



CompTIA Linux+ Certification Exam

Version: 1.0

QUESTION NO: 1

Which of the following would be the BEST solution for a systems administrator to access the graphical user environment of a Linux machine remotely?

- A.**
VNC
- B.**
KDE
- C.**
X11
- D.**
RPC

Answer: A

Reference: <https://www.sfu.ca/computing/about/support/tips/remote-to-linux-with-gui.html>

QUESTION NO: 2

A technical support engineer receives a ticket from a user who is trying to create a 1KB file in the /tmp directory and is getting the following error No space left on device. The support engineer checks the /tmp directory, and it has 20GB of free space.

Which of the following BEST describes a possible cause for this error?

A.

The /tmp directory is not mounted.

B.

The filesystem is formatted with a 4MB block size.

C.

the filesystem ran out of inodes.

D.

The /tmp directory has been set with an immutable attribute.

Answer: C

Reference: <https://www.maketecheasier.com/fix-linux-no-space-left-on-device-error/>

QUESTION NO: 3

Which of the following is the BEST reason for not storing database files in the /var directory?

A.

The /var filesystem is not fast enough for database files.

B.

The number of files in /var is limited by the available inodes.

C.

Files in /var do not have strict file permissions.

D.

If log files fill up /var, it might corrupt the database.

Answer: D

Explanation:

QUESTION NO: 6

An administrator receives a warning about a file system filling up, and then identifies a large file located at /tmp/largelogfile. The administrator deletes the file, but no space is recovered on the file system.

Which of the following commands would BEST assist the administrator in identifying the problem?

A.

ls -l | grep largelogfile

B.

kill /tmp/largelogfile

C.

grep largelogfile

D.

ps -ef | grep largelogfile

Answer: A

Reference: <https://access.redhat.com/solutions/2316>

QUESTION NO: 7

Which of the following can be used to boot a DVD from a remote device to initialize a Linux system setup on bare metal hardware as if it is a local DVD?

- A.**
UEFI
- B.**
PXE
- C.**
NFS
- D.**
GRUB

Answer: A

Reference:

https://access.redhat.com/documentation/enus/red_hat_enterprise_linux/6/html/installation_guide/ch-boot-x86

QUESTION NO: 8

After starting a long-running script, a systems administrator needs to verify the frequency of what is filling up the /var partition and kill it because it is consuming too much space.

Which of the following is the correct sequence given only a terminal is available?

- A.**
 1. CTRL-C
 2. bg
 3. watch df /var
 4. CTRL-C

5. fg

6. CTRL-Z

B.

1. CTRL-C

2. fg

3. watch df /var

4. CTRL-Z

5. bg

6. CTRL-Z

C.

1. CTRL-Z

2. bg

3. watch df /var

4. CTRL-C

5. fg

6. CTRL-C

D.

1. CTRL-Z

2. bg

3. watch df /var

4. CTRL-Z

5. fg

6. CTRL-C

Answer: D

Explanation:

QUESTION NO: 10

A Linux server has multiple IPs. A Linux administrator needs to verify if the HTTP server port is bound to the correct IP.

Which of the following commands would BEST accomplish this task?

- A.**
route
- B.**
host
- C.**
nslookup
- D.**
netstat
- E.**
ip

Answer: D

Reference: <https://www.tecmint.com/find-listening-ports-linux/>

QUESTION NO: 11

A systems administrator needs to append output of `ls -lha /opt` command to the contents of a `test.txt` file. Which of the following commands will accomplish this?

- A.**
`ls -lha /opt > test.txt`
- B.**
`ls -lha /opt < test.txt`

C.

ls -lha /opt >> test.txt

D.

ls -lha /opt << test.txt

Answer: C

Reference: <https://www.cyberciti.biz/faq/linux-append-text-to-end-of-file/>

QUESTION NO: 12

A Linux administrator needs to remotely update the contents of the www.comptia.org/contacts URL.

