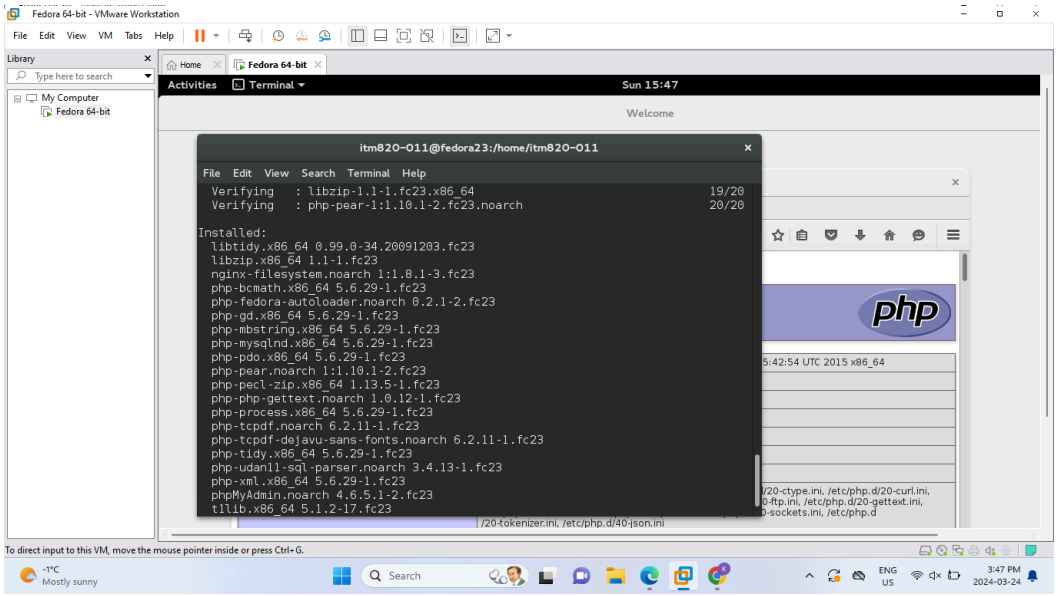


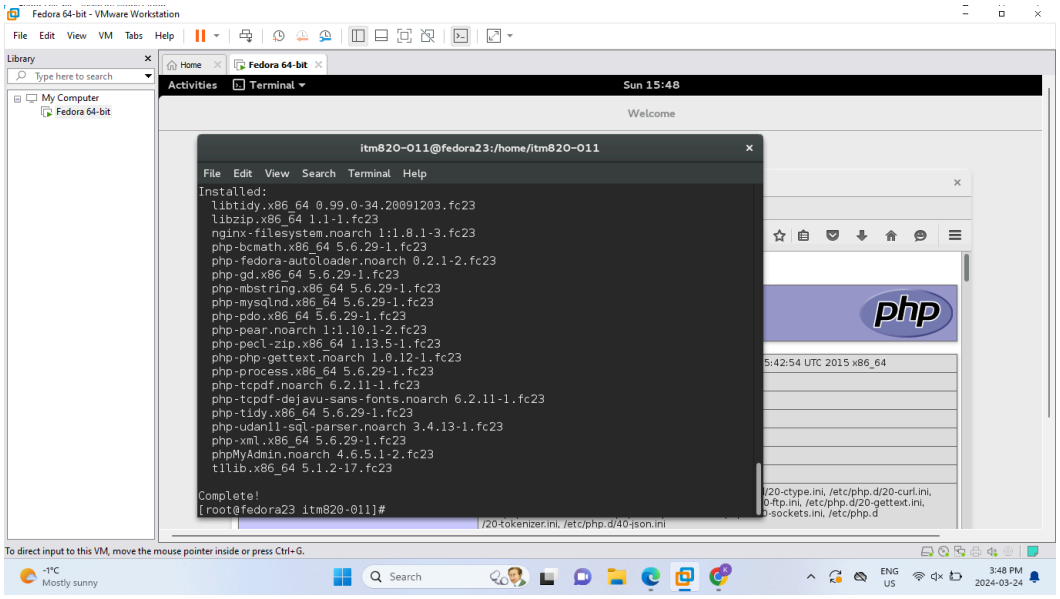

Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Library
Type here to search
My Computer
Fedora 64-bit
Home
Fedora 64-bit
Activities
Terminal
Sun 15:47
Welcome
itm820-011@fedora23:/home/itm820-011
File Edit View Search Terminal Help
php-fedora-autoloader noarch 0.2.1-2.fc23 updates 12 k
php-gd x86_64 5.6.29-1.fc23 updates 98 k
php-mbstring x86_64 5.6.29-1.fc23 updates 584 k
php-mysqlnd x86_64 5.6.29-1.fc23 updates 313 k
php-pdo x86_64 5.6.29-1.fc23 updates 153 k
php-pear noarch 1:1.10.1-2.fc23 updates 353 k
php-pecl-zip x86_64 1.13.5-1.fc23 updates 60 k
php-php-gettext noarch 1.0.12-1.fc23 updates 26 k
php-process x86_64 5.6.29-1.fc23 updates 88 k
php-tcpdf noarch 6.2.11-1.fc23 fedora 2.1 M
php-tcpdf-dejavu-sans-fonts noarch 6.2.11-1.fc23 fedora 275 k
php-tidy x86_64 5.6.29-1.fc23 updates 71 k
php-udan11-sql-parser noarch 3.4.13-1.fc23 updates 90 k
php-xml x86_64 5.6.29-1.fc23 updates 263 k
phpMyAdmin noarch 4.6.5.1-2.fc23 updates 4.5 M
t1lib x86_64 5.1.2-17.fc23 fedora 168 k
Transaction Summary
Install 20 Packages
Total download size: 9.4 M
Installed size: 44 M
Is this ok [y/N]:
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
Search
ENG
US
3:47 PM
2024-03-24


Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Library
Type here to search
My Computer
Fedora 64-bit
Home
Fedora 64-bit
Activities
Terminal
Sun 15:47
Welcome
itm820-011@fedora23:/home/itm820-011
File Edit View Search Terminal Help
Total download size: 9.4 M
Installed size: 44 M
Is this ok [y/N]: y
Downloading Packages:
(1/20): php-udan11-sql-parser-3.4.13-1.fc23.noa 252 kB/s | 90 kB 00:00
(2/20): php-tcpdf-6.2.11-1.fc23.noarch.rpm 2.7 MB/s | 2.1 MB 00:00
(3/20): php-fedora-autoloader-0.2.1-2.fc23.noar 163 kB/s | 12 kB 00:00
(4/20): php-tcpdf-dejavu-sans-fonts-6.2.11-1.fc 548 kB/s | 275 kB 00:00
(5/20): php-tidy-5.6.29-1.fc23.x86_64.rpm 305 kB/s | 71 kB 00:00
(6/20): php-xml-5.6.29-1.fc23.x86_64.rpm 1.1 MB/s | 263 kB 00:00
(7/20): php-process-5.6.29-1.fc23.x86_64.rpm 712 kB/s | 88 kB 00:00
(8/20): php-mbstring-5.6.29-1.fc23.x86_64.rpm 3.1 MB/s | 584 kB 00:00
(9/20): php-gd-5.6.29-1.fc23.x86_64.rpm 1.2 MB/s | 98 kB 00:00
(10/20): php-bcmath-5.6.29-1.fc23.x86_64.rpm 967 kB/s | 75 kB 00:00
(11/20): phpMyAdmin-4.6.5.1-2.fc23.noarch.rpm 3.1 MB/s | 4.5 MB 00:01
(12/20): libtidy-0.99.0-34.20091203.fc23.x86_64 881 kB/s | 138 kB 00:00
(13/20): t1lib-5.1.2-17.fc23.x86_64.rpm 891 kB/s | 168 kB 00:00
(14/20): nginx-filesystem-1.8.1-3.fc23.noarch.r 180 kB/s | 20 kB 00:00
(15/20): php-mysqlnd-5.6.29-1.fc23.x86_64.rpm 1.7 MB/s | 313 kB 00:00
(16/20): php-pecl-zip-1.13.5-1.fc23.x86_64.rpm 782 kB/s | 60 kB 00:00
(17/20): php-pdo-5.6.29-1.fc23.x86_64.rpm 941 kB/s | 153 kB 00:00
(18/20): php-php-gettext-1.0.12-1.fc23.noarch.r 316 kB/s | 26 kB 00:00
(19/20): libzip-1.1-1.fc23.x86_64.rpm 426 kB/s | 49 kB 00:00
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
Search
ENG US
3:47 PM
2024-03-24


Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Library
Type here to search
My Computer
Fedora 64-bit
Home
Fedora 64-bit
Activities
Terminal
Sun 15:47
Welcome
itm820-011@fedora23:/home/itm820-011
File Edit View Search Terminal Help
(17/20): php-pdo-5.6.29-1.fc23.x86_64.rpm 941 kB/s | 153 kB 00:00
(18/20): php-php-gettext-1.0.12-1.fc23.noarch.r 316 kB/s | 26 kB 00:00
(19/20): libzip-1.1-1.fc23.x86_64.rpm 426 kB/s | 49 kB 00:00
(20/20): php-pear-1.10.1-2.fc23.noarch.rpm 2.3 MB/s | 353 kB 00:00
Total 3.1 MB/s | 9.4 MB 00:03
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
Installing : php-mbstring-5.6.29-1.fc23.x86_64 1/20
Installing : php-xml-5.6.29-1.fc23.x86_64 2/20
Installing : php-process-5.6.29-1.fc23.x86_64 3/20
Installing : php-pear-1:1.10.1-2.fc23.noarch 4/20
Installing : php-php-gettext-1.0.12-1.fc23.noarch 5/20
Installing : libzip-1.1-1.fc23.x86_64 6/20
Installing : php-pecl-zip-1.13.5-1.fc23.x86_64 7/20
Installing : php-pdo-5.6.29-1.fc23.x86_64 8/20
Installing : php-mysqlnd-5.6.29-1.fc23.x86_64 9/20
Installing : nginx-filesystem-1:1.8.1-3.fc23.noarch 10/20
Installing : t1lib-5.1.2-17.fc23.x86_64 11/20
Installing : php-gd-5.6.29-1.fc23.x86_64 12/20
Installing : libtidy-0.99.0-34.20091203.fc23.x86_64 13/20
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
Search
ENG US
3:47 PM
2024-03-24

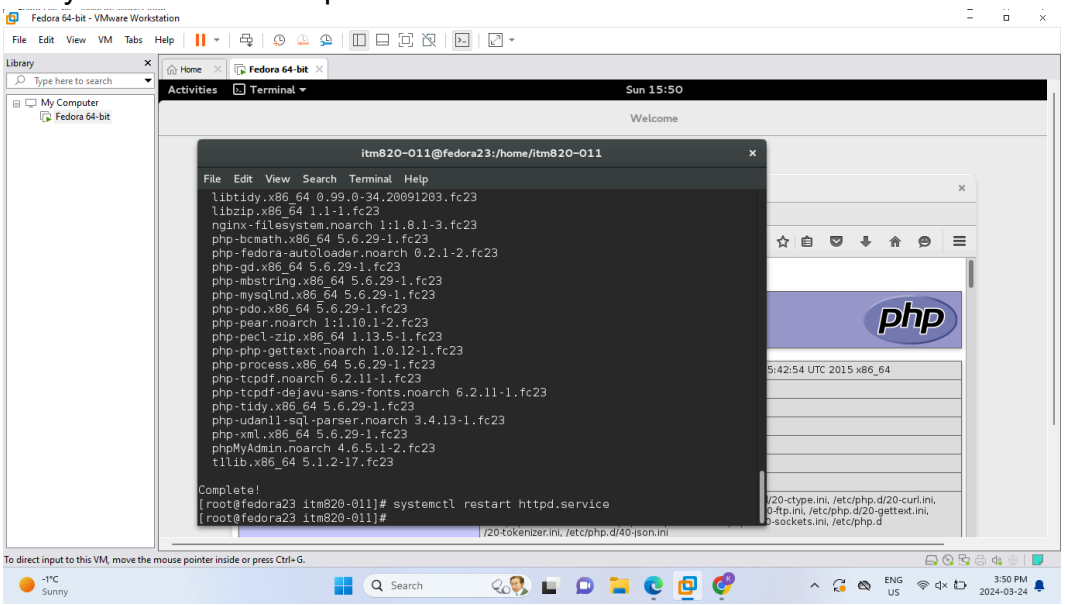

Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Library
Type here to search
My Computer
Fedora 64-bit
Home
Fedora 64-bit
Activities
Terminal
Sun 15:47
Welcome
itm820-011@fedora23:/home/itm820-011
File Edit View Search Terminal Help
Installing : php-tcpdf-dejavu-sans-fonts-6.2.11-1.fc23.noarch 17/20
Installing : php-fedora-autoloader-0.2.1-2.fc23.noarch 18/20
Installing : php-udan11-sql-parser-3.4.13-1.fc23.noarch 19/20
Installing : phpMyAdmin-4.6.5.1-2.fc23.noarch 20/20
Verifying : phpMyAdmin-4.6.5.1-2.fc23.noarch 1/20
Verifying : php-udan11-sql-parser-3.4.13-1.fc23.noarch 2/20
Verifying : php-tcpdf-6.2.11-1.fc23.noarch 3/20
Verifying : php-tcpdf-dejavu-sans-fonts-6.2.11-1.fc23.noarch 4/20
Verifying : php-fedora-autoloader-0.2.1-2.fc23.noarch 5/20
Verifying : php-xml-5.6.29-1.fc23.x86_64 6/20
Verifying : php-tidy-5.6.29-1.fc23.x86_64 7/20
Verifying : php-process-5.6.29-1.fc23.x86_64 8/20
Verifying : php-mbstring-5.6.29-1.fc23.x86_64 9/20
Verifying : php-gd-5.6.29-1.fc23.x86_64 10/20
Verifying : php-bcmath-5.6.29-1.fc23.x86_64 11/20
Verifying : libtidy-0.99.0-34.20091203.fc23.x86_64 12/20
Verifying : tllib-5.1.2-17.fc23.x86_64 13/20
Verifying : nginx-filesystem-1:1.8.1-3.fc23.noarch 14/20
Verifying : php-mysqlnd-5.6.29-1.fc23.x86_64 15/20
Verifying : php-pdo-5.6.29-1.fc23.x86_64 16/20
Verifying : php-pecl-zip-1.13.5-1.fc23.x86_64 17/20
Verifying : php-php-gettext-1.0.12-1.fc23.noarch 18/20
Verifying : libzip-1.1-1.fc23.x86_64 19/20
Verifying : php-pear-1:1.10.1-2.fc23.noarch 20/20
/20-tokenizer.ini, /etc/php.d/40-json.ini
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
Search
ENG US
3:47 PM 2024-03-24


Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Library
Type here to search
My Computer
Fedora 64-bit
Home
Fedora 64-bit
Activities
Terminal
Sun 15:47
Welcome
itm820-011@fedora23:/home/itm820-011
File Edit View Search Terminal Help
Verifying : libzip-1.1-1.fc23.x86_64 19/20
Verifying : php-pear-1:1.10.1-2.fc23.noarch 20/20
Installed:
libtidy.x86_64 0.99.0-34.20091203.fc23
libzip.x86_64 1.1-1.fc23
nginx-filesystem.noarch 1:1.8.1-3.fc23
php-bcmath.x86_64 5.6.29-1.fc23
php-fedora-autoloader.noarch 0.2.1-2.fc23
php-gd.x86_64 5.6.29-1.fc23
php-mbstring.x86_64 5.6.29-1.fc23
php-mysqlnd.x86_64 5.6.29-1.fc23
php-pdo.x86_64 5.6.29-1.fc23
php-pear.noarch 1:1.10.1-2.fc23
php-pecl-zip.x86_64 1.13.5-1.fc23
php-php-gettext.noarch 1.0.12-1.fc23
php-process.x86_64 5.6.29-1.fc23
php-tcpdf.noarch 6.2.11-1.fc23
php-tcpdf-dejavu-sans-fonts.noarch 6.2.11-1.fc23
php-tidy.x86_64 5.6.29-1.fc23
php-udan11-sql-parser.noarch 3.4.13-1.fc23
php-xml.x86_64 5.6.29-1.fc23
phpMyAdmin.noarch 4.6.5.1-2.fc23
tllib.x86_64 5.1.2-17.fc23
/20-tokenizer.ini, /etc/php.d/40-json.ini
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
Search
ENG US
3:47 PM 2024-03-24

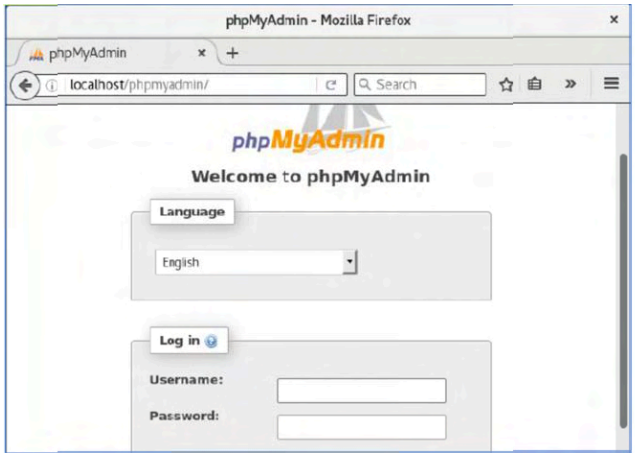

Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Library
Type here to search
My Computer
Fedora 64-bit
Home
Fedora 64-bit
Activities
Terminal
Sun 15:48
Welcome
itm820-011@fedora23:/home/itm820-011
File Edit View Search Terminal Help
Installed:
libtidy.x86_64 0.99.0-34.20091203.fc23
libzip.x86_64 1.1-1.fc23
nginx-filesystem.noarch 1:1.8.1-3.fc23
php-bcmath.x86_64 5.6.29-1.fc23
php-fedora-autoloader.noarch 0.2.1-2.fc23
php-gd.x86_64 5.6.29-1.fc23
php-mbstring.x86_64 5.6.29-1.fc23
php-mysqlnd.x86_64 5.6.29-1.fc23
php-pdo.x86_64 5.6.29-1.fc23
php-pear.noarch 1:1.10.1-2.fc23
php-pecl-zip.x86_64 1.13.5-1.fc23
php-php-gettext.noarch 1.0.12-1.fc23
php-process.x86_64 5.6.29-1.fc23
php-tcpdf.noarch 6.2.11-1.fc23
php-tcpdf-dejavu-sans-fonts.noarch 6.2.11-1.fc23
php-tidy.x86_64 5.6.29-1.fc23
php-udanil-sql-parser.noarch 3.4.13-1.fc23
php-xml.x86_64 5.6.29-1.fc23
phpMyAdmin.noarch 4.6.5.1-2.fc23
tllib.x86_64 5.1.2-17.fc23
Complete!
[root@fedora23 itm820-011]#
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
Search
ENG
US
3:48 PM
2024-03-24

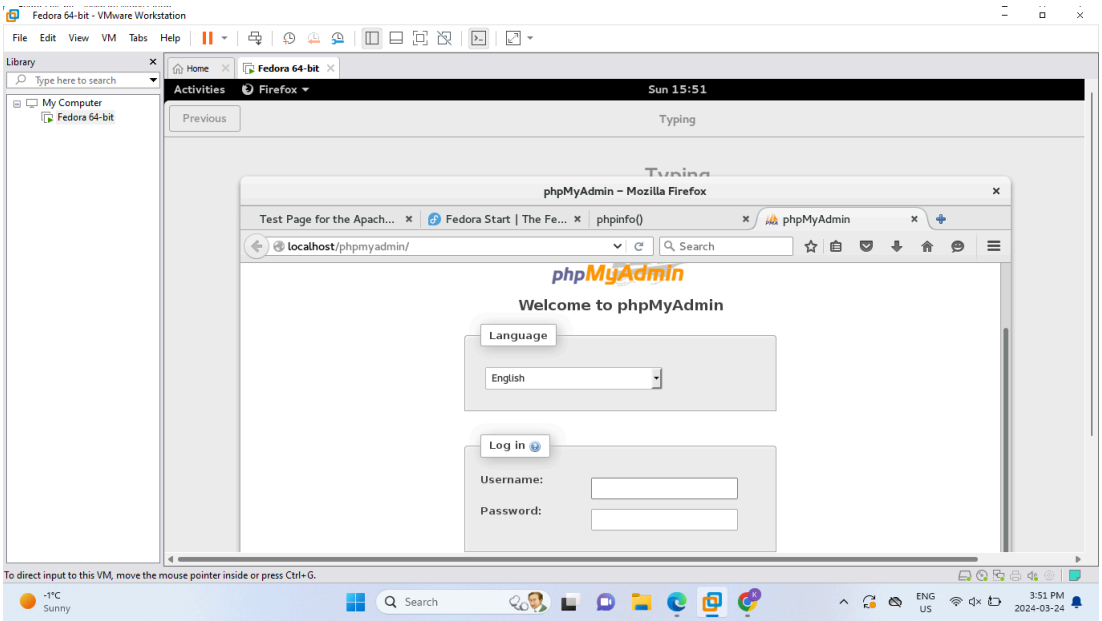
6. Restart Apache server

systemctl restart httpd.service



7. Access phpMyAdmin by using the URL: http://localhost/phpmyadmin





Part 1: Password Protect Websites Pages

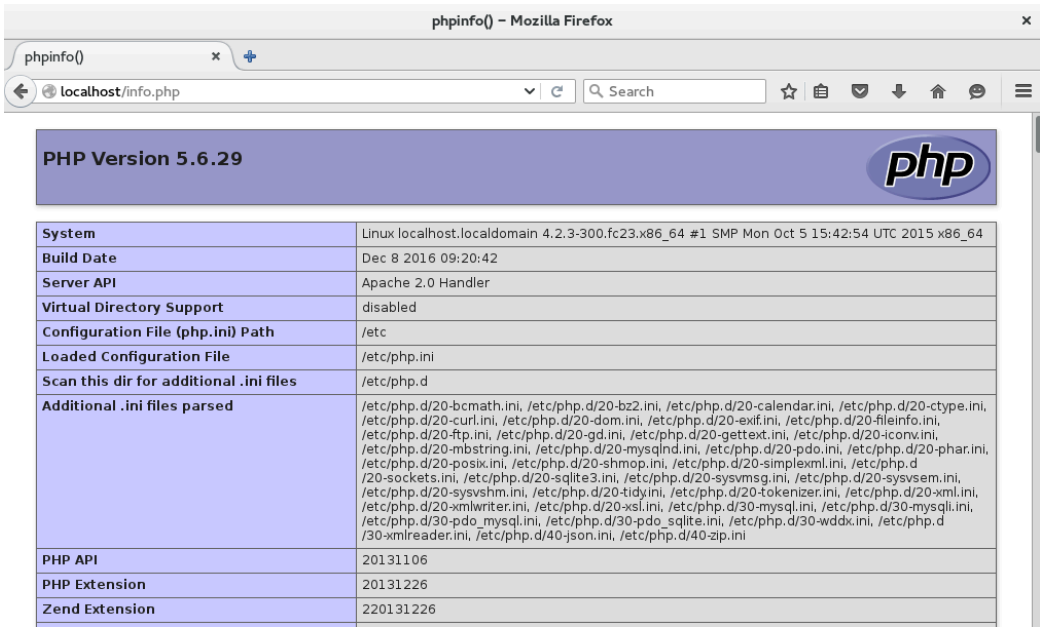
http://httpd.apache.org/docs/2.2/howto/htaccess.html
http://docs.fedoraproject.org/en-US/Fedora/16/html/System_Administrators_Guide/ch-Web_Servers.html
http://www.reallylinux.com/docs/htaccess.shtml

Using access files, implement an access control mechanism that authenticates users while attempting to access websites, files of websites, or the entire directory.

- Test the Apache server by browsing the http://localhost/info.php, if the Apache server does not respond then you need to start the httpd service: service httpd start.
- Replace the contents of the info.php page with the following code and test your access control scheme based on attempting to access this page; the page can be found at /var/www/html

```
<html>
<hr size=20 color=orange>
<h1 align=center> Information Systems Security and Privacy
<br> ITM 820 Project</h1>
<h2 align=center> Group names: xxxxx</h2>
<hr size=20 color=orange>
</html>
```

where xxxxxx is your group members' names



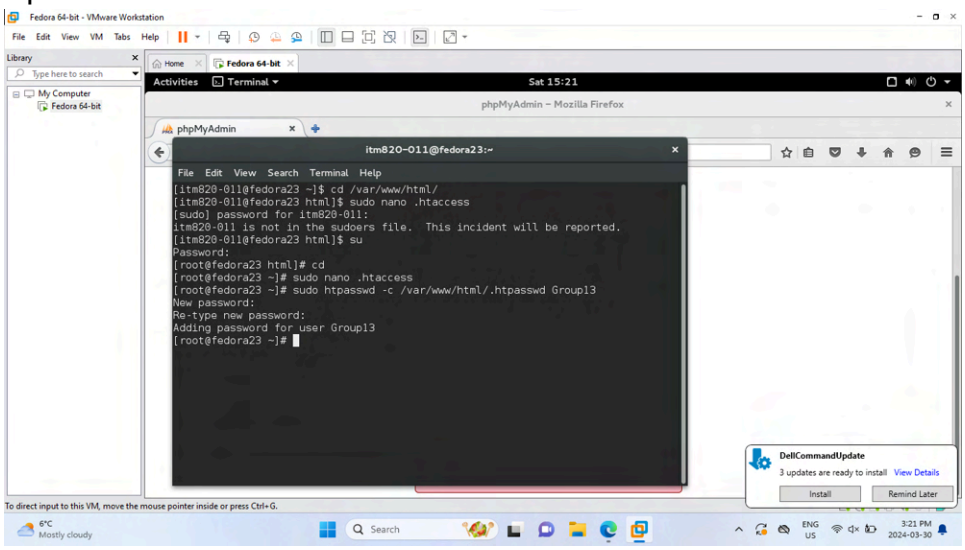
Information Systems Security and Privacy
ITM 820 Project

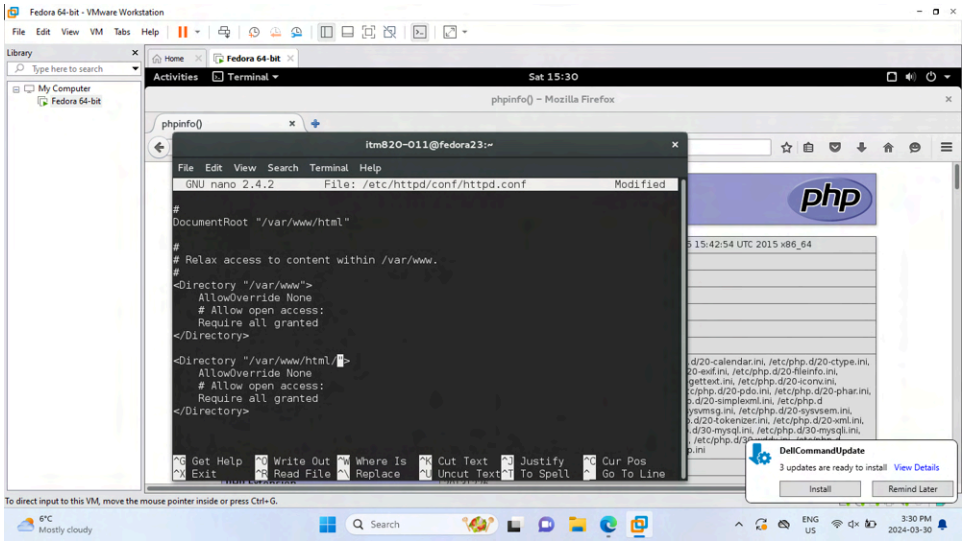
- Test the page using the URL: http://localhost/info.php

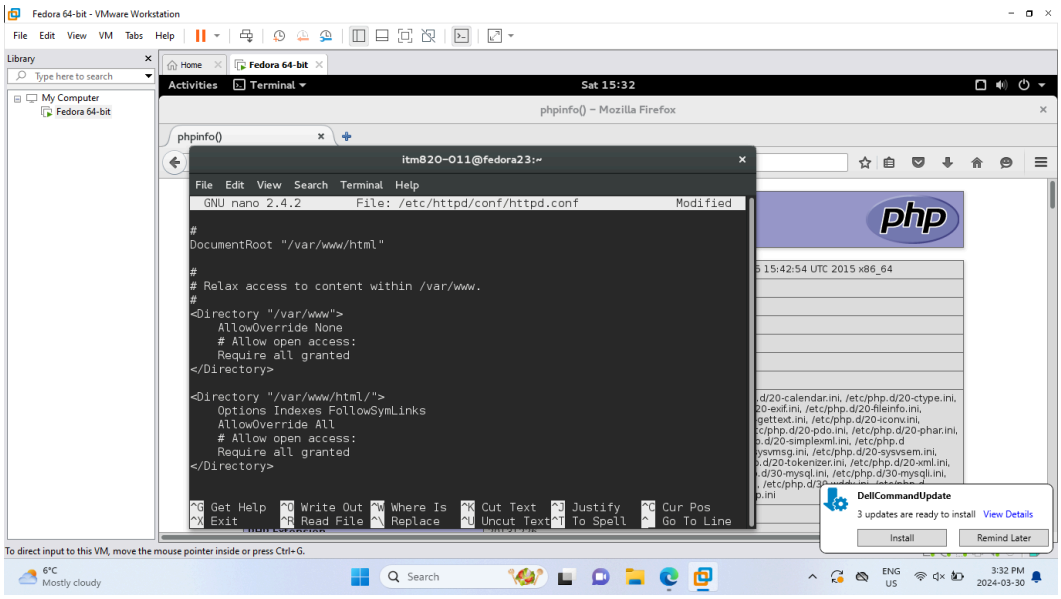
Hint: Use the .htaccess and .htpasswd access files as a method of implementation.

