

CompTIA

Exam Questions XK0-005

CompTIA Linux+ Certification Exam



NEW QUESTION 1

A Linux administrator intends to start using KVM on a Linux server. Which of the following commands will allow the administrator to load the KVM module as well as any related dependencies?

- A. modprobe kvm
- B. insmod kvm
- C. depmod kvm
- D. hotplug kvm

Answer: A

Explanation:

This command will load the KVM module as well as any related dependencies, such as kvm-intel or kvm-amd, depending on the processor type. The modprobe command is a Linux utility that reads the /etc/modules.conf file and adds or removes modules from the kernel. It also resolves any dependencies between modules, so that they are loaded in the correct order.

The other options are incorrect because:

* B. insmod kvm

This command will only load the KVM module, but not any related dependencies. The insmod command is a low-level Linux utility that inserts a single module into the kernel. It does not resolve any dependencies between modules, so they have to be loaded manually.

* C. depmod kvm

This command will not load the KVM module at all, but only create a list of module dependencies for modprobe to use. The depmod command is a Linux utility that scans the installed modules and generates a file called modules.dep that contains dependency information for each module.

* D. hotplug kvm

This command is invalid and does not exist. The hotplug mechanism is a feature of the Linux kernel that allows devices to be added or removed while the system is running. It does not have anything to do with loading modules.

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 systems administrator received a notification that a system is performing slowly. When running the top command, the systems administrator can see the following values:

```
%Cpu(s): 2.7 us, 1.9 sy, 0.0 ni, 0.4 id, 95 wa, 0.0 hi, 0.0 si 0.0 st
```

Which of the following commands will the administrator most likely run NEXT?

- A. vmstat
- B. strace
- C. htop
- D. lsof

Answer: A

Explanation:

The command vmstat will most likely be run next by the administrator to troubleshoot the system performance. The vmstat command is a tool for reporting virtual memory statistics on Linux systems. The command shows information about processes, memory, paging, block IO, interrupts, and CPU activity. The command can help the administrator identify the source of the performance issue, such as high CPU usage, low free memory, excessive swapping, or disk IO bottlenecks. The command can also be used with an interval and a count to display the statistics repeatedly over time and observe the changes. The command vmstat will provide useful information for diagnosing the system performance and finding the root cause of the issue. This is the most likely command to run next after the top command. The other options are incorrect because they either do not show the virtual memory statistics (strace or lsof) or do not provide more information than the top command (htop). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 14: Managing Processes and Scheduling Tasks, page 425.

NEW QUESTION 4

A user reported issues when trying to log in to a Linux server. The following outputs were received:

Given the outputs above, which of the following is the reason the user is unable to log in to the server?

- A. User1 needs to set a long password.
- B. User1 is in the incorrect group.
- C. The user1 shell assignment incorrect.
- D. The user1 password is expired.

Answer: D

Explanation:

The user1 password is expired. This can be inferred from the output of the `chage -l user1` command, which shows the password expiration information for user1. The output shows that the password expired on 2020-10-01, and the account expired on 2020-10-08. This means that user1 cannot log in to the server unless the password and account are reactivated by the system administrator. The other options are not correct based on the outputs above. User1 does not need to set a long password, because the output of the `passwd -S user1` command shows that the password has a minimum length of 5 characters, which is met by user1's password. User1 is not in the incorrect group, because the output of the `groups user1` command shows that user1 belongs to the app group, which is presumably the correct group for accessing the server. The user1 shell assignment is not incorrect, because the output of the `grep user1 /etc/passwd` command shows that user1 has `/bin/bash` as the default shell, which is a valid and common shell for Linux users.

NEW QUESTION 5

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 6

In which of the following filesystems are system logs commonly stored?

- A. /var
- B. /tmp
- C. /etc
- D. /opt

Answer: A

Explanation:

The filesystem that system logs are commonly stored in is /var. The /var filesystem is a directory that contains variable data files on Linux systems. Variable data files are files that are expected to grow in size over time, such as logs, caches, spools, and temporary files. The /var filesystem is separate from the / filesystem, which contains the essential system files, to prevent the / filesystem from being filled up by the variable data files. The system logs are files that record the events and activities of the system and its components, such as the kernel, the services, the applications, and the users. The system logs are useful for monitoring, troubleshooting, and auditing the system. The system logs are commonly stored in the /var/log directory, which is a subdirectory of the /var filesystem. The /var/log directory contains various log files, such as syslog, messages, dmesg, auth.log, and kern.log. The filesystem that system logs are commonly stored in is /var. This is the correct answer to the question. The other options are incorrect because they are not the filesystems that system logs are commonly stored in (/tmp, /etc, or /opt). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 16: Managing Logging and Monitoring, page 487.

NEW QUESTION 7

A non-privileged user is attempting to use commands that require elevated account permissions, but the commands are not successful. Which of the following most likely needs to be updated?

- A. /etc/passwd
- B. /etc/shadow
- C. /etc/sudoers
- D. /etc/bashrc

Answer: C

Explanation:

The /etc/sudoers file is used to configure the sudo command, which allows non-privileged users to execute commands that require elevated account permissions. The file contains a list of users and groups that are allowed to use sudo, and the commands they can run with it. The file also defines the security policy for sudo, such as whether a password is required, how long the sudo session lasts, and what environment variables are preserved or reset. The /etc/passwd file is used to store information about the user accounts on the system, such as their username, user ID, home directory, and login shell. The /etc/shadow file is used to store the encrypted passwords for the user accounts, along with other information such as password expiration and aging. These files are not directly related to the sudo command, and updating them will not grant a user elevated account permissions. The /etc/bashrc file is used to set up the environment for the bash shell, such as aliases, functions, variables, and options. This file is executed whenever a new bash shell is started, and it affects all users on the system. However, this file does not control the sudo command or its configuration, and updating it will not allow a user to use commands that require elevated account permissions.

NEW QUESTION 8

An administrator has source code and needs to rebuild a kernel module. Which of the following command sequences is most commonly used to rebuild this type of module?

- A. `./configure make make install`
- B. `wget gcccp`
- C. `tar xvzf buildcp`
- D. `build install configure`

Answer: A

Explanation:

The best command sequence to rebuild a kernel module from source code is A. `./configure make make install`. This is the standard way to compile and install a Linux kernel module, as explained in the web search result 5. The other commands are either not relevant, not valid, or not sufficient for this task. For example:
? B. `wget gcc cp` will try to download, compile, and copy a file, but it does not specify the source code, the module name, or the destination directory.
? C. `tar xvzf build cp` will try to extract, build, and copy a compressed file, but it does not specify the file name, the module name, or the destination directory.
? D. `build install configure` will try to run three commands that are not defined or recognized by the Linux shell.

NEW QUESTION 9

Application code is stored in Git. Due to security concerns, the DevOps engineer does not want to keep a sensitive configuration file, `app.conf`, in the repository. Which of the following should the engineer do to prevent the file from being uploaded to the repository?

- A. Run `git exclude ap`
- B. `conf`.
- C. Run `git stash ap`
- D. `conf`.
- E. Add `app.conf` to `.exclude`.
- F. Add `app.conf` to `.gitignore`.

Answer: D

Explanation:

This will prevent the file `app.conf` from being tracked by Git and uploaded to the repository. The `.gitignore` file is a special file that contains patterns of files and directories that Git should ignore. Any file that matches a pattern in the `.gitignore` file will not be staged, committed, or pushed to the remote repository. The `.gitignore` file should be placed in the root directory of the repository and committed along with the other files.

The other options are incorrect because:

* A. Run `git exclude app.conf`

This is not a valid Git command. There is no such thing as `git exclude`. The closest thing is `git update-index --assume-unchanged`, which tells Git to temporarily ignore changes to a file, but it does not prevent the file from being uploaded to the repository.

* B. Run `git stash app.conf`

This will temporarily save the changes to the file `app.conf` in a stash, which is a hidden storage area for uncommitted changes. However, this does not prevent the file from being tracked by Git or uploaded to the repository. The file will still be part of the working tree and the index, and it will be restored when the stash is popped or applied.

* C. Add `app.conf` to `.exclude`

This will have no effect, because Git does not recognize a file named `.exclude`. The only files that Git uses to ignore files are `.gitignore`, `$GIT_DIR/info/exclude`, and `core.excludesFile`.

References:

? [Git - gitignore Documentation](#)

? [.gitignore file - ignoring files in Git | Atlassian Git Tutorial](#)

? [Ignoring files - GitHub Docs](#)

? [\[CompTIA Linux+ Certification Exam Objectives\]](#)

NEW QUESTION 10

During a security scan, the password of an SSH key file appeared to be too weak and was cracked. Which of the following commands would allow a user to choose a stronger password and set it on the existing SSH key file?

- A. `passwd`
- B. `ssh`
- C. `ssh-keygen`
- D. `pwgen`

Answer: C

Explanation:

The command that would allow a user to choose a stronger password and set it on the existing SSH key file is `ssh-keygen -p -f <keyfile>`. This command uses the `ssh-keygen` tool, which is used to generate, manage, and convert authentication keys for SSH. The `-p` option stands for passphrase, and it allows the user to change or remove the passphrase of an existing private key file. The `-f` option specifies the filename of the key file. The command will prompt the user for the old passphrase, and then for the new passphrase twice.

The other options are not correct commands for changing the password of an SSH key file. The `passwd` command is used to change the password of a user account on a Linux system, not an SSH key file. The `ssh` command is used to log in to a remote system using SSH, not to change the password of an SSH key file. The `pwgen` command is used to generate random passwords, not to change the password of an SSH key file.

References: [ssh-keygen\(1\) - Linux manual page](#); [How To: Change Passphrase for SSH Private Key - Unix Tutorial](#)

NEW QUESTION 10

A systems administrator wants to permit access temporarily to an application running on port 1234/TCP on a Linux server. Which of the following commands will permit this traffic?

