

CompTIA

Exam Questions XK0-004

CompTIA Linux+ Certification Exam



NEW QUESTION 1

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

NEW QUESTION 2

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

NEW QUESTION 3

A Linux administrator has installed a web application firewall in front of a web server running on HTTP port 8080 and successfully started the HTTP server. However, after opening the application URL in an Internet browser, the administrator discovered that the application does not work. The administrator performed the following diagnostic steps:

Output of `sysctl -a` command:

```
kernel.sched_child_runs_first = 0
kernel.panic = 0
kernel.ftrace_enabled = 1
kernel.sysrq = 1
net.ipv4.icmp_echo_ignore_all = 0
```

Output of `iptables -L` command:

```
Chain INPUT (policy ACCEPT)

target    prot opt source destination
ACCEPT    tcp  --  anywhere anywhere    tcp dpt:webcache

Chain FORWARD (policy ACCEPT)

target    prot opt source destination
ACCEPT    tcp  --  anywhere anywhere    dpt:webcache

Chain OUTPUT (policy ACCEPT)

target    prot opt source destination
```

Output of `netstat -nltp | grep "8080"`:

```
tcp    0.0.0.0:8080    0.0.0.0*    Listen    12801/httpd
```

Which of the following is the NEXT step the administrator should perform to permanently fix the issue at the kernel level?

- A. `sysctl -w net.ipv4.ip_forward=1` then run `sysctl -w /etc/sysctl.conf` to enable the change
- B. Edit `/etc/sysctl.conf` file and add `net.ipv4.ip_forward = 1` then run `sysctl -p /etc/sysctl.conf` to enable the change
- C. Add iptables rule `iptables -A INPUT -m state --state NEW -p tcp --dport 8080 -j` then restart httpd daemon
- D. Add iptables rule `iptables -A FORWARD -m state --state NEW -p tcp --dport 8080 -j ACCEPT` then restart httpd daemon

Answer: D

NEW QUESTION 4

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

NEW QUESTION 5

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

NEW QUESTION 6

An administrator is tasked with increasing the size of the volume `/dev/vg/lv` to 20GB. Which of the following BEST illustrates the steps the administrator should take?

- A. `vgextend -L20G /dev/vg/lv; resize2fs /dev/vg/lv`
- B. `parted -L20G /dev/vg/lv; remount /dev/vg/lv`
- C. `mkfs -L20G /dev/vg/lv; tune2fs /dev/vg/lv`
- D. `lvextend -L20G /dev/vg/lv; resize2fs /dev/vg/lv`

Answer: D

NEW QUESTION 7

A Linux administrator implemented a new HTTP server using the default configuration. None of the users on the network can access the server. If there is no problem on the network or with the users' workstations, which of the following steps will BEST analyze and resolve the issue?

- A. Run `netstat` to ensure the port is correctly bound, and configure the firewall to allow access on ports 80 and 443
- B. Run `route` to ensure the port is correctly bound, and configure the firewall to allow access on ports 80 and 443
- C. Run `netcat` to ensure the port is correctly bound, and configure a static route to the web to allow access on ports 80 and 443
- D. Run `route` to ensure the port is correctly bound, and configure SELinux to allow access on ports 80 and 443

Answer: C

NEW QUESTION 8

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

NEW QUESTION 9

A server is almost out of free memory and is becoming unresponsive. Which of the following sets of commands will BEST mitigate the issue?

- A. `free`, `fack`, `partprobe`
- B. `lsof`, `lvcreate`, `mdadm`
- C. `df`, `du`, `rmmod`
- D. `fdisk`, `mkswap`, `swapon -a`

Answer: A

NEW QUESTION 10

A Linux systems administrator is setting up SSH access with PKI for several using their newly created RSA keys. Which of the following MOST securely achieves this task?

- A. Use `curl` to copy each user's public key file to the respective system
- B. Use `cp` to copy each user's public key file to the respective system
- C. Use `ssh-copy-id` to copy each user's public key file to the respective system
- D. Use `ssh-copy-id` to copy each user's private key file to the respective system

Answer: C

NEW QUESTION 10

A junior Linux administrator is installing a new application with CPU architecture requirements that have the following specifications:

x64 bit 3.0GHz speed

Minimum quad core

The administrator wants to leverage existing equipment but is unsure whether the requirements of these systems are adequate. The administrator issues the following command `cat /proc/cpuinfo`. The output of the command is as follows:

```
processor:          0
vendor_id:         GenuineIntel
cpu_family:        x64
model:             58
model name:        Intel (R) Core(TM) i7-3687U @2.10 GHz
stepping:          9
microcode:         0x1c
cpu MHz:           2593.84
cache size:        4096KB
siblings:          1
core id:           0
cpd cores:         4
```

Which of the following is the recommended course of action the administrator should take based on this output?