Which of the following commands would allow the administrator to download the current contents of the URL before updating?

A.

curl www.comptia.org/contacts

B.

dig www.comptia.org/contacts

C.

apt-get www.comptia.org/contacts

D.

yum list www.comptia.org/contacts

Answer: A

Reference: <https://www.thegeekstuff.com/2012/04/curl-examples/>

QUESTION NO: 13

Which of the following BEST describes running on a Linux system?

A.

Containers only need the namespaces functionality to run on a Linux system available since kernel 2.6.

B.

Containers need a hypervisor to run a Linux system. Cgroups namespaces are functionalities used for the kernel but not for running containers.

C.

Containers only need the cgroups functionality for running on a Linux system. Namespaces is not a Linux kernel functionality needed for creating and managing containers.

D.

Containers use the cgroups and namespaces functionalities to isolate processes and assign hardware resources to each of those isolated processes.

Answer: D

Reference: <https://www.linuxjournal.com/content/everything-you-need-know-about-linuxcontainers-part-ii-working-linux-containers-lxc>

QUESTION NO: 15

A Linux administrator is testing connectivity to a remote host on a shared terminal. The administrator wants to allow other users to access the terminal while the command is executing.

Which of the following commands should the administrator use?

A.

`bg ping remotehost`

B.

`fg ping remotehost`

C.

`ping remotehost < results`

D.
ping remotehost &

Answer: C

Explanation:

QUESTION NO: 16

A Linux administrator needs to switch from text mode to GUI. Which of the following runlevels will start the GUI by default?

A.
Runlevel 3

B.
Runlevel 4

C.
Runlevel 5

D.
Runlevel 6

Answer: C

Reference: http://www.linfo.org/runlevel_def.html

QUESTION NO: 17

A junior systems is configuring localization option environment variables. The administrator is given a checklist of tasks with the following requirements:

View current settings of the LC_ALL environment variable only.

Modify the LANG environment variable to US English Unicode.

Given this scenario, which of the following should be performed to meet these requirements? (Choose two.)

- A.**
echo \$LC_ALL
- B.**
locale
- C.**
cat \$LC_ALL
- D.**
export LANG = en_US.UTF-8
- E.**
export \$LANG = en_US.UTF
- F.**
stty

Answer: B,D

Reference: <https://www.tecmint.com/set-system-locales-in-linux/>

QUESTION NO: 18

An administrator needs to change the IP address on a server remotely. After updating the configuration files, a network restart is needed. However, the administrator fears that when the network connection drops, the network restart script will be killed before the new IP address has been set.

Which of the following commands would prevent the script from being killed?

- A.**
nohup service network restart
- B.**
service network restart &
- C.**
echo "service network restart" | at now
- D.**
dg service network restart

Answer: A

Explanation:

QUESTION NO: 19

A Linux administrator is testing a new web application on a local laptop and consistently shows the following 403 errors in the laptop's logs

```
type=AVC msg=audit(126552035:37232) :avc:denied [read] for pid=24941 com=nginx  
nme="/home/user1" /dev/sda1 ino=2 scontext=unconfined_u:system_r:httpd_t:s0  
tcontext=sysetm_u:object_r:httpd_sys_content:s0
```

The web server starts properly, but an error is generated in the audit log. Which of the following settings should be enabled to prevent this audit message?

- A.**
httpd_can_network_connect = 1

B.

httpd_enable_scripting = 1

C.

httpd_enable_homedirs = 1

D.

httpd_enable_cgi = 1

Answer: A

Explanation:

QUESTION NO: 20

Which of the following BEST describes the purpose of the X11 system?

A.

X11 provides graphical display capabilities

B.

X11 provides command line capabilities

C.

X11 provides networking capabilities

D.

X11 provides telephony capabilities.

Answer: A

Reference: https://en.wikipedia.org/wiki/X_Window_System

QUESTION NO: 21

An administrator is analyzing a Linux server which was recently hacked.

