XK0-005 Dumps

CompTIA Linux+ Certification Exam

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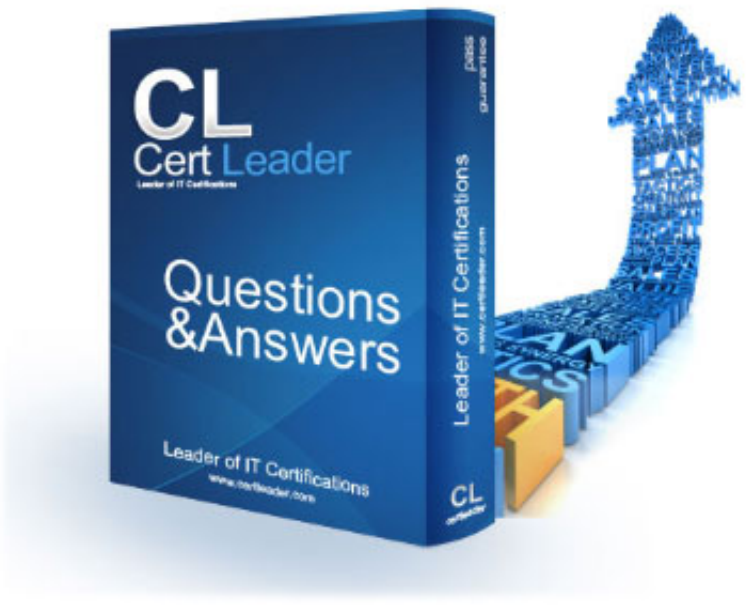


NEW QUESTION 1
A Linux administrator was notified that a virtual server has an I/O bottleneck. The Linux administrator analyzes the following output:

```
root@linux:~# uptime
18:43:47 up 1 day, 19:58, 1 user, load average: 9.90, 5.83, 2.49
root@linux:~# vmstat 10 10
procs -----------memory---------- --swap----- -----io---- -system- ------------cpu-------

  r  b  swpd   free   buff   cache  si     so  bi     bo     in      cs  us  sy  id  wa  st
 13  0  5520 141228  98932 2325312   0      2  10     28    192     167   1   0  99   0   0
 10  0  5608 131280  98932 2325324   0  26211   0  26211    342     393  91   9   0   0   0
 10  0  5528   1096  98932 2325324   0   5242   0   5242    333     402  96   4   0   0   0

root@linux:~# free -m

              total        used        free      shared  buff/cache   available
Mem:           3933        1454         110          33        2368        2202
Swap:          1497           5        1491
```

Given there is a single CPU in the sever, which of the following is causing the slowness?

A. The system is running out of swap space.
B. The CPU is overloaded.
C. The memory is exhausted.
D. The processes are paging.

Answer: B

Explanation:
The slowness is caused by the CPU being overloaded. The iostat command shows that the CPU utilization is 100%, which means that there are more processes competing for CPU time than the CPU can handle. The other options are incorrect because:
? The system is not running out of swap space, as shown by the iostat command, which shows that there is no swap activity (si and so columns are zero).
? The memory is not exhausted, as shown by the free -m command, which shows that there is still available memory (avail column) and free buffer/cache memory (buff/cache column).
? The processes are not paging, as shown by the vmstat command, which shows that there are no major page faults (majflt column) and no swap activity (si and so columns). References: CompTIA Linux+ Study Guide, Fourth Edition, page 417- 419, 424-425.

NEW QUESTION 2
A Linux administrator needs to remove software from the server. Which of the following RPM options should be used?

A. rpm -s
B. rm -d
C. rpm -q
D. rpm -e

Answer: D

Explanation:
The RPM option -e should be used to remove software from the server. The rpm command is a tool for managing software packages on RPM-based Linux distributions. The -e option stands for erase and removes the specified package from the system. This is the correct option to use to accomplish the task. The other options are incorrect because they either do not exist (-s or -d) or do not remove software (-q stands for query and displays information about the package). References: CompTIA Linux+ (XK0-
005) Certification Study Guide, Chapter 16: Managing Software, page 489.

NEW QUESTION 3
A Linux administrator needs to obtain a list of all volumes that are part of a volume group. Which of the following commands should the administrator use to accomplish this task?

A. vgs
B. lvs
C. fdisk -1
D. pvs

Answer: B

Explanation:
The lvs command can be used to obtain a list of all volumes that are part of a volume group. This command will display information such as the name, size, attributes, and volume group of each logical volume in the system. The vgs command can be used to obtain a list of all volume groups in the system, not the volumes. The fdisk -1 command is invalid, as -1 is not a valid option for fdisk. The pvs command can be used to obtain a list of all physical volumes in the system, not the volumes. References: CompTIA Linux+ (XK0- 005) Certification Study Guide, Chapter 14: Managing Disk Storage, page 461.

NEW QUESTION 4
A Linux administrator is tasked with creating resources using containerization. When deciding how to create this type of deployment, the administrator identifies some key features, including portability, high availability, and scalability in production. Which of the following should the Linux administrator choose for the new design?

A. Docker
B. On-premises systems
C. Cloud-based systems

D. Kubernetes

Answer: D

Explanation:
The Linux administrator should choose Kubernetes for the new design that requires portability, high availability, and scalability in production using containerization. Kubernetes is an open-source platform that automates the deployment, scaling, and management of containerized applications across clusters of nodes. Kubernetes provides features such as service discovery, load balancing, storage orchestration, self-healing, secret and configuration management, and batch execution. Kubernetes also supports multiple container runtimes, such as Docker, containerd, and CRI-O, making it portable across different platforms and clouds. References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 18: Automating Tasks; What is Kubernetes? | Kubernetes

NEW QUESTION 5
An administrator recently updated the BIND software package and would like to review the default configuration that shipped with this version. Which of the following files should the administrator review?

A. /etc/named.conf.rpmnew
B. /etc/named.conf.rpmsave
C. /etc/named.conf
D. /etc/bind/bind.conf

Answer: A

Explanation:
After installing a new version of a package that includes a configuration file that already exists on the system, such as /etc/httpd/conf/httpd.conf, RPM will create a new file with the .rpmnew extension instead of overwriting the existing file. This allows the administrator to review the default configuration that shipped with this version and compare it with the current configuration before deciding whether to merge or replace the files. The /etc/named.conf.rpmsave file is created by RPM when a package is uninstalled and it contains a configuration file that was modified by the administrator. This allows the administrator to restore the configuration file if needed. The /etc/named.conf file is the main configuration file for the BIND name server, not the httpd web server. The /etc/bind/bind.conf file does not exist by default in Linux systems. References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 19: Managing Packages and Software, page 561.

NEW QUESTION 6
A Linux administrator has physically added a new RAID adapter to a system. Which of the following commands should the Linux administrator run to confirm that the device has been recognized? (Select TWO).

A. rmmod
B. ls -11 /etc
C. lshw —class disk
D. pvdisplay
E. rmdir /dev
F. dmesg

Answer: CF

Explanation:
The following commands can help you confirm that the new RAID adapter has been recognized by the Linux system:
? dmesg: This command displays the kernel messages, which can show the information about the newly detected hardware device. You can use dmesg | grep -i raid to filter the output for RAID-related messages.
? lshw -class disk: This command lists the disk devices on the system, including the RAID controller and its model name. You can use lshw -class disk | grep -i raid to filter the output for RAID-related information1.
The other commands are not relevant for this purpose. For example:
? rmmod: This command removes a module from the Linux kernel, which is not useful for detecting a new device.
? ls -l /etc: This command lists the files and directories in the /etc directory, which is not related to hardware devices.
? pvdisplay: This command displays the attributes of physical volumes, which are part of the logical volume management (LVM) system, not the RAID system.
? rmdir /dev: This command removes an empty directory, which is not helpful for detecting a new device. Moreover, /dev is a special directory that contains device files, and should not be removed.

NEW QUESTION 7
A Linux administrator is configuring a new internal web server fleet. The web servers are up and running but can only be reached by users directly via IP address. The administrator is attempting to fix this inconvenience by requesting appropriate records from the DNS team. The details are:
Hostname: devel.comptia.org
IP address: 5.5.5.1, 5.5.5.2, 5.5.5.3, 5.5.5.4
Name server: 5.5.5.254
Additional names: dev.comptia.org, development.comptia.org
Which of the following types of DNS records should the Linux administrator request from the DNS team? (Select three).

A. MX
B. NS
C. PTR
D. A
E. CNAME
F. RRSIG
G. SOA
H. TXT
I. SRV

Answer: BDE

Explanation:
The Linux administrator should request the following types of DNS records from the DNS team:
? A: This record type is used to map a hostname to an IPv4 address. The administrator needs four A records for devel.comptia.org, one for each IP address

(5.5.5.1, 5.5.5.2, 5.5.5.3, 5.5.5.4). This will allow users to access the web servers by using the hostname devel.comptia.org instead of the IP addresses1.
? CNAME: This record type is used to create an alias for another hostname. The administrator needs two CNAME records, one for dev.comptia.org and one for development.comptia.org, both pointing to devel.comptia.org. This will allow users to access the web servers by using any of these three hostnames interchangeably1.
? NS: This record type is used to delegate a domain or a subdomain to another name server. The administrator needs one NS record for comptia.org, pointing to 5.5.5.254, which is the name server that hosts the records for the subdomain devel.comptia.org2. This will allow users to resolve the hostnames under comptia.org by querying the name server 5.5.5.2542.
The other record types are not relevant for the administrator's task:
? MX: This record type is used to specify the mail exchange server for a domain or a subdomain1. The administrator does not need this record type because the web servers are not intended to handle email traffic.
? PTR: This record type is used to map an IP address to a hostname, which is the reverse of an A record1. The administrator does not need this record type because the web servers are not expected to be accessed by their IP addresses.
? RRSIG: This record type is used to provide digital signatures for DNSSEC, which is a security extension for DNS that verifies the authenticity and integrity of DNS responses3. The administrator does not need this record type because it is not mentioned in the task requirements.
? SOA: This record type is used to provide information about the authoritative name server and other parameters for a domain or a subdomain1. The administrator does not need this record type because it is usually created automatically by the name server software when a new zone file is created4.
? TXT: This record type is used to store arbitrary text data that can be used for various purposes, such as SPF, DKIM, DMARC, etc1. The administrator does not need this record type because it is not related to the web server functionality.
? SRV: This record type is used to specify the location and port number of a service that runs on a domain or a subdomain1. The administrator does not need this record type because the web servers use the standard HTTP port 80, which does not require an SRV record.
References: 1: DNS Record Types – CompTIA Network+ N10-007 – 1.8 2: NS Record - DNSimple Help 3: DNSSEC - Wikipedia 4: SOA Record - DNSimple Help

NEW QUESTION 8
A cloud engineer needs to block the IP address 192.168.10.50 from accessing a Linux server. Which of the following commands will achieve this goal?

A. iptables -F INPUT -j 192.168.10.50 -m DROP
B. iptables -A INPUT -s 192.168.10.30 -j DROP
C. iptables -i INPUT --ipv4 192.168.10.50 -z DROP
D. iptables -j INPUT 192.168.10.50 -p DROP

Answer: B

Explanation:
The correct command to block the IP address 192.168.10.50 from accessing a Linux server is iptables -A INPUT -s 192.168.10.50 -j DROP. This command appends a rule to the INPUT chain that matches the source address 192.168.10.50 and jumps to the DROP target, which discards the packet. The other commands are incorrect because they either have invalid syntax, wrong parameters, or wrong order of arguments. References:
CompTIA Linux+ Study Guide, Fourth Edition, page 457-458.

NEW QUESTION 9
In order to copy data from another VLAN, a systems administrator wants to temporarily assign IP address 10.0.6 5/24 to the newly added network interface enp1s0f1. Which of the following commands should the administrator run to achieve the goal?

A. ip addr add 10.0.6.5/24 dev enpls0f1
B. echo "IPV4_ADDRESS=10.0.6.5/24" > /etc/sysconfig/network-scripts/ifcfg-enplsOfl
C. ifconfig 10.0.6.5/24 enpsIs0f1
D. nmcli conn add lpv4.address-10.0.6.5/24 ifname enpls0f1

Answer: A

Explanation:
The command ip addr add 10.0.6.5/24 dev enp1s0f1 will achieve the goal of temporarily assigning IP address 10.0.6.5/24 to the newly added network interface enp1s0f1. The ip command is a tool for managing network interfaces and routing on Linux systems. The addr option specifies the address manipulation mode. The add option adds a new address to an interface. The 10.0.6.5/24 is the IP address and the subnet mask in CIDR notation. The dev option specifies the device name. The enp1s0f1 is the name of the network interface. The command ip addr add 10.0.6.5/24 dev enp1s0f1 will add the IP address 10.0.6.5/24 to the network interface enp1s0f1, which will allow the administrator to copy data from another VLAN. This is the correct command to use to achieve the goal. The other options are incorrect because they either do not add a new address to an interface (echo "IPV4_ADDRESS=10.0.6.5/24" > /etc/sysconfig/network-scripts/ifcfg- enp1s0f1 or ifconfig 10.0.6.5/24 enp1s0f1) or do not use the correct syntax for the command (nmcli conn add ipv4.address-10.0.6.5/24 ifname enp1s0f1 instead of nmcli conn add type ethernet ipv4.address 10.0.6.5/24 ifname enp1s0f1). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 12: Managing Network Connections, page 385.

NEW QUESTION 10
To harden one of the servers, an administrator needs to remove the possibility of remote administrative login via the SSH service. Which of the following should the administrator do?