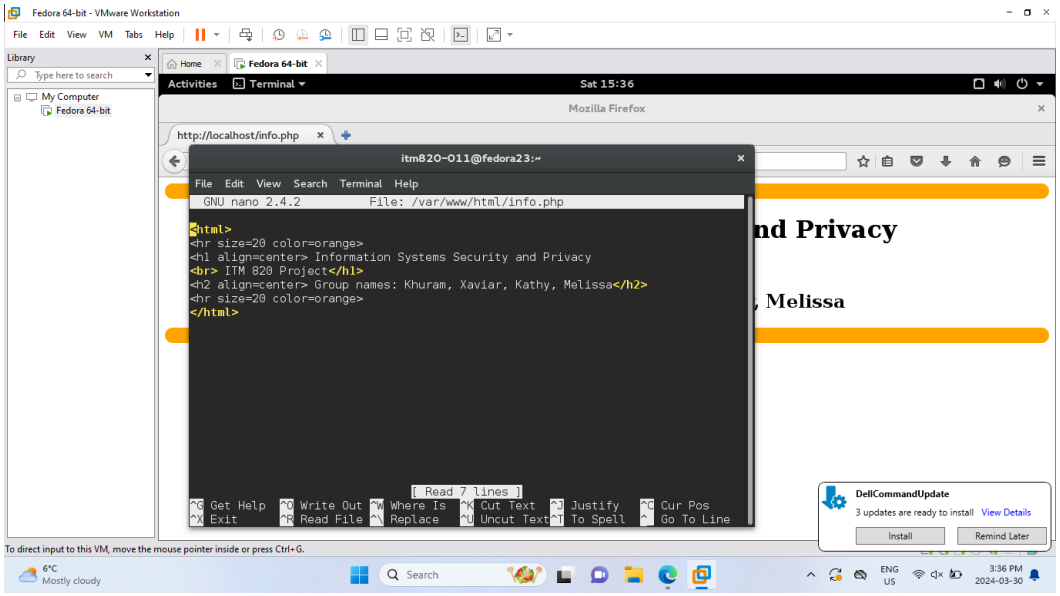
- Create and configure .htaccess file
- Crate and configure .htpasswd file
- Test Accessing the web Server using the URL: http://localhost/info.php
- Verify the httpd.conf file is read as “allowoverride all” (http://httpd.apach.org/docs/2.2/howto/htaccess.html)

Hint:
/etc/httpd/conf
/var/www/html vi yourfile.html
htpasswd –c filename UserName

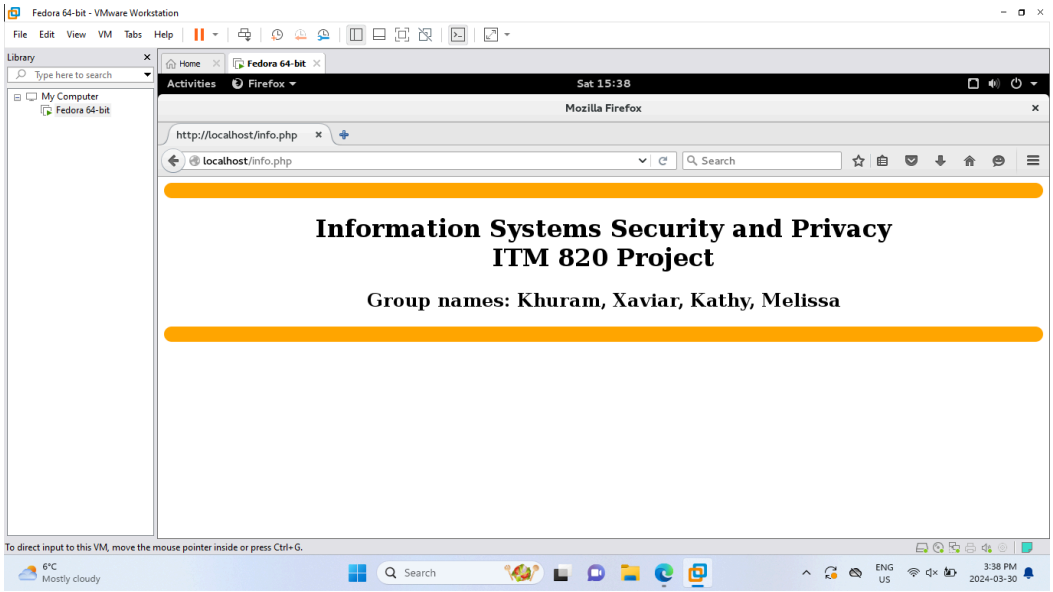





Fedora 64-bit - VMware Workstation
Activities
Terminal
Sat 15:32
phpinfo() - Mozilla Firefox
itm820-011@fedora23:~
File Edit View Search Terminal Help
GNU nano 2.4.2 File: /etc/httpd/conf/httpd.conf Modified
#
DocumentRoot "/var/www/html"
#
Relax access to content within /var/www.
#
<Directory "/var/www">
AllowOverride None
Allow open access:
Require all granted
</Directory>
<Directory "/var/www/html/">
Options Indexes FollowSymLinks
AllowOverride All
Allow open access:
Require all granted
</Directory>
^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos
^X Exit ^R Read File ^\ Replace ^U Uncut Text ^T To Spell ^_ Go To Line
DellCommandUpdate
3 updates are ready to install View Details
Install
Remind Later


Fedora 64-bit - VMware Workstation
Activities
Terminal
Sat 15:36
Mozilla Firefox
http://localhost/info.php
itm820-011@fedora23:~
File Edit View Search Terminal Help
GNU nano 2.4.2 File: /var/www/html/info.php
<html>
<hr size=20 color=orange>
<h1 align=center> Information Systems Security and Privacy

 ITM 820 Project</h1>
<h2 align=center> Group names: Khuram, Xaviar, Kathy, Melissa</h2>
<hr size=20 color=orange>
</html>
[Read 7 lines]
^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos
^X Exit ^R Read File ^\ Replace ^U Uncut Text ^T To Spell ^_ Go To Line
DellCommandUpdate
3 updates are ready to install View Details
Install
Remind Later

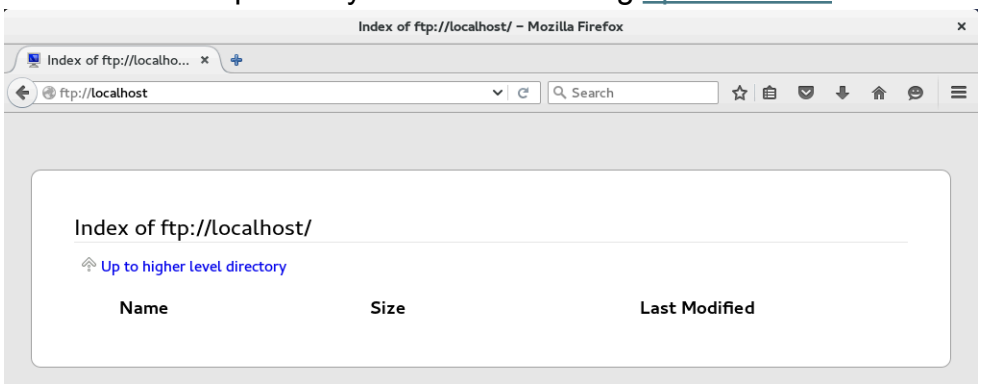

Fedora 64-bit - VMware Workstation
Activities
Firefox
Sat 15:38
Mozilla Firefox
http://localhost/info.php
localhost/info.php
Information Systems Security and Privacy
ITM 820 Project
Group names: Khuram, Xaviar, Kathy, Melissa

Part 2: Installing FTP Server (pure-ftpd) in Anonymous Mode

pure-FTPd is a free (BSD), secure, production-quality and standard-conformant FTP server. It doesn't provide useless bells and whistles but focuses on efficiency and ease of use. It provides simple answers to common needs, plus unique useful features for personal users as well as hosting providers.

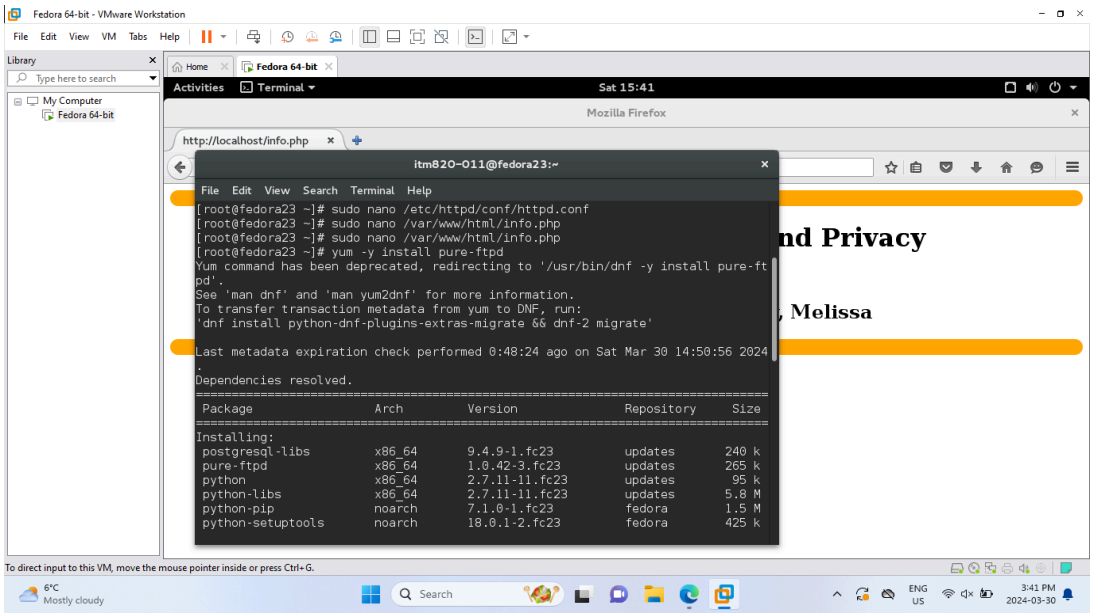
2.1 Install pure-ftpd server (http://www.pureftpd.org/project/pure-ftpd)

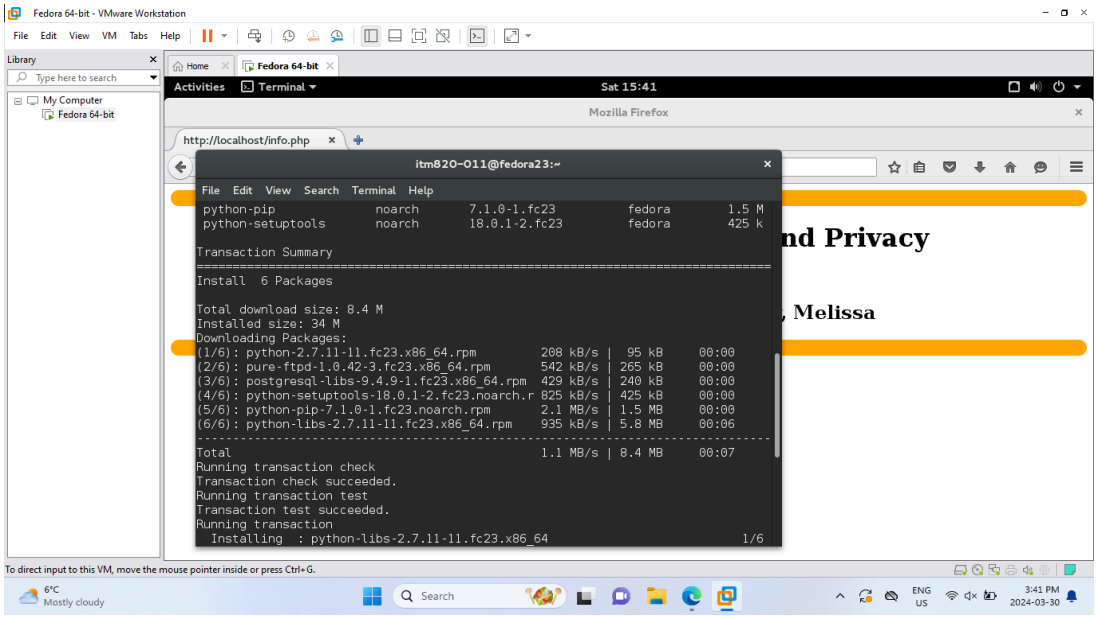
- yum -y install pure-ftpd
- systemctl start pure-ftpd.service
- systemctl enable pure-ftpd.service
- Test the operability of the server using ftp://localhost

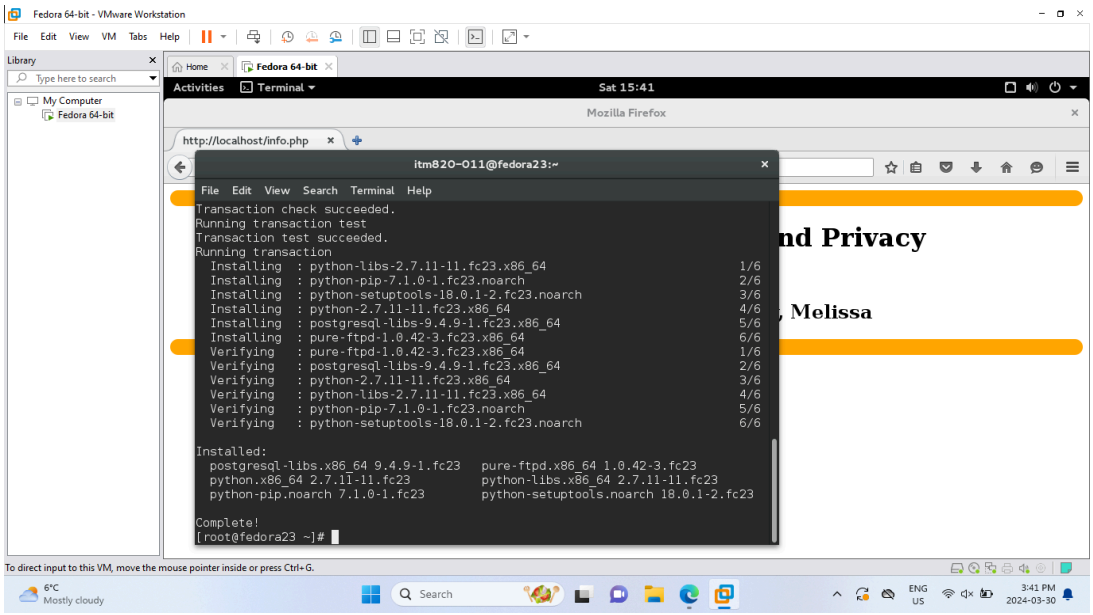


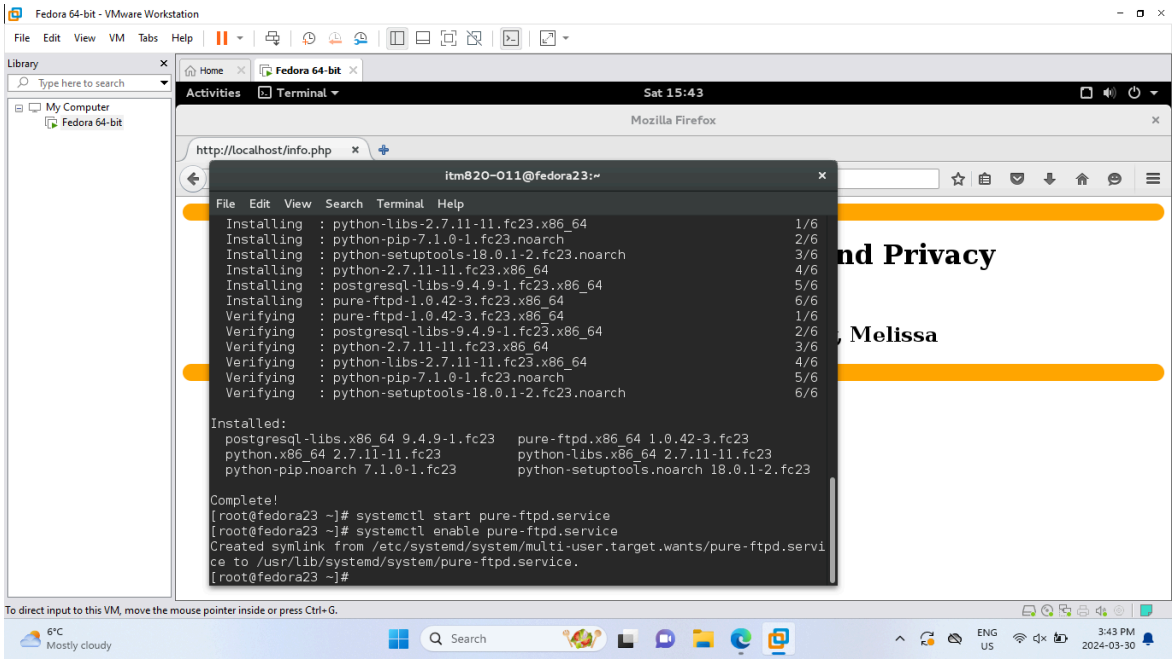
2.2 Install FTP client (Filezella: https://filezilla-project.org/download.php?show_all=1)

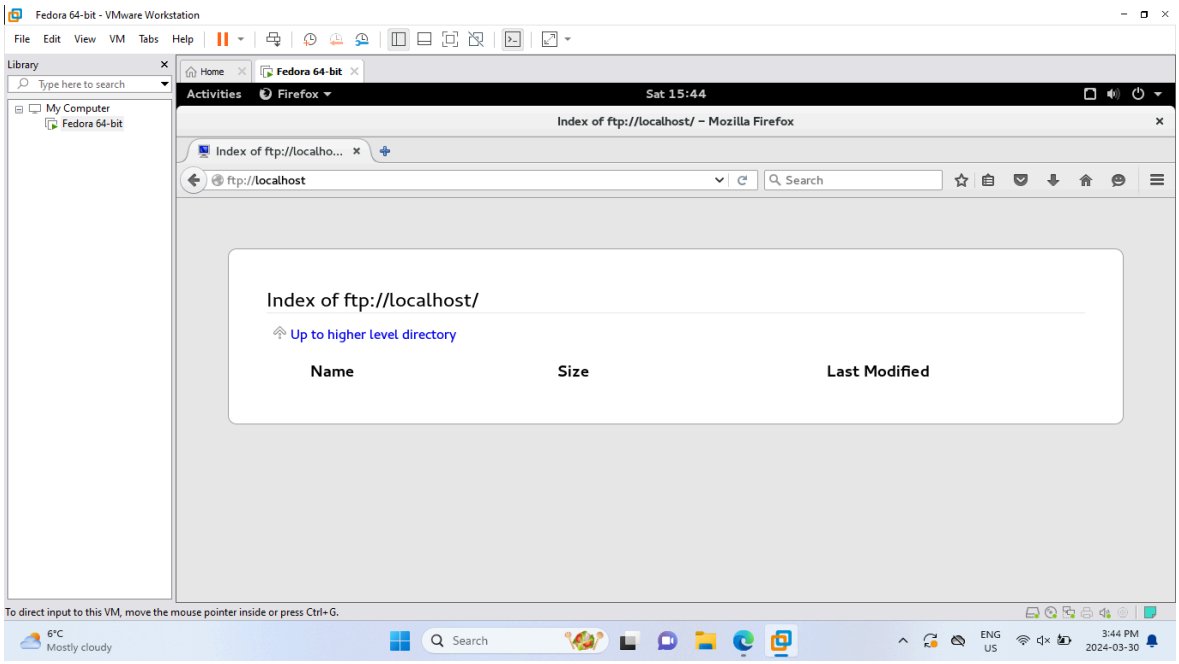
- Create a folder on the FTP server that shows (Group No xx – ITM 820) as its name.
- Upload the text file HelloWorld to the server in your group folder.
    - The file contains the message: Welcome to the ITM 820 Project.

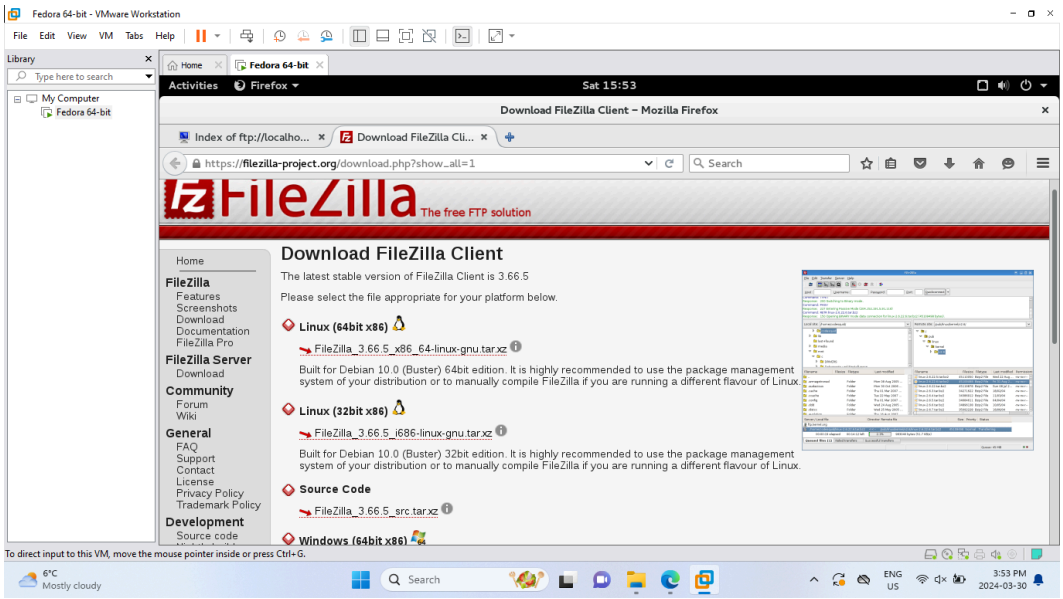

Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Library
Type here to search
My Computer
Fedora 64-bit
Home
Fedora 64-bit
Activities
Terminal
Sat 15:41
Mozilla Firefox
http://localhost/info.php
itm820-011@fedora23:~
File Edit View Search Terminal Help
[root@fedora23 ~]# sudo nano /etc/httpd/conf/httpd.conf
[root@fedora23 ~]# sudo nano /var/www/html/info.php
[root@fedora23 ~]# sudo nano /var/www/html/info.php
[root@fedora23 ~]# yum -y install pure-ftpd
Yum command has been deprecated, redirecting to '/usr/bin/dnf -y install pure-ftpd'.
See 'man dnf' and 'man yum2dnf' for more information.
To transfer transaction metadata from yum to DNF, run:
'dnf install python-dnf-plugins-extras-migrate && dnf-2 migrate'
Last metadata expiration check performed 0:48:24 ago on Sat Mar 30 14:50:56 2024.
Dependencies resolved.
Package Arch Version Repository Size
Installing:
postgresql-libs x86_64 9.4.9-1.fc23 updates 240 k
pure-ftpd x86_64 1.0.42-3.fc23 updates 265 k
python x86_64 2.7.11-11.fc23 updates 95 k
python-libs x86_64 2.7.11-11.fc23 updates 5.8 M
python-pip noarch 7.1.0-1.fc23 fedora 1.5 M
python-setuptools noarch 18.0.1-2.fc23 fedora 425 k
nd Privacy
, Melissa
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
6°C
Mostly cloudy
Search
ENG
US
3:41 PM
2024-03-30

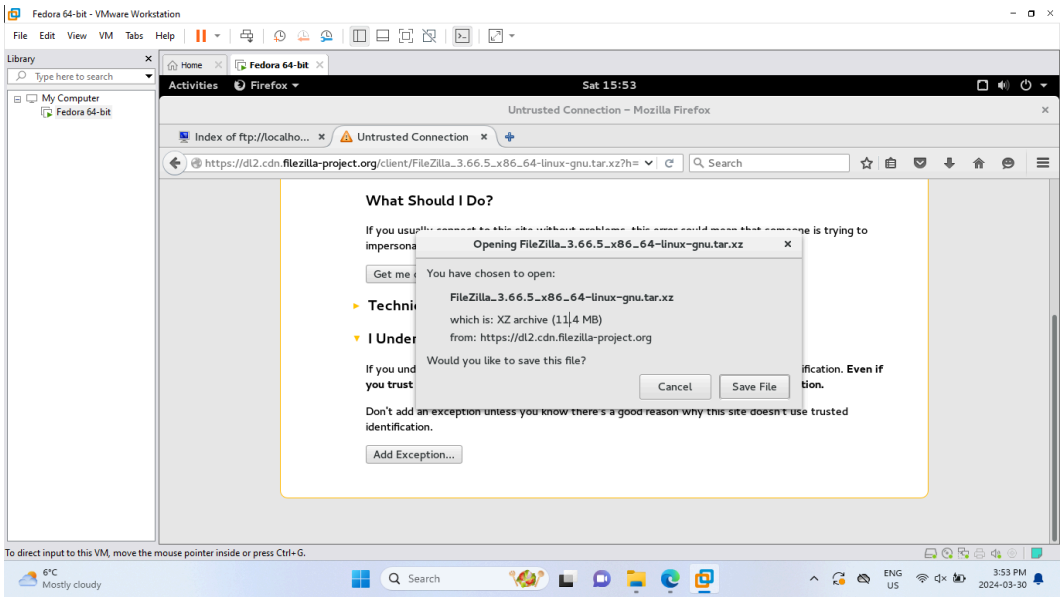

Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Library
Type here to search
My Computer
Fedora 64-bit
Home
Fedora 64-bit
Activities
Terminal
Sat 15:41
Mozilla Firefox
http://localhost/info.php
itm820-011@fedora23:~
File Edit View Search Terminal Help
python-pip noarch 7.1.0-1.fc23 fedora 1.5 M
python-setuptools noarch 18.0.1-2.fc23 fedora 425 k
Transaction Summary
Install 6 Packages
Total download size: 8.4 M
Installed size: 34 M
Downloading Packages:
(1/6): python-2.7.11-11.fc23.x86_64.rpm 208 kB/s | 95 kB 00:00
(2/6): pure-ftpd-1.0.42-3.fc23.x86_64.rpm 542 kB/s | 265 kB 00:00
(3/6): postgresql-libs-9.4.9-1.fc23.x86_64.rpm 429 kB/s | 240 kB 00:00
(4/6): python-setuptools-18.0.1-2.fc23.noarch.r 825 kB/s | 425 kB 00:00
(5/6): python-pip-7.1.0-1.fc23.noarch.rpm 2.1 MB/s | 1.5 MB 00:00
(6/6): python-libs-2.7.11-11.fc23.x86_64.rpm 935 kB/s | 5.8 MB 00:06
Total 1.1 MB/s | 8.4 MB 00:07
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
Installing : python-libs-2.7.11-11.fc23.x86_64 1/6
nd Privacy
, Melissa
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
6°C
Mostly cloudy
Search
ENG
US
3:41 PM
2024-03-30

