**1.  What is the Linux command to Create a new user named cbjalice with the following parameters:**

**◦                      Home Directory: /data/home/cbj/alice**

**◦                      Password: DCEKgabE**

**◦                      Shell: Any Non-Interactive Shell**

**Ans.**

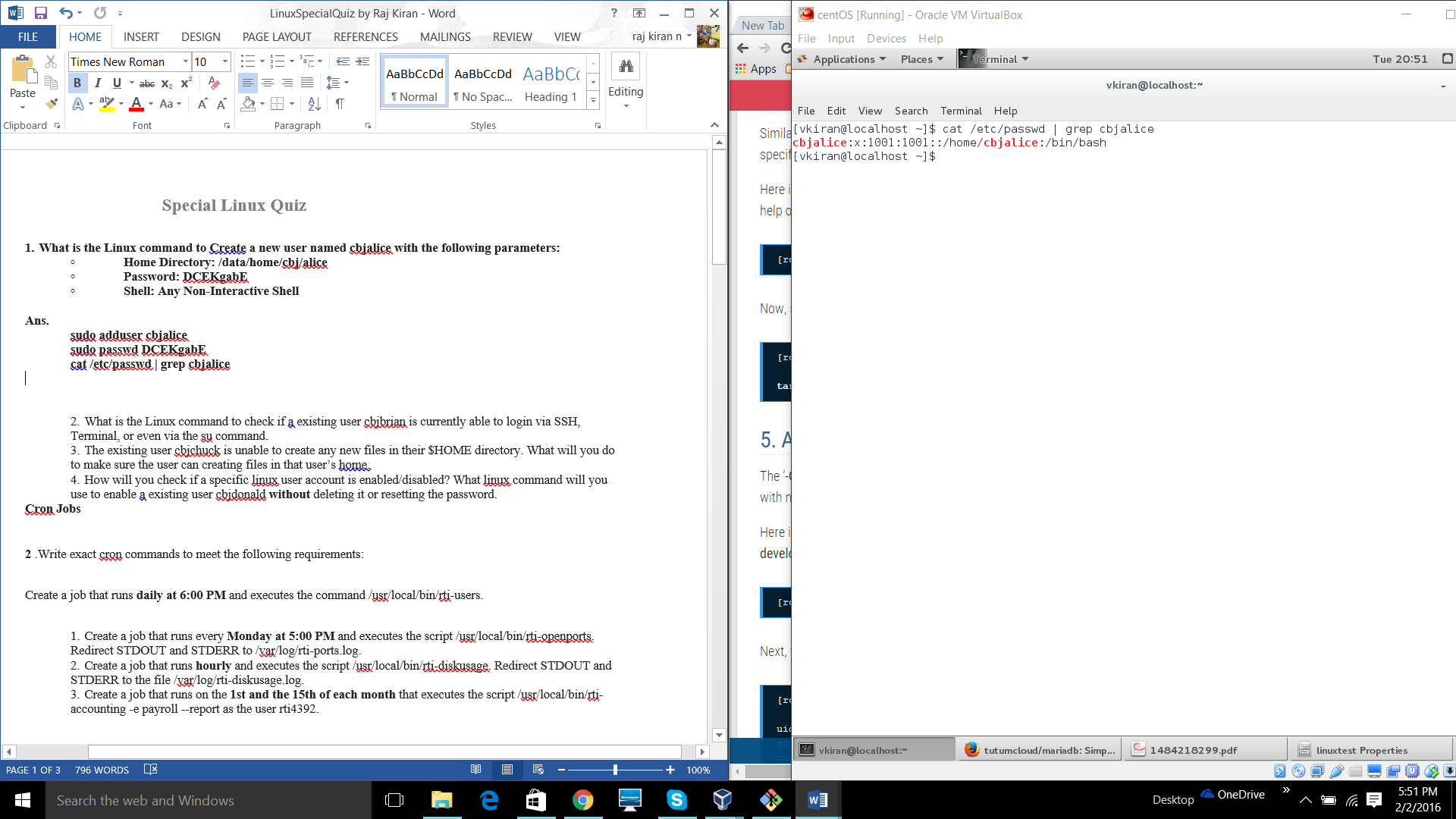
sudo adduser –d /data/home/cbj/alice cbjalice

sudo passwd DCEKgabE

**2.  What is the Linux command to check if a existing user cbjbrian is currently able to login via SSH, Terminal, or even via the su command.**

**Ans**

cat /etc/passwd | grep cbjalice



**3.  The existing user cbjchuck is unable to create any new files in their $HOME directory. What will you do to make sure the user can creating files in that user’s home.**

**Ans**

setfacl –m u:cbjchuck:w $HOME

**4.  How will you check if a specific linux user account is enabled/disabled? What linux command will you use to enable a existing user cbjdonald without deleting it or resetting the password.**