A. Add the line DenyUsers root to the /etc/hosts.deny file.
B. Set PermitRootLogin to no in the /etc/ssh/sshd_config file.
C. Add the line account required pam_nologi
D. so to the /etc/pam.d/sshd file.
E. Set PubKeyAuthentication to no in the /etc/ssh/ssh_config file.

Answer: B

Explanation:
The administrator should set PermitRootLogin to no in the /etc/ssh/sshd_config file to remove the possibility of remote administrative login via the SSH service. The PermitRootLogin directive controls whether the root user can log in using SSH. Setting it to no will deny any remote login attempts by the root user. This will harden the server and prevent unauthorized access. The administrator should also restart the sshd service after making the change. The other options are incorrect because they either do not affect the SSH service (/etc/hosts.deny or /etc/pam.d/sshd) or do not prevent remote administrative login (PubKeyAuthentication). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 13: Managing Network Services, page 413.

NEW QUESTION 10
A systems engineer has deployed a new application server, but the server cannot communicate with the backend database hostname. The engineer confirms that the application server can ping the database server's IP address. Which of the following is the most likely cause of the issue?

A. Incorrect DNS servers
B. Unreachable default gateway
C. Missing route configuration
D. Misconfigured subnet mask

Answer: A

Explanation:
This is because the application server can ping the database server's IP address, but not its hostname, which suggests that the DNS resolution is not working properly. DNS servers are responsible for translating hostnames into IP addresses, and vice versa. If the application server has incorrect or unreachable DNS servers configured, it will not be able to resolve the hostname of the database server and communicate with it.
To troubleshoot this issue, the systems engineer should check the DNS configuration on the application server, which is usually stored in the /etc/resolv.conf file. This file should contain valid nameserver entries that point to the DNS servers that can resolve the database server's hostname. For example, a typical /etc/resolv.conf file may look like this: nameserver 8.8.8.8 nameserver 8.8.4.4
These are the IP addresses of Google's public DNS servers, which can be used as a fallback option if the default DNS servers are not working.
Alternatively, the systems engineer can use the nslookup or dig commands to test the DNS resolution of the database server's hostname from the application server. These commands will query a specified DNS server and return the IP address of the hostname, or an error message if the resolution fails. For example, to query Google's public DNS server for the IP address of comptia.org, the command would be:
nslookup comptia.org 8.8.8.8 or dig comptia.org @8.8.8.8

NEW QUESTION 14
Rugged appliances are small appliances with ruggedized hardware and like Quantum Spark appliance they use which operating system?

A. Centos Linux
B. Gaia embedded
C. Gaia
D. Red Hat Enterprise Linux version 5

Answer: B

Explanation:
Rugged appliances are small appliances with ruggedized hardware that use Gaia embedded as their operating system. Gaia embedded is a version of Gaia that is optimized for embedded devices such as Rugged appliances and Quantum Spark appliances. Gaia embedded supports features such as VPN, firewall, identity awareness, application control, URL filtering, and anti-bot. Gaia embedded does not use Centos Linux, Gaia, or Red Hat Enterprise Linux version 5 as their operating system. References: Check Point Rugged Appliance Datasheet, page 1.

NEW QUESTION 15
An administrator runs ping comptia.org. The result of the command is:
ping: comptia.org: Name or service not known
Which of the following files should the administrator verify?

A. /etc/ethers
B. /etc/services
C. /etc/resolv.conf
D. /etc/sysctl.conf

Answer: C

Explanation:
The best file to verify when the ping command returns the error "Name or service not known" is C. /etc/resolv.conf. This file contains the configuration for the DNS resolver, which is responsible for translating domain names into IP addresses. If this file is missing, corrupted, or has incorrect entries, the ping command will not be able to resolve the domain name and will fail with the error. To fix this issue, the administrator should check that the file exists, has proper permissions, and has valid nameserver entries. For example, a typical /etc/resolv.conf file may look like this:
nameserver 8.8.8.8 nameserver 8.8.4.4
These are the IP addresses of Google's public DNS servers, which can be used as a fallback option if the default DNS servers are not working.

NEW QUESTION 17
A user is unable to remotely log on to a server using the server name server1 and port 22.
The Linux engineer troubleshoots the issue and gathers the following information: Which of the following is most likely causing the issue?

A. server 1 is not in the DNS.
B. sshd is running on a non-standard port.
C. sshd is not an active service.
D. serverl is using an incorrect IP address.

Answer: B

Explanation:
The sshd is the Secure Shell Daemon, which is a service that allows remote login to a Linux system using the SSH protocol. The output shows that the sshd is running on port 2222, which is a non-standard port for SSH. The default port for SSH is 22, which is what the user is trying to use. Therefore, the statement B is most likely causing the issue. The statements A, C, and D are incorrect because they do not explain why the user cannot log on using port 22. References: [How to Change SSH Port in Linux]

NEW QUESTION 21
A Linux systems administrator needs to copy files and directories from Server A to Server

A. Which of the following commands can be used for this purpose? (Select TWO)
B. rsyslog
C. cp
D. rsync
E. reposync
F. scp
G. ssh

Answer: CE

Explanation:
The rsync and scp commands can be used to copy files and directories from Server A to Server B. Both commands can use SSH as a secure protocol to transfer data over the network. The rsync command can synchronize files and directories between two locations, using various options to control the copying behavior. The scp command can copy files and directories between two hosts, using similar syntax as cp. The rsyslog command is used to manage system logging, not file copying. The cp command is used to copy files and directories within a single host, not between two hosts. The reposync command is used to synchronize a remote yum repository to a local directory, not copy files and directories between two hosts. References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 13: Networking Fundamentals, pages 440-441.

NEW QUESTION 25
A User on a Linux workstation needs to remotely start an application on a Linux server and then forward the graphical display of that application back to the Linux workstation. Which of the following would enable the user to perform this action?

A. ssh -X user@server application
B. ssh -y user@server application
C. ssh user@server application
D. ssh -D user@server application

Answer: A

Explanation:
The ssh -X option enables X11 forwarding, which allows the user to run graphical applications on the remote server and display them on the local workstation. The user needs to specify the username, the server address, and the application name after the ssh -X command. The remote server also needs to have X11Forwarding enabled and xauth installed for this to work. References:
? The web search result 8 explains how to run a GUI application through SSH by configuring both the SSH client and server.
? The web search result 6 provides a detailed answer on how to forward X over SSH to run graphics applications remotely, with examples and troubleshooting tips.
? The CompTIA Linux+ Certification Exam Objectives mention that the candidate should be able to “use SSH for remote access and management” as part of the System Operation and Maintenance domain1.

NEW QUESTION 29
A cloud engineer needs to change the secure remote login port from 22 to 49000. Which of the following files should the engineer modify to change the port number to the desired value?

A. /etc/host.conf
B. /etc/hostname
C. /etc/services
D. /etc/ssh/sshd_config

Answer: D

Explanation:
The file /etc/ssh/sshd_config contains the configuration settings for the SSH daemon, which handles the secure remote login. To change the port number, the engineer should edit this file and modify the line that says Port 22 to Port 49000. The other files are not related to the SSH service. References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 13: Managing Network Services, page 411.

NEW QUESTION 31
An engineer needs to insert a character at the end of the current line in the vi text editor. Which of the following will allow the engineer to complete this task?

A. p
B. r
C. bb
D. A
E. i

Answer: D

Explanation:
The vi text editor is a popular and powerful tool for editing text files on Linux systems. The vi editor has two modes: command mode and insert mode. In command mode, the user can issue commands to manipulate the text, such as moving the cursor, deleting, copying, pasting, searching, replacing, and saving. In insert mode, the user can type text into the file. To switch from command mode to insert mode, the user can press various keys, such as i, a, o, I, A, or O. To switch from insert mode to command mode, the user can press the Esc key.
To insert a character at the end of the current line in the vi editor, the user can press the A key in command mode. This will move the cursor to the end of the line and switch to insert mode. Then, the user can type the desired character and press Esc to return to command mode. The statement D is correct.
The statements A, B, C, and E are incorrect because they do not perform the desired task. The p key in command mode will paste the previously copied or deleted text after the cursor. The r key in command mode will replace the character under the cursor with another character. The bb key in command mode will move the cursor back two words. The i key in command mode will switch to insert mode before the cursor. References: [How to Use vi Text Editor in Linux]

NEW QUESTION 35
A developer has been unable to remove a particular data folder that a team no longer uses. The developer escalated the issue to the systems administrator. The following output was received:

```
# rmdir data/
rmdir: failed to remove 'data/': Operation not permitted
# rm -rf data/
rm: cannot remove 'data': Operation not permitted
# mv data/ mydata
mv: cannot move 'data/' to 'mydata': Operation not permitted
# cd data/
# cat > test.txt
bash: test.txt: Permission denied
```

Which of the following commands can be used to resolve this issue?

A. chgrp -R 755 data/
B. chmod -R 777 data/
C. chattr -R -i data/
D. chown -R data/

Answer: C

Explanation:
The command that can be used to resolve the issue of being unable to remove a particular data folder is chattr -R -i data/. This command will use the chattr utility to change file attributes on a Linux file system. The -R option means that chattr will recursively change attributes of directories and their contents. The -i option means that chattr will remove (unset) the immutable attribute from files or directories. When a file or directory has the immutable attribute set, it cannot be modified, deleted, or renamed.
The other options are not correct commands for resolving this issue. The chgrp -R 755 data/ command will change the group ownership of data/ and its contents recursively to 755, which is not a valid group name. The chgrp command is used to change group ownership of files or directories. The chmod -R 777 data/ command will change the file mode bits of data/ and its contents recursively to 777, which means that everyone can read, write, and execute them. However, this will not remove the immutable attribute, which prevents deletion or modification regardless of permissions. The chmod command is used to change file mode bits of files or directories. The chown -R data/ command is incomplete and will produce an error. The chown command is used to change the user and/or group ownership of files or directories, but it requires at least one argument besides the file name. References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 7: Managing Disk Storage; chattr(1) - Linux manual page; chgrp(1) - Linux manual page; chmod(1) - Linux manual page; chown(1) - Linux manual page

NEW QUESTION 40
A systems administrator wants to delete app . conf from a Git repository. Which of the following commands will delete the file?

A. git tag ap
B. conf
C. git commit app . conf
D. git checkout app . conf
E. git rm ap
F. conf

Answer: D

Explanation:
To delete a file from a Git repository, the administrator can use the command git rm app.conf (D). This will remove the file “app.conf” from the working directory and stage it for deletion from the repository. The administrator can then commit the change with git commit -m "Delete app.conf" to finalize the deletion. The other commands will not delete the file, but either tag, commit, or checkout the file. References:
? [CompTIA Linux+ Study Guide], Chapter 10: Working with Git, Section: Deleting Files with Git
? [How to Delete Files from Git]

NEW QUESTION 43
A Linux system is getting an error indicating the root filesystem is full. Which of the following commands should be used by the systems administrator to resolve this issue? (Choose three.)

A. df -h /
B. fdisk -1 /dev/sdb
C. growpart /dev/mapper/rootvg-rootlv
D. pvcreate /dev/sdb
E. lvresize –L +10G -r /dev/mapper/rootvg-rootlv
F. lsblk /dev/sda
G. parted -l /dev/mapper/rootvg-rootlv
H. vgextend /dev/rootvg /dev/sdb

Answer: ACE

Explanation:
The administrator should use the following three commands to resolve the issue of the root filesystem being full:
? df -h /. This command will show the disk usage of the root filesystem in a human- readable format. The df command is a tool for reporting file system disk space usage. The -h option displays the sizes in powers of 1024 (e.g., 1K, 234M, 2G). The / specifies the root filesystem. The command df -h / will show the total size, used space, available space, and percentage of the root filesystem. This command will help the administrator identify the problem and plan the solution.
? growpart /dev/mapper/rootvg-rootlv. This command will grow the partition that contains the root filesystem to the maximum size available.
The growpart command is a tool for resizing partitions on Linux systems. The /dev/mapper/rootvg-rootlv is the device name of the partition, which is a logical volume managed by the Logical Volume Manager (LVM). The command growpart /dev/mapper/rootvg-rootlv will extend the partition to fill the disk space and increase the size of the root filesystem. This command will help the administrator solve the problem and free up space.
? lvresize –L +10G -r /dev/mapper/rootvg-rootlv. This command will resize the logical volume that contains the root filesystem and add 10 GB of space.
The lvresize command is a tool for resizing logical volumes on Linux systems. The -L option specifies the new size of the logical volume, in this case +10G, which

means 10 GB more than the current size. The -r option resizes the underlying file system as well. The /dev/mapper/rootvg-rootlv is the device name of the logical volume, which is the same as the partition name. The command lvresize –L +10G -r /dev/mapper/rootvg-rootlv will increase the size of the logical volume and the root filesystem by 10 GB and free up space. This command will help the administrator solve the problem and free up space.
The other options are incorrect because they either do not affect the root filesystem (fdisk -1 /dev/sdb, pvcreate /dev/sdb, lsblk /dev/sda, or vgextend /dev/rootvg /dev/sdb) or do not use the correct syntax (fdisk -1 /dev/sdb instead of fdisk -l /dev/sdb or parted -l /dev/mapper/rootvg-rootlv instead of parted /dev/mapper/rootvg-rootlv print). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 10: Managing Storage, pages 318-319, 331-332.

