Linux Final Project

Name: Truong, Jing

User1 log in as Root

1. Create a new disk (Ex: /dev/sdb)

Settings -> Add… -> Hard Disk -> Next -> SCSI -> Next -> Create a new virtual disk -> Next -> 5.00GB (recommended) -> Allocate all disk space now -> Store virtual disk as a single file -> Next -> (choose the location) Finish. Result:

Graphical user interface, application

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Check the created drive in terminal:

# ls /dev |grep sdb



1. Divide the first partition from /dev/sdb (there will appear /dev/sdb1)

# fdisk /dev/sdb

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Check the partition:

# ls /dev/sd\*

A picture containing timeline

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1. Format /dev/sdb1

# mkfs.xfs -f /dev/sdb1

Table

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1. Create a new directory named “boss” in /media and verify it

# mkdir /media/boss

# ls /media

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1. Mount /dev/sdb1 to /media/boss

# mount /dev/sdb1 /media/boss

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1. Plug in the USB (it will display as /dev/sdc1) to the Centos machine and then check it if it is filesystem exFAT or NTFS:

# fdisk -l



1. Two situations, if:

* The USB is filesystem exFAT: Follow the instruction

# yum install epel-release

# rpm -v --import http://li.nux.ro/download/nux/RPM-GPG-KEY-nux.ro

# rpm -Uvh http://li.nux.ro/download/nux/dextop/el7/x86\_64/nux-dextop-release-0-5.el7.nux.noarch.rpm

* The USB is filesystem NTFS: Follow the instruction

# yum install wget –y

#wget http://rpms.famillecollet.com/enterprise/remi-release-7.rpm

# wget https://dl.fedoraproject.org/pub/epel/epel-release-latest-7.noarch.rpm

# rpm -Uvh remi-release-7.rpm epel-release-latest-7.noarch.rpm

1. Create a new directory named USB under /media and verify it

# mkdir /media/USB

# ls /media |grep USB

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1. Mount the USB (/dev/sdc1) into directory /media/USB and verify it

# mount /dev/sdc1 /media/USB

# df -Th

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1. Check the UUID and filesystem of USB

# blkid

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1. Auto mount the USB by writing in the last line of the file /etc/fstab

# vi /etc/fstab

Text

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1. Verify that usb is mounted

# df -Th

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Description automatically generated with low confidence

1. Check is there the directory named “boss” inside usb or not

# ls /media/USB



1. Add two user2 with full name “Truong” and user3 with full name “Jing” and set the password for them

# useradd -c “Truong” user2; passwd user2

# useradd -c “Jing” user3; passwd user3

Text

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1. Verify if the users are created or not

# tail -2 /etc/passwd

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1. Create a group named Users and add, user2 and user3 inside that group

# groupadd Users; gpasswd --members user2,user3 Users



1. Verify the adding members of group named Users

# cat /etc/group |grep Users



1. Set all permission for everyone to the directory of /media/boss and verify it

# chmod 777 /media/boss

# ls -ld /media/boss

Text

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1. Soft link the directory “boss” in/media/USB to two new directories named dir2 dir3 under /media/boss

# ln -s /media/USB/boss /media/boss/dir2; ln -s /media/USB/boss /media/boss/dir3

A picture containing table

Description automatically generated

1. Set the user2 as owner of dir2 and user3 as owner of dir3

# chown -h user2 /media/boss/dir2

# chown -h user3 /media/boss/dir3

# ls -l /media/boss

Text

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1. Set the group Users as group owner of dir2 and dir3

# chgrp -h Users /media/boss/dir2

# chgrp -h Users /media/boss/dir3

# ls -l /media/boss

Text

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1. Download the package: prename.noarch 0:1.9-5.el7

# yum install prename

A screenshot of a computer

Description automatically generated with medium confidence

User2 as normal user

1. Change directory to /media/boss/dir2

$ cd /media/boss/dir2



1. Find all files that do not include the pattern “project”, “data”, “minute\_of\_meeting” and move them into a new directory named Trash which is created in advance (find -type f -not -iname “\*project\* -not -iname “data\*” -not -iname “minute\_of\_meeting\*” -exec mv {} \; )