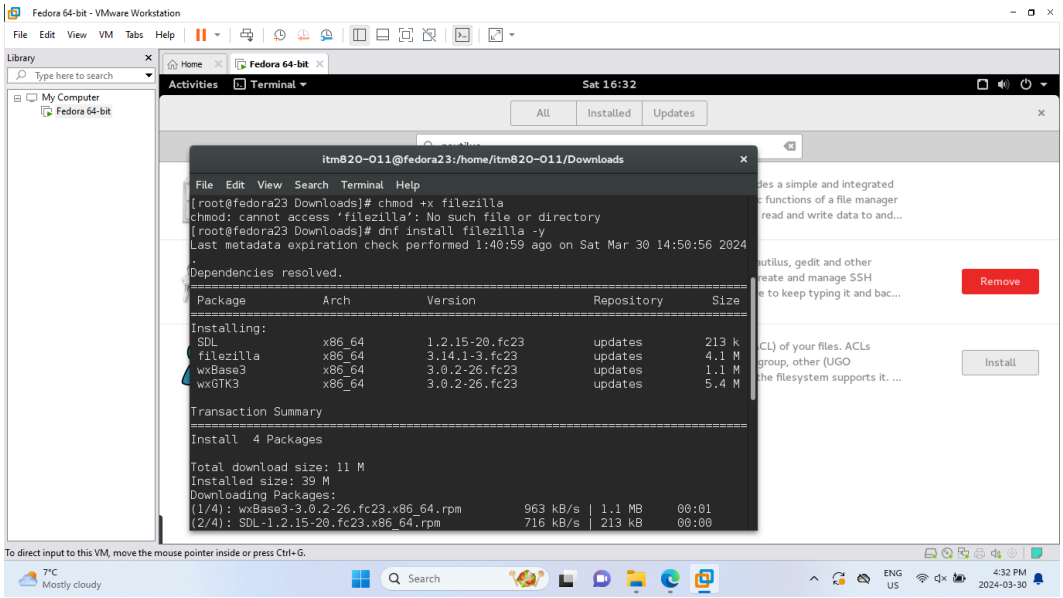

Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Library
Type here to search
My Computer
Fedora 64-bit
Home
Fedora 64-bit
Activities
Terminal
Sat 15:41
Mozilla Firefox
http://localhost/info.php
itm820-011@fedora23:~
File Edit View Search Terminal Help
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
Installing : python-libs-2.7.11-11.fc23.x86_64 1/6
Installing : python-pip-7.1.0-1.fc23.noarch 2/6
Installing : python-setuptools-18.0.1-2.fc23.noarch 3/6
Installing : python-2.7.11-11.fc23.x86_64 4/6
Installing : postgresql-libs-9.4.9-1.fc23.x86_64 5/6
Installing : pure-ftpd-1.0.42-3.fc23.x86_64 6/6
Verifying : pure-ftpd-1.0.42-3.fc23.x86_64 1/6
Verifying : postgresql-libs-9.4.9-1.fc23.x86_64 2/6
Verifying : python-2.7.11-11.fc23.x86_64 3/6
Verifying : python-libs-2.7.11-11.fc23.x86_64 4/6
Verifying : python-pip-7.1.0-1.fc23.noarch 5/6
Verifying : python-setuptools-18.0.1-2.fc23.noarch 6/6
Installed:
postgresql-libs.x86_64 9.4.9-1.fc23 pure-ftpd.x86_64 1.0.42-3.fc23
python.x86_64 2.7.11-11.fc23 python-libs.x86_64 2.7.11-11.fc23
python-pip.noarch 7.1.0-1.fc23 python-setuptools.noarch 18.0.1-2.fc23
Complete!
[root@fedora23 ~]#
nd Privacy
, Melissa
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
6°C
Mostly cloudy
Search
ENG
US
3:41 PM
2024-03-30

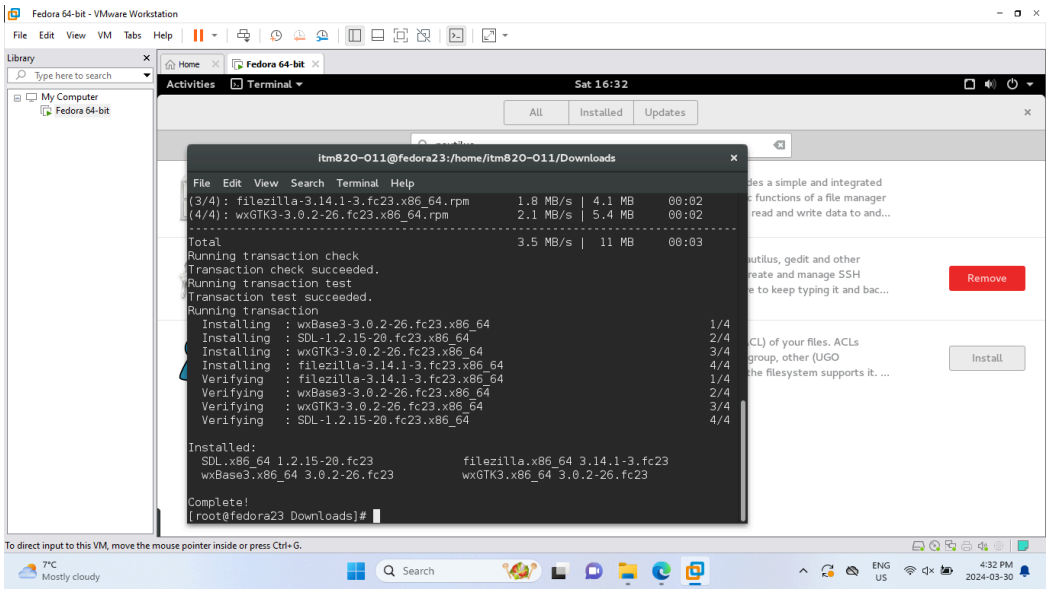

Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Library
Type here to search
My Computer
Fedora 64-bit
Home
Fedora 64-bit
Activities
Terminal
Sat 15:43
Mozilla Firefox
http://localhost/info.php
itm820-011@fedora23:~
File Edit View Search Terminal Help
Installing : python-libs-2.7.11-11.fc23.x86_64 1/6
Installing : python-pip-7.1.0-1.fc23.noarch 2/6
Installing : python-setuptools-18.0.1-2.fc23.noarch 3/6
Installing : python-2.7.11-11.fc23.x86_64 4/6
Installing : postgresql-libs-9.4.9-1.fc23.x86_64 5/6
Installing : pure-ftpd-1.0.42-3.fc23.x86_64 6/6
Verifying : pure-ftpd-1.0.42-3.fc23.x86_64 1/6
Verifying : postgresql-libs-9.4.9-1.fc23.x86_64 2/6
Verifying : python-2.7.11-11.fc23.x86_64 3/6
Verifying : python-libs-2.7.11-11.fc23.x86_64 4/6
Verifying : python-pip-7.1.0-1.fc23.noarch 5/6
Verifying : python-setuptools-18.0.1-2.fc23.noarch 6/6
Installed:
postgresql-libs.x86_64 9.4.9-1.fc23 pure-ftpd.x86_64 1.0.42-3.fc23
python.x86_64 2.7.11-11.fc23 python-libs.x86_64 2.7.11-11.fc23
python-pip.noarch 7.1.0-1.fc23 python-setuptools.noarch 18.0.1-2.fc23
Complete!
[root@fedora23 ~]# systemctl start pure-ftpd.service
[root@fedora23 ~]# systemctl enable pure-ftpd.service
Created symlink from /etc/systemd/system/multi-user.target.wants/pure-ftpd.servi
ce to /usr/lib/systemd/system/pure-ftpd.service.
[root@fedora23 ~]#
nd Privacy
, Melissa
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
6°C
Mostly cloudy
Search
ENG
US
3:43 PM
2024-03-30

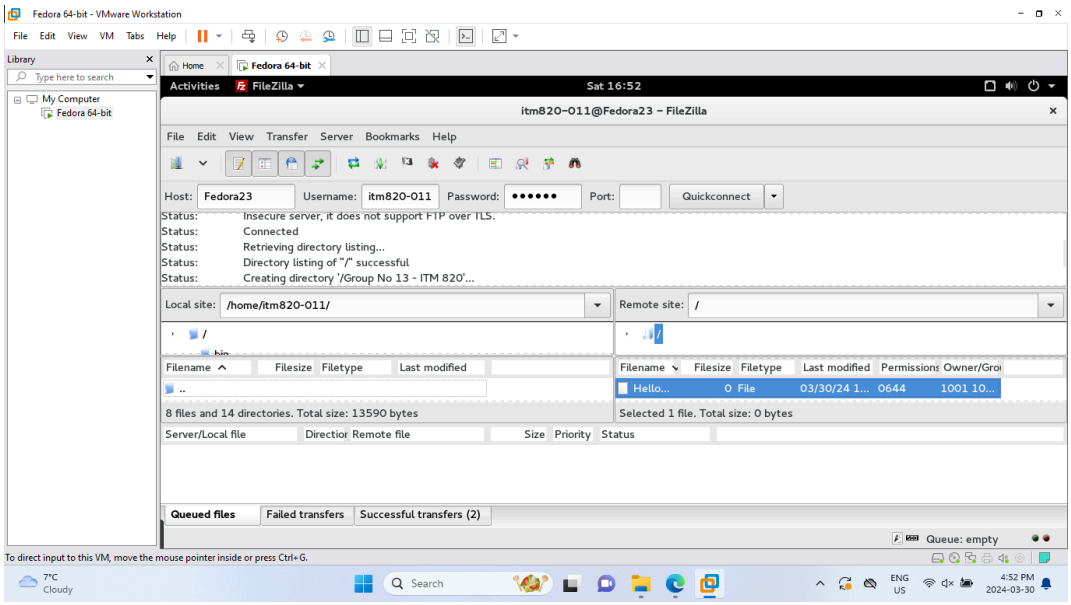

Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Library
Type here to search
My Computer
Fedora 64-bit
Home
Fedora 64-bit
Activities
Firefox
Sat 15:44
Index of ftp://localhost/ – Mozilla Firefox
Index of ftp://localho...
ftp://localhost
Search
Index of ftp://localhost/
Up to higher level directory
Name
Size
Last Modified
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
6°C
Mostly cloudy
Search
ENG
US
3:44 PM
2024-03-30

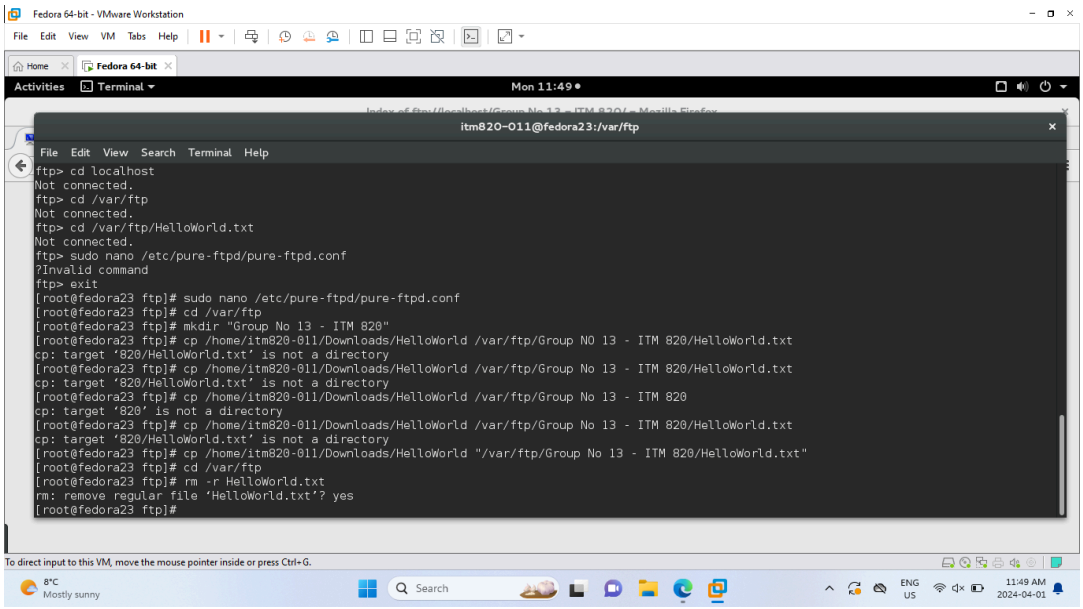

Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Library
Type here to search
My Computer
Fedora 64-bit
Home
Fedora 64-bit
Activities
Firefox
Sat 15:53
Download FileZilla Client – Mozilla Firefox
Index of ftp://localho...
Download FileZilla Cli...
https://filezilla-project.org/download.php?show_all=1
Search
FileZilla
The free FTP solution
Home
FileZilla
Features
Screenshots
Download
Documentation
FileZilla Pro
FileZilla Server
Download
Community
Forum
Wiki
General
FAQ
Support
Contact
License
Privacy Policy
Trademark Policy
Development
Source code
Download FileZilla Client
The latest stable version of FileZilla Client is 3.66.5
Please select the file appropriate for your platform below.
Linux (64bit x86)
FileZilla_3.66.5_x86_64-linux-gnu.tar.xz
Built for Debian 10.0 (Buster) 64bit edition. It is highly recommended to use the package management system of your distribution or to manually compile FileZilla if you are running a different flavour of Linux.
Linux (32bit x86)
FileZilla_3.66.5_i686-linux-gnu.tar.xz
Built for Debian 10.0 (Buster) 32bit edition. It is highly recommended to use the package management system of your distribution or to manually compile FileZilla if you are running a different flavour of Linux.
Source Code
FileZilla_3.66.5_src.tar.xz
Windows (64bit x86)
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
6°C
Mostly cloudy
Search
ENG
US
3:53 PM
2024-03-30

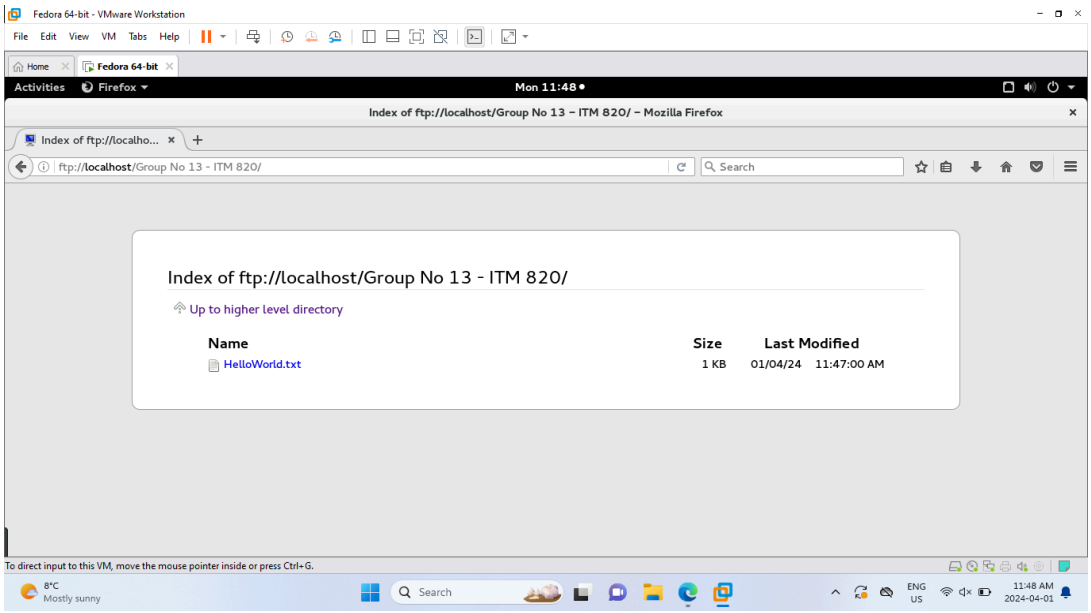

Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Library
Type here to search
My Computer
Fedora 64-bit
Home
Fedora 64-bit
Activities
Firefox
Sat 15:53
Untrusted Connection – Mozilla Firefox
Index of ftp://localho...
Untrusted Connection
https://dl2.cdn.filezilla-project.org/client/FileZilla_3.66.5_x86_64-linux-gnu.tar.xz?h=
Search
What Should I Do?
Opening FileZilla_3.66.5_x86_64-linux-gnu.tar.xz
You have chosen to open:
FileZilla_3.66.5_x86_64-linux-gnu.tar.xz
which is: XZ archive (11.4 MB)
from: https://dl2.cdn.filezilla-project.org
Would you like to save this file?
Cancel
Save File
Don't add an exception unless you know there's a good reason why this site doesn't use trusted identification.
Add Exception...
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
6°C
Mostly cloudy
Search
ENG
US
3:53 PM
2024-03-30

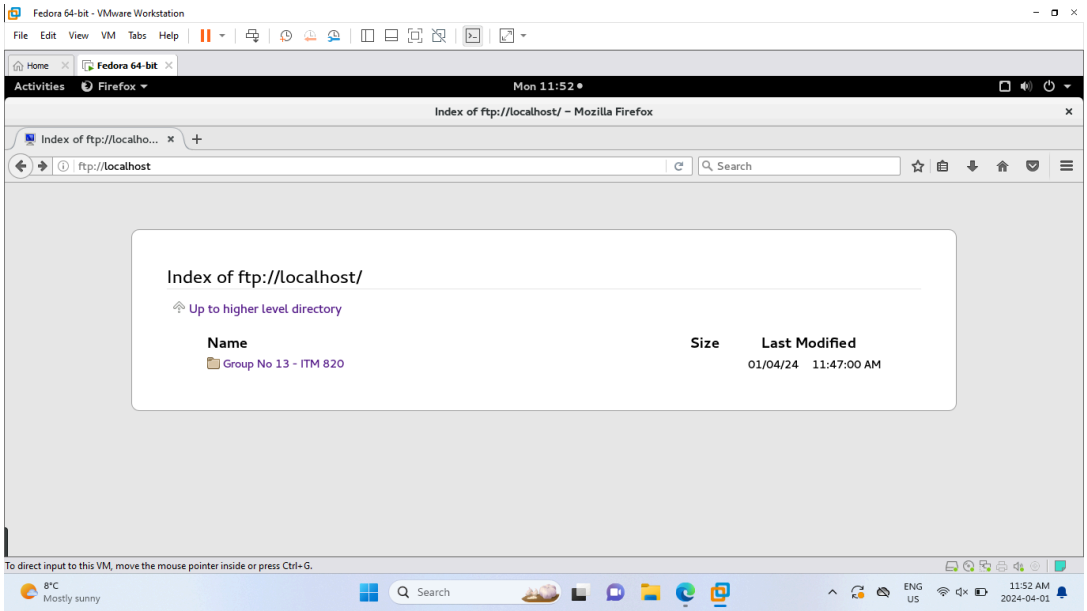

Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Library
Type here to search
My Computer
Fedora 64-bit
Home
Fedora 64-bit
Activities
Terminal
Sat 16:32
All
Installed
Updates
Remove
Install
itm820-011@fedora23:/home/itm820-011/Downloads
File Edit View Search Terminal Help
[root@fedora23 Downloads]# chmod +x filezilla
chmod: cannot access 'filezilla': No such file or directory
[root@fedora23 Downloads]# dnf install filezilla -y
Last metadata expiration check performed 1:40:59 ago on Sat Mar 30 14:50:56 2024.
Dependencies resolved.
Package Arch Version Repository Size
Installing:
SDL x86_64 1.2.15-20.fc23 updates 213 k
filezilla x86_64 3.14.1-3.fc23 updates 4.1 M
wxBase3 x86_64 3.0.2-26.fc23 updates 1.1 M
wxGTK3 x86_64 3.0.2-26.fc23 updates 5.4 M
Transaction Summary
Install 4 Packages
Total download size: 11 M
Installed size: 39 M
Downloading Packages:
(1/4): wxBase3-3.0.2-26.fc23.x86_64.rpm 963 kB/s | 1.1 MB 00:01
(2/4): SDL-1.2.15-20.fc23.x86_64.rpm 716 kB/s | 213 kB 00:00
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
7°C
Mostly cloudy
Search
ENG
US
4:32 PM
2024-03-30


Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Library
Type here to search
My Computer
Fedora 64-bit
Home
Fedora 64-bit
Activities
Terminal
Sat 16:32
All
Installed
Updates
itm820-011@fedora23:/home/itm820-011/Downloads
File Edit View Search Terminal Help
(3/4): filezilla-3.14.1-3.fc23.x86_64.rpm 1.8 MB/s | 4.1 MB 00:02
(4/4): wxGTK3-3.0.2-26.fc23.x86_64.rpm 2.1 MB/s | 5.4 MB 00:02
Total 3.5 MB/s | 11 MB 00:03
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
Installing : wxBase3-3.0.2-26.fc23.x86_64 1/4
Installing : SDL-1.2.15-20.fc23.x86_64 2/4
Installing : wxGTK3-3.0.2-26.fc23.x86_64 3/4
Installing : filezilla-3.14.1-3.fc23.x86_64 4/4
Verifying : filezilla-3.14.1-3.fc23.x86_64 1/4
Verifying : wxBase3-3.0.2-26.fc23.x86_64 2/4
Verifying : wxGTK3-3.0.2-26.fc23.x86_64 3/4
Verifying : SDL-1.2.15-20.fc23.x86_64 4/4
Installed:
SDL.x86_64 1.2.15-20.fc23 filezilla.x86_64 3.14.1-3.fc23
wxBase3.x86_64 3.0.2-26.fc23 wxGTK3.x86_64 3.0.2-26.fc23
Complete!
[root@fedora23 Downloads]#
Remove
Install
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
7°C
Mostly cloudy
Search
ENG
US
4:32 PM
2024-03-30


Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Library
Type here to search
My Computer
Fedora 64-bit
Home
Fedora 64-bit
Activities
FileZilla
Sat 16:52
itm820-011@Fedora23 - FileZilla
File Edit View Transfer Server Bookmarks Help
Host: Fedora23
Username: itm820-011
Password: ••••••
Port:
Quickconnect
Status: Insecure server, it does not support FTP over TLS.
Status: Connected
Status: Retrieving directory listing...
Status: Directory listing of "/" successful
Status: Creating directory '/Group No 13 - ITM 820'...
Local site: /home/itm820-011/
Remote site: /
Filename Filesize Filetype Last modified
..
8 files and 14 directories. Total size: 13590 bytes
Filename Filesize Filetype Last modified Permissions Owner/Grou
Hello... 0 File 03/30/24 1... 0644 1001 10...
Selected 1 file. Total size: 0 bytes
Server/Local file Direction Remote file Size Priority Status
Queued files
Failed transfers
Successful transfers (2)
Queue: empty
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
7°C
Cloudy
Search
ENG
US
4:52 PM
2024-03-30


Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Home
Fedora 64-bit
Activities
Terminal
Mon 11:49
itm820-011@fedora23:/var/ftp
File Edit View Search Terminal Help
ftp> cd localhost
Not connected.
ftp> cd /var/ftp
Not connected.
ftp> cd /var/ftp/HelloWorld.txt
Not connected.
ftp> sudo nano /etc/pure-ftpd/pure-ftpd.conf
?Invalid command
ftp> exit
[root@fedora23 ftp]# sudo nano /etc/pure-ftpd/pure-ftpd.conf
[root@fedora23 ftp]# cd /var/ftp
[root@fedora23 ftp]# mkdir "Group No 13 - ITM 820"
[root@fedora23 ftp]# cp /home/itm820-011/Downloads/HelloWorld /var/ftp/Group NO 13 - ITM 820/HelloWorld.txt
cp: target '820/HelloWorld.txt' is not a directory
[root@fedora23 ftp]# cp /home/itm820-011/Downloads/HelloWorld /var/ftp/Group No 13 - ITM 820/HelloWorld.txt
cp: target '820/HelloWorld.txt' is not a directory
[root@fedora23 ftp]# cp /home/itm820-011/Downloads/HelloWorld /var/ftp/Group No 13 - ITM 820
cp: target '820' is not a directory
[root@fedora23 ftp]# cp /home/itm820-011/Downloads/HelloWorld /var/ftp/Group No 13 - ITM 820/HelloWorld.txt
cp: target '820/HelloWorld.txt' is not a directory
[root@fedora23 ftp]# cp /home/itm820-011/Downloads/HelloWorld "/var/ftp/Group No 13 - ITM 820/HelloWorld.txt"
[root@fedora23 ftp]# cd /var/ftp
[root@fedora23 ftp]# rm -r HelloWorld.txt
rm: remove regular file 'HelloWorld.txt'? yes
[root@fedora23 ftp]#
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
8°C
Mostly sunny
Search
ENG
US
11:49 AM
2024-04-01


Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Home
Fedora 64-bit
Activities
Firefox
Mon 11:48
Index of ftp://localhost/Group No 13 – ITM 820/ – Mozilla Firefox
Index of ftp://localho...
ftp://localhost/Group No 13 - ITM 820/
Search
Index of ftp://localhost/Group No 13 - ITM 820/
Up to higher level directory
Name
Size
Last Modified
HelloWorld.txt
1 KB
01/04/24 11:47:00 AM
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
8°C
Mostly sunny
Search
ENG
US
11:48 AM
2024-04-01

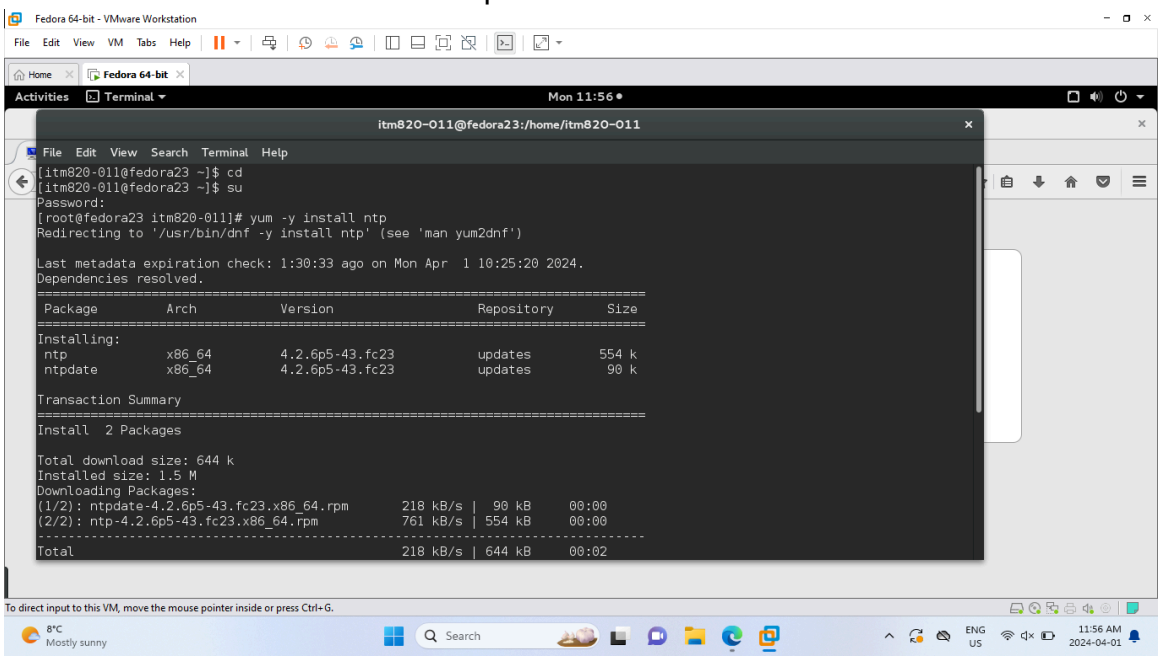

Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Home
Fedora 64-bit
Activities
Firefox
Mon 11:52
Index of ftp://localhost/ – Mozilla Firefox
Index of ftp://localho...
ftp://localhost
Search
Index of ftp://localhost/
Up to higher level directory
Name
Size
Last Modified
Group No 13 - ITM 820
01/04/24 11:47:00 AM
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
8°C
Mostly sunny
Search
ENG
US
11:52 AM
2024-04-01

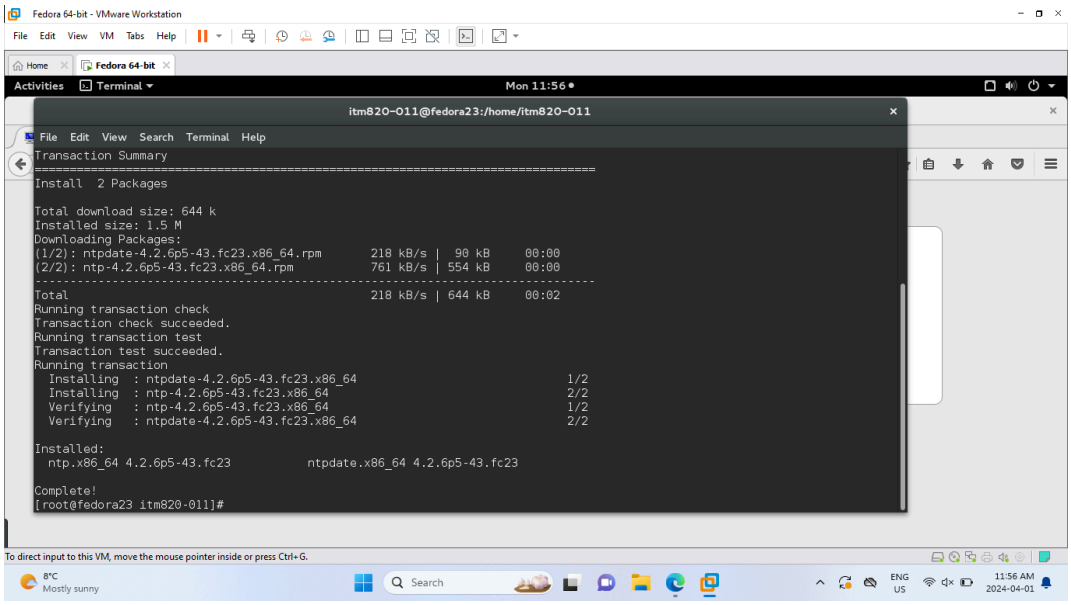
Part 3: Time Synchronization Server (Network Time Protocol)