Which of the following will the administrator use to find all unsuccessful login attempts?

- A.**
nsswitch
- B.**
faillock
- C.**
pam_tally2
- D.**
passwd

Answer: C

Explanation:

QUESTION NO: 22

A junior administrator needs to unload an older video kernel module.

Which of the following commands would BEST accomplish this task?

- A.**
modprobe
- B.**
insmod
- C.**
rmmod
- D.**
chmod

Answer: A

Reference: https://access.redhat.com/documentation/en-US/Red_Hat_Enterprise_Linux/7/html/Kernel_Administration_Guide/sec-Unloading_a_Module.html

QUESTION NO: 23

An administrator is attempting to block SSH connections to 192.168.10.24 using the Linux firewall. After implementing a rule, a connection refused error is displayed when attempting to SSH to 192.168.10.24.

Which of the following rules was MOST likely implemented?

A.

`iptables -A -p tcp -d 192.168.10.24 -dropt 22 -j REJECT`

B.

`iptables -A -p tcp -d 192.168.10.24 -dropt 22 -j DROP`

C.

`iptables -A -p tcp -d 192.168.10.24 -dropt 22 -j FORWARD`

D.

`iptables -A -p tcp -d 192.168.10.24 -dropt 22 -j REFUSE`

Answer: A

Reference: <https://www.golinuxhub.com/2014/03/how-to-allowblock-ssh-connection-from.html>

QUESTION NO: 25

A Linux systems administrator needs to provision multiple web servers into separate regional datacenters. The systems architect has instructed the administrator to define the server infrastructure using a specific tool that consumes a text-based file.

Which of the following is the BEST reason to do this?

A.

To document the infrastructure so it can be included in the system security plan

B.

To ensure the administrator follows the planning phase of the system development life cycle

C.

To define the infrastructure so it can be provisioned consistently with minimal manual tasks

D.

To validate user requirements have been met within each regional datacenter for compliance

Answer: B

Explanation:

QUESTION NO: 26

A Linux systems administrator needs to set permissions on an application with the following parameters:

The owner of the application should be able to read, write, and execute the application.

Members of the group should be able to read and execute the application.

Everyone else should not have access to the application.

Which of the following commands would BEST accomplish these tasks?

A.

chmod 710 <application name>

B.

chmod 730 <application name>

C.

chmod 750 <application name>

D.

chmod 760 <application name>

Answer: D

Explanation:

QUESTION NO: 27

A junior Linux administrator is trying to verify connectivity to the remote host host1 and display round-trip statistics for ten ICMP.

Which of the following commands should the administrator execute?

- A.**
ping -c 10 host1
- B.**
traceroute -c 10 host1
- C.**
netstat host1
- D.**
pathping -c 10 host1

Answer: A

Reference: <https://shapeshed.com/unix-ping/>

QUESTION NO: 28

A junior Linux administrator is updating local name resolution to support IPv6. The administrator issues the command `cat /etc/hosts` and receives the following output:

```
127.0.0.1 localhost
```

Which of the following actions should the administrator perform to accomplish this task?

- A.**

Modify the /etc/hosts file, and add the ipv6 localhost entry to the file.

B.

Modify the /etc/hosts file, and add the ::1 localhost entry to the file.

C.

Modify the /etc/hosts file, and add the ipv4 localhost entry to the file.

D.

Modify the /etc/hosts file, and add the 0.0.0.0 localhost entry to the file.

Answer: D

Explanation:

QUESTION NO: 29

A Linux systems administrator needs to copy the contents of a directory named "working" on the local working system to a folder /var/www/html on a server named "corporate-web".

Which of the following commands will allow the administrator to copy all the contents to the web server?

A.

`scp -r working/* webuser@corporate-web:/var/www/html`

B.

`tar working/* webuser@corporate-web:/var/www/html`

C.

`cp -r working/* webuser@corporate-web:/var/www/html`

D.