NEW QUESTION 44
A Linux system fails to start and delivers the following error message:

```
Checking all file systems.
/dev/sda1 contains a file system with errors, check forced.
/dev/sda1: Inodes that were part of a corrupted orphan linked list found.
/dev/sda1: UNEXPECTED INCONSISTENCY;
```

Which of the following commands can be used to address this issue?

A. fsck.ext4 /dev/sda1
B. partprobe /dev/sda1
C. fdisk /dev/sda1
D. mkfs.ext4 /dev/sda1

Answer: A

Explanation:
The command fsck.ext4 /dev/sda1 can be used to address the issue. The issue is caused by a corrupted filesystem on the /dev/sda1 partition. The error message shows that the filesystem type is ext4 and the superblock is invalid. The command fsck.ext4 is a tool for checking and repairing ext4 filesystems. The command will scan the partition for errors and attempt to fix them. This command can resolve the issue
and allow the system to start. The other options are incorrect because they either do not fix the filesystem (partprobe or fdisk) or destroy the data on the partition (mkfs.ext4). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 10: Managing Storage, page 325.

NEW QUESTION 45
A developer needs to launch an Nginx image container, name it Web001, and ex-pose port 8080 externally while mapping to port 80 inside the container. Which of the following commands will accomplish this task?

A. docker exec —it -p 8080: 80 ——name Web001 nginx
B. docker load -it -p 8080:80 ——name Web001 nginx
C. docker run -it -P 8080:80 ——name Web001 nginx
D. docker pull -it -p 8080:80 —name Web00l nginx

Answer: C

Explanation:
To launch an Nginx image container, name it Web001, and expose port 8080 externally while mapping to port 80 inside the container, the administrator can use the command docker run -it -p 8080:80 --name Web001 nginx ©. This will create and start a new container from the Nginx image, assign it a name of Web001, and map port 8080 on the host to port 80 on the container. The other commands are not valid or do not meet the requirements. References:
? [CompTIA Linux+ Study Guide], Chapter 11: Working with Containers, Section: Running Containers with Docker
? [How to Run Docker Containers]

NEW QUESTION 50
A Linux engineer set up two local DNS servers (10.10.10.10 and 10.10.10.20) and was testing email connectivity to the local mail server using the mail command on a local machine when the following error appeared:

```
Send-mail: Cannot open mail:25
```

The local machine DNS settings are:

```
$ cat /etc/resolv.conf
nameserver 10.10.10.10 #web records
nameserver 10.10.10.20 #email records

Mail server: mail.example.com
```

Which of the following commands could the engineer use to query the DNS server to get mail server information?

A. dig @example.com 10.10.10.20 a
B. dig @10.10.10.20 example.com mx
C. dig @example.com 10.10.10.20 ptr
D. dig @10.10.10.20 example.com ns

Answer: B

Explanation:
The command dig @10.10.10.20 example.com mx will query the DNS server to get mail server information. The dig command is a tool for querying DNS servers

and displaying the results. The @ option specifies the DNS server to query, in this case 10.10.10.20. The mx option specifies the type of record to query, in this case mail exchange (MX) records, which identify the mail servers for a domain. The domain name to query is example.com. This command will show the MX records for example.com from the DNS server 10.10.10.20. This is the correct command to use to accomplish the task. The other options are incorrect because they either use the wrong syntax (@example.com 10.10.10.20 instead of @10.10.10.20 example.com), the wrong type of record (a or ptr instead of mx), or the wrong domain name (example.com ns instead of example.com mx). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 13: Managing Network Services, page 415.

NEW QUESTION 52
A Linux administrator is trying to remove the ACL from the file /home/user/data. txt but receives the following error message:

```
setfacl: data.txt: operation not permitted
```

Given the following analysis:

```
/dev/mapper/linux-home on /home type xfs (rw,relatime,seclabel,attr2,inode64,usrquota)

-rw-rw-r--+ 1 user staff 2354 Sep 15 16:33 data.txt
-rw-rw-r--+ user staff unconfined_u:object_r:user_home_t:s0 data.txt

# file: data.txt
# owner: user
# group: staff
user::rw-
user:accounting:rw-
group::r-
mask::rw-
other::r--

Attributes:
-----a-----------
```

Which of the following is causing the error message?

A. The administrator is not using a highly privileged account.
B. The filesystem is mounted with the wrong options.
C. SELinux file context is denying the ACL changes.
D. File attributes are preventing file modification.

Answer: D

Explanation:
File attributes are preventing file modification, which is causing the error message. The output of lsattr /home/user/data.txt shows that the file has the immutable attribute (i) set, which means that the file cannot be changed, deleted, or renamed. The command setfacl -b /home/user/data.txt tries to remove the ACL from the file, but fails because of the immutable attribute. The administrator needs to remove the immutable attribute first by using the command chattr -i /home/user/data.txt and then try to remove the ACL again. The other options are incorrect because they are not supported by the outputs. The administrator is using a highly privileged account, as shown by the # prompt. The filesystem is mounted with the correct options, as shown by the output of mount | grep /home. SELinux file context is not denying the ACL changes, as shown by the output of ls - Z /home/user/data.txt. References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 11: Managing Files and Directories, pages 357-358.

NEW QUESTION 53
Users in the human resources department are trying to access files in a newly created directory. Which of the following commands will allow the users access to the files?

A. chattr
B. chgrp
C. chage
D. chcon

Answer: B

Explanation:
The chgrp command is used to change the group ownership of files and directories. By using this command, the administrator can assign the files in the newly created directory to the human resources group, which will allow the users in that group to access them. The other commands are not relevant for this task. For example:
? chattr is used to change the file attributes, such as making them immutable or append-only1.
? chage is used to change the password expiration information for a user account2.
? chcon is used to change the security context of files and directories, which is related to SELinux3.
References:
? The CompTIA Linux+ Certification Exam Objectives mention that the candidate should be able to “manage file and directory ownership and permissions” as part of the Hardware and System Configuration domain4.
? The web search result 2 explains how to use the chgrp command with examples.
? The web search result 3 compares the chmod and chgrp commands and their effects on file permissions.

NEW QUESTION 54
A systems administrator is enabling LUKS on a USB storage device with an ext4 filesystem format. The administrator runs dmesg and notices the following output:

```
sd 8:0:0:0: [sdc] Attached SCSI disk
EXT4-fs (sdc1): mounting ext3 file system using the ext4 subsystem
EXT4-fs (sdc1): mounted filesystem with ordered data mode.  Opts: (null)
```

Given this scenario, which of the following should the administrator perform to meet these requirements? (Select three).

A. gpg /dev/sdcl
B. pvcreate /dev/sdc
C. mkfs . ext4 /dev/mapper/LUKSCJ001 - L ENCRYPTED
D. umount / dev/ sdc
E. fdisk /dev/sdc
F. mkfs . vfat /dev/mapper/LUKS0001 — L ENCRYPTED
G. wipefs —a/dev/sdbl
H. cryptsetup IuksFormat /dev/ sdcl

Answer: CDH

Explanation:
To enable LUKS on a USB storage device with an ext4 filesystem format, the administrator needs to perform the following steps:
? Unmount the device if it is mounted using umount /dev/sdc (D)
? Create a partition table on the device using fdisk /dev/sdc (E)
? Format the partition with LUKS encryption using cryptsetup luksFormat /dev/sdc1 (H)
? Open the encrypted partition using cryptsetup luksOpen /dev/sdc1 LUKS0001
? Create an ext4 filesystem on the encrypted partition using mkfs.ext4 /dev/mapper/LUKS0001 ©
? Mount the encrypted partition using mount /dev/mapper/LUKS0001 /mnt References:
? [CompTIA Linux+ Study Guide], Chapter 9: Securing Linux, Section: Encrypting Disks
? [How to Encrypt USB Drive on Ubuntu 18.04]

NEW QUESTION 57
A Linux administrator copied a Git repository locally, created a feature branch, and committed some changes to the feature branch. Which of the following Git actions should the Linux administrator use to publish the changes to the main branch of the remote repository?

A. rebase
B. tag
C. commit
D. push

Answer: D

Explanation:
The push action is used to publish the changes made in a local branch to a remote branch of a Git repository. This action will update the remote branch with the commits made in the local branch and synchronize the two branches. The rebase action is used to reapply commits from one branch onto another branch, creating a linear history of commits. This action does not publish any changes to a remote repository. The tag action is used to create an annotated reference to a specific commit in a Git repository. This action does not publish any changes to a remote repository. The commit action is used to record changes made in the local repository and create a new snapshot of the project state. This action does not publish any changes to a remote repository. References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 20: Writing and Executing Bash Shell Scripts, page 579.

NEW QUESTION 62
A junior administrator is setting up a new Linux server that is intended to be used as a router at a remote site. Which of the following parameters will accomplish this goal?
A.

```
echo 1 > /proc/sys/net/ipv4/ip_forward
iptables -t nat -A PREROUTING -i eth0 -j MASQUERADE
```

A.

```
echo 1 > /proc/sys/net/ipv4/ip_forward
iptables -t nat -D POSTROUTING -o eth0 -j MASQUERADE
```

B.

```
echo 1 > /proc/sys/net/ipv4/ip_forward
iptables -t nat -A POSTROUTING -o eth0 -j MASQUERADE
```

C.

```
echo 1 > /proc/sys/net/ipv4/ip_forward
iptables -t nat -A PREROUTING -o eth0 -j MASQUERADE
```

Answer: C

Explanation:
The parameter net.ipv4.ip_forward=1 will accomplish the goal of setting up a new Linux server as a router. This parameter enables the IP forwarding feature, which allows the server to forward packets between different network interfaces. This is necessary for a router to route traffic between different networks. The parameter can be set
in the /etc/sysctl.conf file or by using the sysctl command. This is the correct parameter to use to accomplish the goal. The other options are incorrect because they either do not exist (net.ipv4.ip_forwarding or net.ipv4.ip_route) or do not enable IP forwarding (net.ipv4.ip_forward=0). References: CompTIA Linux+ (XK0-005)

Certification Study Guide, Chapter 12: Managing Network Connections, page 382.

NEW QUESTION 65
Which of the following actions are considered good security practices when hardening a Linux server? (Select two).

A. Renaming the root account to something else
B. Removing unnecessary packages
C. Changing the default shell to /bin/csh
D. Disabling public key authentication
E. Disabling the SSH root login possibility
F. Changing the permissions on the root filesystem to 600

Answer: BE

Explanation:
Some good security practices when hardening a Linux server are:
? Removing unnecessary packages (B) to reduce the attack surface and eliminate potential vulnerabilities
? Disabling the SSH root login possibility (E) to prevent unauthorized access and brute-force attacks on the root account References:
? [CompTIA Linux+ Study Guide], Chapter 9: Securing Linux, Section: Hardening Linux
? [How to Harden Your Linux Server]

NEW QUESTION 69
Using AD Query, the security gateway connections to the Active Directory Domain Controllers using what protocol?
A. Windows Management Instrumentation (WMI)
B. Hypertext Transfer Protocol Secure (HTTPS)
C. Lightweight Directory Access Protocol (LDAP)
D. Remote Desktop Protocol (RDP)

Answer: C

Explanation:
Using AD Query, the security gateway connects to the Active Directory Domain Controllers using Lightweight Directory Access Protocol (LDAP). LDAP is a protocol that provides access to directory services over a network. AD Query uses LDAP queries to retrieve information about users and groups from Active Directory Domain Controllers without installing any software on them. AD Query does not use Windows Management Instrumentation (WMI), Hypertext Transfer Protocol Secure (HTTPS), or Remote Desktop Protocol (RDP) to connect to Active Directory Domain Controllers. References: Check Point Certified Security Administrator (CCSA) R80.x Study Guide, Chapter 5: User Management and Authentication, page 69.

NEW QUESTION 74
A systems administrator needs to check if the service systemd-resolved.service is running without any errors. Which of the following commands will show this information?

A. systemct1 status systemd-resolved.service
B. systemct1 enable systemd-resolved.service
C. systemct1 mask systemd-resolved.service
D. systemct1 show systemd-resolved.service

Answer: A

Explanation:
The command systemct1 status systemd-resolved.service will show the information about the service systemd-resolved.service. The systemct1 command is a tool for managing system services and units. The status option displays the current status of a unit, such as active, inactive, or failed. The output also shows the unit description, loaded configuration, process ID, memory usage, and recent log messages. This command will show if the service systemd-resolved.service is running without any errors. This is the
correct command to use to accomplish the task. The other options are incorrect because they either perform different actions (enable, mask, or show) or do not show the status of the service (systemct1 show systemd-resolved.service only shows the properties of the service, not the status). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 14: Managing Processes and Scheduling Tasks, page 427.

NEW QUESTION 75
A Linux administrator needs to transfer a local file named accounts . pdf to a remote / tmp directory of a server with the IP address 10.10.10.80. Which of the following commands needs to be executed to transfer this file?