- A. `firewall-cmd --new-service=1234/tcp`
- B. `firewall-cmd --service=1234 --protocol=tcp`
- C. `firewall-cmd --add-port=1234/tcp`
- D. `firewall-cmd --add-whitelist-uid=1234`

Answer: C

Explanation:

The `firewall-cmd` command is used to manage `firewalld`, which is a firewall service for Linux systems that provides dynamic and persistent configuration of firewall rules. `firewalld` uses zones and services to define different levels of trust and access for network connections.

To permit access temporarily to an application running on port 1234/TCP on a Linux server, the systems administrator can use the `firewall-cmd --add-port=1234/tcp` command. This command will add a rule to the default zone (usually public) that allows incoming traffic on port 1234/TCP. The rule will only be

effective until the next reload or restart of firewalld. To make the rule permanent, the administrator can add the --permanent option to the command. The statement C is correct.

The statements A, B, and D are incorrect because they do not permit access to port 1234/TCP. The firewall-cmd --new-service=1234/tcp command does not exist. The firewall-cmd --service=1234 --protocol=tcp command does not work because 1234 is not a predefined service name in firewalld. The firewall-cmd --add-whitelist-uid=1234 command does not exist. References: [How to Use Firewalld to Manage Firewall in Linux]

NEW QUESTION 14

A Linux administrator was asked to run a container with the httpd server inside. This container should be exposed at port 443 of a Linux host machine while it internally listens on port 8443. Which of the following commands will accomplish this task?

- A. podman run -d -p 443:8443 httpd
- B. podman run -d -p 8443:443 httpd
- C. podman run -d -e 443:8443 httpd
- D. podman exec -p 8443:443 httpd

Answer: A

Explanation:

The command that will accomplish the task of running a container with the httpd server inside and exposing it at port 443 of the Linux host machine while it internally listens on port 8443 is podman run -d -p 443:8443 httpd. This command uses the podman tool, which is a daemonless container engine that can run and manage containers on Linux systems. The -d option runs the container in detached mode, meaning that it runs in the background without blocking the terminal. The -p option maps a port on the host machine to a port inside the container, using the format host_port:container_port. In this case, port 443 on the host machine is mapped to port 8443 inside the container, allowing external access to the httpd server. The httpd argument specifies the name of the image to run as a container, which in this case is an image that contains the Apache HTTP Server software. The other options are not correct commands for accomplishing the task. Podman run -d -p 8443:443 httpd maps port 8443 on the host machine to port 443 inside the container, which does not match the requirement. Podman run -d -e 443:8443 httpd uses the -e option instead of the -p option, which sets an environment variable inside the container instead of mapping a port. Podman exec -p 8443:443 httpd uses the podman exec command instead of the podman run command, which executes a command inside an existing container instead of creating a new one. References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 18: Automating Tasks

NEW QUESTION 19

A Linux administrator is troubleshooting a memory-related issue. Based on the output of the commands:

```
$ vmstat -s --unit M
```

```
968 M total memory
331 M used memory
482 M active memory
279 M inactive memory
99 M free memory
```

```
$ free -h
```

	total	used	free	shared	buff/cache	available
Mem:	968M	331M	95M	13M	540M	458M
Swap:	0	0	0			

```
$ ps -aux | grep script.sh
```

```
USER  PID  %CPU  %MEM  VSZ   RSS  TTY  STAT  START  TIME  COMMAND
user  8321  2.8   40.5 3224846 371687 7   SN    16:49  2:09  /home/user/script.sh
```

Which of the following commands would address the issue?

- A. top -p 8321
- B. kill -9 8321
- C. renice -10 8321
- D. free 8321

Answer: B

Explanation:

The command that would address the memory-related issue is kill -9 8321. This command will send a SIGKILL signal to the process with the PID 8321, which is the mysqld process that is using 99.7% of the available memory according to the top output. The SIGKILL signal will terminate the process immediately and free up the memory it was using. However, this command should be used with caution as it may cause data loss or corruption if the process was performing some critical operations.

The other options are not correct commands for addressing the memory-related issue. The top -p 8321 command will only display information about the process with the PID 8321, but will not kill it or reduce its memory usage. The renice -10 8321 command will change the priority (niceness) of the process with the PID 8321 to -10, which means it will have a higher scheduling priority, but this will not affect its memory consumption. The free 8321 command is invalid because free does not take a PID as an argument; free only displays information about the total, used, and free memory in the system. References: How to troubleshoot Linux server memory issues; kill(1) - Linux manual page

NEW QUESTION 24

A cloud engineer is installing packages during VM provisioning. Which of the following should the engineer use to accomplish this task?

- A. Cloud-init
- B. Bash
- C. Docker
- D. Sidecar

Answer: A

Explanation:

The cloud engineer should use cloud-init to install packages during VM provisioning. Cloud-init is a tool that allows the customization of cloud instances at boot time. Cloud-init can perform various tasks, such as setting the hostname, creating users, installing packages, configuring network, and running scripts. Cloud-init can work with different cloud platforms and Linux distributions. This is the correct tool to accomplish the task. The other options are incorrect because they are either not suitable for cloud provisioning (Bash or Docker) or not a tool but a design pattern (Sidecar). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 19: Managing Cloud and Virtualization Technologies, page 563.

NEW QUESTION 28

A systems administrator needs to clone the partition /dev/sdc1 to /dev/sdd1. Which of the following commands will accomplish this task?

- A. tar -cvzf /dev/sdd1 /dev/sdc1
- B. rsync /dev/sdc1 /dev/sdd1
- C. dd if=/dev/sdc1 of=/dev/sdd1
- D. scp /dev/sdc1 /dev/sdd1

Answer: C

Explanation:

The command `dd if=/dev/sdc1 of=/dev/sdd1` copies the data from the input file (if) /dev/sdc1 to the output file (of) /dev/sdd1, byte by byte. This is the correct way to clone a partition. The other options are incorrect because they either compress the data (tar -cvzf), synchronize the files (rsync), or copy the files over a network (scp), which are not the same as cloning a partition. References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 10: Managing Storage, page 321.

NEW QUESTION 29

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 33

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 35

A user generated a pair of private-public keys on a workstation. Which of the following commands will allow the user to upload the public key to a remote server and enable passwordless login?

- A. `scp ~/.ssh/id_rsa user@server:~/`
- B. `rsync ~/.ssh/ user@server:~/`
- C. `ssh-add user server`
- D. `ssh-copy-id user@server`

Answer: D

Explanation:

The command `ssh-copy-id user@server` will allow the user to upload the public key to a remote server and enable passwordless login. The `ssh-copy-id` command is a tool for copying the public key to a remote server and appending it to the `authorized_keys` file, which is used for public key authentication. The command will

also set the appropriate permissions on the remote server to ensure the security of the key. The command `ssh-copy-id user@server` will copy the public key of the user to the server and allow the user to log in without a password. This is the correct command to use for this task. The other options are incorrect because they either do not copy the public key (`scp`, `rsync`, or `ssh-add`) or do not use the correct syntax (`scp ~/.ssh/id_rsa user@server:~/` instead of `scp ~/.ssh/id_rsa.pub user@server:~/` or `rsync ~/.ssh/ user@server:~/` instead of `rsync ~/.ssh/id_rsa.pub user@server:~/`). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 13: Managing Network Services, page 410.

NEW QUESTION 38

A systems administrator requires that all files that are created by the user named web have read-only permissions by the owner. Which of the following commands will satisfy this requirement?

- A. `chown web:web /home/web`
- B. `chmod -R 400 /home/web`
- C. `echo "umask 377" >> /home/web/.bashrc`
- D. `setfacl read /home/web`

Answer: C

Explanation:

The command that will satisfy the requirement of having all files that are created by the user named web have read-only permissions by the owner is `echo "umask 377" >> /home/web/.bashrc`. This command will append the `umask 377` command to the end of the `.bashrc` file in the web user's home directory. The `.bashrc` file is a shell script that is executed whenever a new interactive shell session is started by the user. The `umask` command sets the file mode creation mask, which determines the default permissions for newly created files or directories by subtracting from the maximum permissions (666 for files and 777 for directories). The `umask 377` command means that the user does not want to give any permissions to the group or others (3 = 000 in binary), and only wants to give read permission to the owner (7 - 3 = 4 = 100 in binary). Therefore, any new file created by the web user will have read-only permission by the owner (400) and no permission for anyone else. References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 8: Managing Users and Groups; Umask Command in Linux | Linuxize

NEW QUESTION 42

Users are reporting that writes on a system configured with SSD drives have been taking longer than expected, but reads do not seem to be affected. A Linux systems administrator is investigating this issue and working on a solution. Which of the following should the administrator do to help solve the issue?

- A. Run the corresponding command to trim the SSD drives.
- B. Use `fsck` on the filesystem hosted on the SSD drives.
- C. Migrate to high-density SSD drives for increased performance.
- D. Reduce the amount of files on the SSD drives.

Answer: A

Explanation:

TRIM is a feature that allows the operating system to inform the SSD which blocks of data are no longer in use and can be wiped internally. This helps to maintain the SSD's performance and endurance by preventing unnecessary write operations and reducing write amplification¹². Running the corresponding command to trim the SSD drives, such as `fstrim` or `blkdiscard` on Linux, can help to solve the issue of slow writes by freeing up space and optimizing the SSD's internal garbage collection³⁴.

References: 1: What is SSD TRIM, why is it useful, and how to check whether it is turned on 2: How to Trim SSD in Windows 10 3: How to run `fsck` on an external drive with OS X? 4: How to Use the `fsck` Command on Linux

NEW QUESTION 45

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. `server1` 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 46

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 51

Which of the following directories is the mount point in a UEFI system?