$ mkdir Trash

$ find -not -iname “\*project\*” -not -iname “data\*” -not -iname “minute\_of\_meeting\*” -exec mv {} Trash \;

$ ls



Text

Description automatically generated with medium confidence

1. Report the quantity of files that include the pattern “project” in a file named “total\_project\_in\_3\_months” and do it the same as “data” and “minute\_of\_meeting” (“data” -> “total\_data\_in\_3\_months” and “minute\_of\_meeting” -> “total\_minute\_of\_meeting\_in\_3\_months”)

$ find -type f -iname "\*project\*" |wc -l

$ vi total\_project\_in\_3\_months

$ find -type f -iname "\*data\*" |wc -l

$ vi total\_data\_in\_3\_months

$ find -type f -iname "\*minute\_of\_meeting\*" |wc -l

$ vi total\_minute\_of\_meeting\_in\_3\_months

Text

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1. Create 3 directory named “Oct, Nov, Dec”

$ mkdir Oct Nov Dec



1. If the files have the pattern which is “10”, move those files into directory Oct

$ find -type f -iname "\*10\*" -exec mv {} Oct \;

Text

Description automatically generated

1. Renaming the files that include the old pattern “project” in directory Oct by replacing the old pattern into “old\_project”

$ prename 's/project/old\_project/' \*project\*

Text

Description automatically generated with medium confidence

1. Archiving those files in directory and Oct that include pattern “old\_project” in a tar gzip file named “old\_project.tar.gz” and delete those at the same time

$ tar --remove-files -czvf old\_project.tar.gz \*old\_project\*

Text

Description automatically generated

1. If the files have the pattern which is “11”, move those files into directory named Nov

$ find -type f -iname "\*11\*" -exec mv {} Nov \;

Text

Description automatically generated

1. Renaming the files that include the pattern “project” in directory Nov by replacing the old pattern “project” into “current\_project”

$ prename 's/project/current\_project/' \*project\*

Text

Description automatically generated with low confidence

1. Archive the files that include the pattern “current\_project” in directory Nov in the tar gzip file named “current\_project.tar.gz” and delete those files at the same time

$ tar --remove-files -czvf current\_project.tar.gz \*current\_project\*

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Description automatically generated

1. If the files have the pattern which is “12”, move those files into directory named Dec

$ find -type f -iname "\*12\*" -exec mv {} Dec \;

Text, letter

Description automatically generated

1. Renaming the files in directory which include pattern “project” by replacing the old pattern “project” into “future\_project”

$ prename 's/project/future\_project/' \*project\*

A picture containing text

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1. Archive the all the files that include the pattern “future\_project” in directory Dec in the tar gzip file named “future\_project.tar.gz” and delete those files at the same time

$ tar --remove-files -czvf future\_project.tar.gz \*future\_project\*

Text

Description automatically generated

1. Count how many files in the tar file “old\_project.tar.gz” then report the quantity of files in a file named “total\_project\_in\_Oct” by using redirect)

$ tar -tf old\_project.tar.gz |wc -l >total\_project\_in\_Oct

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Description automatically generated

1. Count how many files in the tar file “current\_project.tar.gz” then report the quantity of files in a file named “total\_project\_in\_Nov” by using redirect

$ tar -tf current\_project.tar.gz |wc -l >total\_project\_in\_Nov

Graphical user interface, text

Description automatically generated with medium confidence

1. Count how many files in the tar file “future\_project.tar.gz” then report the quantity of files in a file named “total\_project\_in\_Dec” by using redirect

$ tar -tf future\_project.tar.gz |wc -l >total\_project\_in\_Dec

Graphical user interface, text, application

Description automatically generated

1. Archive all the file that include the pattern “total\_project” in a tar gzip file named “project\_statics.tar.gz” and delete those files at the same time

$ find . -type f -iname "\*total\_project\*" |xargs tar --remove-files -czvf project\_statics.tar.gz