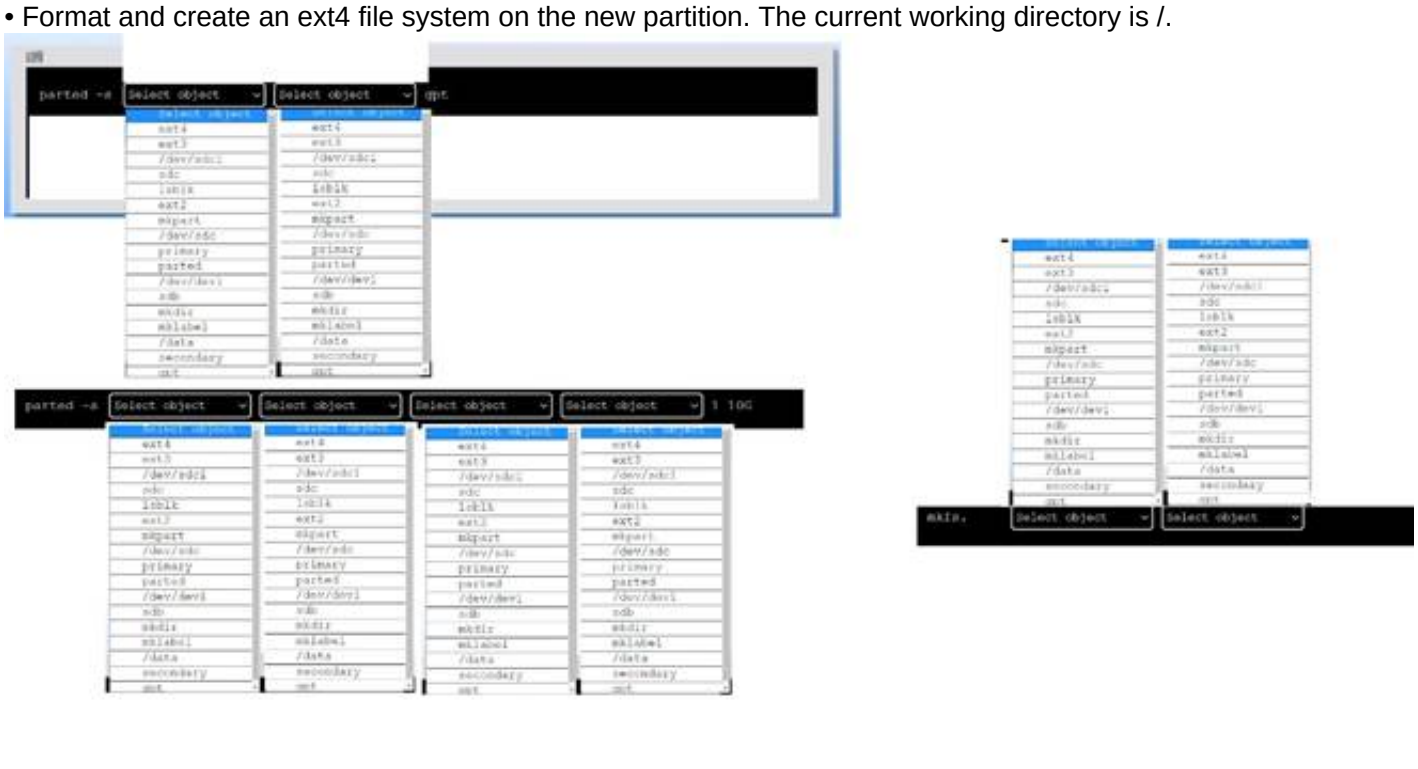
A. rsync user@10.10.10.80: /tmp accounts.pdf
B. scp accounts.pdf user@10.10.10.80:/tmp
C. cp user@10.10.10. 80: /tmp accounts.pdf
D. ssh accounts.pdf user@10.10.10.80: /tmp

Answer: B

Explanation:
The best command to use to transfer the local file accounts.pdf to the remote /tmp directory of the server with the IP address 10.10.10.80 is B. scp accounts.pdf user@10.10.10.80:/tmp. This command will use the secure copy protocol (scp) to copy the file from the local machine to the remote server over SSH. The command requires the username and password of the user on the remote server, as well as the full path of the destination directory.
The other commands are either incorrect or not suitable for this task. For example:
? A. rsync user@10.10.10.80:/tmp accounts.pdf will try to use the rsync command to synchronize files between the local and remote machines, but it has the wrong syntax and order of arguments. The source should come before the destination, and a colon (:) should separate the remote host and path.
? C. cp user@10.10.10.80:/tmp accounts.pdf will try to use the cp command to copy files, but it does not work over SSH and it has the wrong syntax and order of arguments. The source should come before the destination, and a colon (:) should separate the remote host and path.
? D. ssh accounts.pdf user@10.10.10.80:/tmp will try to use the ssh command to log into the remote server, but it has the wrong syntax and arguments. The

username should come before the remote host, and a file name is not a valid argument for ssh.

NEW QUESTION 78
DRAG DROP
A new drive was recently added to a Linux system. Using the environment and tokens provided, complete the following tasks:
• Create an appropriate device label.
• Format and create an ext4 file system on the new partition. The current working directory is /.



A. Mastered
B. Not Mastered

Answer: A

Explanation:
To create an appropriate device label, format and create an ext4 file system on the new partition, you can use the following commands:
? To create a GPT (GUID Partition Table) label on the new drive /dev/sdc, you can use the parted command with the -s option (for script mode), the device name (/dev/sdc), the mklabel command, and the label type (gpt). The command is:
parted -s /dev/sdc mklabel gpt
? To create a primary partition of 10 GB on the new drive /dev/sdc, you can use the parted command with the -s option, the device name (/dev/sdc), the mkpart command, the partition type (primary), the file system type (ext4), and the start and end points of the partition (1 and 10G). The command is:
parted -s /dev/sdc mkpart primary ext4 1 10G
? To format and create an ext4 file system on the new partition /dev/sdc1, you can use the mkfs command with the file system type (ext4) and the device name (/dev/sdc1). The command is:
mkfs.ext4 /dev/sdc1
You can verify that the new partition and file system have been created by using the lsblk command, which will list all block devices and their properties.

NEW QUESTION 83
Which of the following will prevent non-root SSH access to a Linux server?

A. Creating the /etc/nologin file
B. Creating the /etc/nologin.allow file containing only a single line root
C. Creating the /etc/nologin/login.deny file containing a single line +all
D. Ensuring that /etc/pam.d/sshd includes account sufficient pam_nologin.so

Answer: A

Explanation:
This file prevents any non-root user from logging in to the system, regardless of the authentication method. The contents of the file are displayed to the user before the login is terminated. This can be useful for system maintenance or security reasons12.
References: 1: Creating the /etc/nologin File - Oracle 2: How to Restrict Log In Capabilities of Users on Ubuntu

NEW QUESTION 88
A Linux administrator needs to determine whether a hostname is in the DNS. Which of the following would supply the information that is needed?

A. nslookup
B. rsyn
C. netstat
D. host

Answer: A

Explanation:
The commands nslookup or host can be used to determine whether a hostname is in the DNS. The DNS is the domain name system, which is a service that translates domain names into IP addresses and vice versa. The nslookup command is a tool for querying the DNS and obtaining information about a domain name or an IP address. The host command is a similar tool that performs DNS lookups. Both commands can be used to check if a hostname is in the DNS by providing the hostname as an argument and seeing if the command returns a valid IP address or an error message. For example, the command nslookup www.google.com or host www.google.com will return the IP address of the Google website, while the command nslookup www.nosuchdomain.com or host www.nosuchdomain.com will return an error message indicating that the hostname does not exist. These commands will supply the information that is needed to determine whether a

hostname is in the DNS. These are the correct commands to use for this task. The other options are incorrect because they do not query the DNS or obtain information about a hostname (rsync or netstat). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 12: Managing Network Connections, page 378.

NEW QUESTION 90
A systems administrator notices the process list on a mission-critical server has a large number of processes that are in state "Z" and marked as "defunct." Which of the following should the administrator do in an attempt to safely remove these entries from the process list?

A. Kill the process with PID 1.
B. Kill the PID of the processes.
C. Kill the parent PID of the processes.
D. Reboot the server.

Answer: C

Explanation:
As the web search results show, processes in state Z are defunct or zombie processes, which means they have terminated but their parent process has not reaped them properly. They do not consume any resources, but they occupy a slot in the process table. To remove them from the process list, the administrator needs to kill the parent process of the zombies, which will cause them to be reaped by the init process (PID 1). Killing the zombies themselves or the init process will not have any effect, as they are already dead. Rebooting the server may work, but it is not a safe or efficient option, as it may cause unnecessary downtime or data loss for a mission-critical server.
References
? Processes in a Zombie (Z) or Defunct State | Support | SUSE, paragraph 3
? linux - Zombie vs Defunct processes? - Stack Overflow, answer by admirableadmin
? How To Kill Zombie Processes on Linux | Linux Journal, paragraph 4

NEW QUESTION 92
Users are unable to create new files on the company's FTP server, and an administrator is troubleshooting the issue. The administrator runs the following commands:

```
# df -h /ftpusers/

Filesystem    Size     Used     Avail    Use%    Mounted on
/dev/sda4     150G     40G      109G     26%     /ftpusers

# df -i /ftpusers/

Filesystem    Inodes   Iused    Ifree    Iuse%   Mounted on
/dev/sda4     34567    34567    0        100%    /ftpusers
```

Which of the following is the cause of the issue based on the output above?

A. The users do not have the correct permissions to create files on the FTP server.
B. The ftpusers filesystem does not have enough space.
C. The inodes is at full capacity and would affect file creation for users.
D. ftpusers is mounted as read only.

Answer: C

Explanation:
The cause of the issue based on the output above is C. The inodes is at full capacity and would affect file creation for users.
An inode is a data structure that stores information about a file or directory, such as its name, size, permissions, owner, timestamps, and location on the disk. Each file or directory has a unique inode number that identifies it. The number of inodes on a filesystem is fixed when the filesystem is created, and it determines how many files and directories can be created on that filesystem. If the inodes are exhausted, no new files or directories can be created, even if there is enough disk space available.
The output for the second command shows that the /ftpusers/ filesystem has 0% of inodes available, which means that all the inodes have been used up. This would prevent users from creating new files on the FTP server. The administrator should either delete some unused files or directories to free up some inodes, or resize the filesystem to increase the number of inodes.
The other options are incorrect because:
* A. The users do not have the correct permissions to create files on the FTP server.
This is not true, because the output for the first command shows that the /ftpusers/ filesystem has 26% of disk space available, which means that there is enough space for users to create files. The permissions of the files and directories are not shown in the output, but they are not relevant to the issue of inode exhaustion.
* B. The ftpusers filesystem does not have enough space.
This is not true, because the output for the first command shows that the /ftpusers/ filesystem has 26% of disk space available, which means that there is enough space for users to create files. The issue is not related to disk space, but to inode capacity.
* D. ftpusers is mounted as read only.
This is not true, because the output for the first command does not show any indication that the /ftpusers/ filesystem is mounted as read only. If it was, it would have an (ro) flag next to the mounted on column. A read only filesystem would prevent users from creating or modifying files on the FTP server, but it would not affect the inode usage.

NEW QUESTION 97
A new Linux systems administrator just generated a pair of SSH keys that should allow connection to the servers. Which of the following commands can be used to copy a key file to remote servers? (Choose two.)

A. wget
B. ssh-keygen

C. ssh-keyscan
D. ssh-copy-id
E. ftpd
F. scp

Answer: DF

Explanation:
The commands ssh-copy-id and scp can be used to copy a key file to remote servers. The command ssh-copy-id copies the public key to the authorized_keys file on the remote server, which allows the user to log in without a password. The command scp copies files securely over SSH, which can be used to transfer the key file to any location on the remote server. The other options are incorrect because they are not related to copying key files. The command wget downloads files from the web, the command ssh-keygen generates key pairs, the command ssh-keyscan collects public keys from remote hosts, and the command ftpd is a FTP server daemon. References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 13: Managing Network Services, pages 408-410.

NEW QUESTION 98
A Linux administrator needs to redirect all HTTP traffic temporarily to the new proxy server 192.0.2.25 on port 3128. Which of the following commands will accomplish this task?

A. iptables -t nat -D PREROUTING -p tcp --sport 80 -j DNAT - -to-destination 192.0.2.25:3128
B. iptables -t nat -A PREROUTING -p top --dport 81 -j DNAT –-to-destination 192.0.2.25:3129
C. iptables -t nat -I PREROUTING -p top --sport 80 -j DNAT –-to-destination 192.0.2.25:3129
D. iptables -t nat -A PREROUTING -p tcp --dport 80 -j DNAT –-to-destination 192.0.2.25:3128

Answer: D

Explanation:
The command iptables -t nat -A PREROUTING -p tcp --dport 80 -j DNAT -- to-destination 192.0.2.25:3128 adds a rule to the nat table that redirects all incoming TCP packets with destination port 80 (HTTP) to the proxy server 192.0.2.25 on port 3128. This is the correct way to achieve the task. The other options are incorrect because they either delete a rule (-D), use the wrong protocol (top instead of tcp), or use the wrong port (81 instead of 80). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 12: Managing Network Connections, page 381.

NEW QUESTION 103
A Linux system is failing to boot with the following error:

```
error: no such partitions
Entering rescue mode…
grub rescue>
```

Which of the following actions will resolve this issue? (Choose two.)

A. Execute grub-install --root-directory=/mnt and reboot.
B. Execute grub-install /dev/sdX and reboot.
C. Interrupt the boot process in the GRUB menu and add rescue to the kernel line.
D. Fix the partition modifying /etc/default/grub and reboot.
E. Interrupt the boot process in the GRUB menu and add single to the kernel line.
F. Boot the system on a LiveCD/ISO.