`mv working webuser@corporate-web:/var/www/html`

Answer: A

Reference: <https://unix.stackexchange.com/questions/232946/how-to-copy-all-files-from-a-directory-to-a-remote-directory-using-scp>

QUESTION NO: 30

A systems administrator has received reports of intermittent network connectivity to a particular website. Which of the following is the BEST command to use to characterize the location and type of failure over the course of several minutes?

- A.**
`mtr www.comptia.org`
- B.**
`tracert www.comptia.org`
- C.**
`ping www.comptia.org`
- D.**
`netstat www.comptia.org`

Answer: B

Reference: <https://www.lifewire.com/traceroute-linux-command-4092586>

QUESTION NO: 31

A Linux administrator has configured a Linux system to be used as a router. The administrator confirms that two network adapters are properly installed and functioning correctly. In addition, the output of the `iptables -L` command appears to contain a complete firewall configuration.

Which of the following commands does the administrator need to issue for the router to be fully functional?

- A.**
`echo "1" > /proc/sys/net/ipv4/ip_forward`
- B.**
`echo "0" > /proc/sys/net/ipv4/tcp_abort_on_overflow`

C.

echo "0" > /proc/sys/net/ipv4/max_connections

D.

echo "1" > /proc/sys/net/ipv4/ip_default_ttl

Answer: A

Explanation:

QUESTION NO: 32

A systems administration team has decided to their systems as immutable instances. They keep the desired state of each of their systems in version control and apply automation whenever they provision a new instance. If there is an issue with one of their servers, instead of troubleshooting the issue they terminate the instance and rebuild it using automation.

Which of the following is this an example of?

A.

Inventory

B.

Orchestration

C.

Infrastructure as code

D.

Agentless deployment

Answer: C

Explanation:

QUESTION NO: 33

A systems administrator wants to deploy several applications to the same server quickly. Each application should be abstracted from the host with its own dependencies and libraries and utilize a minimal footprint.

Which of the following would be BEST in this scenario?

- A.**
Virtual machines
- B.**
Type 2 hypervisor
- C.**
Chroot jails
- D.**
Containers

Answer: D

Explanation:

QUESTION NO: 34

An operator finds a user is having issues with opening certain files.

Which of the following commands would allow the security administrator to list and check the SELinux context?

- A.**
ls -D
- B.**
ls -a
- C.**
ls -Z
- D.**
ls -l

Answer: C

Reference:

https://access.redhat.com/documentation/enus/red_hat_enterprise_linux/6/html/security-enhanced_linux/sect-security-enhanced_linuxworking_with_selinux-selinux_contexts_labeling_files

QUESTION NO: 35

A new corporate policy states that Bluetooth should be disabled on all company laptops. Which of the following commands would disable the use of Bluetooth?

- A.**
echo "blacklist bluetooth" > /etc/modprobe.d/blacklist-bluetooth
- B.**
echo "kill bluetooth" > /etc/modprobe.d/kill-bluetooth
- C.**
echo "modprobe bluetooth" > /etc/modprobe.d/modprobe-bluetooth
- D.**
echo "rmmod bluetooth" > /etc/modprobe.d/rmmod-bluetooth

Answer: C

Explanation:

QUESTION NO: 37

A Linux systems administrator wants the ability to access systems remotely over SSH using RSA authentication. to which of the following files should the RSA token be added to allow this access?

- A.**
authorized_keys
- B.**
~/.ssh/ssh_config
- C.**
id_rsa.pub
- D.**
known_hosts

Answer: C

Reference: <https://www.digitalocean.com/community/tutorials/how-to-configure-ssh-key-based-authentication-on-a-linux-server>

QUESTION NO: 38

A Linux server needs to be accessed, but the root password is not available.

Which of the following would BEST allow an administrator to regain access and set a new known password at the same time?