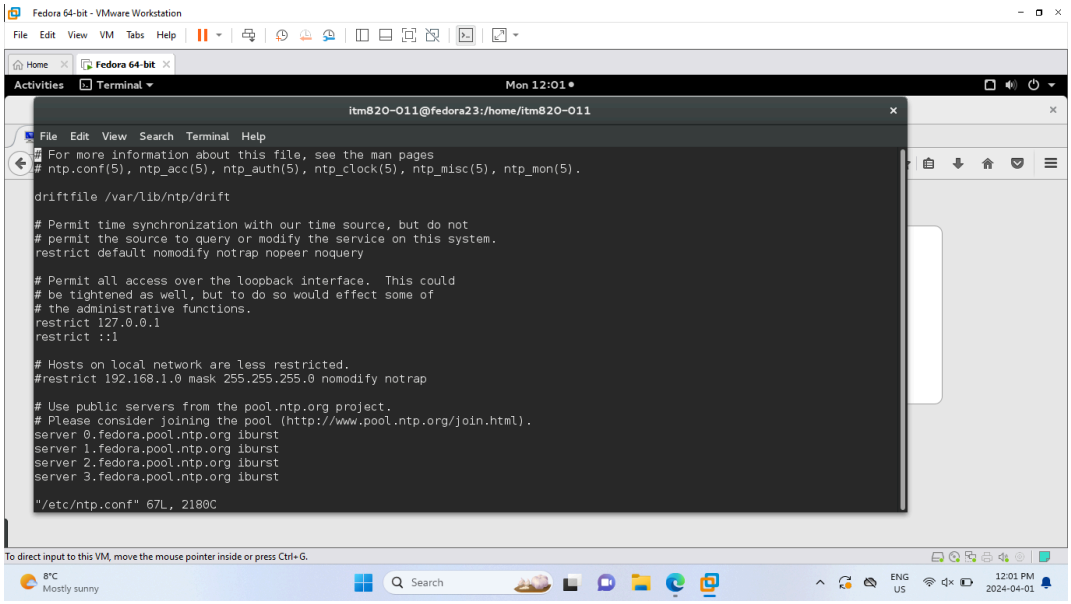
http://support.ntp.org/bin/view/Servers/NTPPoolServers
http://www.pool.ntp.org/en/vendors.html
http://www.nrc-cnrc.gc.ca/eng/services/time/network_time.html
https://supernoc.rogerstelecom.net/ops/ntp/

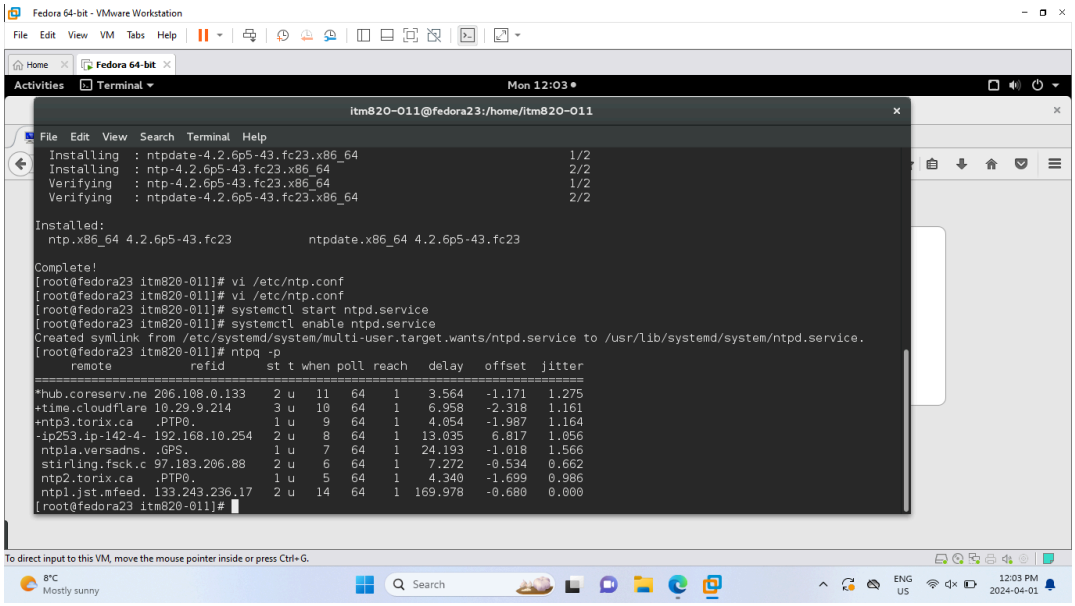
3.1 Install NTP Server
yum -y install ntp
3.2 Revise he config ration file of the pro tocols
- vi /etc/ntp.conf
3.3 add the network range you allow to receive requests
server 0.fedora.pool.ntp.org iburst
server 1.fedora.pool.ntp.org iburst
server 2.fedora.pool.ntp.org iburst
server 3.fedora.pool.ntp.org iburst
server ntp1.jst.mfeed.ad.jp
3.4 Start Server
systemctl start ntpd.service
3.5 Enable Server
systemctl enable ntpd.service
3.6 Run the command: ntpq.service
3.7 What is the purpose of the command ntpq -p?

- The purpose of the ntpq -p command is to display a list of NTP servers or peers, and their synchronization status with my NTP server. This can help one determine if they are properly synchronized with their NTP peers. In addition, it can be used to monitor the performance and status of the NTP server.




Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Activities Terminal Mon 11:56
itm820-011@fedora23:/home/itm820-011
File Edit View Search Terminal Help
Transaction Summary
==========
Install 2 Packages
Total download size: 644 k
Installed size: 1.5 M
Downloading Packages:
(1/2): ntpdate-4.2.6p5-43.fc23.x86_64.rpm 218 kB/s | 90 kB 00:00
(2/2): ntp-4.2.6p5-43.fc23.x86_64.rpm 761 kB/s | 554 kB 00:00
Total 218 kB/s | 644 kB 00:02
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
Installing : ntpdate-4.2.6p5-43.fc23.x86_64 1/2
Installing : ntp-4.2.6p5-43.fc23.x86_64 2/2
Verifying : ntp-4.2.6p5-43.fc23.x86_64 1/2
Verifying : ntpdate-4.2.6p5-43.fc23.x86_64 2/2
Installed:
ntp.x86_64 4.2.6p5-43.fc23 ntpdate.x86_64 4.2.6p5-43.fc23
Complete!
[root@fedora23 itm820-011]#
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.


Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Activities Terminal Mon 12:01
itm820-011@fedora23:/home/itm820-011
File Edit View Search Terminal Help
For more information about this file, see the man pages
ntp.conf(5), ntp_acc(5), ntp_auth(5), ntp_clock(5), ntp_misc(5), ntp_mon(5).
driftfile /var/lib/ntp/drift
Permit time synchronization with our time source, but do not
permit the source to query or modify the service on this system.
restrict default nomodify notrap nopeer noquery
Permit all access over the loopback interface. This could
be tightened as well, but to do so would effect some of
the administrative functions.
restrict 127.0.0.1
restrict ::1
Hosts on local network are less restricted.
#restrict 192.168.1.0 mask 255.255.255.0 nomodify notrap
Use public servers from the pool.ntp.org project.
Please consider joining the pool (http://www.pool.ntp.org/join.html).
server 0.fedora.pool.ntp.org iburst
server 1.fedora.pool.ntp.org iburst
server 2.fedora.pool.ntp.org iburst
server 3.fedora.pool.ntp.org iburst
"/etc/ntp.conf" 67L, 2180C
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.

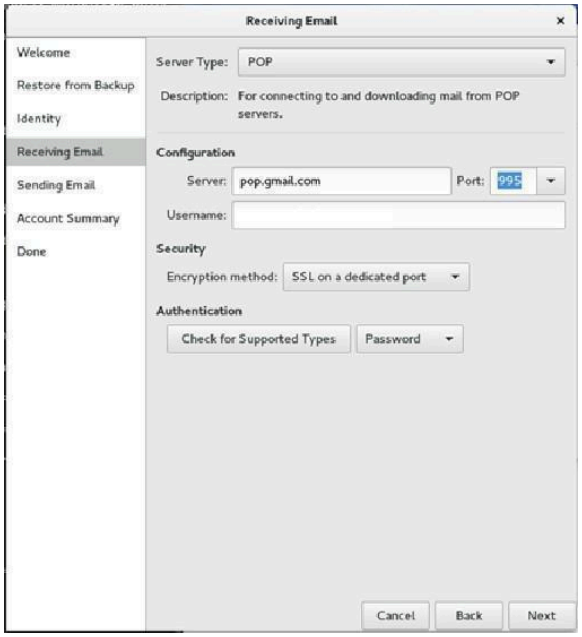

Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Activities Terminal Mon 12:03
itm820-011@fedora23:/home/itm820-011
File Edit View Search Terminal Help
Installing : ntpdate-4.2.6p5-43.fc23.x86_64 1/2
Installing : ntp-4.2.6p5-43.fc23.x86_64 2/2
Verifying : ntp-4.2.6p5-43.fc23.x86_64 1/2
Verifying : ntpdate-4.2.6p5-43.fc23.x86_64 2/2
Installed:
ntp.x86_64 4.2.6p5-43.fc23 ntpdate.x86_64 4.2.6p5-43.fc23
Complete!
[root@fedora23 itm820-011]# vi /etc/ntp.conf
[root@fedora23 itm820-011]# vi /etc/ntp.conf
[root@fedora23 itm820-011]# systemctl start ntpd.service
[root@fedora23 itm820-011]# systemctl enable ntpd.service
Created symlink from /etc/systemd/system/multi-user.target.wants/ntpd.service to /usr/lib/systemd/system/ntpd.service.
[root@fedora23 itm820-011]# ntpq -p
remote refid st t when poll reach delay offset jitter
==========
*hub.coreserv.ne 206.108.0.133 2 u 11 64 1 3.564 -1.171 1.275
+time.cloudflare 10.29.9.214 3 u 10 64 1 6.958 -2.318 1.161
+ntp3.torix.ca .PTP0. 1 u 9 64 1 4.054 -1.987 1.164
-ip253.ip-142-4- 192.168.10.254 2 u 8 64 1 13.035 6.817 1.056
ntp1a.versadns. .GPS. 1 u 7 64 1 24.193 -1.018 1.566
stirling.fsck.c 97.183.206.88 2 u 6 64 1 7.272 -0.534 0.662
ntp2.torix.ca .PTP0. 1 u 5 64 1 4.340 -1.699 0.986
ntp1.jst.mfeed. 133.243.236.17 2 u 14 64 1 169.978 -0.680 0.000
[root@fedora23 itm820-011]#
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.

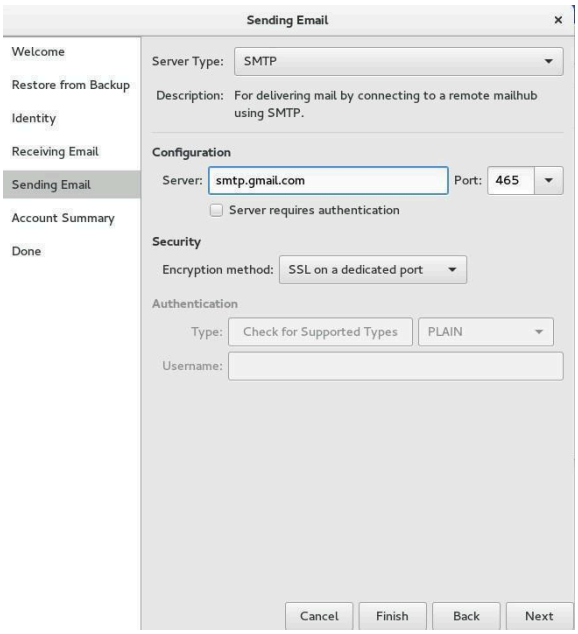
Part 4: Email Server (Postfix)

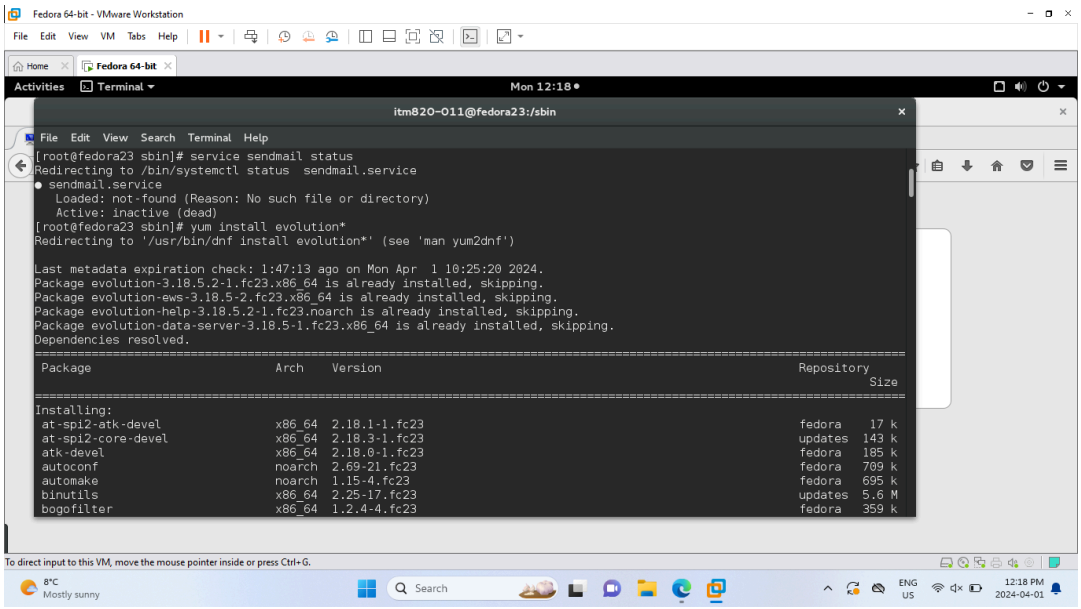
http://ww.techotopia.com/index.php/Configuring_a_Fedora_Linux_Email_Server

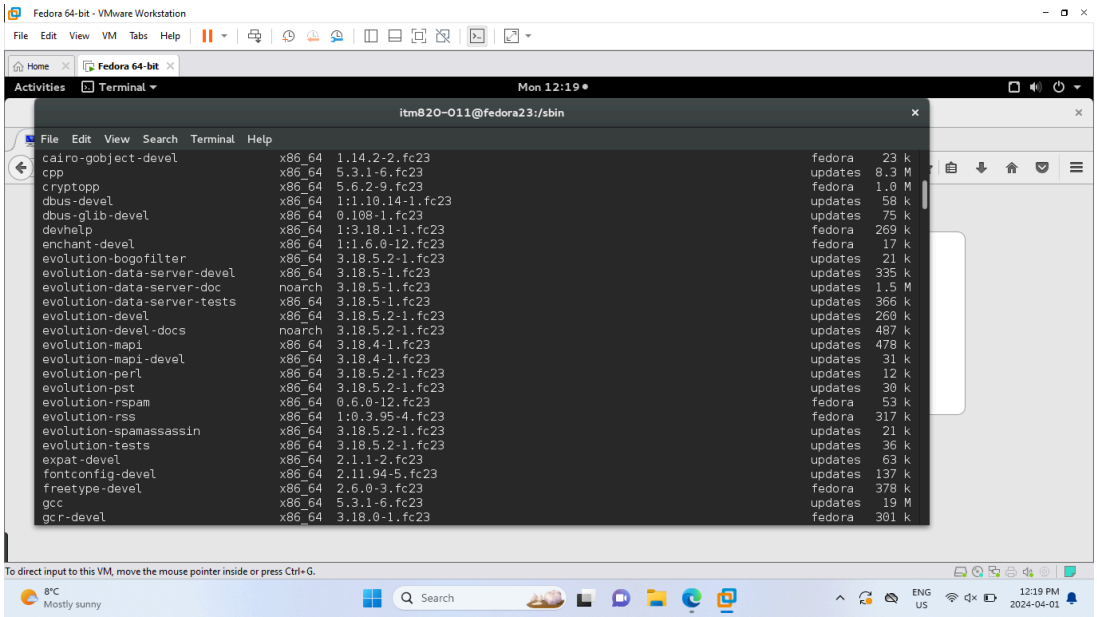
4.1 Check the status of e-mail server
cd /sbin
service sendmail status

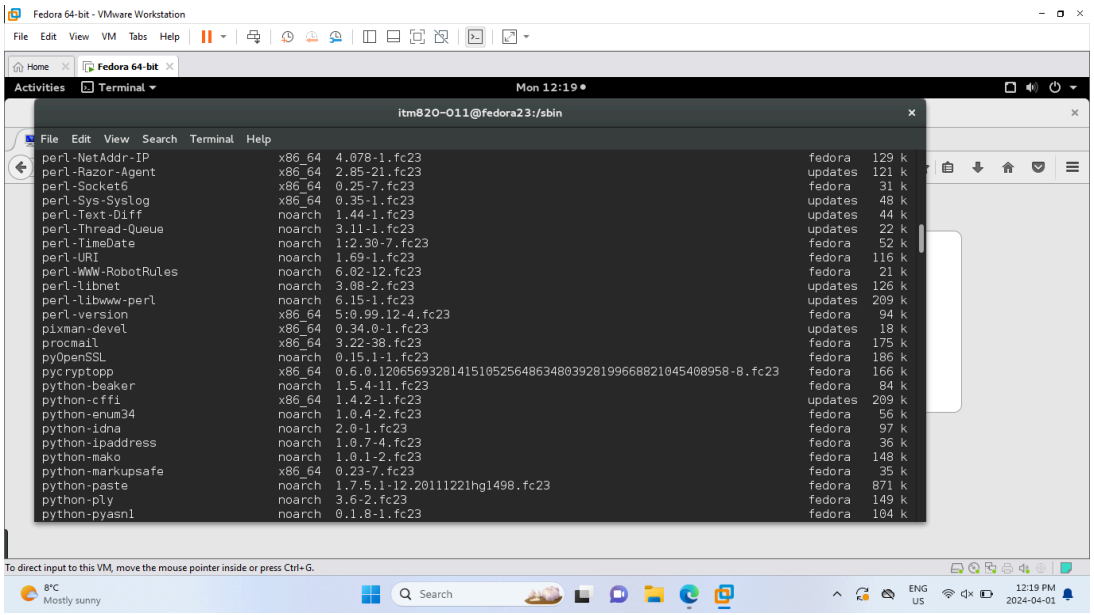
4.2 Install Evolution Client
yum install evolution*
configure your e-mail account
(username@torontomu.ca)
pop.gmail.com port 995
smtp.gmail.com port 465






Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Home
Fedora 64-bit
Activities
Terminal
Mon 12:18
itm820-011@fedora23:/sbin
File Edit View Search Terminal Help
[root@fedora23 sbin]# service sendmail status
Redirecting to /bin/systemctl status sendmail.service
● sendmail.service
Loaded: not-found (Reason: No such file or directory)
Active: inactive (dead)
[root@fedora23 sbin]# yum install evolution*
Redirecting to '/usr/bin/dnf install evolution*' (see 'man yum2dnf')
Last metadata expiration check: 1:47:13 ago on Mon Apr 1 10:25:20 2024.
Package evolution-3.18.5.2-1.fc23.x86_64 is already installed, skipping.
Package evolution-ews-3.18.5-2.fc23.x86_64 is already installed, skipping.
Package evolution-help-3.18.5.2-1.fc23.noarch is already installed, skipping.
Package evolution-data-server-3.18.5-1.fc23.x86_64 is already installed, skipping.
Dependencies resolved.
Package Arch Version Repository Size
Installing:
at-spi2-atk-devel x86_64 2.18.1-1.fc23 fedora 17 k
at-spi2-core-devel x86_64 2.18.3-1.fc23 updates 143 k
atk-devel x86_64 2.18.0-1.fc23 fedora 185 k
autoconf noarch 2.69-21.fc23 fedora 709 k
automake noarch 1.15-4.fc23 fedora 695 k
binutils x86_64 2.25-17.fc23 updates 5.6 M
bogofilter x86_64 1.2.4-4.fc23 fedora 359 k
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
8°C
Mostly sunny
Search
ENG
US
12:18 PM
2024-04-01


Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Home
Fedora 64-bit
Activities
Terminal
Mon 12:19
itm820-011@fedora23:/sbin
File Edit View Search Terminal Help
cairo-gobject-devel x86_64 1.14.2-2.fc23 fedora 23 k
cpp x86_64 5.3.1-6.fc23 updates 8.3 M
cryptopp x86_64 5.6.2-9.fc23 fedora 1.0 M
dbus-devel x86_64 1:1.10.14-1.fc23 updates 58 k
dbus-glib-devel x86_64 0.108-1.fc23 updates 75 k
devhelp x86_64 1:3.18.1-1.fc23 fedora 269 k
enchant-devel x86_64 1:1.6.0-12.fc23 fedora 17 k
evolution-bogofilter x86_64 3.18.5.2-1.fc23 updates 21 k
evolution-data-server-devel x86_64 3.18.5-1.fc23 updates 335 k
evolution-data-server-doc noarch 3.18.5-1.fc23 updates 1.5 M
evolution-data-server-tests x86_64 3.18.5-1.fc23 updates 366 k
evolution-devel x86_64 3.18.5.2-1.fc23 updates 260 k
evolution-devel-docs noarch 3.18.5.2-1.fc23 updates 487 k
evolution-mapi x86_64 3.18.4-1.fc23 updates 478 k
evolution-mapi-devel x86_64 3.18.4-1.fc23 updates 31 k
evolution-perl x86_64 3.18.5.2-1.fc23 updates 12 k
evolution-pst x86_64 3.18.5.2-1.fc23 updates 30 k
evolution-rspam x86_64 0.6.0-12.fc23 fedora 53 k
evolution-rss x86_64 1:0.3.95-4.fc23 fedora 317 k
evolution-spamassassin x86_64 3.18.5.2-1.fc23 updates 21 k
evolution-tests x86_64 3.18.5.2-1.fc23 updates 36 k
expat-devel x86_64 2.1.1-2.fc23 updates 63 k
fontconfig-devel x86_64 2.11.94-5.fc23 updates 137 k
freetype-devel x86_64 2.6.0-3.fc23 fedora 378 k
gcc x86_64 5.3.1-6.fc23 updates 19 M
gcr-devel x86_64 3.18.0-1.fc23 fedora 301 k
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
8°C
Mostly sunny
Search
ENG
US
12:19 PM
2024-04-01


Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
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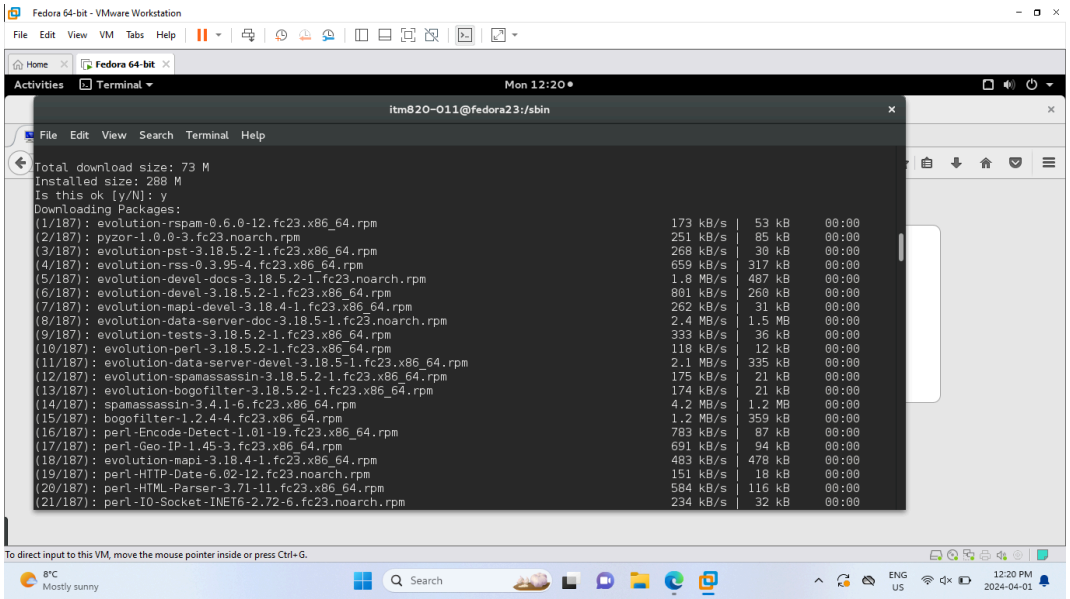
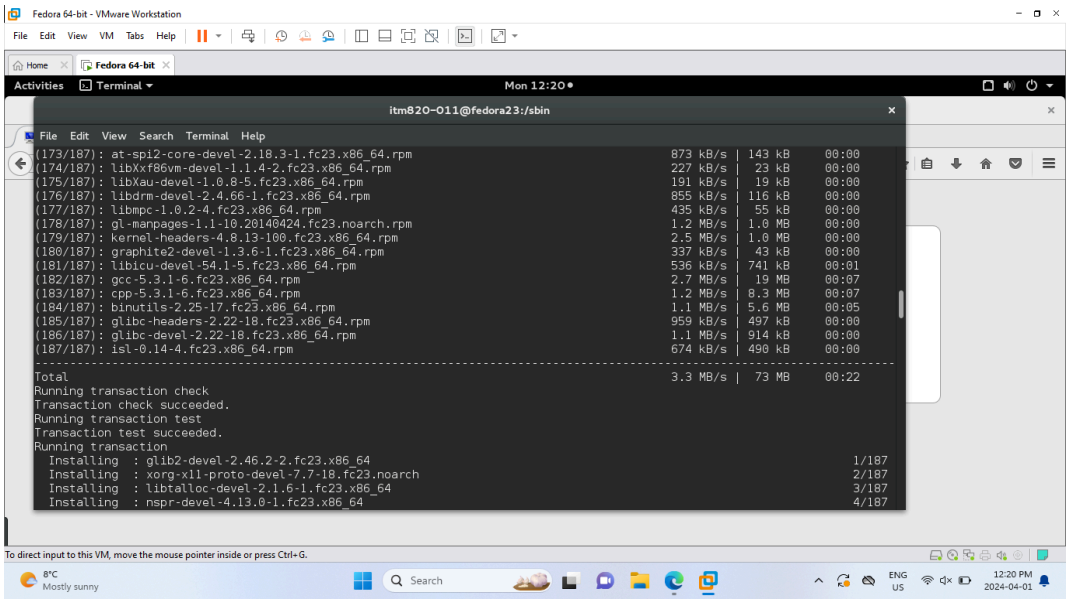
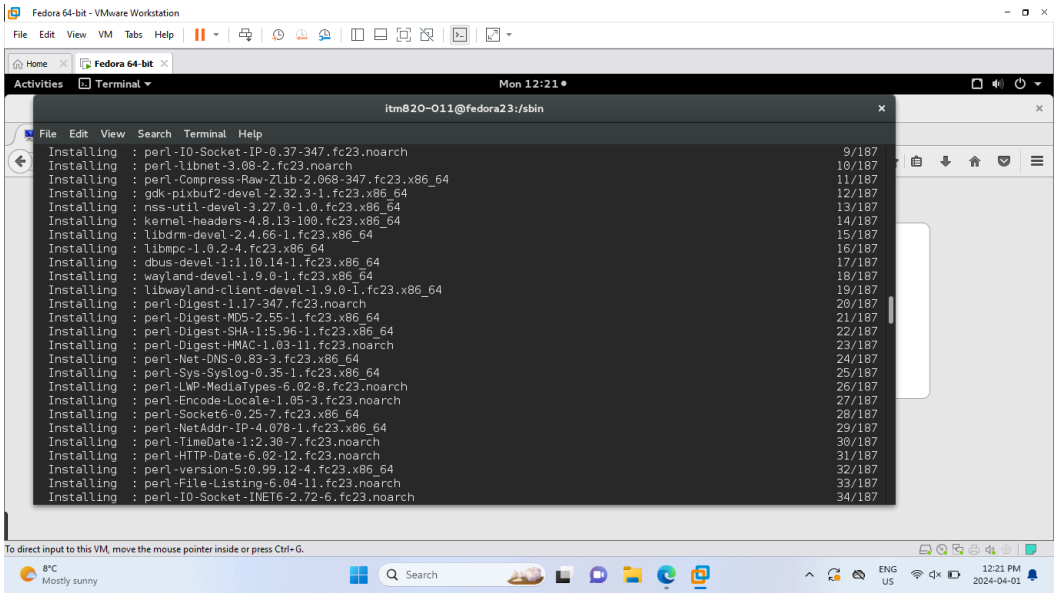
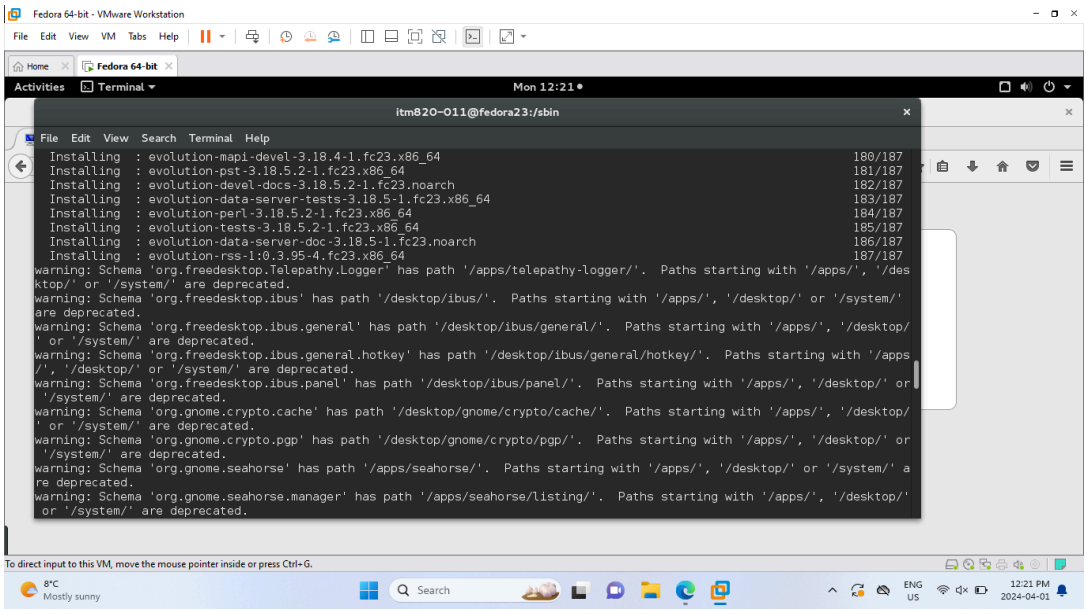
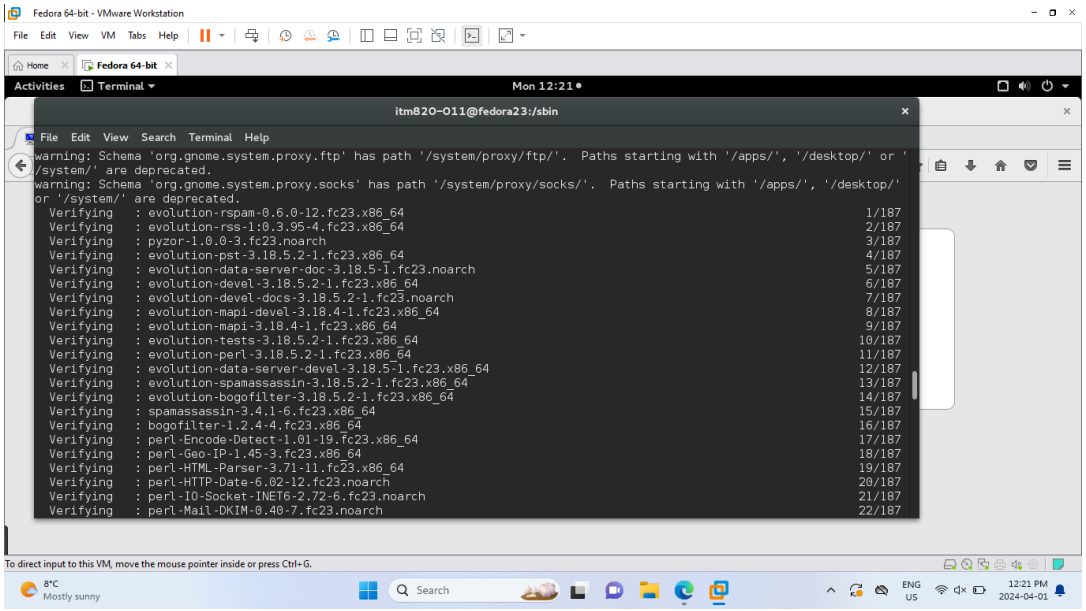
Fedora 64-bit
Activities
Terminal
Mon 12:19
itm820-011@fedora23:/sbin
File Edit View Search Terminal Help
perl-NetAddr-IP x86_64 4.078-1.fc23 fedora 129 k
perl-Razor-Agent x86_64 2.85-21.fc23 updates 121 k
perl-Socket6 x86_64 0.25-7.fc23 fedora 31 k
perl-Sys-Syslog x86_64 0.35-1.fc23 updates 48 k
perl-Text-Diff noarch 1.44-1.fc23 updates 44 k
perl-Thread-Queue noarch 3.11-1.fc23 updates 22 k
perl-TimeDate noarch 1:2.30-7.fc23 fedora 52 k
perl-URI noarch 1.69-1.fc23 fedora 116 k
perl-WWW-RobotRules noarch 6.02-12.fc23 fedora 21 k
perl-libnet noarch 3.08-2.fc23 updates 126 k
perl-libwww-perl noarch 6.15-1.fc23 updates 209 k
perl-version x86_64 5:0.99.12-4.fc23 fedora 94 k
pixman-devel x86_64 0.34.0-1.fc23 updates 18 k
procmail x86_64 3.22-38.fc23 fedora 175 k
pyOpenSSL noarch 0.15.1-1.fc23 fedora 186 k
pycryptopp x86_64 0.6.0.1206569328141510525648634803928199668821045408958-8.fc23 fedora 166 k
python-beaker noarch 1.5.4-11.fc23 fedora 84 k
python-cffi x86_64 1.4.2-1.fc23 updates 209 k
python-enum34 noarch 1.0.4-2.fc23 fedora 56 k
python-idna noarch 2.0-1.fc23 fedora 97 k
python-ipaddress noarch 1.0.7-4.fc23 fedora 36 k
python-mako noarch 1.0.1-2.fc23 fedora 148 k
python-markupsafe x86_64 0.23-7.fc23 fedora 35 k
python-paste noarch 1.7.5.1-12.20111221hg1498.fc23 fedora 871 k
python-ply noarch 3.6-2.fc23 fedora 149 k
python-pyasn1 noarch 0.1.8-1.fc23 fedora 104 k
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
8°C
Mostly sunny
Search
ENG
US
12:19 PM
2024-04-01

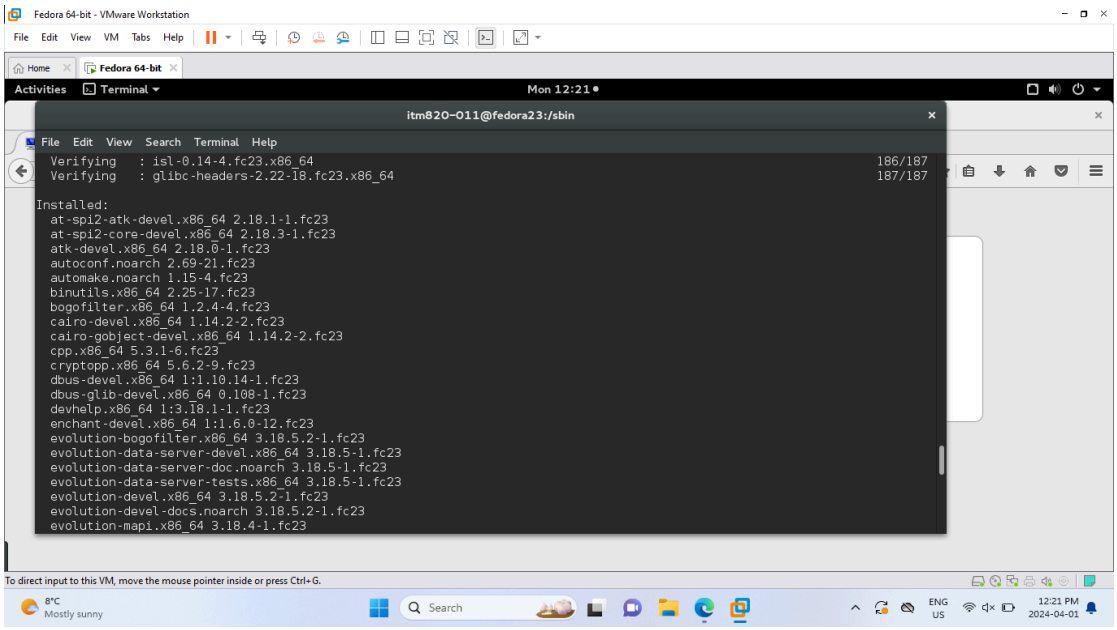

Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Home
Fedora 64-bit
Activities
Terminal
Mon 12:20
itm820-011@fedora23:/sbin
File Edit View Search Terminal Help
Total download size: 73 M
Installed size: 288 M
Is this ok [y/N]: y
Downloading Packages:
(1/187): evolution-rspam-0.6.0-12.fc23.x86_64.rpm 173 kB/s | 53 kB 00:00
(2/187): pyzor-1.0.0-3.fc23.noarch.rpm 251 kB/s | 85 kB 00:00
(3/187): evolution-pst-3.18.5.2-1.fc23.x86_64.rpm 268 kB/s | 30 kB 00:00
(4/187): evolution-rss-0.3.95-4.fc23.x86_64.rpm 659 kB/s | 317 kB 00:00
(5/187): evolution-devel-docs-3.18.5.2-1.fc23.noarch.rpm 1.8 MB/s | 487 kB 00:00
(6/187): evolution-devel-3.18.5.2-1.fc23.x86_64.rpm 801 kB/s | 260 kB 00:00
(7/187): evolution-mapi-devel-3.18.4-1.fc23.x86_64.rpm 262 kB/s | 31 kB 00:00
(8/187): evolution-data-server-doc-3.18.5-1.fc23.noarch.rpm 2.4 MB/s | 1.5 MB 00:00
(9/187): evolution-tests-3.18.5.2-1.fc23.x86_64.rpm 333 kB/s | 36 kB 00:00
(10/187): evolution-perl-3.18.5.2-1.fc23.x86_64.rpm 118 kB/s | 12 kB 00:00
(11/187): evolution-data-server-devel-3.18.5-1.fc23.x86_64.rpm 2.1 MB/s | 335 kB 00:00
(12/187): evolution-spamassassin-3.18.5.2-1.fc23.x86_64.rpm 175 kB/s | 21 kB 00:00
(13/187): evolution-bogofilter-3.18.5.2-1.fc23.x86_64.rpm 174 kB/s | 21 kB 00:00
(14/187): spamassassin-3.4.1-6.fc23.x86_64.rpm 4.2 MB/s | 1.2 MB 00:00
(15/187): bogofilter-1.2.4-4.fc23.x86_64.rpm 1.2 MB/s | 359 kB 00:00
(16/187): perl-Encode-Detect-1.01-19.fc23.x86_64.rpm 783 kB/s | 87 kB 00:00
(17/187): perl-Geo-IP-1.45-3.fc23.x86_64.rpm 691 kB/s | 94 kB 00:00
(18/187): evolution-mapi-3.18.4-1.fc23.x86_64.rpm 483 kB/s | 478 kB 00:00
(19/187): perl-HTTP-Date-6.02-12.fc23.noarch.rpm 151 kB/s | 18 kB 00:00
(20/187): perl-HTML-Parser-3.71-11.fc23.x86_64.rpm 584 kB/s | 116 kB 00:00
(21/187): perl-IO-Socket-INET6-2.72-6.fc23.noarch.rpm 234 kB/s | 32 kB 00:00
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
8°C
Mostly sunny
Search
ENG
US
12:20 PM
2024-04-01

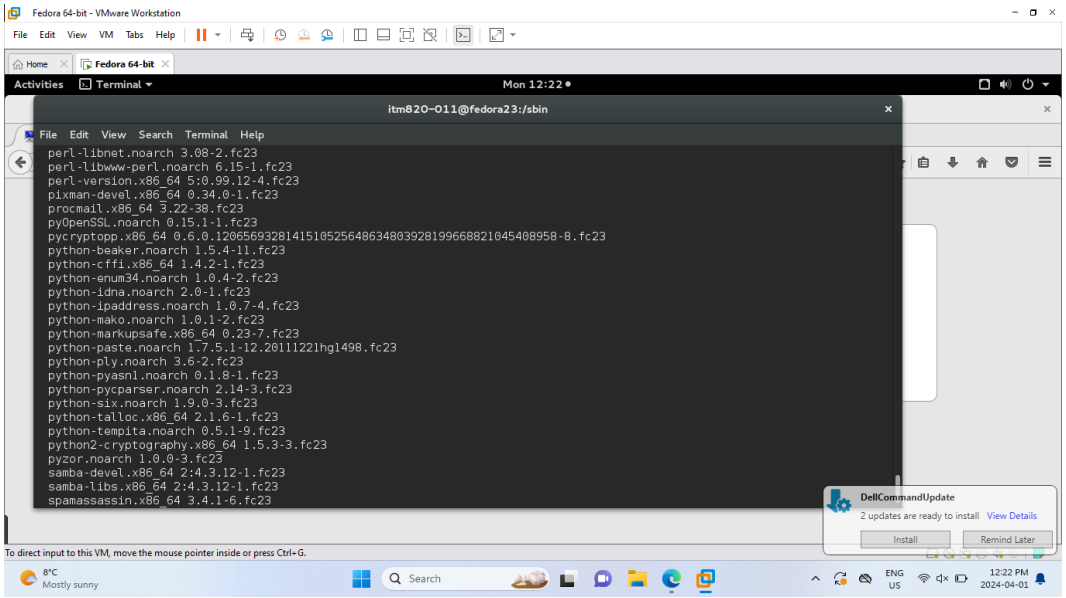

Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Home
Fedora 64-bit
Activities
Terminal
Mon 12:20
itm820-011@fedora23:/sbin
File Edit View Search Terminal Help
(173/187): at-spi2-core-devel-2.18.3-1.fc23.x86_64.rpm 873 kB/s | 143 kB 00:00
(174/187): libXxf86vm-devel-1.1.4-2.fc23.x86_64.rpm 227 kB/s | 23 kB 00:00
(175/187): libXau-devel-1.0.8-5.fc23.x86_64.rpm 191 kB/s | 19 kB 00:00
(176/187): libdrm-devel-2.4.66-1.fc23.x86_64.rpm 855 kB/s | 116 kB 00:00
(177/187): libmpc-1.0.2-4.fc23.x86_64.rpm 435 kB/s | 55 kB 00:00
(178/187): gl-manpages-1.1-10.20140424.fc23.noarch.rpm 1.2 MB/s | 1.0 MB 00:00
(179/187): kernel-headers-4.8.13-100.fc23.x86_64.rpm 2.5 MB/s | 1.0 MB 00:00
(180/187): graphite2-devel-1.3.6-1.fc23.x86_64.rpm 337 kB/s | 43 kB 00:00
(181/187): libicu-devel-54.1-5.fc23.x86_64.rpm 536 kB/s | 741 kB 00:01
(182/187): gcc-5.3.1-6.fc23.x86_64.rpm 2.7 MB/s | 19 MB 00:07
(183/187): cpp-5.3.1-6.fc23.x86_64.rpm 1.2 MB/s | 8.3 MB 00:07
(184/187): binutils-2.25-17.fc23.x86_64.rpm 1.1 MB/s | 5.6 MB 00:05
(185/187): glibc-headers-2.22-18.fc23.x86_64.rpm 959 kB/s | 497 kB 00:00
(186/187): glibc-devel-2.22-18.fc23.x86_64.rpm 1.1 MB/s | 914 kB 00:00
(187/187): isl-0.14-4.fc23.x86_64.rpm 674 kB/s | 490 kB 00:00
Total 3.3 MB/s | 73 MB 00:22
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
Installing : glib2-devel-2.46.2-2.fc23.x86_64 1/187
Installing : xorg-x11-proto-devel-7.7-18.fc23.noarch 2/187
Installing : libtalloc-devel-2.1.6-1.fc23.x86_64 3/187
Installing : nspr-devel-4.13.0-1.fc23.x86_64 4/187
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
8°C
Mostly sunny
Search
ENG
US
12:20 PM
2024-04-01

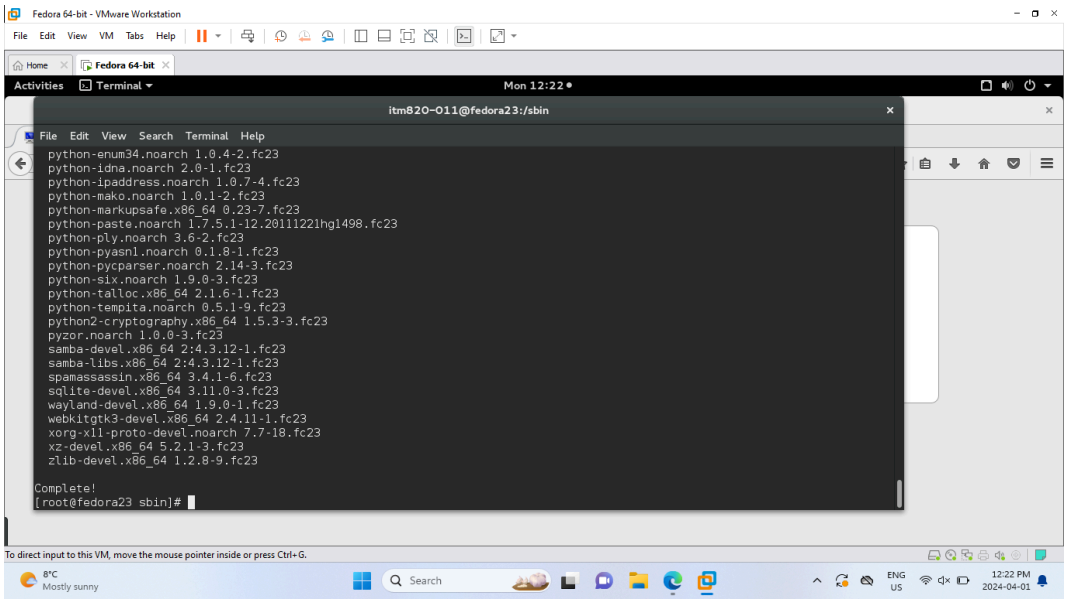

Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Home
Fedora 64-bit
Activities
Terminal
Mon 12:21
itm820-011@fedora23:/sbin
File Edit View Search Terminal Help
Installing : perl-IO-Socket-IP-0.37-347.fc23.noarch 9/187
Installing : perl-libnet-3.08-2.fc23.noarch 10/187
Installing : perl-Compress-Raw-Zlib-2.068-347.fc23.x86_64 11/187
Installing : gdk-pixbuf2-devel-2.32.3-1.fc23.x86_64 12/187
Installing : nss-util-devel-3.27.0-1.0.fc23.x86_64 13/187
Installing : kernel-headers-4.8.13-100.fc23.x86_64 14/187
Installing : libdrm-devel-2.4.66-1.fc23.x86_64 15/187
Installing : libmpc-1.0.2-4.fc23.x86_64 16/187
Installing : dbus-devel-1:1.10.14-1.fc23.x86_64 17/187
Installing : wayland-devel-1.9.0-1.fc23.x86_64 18/187
Installing : libwayland-client-devel-1.9.0-1.fc23.x86_64 19/187
Installing : perl-Digest-1.17-347.fc23.noarch 20/187
Installing : perl-Digest-MD5-2.55-1.fc23.x86_64 21/187
Installing : perl-Digest-SHA-1:5.96-1.fc23.x86_64 22/187
Installing : perl-Digest-HMAC-1.03-11.fc23.noarch 23/187
Installing : perl-Net-DNS-0.83-3.fc23.x86_64 24/187
Installing : perl-Sys-Syslog-0.35-1.fc23.x86_64 25/187
Installing : perl-LWP-MediaTypes-6.02-8.fc23.noarch 26/187
Installing : perl-Encode-Locale-1.05-3.fc23.noarch 27/187
Installing : perl-Socket6-0.25-7.fc23.x86_64 28/187
Installing : perl-NetAddr-IP-4.078-1.fc23.x86_64 29/187
Installing : perl-TimeDate-1:2.30-7.fc23.noarch 30/187
Installing : perl-HTTP-Date-6.02-12.fc23.noarch 31/187
Installing : perl-version-5:0.99.12-4.fc23.x86_64 32/187
Installing : perl-File-Listing-6.04-11.fc23.noarch 33/187
Installing : perl-IO-Socket-INET6-2.72-6.fc23.noarch 34/187
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
8°C
Mostly sunny
Search
ENG
US
12:21 PM
2024-04-01

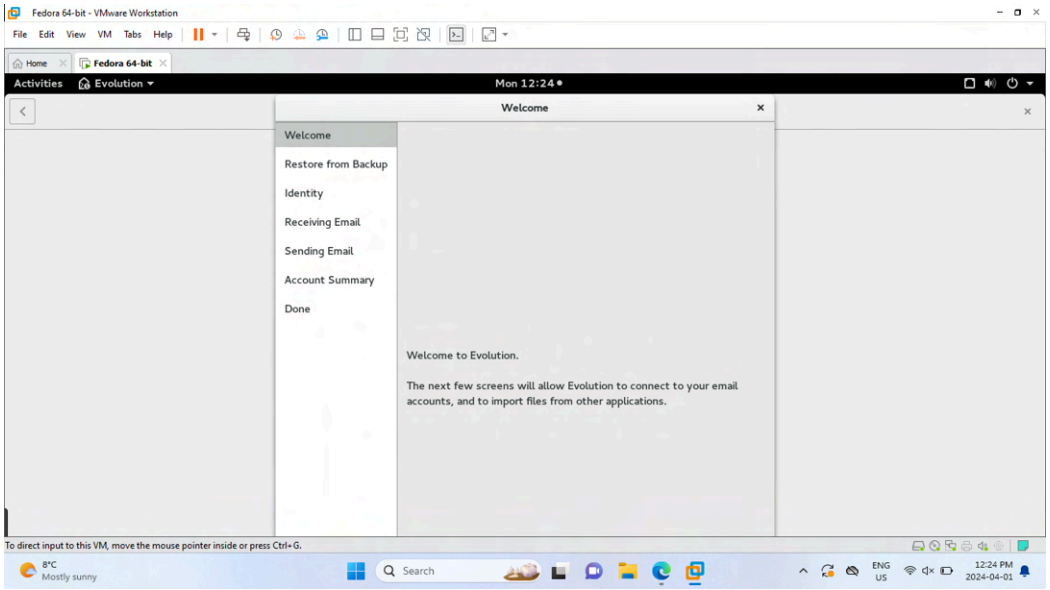

Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Home
Fedora 64-bit
Activities
Terminal
Mon 12:21
itm820-011@fedora23:/sbin
File Edit View Search Terminal Help
Installing : evolution-mapi-devel-3.18.4-1.fc23.x86_64 180/187
Installing : evolution-pst-3.18.5.2-1.fc23.x86_64 181/187
Installing : evolution-devel-docs-3.18.5.2-1.fc23.noarch 182/187
Installing : evolution-data-server-tests-3.18.5-1.fc23.x86_64 183/187
Installing : evolution-perl-3.18.5.2-1.fc23.x86_64 184/187
Installing : evolution-tests-3.18.5.2-1.fc23.x86_64 185/187
Installing : evolution-data-server-doc-3.18.5-1.fc23.noarch 186/187
Installing : evolution-rss-1:0.3.95-4.fc23.x86_64 187/187
warning: Schema 'org.freedesktop.Telepathy.Logger' has path '/apps/telepathy-logger/'. Paths starting with '/apps/', '/desktop/' or '/system/' are deprecated.
warning: Schema 'org.freedesktop.ibus' has path '/desktop/ibus/'. Paths starting with '/apps/', '/desktop/' or '/system/' are deprecated.
warning: Schema 'org.freedesktop.ibus.general' has path '/desktop/ibus/general/'. Paths starting with '/apps/', '/desktop/' or '/system/' are deprecated.
warning: Schema 'org.freedesktop.ibus.general.hotkey' has path '/desktop/ibus/general/hotkey/'. Paths starting with '/apps/', '/desktop/' or '/system/' are deprecated.
warning: Schema 'org.freedesktop.ibus.panel' has path '/desktop/ibus/panel/'. Paths starting with '/apps/', '/desktop/' or '/system/' are deprecated.
warning: Schema 'org.gnome.crypto.cache' has path '/desktop/gnome/crypto/cache/'. Paths starting with '/apps/', '/desktop/' or '/system/' are deprecated.
warning: Schema 'org.gnome.crypto.pgp' has path '/desktop/gnome/crypto/pgp/'. Paths starting with '/apps/', '/desktop/' or '/system/' are deprecated.
warning: Schema 'org.gnome.seahorse' has path '/apps/seahorse/'. Paths starting with '/apps/', '/desktop/' or '/system/' are deprecated.
warning: Schema 'org.gnome.seahorse.manager' has path '/apps/seahorse/listing/'. Paths starting with '/apps/', '/desktop/' or '/system/' are deprecated.
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
8°C
Mostly sunny
Search
ENG
US
12:21 PM
2024-04-01

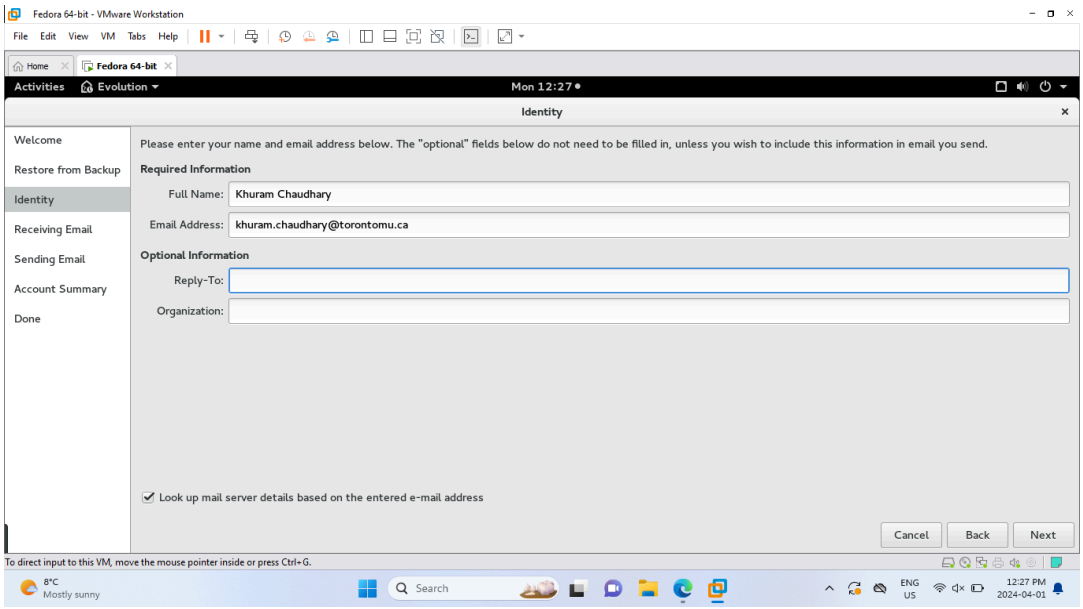

Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Home
Fedora 64-bit
Activities
Terminal
Mon 12:21
itm820-011@fedora23:/sbin
File Edit View Search Terminal Help
warning: Schema 'org.gnome.system.proxy.ftp' has path '/system/proxy/ftp/'. Paths starting with '/apps/', '/desktop/' or '/system/' are deprecated.
warning: Schema 'org.gnome.system.proxy.socks' has path '/system/proxy/socks/'. Paths starting with '/apps/', '/desktop/' or '/system/' are deprecated.
Verifying : evolution-rspam-0.6.0-12.fc23.x86_64 1/187
Verifying : evolution-rss-1:0.3.95-4.fc23.x86_64 2/187
Verifying : pyzor-1.0.0-3.fc23.noarch 3/187
Verifying : evolution-pst-3.18.5.2-1.fc23.x86_64 4/187
Verifying : evolution-data-server-doc-3.18.5-1.fc23.noarch 5/187
Verifying : evolution-devel-3.18.5.2-1.fc23.x86_64 6/187
Verifying : evolution-devel-docs-3.18.5.2-1.fc23.noarch 7/187
Verifying : evolution-mapi-devel-3.18.4-1.fc23.x86_64 8/187
Verifying : evolution-mapi-3.18.4-1.fc23.x86_64 9/187
Verifying : evolution-tests-3.18.5.2-1.fc23.x86_64 10/187
Verifying : evolution-perl-3.18.5.2-1.fc23.x86_64 11/187
Verifying : evolution-data-server-devel-3.18.5-1.fc23.x86_64 12/187
Verifying : evolution-spamassassin-3.18.5.2-1.fc23.x86_64 13/187
Verifying : evolution-bogofilter-3.18.5.2-1.fc23.x86_64 14/187
Verifying : spamassassin-3.4.1-6.fc23.x86_64 15/187
Verifying : bogofilter-1.2.4-4.fc23.x86_64 16/187
Verifying : perl-Encode-Detect-1.01-19.fc23.x86_64 17/187
Verifying : perl-Geo-IP-1.45-3.fc23.x86_64 18/187
Verifying : perl-HTML-Parser-3.71-11.fc23.x86_64 19/187
Verifying : perl-HTTP-Date-6.02-12.fc23.noarch 20/187
Verifying : perl-IO-Socket-INET6-2.72-6.fc23.noarch 21/187
Verifying : perl-Mail-DKIM-0.40-7.fc23.noarch 22/187
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
8°C
Mostly sunny
Search
ENG
US
12:21 PM
2024-04-01