Answer: BF

Explanation:
The administrator should do the following two actions to resolve the issue:
? Boot the system on a LiveCD/ISO. This is necessary to access the system and repair the boot loader. A LiveCD/ISO is a bootable media that contains a Linux distribution that can run without installation. The administrator can boot the system from the LiveCD/ISO and mount the root partition of the system to a temporary directory, such as /mnt.
? Execute grub-install /dev/sdX and reboot. This will reinstall the GRUB boot loader to the disk device, where sdX is the device name of the disk, such as sda or sdb. The GRUB boot loader is a program that runs when the system is powered on and allows the user to choose which operating system or kernel to boot. The issue is caused by a corrupted or missing GRUB boot loader, which prevents the system from booting. The command grub-install will restore the GRUB boot loader and fix the issue.
The other options are incorrect because they either do not fix the boot loader (interrupt the boot process in the GRUB menu or fix the partition modifying /etc/default/grub) or do not use the correct syntax (grub-install --root-directory=/mnt instead of grub-install /dev/sdX or rescue or single instead of recovery in the GRUB
menu). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 8: Managing the Linux Boot Process, pages 265-266.

NEW QUESTION 104
One leg of an LVM-mirrored volume failed due to the underlying physical volume, and a systems administrator is troubleshooting the issue. The following output has been provided:

```
Partial mode. Incomplete volume groups will be activated read-only
```

LV	VG	Attr	LSize	Origin	Snap%	Move	Log	Copy%	Devices
linear	vg	-wi-a-	40.00G						unknown device(0)
stripe	vg	-wi-a-	40.00G						unknown device(5120),/dev/sda1(0)

Given this scenario, which of the following should the administrator do to recover this volume?

A. Reboot the serve
B. The volume will automatically go back to linear mode.

C. Replace the failed drive and reconfigure the mirror.
D. Reboot the serve
E. The volume will revert to stripe mode.
F. Recreate the logical volume.

Answer: B

Explanation:
The administrator should replace the failed drive and reconfigure the mirror to recover the volume. The LVM (Logical Volume Manager) is a tool for managing disk space on Linux systems. The LVM allows the administrator to create logical volumes that span across multiple physical volumes, such as hard disks or partitions. The LVM also supports different types of logical volumes, such as linear, striped, or mirrored. A mirrored logical volume is a type of logical volume that creates a copy of the data on another physical volume, providing redundancy and fault tolerance. The output shows that the logical volume is mirrored and that one leg of the mirror has failed due to the underlying physical volume. This means that one of the physical volumes that contains the data of the logical volume is damaged or missing. This can cause data loss and performance degradation. The administrator should replace the failed drive and reconfigure the mirror to recover the volume. The administrator should identify the failed physical volume by using commands such as pvdisplay, vgdisplay, or lvdisplay. The administrator should then remove the failed physical volume from the volume group by using the vgreduce command.
The administrator should then install a new drive and create a new physical volume by using the pvcreate command. The administrator should then add the new physical volume to the volume group by using the vgextend command. The administrator should then reconfigure the mirror by using the lvconvert command. The administrator should replace the failed drive and reconfigure the mirror to recover the volume. This is the correct answer to the question. The other options are incorrect because they either do not recover the volume (reboot the server. The volume will automatically go back to linear mode or reboot the server. The volume will revert to stripe mode) or do not preserve the data of the volume (recreate the logical volume). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 10: Managing Storage, pages 333-334.

NEW QUESTION 108
An administrator accidentally deleted the /boot/vmlinuz file and must resolve the issue before the server is rebooted. Which of the following commands should the administrator use to identify the correct
version of this file?

A. rpm -qa | grep kernel; uname -a
B. yum -y update; shutdown -r now
C. cat /etc/centos-release; rpm -Uvh --nodeps
D. telinit 1; restorecon -Rv /boot

Answer: A

Explanation:
The command rpm -qa | grep kernel lists all the installed kernel packages, and the command uname -a displays the current kernel version. These commands can help the administrator identify the correct version of the /boot/vmlinuz file, which is the kernel image file. The other options are not relevant or helpful for this task. References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 8: Managing the Linux Boot Process, page 267.

NEW QUESTION 113
A Linux administrator is troubleshooting an issue in which users are not able to access https://portal.comptia.org from a specific workstation. The administrator runs a few commands and receives the following output:

```
# cat /etc/hosts
10.10.10.55 portal.comptia.org

# host portal.comptia.org
portal.comptia.org has address 192.168.1.55

#cat /etc/resolv.conf
nameserver 10.10.10.5
```

Which of the following tasks should the administrator perform to resolve this issue?

A. Update the name server in resol
B. conf to use an external DNS server.
C. Remove the entry for portal . comptia.org from the local hosts file.
D. Add a network route from the 10.10.10.0/24 to the 192.168.0.0/16.
E. Clear the local DNS cache on the workstation and rerun the host command.

Answer: B

Explanation:
The best task to perform to resolve this issue is B. Remove the entry for portal.comptia.org from the local hosts file. This is because the local hosts file has a wrong entry that maps portal.comptia.org to 10.10.10.55, which is different from the actual IP address of 192.168.1.55 that is returned by the DNS server. This causes a mismatch and prevents the workstation from accessing the website. By removing or correcting the entry in the hosts file, the workstation will use the DNS server to resolve the domain name and access the website successfully.
To remove or edit the entry in the hosts file, you need to have root privileges and use a text editor such as vi or nano. For example, you can run the command:
sudo vi /etc/hosts
and delete or modify the line that says: 10.10.10.55 portal.comptia.org
Then save and exit the file.

NEW QUESTION 116
Which of the following technologies provides load balancing, encryption, and observability in containerized environments?

A. Virtual private network
B. Sidecar pod
C. Overlay network
D. Service mesh

Answer: D

Explanation:
"A service mesh controls the delivery of service requests in an application. Common features provided by a service mesh include service discovery, load balancing, encryption and failure recovery."
The technology that provides load balancing, encryption, and observability in containerized environments is service mesh. A service mesh is a dedicated infrastructure layer that manages the communication and security between microservices in a distributed system. A service mesh consists of two components: a data plane and a control plane. The data plane is composed of proxies that are deployed alongside the microservices as sidecar pods. The proxies handle the network traffic between the microservices and provide features such as load balancing, encryption, authentication, authorization, routing, and observability. The control plane is responsible for configuring and managing the data plane and providing a unified interface for the administrators and developers. A service mesh can help improve the performance, reliability, and security of containerized applications and simplify the development and deployment process. A service mesh is the technology that provides load balancing, encryption, and observability in containerized environments. This is the correct answer to the question. The other options are incorrect because they either do not provide all the features of a service mesh (virtual private network or overlay network) or are not a technology but a component of a service mesh (sidecar pod). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 19: Managing Cloud and Virtualization Technologies, page 574. https://www.techtarget.com/searchitoperations/definition/service-mesh

NEW QUESTION 118
Developers have requested implementation of a persistent, static route on the application server. Packets sent over the interface eth0 to 10.0.213.5/32 should be routed via 10.0.5.1. Which of the following commands should the administrator run to achieve this goal?

A. route -i etho -p add 10.0.213.5 10.0.5.1
B. route modify eth0 +ipv4.routes "10.0.213.5/32 10.0.5.1"
C. echo "10.0.213.5 10.0.5.1 eth0" > /proc/net/route
D. ip route add 10.0.213.5/32 via 10.0.5.1 dev eth0

Answer: D

Explanation:
The command ip route add 10.0.213.5/32 via 10.0.5.1 dev eth0 adds a static route to the routing table that sends packets destined for 10.0.213.5/32 (a single host) through the gateway 10.0.5.1 on the interface eth0. This is the correct way to achieve the goal. The other options are incorrect because they either use the wrong syntax (route -i etho -p add), the wrong command (route modify), or the wrong file
(/proc/net/route). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 12: Managing Network Connections, page 379.

NEW QUESTION 123
A systems administrator is tasked with creating a cloud-based server with a public IP address.

```
---
-name: start an instance with a public IP address
 community.abc.ec2_instance:
    name: "public-compute-instance"
    key_name: "comptia-ssh-key"
    vpc_subnet_id: subnet-5cjssh1
    instance_type: instance.type
    security_group: comptia
    network:
       assign_public_ip: true
    image_id: ami-1234568
    tags:
       Environment: Comptia-Items-Writing-Workshop
...
```

Which of the following technologies did the systems administrator use to complete this task?

A. Puppet
B. Git
C. Ansible
D. Terraform

Answer: D

Explanation:
The systems administrator used Terraform to create a cloud-based server with a public IP address. Terraform is a tool for building, changing, and versioning infrastructure as code. Terraform can create and manage resources on different cloud platforms, such as AWS, Azure, or Google Cloud. Terraform uses a declarative syntax to describe the desired state of the infrastructure and applies the changes accordingly. Terraform can also assign a public IP address to a cloud server by using the appropriate resource attributes. This is the correct technology that the systems administrator used to complete the task. The other options are incorrect because they are either not designed for creating cloud servers (Puppet or Git) or not capable of assigning public IP addresses (Ansible). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 19: Managing Cloud and Virtualization Technologies, page 559.

NEW QUESTION 127
After listing the properties of a system account, a systems administrator wants to remove the expiration date of a user account. Which of the following commands will accomplish this task?

A. chgrp system accountname
B. passwd –s accountname
C. chmod -G system account name
D. chage -E -1 accountname

Answer: D

Explanation:
The command chage -E -1 accountname will accomplish the task of removing the expiration date of a user account. The chage command is a tool for changing user password aging information on Linux systems. The -E option sets the expiration date of the user account, and the -1 value means that the account will never expire. The command chage -E -1 accountname will remove the expiration date of the user account named accountname. This is the correct command to use to accomplish the task. The
other options are incorrect because they either do not affect the expiration date
(chgrp, passwd, or chmod) or do not exist (chmod -G). References: CompTIA Linux+ (XK0-
005) Certification Study Guide, Chapter 15: Managing Users and Groups, page 467.

NEW QUESTION 132
A database administrator requested the installation of a custom database on one of the servers. Which of the following should the Linux administrator configure so the requested packages can be installed?

A. /etc/yum.conf
B. /etc/ssh/sshd.conf
C. /etc/yum.repos.d/db.repo
D. /etc/resolv.conf

Answer: C

Explanation:
The Linux administrator should configure /etc/yum.repos.d/db.repo so that the requested packages can be installed. This file defines a custom repository for yum, which is a package manager for RPM-based systems. The file should contain information such as the name, baseurl, gpgcheck, and enabled options for the repository. By creating this file and enabling the repository, the administrator can use yum to install packages from the custom repository. The /etc/yum.conf file is the main configuration file for yum, but it does not define repositories. The /etc/ssh/sshd.conf file is the configuration file for sshd, which is a daemon that provides secure shell access to remote systems. The /etc/resolv.conf file is the configuration file for DNS resolution, which maps domain names to IP addresses. References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 19: Managing Packages and Software, page 559.

NEW QUESTION 133
Which of the following technologies can be used as a central repository of Linux users and groups?

A. LDAP
B. MFA
C. SSO
D. PAM

Answer: A

Explanation:
LDAP stands for Lightweight Directory Access Protocol, which is a protocol for accessing and managing a central directory of users and groups. LDAP can be used as a central repository of Linux users and groups, allowing for centralized authentication and authorization across multiple Linux systems. MFA, SSO, and PAM are not technologies that can be used as a central repository of Linux users and groups. MFA stands for Multi- Factor Authentication, which is a method of verifying a user’s identity using more than one factor, such as a password, a token, or a biometric. SSO stands for Single Sign-On, which is a feature that allows a user to log in once and access multiple applications or systems without having to re-enter credentials. PAM stands for Pluggable Authentication Modules, which is a framework that allows Linux to use different authentication methods, such as passwords, tokens, or biometrics. References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 8: Managing Users and Groups

NEW QUESTION 135
A systems administrator needs to verify whether the built container has the app.go file in its root directory. Which of the following can the administrator use to verify the root directory has this file?

A. docker image inspect
B. docker container inspect
C. docker exec <container_name> ls
D. docker ps <container_name>

Answer: C

Explanation:
The docker exec <container_name> ls command can be used to verify whether the built container has the app.go file in its root directory. This command will run the ls command inside the specified container and list the files and directories in its root directory. If the app.go file is present, it will be displayed in the output. The docker image inspect command will display information about an image, not a container, and it will not list the files inside the image. The docker container inspect command will display information about a container, not its files. The docker ps <container_name> command is invalid, as ps does not accept a container name as an argument. References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 16: Virtualization and Cloud Technologies, page 499.

NEW QUESTION 138
A Linux administrator needs to ensure that Java 7 and Java 8 are both locally available for developers to use when deploying containers. Currently only Java 8 is available. Which of the following commands should the administrator run to ensure both versions are available?

A. docker image load java:7
B. docker image pull java:7
C. docker image import java:7
D. docker image build java:7

Answer: B

Explanation:
The command that the administrator should run to ensure that both Java 7 and Java 8 are locally available for developers to use when deploying containers is docker image pull java:7. This command will use the docker image pull subcommand to download the java:7 image from Docker Hub, which is the default registry for Docker images. The java:7 image contains Java 7 installed on a Debian-based Linux system. The administrator can also specify a different registry by using the syntax registry/repository:tag.
The other options are not correct commands for ensuring that both Java 7 and Java 8 are locally available for developers to use when deploying containers. The docker image load java:7 command will load an image from a tar archive or STDIN, not from a registry. The docker image import java:7 command will create a new filesystem image from the contents of a tarball, not from a registry. The docker image build java:7 command will build an image from a Dockerfile, not from a registry. References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 18: Automating Tasks; docker image pull | Docker Docs

NEW QUESTION 143
An application developer received a file with the following content:
##This is a sample Image ## FROM ubuntu:18.04
MAINTAINER demohut@gtmail.com.hac COPY . /app
RUN make /app
CMD python /app/app.py RUN apt-get update
RUN apt-get install -y nginx CMD ["echo","Image created"]
The developer must use this information to create a test bed environment and identify the image (myimage) as the first version for testing a new application before moving it to production. Which of the following commands will accomplish this task?

