Advanced Linux & Source Code Management CA 1

**1. Which Linux file system is most commonly used for general-purpose storage?**

A) Btrfs  
B) XFS  
C) ext4  
D) ZFS

**2. What is the primary advantage of using Logical Volume Management (LVM)?**

A) It allows resizing of storage volumes dynamically  
B) It increases file system performance  
C) It replaces the need for RAID configurations  
D) It prevents disk failures

**3. Which command is used to create a new partition on an MBR disk?**

A) gdisk  
B) parted  
C) fdisk  
D) pvcreate

**4. In an LVM setup, what does VG stand for?**

A) Volume Grid  
B) Virtual Group  
C) Volume Group  
D) Volume Gateway

**5. What is the primary purpose of RAID 1?**

A) Speed optimization  
B) Striping data across multiple disks  
C) Data mirroring for redundancy  
D) Combining small disks into one large volume

**6. Which tool is used to check and repair file system errors?**

A) smartctl  
B) fsck  
C) mdadm  
D) lsblk

**7. What command would you use to monitor the health of a disk using S.M.A.R.T. data?**

A) fsck  
B) top  
C) smartctl  
D) lsof

**8. What is the purpose of the visudo command?**

A) To manage file permissions  
B) To edit the sudoers file safely  
C) To switch users in a system  
D) To manage user quotas

**9. Which authentication system allows single sign-on (SSO) in a Linux environment?**

A) LDAP  
B) PAM  
C) RBAC  
D) chown

**10. What command is used to add a user to a group?**

A) useradd  
B) groupadd  
C) usermod  
D) chmod

**11. Which Linux feature allows defining access control beyond traditional file permissions?**

A) Role-Based Access Control (RBAC)  
B) File-based Access Control Lists (FACL)  
C) Basic User Privileges  
D) Hard Links

**12. What is the purpose of htop?**

A) Display network activity  
B) Monitor real-time system resource usage  
C) Encrypt disk partitions  
D) Configure network settings

**13. What command lists all active processes in the system?**

A) ps aux  
B) df -h  
C) sudo su  
D) echo $PATH

**14. How can you change the priority of a running process in Linux?**

A) chmod  
B) kill  
C) renice  
D) systemctl restart

**15. What Linux feature helps in managing resource allocation for a group of processes?**

A) systemctl  
B) cgroups  
C) df  
D) sudoers

**16. Which tool is commonly used for monitoring system performance in real-time?**

A) sar  
B) find  
C) grep  
D) diff

**17. What command is used to display a list of mounted file systems?**

A) lsblk  
B) df -h  
C) mount -a  
D) blkid

**18. Which tool is used for capturing and analyzing network packets?**

A) iproute2  
B) tcpdump  
C) ping  
D) traceroute

**19. Which of the following commands is used to monitor disk I/O performance?**

A) top  
B) vmstat  
C) iostat  
D) netstat

**20. What is the primary function of iptables in Linux?**

A) Encrypting files  
B) Managing firewall rules  
C) Mounting file systems  
D) Creating system users

**21. Which command allows you to add a new firewall rule using firewalld?**

A) iptables -A INPUT -j ACCEPT  
B) sudo firewall-cmd --zone=public --add-port=80/tcp --permanent  
C) ufw enable  
D) netstat -tuln

**22. What is a key feature of cloud-based monitoring tools like AWS CloudWatch?**

A) Detecting security vulnerabilities in the system  
B) Providing real-time metrics for system performance  
C) Automatically patching Linux distributions  
D) Encrypting network traffic

**23. Which command would be used to list open network connections?**

A) df -h  
B) ls -l  
C) netstat -tuln  
D) ip addr

**24. What is the purpose of sshd in Linux?**

A) Secure Shell daemon for remote access  
B) A process for managing scheduled tasks  
C) A tool for logging system performance  
D) A command to display network traffic

**25. What is the function of cgroups in Linux?**

A) Managing user groups  
B) Controlling resource allocation for processes  
C) Mounting network file systems  
D) Scheduling system jobs

**26. Which command is used to check disk partition information?**

A) fdisk -l  
B) usermod -g  
C) chmod 777  
D) mkfs.ext4

**27. What is a primary feature of Namespaces in Linux?**

A) Provides filesystem compression  
B) Provides process isolation  
C) Optimizes file transfers  
D) Enhances GUI performance

**28. What is the default networking tool used by modern Linux systems?**

A) netstat  
B) systemd-networkd  
C) ifconfig  
D) traceroute

**29. Which command is used to analyze network latency issues?**

A) lsblk  
B) traceroute  
C) df -h  
D) grep -i

**30. What is the purpose of journalctl?**

A) Managing disk partitions  
B) Displaying system logs managed by systemd  
C) Configuring network interfaces  
D) Formatting file systems

**1. What is the main goal of DevOps?**

A) To eliminate the need for testing  
B) To integrate development and operations for faster deployments  
C) To replace developers with automation  
D) To slow down software releases

**2. Which of the following is NOT a key practice in DevOps?**

A) Continuous Integration  
B) Continuous Deployment  
C) Manual Testing Only  
D) Infrastructure as Code