- A. Install the application, as the system meets the application requirements
- B. Procure new equipment that matches the recommended specifications
- C. Recompile the Linux kernel to support the installation.
- D. Reconfigure lib modules to support the new application.

Answer: A

NEW QUESTION 11

A Linux systems administrator installed a new web server, which failed while attempting to start. The administrator suspects that SELinux is causing an issue and wants to temporarily put the system into permissive mode. Which of the following would allow the administrator to accomplish this?

- A. `echo SELINUX=PERMISSIVE >> /etc/sysconfig/selinux`
- B. `setenforce 0`
- C. `sestatus 0`
- D. `chcon httpd_sys_content_t /var/`

Answer: B

NEW QUESTION 15

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

NEW QUESTION 20

Given the output below:

```
drwxr-xr-x. 4096 user1 user1 Documents
drwxr-xr-x. 4096 user1 user1 Music
lrwxrwxrwx. 1 root root MyPhoto.jpg ->/Pictures/photo.jpg
drwxr-xr-x. 4096 user1 user1 Pictures
-rw-r--r--. 256 user1 user1 text.txt
-rw-r--r--. 35 user1 user1 tmp.tmp
```

Which of the following commands can be used to remove MyPhoto.jpg from the current directory?

- A. `unlink ./MyPhoto.jpg`
- B. `del Pictures/photo.jpg`
- C. `rm -rf ./Pictures`
- D. `rm -f MyPhoto.jpg`
- E. `ln -rm ./Pictures/photo.jpg`

Answer: E

NEW QUESTION 21

Which of the following statements BEST represents what the term “agentless” means regarding orchestration?

- A. Installation of a tool is not required on the remote system to perform orchestration tasks
- B. It facilitates version control when using infrastructure as code during orchestration
- C. It automatically removes malware from the remote system during orchestration
- D. A tool can only be accessed remotely to perform orchestration tasks

Answer: A

NEW QUESTION 24

A junior Linux administrator is optimizing a system in which an application needs to take priority 0 when running the process. The administrator runs the `ps` command and receives the following output:

PID	PPID	TTY	Time	CMD
8481	2	pts/17	16:40:00	app
9854	0	pts/17	16:40:00	ps

Given this scenario, which of the following steps will address this issue?

- A. Issue the command `ronice -n 0 -p 8481`
- B. Issue the command `renice -p 8481`
- C. Issue the command `renice -p 0 -n 8481`
- D. Issue the command `renice -n 8481`

Answer: D

NEW QUESTION 28

An administrator has modified the configuration file for a service. The service is still running but is not using the new configured values. Which of the following will BEST remediate this issue?

- A. `kill -HUP`
- B. `init 0`
- C. `service start`
- D. `renice -10`

Answer: A

NEW QUESTION 33

A systems administrator needs to retrieve specific fields from a csv file. Which of the following tools would accomplish this task?

- A. `awk`
- B. `sort`
- C. `print`
- D. `echo`

Answer: A

NEW QUESTION 34

A junior systems administrator is creating a cron job. The cron job requirements are as follows: Run the `hello.sh` script every hour (24 times in one day). Run it on Monday only.

Given this scenario, which of the following crontab options should be configured to meet these requirements?

- A. `0 *** 1 hello.sh`
- B. `0 24 ** Monday hello.sh`
- C. `24 *** Monday hello.sh`
- D. `1 *** 0 hello.sh`

Answer: C

NEW QUESTION 35

A company wants to ensure that all newly created files can be modified only by their owners and that all new directory content can be changed only by the creator of the directory. Which of the following commands will help achieve this task?

- A. `umask 0022`
- B. `umask 0012`
- C. `chmod -R 0644 /`
- D. `chmod -R 0755 /`

Answer: A

NEW QUESTION 37

A Linux administrator is using a public cloud provider to host servers for a company's website. Using the provider's tools, the administrator wrote a JSON file to define how to deploy the servers. Which of the following techniques did the administrator use?

- A. Infrastructure as code
- B. Build automation
- C. Platform as a service

D. Automated configuration

Answer: B

NEW QUESTION 38

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

NEW QUESTION 43

An analyst is trying to determine which public IP addresses are managed by Company A, but the script is not working correctly.

```
for ip in $(cat ip-list.txt)
do whois $ip | grep "Company A" > /dev/null
    if [ $? -ne 0 ]
        then echo "$ip"
    fi
done
```

Which of the following explains what is wrong with the script?