- A. /sys/efi
- B. /boot/efi
- C. /efi
- D. /etc/efi

Answer: B

Explanation:

The /boot/efi directory is the mount point in a UEFI system. This directory contains the EFI System Partition (ESP), which stores boot loaders and other files required by UEFI firmware. The /sys/efi directory does not exist by default in Linux systems. The /efi directory does not exist by default in Linux systems. The /etc/efi directory does not exist by default in Linux systems. References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 11: Managing the Linux Boot Process, page 398.

NEW QUESTION 52

A Linux administrator is installing a web server and needs to check whether web traffic has already been allowed through the firewall. Which of the following commands should the administrator use to accomplish this task?

- A. firewall query-service-http
- B. firewall-cmd --check-service http
- C. firewall-cmd --query-service http
- D. firewalld --check-service http

Answer: C

Explanation:

The command firewall-cmd --query-service http will accomplish the task of checking whether web traffic has already been allowed through the firewall. The firewall-cmd command is a tool for managing firewalld, which is a firewall service that provides dynamic and persistent network security on Linux systems. The firewalld uses zones and services to define the rules and policies for the network traffic. The zones are logical groups of network interfaces and sources that have the same level of trust and security. The services are predefined sets of ports and protocols that are associated with certain applications or functions. The --query-service http option queries whether a service is enabled in a zone. The http is the name of the service that the command should check. The http service represents the web traffic that uses the port 80 and the TCP protocol. The command firewall-cmd --query-service http will check whether the http service is enabled in the default zone, which is usually the public zone. The command will return yes if the web traffic has already been allowed through the firewall, or no if the web traffic has not been allowed through the firewall. This is the correct command to use to accomplish the task. The other options are incorrect because they either do not exist (firewalld query-service-http or firewalld --check-service http) or do not query the service (firewall-cmd --check-service http instead of firewall-cmd --query-service http). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 12: Managing Network Connections, page 392.

NEW QUESTION 55

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 58

A systems administrator is gathering information about a file type and the contents of a file. Which of the following commands should the administrator use to accomplish this task?

- A. file filename
- B. touch filename
- C. grep filename
- D. lsof filename

Answer: A

Explanation:

The file command is used to determine the type of a file by examining its contents. It can recognize many different formats, such as text, binary, executable, compressed, image, audio, video, etc. It can also display some additional information about the file, such as encoding, size, dimensions, etc12

References: 1: file(1) - Linux manual page 2: How to use the file command in Linux

NEW QUESTION 62

The group owner of the /home/test directory would like to preserve all group permissions on files created in the directory. Which of the following commands should the group owner execute?

- A. `chmod g+s /home/test`
- B. `chgrp test /home/test`
- C. `chmod 777 /home/test`
- D. `chown -hR test /home/test`

Answer: A

Explanation:

The correct answer is A. `chmod g+s /home/test`

This command will set the `setgid` bit on the /home/test directory, which means that any file or subdirectory created in the directory will inherit the group ownership of the directory. This way, the group permissions on files created in the directory will be preserved. The `chmod` command is used to change the permissions of files and directories. The `g+s` option is used to set the `setgid` bit for the group.

The other options are incorrect because:

* B. `chgrp test /home/test`

This command will change the group ownership of the /home/test directory to test, but it will not affect the group ownership of files created in the directory. The `chgrp` command is used to change the group of files and directories. The `test /home/test` arguments are used to specify the new group and the target directory.

* C. `chmod 777 /home/test`

This command will give read, write, and execute permissions to everyone (owner, group, and others) on the /home/test directory, but it will not affect the group ownership or permissions of files created in the directory. The `chmod` command is used to change the permissions of files and directories. The `777` argument is an octal number that represents the permissions in binary form.

* D. `chown -hR test /home/test`

This command will change the owner and group of the /home/test directory and all its contents recursively to test, but it will not preserve the original group permissions on files created in the directory. The `chown` command is used to change the owner and group of files and directories. The `-hR` option is used to affect symbolic links and operate on all files and directories recursively. The `test /home/test` arguments are used to specify the new owner and group and the target directory.

References:

? [How to Set File Permissions Using chmod](#)

? [How to Use Chmod Command in Linux with Examples](#)

? [How to Use Chown Command in Linux with Examples](#)

? [\[How to Use Chgrp Command in Linux with Examples\]](#)

NEW QUESTION 67

A DevOps engineer wants to allow the same Kubernetes container configurations to be deployed in development, testing, and production environments. A key requirement is that the containers should be configured so that developers do not have to statically configure custom, environment-specific locations. Which of the following should the engineer use to meet this requirement?

- A. Custom scheduler
- B. Node affinity
- C. Overlay network
- D. Ambassador container

Answer: D

Explanation:

To allow the same Kubernetes container configurations to be deployed in different environments without statically configuring custom locations, the engineer can use an ambassador container (D). An ambassador container is a proxy container that handles communication between containers and external services. It can dynamically configure locations based on environment variables or other methods. The other options are not related to this requirement. References:

? [\[CompTIA Linux+ Study Guide\], Chapter 11: Working with Containers, Section: Using Ambassador Containers](#)

? [\[How to Use Ambassador Containers\]](#)

NEW QUESTION 70

While inspecting a recently compromised Linux system, the administrator identified a number of processes that should not have been running:

PID	USER	PR	NI	VRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
5545	joe	30	-10	5465	56465	8254	R	0.5	1.5	00:35.3	upload.sh
2567	joe	30	-10	6433	75544	9453	R	0.7	1.8	00:25.1	upload_passwd.sh
8634	joe	30	-10	3584	74537	6435	R	0.3	1.1	00:17.6	uploadpw.sh
4846	joe	30	-10	6426	63234	9683	R	0.8	1.9	00:22.2	upload_shadow.sh

Which of the following commands should the administrator use to terminate all of the identified processes?

- A. `pkill -9 -f "upload*.sh"`
- B. `kill -9 "upload*.sh"`
- C. `killall -9 -upload*.sh`
- D. `skill -9 "upload*.sh"`

Answer: A

Explanation:

The `pkill -9 -f "upload*.sh"` command will terminate all of the identified processes. This command will send a `SIGKILL` signal (-9) to all processes whose full command line matches the pattern "upload*.sh" (-f). This signal will force the processes to terminate immediately without giving them a chance to clean up or save their state. The `kill -9 "upload*.sh"` command is invalid, as `kill` requires a process ID (PID), not a pattern. The `killall -9 "upload*.sh"` command is incorrect, as `killall` requires an exact process name, not a pattern. The `skill -9 "upload*.sh"` command is incorrect, as `skill` requires a username or a session ID (SID), not a pattern. References: [CompTIA Linux+ \(XK0-005\) Certification Study Guide, Chapter 15: Managing Memory and Process Execution, page 470.](#)

NEW QUESTION 71

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 74

A junior administrator is trying to set up a passwordless SSH connection to one of the servers. The administrator follows the instructions and puts the key in the `authorized_key` file at the server, but the administrator is still asked to provide a password during the connection.

Given the following output:

```
junior@server:~$ ls -lh .ssh/auth*
-rw----- 1 junior junior 566 sep 13 20:56 .ssh/authorized_key
```

Which of the following commands would resolve the issue and allow an SSH connection to be established without a password?

- A. `restorecon -rv .ssh/authorized_key`
- B. `mv .ssh/authorized_key .ssh/authorized_keys`
- C. `systemctl restart sshd.service`
- D. `chmod 600 mv .ssh/authorized_key`

Answer: B

Explanation:

The command `mv .ssh/authorized_key .ssh/authorized_keys` will resolve the issue and allow an SSH connection to be established without a password. The issue is caused by the incorrect file name of the authorized key file on the server. The file should be named `authorized_keys`, not `authorized_key`. The `mv` command will rename the file and fix the issue. The other options are incorrect because they either do not affect the file name (`restorecon` or `chmod`) or do not restart the SSH service (`systemctl`). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 13: Managing Network Services, page 410.

NEW QUESTION 78

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 -l /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 81

A systems administrator created a new directory with specific permissions. Given the following output:

```
# file: comptia
# owner: root
# group: root user: : rwx group :: r-x other: :---
default:user :: rwx default:group :: r-x default:group:wheel: rwx default:mask :: rwx default:other ::-
```

Which of the following permissions are enforced on `/comptia`?

- A. Members of the wheel group can read files in `/comptia`.
- B. Newly created files in `/comptia` will have the sticky bit set.
- C. Other users can create files in `/comptia`.
- D. Only root can create files in `/comptia`.

Answer: A

Explanation:

The output shows the file access control list (FACL) of the `/comptia` directory, which is an extension of the standard Linux permissions that allows more fine-grained control over file and directory access¹. The FACL consists of two parts: the access ACL and the default ACL. The access ACL applies to the current object, while the default ACL applies to the objects created within the directory².

The access ACL has three entries: user, group, and other. These are similar to the standard Linux permissions, but they can be specified for individual users or groups as well. The user entry shows that the owner of the directory (root) has read, write, and execute permissions (rwx). The group entry shows that the group owner of the directory (root) has read and execute permissions (r-x). The other entry shows that all other users have no permissions (—).

The default ACL has five entries: user, group, group:wheel, mask, and other. These are applied to any files or directories created within `/comptia`. The user entry shows that the owner of the new object will have read, write, and execute permissions (rwx). The group entry shows that the group owner of the new object will have read and execute permissions (r-x). The group:wheel entry shows that the members of the wheel group will have read, write, and execute permissions (rwx) on the new object. The mask entry shows that the maximum permissions allowed for any user or group are read, write, and execute (rwx). The other entry shows that all other users will have no permissions (—) on the new object. Therefore, based on the FACL output, members of the wheel group can read files in `/comptia`, as they have read permission on both the directory and any files within it. Option B is incorrect because the sticky bit is not set on `/comptia` or any files within it. The sticky bit is a special permission that prevents users from deleting or renaming files that they do not own in a shared directory³. It is symbolized by a `t` character in the execute position of others. Option C is incorrect because other users cannot create files in `/comptia`, as they have no permissions on the directory or any files within it. Option D is incorrect because root is not the only user who can create files in `/comptia`. Any user who has write permission on the directory can create files within it, such as members of the wheel group.