A. docker build -t myimage:1.0 .
B. docker build -t myimage: .
C. docker build -t myimage-1.0 .
D. docker build -i myimage:1.0 .

Answer: A

Explanation:
The docker build command is used to build an image from a Dockerfile and a context1. The Dockerfile is a text file that contains the instructions for creating the image, and the context is a set of files that can be used in the image creation process1. The file that the developer received is an example of a Dockerfile.
The -t option is used to specify a name and an optional tag for the image1. The name and tag are separated by a colon (:), and the tag is usually used to indicate the version of the image2. For example, -t myimage:1.0 means that the image will be named myimage and tagged as 1.0.
The last argument of the docker build command is the path to the context, which can be a local directory or a URL1. The dot (.) means that the current working directory is the context2. Therefore, docker build -t myimage:1.0 . means that the image will be built from the Dockerfile and the files in the current working directory, and it will be named myimage and tagged as 1.0.

NEW QUESTION 148
A cloud engineer needs to remove all dangling images and delete all the images that do not have an associated container. Which of the following commands will help to accomplish this task?

A. docker images prune -a
B. docker push images -a
C. docker rmi -a images
D. docker images rmi --all

Answer: A

Explanation:
The command docker images prune -a will help to remove all dangling images and delete all the images that do not have an associated container.
The docker command is a tool for managing Docker containers and images.
The images subcommand operates on images. The prune option removes unused images.
The -a option removes all images, not just dangling ones. A dangling image is an image that is not tagged and is not referenced by any container. This command will accomplish the task of cleaning up the unused images. The other options are incorrect because they either do not exist (docker push images -a or docker images rmi --all) or do not remove images (docker rmi -a images only removes images that match the name or ID of “images”). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 19: Managing Cloud and Virtualization Technologies, page 567.

NEW QUESTION 150
A Linux administrator needs to create a symlink for /usr/local/bin/app-a, which was installed in /usr/local/share/app-a. Which of the following commands should the administrator use?

A. ln -s /usr/local/bin/app-a /usr/local/share/app-a
B. mv -f /usr/local/share/app-a /usr/local/bin/app-a
C. cp -f /usr/local/share/app-a /usr/local/bin/app-a
D. rsync -a /usr/local/share/app-a /usr/local/bin/app-a

Answer: A

Explanation:
To create a symlink for /usr/local/bin/app-a, which was installed in /usr/local/share/app-a, the administrator can use the command ln -s /usr/local/share/app-a /usr/local/bin/app-a (A). This will create a symbolic link named /usr/local/bin/app-a that points to the original file /usr/local/share/app-a. The other commands will not create a symlink, but either move, copy, or synchronize the file. References:
? [CompTIA Linux+ Study Guide], Chapter 3: Working with Files, Section: Creating Links
? [How to Create Symbolic Links in Linux]

NEW QUESTION 154
A Linux administrator is scheduling a system job that runs a script to check available disk space every hour. The Linux administrator does not want users to be able to start the job. Given the following:

```
[Unit]
Description=Check available disk space
RefuseManualstart=yes
RefuseManualStop=yes

[Timer]
Persistent=true
OnCalendar=*-*-*-*:00:00
Unit=checkdiskspace.service

[Install]
WantedBy=timers.target
```

The Linux administrator attempts to start the timer service but receives the following error message:

```
Failed to start checkdiskspace.timer: Operation refused ...
```

Which of the following is MOST likely the reason the timer will not start?

A. The checkdiskspace.timer unit should be enabled via systemct1.
B. The timers.target should be reloaded to get the new configuration.
C. The checkdiskspace.timer should be configured to allow manual starts.
D. The checkdiskspace.timer should be started using the sudo command.

Answer: C

Explanation:
The most likely reason the timer will not start is that the checkdiskspace.timer should be configured to allow manual starts. By default, systemd timers do not allow manual activation via systemct1 start, unless they have RefuseManualStart=no in their [Unit] section. This option prevents users from accidentally starting timers that are meant to be controlled by other mechanisms, such as calendar events or dependencies. To enable manual starts for checkdiskspace.timer, the administrator should add RefuseManualStart=no to its [Unit] section and reload systemd. The other options are not correct reasons for the timer not starting. The checkdiskspace.timer unit does not need to be enabled via systemct1 enable, because enabling a timer only makes it start automatically at boot time or after a system reload, but
does not affect manual activation. The timers.target does not need to be reloaded to get the new configuration, because reloading a target only affects units that have a dependency on it, but does not affect manual activation. The checkdiskspace.timer does not need to be started using the sudo command, because the administrator is already running systemct1 as root, as indicated by the # prompt. References: systemd.timer(5) - Linux manual page; systemct1(1) - Linux manual page

NEW QUESTION 158
A cloud engineer wants to delete all unused networks that are not referenced by any container. Which of the following commands will achieve this goal?

A. docker network erase
B. docker network clear
C. docker network prune
D. docker network rm

Answer: C

Explanation:
The docker command is used to manage Docker containers, images, networks, volumes, and other resources on a Linux system. Docker is a platform that allows users to run applications in isolated environments called containers. Docker also provides networking features that allow users to create and manage networks for containers.
To delete all unused networks that are not referenced by any container, the cloud engineer can use the docker network prune command. This command will remove all networks that have no containers connected to them. The statement C is correct.
The statements A, B, and D are incorrect because they do not delete all unused networks.
The docker network erase and docker network clear commands do not exist. The docker network rm command deletes a specific network by name or ID, but not all unused networks. References: [How to Manage Docker Networks]

NEW QUESTION 162
After installing a new version of a package, a systems administrator notices a new version of the corresponding, service file was Installed In order to use the new version of the, service file, which of the following commands must be Issued FIRST?

A. systemct1 status
B. systemct1 stop
C. systemct1 reinstall
D. systemct1 daemon-reload

Answer: D

Explanation:
After installing a new version of a package that includes a new version of the corresponding service file, the systemct1 daemon-reload command must be issued first in order to use the new version of the service file. This command will reload the systemd manager configuration and read all unit files that have changed on disk. This will ensure that systemd recognizes the new service file and applies its settings correctly. The systemct1 status command will display information about a service unit, but it will not reload the configuration. The systemct1 stop command will stop a service unit, but it will not reload the configuration. The systemct1 reinstall command does not exist. References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 17: System Maintenance and Operation, page 518.

NEW QUESTION 167
Which of the following commands is used to configure the default permissions for new files?

A. setenforce
B. sudo
C. umask
D. chmod

Answer: C

Explanation:
The command that is used to configure the default permissions for new files is umask. The umask command is a tool for setting the default permissions for new files and directories on Linux systems. The umask value is a four-digit octal number that represents the permissions that are subtracted from the default permissions. The default permissions for files are 666, which means read and write for owner, group, and others.
The default permissions for directories are 777, which means read, write, and execute for owner, group, and others. The umask value consists of four digits: the first digit is for special permissions, such as setuid, setgid, and sticky bit; the second digit is for the owner permissions; the third digit is for the group permissions; and the fourth digit is for the others permissions. The umask value can be calculated by subtracting the desired permissions from the default permissions. For example, if the desired permissions for files are 664, which means read and write for owner and group, and read for others, then the umask value is 002, which is 666 - 664. The command umask 002 will set the umask value to 002, which will ensure that only file owners and group members can modify new files by default. The command that is used to configure the default permissions for new files is umask. This is the correct answer to the question. The other options are incorrect because they either do not set the default permissions for new files (setenforce, sudo, or chmod) or do not exist (kill -HUP or kill -TERM). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 11: Managing File Permissions and Ownership, page 349.

NEW QUESTION 171
A systems administrator wants to upgrade /bin/ someapp to a new version, but the administrator does not know the package name. Which of the following will show the RPM package name that provides that binary file?

A. rpm —qf /bin/ someapp
B. rpm —Vv / bin/ someapp
C. rpm - P / bin/ some app
D. rpm —i / bin/ someapp

Answer: A

Explanation:
The rpm command is used to manage RPM packages on Linux systems. The -qf option queries the package name that provides a given file. Therefore, the command rpm -qf /bin/someapp will show the RPM package name that provides the binary file /bin/someapp. The statements B, C, and D are incorrect because they do not query the package name, but rather verify, remove, or install a package. References: [How to Use RPM Command in Linux with Examples]

NEW QUESTION 176
Users are experiencing high latency when accessing a web application served by a Linux machine. A systems administrator checks the network interface counters and sees the following:

```
# ip -s link list dev enp0s25

2: enp0s25: <BROADCAST,MULTICAST,LOWER_UP,UP> mtu 1500 qdisc fq_codel state DOWN mode DEFAULT group default qlen 1000   link/ether
ac:12:34:56:78:cd brd ff:ff:ff:ff:ff:ff

    RX: bytes  packets  errors  dropped missed  mcast
    2011664755 3579033  2394390 508     0       0
    TX: bytes  packets  errors  dropped carrier collsns
    309541780  1705408  0       0       12340   0
```

Which of the following is the most probable cause of the observed latency?

A. The network interface is disconnected.
B. A connection problem exists on the network interface.
C. No IP address is assigned to the interface.
D. The gateway is unreachable.

Answer: B

Explanation:
The high number of errors and dropped packets in the output of the network interface counters indicate a connection problem on the network interface.
References:
? CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 10: Managing Networking, Section: Troubleshooting Network Issues, Page 359.
? Linux+ (Plus) Certification, Exam Objectives: 4.3 Given a scenario, troubleshoot and resolve basic network configuration and connectivity issues.

NEW QUESTION 180
A developer is trying to install an application remotely that requires a graphical interface for installation. The developer requested assistance to set up the necessary environment variables along with X11 forwarding in SSH. Which of the following environment variables must be set in remote shell in order to launch the graphical interface?

A. $RHOST
B. SETENV

C. $SHELL
D. $DISPLAY

Answer: D

Explanation:
The environment variable that must be set in remote shell in order to launch the graphical interface is $DISPLAY. This variable tells X11 applications where to display their windows on screen. It usually has the form hostname:displaynumber.screennumber, where hostname is the name of the computer running the X server, displaynumber is a unique identifier for an X display on that computer, and screennumber is an optional identifier for a screen within an X display. For example, localhost:0.0 means display number 0 on the local host. If the hostname is omitted, it defaults to the local host.
The other options are not correct environment variables for launching the graphical interface. $RHOST is a variable that stores the name of the remote host, but it is not used by X11 applications. SETENV is a command that sets environment variables in some shells, but it is not an environment variable itself. $SHELL is a variable that stores the name of the current shell, but it is not related to X11 forwarding. References: How to enable or disable X11 forwarding in an SSH server; How to Configure X11 Forwarding Using SSH In Linux

NEW QUESTION 184
A user is unable to log on to a Linux workstation. The systems administrator executes the following command:
cat /etc/shadow | grep user1
The command results in the following output:
user1 :! 6QERgAsdvojadv4asdvaarC/9dj34GdafGVaregmkdsfa:18875:0:99999:7 ::: Which of the following should the systems administrator execute to fix the issue?

A. chown -R userl:user1 /home/user1
B. sed -i '/ ::: / :: /g' /etc/shadow
C. chgrp user1:user1 /home/user1
D. passwd -u user1

Answer: D

Explanation:
The output shows that the user1 account has a locked password, indicated by the exclamation point (!) in the second field of the /etc/shadow file1. To unlock the password and allow the user to log in, the systems administrator should use the passwd command with the -u (unlock) option2.
References: 1: Understanding the /etc/shadow File 2: How To Use The Passwd Command In Linux

NEW QUESTION 189
A Linux systems administrator receives a notification that one of the server's filesystems is full. Which of the following commands would help the administrator to identify this filesystem?

A. lsblk
B. fdisk
C. df -h
D. du -ah

Answer: C

Explanation:
The df -h command can be used to identify the filesystem that is full. This command displays the disk usage of each mounted filesystem in a human-readable format, showing the total size, used space, available space, and percentage of each filesystem. The lsblk command displays information about block devices, not filesystems. The fdisk command can be used to manipulate partition tables, not check disk usage. The du -ah command displays the disk usage of each file and directory in a human-readable format, not the filesystems. References: [CompTIA Linux+ (XK0-005) Certification Study Guide], Chapter 14: Managing Disk Storage, page 454.

NEW QUESTION 193
Ann, a security administrator, is performing home directory audits on a Linux server. Ann issues the su Joe command and then issues the Is command. The output displays files that reside in Ann's home directory instead of Joe's. Which of the following represents the command Ann should have issued in order to list Joe's files?

A. su - Joe
B. sudo Joe
C. visudo Joe
D. pkexec joe

Answer: A

Explanation:
The su command is used to switch to another user account on Linux systems. The - option makes the shell a login shell, which means that it will read the profile and environment variables of the target user. Without this option, the shell will retain the environment variables of the original user. This can cause confusion when issuing commands that depend on these variables, such as Is, which uses the $HOME variable to determine the home directory. Therefore, Ann should have issued su - Joe to list Joe's files instead of her own. References: [How to Use su Command in Linux with Examples]

NEW QUESTION 195
A user is attempting to log in to a Linux server that has Kerberos SSO ena-bled. Which of the following commands should the user run to authenticate and then show the ticket grants? (Select TWO).