- A. \$(cat ip-list.txt) should be changed to `cat ip-list.txt` in the for statement.
- B. The for should be changed to while in the loop.
- C. The > should be changed to 2> in the do statement.
- D. The -ne flag should be changed to -eq in the if statement.

Answer: A

NEW QUESTION 46

A systems administrator needs to install a new piece of hardware that requires a new driver. The driver should be manually installed. Which of the following describes the order of commands required to obtain module information, install the module, and check the log for any errors during module installation?

- A. lsmod, modprobe, modinfo
- B. modinfo, insmod, modprobe
- C. modinfo, insmod, dmesg
- D. lsmod, insmod, dmesg

Answer: A

NEW QUESTION 51

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

NEW QUESTION 52

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

NEW QUESTION 57

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

NEW QUESTION 58

A Linux system is running normally when the systems administrator receives an alert that one application spawned many processes. The application is consuming a lot of memory, and it will soon cause the machine to become unresponsive. Which of the following commands will stop each application process?

- A. kill 'pidof application'
- B. killall application
- C. kill -9 'ps -aux | grep application'
- D. pkill -9 application

Answer: B

NEW QUESTION 61

A Linux administrator wants to obtain a list of files and subdirectories in the /etc directory that contain the word "services". Once the files and subdirectories are discovered, they should be listed alphabetically in the /var/tmp/foundservices file. Which of the following shell scripts will accomplish this task?

- A. #/bin/bashfind /etc -name services | sort > /var/tmp/foundservices
- B. #/bin/bashlocate /etc -sort -name services > /var/tmp/foundservices
- C. #/bin/bashfind -name services -sort </var/tmp/foundservices
- D. #/bin/bashfind /etc -name services -sort > /var/tmp/foundservices

Answer: B

NEW QUESTION 63

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 assists the administrator in identifying the problem?

- A. lsof | grep largelogfile
- B. pkill /tmp/largelogfile
- C. pgrep largelogfile
- D. ps -ef | grep largelogfile

Answer: A

NEW QUESTION 67

A Linux administrator retrieved a repository of files from a Git server using git clone. The administrator wants to see if a configuration file was added to the repository. Which of the following Git arguments should be used to see the recent modifications?

- A. fetch
- B. log
- C. init
- D. pull

Answer: D

NEW QUESTION 68

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

NEW QUESTION 72

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

NEW QUESTION 73

A user wants to list the lines of a log, adding a correlative number at the beginning of each line separated by a set of dashes from the actual message. Which of the following scripts will complete this task?

```
A. #!/bin/bash
LOG='/var/log/auth.log'
nrlines=0
while read LINE
do
    nrlines=$((nrlines + 1))
    echo $nrlines --- ${LINE}
done < ${LOG}

B. #!/bin/bash
LOG='/var/log/auth.log'
nrlines=0
while read LINE
do
    nrlines=$((nrlines + 1))
    echo $nrlines --- ${LINE}
done

C. #!/bin/bash
LOG='/var/log/auth.log'
nrlines=0
while read LINE
do
    nrlines=$((nrlines + 1))
    echo $nrlines --- ${LINE}
done < ${LOG}

D. #!/bin/bash
LOG='/var/log/auth.log'
nrlines=0
while read LINE
do
    nrlines=$((nrlines + 1))
    echo $nrlines --- ${LINE}
done < ${LOG}
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: D

NEW QUESTION 74

A member of the production group issues the following command:

```
echo "Monday through Friday" > /production_docs/days
```

The command fails to execute, so the user obtains the following output: drwxr--r-- root production 0 Jun 16 2018 production

-rw-r--r-- production production 4096 Jun 14 2018 days

Which of the following commands should the user execute to BEST fix the issue?

- A. `chmod g+w production` to change the permissions of the days file
- B. `chgrp root production_docs/days` to change the group ownership of the production_docs/ days file
- C. `chmod g+S production` to set the GUID on the production_docs directory
- D. `chown production` to change the ownership of the production_docs directory

Answer: D

NEW QUESTION 78

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

NEW QUESTION 82

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

NEW QUESTION 84

After installing a new web server, you are unable to browse to the default web page. INSTRUCTIONS

Review all the command output and select the command needed to remediate the issue.

If at any time you would like to bring back the initial state of the simulation, please click the Reset All button.

Commands

```
[root@webserver log]# getenforce
[root@webserver log]# getsebool -a | grep httpd
[root@webserver log]# netstat -antp
[root@webserver log]# ss -antp
[root@webserver log]# ps -ef | grep nginx
[root@webserver log]# grep avc /var/log/audit/audit.log
[root@webserver log]# more /var/log/web/access_log
[root@webserver log]# more /var/log/web/error_log
[root@webserver log]# ls -la
[root@webserver log]# journalctl -u nginx -l
[root@webserver log]# systemctl status webserver
[root@webserver log]# sealer
```

Answer