NEW QUESTION 84

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 87

Users have been unable to save documents to /home/tmp/temp and have been receiving the following error:

Path not found

A junior technician checks the locations and sees that /home/tmp/tempa was accidentally created instead of /home/tmp/temp. Which of the following commands should the technician use to fix this issue?

- A. cp /home/tmp/tempa /home/tmp/temp
- B. mv /home/tmp/tempa /home/tmp/temp
- C. cd /temp/tmp/tempa
- D. ls /home/tmp/tempa

Answer: B

Explanation:

The mv /home/tmp/tempa /home/tmp/temp command will fix the issue of the misnamed directory. This command will rename the directory /home/tmp/tempa to /home/tmp/temp, which is the expected path for users to save their documents. The cp /home/tmp/tempa /home/tmp/temp command will not fix the issue, as it will copy the contents of /home/tmp/tempa to a new file named /home/tmp/temp, not a directory. The cd /temp/tmp/tempa command will not fix the issue, as it will change the current working directory to /temp/tmp/tempa, which does not exist. The ls /home/tmp/tempa command will not fix the issue, as it will list the contents of /home/tmp/tempa, not rename it. References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 12: Managing Files and Directories, page 413.

NEW QUESTION 90

A Linux administrator needs to create an image named sda.img from the sda disk and store it in the /tmp directory. Which of the following commands should be used to accomplish this task?

- A. dd of=/dev/sda if=/tmp/sda.img
- B. dd if=/dev/sda of=/tmp/sda.img
- C. dd --if=/dev/sda --of=/tmp/sda.img
- D. dd --of=/dev/sda --if=/tmp/sda.img

Answer: B

Explanation:

The command dd if=/dev/sda of=/tmp/sda.img should be used to create an image named sda.img from the sda disk and store it in the /tmp directory. The dd command is a tool for copying and converting data on Linux systems. The if option specifies the input file or device, in this case /dev/sda, which is the disk device. The of option specifies the output file or device, in this case /tmp/sda.img, which is the image file. The command dd if=/dev/sda of=/tmp/sda.img will copy the entire disk data from /dev/sda to /tmp/sda.img and create an image file. This is the correct command to use to accomplish the task. The other options are incorrect because they either use the wrong options (--if or --of instead of if or of) or swap the input and output (dd of=/dev/sda if=/tmp/sda.img or dd --of=/dev/sda --if=/tmp/sda.img). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 10: Managing Storage, page 323.

NEW QUESTION 95

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 (sdcl): mounting ext3 file system using the ext4 subsystem
EXT4-fs (sdcl): 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 luksFormat /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 99

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 102

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 106

A systems administrator is tasked with preventing logins from accounts other than root, while the file /etc/nologin exists. Which of the following PAM modules will accomplish this task?

- A. pam_login.so
- B. pam_access.so
- C. pam_logindef.so
- D. pam_nologin.so

Answer: D

Explanation:

The PAM module pam_nologin.so will prevent logins from accounts other than root, while the file /etc/nologin exists. This module checks for the existence of the file /etc/nologin and displays its contents to the user before denying access. The root user is exempt from this check and can still log in. This is the correct module to accomplish the task. The other options are incorrect because they are either non-existent modules (pam_login.so or pam_logindef.so) or do not perform the required function (pam_access.so controls access based on host, user, or time). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 15: Managing Users and Groups, page 471.

NEW QUESTION 110

An administrator installed an application from source into /opt/operations1/ and has received numerous reports that users are not able to access the application without having to use the full path /opt/operations1/bin/*. Which of the following commands should be used to resolve this issue?

- A. echo 'export PATH=\$PATH:/opt/operations1/bin' >> /etc/profile

- B. echo 'export PATH=/opt/operations1/bin' >> /etc/profile
- C. echo 'export PATH=\$PATH/opt/operations1/bin' >> /etc/profile
- D. echo 'export \$PATH:/opt/operations1/bin' >> /etc/profile

Answer: A

Explanation:

The command echo 'export PATH=\$PATH:/opt/operations1/bin' >> /etc/profile should be used to resolve the issue of users not being able to access the application without using the full path. The echo command prints the given string to the standard output. The export command sets an environment variable and makes it available to all child processes. The PATH variable contains a list of directories where the shell looks for executable files. The \$PATH expands to the current value of the PATH variable. The : separates the directories in the list. The /opt/operations1/bin is the directory where the application is installed. The >> operator appends the output to the end of the file. The /etc/profile file is a configuration file that is executed when a user logs in. The command echo 'export PATH=\$PATH:/opt/operations1/bin' >> /etc/profile will add the /opt/operations1/bin directory to the PATH variable for all users and allow them to access the application without using the full path. This is the correct command to use to resolve the issue. The other options are incorrect because they either overwrite the PATH variable (echo 'export PATH=/opt/operations1/bin' >> /etc/profile) or do not use the correct syntax (echo 'export PATH=\$PATH/opt/operations1/bin' >> /etc/profile or echo 'export \$PATH:/opt/operations1/bin' >> /etc/profile). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 9: Working with the Linux Shell, page 295.

NEW QUESTION 111

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 114

An administrator needs to make some changes in the IaC declaration templates. Which of the following commands would maintain version control?

- A. git clone https://github.com/comptia/linux+-.git git push origin
- B. git clone https://qithub.com/comptia/linux+-.git git fetch New-Branch
- C. git clone https://github.com/comptia/linux+-.git git status
- D. git clone https://github.com/comptia/linux+-.git git checkout -b <new-branch>

Answer: D

Explanation:

The command that will maintain version control while making some changes in the IaC declaration templates is git checkout -b <new-branch>. This command uses the git tool, which is a distributed version control system that tracks changes in source code and enables collaboration among developers. The checkout option switches to a different branch in the git repository, where a branch is a pointer to a specific commit in the history. The -b option creates a new branch with the given name, and switches to it. This way, the administrator can make changes in the new branch without affecting the main branch, and later merge them if needed. The other options are not correct commands for maintaining version control while making some changes in the IaC declaration templates. The git clone https://github.com/comptia/linux+.git command will clone an existing repository from a remote URL to a local directory, but it will not create a new branch for making changes. The git push origin command will push the local changes to a remote repository named origin, but it will not create a new branch for making changes. The git fetch New-Branch command will fetch updates from a remote branch named New-Branch, but it will not create a new branch for making changes. References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 19: Managing Source Code; Git - Basic Branching and Merging

NEW QUESTION 119

Following the migration from a disaster recovery site, a systems administrator wants a server to require a user to change credentials at initial login. Which of the following commands should be used to ensure the aging attribute?

- A. chage -d 2 user
- B. chage -d 0 user
- C. chage -E 0 user
- D. chage -d 1 user

Answer: B

Explanation:

The chage command can be used to change the user password expiry information. The -d or --lastday option sets the last password change date. If the value is 0, the user will be forced to change the password at the next login. See chage command in Linux with examples and 10 chage command examples in Linux.

NEW QUESTION 120

A Linux administrator cloned an existing Linux server and built a new server from that clone. The administrator encountered the following error after booting the

cloned server:

Device mismatch detected

The administrator performed the commands listed below to further troubleshoot and mount the missing filesystem:

```
#ls -al /dev/disk/by-uuid/
total 0
drwxr-xr-x 2 root 220 Jul 08:59 .
drwxr-xr-x 2 root 160 Jul 08:59 ..
lrwxrwxrwx 1 root 26 Jul 11:10 2251a54-6c14-9187-df8629373 -> ../../sdb
lrwxrwxrwx 1 root 26 Jul 11:10 4211c54-2a13-7291-bd8629373 -> ../../sdc
lrwxrwxrwx 1 root 26 Jul 11:10 3451b54-6d10-3561-ad8629373 -> ../../sdd
```

Which of the following should administrator use to resolve the device mismatch issue and mount the disk?

- A. mount disk by device-id
- B. fsck -A
- C. mount disk by-label
- D. mount disk by-blkid

Answer: A

Explanation:

The administrator should use the command mount disk by device-id to resolve the device mismatch issue and mount the disk. The issue is caused by the cloned server having a different device name for the disk than the original server. The output of blkid shows that the disk has the device name /dev/sdb1 on the cloned server, but the output of cat /etc/fstab shows that the disk is expected to have the device name /dev/sda1. The command mount disk by device-id will mount the disk by using its unique identifier (UUID) instead of its device name. The UUID can be obtained from the output of blkid or lsblk -f. The command will mount the disk to the specified mount point (/data) and resolve the issue. The other options are incorrect because they either do not mount the disk (fsck -A), do not use the correct identifier (mount disk by-label or mount disk by-blkid), or do not exist (mount disk by-blkid). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 10: Managing Storage, pages 318-319.

NEW QUESTION 124

A development team asks an engineer to guarantee the persistency of journal log files across system reboots. Which of the following commands would accomplish this task?