A picture containing text

Description automatically generated

1. Count how many files which include pattern “data” in Oct then report it into a file named “total\_data\_in\_Oct”

$ find -type f -iname "\*data\*" |wc -l

Text

Description automatically generated

1. Count how many files which include pattern “data” in Nov then report it into a file named “total\_data\_in\_Nov”

$ find -type f -iname "\*data\*" |wc -l

Text

Description automatically generated

1. Count how many files which include pattern “data” in Dec then report it into a file named “total\_data\_in\_Dec”

$ find -type f -iname "\*data\*" |wc -l

Text

Description automatically generated

1. Archive all the file that include the pattern “total\_data” in tar gzip file named “data\_statics.tar.gz” and delete those files at the same time

$ find -type f -iname "total\_data\*" |xargs tar --remove-files -czvf data\_statics.tar.gz

Chart

Description automatically generated with low confidence

1. Count how many files which include pattern “minute\_of\_meeting” in Oct then report it into a file named “total\_minute\_of\_meeting\_in\_Oct”

$ find -type f -iname "\*minute\_of\_meeting\*" |wc -l

Text

Description automatically generated with low confidence

1. Count how many files which include pattern “minute\_of\_meeting” in Nov then report it into a file named “total\_minute\_of\_meeting\_in\_Nov”

$ find -type f -iname "\*minute\_of\_meeting\*" |wc -l

Text

Description automatically generated

1. Count how many files which include pattern “minute\_of\_meeting” in Dec then report it into a file named “total\_minute\_of\_meeting\_in\_Dec”

$ find -type f -iname "\*minute\_of\_meeting\*" |wc -l

Text

Description automatically generated

1. Find and archive all the file that include the pattern “total\_minute\_of\_meeting” in tar gzip file named “minute\_of\_meeting\_statics” and delete those files at the same time

$ find -type f -iname "\*total\_minute\_of\_meeting\*" |xargs tar --remove-files -cvzf minute\_of\_meeting\_statics

Graphical user interface, text

Description automatically generated

User3 as normal user

1. Gunzip and decompress the tar gzip file named “project\_statics.tar.gz”

$ tar -xzf project\_statics.tar.gz

A picture containing chart

Description automatically generated

1. View the content of those files, note it down, delete those files and summarize those content in a new file named “project\_statics\_3\_months” based on the form:

Total project in 3 months: …

Total finished projects: …

Total current projects: …

Total unfinished projects: …

Graphical user interface, text

Description automatically generated

A picture containing text

Description automatically generated

**Content of file 10\_data1:**

Table

Description automatically generated

1. Sort it by department and sort from the third line and delete the old one

$ head -2 10\_data1 > 10\_data1\_new; tail -9 10\_data1 |sort -k2 >> 10\_data1\_new

Table

Description automatically generated

**Content of 11\_data1:**

Table

Description automatically generated

1. Sort it by department and sort from the third line and delete the old one

$ head -2 11\_data1 > 11\_data1\_new; tail -9 11\_data1 |sort -k2 >> 11\_data1\_new

Table

Description automatically generated

**Content of 12\_data1:**

Table

Description automatically generated

1. Sort it by department and sort from the third line and delete the old one

$ head -2 12\_data1 > 12\_data1\_new; tail -9 12\_data1 |sort -k2 >> 12\_data1\_new

Table

Description automatically generated

**Content of 10\_data2:**

Table

Description automatically generated

1. Sort it by spending from the highest to smallest and sort from the third line and delete the old one

$ head -2 10\_data2 > 10\_data2\_new; sort -k4n 10\_data2 |tail -9 |tac >>10\_data2\_new

Table

Description automatically generated

**Content of 11\_data2:**

Table

Description automatically generated

1. Sort it by spending from the highest to smallest and sort from the third line and delete the old one

$ head -2 11\_data2 > 11\_data2\_new; sort -k4n 11\_data2 |tail -9 |tac >>11\_data2\_new

Table

Description automatically generated

**Content of 12\_data2:**

Table

Description automatically generated

1. Sort it by spending from the highest to smallest and sort from the third line and delete the old one

$ head -2 12\_data2 > 12\_data2\_new; sort -k4n 12\_data2 |tail -9 |tac >>12\_data2\_new