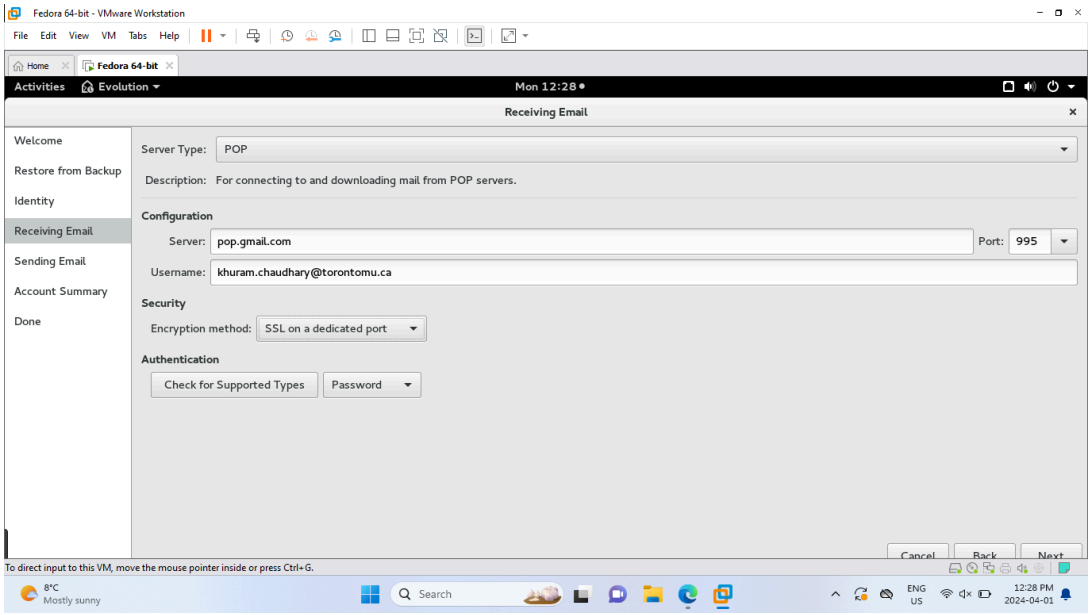

Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Home
Fedora 64-bit
Activities
Terminal
Mon 12:21
itm820-011@fedora23:/sbin
File Edit View Search Terminal Help
Verifying : isl-0.14-4.fc23.x86_64 186/187
Verifying : glibc-headers-2.22-18.fc23.x86_64 187/187
Installed:
at-spi2-atk-devel.x86_64 2.18.1-1.fc23
at-spi2-core-devel.x86_64 2.18.3-1.fc23
atk-devel.x86_64 2.18.0-1.fc23
autoconf.noarch 2.69-21.fc23
automake.noarch 1.15-4.fc23
binutils.x86_64 2.25-17.fc23
bogofilter.x86_64 1.2.4-4.fc23
cairo-devel.x86_64 1.14.2-2.fc23
cairo-gobject-devel.x86_64 1.14.2-2.fc23
cpp.x86_64 5.3.1-6.fc23
cryptopp.x86_64 5.6.2-9.fc23
dbus-devel.x86_64 1:1.10.14-1.fc23
dbus-glib-devel.x86_64 0.108-1.fc23
devhelp.x86_64 1:3.18.1-1.fc23
enchant-devel.x86_64 1:1.6.0-12.fc23
evolution-bogofilter.x86_64 3.18.5.2-1.fc23
evolution-data-server-devel.x86_64 3.18.5-1.fc23
evolution-data-server-doc.noarch 3.18.5-1.fc23
evolution-data-server-tests.x86_64 3.18.5-1.fc23
evolution-devel.x86_64 3.18.5.2-1.fc23
evolution-devel-docs.noarch 3.18.5.2-1.fc23
evolution-mapi.x86_64 3.18.4-1.fc23
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
8°C
Mostly sunny
Search
ENG
US
12:21 PM
2024-04-01

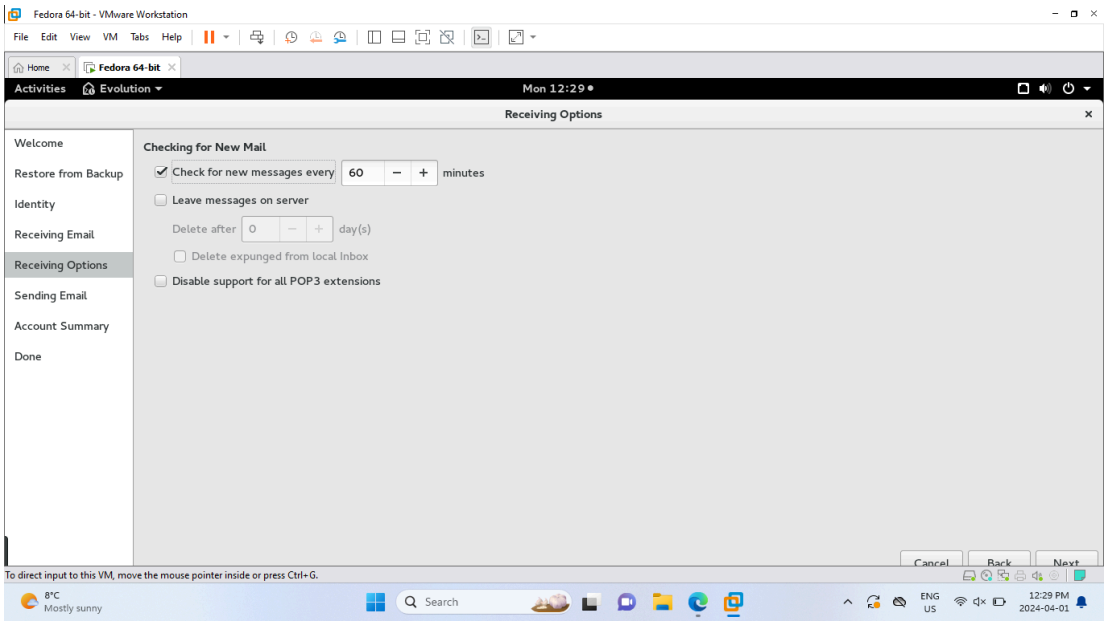

Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Home
Fedora 64-bit
Activities
Terminal
Mon 12:22
itm820-011@fedora23:/sbin
File Edit View Search Terminal Help
perl-libnet.noarch 3.08-2.fc23
perl-libwww-perl.noarch 6.15-1.fc23
perl-version.x86_64 5:0.99.12-4.fc23
pixman-devel.x86_64 0.34.0-1.fc23
procmail.x86_64 3.22-38.fc23
pyOpenSSL.noarch 0.15.1-1.fc23
pycryptopp.x86_64 0.6.0.1206569328141510525640634803928199668821045408958-8.fc23
python-beaker.noarch 1.5.4-11.fc23
python-cffi.x86_64 1.4.2-1.fc23
python-enum34.noarch 1.0.4-2.fc23
python-idna.noarch 2.0-1.fc23
python-ipaddress.noarch 1.0.7-4.fc23
python-mako.noarch 1.0.1-2.fc23
python-markupsafe.x86_64 0.23-7.fc23
python-paste.noarch 1.7.5.1-12.20111221hg1498.fc23
python-ply.noarch 3.6-2.fc23
python-pyasn1.noarch 0.1.8-1.fc23
python-pycparser.noarch 2.14-3.fc23
python-six.noarch 1.9.0-3.fc23
python-talloc.x86_64 2.1.6-1.fc23
python-tempita.noarch 0.5.1-9.fc23
python2-cryptography.x86_64 1.5.3-3.fc23
pyzor.noarch 1.0.0-3.fc23
samba-devel.x86_64 2:4.3.12-1.fc23
samba-libs.x86_64 2:4.3.12-1.fc23
spamassassin.x86_64 3.4.1-6.fc23
DellCommandUpdate
2 updates are ready to install View Details
Install
Remind Later
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
8°C
Mostly sunny
Search
ENG
US
12:22 PM
2024-04-01

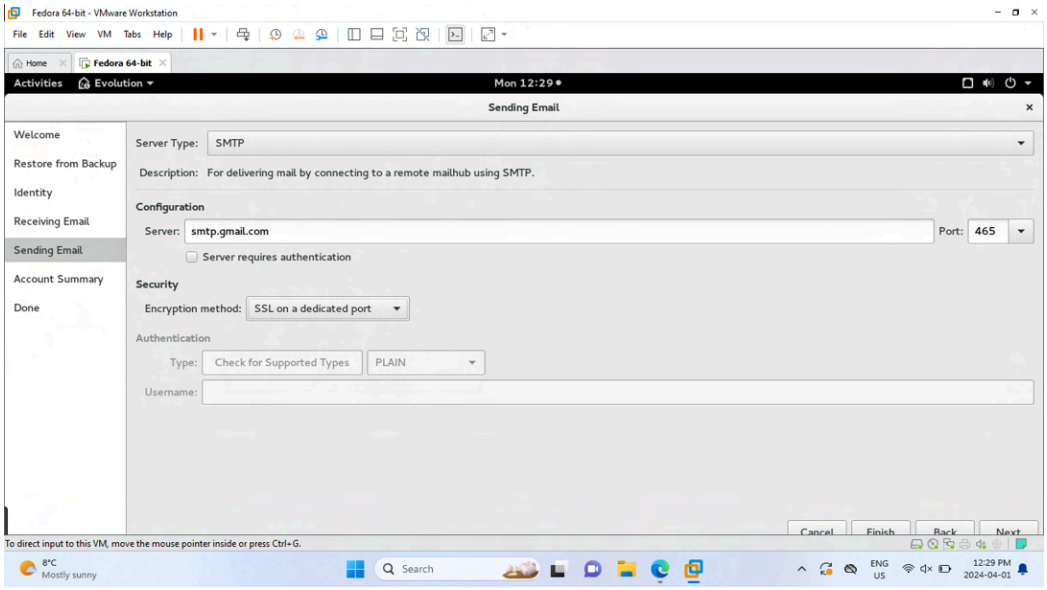

Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Home
Fedora 64-bit
Activities
Terminal
Mon 12:22
itm820-011@fedora23:/sbin
File Edit View Search Terminal Help
python-enum34.noarch 1.0.4-2.fc23
python-idna.noarch 2.0-1.fc23
python-ipaddress.noarch 1.0.7-4.fc23
python-mako.noarch 1.0.1-2.fc23
python-markupsafe.x86_64 0.23-7.fc23
python-paste.noarch 1.7.5.1-12.20111221hg1498.fc23
python-ply.noarch 3.6-2.fc23
python-pyasn1.noarch 0.1.8-1.fc23
python-pycparser.noarch 2.14-3.fc23
python-six.noarch 1.9.0-3.fc23
python-talloc.x86_64 2.1.6-1.fc23
python-tempita.noarch 0.5.1-9.fc23
python2-cryptography.x86_64 1.5.3-3.fc23
pyzor.noarch 1.0.0-3.fc23
samba-devel.x86_64 2:4.3.12-1.fc23
samba-libs.x86_64 2:4.3.12-1.fc23
spamassassin.x86_64 3.4.1-6.fc23
sqlite-devel.x86_64 3.11.0-3.fc23
wayland-devel.x86_64 1.9.0-1.fc23
webkitgtk3-devel.x86_64 2.4.11-1.fc23
xorg-x11-proto-devel.noarch 7.7-18.fc23
xz-devel.x86_64 5.2.1-3.fc23
zlib-devel.x86_64 1.2.8-9.fc23
Complete!
[root@fedora23 sbin]#
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
8°C
Mostly sunny
Search
ENG
US
12:22 PM
2024-04-01

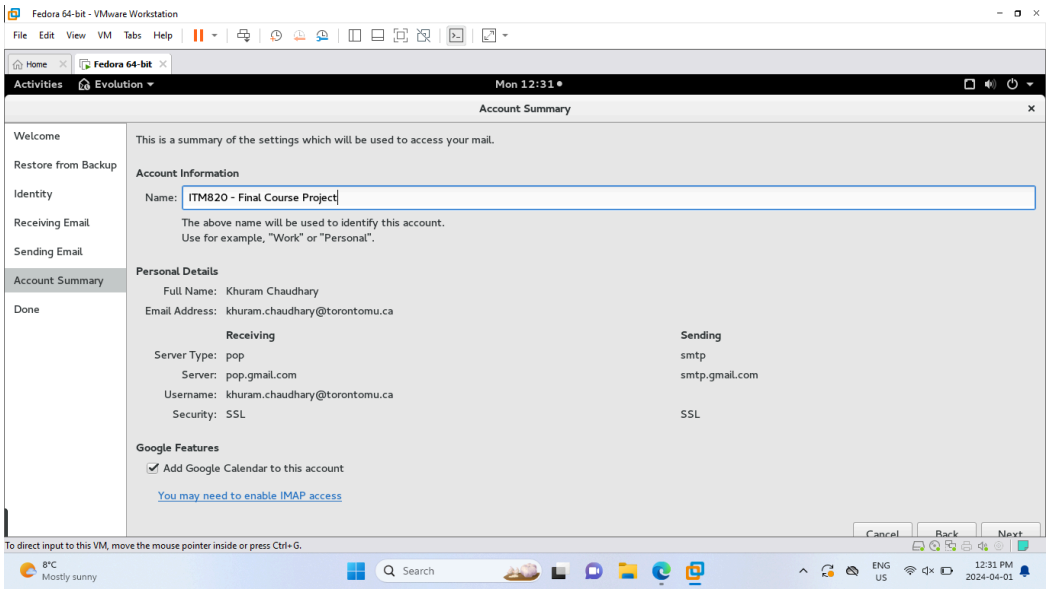

Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Home
Fedora 64-bit
Activities
Evolution
Mon 12:24
Welcome
Welcome
Restore from Backup
Identity
Receiving Email
Sending Email
Account Summary
Done
Welcome to Evolution.
The next few screens will allow Evolution to connect to your email accounts, and to import files from other applications.
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
8°C
Mostly sunny
Search
ENG
US
12:24 PM
2024-04-01

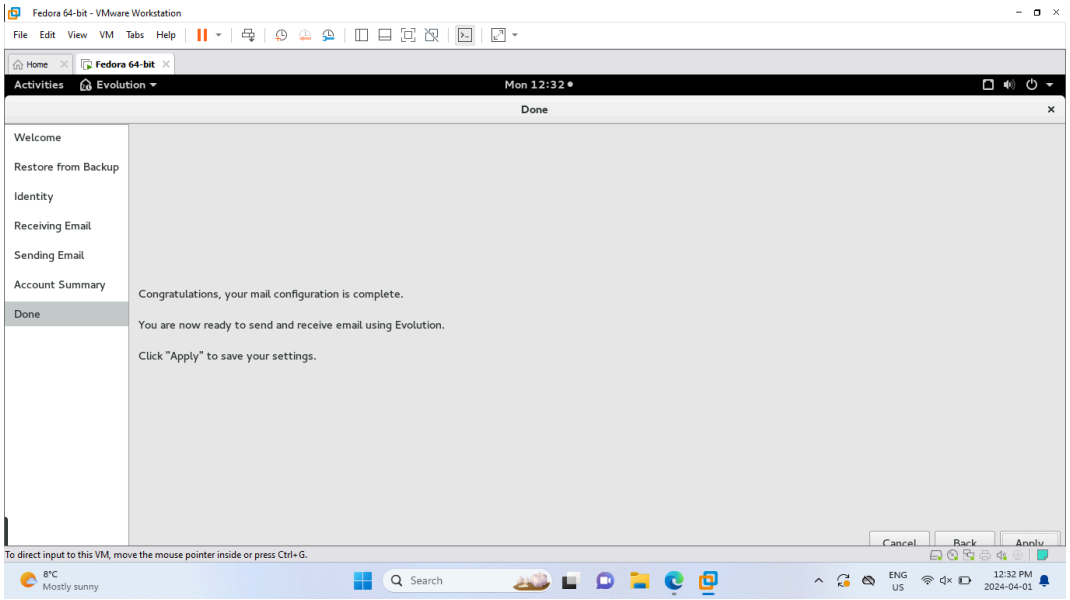

Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Home
Fedora 64-bit
Activities
Evolution
Mon 12:27
Identity
Welcome
Restore from Backup
Identity
Receiving Email
Sending Email
Account Summary
Done
Please enter your name and email address below. The "optional" fields below do not need to be filled in, unless you wish to include this information in email you send.
Required Information
Full Name: Khuram Chaudhary
Email Address: khuram.chaudhary@torontomu.ca
Optional Information
Reply-To:
Organization:
Look up mail server details based on the entered e-mail address
Cancel
Back
Next
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
8°C
Mostly sunny
Search
ENG
US
12:27 PM
2024-04-01


Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Home
Fedora 64-bit
Activities
Evolution
Mon 12:28
Receiving Email
Welcome
Restore from Backup
Identity
Receiving Email
Sending Email
Account Summary
Done
Server Type: POP
Description: For connecting to and downloading mail from POP servers.
Configuration
Server: pop.gmail.com
Port: 995
Username: khuram.chaudhary@torontomu.ca
Security
Encryption method: SSL on a dedicated port
Authentication
Check for Supported Types
Password
Cancel
Back
Next
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
8°C
Mostly sunny
Search
ENG
US
12:28 PM
2024-04-01


Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Home
Fedora 64-bit
Activities
Evolution
Mon 12:29
Receiving Options
Welcome
Restore from Backup
Identity
Receiving Email
Receiving Options
Sending Email
Account Summary
Done
Checking for New Mail
Check for new messages every
60
minutes
Leave messages on server
Delete after
0
day(s)
Delete expunged from local Inbox
Disable support for all POP3 extensions
Cancel
Back
Next
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
8°C
Mostly sunny
Search
ENG
US
12:29 PM
2024-04-01


Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Home
Fedora 64-bit
Activities
Evolution
Mon 12:29
Sending Email
Welcome
Restore from Backup
Identity
Receiving Email
Sending Email
Account Summary
Done
Server Type:
SMTP
Description:
For delivering mail by connecting to a remote mailhub using SMTP.
Configuration
Server:
smtp.gmail.com
Port:
465
Server requires authentication
Security
Encryption method:
SSL on a dedicated port
Authentication
Type:
Check for Supported Types
PLAIN
Username:
Cancel
Finish
Back
Next
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
8°C
Mostly sunny
Search
ENG
US
12:29 PM
2024-04-01


Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Home
Fedora 64-bit
Activities
Evolution
Mon 12:31
Account Summary
Welcome
Restore from Backup
Identity
Receiving Email
Sending Email
Account Summary
Done
This is a summary of the settings which will be used to access your mail.
Account Information
Name: ITM820 - Final Course Project
The above name will be used to identify this account.
Use for example, "Work" or "Personal".
Personal Details
Full Name: Khuram Chaudhary
Email Address: khuram.chaudhary@torontomu.ca
Receiving
Sending
Server Type: pop
smtp
Server: pop.gmail.com
smtp.gmail.com
Username: khuram.chaudhary@torontomu.ca
Security: SSL
SSL
Google Features
Add Google Calendar to this account
You may need to enable IMAP access
Cancel
Back
Next
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
8°C
Mostly sunny
Search
ENG
US
12:31 PM
2024-04-01


Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Home
Fedora 64-bit
Activities
Evolution
Mon 12:32
Done
Welcome
Restore from Backup
Identity
Receiving Email
Sending Email
Account Summary
Done
Congratulations, your mail configuration is complete.
You are now ready to send and receive email using Evolution.
Click "Apply" to save your settings.
Cancel
Back
Apply
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
8°C
Mostly sunny
Search
ENG
US
12:32 PM
2024-04-01

Part 5: PGP Keys Generation

For more information see: https://fedoraproject.org/wiki/Using_GPG

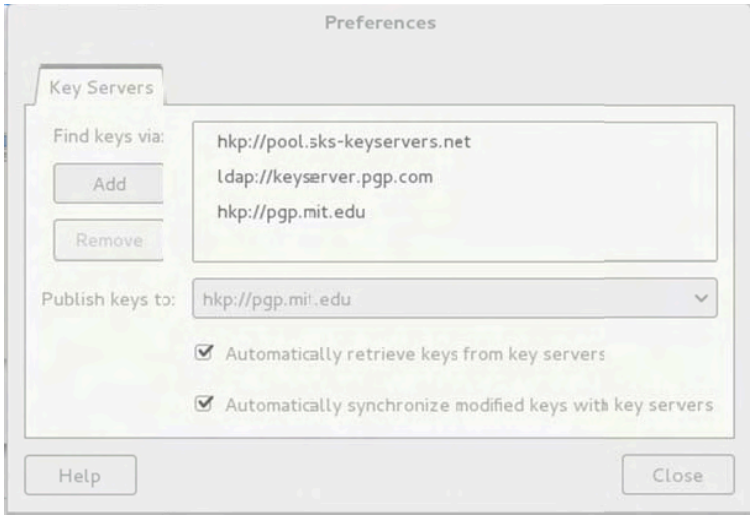
5.1 Encrypt a file (e.g., part2) using one of the public keys published on the http://pgp.mit.server

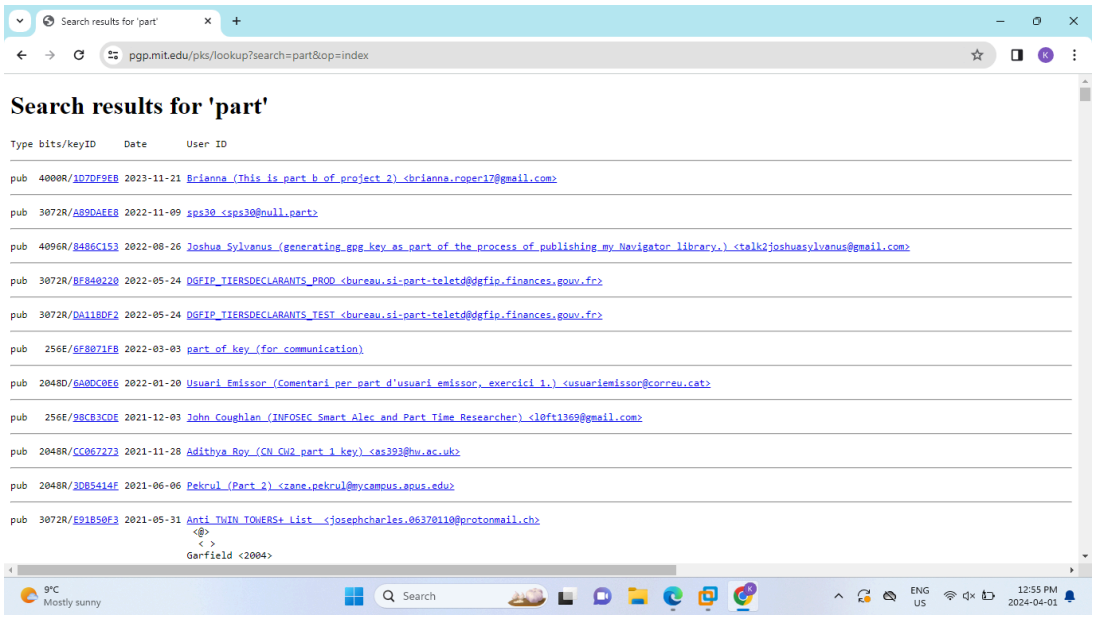
Submit your encrypted message as part2.gpg.

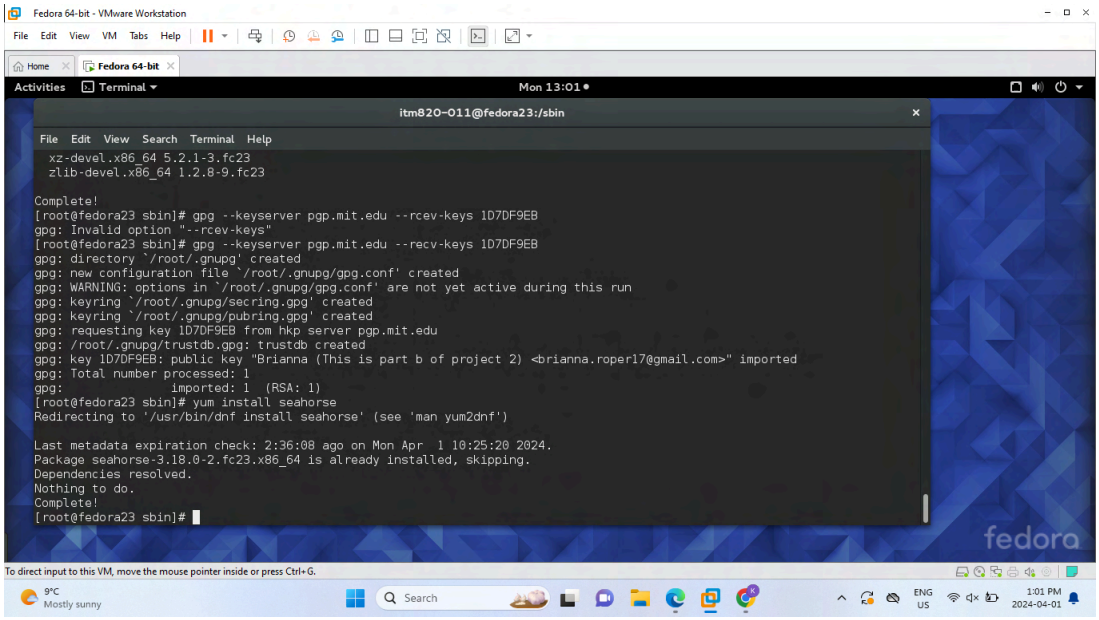
5.2 Install the seahorse program: yum install seahorse

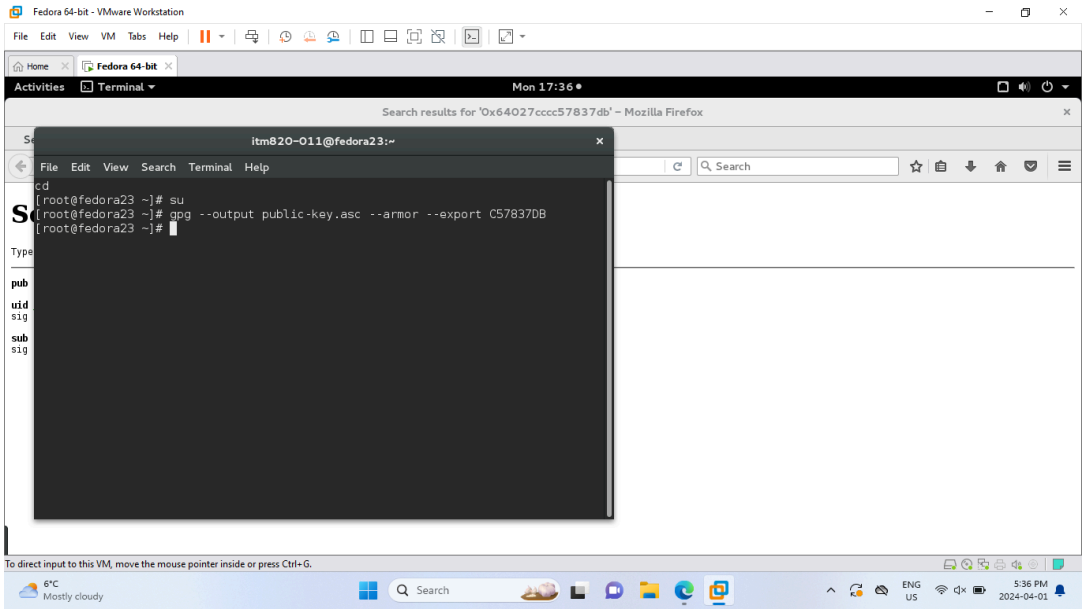
```
[root@localhost ~]# yum install seahorse
Yum command has been deprecated, redirecting to '/usr/bin/dnf install seahorse'.
See 'man dnf' and 'man yum2dnf' for more information.
To transfer transaction metadata from yum to DNF, run:
'dnf install python-dnf-plugins-extras-migrate && dnf-2 migrate'

Last metadata expiration check performed 0:52:01 ago on Mon Apr 12 08:37:09 2021
.
Package seahorse-3.18.0-2.fc23.x86_64 is already installed, skipping.
Dependencies resolved.
Nothing to do.
Complete!
```