**Ans,**

**passwd –u chjdonald**

**Cron Jobs**

**2** .Write exact cron commands to meet the following requirements:

**Create a job that runs daily at 6:00 PM and executes the command /usr/local/bin/rti-users.**

**Ans**, \* 18 \* \* \* /usr/local/bin/rti-users

**1. Create a job that runs every Monday at 5:00 PM and executes the script /usr/local/bin/rti-openports. Redirect STDOUT and STDERR to /var/log/rti-ports.log.**

Ans. \* 17 \* \* 1 \* /usr/local/bin/rti-openport > /var/log/rti-ports.log 2>&1

**2.  Create a job that runs hourly and executes the script /usr/local/bin/rti-diskusage. Redirect STDOUT and STDERR to the file /var/log/rti-diskusage.log.**

**Ans.**  \* 1 \* \* \* \* /usr/local/bin/rti-diskusage > /var/log/rti-diskusage.log 2>&1

**3.  Create a job that runs on the 1st and the 15th of each month that executes the script /usr/local/bin/rti-accounting -e payroll --report as the user rti4392.**

**Ans. \* \* 1, 15 \* \* rti4392 /usr/local/bin/rti-accounting –e payroll**

**System Performance and Tuning**

**3.Write linux commands for following requirements:**

**1.  Limit the user tusercpb so that they are able to run no more than 25 processes at a time.**

**Ans.**

1. Become a root user by typing su – root
2. vi /etc/security/limits.conf
3. and we need to add tusercpd – nproc 25

**2.  Tune the server to use swap space 50% of RAM.**

**Ans.** sudo sysctl vm.swappiness=50

**3. Disable the SYN Cookies feature, and increase the maximum SYN Backlog from 1024 to 4096 connections.**

**Ans.**

net.ipv4.tcp\_syncookies = 0

echo “net.ipv4.tcp\_max\_syn\_backlog=4096” >> /etc/sysctl.conf

**4.  The maximum Core dump size is currently set to 0 for all users. While keeping Core Dumps disabled globally, configure the server to allow a maximum Core Dump size of 8192KB for the tdevcfb user only.**

**Ans. ulimit –c 8192**

**Networking**

**Configure an Interface Alias (Additional IP)**

4.What is the linuc command to Add the IP Address [192.168.2.50/24](http://192.168.2.50/24) on the server as alias interface eth1:0.  Ensure that the interface alias is up, and will remain up after a reboot.

Ans

1. cp /etc/sysconfig/network-scripts/ifcfg-eth0 /etc/sysconfig/network-scripts/ifcfg-eth1:0
2. vi /etc/sysconfig/network-scripts/ifcfg-eth1:0
3. Find DEVICE=eth0 and replace it with DEVICE=eth1:0
4. Find IPADDR=xxxx.xxxx.xxx.xxx and replace it with IPADDR=[192.168.2.50/24](http://192.168.2.50/24)
5. vi /etc/sysconfig/network-scripts/ifcfg-eth0 and add GATEWAY=192.168.2.254
6. vi /etc/sysconfig/network and add GATEWAY=192.168.2.254
7. service network restart
8. ifup eth1:0

**Static Route Not Working**

A linux server has been configured with a TUN device '*tun-aib0*' that acts as an endpoint for a VPN tunnel.  The IP address of the device is 192.168.17.14 and the network it is on is using a 22 bit netmask (255.255.252.0). The problem is that the server needs to be able to communicate with the 10.42.182.0 network with a 24 bit netmask (255.255.255.0) but none of the traffic appears to be reaching the other VPN endpoint and instead is trying to be sent out to the public internet over eth0.  Please repair the static route for 10.42.182.0 so that traffic goes to the right place. What linux command will you use?

Ans,

* netstat –rn 🡪 print the kernel routing table
* route add –net 10.42.182.0 netmask 255.255.255.0 gw 192.168.17.14 dev eth0
* auto eth0 🡪 loopback network interfaces

**Configure IPTABLES to Block Traffic**

**5.**What linux command will you use to Configure IPTABLES to block traffic from the IP address **192.168.1.29** from being able to connect to any port on the server.  The rule should persist across reboots.

Ans. iptables –A OUTPUT –d 192.168.1.29 –j DROP

**General Scripting (Any Language)**

**Periodic Logging of Running Processes**

**6**.Create a script that meets the following criteria:

**1.  Script Name: /usr/local/bin/periodic\_log**

**Ans.**

cd /usr/local/bin

touch periodic\_log.sh

chmod +x periodic\_log.sh

**2.  The script must log the full path for the executable of all processes currently running on the server, in 10 second intervals**

**3. Each iteration should log to a separate log file in the directory /proc-logs/ as log1, log2, etc.**

**4.  The script should end after 6 iterations**

**Solution**

**#!/bin/sh**

**spath=/usr/local/bin/periodic\_log**

**for I in {1..6}**

**if [$spath]**

**touch logI**

**ps >> logI**

**sleep 10**

**fi**

**end**

**Organize Incoming Data Files by Type/Extension**

**7.**Create a script that meets the following requirements:

•    Script Name: /usr/local/bin/move-by-ext

•    The script must move files from the /data/downloads/incoming/ directory into the appropriate sub-directory based on the file extension.