- A. grep -i auto /etc/systemd/journald.conf && systemctl restart systemd-journald.service
- B. cat /etc/systemd/journald.conf | awk '(print \$1,\$3)'
- C. sed -i 's/auto/persistent/g' /etc/systemd/journald.conf && sed -i 'persistent/s/^##/q' /etc/systemd/journald.conf
- D. journalctl --list-boots && systemctl restart systemd-journald.service

Answer: C

Explanation:

The command sed -i 's/auto/persistent/g' /etc/systemd/journald.conf && sed -i 'persistent/s/^##/q' /etc/systemd/journald.conf will accomplish the task of guaranteeing the persistency of journal log files across system reboots. The sed command is a tool for editing text files on Linux systems. The -i option modifies the file in place. The s command substitutes one string for another. The g flag replaces all occurrences of the string. The && operator executes the second command only if the first command succeeds. The q command quits after the first match. The /etc/systemd/journald.conf file is a configuration file for the systemd-journald service, which is responsible for collecting and storing log messages. The command sed -i 's/auto/persistent/g' /etc/systemd/journald.conf will replace the word auto with the word persistent in the file. This will change the value of the Storage option, which controls where the journal log files are stored. The value auto means that the journal log files are stored in the volatile memory and are lost after reboot, while the value persistent means that the journal log files are stored in the persistent storage and are preserved across reboots. The command sed -i 'persistent/s/^##/q' /etc/systemd/journald.conf will remove the # character at the beginning of the line that contains the word persistent. This will uncomment the Storage option and enable it. The command sed -i 's/auto/persistent/g' /etc/systemd/journald.conf && sed -i 'persistent/s/^##/q' /etc/systemd/journald.conf will guarantee the persistency of journal log files across system reboots by changing and enabling the Storage option to persistent. This is the correct command to use to accomplish the task. The other options are incorrect because they either do not change the value of the Storage option (grep -i auto /etc/systemd/journald.conf && systemctl restart systemd-journald.service or cat /etc/systemd/journald.conf | awk '(print \$1,\$3)') or do not enable the Storage option (journalctl --list-boots && systemctl restart systemd-journald.service). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 16: Managing Logging and Monitoring, page 489.

NEW QUESTION 129

An administrator is trying to diagnose a performance issue and is reviewing the following output:

```
avg-cpu:  %user  %nice  %system  %iowait  %steal  %idle
           2.00   0.00   3.00    32.00    0.00   63.00

Device            tps  kB_read/s  kB_wrtn/s   kB_read  kB_wrtn
sdb                345.00     0.02      0.04 4739073123 23849523
sdb1               345.00   32102.03  12203.01 4739073123 23849523
```

System Properties: CPU: 4 vCPU
 Memory: 40GB
 Disk maximum IOPS: 690
 Disk maximum throughput: 44Mbps | 44000Kbps
 Based on the above output, which of the following BEST describes the root cause?

- A. The system has reached its maximum IOPS, causing the system to be slow.
- B. The system has reached its maximum permitted throughput, therefore iowait is increasing.
- C. The system is mostly idle, therefore the iowait is high.
- D. The system has a partitioned disk, which causes the IOPS to be doubled.

Answer: B

Explanation:

The system has reached its maximum permitted throughput, therefore iowait is increasing. The output of `iostat -x` shows that the device `sda` has an average throughput of 44.01 MB/s, which is equal to the disk maximum throughput of 44 Mbps. The output also shows that the device `sda` has an average iowait of 99.99%, which means that the CPU is waiting for the disk to complete the I/O requests. This indicates that the disk is the bottleneck and the system is slow due to the high iowait. The other options are incorrect because they are not supported by the outputs. The system has not reached its maximum IOPS, as the device `sda` has an average IOPS of 563.50, which is lower than the disk maximum IOPS of 690. The system is not mostly idle, as the output of `top` shows that the CPU is 100% busy. The system does not have a partitioned disk, as the output of `lsblk` shows that the device `sda` has only one partition `sda1`. References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 17: Optimizing Linux Systems, pages 513-514.

NEW QUESTION 131

A systems administrator is tasked with installing GRUB on the legacy MBR of the SATA hard drive. Which of the following commands will help the administrator accomplish this task?

- A. `grub-install /dev/hda`
- B. `grub-install /dev/sda`
- C. `grub-install /dev/sr0`
- D. `grub-install /dev/hd0,0`

Answer: B

Explanation:

The command that will help the administrator install GRUB on the legacy MBR of the SATA hard drive is `grub-install /dev/sda`. This command will install GRUB on the master boot record (MBR) of the first SATA disk (`/dev/sda`). The MBR is the first sector of a disk that contains boot code and a partition table. GRUB will overwrite the boot code and place its own code that can load GRUB modules and configuration files from a specific partition. The other options are not correct commands for installing GRUB on the legacy MBR of the SATA hard drive. The `grub-install /dev/hda` command will try to install GRUB on the first IDE disk (`/dev/hda`), which may not exist or may not be bootable. The `grub-install /dev/sr0` command will try to install GRUB on the first SCSI CD-ROM device (`/dev/sr0`), which is not a hard drive and may not be bootable. The `grub-install /dev/hd0,0` command is invalid because `grub-install` does not accept partition names as arguments, only disk names. References: Installing GRUB using `grub-install`; GRUB Manual

NEW QUESTION 136

A systems administrator is compiling a report containing information about processes that are listening on the network ports of a Linux server. Which of the following commands will allow the administrator to obtain the needed information?

- A. `ss -pint`
- B. `tcpdump -nL`
- C. `netstat -pn`
- D. `lsof -lt`

Answer: A

Explanation:

The command `ss -pint` will allow the administrator to obtain the needed information about processes that are listening on the network ports of a Linux server. The `ss` command is a tool for displaying socket statistics on Linux systems. Sockets are endpoints of network communication that allow processes to exchange data over the network. The `ss` command can show various information about the sockets, such as the state, address, port, protocol, and process. The `-pint` option specifies the filters and flags that the `ss` command should apply. The `-p` option shows the process name and ID that owns the socket. The `-i` option shows the internal information about the socket, such as the send and receive queue, the congestion window, and the retransmission timeout. The `-n` option shows the numerical address and port, instead of resolving the hostnames and service names. The `-t` option shows only the TCP sockets, which are the most common type of sockets used for network communication. The command `ss -pint` will display the socket statistics for the TCP sockets, along with the process name and ID, the numerical address and port, and the internal information. This will allow the administrator to obtain the needed information about processes that are listening on the network ports of a Linux server. This is the correct command to use to obtain the needed information. The other options are incorrect because they either do not show the socket statistics (`tcpdump -nL` or `lsof -lt`) or do not show the process name and ID (`netstat -pn`). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 12: Managing Network Connections, page 389.

NEW QUESTION 141

A systems administrator is tasked with mounting a USB drive on a system. The USB drive has a single partition, and it has been mapped by the system to the device `/dev/sdb`. Which of the following commands will mount the USB to `/media/usb`?

- A. `mount /dev/sdb1 /media/usb`
- B. `mount /dev/sdb0 /media/usb`
- C. `mount /dev/sdb /media/usb`
- D. `mount -t usb /dev/sdb1 /media/usb`

Answer: A

Explanation:

The `mount /dev/sdb1 /media/usb` command will mount the USB drive to `/media/usb`. This command will attach the filesystem on the first partition of the USB drive (`/dev/sdb1`) to the mount point `/media/usb`, making it accessible to the system. The `mount /dev/sdb0 /media/usb` command is invalid, as there is no such device as `/dev/sdb0`. The `mount /dev/sdb /media/usb` command is incorrect, as it will try to mount the entire USB drive instead of its partition, which may cause errors or data loss. The `mount -t usb /dev/sdb1 /media/usb` command is incorrect, as `usb` is not a valid filesystem type for `mount`. References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 14: Managing Disk Storage, page 455.

NEW QUESTION 146

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:

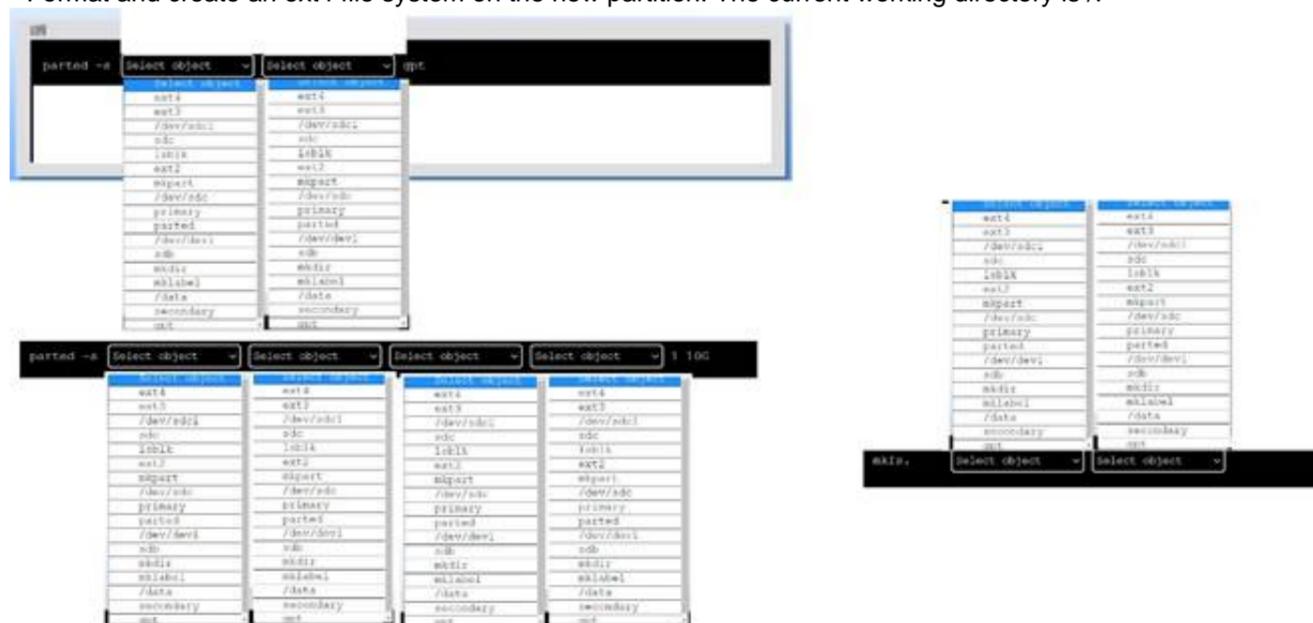
- ? A. rsync user@10.10.10.80:/tmp accounts.pdf will try to use the rsync command to synchronize files between the local and remote machines, but it has the wrong syntax and order of arguments. The source should come before the destination, and a colon (:) should separate the remote host and path.
- ? 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 149