**Table

Description automatically generated**

**Content of 10\_minute\_of\_meeting:**

Graphical user interface

Description automatically generated with low confidence

1. Delete the line that contain the pattern “not important”

$ sed -i '/not important/d' 10\_minute\_of\_meeting

Text

Description automatically generated

1. Replace “individual or teamwork” into “only teamwork”

$ sed -i 's/individual or teamwork/only teamwork/g' 10\_minute\_of\_meeting

Text

Description automatically generated

1. Add a new line: “minute of meeting in October”

$ echo minute of meeting in October >> 10\_minute\_of\_meeting

Text

Description automatically generated

**Content of 11\_minute \_of\_meeting:**

A picture containing text

Description automatically generated

1. Delete the line that contain the pattern “not important”

$ sed -i '/not important/d' 11\_minute\_of\_meeting

Text

Description automatically generated

1. Replace “individual or teamwork” into “only teamwork”

$ sed -i 's/individual or teamwork/only teamwork/g' 11\_minute\_of\_meeting

Text

Description automatically generated

1. Add a new line: “minute of meeting in November”

$ echo minute of meeting in November >> 11\_minute\_of\_meeting

A picture containing text

Description automatically generated

**Content of 12\_minute\_of\_meeting:**

**Application

Description automatically generated with low confidence**

1. Delete the line that contain the pattern “not important”

$ sed -i '/not important/d' 12\_minute\_of\_meeting

Text

Description automatically generated

1. Replace “individual or teamwork” into “only teamwork”

$ sed -i 's/individual or teamwork/only teamwork/g' 12\_minute\_of\_meeting

Text

Description automatically generated

1. Add a new line: “minute of meeting in December”

$ echo minute of meeting in December >> 12\_minute\_of\_meeting

Text

Description automatically generated with low confidence

1. Create two new printers named HP16 (Ip: 192.168.1.51) and Canon16 (Ip: 192.168.1.50)

Graphical user interface, application

Description automatically generated

Graphical user interface, application

Description automatically generated

1. Verify which one is default and which one is not

$ lpstat -d

A picture containing text

Description automatically generated

1. Set the default printer for the HP16 printer if the default is Canon16 and vice versa

$ lpoptions -d HP16

Text

Description automatically generated

User2 as normal user:

1. Print all files which have pattern “minute” by using printer Canon16 and check the queue

$ find -type f -iname "\*minute\*" -exec lpr {} \;

$ lpq

Text

Description automatically generated

1. Print all files which have pattern “data” by using printer HP16

$ find -type f -iname "\*minute\*" -exec lpr -P HP16 {} \;

$ lpq -P HP16

Table

Description automatically generated with medium confidence

User1 as root:

1. Stop all the queue of all printers

# lprm -P HP16 -

# lprm -P Canon16 –

Text

Description automatically generated

1. Check how many processes which are running of all user

# ps -au

Table

Description automatically generated

1. Check are there any processes that access to the USB driver

# fuser -m /dev/sdc1



1. If there is any process, remove it. Otherwise, don’t do anything

# fuser -mk /dev/sdc1



1. Unmount the USB

# umount /dev/sdc1



1. Delete two user2 and user3 from the machine

# userdel -rf user2; userdel -rf user3

Text

Description automatically generated

1. Delete the group named Users from the machine

# groupdel Users

Chart

Description automatically generated with medium confidence

1. Assign an IP Change to manual IP in virtual machine
2. Find your interface ifconfig
3. Assign IP vi /etc/sysconfig/network-scripts/ifcfg-ens33 IPADDR=192.168.1.11 PREFIX=24
4. Turn off, change adapter setting to bridge
5. Go to your windows host, assign IP 192.168.1.12

Graphical user interface, application

Description automatically generated

1. Turn on network discovery, turn off windows firewall

Graphical user interface, text, application

Description automatically generated

1. Ping each other
2. Shutdown the virtual machine in 15 minutes

# shutdown -h +15

Text

Description automatically generated