**3. What is the primary benefit of using Continuous Integration (CI)?**

A) Developers can work independently without merging code  
B) Code changes are integrated frequently, reducing integration problems  
C) No need for version control  
D) Increases the time taken for deployment

**4. Which tool is commonly used for CI/CD automation?**

A) Photoshop  
B) Jenkins  
C) Microsoft Word  
D) Excel

**5. What is the purpose of a version control system?**

A) To store multiple versions of code and track changes  
B) To compile source code into machine code  
C) To replace developers with automation  
D) To execute production deployments

**6. Which of the following is a distributed version control system?**

A) SVN  
B) CVS  
C) Git  
D) Perforce

**7. How does Continuous Deployment differ from Continuous Delivery?**

A) Continuous Deployment requires manual approval before release  
B) Continuous Deployment fully automates deployment without manual intervention  
C) Continuous Deployment eliminates version control  
D) Continuous Delivery skips testing

**8. What is a repository in version control?**

A) A storage location for software artifacts  
B) A folder where developers store personal files  
C) A backup of old projects  
D) A network server for hosting websites

**9. What command is used to clone a Git repository?**

A) git commit  
B) git clone  
C) git push  
D) git checkout

**10. Which of these is an advantage of using Git over a centralized version control system?**

A) No need for collaboration  
B) Offline work is possible  
C) All changes must be approved by a single administrator  
D) Slower performance compared to SVN

**11. What is the purpose of branching in Git?**

A) To delete old code  
B) To allow parallel development of features without affecting the main branch  
C) To create multiple copies of the repository on the local machine  
D) To execute test scripts automatically

**12. What does the command git merge do?**

A) Combines changes from different branches into one  
B) Deletes a branch permanently  
C) Creates a new branch  
D) Pushes changes to a remote repository

**13. Which of the following best describes Git rebase?**

A) It squashes all commits into one without history tracking  
B) It re-applies changes from one branch onto another for a cleaner history  
C) It deletes all previous commits  
D) It automatically deploys changes to production

**14. What is the purpose of the .gitignore file?**

A) To prevent certain files from being tracked by Git  
B) To delete files from the repository permanently  
C) To store commit messages  
D) To log errors during a merge

**15. What is the purpose of a pull request in GitHub?**

A) To request deletion of a repository  
B) To request merging changes from one branch into another  
C) To push changes directly to production  
D) To reset the repository

**16. Which DevOps principle ensures rapid feedback in development cycles?**

A) Continuous Integration  
B) Waterfall Methodology  
C) Code Freezing  
D) Monthly Manual Reviews

**17. What does git pull do?**

A) Downloads the latest changes from a remote repository and integrates them  
B) Pushes local commits to a remote repository  
C) Creates a new branch  
D) Deletes a remote branch

**18. Which command is used to stage changes in Git?**

A) git add  
B) git push  
C) git pull  
D) git commit

**19. What is the key advantage of using Infrastructure as Code (IaC) in DevOps?**

A) Reduces the need for automation  
B) Eliminates the need for software updates  
C) Ensures repeatable and consistent infrastructure deployment  
D) Slows down deployment processes

**20. What does a Git commit represent?**

A) A change saved to the repository’s history  
B) A temporary edit to the working directory  
C) A command to delete old branches  
D) A script for running tests

**21. What is the difference between git fetch and git pull?**

A) git fetch updates the local copy without merging, while git pull fetches and merges changes  
B) git pull downloads the entire repository again  
C) git fetch deletes the remote repository  
D) git pull does not update files

**22. What does the git log command display?**

A) The history of commits in a repository  
B) The list of branches in a repository  
C) The list of untracked files  
D) The errors in a Git commit

**23. What is the purpose of automated testing in Continuous Integration?**

A) To manually check for errors before deployment  
B) To ensure changes do not break existing functionality  
C) To slow down software release cycles  
D) To avoid writing test cases

**24. Which of the following is a common tool for configuration management in DevOps?**

A) Ansible  
B) Photoshop  
C) Excel  
D) Jenkins

**25. What happens when you execute git push origin main?**

A) Changes from the local main branch are pushed to the remote repository  
B) A new branch named origin is created  
C) The repository is deleted  
D) The local changes are discarded

**26. What does git status display?**

A) The current state of the working directory and staging area  
B) A log of all previous commits  
C) A list of deleted files  
D) A network connection check

**27. What is an advantage of using feature branches in Git?**

A) Allows isolated development without affecting the main branch  
B) Merges all changes directly into production  
C) Prevents team collaboration  
D) Creates multiple repositories for each feature

**28. What does the command git checkout -b feature-branch do?**

A) Creates and switches to a new branch named feature-branch  
B) Deletes the feature-branch  
C) Merges feature-branch with main  
D) Pushes the branch to the remote repository

**29. How does a centralized VCS differ from a distributed VCS?**

A) Centralized VCS requires a constant network connection to commit changes  
B) Distributed VCS does not allow branching  
C) Centralized VCS is faster than Git  
D) Distributed VCS has no concept of repositories

**30. Why was Git originally developed?**

A) To replace SVN as a cloud storage service  
B) To manage Linux kernel development efficiently  
C) To act as a database management tool  
D) To eliminate the need for CI/CD