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 mlabel command, and the label type (gpt). The command is:

parted -s /dev/sdc mlabel 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 153

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 158

A Linux engineer has been notified about the possible deletion of logs from the file /opt/app/logs. The engineer needs to ensure the log file can only be written into without removing previous entries.

```
# lsattr /opt/app/logs
-----e--- logs
```

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

- A. `chattr +a /opt/app/logs`
- B. `chattr +d /opt/app/logs`
- C. `chattr +i /opt/app/logs`
- D. `chattr +c /opt/app/logs`

Answer: A

Explanation:

The command `chattr +a /opt/app/logs` will ensure the log file can only be written into without removing previous entries. The `chattr` command is a tool for changing file attributes on Linux file systems. The `+a` option sets the append-only attribute, which means that the file can only be opened in append mode for writing. This prevents the file from being modified, deleted, or renamed. This is the best command to use to accomplish the task. The other options are incorrect because they either set the wrong attributes (`+d`, `+i`, or `+c`) or do not affect the file at all (`-a`). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 11: Managing Files and Directories, page 357.

NEW QUESTION 160

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 162

An administrator deployed a Linux server that is running a web application on port 6379/tcp. SELinux is in enforcing mode based on organization policies. The port is open on the firewall. Users who are trying to connect to a local instance of the web application receive Error 13, Permission denied. The administrator ran some commands that resulted in the following output:

```
# semanage port -l | egrep '(^http_port_t|6379) '
http_port_t tcp 80, 81, 443, 488, 8008, 8009, 8443, 9000

# curl http://localhost/App.php
Cannot connect to App Server.
```

Which of the following commands should be used to resolve the issue?

- A. `semanage port -d -t http_port_t -p tcp 6379`
- B. `semanage port -a -t http_port_t -p tcp 6379`
- C. `semanage port -a http_port_t -p top 6379`
- D. `semanage port -l -t http_port_tcp 6379`

Answer: B

Explanation:

The command `semanage port -a -t http_port_t -p tcp 6379` adds a new port definition to the SELinux policy and assigns the type `http_port_t` to the port 6379/tcp. This allows the web application to run on this port and accept connections from users. This is the correct way to resolve the issue. The other options are incorrect because they either delete a port definition (-d), use the wrong protocol (top instead of tcp), or list the existing port definitions (-l). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 18: Securing Linux Systems, page 535.

NEW QUESTION 166

An administrator needs to increase the system priority of a process with PID 2274. Which of the following commands should the administrator use to accomplish this task?

- A. `renice -n -15 2274`
- B. `nice -15 2274`
- C. `echo "-15" > /proc/PID/2274/priority`
- D. `ps -ef | grep 2274`

Answer: A

Explanation:

The `renice` command is used to change the priority of a running process by specifying its PID and the new nice value. The `-n` flag indicates the amount of change in the nice value, which can be positive or negative. A lower nice value means a higher priority, so `-15` will increase the priority of the process with PID 2274. The administrator needs to have root privileges to do this.

References:

? The `renice` command is listed as one of the commands to manipulate process priority in the web search result 1.

? The `renice` command is also explained with examples in the web search result 2.

? The CompTIA Linux+ Certification Exam Objectives mention that the candidate should be able to "manage process execution priorities" as part of the System Operation and Maintenance domain1.

NEW QUESTION 171

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 174

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 176

A Linux administrator recently downloaded a software package that is currently in a compressed file. Which of the following commands will extract the files?

- A. unzip -v
- B. bzip2 -z
- C. gzip
- D. funzip

Answer: C

Explanation:

The command gzip can extract files that are compressed with the gzip format, which has the extension .gz. This is the correct command to use for the software package. The other options are incorrect because they either compress files (bzip2 -z), unzip files that are compressed with the zip format (unzip -v or funzip), or have the wrong options (-v or -z instead of -d). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 11: Managing Files and Directories, page 353.

NEW QUESTION 180

A systems administrator needs to remove a disk from a Linux server. The disk size is 500G, and it is the only one that size on that machine. Which of the following commands can the administrator use to find the corresponding device name?

- A. fdisk -V
- B. partprobe -a
- C. lsusb -t
- D. lsscsi -s

Answer: D

Explanation:

The lsscsi command can list the SCSI devices on the system, along with their size and device name. The -s option shows the size of each device. The administrator can look for the device that has a size of 500G and note its device name. See lsscsi(8) - Linux man page and How to check Disk Interface Types in Linux. References 1: <https://linux.die.net/man/8/lsscsi> 2: <https://www.golinuxcloud.com/check-disk-type-linux/>

NEW QUESTION 181

An administrator needs to get network information from a group of statically assigned workstations before they are reconnected to the network. Which of the following should the administrator use to obtain this information?

- A. ip show
- B. ifcfg -a
- C. ifcfg -s
- D. ifname -s

Answer: B

Explanation:

The ifcfg command is used to configure network interfaces on Linux systems. The -a option displays information about all network interfaces, including their IP addresses, netmasks, gateways, and other parameters. This command can help the administrator obtain the network information from the statically assigned workstations before they are reconnected to the network. References: [Linux Networking: ifcfg Command With Examples]

NEW QUESTION 183

A systems administrator is trying to track down a rogue process that has a TCP listener on a network interface for remote command-and-control instructions. Which of the following commands should the systems administrator use to generate a list of rogue process names? (Select two).

- A. netstat -antp | grep LISTEN
- B. lsof -iTCP | grep LISTEN
- C. lsof -i:22 | grep TCP
- D. netstat -a | grep TCP

E. nmap -p1-65535 | grep -i tcp
 F. nmap -sS 0.0.0.0/0

Answer: AB

Explanation:

The best commands to use to generate a list of rogue process names that have a TCP listener on a network interface are A. netstat -antp | grep LISTEN and B. lsof -iTCP | grep LISTEN. These commands will show the process ID (PID) and name of the processes that are listening on TCP ports, which can be used to identify any suspicious or unauthorized processes. The other commands are either not specific enough, not valid, or not relevant for this task. For example:
 ? C. lsof -i:22 | grep TCP will only show the processes that are listening on port 22, which is typically used for SSH, and not any other ports.
 ? D. netstat -a | grep TCP will show all the TCP connections, both active and listening, but not the process names or IDs.
 ? E. nmap -p1-65535 | grep -i tcp will scan all the TCP ports on the local host, but not show the process names or IDs.
 ? F. nmap -sS 0.0.0.0/0 will perform a stealth scan on the entire internet, which is not only impractical, but also illegal in some countries.

NEW QUESTION 186

An administrator transferred a key for SSH authentication to a home directory on a remote server. The key file was moved to .ssh/authorized_keys location in order to establish SSH connection without a password. However, the SSH command still asked for the password. Given the following output:

```
[admin@linux ~ ]$ -ls -lhZ .ssh/auth*
-rw-r--r--. admin unconfined_u:object_r:user_home_t:s0 .ssh/authorized_keys
```

Which of the following commands would resolve the issue?

- A. restorecon .ssh/authorized_keys
- B. ssh_keygen -t rsa -o .ssh/authorized_keys
- C. chown root:root .ssh/authorized_keys
- D. chmod 600 .ssh/authorized_keys

Answer: D

Explanation:

The command that would resolve the issue is chmod 600 .ssh/authorized_keys. This command will change the permissions of the .ssh/authorized_keys file to 600, which means that only the owner of the file can read and write it. This is necessary for SSH key authentication to work properly, as SSH will refuse to use a key file that is accessible by other users or groups for security reasons. The output of ls -l shows that currently the .ssh/authorized_keys file has permissions of 664, which means that both the owner and group can read and write it, and others can read it. The other options are not correct commands for resolving the issue. The restorecon .ssh/authorized_keys command will restore the default SELinux security context for the .ssh/authorized_keys file, but this will not change its permissions or ownership. The ssh_keygen -t rsa -o .ssh/authorized_keys command is invalid because ssh_keygen is not a valid command (the correct command is ssh-keygen), and the -o option is used to specify a new output format for the key file, not the output file name. The chown root:root .ssh/authorized_keys command will change the owner and group of the .ssh/authorized_keys file to root, but this will not change its permissions or make it accessible by the user who wants to log in with SSH key authentication. References: How to Use Public Key Authentication with SSH; chmod(1) - Linux manual page

NEW QUESTION 189

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 resolv.conf to use an external DNS server.
- B. Remove the entry for portal .comptia.org from the local hosts file.
- C. Add a network route from the 10.10.10.0/24 to the 192.168.0.0/16.
- D. 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 193

A developer wants to ensure that all files and folders created inside a shared folder named /GroupOODEV inherit the group name of the parent folder. Which of the following commands will help achieve this goal?

- A. chmod g+X / GroupOODEV/
- B. chmod g+W / GroupOODEV/
- C. chmod g+r / GroupOODEV/
- D. chmod g+s / GroupOODEV/

Answer: D

Explanation:

The chmod command is used to change the permissions of files and directories on Linux systems. The g+s option sets the setgid bit on a directory, which means that all files and folders created inside that directory will inherit the group name of the parent directory. This command can help the developer ensure that all files and folders created inside the /GroupOODEV directory have the same group name as /GroupOODEV. References: [How to Use chmod Command in Linux with Examples]

NEW QUESTION 198

A systems administrator is installing various software packages using a pack-age manager. Which of the following commands would the administrator use on the Linux server to install the package?