1.                    Files with a .mov extension should be moved to /data/downloads/movies

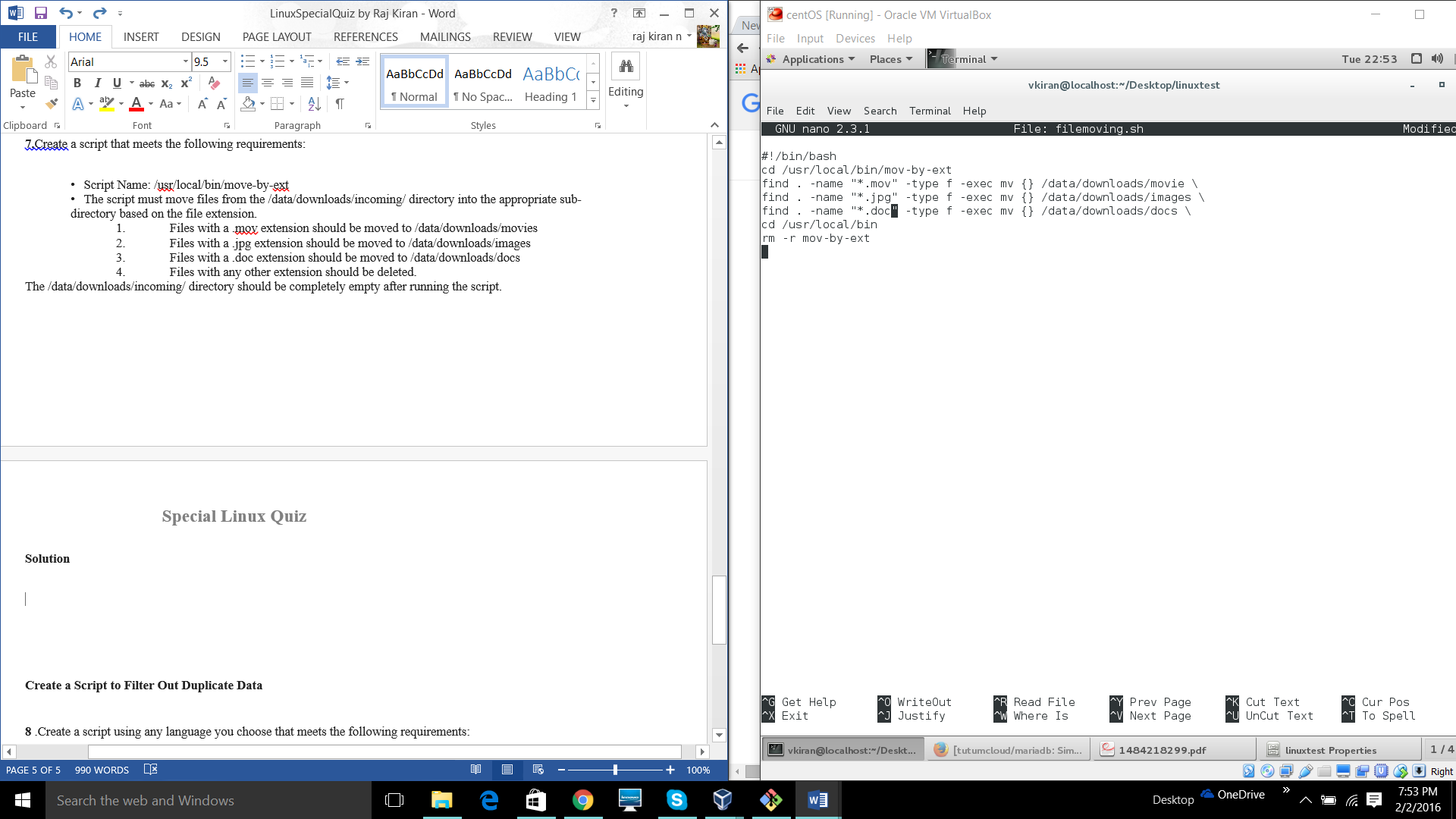
2.                    Files with a .jpg extension should be moved to /data/downloads/images

3.                    Files with a .doc extension should be moved to /data/downloads/docs

4.                    Files with any other extension should be deleted.

The /data/downloads/incoming/ directory should be completely empty after running the script.

**Solution**



**Create a Script to Filter Out Duplicate Data**

**8** .Create a script using any language you choose that meets the following requirements:

•    Script Name: /usr/local/bin/dedupe-bafiles

•    The script must parse all files in the directory /data/ba/infiles/, and remove all duplicate lines from the content read from each file.

•    After processing a file's content, it must write the resulting data to a file in the directory /data/ba/outfiles/ with the same filename

•    The script must also print a count of how many lines are in each resulting file to STDOUT in the format: FILENAME: LINE\_COUNT

The order of the resulting data of each file in /data/ba/outfiles/ does not need to be the same as from the original files, but they absolutely must be unique to each file.

Ans.

cd /usr/local/bin/

touch script.sh

#!/bin/sh

b = /usr/local/bin/

cd $b

uniq filename.txt > filename.txt

wc –l filename.txt