- A.**
Boot into a single-user mode and reset the password via the passwd command.
- B.**
Boot into a single-user mode and reset the password by editing the /etc/passwd file.
- C.**

Boot into a single-user mode and reset the password by editing the /etc/shadow file.

D.

Boot into a single-user mode and reset the password via the chage command.

Answer: A

Reference: <https://phoenixnap.com/kb/how-to-change-root-password-linux>

QUESTION NO: 39

A Linux administrator wants to fetch a Git repository from a remote Git server.

Which of the following is the BEST command to perform this task?

A.

git checkout

B.

git clone

C.

git merge

D.

git config

Answer: B

Reference: <https://git-scm.com/book/en/v2/Git-Basics-Working-with-Remotes>

QUESTION NO: 40

An administrator needs to create a shared directory in which all users are able, write, and execute its content but none of the regular users are able to delete any content.

Which of the following permissions should be applied to this shared directory?

- A.**
rwxrwxrwt
- B.**
rwxrwxrws
- C.**
rwxrwxrwx
- D.**
rwxrwxrw*

Answer: C

Explanation:

QUESTION NO: 41

A systems administrator has finished building a new feature for the monitoring software in a separate Git branch.

Which of the following is the BEST method for adding the new feature to the software's master branch?

- A.**
Merge the changes from the feature branch to the master branch.
- B.**
Save the changes to the master branch automatically with each Git commit.
- C.**
Clone the feature branch into the master branch.
- D.**
Pull the changes from the feature branch into the master branch.

Answer: A

Reference: <https://git-scm.com/book/en/v2/Git-Branching-Basic-Branching-and-Merging>

QUESTION NO: 42

Which of the following will provide a list of all flash, external, internal, and SSD drives?

- A.**
lspci
- B.**
lsmod
- C.**
lsblk
- D.**
lsusb

Answer: C

Reference: <https://www.linux.com/learn/intro-to-linux/2017/3/how-format-storage-devices-linux>

QUESTION NO: 43

Which of the following configuration management tools is considered agentless?

- A.**
Ouppet
- B.**
Salt

C.
Ansible

D.
Chef

Answer: C

Reference: <https://www.intigua.com/blog/puppet-vs.-chef-vs.-ansible-vs.-saltstack>

QUESTION NO: 45

Which of the following is a difference between YAML and JSON?

A.
Users can comment in YAML but not in JSON

B.
JSON only curly brackets, while YAML only uses square brackets

C.
JSON is used in web development, while YAML is used solely in back-end systems.

D.
YAML has been deprecated for JSON.

Answer: A

Reference: <https://www.json2yaml.com/yaml-vs-json>

QUESTION NO: 46

A junior administrator of a physical server receives log messages indicating the out-of-memory killer has been active. All memory slots are in use on the motherboard, but additional disk space is available. Space has been allocated for a swap file.

Which of the following should the administrator use to reduce the output of memory messages?

A.

free : swapoff / swapfile ; swapon -a

B.

mkswap /swapfile; swapon -a

C.

fallocate -l 2G /swapfile && swapon -a

D.

echo "1" > /proc/meminfo ; swapon / swapfile

Answer: A

Explanation:

QUESTION NO: 49

A system administrator has deployed a Linux server based on an Anaconda process with all packages and custom configurations necessary to install a web server role.

Which of the following could be used to install more Linux servers with the same characteristics?

A.

/etc/sysconfig/anaconda/cfg

B.

/root/anaconda.auto

C.

/root/anaconda-ks.cfg

D.

/etc/sysconfig/installation.cfg

Answer: C

Reference:

https://access.redhat.com/documentation/enus/red_hat_enterprise_linux/6/html/installation_guide/sn-automating-installation

QUESTION NO: 50

A Linux administration is using a Linux system as a router. During the tests, the administrator discovers that IP packets are not being sent between the configured interfaces.

Which of the following commands enables this feature for IPv4 networks?

A.

`cat /proc/sys/net/ipv4/ip_route > 1`

B.