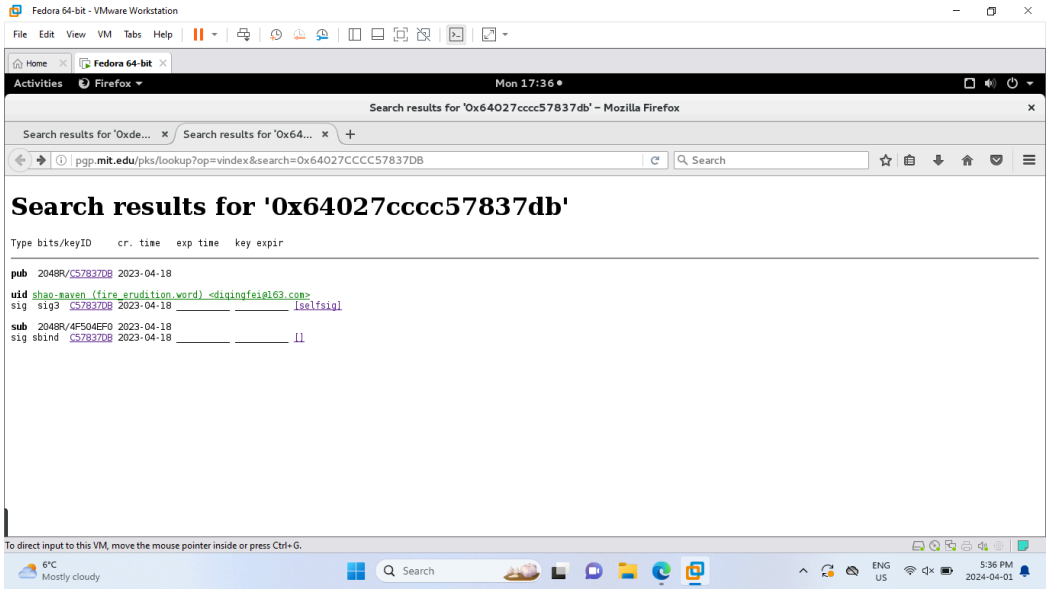
5.3 Generate PGP Keys for each member of your group and publish the public keys on the MIT PGP server: http://pgp.mit.edu/




Search results for 'part'
pgp.mit.edu/pks/lookup?search=part&op=index
Search results for 'part'
Type bits/keyID Date User ID
pub 4000R/1D7DF9EB 2023-11-21 Brianna (This is part b of project 2) <brianna.roper17@gmail.com>
pub 3072R/AB9DAEE8 2022-11-09 sps30 <sps30@null.part>
pub 4096R/8486C153 2022-08-26 Joshua Sylvanus (generating gpg key as part of the process of publishing my Navigator library.) <talk2joshuasylvanus@gmail.com>
pub 3072R/BF840220 2022-05-24 DGFIP_TIERSDECLARANTS_PROD <bureau.si-part-teletd@dgfip.finances.gouv.fr>
pub 3072R/DA11BDF2 2022-05-24 DGFIP_TIERSDECLARANTS_TEST <bureau.si-part-teletd@dgfip.finances.gouv.fr>
pub 256E/6F8071FB 2022-03-03 part of key (for communication)
pub 2048D/6A0DC0E6 2022-01-20 Usuari Emissor (Comentari per part d'usuari emissor, exercici 1.) <usuariemissor@correu.cat>
pub 256E/98CB3CDE 2021-12-03 John Coughlan (INFOSEC Smart Alec and Part Time Researcher) <l0ft1369@gmail.com>
pub 2048R/CC067273 2021-11-28 Adithya Roy (CN CW2 part 1 key) <as393@hw.ac.uk>
pub 2048R/3DB5414F 2021-06-06 Pekrul (Part 2) <zane.pekrul@mycampus.apus.edu>
pub 3072R/E91B50F3 2021-05-31 Anti TWIN TOWERS+ List <josephcharles.06370110@protonmail.ch>
<@>
< >
Garfield <2004>


Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Home
Fedora 64-bit
Activities
Terminal
Mon 13:01
itm820-011@fedora23:/sbin
File Edit View Search Terminal Help
xz-devel.x86_64 5.2.1-3.fc23
zlib-devel.x86_64 1.2.8-9.fc23
Complete!
[root@fedora23 sbin]# gpg --keyserver pgp.mit.edu --rcev-keys 1D7DF9EB
gpg: Invalid option "--rcev-keys"
[root@fedora23 sbin]# gpg --keyserver pgp.mit.edu --recv-keys 1D7DF9EB
gpg: directory `/root/.gnupg' created
gpg: new configuration file `/root/.gnupg/gpg.conf' created
gpg: WARNING: options in `/root/.gnupg/gpg.conf' are not yet active during this run
gpg: keyring `/root/.gnupg/secring.gpg' created
gpg: keyring `/root/.gnupg/pubring.gpg' created
gpg: requesting key 1D7DF9EB from hkp server pgp.mit.edu
gpg: /root/.gnupg/trustdb.gpg: trustdb created
gpg: key 1D7DF9EB: public key "Brianna (This is part b of project 2) <brianna.roper17@gmail.com>" imported
gpg: Total number processed: 1
gpg: imported: 1 (RSA: 1)
[root@fedora23 sbin]# yum install seahorse
Redirecting to '/usr/bin/dnf install seahorse' (see 'man yum2dnf')
Last metadata expiration check: 2:36:08 ago on Mon Apr 1 10:25:20 2024.
Package seahorse-3.18.0-2.fc23.x86_64 is already installed, skipping.
Dependencies resolved.
Nothing to do.
Complete!
[root@fedora23 sbin]#
fedora
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.





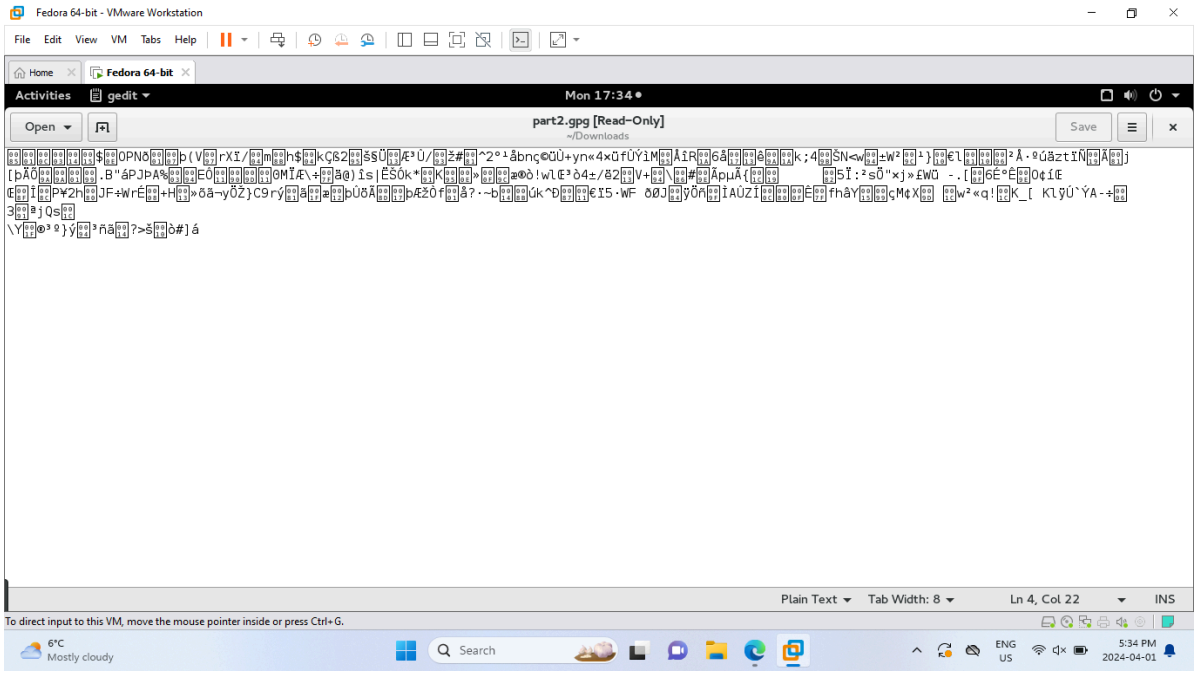
Contents of encrypted ‘part2.gpg’ file:

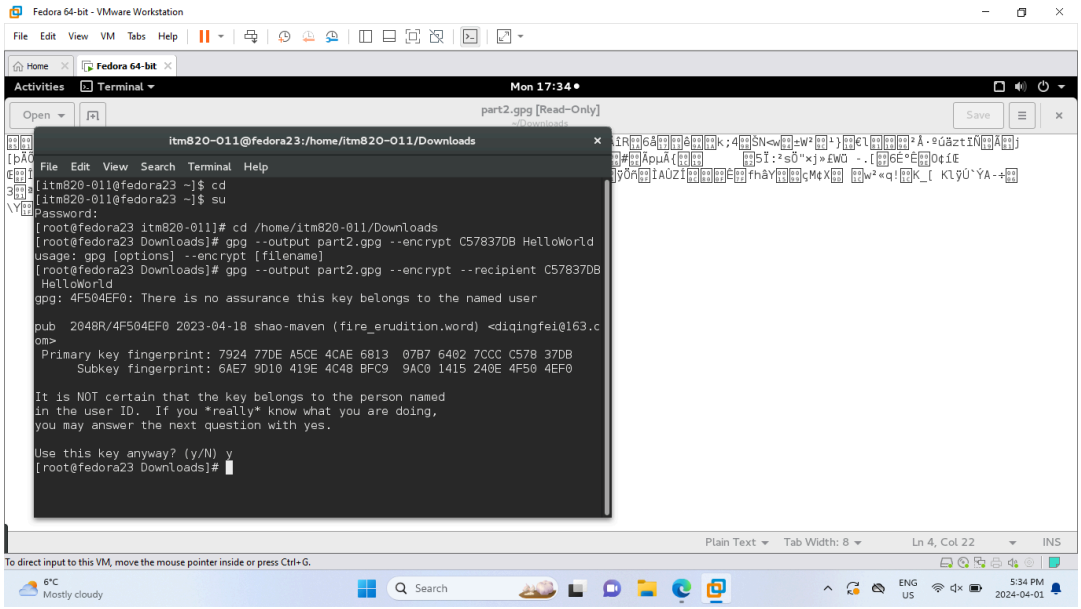
$OPNðþ(VrXï/mh$kÇß2š§ÜÆ³Û/ž#^2°¹åbnç©üÙ+yn«4×üfÛÝìMÅîR6åêk;4ŠN<w±
W²¹}€l²Å·ºúäztïÑÃj[þÄÕ.B"áPJÞA%EÔ0MÏÆ\÷ä@)îs|ËŠÓk*K»æ®ò!wlŒ³ò4±/ë2V+\
#ÃpµÃ{ 5Ï:²sÖ"×j»£Wü -.[6É°ÊO¢íŒ

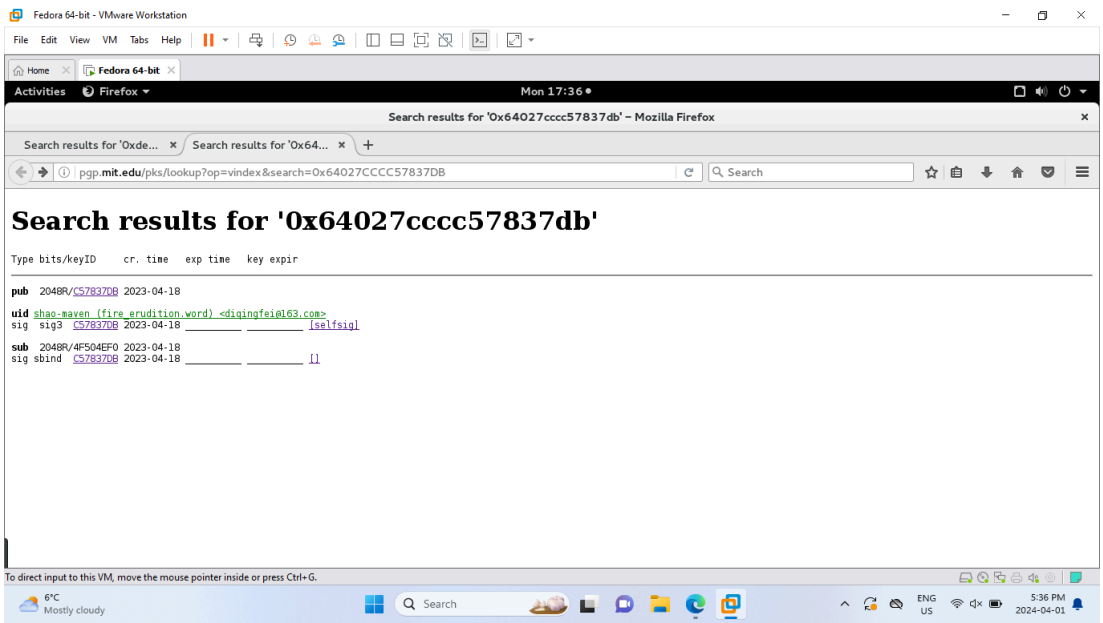
ŒÎP¥2hJF÷WrÉ+H»õã¬yÖŽ}C9rýãæþÛöÃþÆžÒfå?·~búk^Ð€ï5·WF
ðØJÿÖñÌAÛZÍÊfhâYçM¢X w²«q!K_[KlÿÚ`ÝA-÷

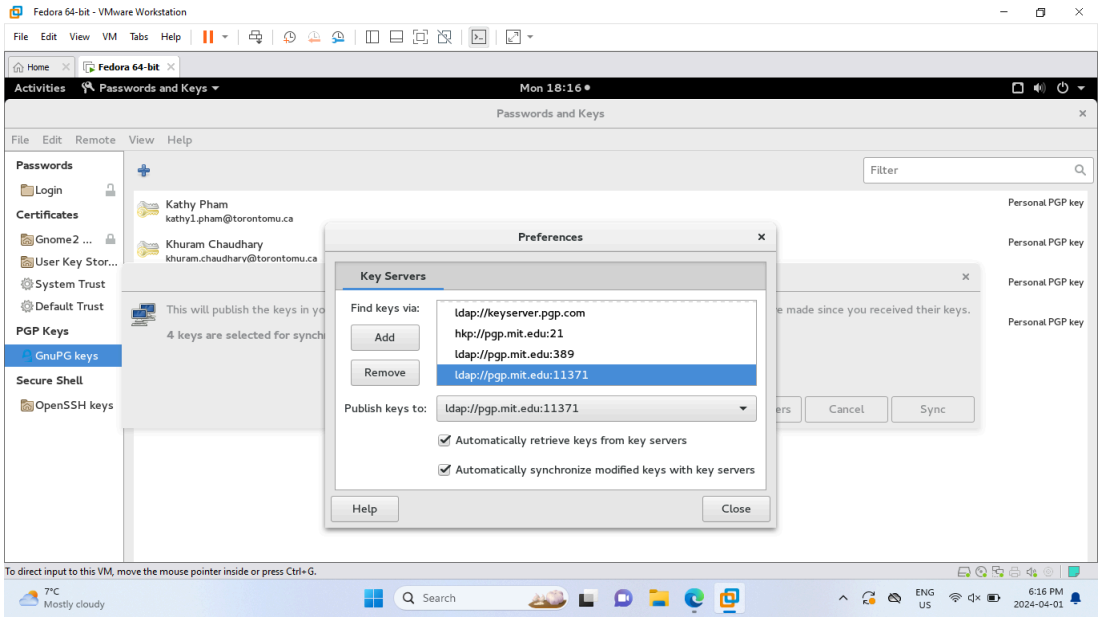
3ªjQs

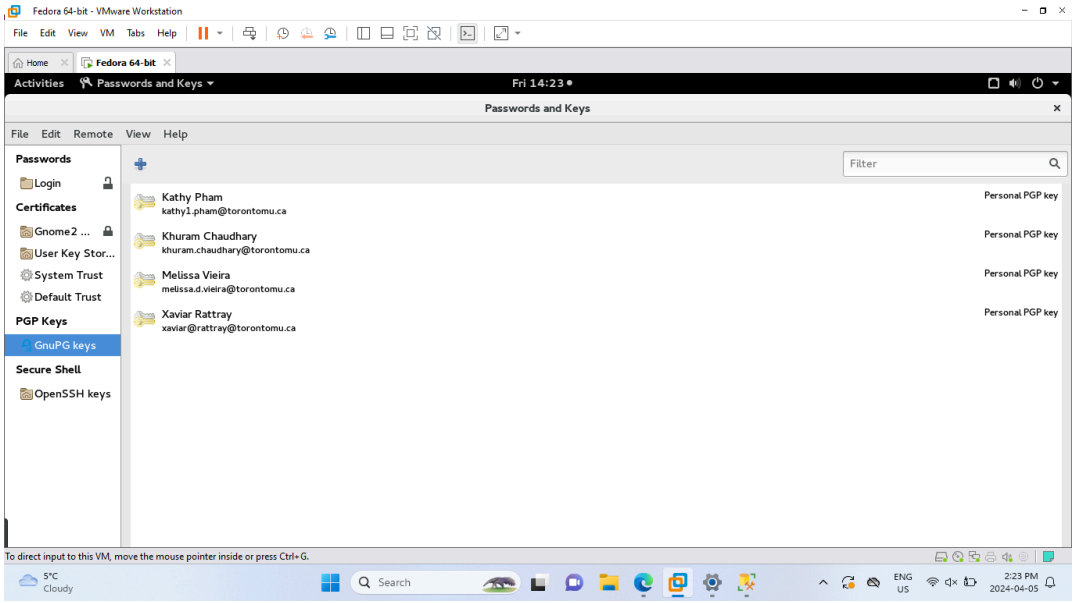
\Y®³º}ý³ñã?>šò#]á

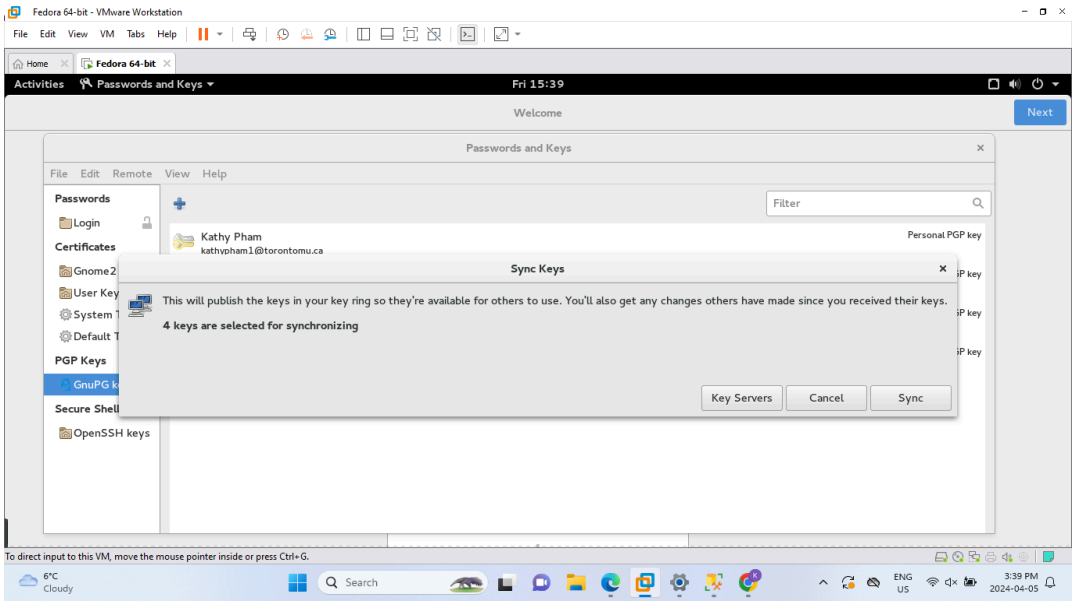

Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Home
Fedora 64-bit
Activities
gedit
Mon 17:34
Open
part2.gpg [Read-Only]
~/Downloads
Save
Plain Text
Tab Width: 8
Ln 4, Col 22
INS
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
6°C
Mostly cloudy
Search
ENG
US
5:34 PM
2024-04-01

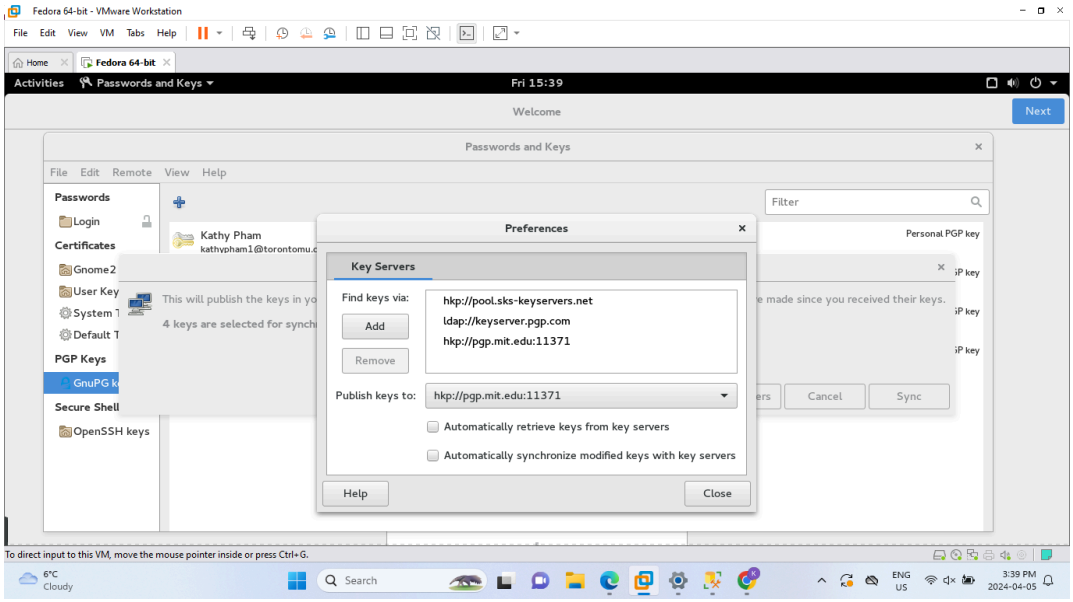

Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Activities Terminal Mon 17:34
part2.gpg [Read-Only]
itm820-011@fedora23:/home/itm820-011/Downloads
File Edit View Search Terminal Help
[itm820-011@fedora23 ~]$ cd
[itm820-011@fedora23 ~]$ su
Password:
[root@fedora23 itm820-011]# cd /home/itm820-011/Downloads
[root@fedora23 Downloads]# gpg --output part2.gpg --encrypt C57837DB HelloWorld
usage: gpg [options] --encrypt [filename]
[root@fedora23 Downloads]# gpg --output part2.gpg --encrypt --recipient C57837DB HelloWorld
gpg: 4F504EF0: There is no assurance this key belongs to the named user
pub 2048R/4F504EF0 2023-04-18 shao-maven (fire_erudition.word) <diqingfei@163.com>
Primary key fingerprint: 7924 77DE A5CE 4CAE 6813 07B7 6402 7CCC C578 37DB
Subkey fingerprint: 6AE7 9D10 419E 4C48 BFC9 9AC0 1415 240E 4F50 4EF0
It is NOT certain that the key belongs to the person named in the user ID. If you *really* know what you are doing, you may answer the next question with yes.
Use this key anyway? (y/N) y
[root@fedora23 Downloads]#
Plain Text Tab Width: 8 Ln 4, Col 22 INS
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.

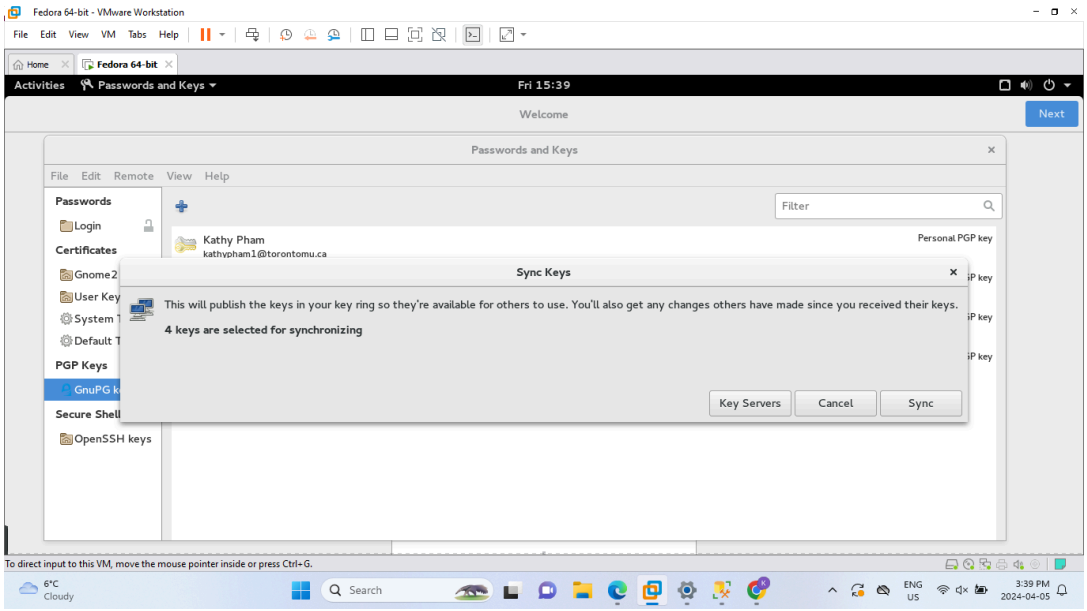

Fedora 64-bit - VMware Workstation
Activities Firefox Mon 17:36
Search results for '0x64027cccc57837db' – Mozilla Firefox
Search results for '0xde...
Search results for '0x64...
pgp.mit.edu/pks/lookup?op=vindex&search=0x64027CCCC57837DB
Search results for '0x64027cccc57837db'
Type bits/keyID cr. time exp time key expir
pub 2048R/C57837DB 2023-04-18
uid shao-maven (fire_erudition.word) <diqingfei@163.com>
sig sig3 C57837DB 2023-04-18 [selfsig]
sub 2048R/4F504EF0 2023-04-18
sig sbind C57837DB 2023-04-18 []
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.