A. kinit
B. klist
C. kexec
D. kioad
E. pkexec

F. realm

Answer: AB

Explanation:
The following commands can help the user to authenticate and show the ticket grants using Kerberos SSO on a Linux server:
? kinit: This command obtains and caches an initial ticket-granting ticket (TGT) for
the user from the Kerberos key distribution center (KDC). The user needs to enter their password or use a keytab file to authenticate1.
? klist: This command lists the cached tickets, including the TGT and any service tickets, for the user. It also shows the expiration time and flags for each ticket2.
For example, the user can run the following commands to log in and view their tickets:
$ kinit username@REALM Password for username@REALM:
$ klist
Ticket cache: FILE:/tmp/krb5cc_1000 Default principal: username@REALM
Valid starting Expires Service principal
04/06/2023 16:06:59 04/07/2023 02:06:59 krbtgt/REALM@REALM
renew until 04/13/2023 16:06:59 References:
? kinit(1) - Linux man page, section “Description”.
? klist(1) - Linux man page, section “Description”.

NEW QUESTION 200
A file called testfile has both uppercase and lowercase letters:
$ cat testfile ABCDEfgH
IJKLmnoPQ abcdefgH ijklLMNopq
A Linux administrator is tasked with converting testfile into all uppercase and writing it to a new file with the name uppercase. Which of the following commands will achieve
this task?

A. tr '(A-Z}' '{a-z}' < testfile > uppercase
B. echo testfile | tr "[Z-A]" "[z-a]" < testfile > uppercase
C. cat testfile | tr '{z-a)' '{Z-A}' < testfile > uppercase
D. tr '[a-z]' '[A-Z]' < testfile > uppercase

Answer: D

Explanation:
This command will use the tr tool to translate all lowercase letters in the testfile to uppercase letters and write the output to the uppercase file. The first argument ‘[a-z]’ specifies the set of characters to be replaced, and the second argument ‘[A-Z]’ specifies the set of characters to replace with. The ‘<’ symbol redirects the input from the testfile, and the ‘>’ symbol redirects the output to the uppercase file12.
References: 1: Linux Tr Command - javatpoint 2: Linux tr Command with Examples - phoenixNAP

NEW QUESTION 201
A systems engineer is adding a new 1GB XFS filesystem that should be temporarily mounted under /ops/app. Which of the following is the correct list of commands to achieve this goal?

A.
```
pvcreate -L1G /dev/app
mkfs.xfs /dev/app
mount /dev/app /opt/app
```

B.
```
parted /dev/sdb --script mkpart primary xfs 1GB
mkfs.xfs /dev/sdb
mount /dev/sdb /opt/app
```

C.
```
lvs --create 1G --name app
mkfs.xfs /dev/app
mount /dev/app /opt/app
```

D.
```
lvcreate -L 1G -n app app_vq
mkfs.xfs /dev/app_vg/app
mount /dev/app_vg/app /opt/app
```

Answer: D

Explanation:
The list of commands in option D is the correct way to achieve the goal. The commands are as follows:
? fallocate -l 1G /ops/app.img creates a 1GB file named app.img under the /ops directory.
? mkfs.xfs /ops/app.img formats the file as an XFS filesystem.

? mount -o loop /ops/app.img /ops/app mounts the file as a loop device under the /ops/app directory. The other options are incorrect because they either use the wrong commands (dd or truncate instead of fallocate), the wrong options (-t or - f instead of -o), or the wrong order of arguments (/ops/app.img /ops/app instead of /ops/app /ops/app.img). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 10: Managing Storage, pages 323-324.

NEW QUESTION 204
A Linux administrator was tasked with deleting all files and directories with names that are contained in the sobelete.txt file. Which of the following commands will accomplish this task?

A. xargs -f cat toDelete.txt -rm
B. rm -d -r -f toDelete.txt
C. cat toDelete.txt | rm -frd
D. cat toDelete.txt | xargs rm -rf

Answer: D

Explanation:
The command cat toDelete.txt | xargs rm -rf will delete all files and directories with names that are contained in the toDelete.txt file. The cat command reads the file and outputs its contents to the standard output. The | operator pipes the output to the next command. The xargs command converts the output into arguments for the next command. The rm -rf command removes the files and directories recursively and forcefully. This is the correct way to accomplish the task. The other options are incorrect because they either use the wrong options (-f instead of -a for xargs), the wrong arguments (toDelete.txt instead of toDelete.txt filename for rm), or the wrong commands (rm instead of xargs). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 11: Managing Files and Directories, pages 349-350.

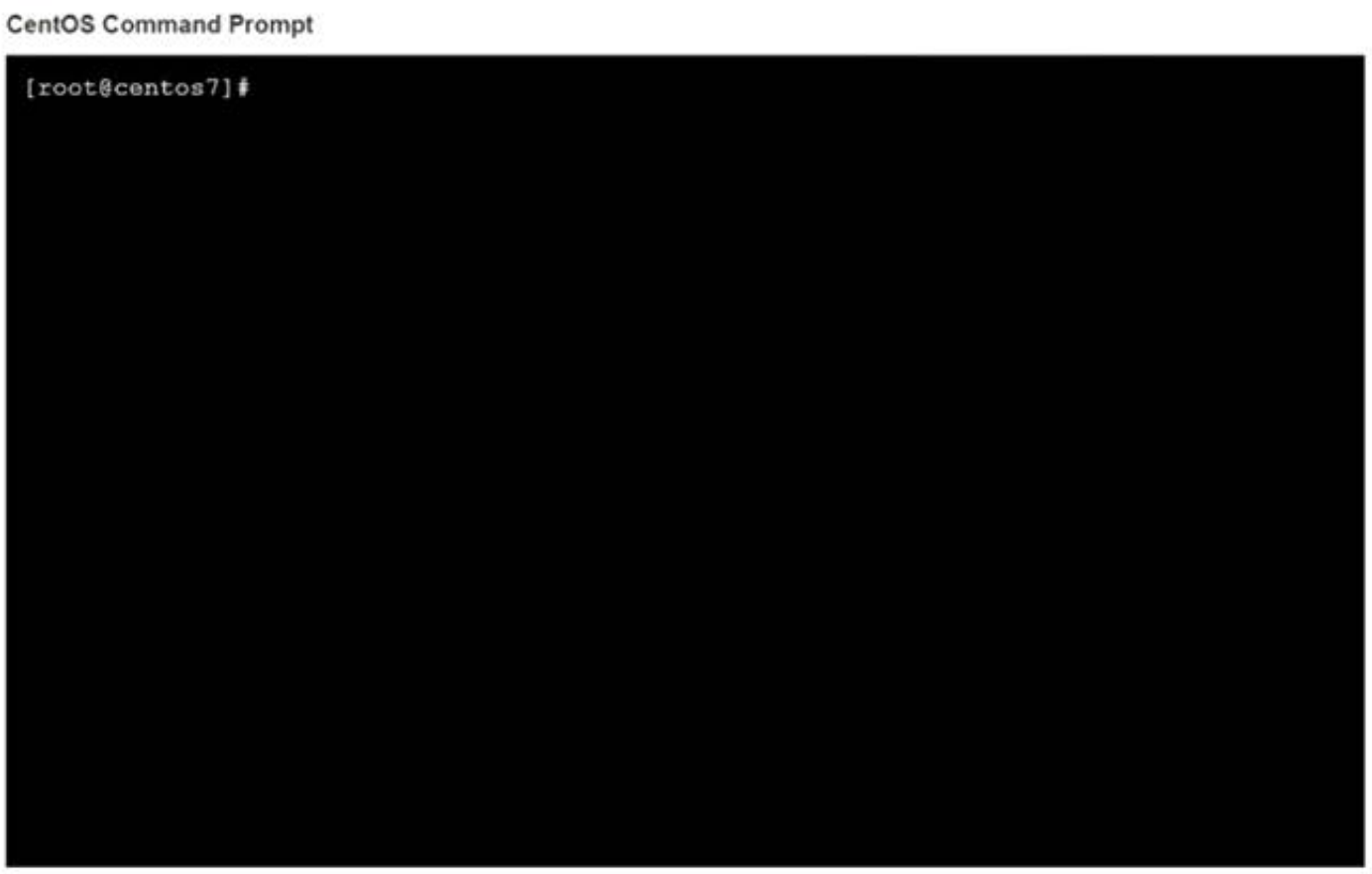
NEW QUESTION 206
A systems administrator made some changes in the ~/.bashrc file and added an alias command. When the administrator tried to use the alias command, it did not work. Which of the following should be executed FIRST?

A. source ~/.bashrc
B. read ~/.bashrc
C. touch ~/.bashrc
D. echo ~/.bashrc

Answer: A

Explanation:
The command source ~/.bashrc should be executed first to use the alias command. The source command reads and executes commands from a file in the current shell environment. The ~/.bashrc file is a configuration file that contains commands and aliases that are executed when a new bash shell is started. The administrator made some changes in the ~/.bashrc file and added an alias command, but the changes are not effective until the file is sourced or a new shell is started. The command source
~/.bashrc will reload the file and make the alias command available. The other options are incorrect because they either do not execute the commands in the file (read, touch, or echo) or do not affect the current shell environment (read or echo). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 9: Working with the Linux Shell, page 295.

NEW QUESTION 207
SIMULATION
Junior system administrator had trouble installing and running an Apache web server on a Linux server. You have been tasked with installing the Apache web server on the Linux server and resolving the issue that prevented the junior administrator from running Apache.
INSTRUCTIONS
Install Apache and start the service. Verify that the Apache service is running with the defaults.
Typing “help” in the terminal will show a list of relevant event commands.
If at any time you would like to bring back the initial state of the simulation, please click the Reset All button.



A. Mastered

B. Not Mastered

Answer: A

Explanation:
yum install httpd
systemct1 --now enable httpd systemct1 status httpd netstat -tunlp | grep 80
pkill <processname> systemct1 restart httpd systemct1 status httpd

NEW QUESTION 208
A systems administrator made some unapproved changes prior to leaving the company. The newly hired administrator has been tasked with revealing the system to a compliant state. Which of the following commands will list and remove the correspondent packages?

A. dnf list and dnf remove last
B. dnf remove and dnf check
C. dnf info and dnf upgrade
D. dnf history and dnf history undo last

Answer: D

Explanation:
The commands that will list and remove the corresponding packages are dnf history and dnf history undo last. The dnf history command will display a list of all transactions performed by dnf, such as installing, updating, or removing packages. Each transaction has a unique ID, a date and time, an action, and a number of altered packages. The dnf history undo last command will undo the last transaction performed by dnf, meaning that it will reverse all package changes made by that transaction. For example, if the last transaction installed some packages, dnf history undo last will remove them.
The other options are not correct commands for listing and removing corresponding packages. The dnf list command will display a list of available packages in enabled repositories, but not the packages installed by dnf transactions. The dnf remove command will remove specified packages from the system, but not all packages from a specific transaction. The dnf info command will display detailed information about specified packages, but not about dnf transactions. The dnf upgrade command will upgrade all installed packages to their latest versions, but not undo any package changes. References: Handling package management history; dnf(8) - Linux manual page

NEW QUESTION 210
A Linux administrator has logged in to a server for the first time and needs to know which services are allowed through the firewall. Which of the following options will return the results for which the administrator is looking?

A. firewall-cmd —get-services
B. firewall-cmd —check-config
C. firewall-cmd —list-services
D. systemct1 status firewalld

Answer: C

Explanation:
The firewall-cmd --list-services command will return the results for which the administrator is looking. This command will list all services that are allowed through the firewall in the default zone or a specified zone. A service is a predefined set of ports and protocols that can be enabled or disabled by firewalld. The firewall-cmd --get-services command will list all available services that are supported by firewalld, not only those that are allowed through the firewall. The firewall-cmd --check-config command will check if firewalld configuration files are valid, not list services. The systemct1 status firewalld command will display information about the firewalld service unit, such as its state, PID, memory usage, and logs, not list services. References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 18: Securing Linux Systems, page 543.

NEW QUESTION 211
Users have been unable to reach www.comptia.org from a Linux server. A systems administrator is troubleshooting the issue and does the following:

Output 1:
```
2: eth0: <BROADCAST,MULTICAST,UP, LOWER_UP> mtu 1500 qdisc noqueue state UP group default qlen 1000
   link/ether ac:11:22:33:44:cd brd ff:ff:ff:ff:ff:ff
   inet 192.168.168.10/24 brd 192.168.169.255 scope global dynamic noprefixroute eth0
      valid_lft 8097sec preferred_lft 8097sec
   inet fe80::4daf:8c7c:a6ff:2771/64 scope link noprefixroute
      valid_lft forever preferred_lft forever
```

Output 2:
```
nameserver 192.168.168.53
```

Output 3:
```
FING 192.168.168.53 (192.168.168.53) 56(84) bytes of data.
64 bytes from 192.168.168.53: icmp_seq=1 ttl=64 time=2.85 ms

--- 192.168.168.53 ping statistics ---
1 packets transmitted, 1 received, 0% packet loss, time 0ms
rtt min/avg/max/mdev = 2.847/2.847/2.847/0.000 ms
```

Output 4:
```
192.168.168.0/24 dev eth0 proto kernel scope link src 192.168.168.10 metric 600
```

Output 5:
```
...
;; QUESTION SECTION:
;www.comptia.org. IN A

;; ANSWER SECTION:
. 0 CLASS4096 OPT 10 8 LgmNvk0AazU=

;; ADDITIONAL SECTION:
www.comptia.org. 3385 IN A 23.96.239.26
...
```

Based on the information above, which of the following is causing the issue?