`echo "1" > /proc/sys/net/ipv4/ip_forward`

C.

`echo "1" > /proc/sys/net/ipv4/ip_route`

D.

`echo "1" > /proc/sys/net/ipv4/ip_net`

Answer: B

Explanation:

QUESTION NO: 51

A systems administrator wants to know the current status of a series of dd jobs that were started in the background three hours ago.

Which of the following commands will achieve this task?

A.

`sudo killall -HUP dd`

B.

`sudo killall dd`

C.

`sudo killall -TERM dd`

D.

`sudo killall -USR1 dd`

Answer: D

Reference: <https://askubuntu.com/questions/215505/how-do-you-monitor-the-progress-of-dd>

QUESTION NO: 52

A Linux administrator needs the “tech” account to have the option to run elevated commands as root.

Which of the following commands would BEST meet this goal?

A.

`$ su - tech -c "/bin/bash"`

B.

`# usermod -aG wheel tech`

C.

`# sudo -l tech`

D.

`# groupadd -u tech -g root`

Answer: C

Explanation:

QUESTION NO: 53

Which of the following is the purpose of the `vmlinux` file on a Linux system?

A.

To prevent a Linux kernel panic

B.

To start a Linux virtual machine

C.

To provide the executable kernel for the system

D.

To enable resource access to the network

Answer: C

Reference: <https://en.wikipedia.org/wiki/Vmlinux>

QUESTION NO: 55

A Linux administrator needs to take stock of USB devices attached to the system.

Which of the following commands would be BEST to complete this task?

A.

lspci

B.

lsusb

C.

cat /proc/USB

D.

modprobe --usb

Answer: B

Reference: <https://linuxhint.com/list-usb-devices-linux/>

QUESTION NO: 57

Which of the following server roles would assign a host IP address?

- A.**
DHCP
- B.**
NTP
- C.**
DNS
- D.**
SSH

Answer: A

Explanation:

QUESTION NO: 58

Which of the following commands would show the default printer on a Linux system?

- A.**
lpr
- B.**
lpq
- C.**
lpstat
- D.**
lspci

Answer: B

Reference: <https://superuser.com/questions/123576/show-default-linux-printer>

QUESTION NO: 59

A system administrator has set up third-party log aggregation agents across several cloud instances. The systems administrator wants to create a dashboard of failed SSH attempts and the usernames used.

Which of the following files should be watched by the agents?

A.

/var/log/audit/audit.log

B.

/var/log/kern.log

C.

/var/log/monitor

D.

/etc/rsyslog.conf

Answer: D

Explanation:

QUESTION NO: 60

A systems administrator must clean up all application files in the directory /var/log/app. However, the company's security policy requires the files to be kept on the backup server for one year. The Linux server has only the tar and bzip2 packages installed.

Which of the following commands will package and compress the files?

A.

`tar -zcvf applicationfiles.tar.bz2 /var/log/app/*`

B.

`tar -jcvf applicationfiles.tar.bz2 /var/log/app/*`

C.

`tar -cvf applicationfiles.tar.bz2 /var/log/app/*`

D.

`tar -xvf applicationfiles.tar.bz2 /var/log/app/*`

Answer: C

Explanation:

QUESTION NO: 61

In order to comply with new security policies, an administrator needs to prevent the SSH server from using insecure algorithms.

Which of the following files should be edited to accomplish this?

A.

`/etc/ssh/sshd_config`

B.

`/etc/ssh/ssh_config`

C.

`~/.ssh/ssh_config`

D.

`/etc/ssh/known_hosts`

Answer: A

Explanation:

QUESTION NO: 62

Which of the following configuration files should be modified to disable Ctrl-Alt-Del in Linux?

A.

/etc/inittab

B.

~/.bash_profile

C.

/etc/securetty

D.

/etc/security/limits.conf

Answer: A

Reference: <https://www.linuxtechi.com/disable-reboot-using-ctrl-alt-del-keys/>