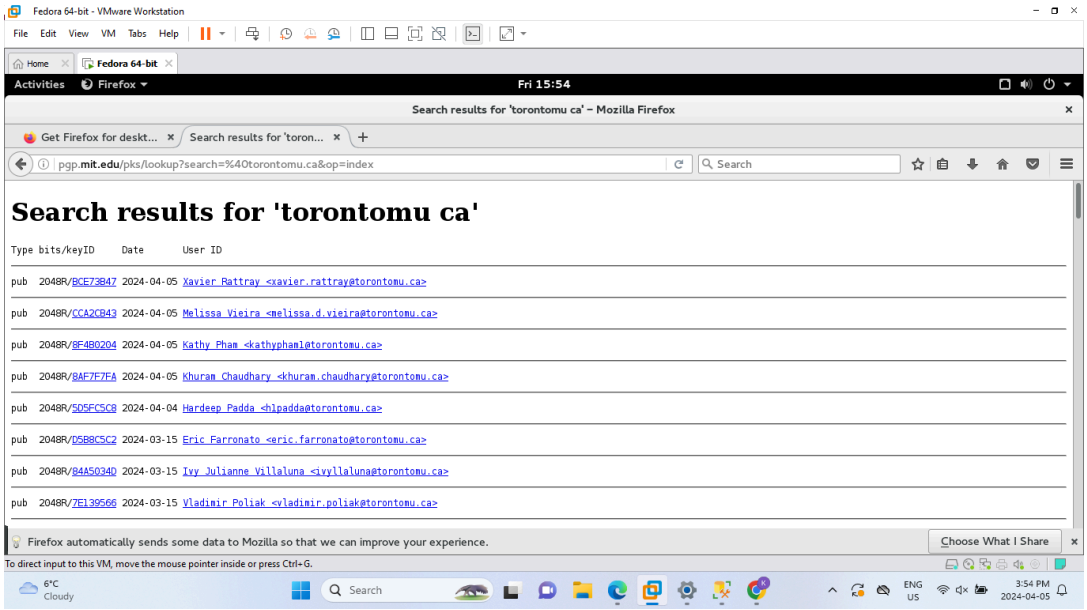

Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Home
Fedora 64-bit
Activities
Passwords and Keys
Mon 18:16
Passwords and Keys
File Edit Remote View Help
Passwords
Login
Certificates
Gnome2 ...
User Key Stor...
System Trust
Default Trust
PGP Keys
GnuPG keys
Secure Shell
OpenSSH keys
Filter
Kathy Pham
kathy1.pham@torontomu.ca
Personal PGP key
Khuram Chaudhary
khuram.chaudhary@torontomu.ca
Personal PGP key
Personal PGP key
Personal PGP key
Preferences
Key Servers
Find keys via:
Add
Remove
ldap://keyserver.pgp.com
hkp://pgp.mit.edu:21
ldap://pgp.mit.edu:389
ldap://pgp.mit.edu:11371
Publish keys to:
ldap://pgp.mit.edu:11371
Automatically retrieve keys from key servers
Automatically synchronize modified keys with key servers
Help
Close
Cancel
Sync
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
7°C
Mostly cloudy
Search
ENG
US
6:16 PM
2024-04-01


Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Home
Fedora 64-bit
Activities
Passwords and Keys
Fri 14:23
Passwords and Keys
File Edit Remote View Help
Passwords
Login
Certificates
Gnome2 ...
User Key Stor...
System Trust
Default Trust
PGP Keys
GnuPG keys
Secure Shell
OpenSSH keys
Filter
Kathy Pham
kathy1.pham@torontomu.ca
Personal PGP key
Khuram Chaudhary
khuram.chaudhary@torontomu.ca
Personal PGP key
Melissa Vieira
melissa.d.vieira@torontomu.ca
Personal PGP key
Xaviar Rattray
xaviar@rattray@torontomu.ca
Personal PGP key
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
5°C
Cloudy
Search
ENG
US
2:23 PM
2024-04-05


Fedora 64-bit - VMware Workstation
Activities
Passwords and Keys
Fri 15:39
Welcome
Next
Passwords and Keys
Passwords
Login
Certificates
Gnome2
User Key
System
Default
PGP Keys
GnuPG k
Secure Shell
OpenSSH keys
Filter
Kathy Pham
kathypham1@torontomu.ca
Personal PGP key
Sync Keys
This will publish the keys in your key ring so they're available for others to use. You'll also get any changes others have made since you received their keys.
4 keys are selected for synchronizing
Key Servers
Cancel
Sync


Fedora 64-bit - VMware Workstation
Activities
Passwords and Keys
Fri 15:39
Welcome
Next
Passwords and Keys
Preferences
Key Servers
Find keys via:
hkp://pool.sks-keyservers.net
ldap://keyserver.pgp.com
hkp://pgp.mit.edu:11371
Add
Remove
Publish keys to:
hkp://pgp.mit.edu:11371
Automatically retrieve keys from key servers
Automatically synchronize modified keys with key servers
Help
Close


Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Activities
Passwords and Keys
Fri 15:39
Welcome
Next
Passwords and Keys
File Edit Remote View Help
Passwords
Login
Certificates
Gnome2
User Key
System
Default
PGP Keys
GnuPG
Secure Shell
OpenSSH keys
Filter
Kathy Pham
kathypham1@torontomu.ca
Personal PGP key
Sync Keys
This will publish the keys in your key ring so they're available for others to use. You'll also get any changes others have made since you received their keys.
4 keys are selected for synchronizing
Key Servers
Cancel
Sync
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.


Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Activities
Firefox
Fri 15:54
Search results for 'torontomu ca' – Mozilla Firefox
Get Firefox for deskt...
Search results for 'toron...
pgp.mit.edu/pks/lookup?search=%40torontomu.ca&op=index
Search results for 'torontomu ca'
Type bits/keyID Date User ID
pub 2048R/BCE73847 2024-04-05 Xavier Rattray <xavier.rattray@torontomu.ca>
pub 2048R/CCA2CB43 2024-04-05 Melissa Vieira <melissa.d.vieira@torontomu.ca>
pub 2048R/8F4B0204 2024-04-05 Kathy Pham <kathypham1@torontomu.ca>
pub 2048R/8AF7F7FA 2024-04-05 Khuram Chaudhary <khuram.chaudhary@torontomu.ca>
pub 2048R/5D5FC5C8 2024-04-04 Hardeep Padda <hlpadda@torontomu.ca>
pub 2048R/D5B8C5C2 2024-03-15 Eric Farronato <eric.farronato@torontomu.ca>
pub 2048R/B4A5034D 2024-03-15 Ivy Julianne Villaluna <ivyllaluna@torontomu.ca>
pub 2048R/7E139566 2024-03-15 Vladimir Poliak <vladimir.poliak@torontomu.ca>
Firefox automatically sends some data to Mozilla so that we can improve your experience.
Choose What I Share
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.

Part 6: Enabling Multilevel Security (MLS)

6.1 Enable MLS in SELinux.

```
[root@localhost # yum install selinux-policy-mls
Yum command has been deprecated, redirecting to '/usr/bin/dnf install selinux-po
licy-mls'.
See 'man dnf' and 'man yum2dnf' for more information.
To transfer transaction metadata from yum to DNF, run:
'dnf install python-dnf-plugins-extras-migrate && dnf-2 migrate'

Last metadata expiration check performed 0:42:54 ago on Wed Apr 14 18:21:33 2021
.
Dependencies resolved.
================================================================================
 Package                    Arch      Version                  Repository  Size
================================================================================
Installing:
 mcstrans                   x86_64    0.3.4-7.fc23             fedora     119 k
 policycoreutils-newrole    x86_64    2.4-14.fc23              fedora     174 k
 selinux-policy-mls         noarch    3.13.1-158.24.fc23       updates    4.2 M
Upgrading:
 selinux-policy             noarch    3.13.1-158.24.fc23       updates    447 k
 selinux-policy-targeted    noarch    3.13.1-158.24.fc23       updates    5.6 M

Transaction Summary
================================================================================
Install  3 Packages
Upgrade  2 Packages

Total download size: 11 M
Is this ok [y/N]: y
Downloading Packages:
(1/5): policycoreutils-newrole-2.4-14.fc23.x86_ 160 kB/s | 174 kB     00:01
(2/5): mcstrans-0.3.4-7.fc23.x86_64.rpm         107 kB/s | 119 kB     00:01
(3/5): selinux-policy-3.13.1-158.24.fc23.noarch 4.1 MB/s | 447 kB     00:00
(4/5): selinux-policy-mls-3.13.1-158.24.fc23.no 2.5 MB/s | 4.2 MB     00:01
(5/5): selinux-policy-targeted-3.13.1-158.24.fc 4.5 MB/s | 5.6 MB     00:01
--------------------------------------------------------------------------------
Total                                           3.6 MB/s |  11 MB     00:02
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
```

6.2 Configure Multilevel Securirty on the SELinus OS.
6.3 Configure SELinux in to permissive mode.
6.4 Test the mode of operation using the command:

getenforce → what is the output?

The output is permissive.

6.5 Display the policy file that SELinux is currently using:

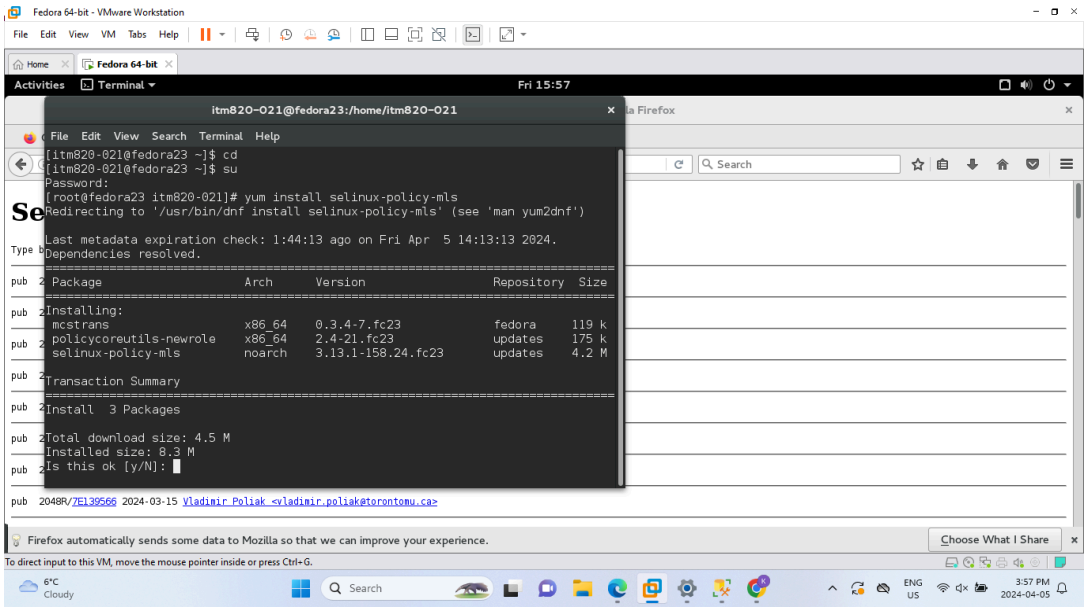
sestatus |grep mls

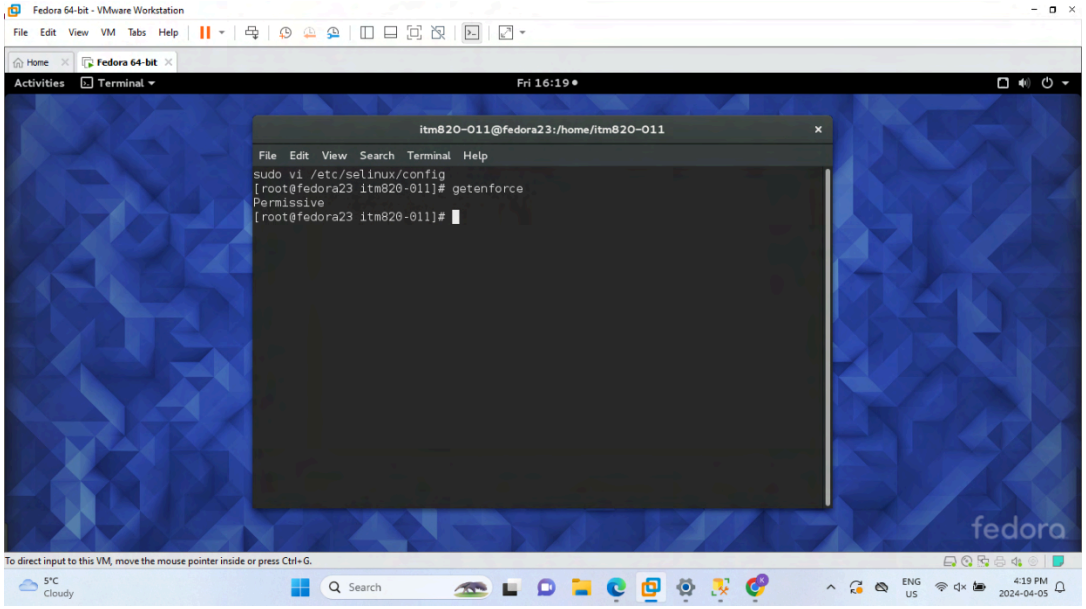
6.6 Create a new user where your group no. as its name:

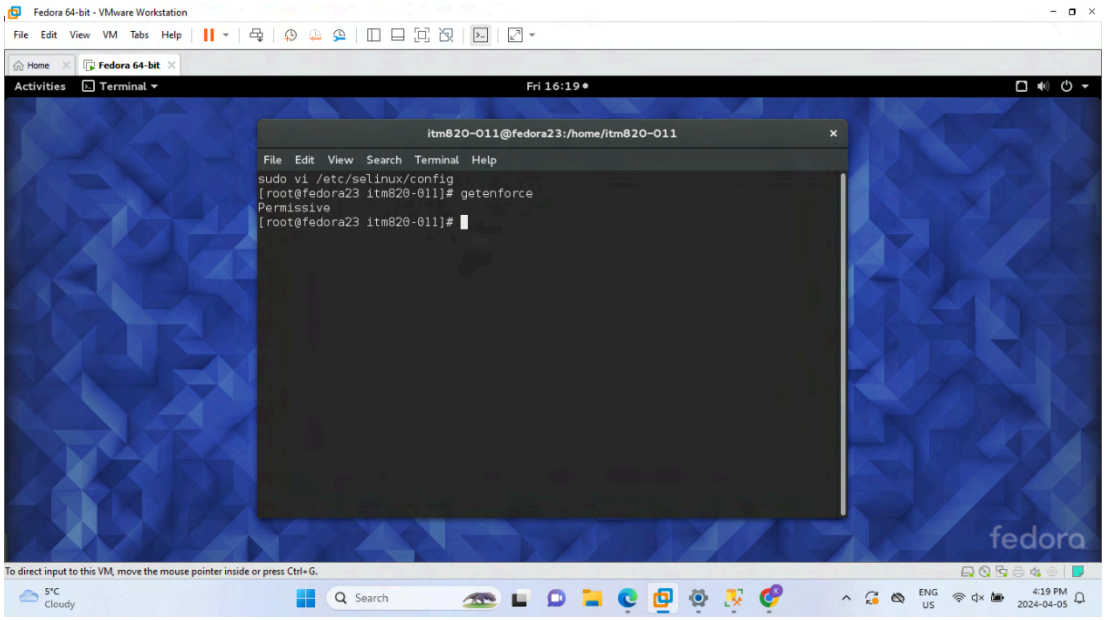
useradd groupxx

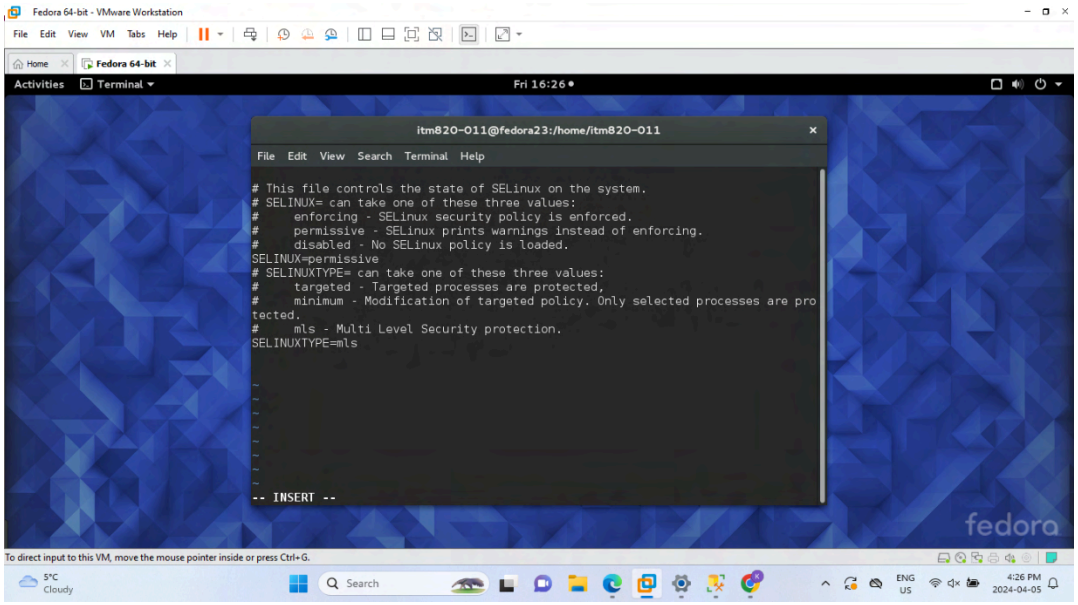
6.7 List the user by using SELinux primitives: semanage login –l

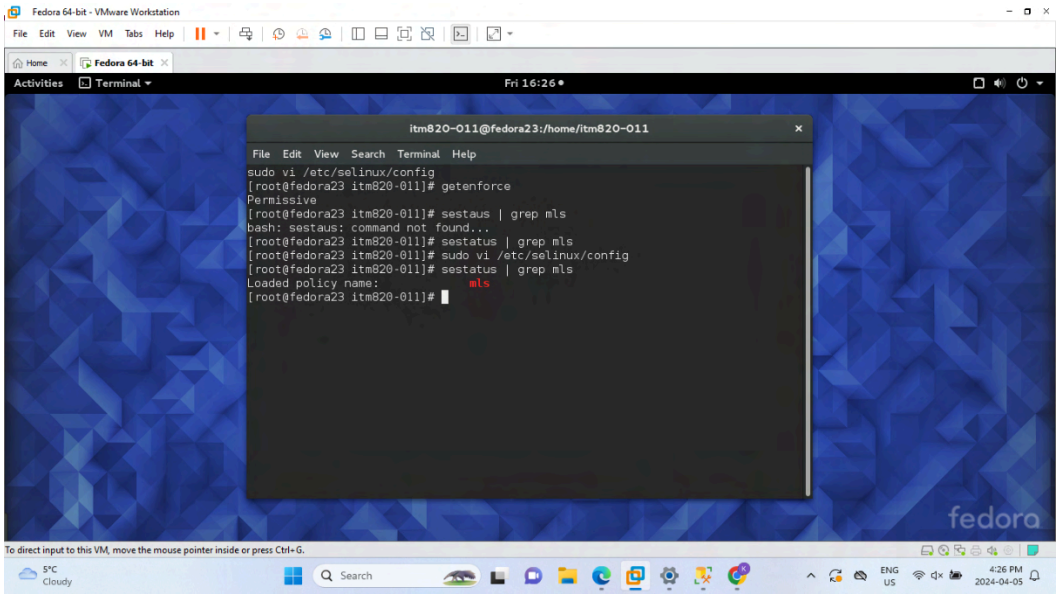
```
[root@localhost home]# semanage login -l

Login Name           SELinux User         MLS/MCS Range        Service

__default__          user_u               s0-s0                *
root                 root                 s0-s15:c0.c1023      *
system_u             system_u             s0-s15:c0.c1023      *
```

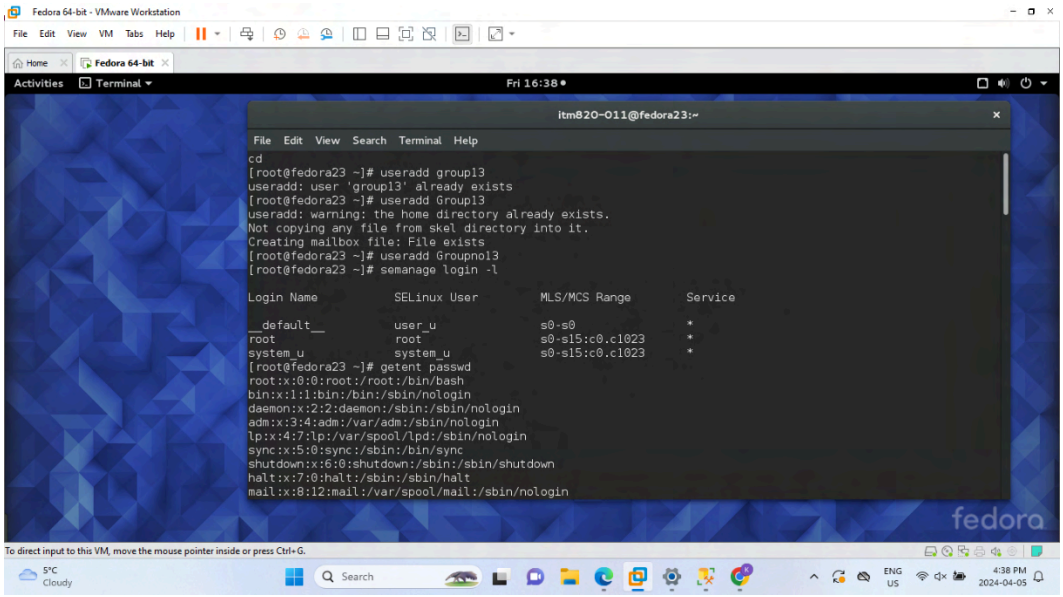

Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Activities Terminal Fri 15:57
itm820-021@fedora23:/home/itm820-021
File Edit View Search Terminal Help
[itm820-021@fedora23 ~]$ cd
[itm820-021@fedora23 ~]$ su
Password:
[root@fedora23 itm820-021]# yum install selinux-policy-mls
Redirecting to '/usr/bin/dnf install selinux-policy-mls' (see 'man yum2dnf')
Last metadata expiration check: 1:44:13 ago on Fri Apr 5 14:13:13 2024.
Dependencies resolved.
Package Arch Version Repository Size
Installing:
mcstrans x86_64 0.3.4-7.fc23 fedora 119 k
policycoreutils-newrole x86_64 2.4-21.fc23 updates 175 k
selinux-policy-mls noarch 3.13.1-158.24.fc23 updates 4.2 M
Transaction Summary
Install 3 Packages
Total download size: 4.5 M
Installed size: 8.3 M
Is this ok [y/N]:
pub 2048R/7E139566 2024-03-15 Vladimir Poliak <vladimir.poliak@torontomu.ca>
Firefox automatically sends some data to Mozilla so that we can improve your experience.
Choose What I Share
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.

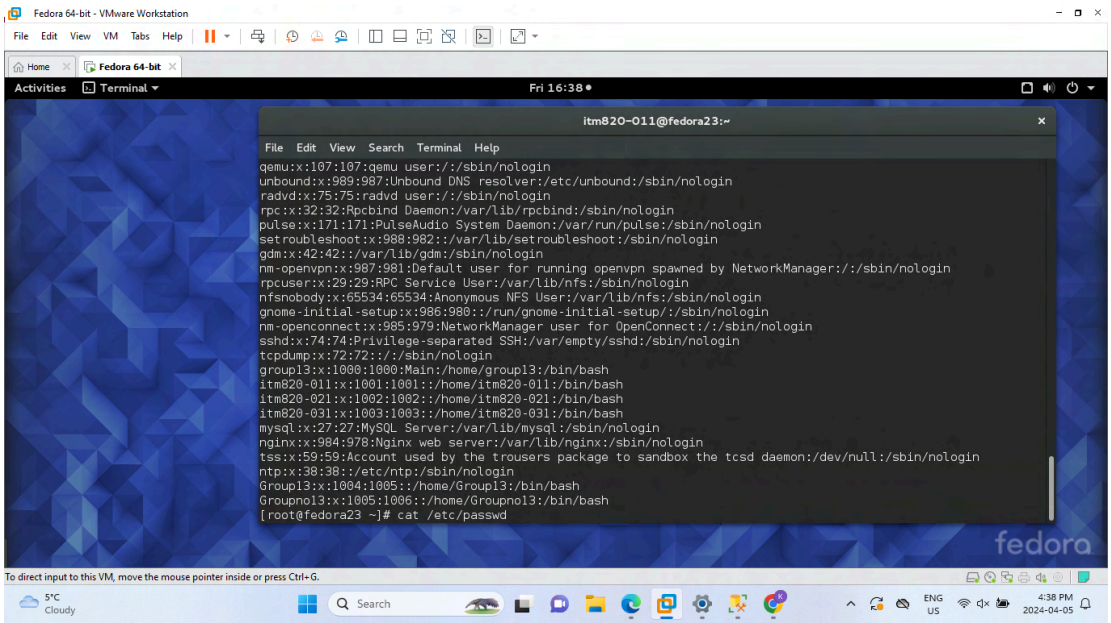

Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Activities Terminal Fri 16:19
itm820-011@fedora23:/home/itm820-011
File Edit View Search Terminal Help
sudo vi /etc/selinux/config
[root@fedora23 itm820-011]# getenforce
Permissive
[root@fedora23 itm820-011]#
fedora
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.


Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Home
Fedora 64-bit
Activities
Terminal
Fri 16:19
itm820-011@fedora23:/home/itm820-011
File Edit View Search Terminal Help
sudo vi /etc/selinux/config
[root@fedora23 itm820-011]# getenforce
Permissive
[root@fedora23 itm820-011]#
fedora
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.


Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Home
Fedora 64-bit
Activities
Terminal
Fri 16:26
itm820-011@fedora23:/home/itm820-011
File Edit View Search Terminal Help
# This file controls the state of SELinux on the system.
# SELINUX= can take one of these three values:
#   enforcing - SELinux security policy is enforced.
#   permissive - SELinux prints warnings instead of enforcing.
#   disabled - No SELinux policy is loaded.
SELINUX=permissive
# SELINUXTYPE= can take one of these three values:
#   targeted - Targeted processes are protected,
#   minimum - Modification of targeted policy. Only selected processes are pro
tected.
#   mls - Multi Level Security protection.
SELINUXTYPE=mls
-- INSERT --
fedora
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.


Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Home
Fedora 64-bit
Activities
Terminal
Fri 16:26
itm820-011@fedora23:/home/itm820-011
File Edit View Search Terminal Help
sudo vi /etc/selinux/config
[root@fedora23 itm820-011]# getenforce
Permissive
[root@fedora23 itm820-011]# sestaus | grep mls
bash: sestaus: command not found...
[root@fedora23 itm820-011]# sestatus | grep mls
[root@fedora23 itm820-011]# sudo vi /etc/selinux/config
[root@fedora23 itm820-011]# sestatus | grep mls
Loaded policy name: mls
[root@fedora23 itm820-011]#
fedora
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.


Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Home
Fedora 64-bit
Activities
Terminal
Fri 16:38
itm820-011@fedora23:~
File Edit View Search Terminal Help
cd
[root@fedora23 ~]# useradd group13
useradd: user 'group13' already exists
[root@fedora23 ~]# useradd Group13
useradd: warning: the home directory already exists.
Not copying any file from skel directory into it.
Creating mailbox file: File exists
[root@fedora23 ~]# useradd Groupno13
[root@fedora23 ~]# semanage login -l
Login Name SELinux User MLS/MCS Range Service
__default__ user_u s0-s0 *
root root s0-s15:c0.c1023 *
system_u system_u s0-s15:c0.c1023 *
[root@fedora23 ~]# getent passwd
root:x:0:0:root:/root:/bin/bash
bin:x:1:1:bin:/bin:/sbin/nologin
daemon:x:2:2:daemon:/sbin:/sbin/nologin
adm:x:3:4:adm:/var/adm:/sbin/nologin
lp:x:4:7:lp:/var/spool/lpd:/sbin/nologin
sync:x:5:0:sync:/sbin:/bin/sync
shutdown:x:6:0:shutdown:/sbin:/sbin/shutdown
halt:x:7:0:halt:/sbin:/sbin/halt
mail:x:8:12:mail:/var/spool/mail:/sbin/nologin
fedora
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.


Fedora 64-bit - VMware Workstation
File Edit View VM Tabs Help
Home
Fedora 64-bit
Activities
Terminal
Fri 16:38
itm820-011@fedora23:~
File Edit View Search Terminal Help
qemu:x:107:107:qemu user:/:/sbin/nologin
unbound:x:989:987:Unbound DNS resolver:/etc/unbound:/sbin/nologin
radvd:x:75:75:radvd user:/:/sbin/nologin
rpc:x:32:32:Rpcbind Daemon:/var/lib/rpcbind:/sbin/nologin
pulse:x:171:171:PulseAudio System Daemon:/var/run/pulse:/sbin/nologin
setroubleshoot:x:988:982::/var/lib/setroubleshoot:/sbin/nologin
gdm:x:42:42::/var/lib/gdm:/sbin/nologin
nm-openvpn:x:987:981:Default user for running openvpn spawned by NetworkManager:/:/sbin/nologin
rpcuser:x:29:29:RPC Service User:/var/lib/nfs:/sbin/nologin
nfsnobody:x:65534:65534:Anonymous NFS User:/var/lib/nfs:/sbin/nologin
gnome-initial-setup:x:986:980::/run/gnome-initial-setup/:/sbin/nologin
nm-openconnect:x:985:979:NetworkManager user for OpenConnect:/:/sbin/nologin
sshd:x:74:74:Privilege-separated SSH:/var/empty/sshd:/sbin/nologin
tcpdump:x:72:72::/:/sbin/nologin
group13:x:1000:1000:Main:/home/group13:/bin/bash
itm820-011:x:1001:1001::/home/itm820-011:/bin/bash
itm820-021:x:1002:1002::/home/itm820-021:/bin/bash
itm820-031:x:1003:1003::/home/itm820-031:/bin/bash
mysql:x:27:27:MySQL Server:/var/lib/mysql:/sbin/nologin
nginx:x:984:978:Nginx web server:/var/lib/nginx:/sbin/nologin
tss:x:59:59:Account used by the trousers package to sandbox the tcsd daemon:/dev/null:/sbin/nologin
ntp:x:38:38::/etc/ntp:/sbin/nologin
Group13:x:1004:1005::/home/Group13:/bin/bash
Groupno13:x:1005:1006::/home/Groupno13:/bin/bash
[root@fedora23 ~]# cat /etc/passwd
fedora
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.