A. The name www.comptia.org does not point to a valid IP address.
B. The server 192.168.168.53 is unreachable.
C. No default route is set on the server.
D. The network interface eth0 is disconnected.

Answer: B

Explanation:
The issue is caused by the server 192.168.168.53 being unreachable. This server is the DNS server configured in the /etc/resolv.conf file, which is used to resolve domain names to IP addresses. The ping command shows that the server cannot be reached, and the nslookup command shows that the name www.comptia.org cannot be resolved using this server. The other options are incorrect because:
? The name www.comptia.org does point to a valid IP address, as shown by the nslookup command using another DNS server (8.8.8.8).
? The default route is set on the server, as shown by the ip route command, which shows a default gateway of 192.168.168.1.
? The network interface eth0 is connected, as shown by the ip link command, which shows a state of UP for eth0. References: CompTIA Linux+ Study Guide, Fourth Edition, page 457-458, 461-462.

NEW QUESTION 212
A junior administrator updated the PostgreSQL service unit file per the data-base administrator's recommendation. The service has been restarted, but changes have not been applied. Which of the following should the administrator run for the changes to take effect?

A. Systemct1 get—default
B. systemct1 daemon—reload
C. systemct1 enable postgresq1
D. systemct1 mask postgresq1

Answer: B

Explanation:
To apply changes to a systemd service unit file, the administrator needs to reload the systemd daemon using the command systemct1 daemon-reload (B). This will make systemd aware of the new or changed unit files. The other commands will not reload the systemd daemon or apply the changes. References:
? [CompTIA Linux+ Study Guide], Chapter 7: Managing System Services, Section:
Modifying Systemd Services
? [How to Reload Systemd Services]

NEW QUESTION 216
A systems administrator created a web server for the company and is required to add a tag for the API so end users can connect. Which of the following would the administrator do to complete this requirement?

A. hostnamectl status --no-ask-password
B. hostnamectl set-hostname "$(perl -le "print" "A" x 86)"
C. hostnamectl set-hostname Comptia-WebNode -H root@192.168.2.14
D. hostnamectl set-hostname Comptia-WebNode --transient

Answer: C

Explanation:
The command hostnamectl set-hostname Comptia-WebNode -H root@192.168.2.14 sets the hostname of the web server to Comptia-WebNode and connects to the server using the SSH protocol and the root user. This is the correct way to complete the requirement. The other options are incorrect because they either display the current hostname status (hostnamectl status), set an invalid hostname (hostnamectl set- hostname "$(perl -le "print" "A" x 86)"), or set a transient hostname that is not persistent (hostnamectl set-hostname Comptia-WebNode --transient). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 9: Managing System Components, page 291.

NEW QUESTION 217
The group named support is unable to make changes to the config file. An administrator is reviewing the permissions and sees the following:
S Is -1 config
-rw-rw----. 1 root app 4682 02-15 11:25 config
Which of the following should the administrator execute in order to give the support group access to modify the file while preserving the current ownership?

A. chown :support config
B. setfacl -m g:support:rw- config
C. chmod 664 config
D. chmod g+s config

Answer: C

Explanation:
To give the support group access to modify the config file while preserving the current ownership, the administrator can execute the command chmod 664 config ©. This will change the permissions of the config file to read and write for the owner and group, and read only for others. The owner and group of the file will remain as root and app respectively. The other commands will not achieve this task, but either change the group ownership, set an access control list, or set a setgid bit. References:
? [CompTIA Linux+ Study Guide], Chapter 3: Working with Files, Section: Changing
File Permissions
? [How to Use chmod Command in Linux]

NEW QUESTION 220
A systems administrator receives reports that several virtual machines in a host are responding slower than expected. Upon further investigation, the administrator obtains the following output from one of the affected systems:

16:00:01 PM	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:10:01 PM	all	17.58	0.00	9.36	0.00	54.33	18.73
16:20:01 PM	all	22.34	0.00	11.75	0.00	48.69	17.22
16:30:01 PM	all	25.49	0.00	11.69	0.00	57.85	4.97
16:40:01 PM	all	25.49	0.00	11.69	0.00	53.21	9.61
16:50:01 PM	all	25.49	0.00	11.69	0.00	56.49	6.33

Which of the following best explains the reported issue?

A. The physical host is running out of CPU resources, leading to insufficient CPU time being allocated to virtual machines.
B. The physical host has enough CPU cores, leading to users running more processes to compensate for the slower response times.
C. The virtual machine has enough CPU cycles, leading to the system use percentage being higher than expected.
D. The virtual machine is running out of CPU resources, leading to users experiencing longer response times.

Answer: D

Explanation:
Based on the output from one of the affected systems, the best explanation for the reported issue is that the virtual machine is running out of CPU resources, leading to users experiencing longer response times (D). The output shows that the system use percentage is very high (57.85%), indicating that the virtual machine is using most of its CPU cycles for system processes. This leaves little CPU time for user processes, which results in slower performance. The other explanations are not supported by the output or are contradictory. References:
? [CompTIA Linux+ Study Guide], Chapter 8: Optimizing Linux Performance, Section: Monitoring CPU Usage
? [How to Interpret CPU Usage Statistics]

NEW QUESTION 225
A systems administrator has been unable to terminate a process. Which of the following should the administrator use to forcibly stop the process?

A. kill -1
B. kill -3
C. kill -15
D. kill -HUP
E. kill -TERM

Answer: E

Explanation:
The administrator should use the command kill -TERM to forcibly stop the process. The kill command is a tool for sending signals to processes on Linux systems. Signals are messages that inform the processes about certain events and actions. The processes can react to the signals by performing predefined or user-defined actions, such as terminating, suspending, resuming, or ignoring. The -TERM option specifies the signal name or number that the kill command should send. The TERM signal, which stands for terminate, is the default signal that the kill command sends if no option is specified. The TERM signal requests the process to terminate gracefully, by closing any open files, releasing any resources, and performing any cleanup tasks. However, if the process does not respond to the TERM signal, the kill command can send a stronger signal, such as the KILL signal, which forces the process to terminate immediately, without any cleanup. The administrator should use the command kill -TERM to forcibly stop the process. This is the correct answer to the question. The other options are incorrect because they either do not terminate the process (kill -1 or kill -3) or do not terminate the process forcibly (kill -15 or kill -HUP). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 14: Managing Processes, page 431.

NEW QUESTION 226
A Linux administrator created the directory /project/access2all. By creating this directory, the administrator is trying to avoid the deletion or modification of files from non-owners. Which of the following will accomplish this goal?

A. chmod +t /project/access2all
B. chmod +rws /project/access2all
C. chmod 2770 /project/access2all
D. chmod ugo+rwx /project/access2all

Answer: A

Explanation:
The command that will accomplish the goal of avoiding the deletion or modification of files from non-owners is chmod +t /project/access2all. This command will set the sticky bit on the directory /project/access2all, which is a special permission that restricts file deletion or renaming to only the file owner, directory owner, or root user. This way, even if multiple users have write permission to the directory, they cannot delete or modify each other's files.
The other options are not correct commands for accomplishing the goal. The chmod +rws /project/access2all command will set both the SUID and SGID bits on the directory, which are special permissions that allow a program or a directory to run or be accessed with the permissions of its owner or group, respectively. However, this does not prevent file deletion or modification from non-owners. The chmod 2770 /project/access2all command will set only the SGID bit on the directory, which means that any new files or subdirectories created in it will inherit its group ownership. However, this does not prevent file deletion or modification from non-owners. The chmod ugo+rwx /project/access2all command will grant read, write, and execute permissions to all users (user, group, and others) on the directory, which means that anyone can delete or modify any file in it. References: chmod(1) - Linux manual page; How to Use SUID, SGID, and Sticky Bits on Linux

NEW QUESTION 229
A developer reported an incident involving the application configuration file /etc/httpd/conf/httpd.conf that is missing from the server. Which of the following identifies the RPM package that installed the configuration file?

A. rpm -qf /etc/httpd/conf/httpd.conf
B. rpm -ql /etc/httpd/conf/httpd.conf
C. rpm —query /etc/httpd/conf/httpd.conf
D. rpm -q /etc/httpd/conf/httpd.conf

Answer: A

Explanation:
The rpm -qf /etc/httpd/conf/httpd.conf command will identify the RPM package that installed the configuration file. This command will query the database of installed packages and display the name of the package that owns the specified file. The rpm -ql /etc/httpd/conf/httpd.conf command is invalid, as -ql is not a valid option for rpm. The rpm --query /etc/httpd/conf/httpd.conf command is incorrect, as --query requires a package name, not a file name. The rpm -q /etc/httpd/conf/httpd.conf command is incorrect,
as -q requires a package name, not a file name. References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 19: Managing Packages and Software, page 560.

NEW QUESTION 231
A Linux engineer is setting the sticky bit on a directory called devops with 755 file permission. Which of the following commands will accomplish this task?

A. chown -s 755 devops
B. chown 1755 devops
C. chmod -s 755 devops
D. chmod 1755 devops

Answer: D

Explanation:
The command that will set the sticky bit on a directory called devops with 755 file permission is chmod 1755 devops. This command will use chmod to change the mode of the directory devops to 1755, which means that the owner has read, write, and execute permissions (7), the group has read and execute permissions (5), and others have read and execute permissions (5). The first digit 1 indicates that the sticky bit is set on the directory, which is a special permission that prevents users from deleting or renaming files
in the directory that they do not own.
The other options are not correct commands for setting the sticky bit on a directory. The chown -s 755 devops command is invalid because chown is used to change the owner and group of files or directories, not their permissions. The -s option for chown is used to remove a symbolic link, not to set the sticky bit. The chown 1755 devops command is also invalid because chown does not accept numeric arguments for changing permissions. The chmod -s 755 devops command will remove the sticky bit from the directory devops, not set it. References: chmod(1) - Linux manual page; How to Use SUID, SGID, and Sticky Bits on Linux

NEW QUESTION 235
A systems administrator is investigating a service that is not starting up. Given the following information:

```
root@localhost ~]# systemctl status network
network.service - LSB: Bring up/down networking
Loaded: loaded (/etc/rc.d/init.d/network; bad; vendor preset: disabled)
Active: failed (Result: exit-code) since Jan 2022-01-02 22:55:15 CST;
Docs: man:systemd-sysv-generator(8)
Process: 1083 ExecStart=/etc/rc.d/init.d/network start (code=exited, status=1/FAILURE)
Jan 02 22:55:15 localhost.localdomain network[1083]: Bringing up interface enp0s25: Error: Con...n.
Jan 02 22:55:15 localhost.localdomain network[1083]: [FAILED]
[...]
```

Which of the following systemd commands should the administrator use in order to obtain more details about the failing service?

A. systemct1 analyze network
B. systemct1 info network
C. sysctl -a network
D. journalctl -xu network

Answer: D

Explanation:
The systemd is a system and service manager for Linux systems that provides a standard way to control and monitor system services. The systemd uses various commands and tools to manage and troubleshoot system services, such as systemct1, sysctl, and journalctl. The systemct1 command is used to start, stop, enable, disable, restart, reload, status, and list system services. The sysctl command is used to configure kernel parameters at runtime. The journalctl command is used to view and filter the logs of system services.
To investigate a service that is not starting up, the administrator can use the journalctl command with the -xu option. The -x option enables verbose output that includes explanatory text and priority information. The -u option filters the output by a specific unit name, such as network.service. Therefore, the command journalctl -xu network will show detailed logs of the network service, which can help identify the cause of the failure. The statement D is correct.
The statements A, B, and C are incorrect because they do not provide more details about the failing service. The systemct1 analyze network command does not exist.
The systemct1 info network command shows basic information about the network unit, such as description, load state, active state, sub state, and main PID. The sysctl -a network command shows all kernel parameters related to network settingsR. eferences: [How to Use Systemd to Manage System Services]

NEW QUESTION 236
A Linux administrator has installed a web server, a database server, and a web application on a server. The web application should be active in order to render the web pages. After the administrator restarts the server, the website displays the following message in the browser: Error establishing a database connection. The Linux administrator reviews the following relevant output from the systemd init files:

```
[Unit]
Description=The Apache #HTTP Server
Wants=httpd-init.service
After=network.target remote-fs.target nss-lookup-target httpd-init.service mariadb.service

[Unit]
Description=MariaDB 10.5 database server
After=network.target
```

The administrator needs to ensure that the database is available before the web application is started. Which of the following should the administrator add to the HTTP server .service file to accomplish this task?

A. TRIGGERS=mariadb.service

B. ONFAILURE=mariadb.service
C. WANTEDBY=mariadb.service
D. REQUIRES=mariadb.service

Answer: D

Explanation:
The administrator should add REQUIRES=mariadb.service to the HTTP server .service file to ensure that the database is available before the web application is started. This directive specifies that the HTTP server unit requires the MariaDB server unit to be started before it can run. If the MariaDB server unit fails to start or stops for any reason, the HTTP server unit will also fail or stop. This way, the dependency between the web application and the database is enforced by systemd. The other options are not correct directives for accomplishing this task. TRIGGERS=mariadb.service is not a valid directive in systemd unit files. ONFAILURE=mariadb.service means that the HTTP server unit will start only if the MariaDB server unit fails, which is not what we want. WANTEDBY=mariadb.service means that the HTTP server unit will be started when the MariaDB server unit is enabled, but it does not imply a strong dependency or ordering relationship between them. References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 10: Managing Services with systemd; systemd.unit(5) - Linux manual page

NEW QUESTION 239
.....

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