```
[root@webserver log]#
```

```
systemctl restart nginx
setsebool -P httpd_read_user_content =1
restorecon -rv /home/comptia/html
kill -HUP 3431
sysctl -w net.ipv4 ip_forward = 1
chown -R comptia: /home/comptia/html/
firewall-cmd --zone=public --service=http --permanent
chmod 777 /home/comptia/html/
setfacl -m g:comptia:rwX /home/comptia/html/
cp -R /home/comptia/html /var/www/html
```

Output

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Commands

```
[root@webserver log]# getenforce
[root@webserver log]# getsebool -a | grep httpd
[root@webserver log]# netstat -antp
[root@webserver log]# ss -antp
[root@webserver log]# ps -ef | grep nginx
[root@webserver log]# grep avc /var/log/audit/audit.log
[root@webserver log]# more /var/log/web/access_log
[root@webserver log]# more /var/log/web/error_log
[root@webserver log]# ls -la
[root@webserver log]# journalctl -u nginx -l
[root@webserver log]# systemctl status webserver
[root@webserver log]# sealer
```

Answer

```
[root@webserver log]#
```

```
systemctl restart nginx
setsebool -P httpd_read_user_content =1
restorecon -rv /home/comptia/html
kill -HUP 3431
sysctl -w net.ipv4 ip_forward = 1
chown -R comptia: /home/comptia/html/
firewall-cmd --zone=public --service=http --permanent
chmod 777 /home/comptia/html/
setfacl -m g:comptia:rwX /home/comptia/html/
cp -R /home/comptia/html /var/www/html
```

Output

NEW QUESTION 86

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

NEW QUESTION 87

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

NEW QUESTION 92

All users are reporting that they cannot connect to the SFTP server. The administrator runs a scan:

```
starting nmap 4.11 at 2018-06-16 EST
not shown: 1456 closed ports
```

PORT	STATE	SERVICE
53/tcp	open	dns
80/tcp	open	http
957/tcp	open	unknown

```
MAC Address 08:00:00:00:00:00 ( computer systems )
nmap finished = 1 ip address ( 1 host up ) scanned in 1.497 seconds
You have mail in /var/spool/mail/root
```

Which of the following would allow the administrator to fix the problem?

- A. Allow SFTP connections on port 22 using /etc/sysconfig/iptables.
- B. Allow SFTP connections on port 20 and 21 using /etc/sysconfig/iptables.
- C. Allow SFTP connections on port 25 using /etc/sysconfig/iptables.
- D. Allow SFTP connections on port 1456 using /etc/sysconfig/iptables.

Answer: A

NEW QUESTION 93

A junior systems administrator created a new filesystem /dev/sda1 with mountpoint /data and added it to the /etc/fstab for auto-mounting.

When the systems administrator tries to mount the file system, the system refuses. Given the output below:

```
/dev/mapper/VolGroup00-Log-Vol100 / xfs defaults 0 0
/dev/sda1 /data xfs noauto,dev,sync,ro,nosuid 0 0
/dev/mapper/VolGroup00-Log-Vol101 swap swap defaults 0 0
/dev/sda2 /mine ext4 auto,suid,sync,rw,dev 0 0
```

Which of the following steps is necessary?

- A. Change the filesystem from /dev/sda1 to /dev/sda2 and reboot.
- B. Change the options to auto,dev,sync,rw,nosuid and run the mount -a command.
- C. Change the mount point to data and reboot.
- D. Change the dump column to 1 and run the mount -a command.

Answer: B

NEW QUESTION 95

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: 127.1.1.1 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

NEW QUESTION 96

An engineer is working on a production application deployment that requires changing a web application property file called server.property that is managed by the Git version control system. A cloned copy of the remote repository in which the server.property file exists is on the local desktop computer. The engineer makes appropriate changes to the files, saves it as server.property, and executes git commit -m "changed the property file" server.property. Which of the following commands did the engineer fail to perform?

- A. git init server.property
- B. git merge server.property
- C. git add server.property
- D. git push server.property

Answer: D

NEW QUESTION 97

A technician wants to secure a sensitive workstation by ensuring network traffic is kept within the local subnet. To accomplish this task, the technician executes the following command:

```
echo 0 > /proc/sys/net/ipv4/ip_default_ttl
```

Which of the following commands can the technician use to confirm the expected results? (Choose two.)

- A. tcpdump
- B. traceroute
- C. route
- D. iperf
- E. ip
- F. arp

Answer: CF

NEW QUESTION 102

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