- A. winget
- B. softwareupdate
- C. yum-config
- D. apt

Answer: D

NEW QUESTION 203

A Linux administrator needs to create a new cloud.cpio archive containing all the files from the current directory. Which of the following commands can help to accomplish this task?

- A. ls | cpio -iv > cloud.epio
- B. ls | cpio -iv < cloud.epio
- C. ls | cpio -ov > cloud.cpio
- D. ls cpio -ov < cloud.cpio

Answer: C

Explanation:

The command ls | cpio -ov > cloud.cpio can help to create a new cloud.cpio archive containing all the files from the current directory. The ls command lists the files in the current directory and outputs them to the standard output. The | operator pipes the output to the next command. The cpio command is a tool for creating and extracting compressed archives. The -o option creates a new archive and the -v option shows the verbose output. The > operator redirects the output to the cloud.cpio file. This command will create a new cloud.cpio archive with all the files from the current directory. The other options are incorrect because they either use the wrong options (-i instead of -o), the wrong arguments (cloud.epio instead of cloud.cpio), or the wrong syntax (< instead of > or missing |). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 11: Managing Files and Directories, page 351.

NEW QUESTION 206

Employees in the finance department are having trouble accessing the file /opt/work/file. All IT employees can read and write the file. Systems administrator reviews the following output:

```
admin@server:/opt/work$ ls -al file
-rw-rw----+ 1 root it 4 Sep 5 17:29 file
```

Which of the following commands would permanently fix the access issue while limiting access to IT and finance department employees?

- A. chattr +i file
- B. chown it:finance file
- C. chmod 666 file
- D. setfacl -m g:finance:rw file

Answer: D

Explanation:

The command setfacl -m g:finance:rw file will permanently fix the access issue while limiting access to IT and finance department employees. The setfacl command is a tool for modifying the access control lists (ACLs) of files and directories on Linux systems. The ACLs are a mechanism that allows more fine-grained control over the permissions of files and directories than the traditional owner-group-others model. The -m option specifies the modification to the ACL. The g:finance:rw means that the group named finance will have read and write permissions on the file. The file is the name of the file to modify, in this case /opt/work/file. The command setfacl -m g:finance:rw file will add an entry to the ACL of the file that will grant read and write access to the finance group. This will fix the access issue and allow the finance employees to access the file. The command will also preserve the existing permissions of the file, which means that the IT employees will still have read and write access to the file. This will limit the access to IT and finance department employees and prevent unauthorized access from other users.

This is the correct command to use to accomplish the task. The other options are incorrect because they either do not fix the access issue (chattr +i file or chown it:finance file) or do not limit the access to IT and finance department employees (chmod 666 file). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 11: Managing File Permissions and Ownership, page 352.

NEW QUESTION 211

A Linux administrator needs to expand a volume group using a new disk. Which of the following options presents the correct sequence of commands to accomplish the task?

- A. partprobe vgcreate lvextend
- B. lvcreate fdisk partprobe
- C. fdisk partprobe mkfs
- D. fdisk pvcreate vgextend

Answer: D

Explanation:

The correct sequence of commands to expand a volume group using a new disk is fdisk, pvcreate, vgextend. The fdisk command can be used to create a partition on the new disk with the type 8e (Linux LVM). The pvcreate command can be used to initialize the partition as a physical volume for LVM. The vgextend command can be used to add the physical volume to an existing volume group. The partprobe command can be used to inform the kernel about partition table changes, but it is not necessary in this case. The vgcreate command can be used to create a new volume group, not expand an existing one. The lvextend command can be used to extend a logical volume, not a volume group. The lvcreate command can be used to create a new logical volume, not expand a volume group. The mkfs command can be used to create a filesystem on a partition or a logical volume, not expand a volume group. References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 14: Managing Disk Storage, pages 462-463.

NEW QUESTION 213

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 218

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 eth0 -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 eth0 -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 221

A systems administrator is implementing a new service task with systems at startup and needs to execute a script entitled test.sh with the following content:

```
TIMESTAMP=$(date '+%Y-%m-%d %H:%M:%S')
echo "helpme.service: timestamp $(Timestamp)" | systemd-cat -p info
sleep 60
done
```

The administrator tries to run the script after making it executable with chmod +x; however, the script will not run. Which of the following should the administrator do to address this issue? (Choose two.)

- A. Add #!/bin/bash to the bottom of the script.
- B. Create a unit file for the new service in /etc/systemd/system/ with the name helpme.service in the location.
- C. Add #!/bin/bash to the top of the script.
- D. Restart the computer to enable the new service.
- E. Create a unit file for the new service in /etc/init.d with the name helpme.service in the location.
- F. Shut down the computer to enable the new service.

Answer: BC

Explanation:

The administrator should do the following two things to address the issue:

? Add `#!/bin/bash` to the top of the script. This is called a shebang line and it tells the system which interpreter to use to execute the script. Without this line, the script will not run properly. The shebang line should be the first line of the script and should start with `#!` followed by the path to the interpreter. In this case, the interpreter is `bash` and the path is `/bin/bash`. The other option (A) is incorrect because the shebang line should be at the top, not the bottom of the script.

? Create a unit file for the new service in `/etc/systemd/system/` with the name `helpme.service` in the location. This is necessary to register the script as a `systemd` service and enable it to run at startup. A unit file is a configuration file that defines the properties and behavior of a service, such as the description, dependencies, start and stop commands, and environment variables. The unit file should have the extension `.service` and should be placed in the `/etc/systemd/system/` directory. The other option (E) is incorrect because `/etc/init.d` is the directory for `init` scripts, not `systemd` services.

References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 14: Managing Processes and Scheduling Tasks, pages 429-430.

NEW QUESTION 223

A Linux administrator has defined a `systemd` script `docker-repository.mount` to mount a volume for use by the Docker service. The administrator wants to ensure that Docker service does not start until the volume is mounted. Which of the following configurations needs to be added to the Docker service definition to best accomplish this task?

- A. `After=docker-respository.mount`
- B. `ExecStart=/usr/bin/mount -a`
- C. `Requires=docker-repository.mount`
- D. `RequiresMountsFor=docker-repository.mount`

Answer: C

Explanation:

This option declares an explicit dependency between the Docker service and the `docker-repository.mount` unit. It means that the Docker service will not start unless the `docker-repository.mount` unit is successfully activated. This ensures that the volume is mounted before the Docker service tries to use it.

References: 1: `systemd.unit` - `systemd` unit configuration 2: How to mount host volumes into docker containers in Dockerfile during build

NEW QUESTION 224

An administrator started a long-running process in the foreground that needs to continue without interruption. Which of the following keystrokes should the administrator use to continue running the process in the background?

- A. `<Ctrl+z> bg`
- B. `<Ctrl+d> bg`
- C. `<Ctrl+b> jobs -1`
- D. `<Ctrl+h> bg &`

Answer: A

Explanation:

A long-running process is a program that takes a long time to complete or runs indefinitely on a Linux system. A foreground process is a process that runs in the current terminal and receives input from the keyboard and output to the screen. A background process is a process that runs in the background and does not interact with the terminal. A background process can continue running even if the terminal is closed or disconnected.

To start a long-running process in the background, the user can append an ampersand (`&`)

to the command, such as `someapp &`. This will run `someapp` in the background and return control to the terminal immediately.

To move a long-running process from the foreground to the background, the user can use two keystrokes: `Ctrl+Z` and `bg`. The `Ctrl+Z` keystroke will suspend (pause) the foreground process and return control to the terminal. The `bg` keystroke will resume (continue) the suspended process in the background and detach it from the terminal. The statement B is correct.

The statements A, C, and D are incorrect because they do not perform the desired task. The `bg` keystroke alone will not work unless there is a suspended process to resume. The `Ctrl+B` keystroke will not suspend the foreground process, but rather move one character backward in some applications. The `jobs` keystroke will list all processes associated with the current terminal. The `bg &` keystroke will cause an error because `bg` does not take any arguments. References: [How to Run Linux Processes in Background]

NEW QUESTION 225

An administrator created an initial Git repository and uploaded the first files. The administrator sees the following when listing the repository:

```
__init__.py      Initial Commit      Just now
main.py          Initial Commit      Just now
.DS_Store        Initial Commit      Just now
setup.sh         Initial Commit      Just now
README.md        Initial Commit      Just now
```

The administrator notices the file `.DS STORE` should not be included and deletes it from the online repository. Which of the following should the administrator run from the root of the local repository before the next commit to ensure the file is not uploaded again in future commits?

- A. `rm -f .DS STORE && git push`
- B. `git fetch && git checkout .DS STORE`
- C. `rm -f .DS STORE && git rebase origin main`
- D. `echo .DS STORE >> .gitignore`

Answer: D

Explanation:

The correct answer is D. The administrator should run "echo .DS STORE >> .gitignore" from the root of the local repository before the next commit to ensure the file is not uploaded again in future commits.

This command will append the file name .DS STORE to the end of the .gitignore file, which is a special file that tells Git to ignore certain files or directories that should not be tracked or uploaded to the repository. By adding .DS STORE to the .gitignore file, the administrator will prevent Git from staging, committing, or pushing this file in the future.

The other options are incorrect because:

* A. `rm -f .DS STORE && git push`

This command will delete the file .DS STORE from the local repository and then push the changes to the remote repository. However, this does not prevent the file from being uploaded again in future commits, if it is recreated or copied to the local repository.

* B. `git fetch && git checkout .DS STORE`

This command will fetch the latest changes from the remote repository and then restore the file .DS STORE from the remote repository to the local repository. This is not what the administrator wants to do, as this will undo the deletion of the file from the online repository.

* C. `rm -f .DS STORE && git rebase origin main`

This command will delete the file .DS STORE from the local repository and then rebase the local branch onto the main branch of the remote repository. This will rewrite the commit history of the local branch and may cause conflicts or errors. This is not what the administrator wants to do, as this is a risky and unnecessary operation.

NEW QUESTION 230

A Linux system is failing to start due to issues with several critical system processes. Which of the following options can be used to boot the system into the single user mode? (Choose two.)

- A. Execute the following command from the GRUB rescue shell: `mount -o remount, ro/sysroot`.
- B. Interrupt the boot process in the GRUB menu and add `systemd.unit=single` in the kernel line.
- C. Interrupt the boot process in the GRUB menu and add `systemd.unit=rescue.target` in the kernel line.
- D. Interrupt the boot process in the GRUB menu and add `single=user` in the kernel line.
- E. Interrupt the boot process in the GRUB menu and add `init=/bin/bash` in the kernel line.
- F. Interrupt the boot process in the GRUB menu and add `systemd.unit=single.target` in the kernel line.

Answer: CF

Explanation:

The administrator can use the following two options to boot the system into the single user mode:

? Interrupt the boot process in the GRUB menu and add `systemd.unit=rescue.target` in the kernel line. This option will boot the system into the rescue mode, which is a minimal environment that allows the administrator to perform basic tasks such as repairing the system. The GRUB menu is a screen that appears when the system is powered on and allows the administrator to choose which kernel or operating system to boot. The kernel line is a line that specifies the parameters for the kernel, such as the root device, the init system, and the boot options. The administrator can interrupt the boot process by pressing the e key in the GRUB menu and edit the kernel line by adding `systemd.unit=rescue.target` at the end. This option will tell the system to use the rescue target, which is a unit that defines the state of the system in the rescue mode. The administrator can then press Ctrl+X to boot the system with the modified kernel line. This option will boot the system into the single user mode and allow the administrator to troubleshoot the issues.

? Interrupt the boot process in the GRUB menu and add `systemd.unit=single.target` in the kernel line. This option will boot the system into the single user mode, which is a mode that allows the administrator to log in

as the root user and perform maintenance tasks. The GRUB menu and the kernel line are the same as the previous option. The administrator can interrupt the boot process by pressing the e key in the GRUB menu and edit the kernel line by adding `systemd.unit=single.target` at the end. This option will tell the system to use the single target, which is a unit that defines the state of the system in the single user mode. The administrator can then press Ctrl+X to boot the system with the modified kernel line. This option will boot the system into the single user mode and allow the administrator to troubleshoot the issues.

The other options are incorrect because they either do not boot the system into the single user mode (execute the following command from the GRUB rescue shell: `mount -o remount, ro/sysroot` or interrupt the boot process in the GRUB menu and add `systemd.unit=single` in the kernel line) or do not use the correct syntax (interrupt the boot process in the GRUB menu and add `single=user` in the kernel line or interrupt the boot process in the GRUB menu and add `init=/bin/bash` in the kernel

line). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 8: Managing the Linux Boot Process, pages 267-268.

NEW QUESTION 231

A Linux system is failing to boot. The following error is displayed in the serial console: `[[1;33mDEPEND[Om] Dependency failed for /data.`
`[[1;33mDEPEND[Om] Dependency failed for Local File Systems`

...

Welcome to emergency mode! After logging in, type "journalctl -xb" to view system logs, "systemctl reboot" to reboot, "systemctl default" to try again to boot into default mode.

Give root password for maintenance (or type Control-D to continue)

Which of the following files will need to be modified for this server to be able to boot again?

- A. `/etc/mtab`
- B. `/dev/sda`
- C. `/etc/fstab`
- D. `/etc/grub.conf`

Answer: C

Explanation:

The file that will need to be modified for the server to be able to boot again is `/etc/fstab`. The `/etc/fstab` file is a file that contains the information about the file systems that are mounted at boot time on Linux systems. The file specifies the device name, mount point, file system type, mount options, dump frequency, and pass number for each file system. The error message indicates that the dependency failed for `/data`, which is a mount point for a file system. This means that the system could not mount the `/data` file system at boot time, which caused the system to enter the emergency mode. The emergency mode is a mode that allows the administrator to log in as the root user and perform basic tasks such as repairing the system. The administrator should modify the `/etc/fstab` file and check the entry for the `/data` file system. The administrator should look for any errors or inconsistencies in the device name, file system type, or mount options, and correct them. The administrator should also verify that the device and the file system are intact and functional by using commands such as `blkid`, `fdisk`, `fsck`, or `mount`. The administrator should then reboot the system and see if the issue is resolved. The file that will need to be modified for the server to be able to boot again is `/etc/fstab`. This is the correct answer to the question. The other options are incorrect because they are not related to the file systems that are mounted at boot time (`/etc/mtab`, `/dev/sda`,

or `/etc/grub.conf`). References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 10: Managing Storage, page 321.

NEW QUESTION 234

A Linux administrator is configuring a two-node cluster and needs to be able to connect the nodes to each other using SSH keys from the root account. Which of the following commands will accomplish this task?

- A. [root@nodea ssh —i ~/ . ssh/±d rsa root@nodeb
- B. [root@nodea scp -i . ssh/id rsa root@nodeb
- C. [root@nodea ssh—copy-id —i .ssh/id rsa root@nodeb
- D. [root@nodea # ssh add -c ~/ . ssh/id rsa root@nodeb
- E. [root@nodea # ssh add -c ~/. ssh/id rsa root@nodeb

Answer: C

Explanation:

The ssh-copy-id command is used to copy a public SSH key from a local machine to a remote server and add it to the authorized_keys file, which allows passwordless authentication between the machines. The administrator can use this command to copy the root user's public key from nodea to nodeb, and vice versa, to enable SSH access between the nodes without entering a password every time. For example: [root@nodea ssh-copy-id -i ~/.ssh/id_rsa root@nodeb]. The ssh command is used to initiate an SSH connection to a remote server, but it does not copy any keys. The scp command is used to copy files securely between machines using SSH, but it does not add any keys to the authorized_keys file. The ssh-add command is used to add private keys to the SSH agent, which manages them for SSH authentication, but it does not copy any keys to a remote server.

NEW QUESTION 236

A Linux administrator is creating a new sudo profile for the accounting user. Which of the following should be added by the administrator to the sudo configuration file so that the accounting user can run /opt/acc/report as root?

- A. accounting localhost=/opt/acc/report
- B. accounting ALL=/opt/acc/report
- C. %accounting ALL=(ALL) NOPASSWD: /opt/acc/report
- D. accounting /opt/acc/report= (ALL) NOPASSWD: ALL

Answer: C

Explanation:

This answer allows the accounting user to run the /opt/acc/report command as root on any host without entering a password. The % sign indicates that accounting is a group name, not a user name. The ALL keyword means any host, any user, and any command, depending on the context. The NOPASSWD tag overrides the default behavior of sudo, which is to ask for the user's password.

The other answers are incorrect for the following reasons:

- ? A. accounting localhost=/opt/acc/report
- ? B. accounting ALL=/opt/acc/report
- ? D. accounting /opt/acc/report= (ALL) NOPASSWD: ALL

NEW QUESTION 237

The applications team is reporting issues when trying to access the web service hosted in a Linux system. The Linux systems administrator is reviewing the following outputs:

Output 1:

```
* httpd.service = The Apache HTTPD Server
Loaded: loaded (/usr/lib/systemd/system/httpd.service; disabled; vendor preset: disabled) Active: inactive (dead)
Docs: man:httpd(8) man:apachectl(8) Output 2:
```

16:51:16 up 28 min, 1 user, load average: 0.00, 0.00, 0.07

Which of the following statements best describe the root cause? (Select two).

- A. The httpd service is currently started.
- B. The httpd service is enabled to auto start at boot time, but it failed to start.
- C. The httpd service was manually stopped.
- D. The httpd service is not enabled to auto start at boot time.
- E. The httpd service runs without problems.
- F. The httpd service did not start during the last server reboot.

Answer: CD

Explanation:

The httpd.service is the Apache HTTPD Server, which is a web service that runs on Linux systems. The output 1 shows that the httpd.service is inactive (dead), which means that it is not running. The output 1 also shows that the httpd.service is disabled, which means that it is not enabled to auto start at boot time. Therefore, the statements C and D best describe the root cause of the issue. The statements A, B, E, and F are incorrect because they do not match the output 1. References: [How to Manage Systemd Services on a Linux System]

NEW QUESTION 242

A Linux administrator rebooted a server. Users then reported some of their files were missing. After doing some troubleshooting, the administrator found one of the filesystems was missing. The filesystem was not listed in /etc/fstab and might have been mounted manually by someone prior to reboot. Which of the following would prevent this issue from reoccurring in the future?

- A. Sync the mount units.
- B. Mount the filesystem manually.
- C. Create a mount unit and enable it to be started at boot.
- D. Remount all the missing filesystems

Answer: C

Explanation:

The best way to prevent this issue from reoccurring in the future is to create a mount unit and enable it to be started at boot. A mount unit is a systemd unit that defines how and where a filesystem should be mounted. By creating a mount unit for the missing filesystem and enabling it with systemctl enable, the

administrator can ensure that the filesystem will be automatically mounted at boot time, regardless of whether it is listed in `/etc/fstab` or not. Syncing the mount units will not prevent the issue, as it will only synchronize the state of existing mount units with `/etc/fstab`, not create new ones. Mounting the filesystem manually will not prevent the issue, as it will only mount the filesystem temporarily, not permanently. Remounting all the missing filesystems will not prevent the issue, as it will only mount the filesystems until the next reboot, not after. References: CompTIA Linux+ (XK0-005) Certification Study Guide, Chapter 14: Managing Disk Storage, page 457.

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