

1. What command is used to list all files, including hidden files, in a directory?

Answer: `ls -a`

2. How do you check the disk usage of a directory?

Answer: `du`

3. Explain the difference between `grep` and `find`.

Answer: using **grep** command, we search any content inside the file and by using **find** command we can find any file or directory.

4. What is the purpose of the `/var` directory?

Answer: `/var` store files which change as the system runs like logs and temporary files.

5. Where are user-specific configuration files stored?

Answer:

6. What does the permission `rw-r--r--` mean?

Answer: `rw-r--r--` this means **user** has all permission(read, write, execute) , **group** has read and execute, **others** has only read permission. This has 754 permission.

7. How can you change the ownership of a file to user "john" and group "admin"?

Answer: using the **chown** command we can change the ownership of a file.

Ex: `chown john filename`

And using the **chgrp** command we can change the group.

Ex: `chgrp admin filename`

8. How do you generate an SSH key pair?

Answer: `ssh-keygen`

9. What file stores the public keys authorized to connect to a Linux server?

Answer: `.ssh/authorized_keys`

10. How do you save and exit Vim?

Answer: Press **esc key**→ `:wq` or `:x`

11. What is the command to undo the last change in Vim?

Answer: Press **esc key**→ `u`

12. What is the difference between IP-based and name-based virtual hosting?

Answer: IP-based virtual hosting uses a unique ip address for each website while name-based virtual hosting allows multiple websites to share the same ip address.

13. How can you check if a web server is listening on a specific port?

Answer: using telnet command. Ex: **telnet hostname/ip-address port-no**

14. How do you add a new user in Linux?

Answer: using **adduser** command. **Ex:** adduser newuser

15. How do you check the groups of a user?

Answer: **/etc/group**

16. How can you list the cron jobs of the current user?

Answer: **crontab -l**

17. What does this cron schedule 0 2 * * 1 do?

Answer: this cron will run on every monday at 2:00

18. Write a shell script to check if a file exists and is writable. If yes, append "Hello World" to it.

Answer:

19. What is DNS, and why is it important?

Answer: DNS stands for domain name system. It translates human-readable domain names into ip addresses.

20. What is the difference between a relative and absolute path in Linux?

Answer: A relative path starts from the current directory, while an absolute path starts from the root (/) directory.

21. What are the different types of EC2 instance purchasing options?

Answer: On-demand, Reserved, Spot, Saving plans, etc

22. How do you secure an EC2 instance using a security group?

Answer: we can allow only necessary inbound traffic and grant access only to trusted ip in the security group.

23. How do you make an S3 bucket public?

Answer: using ACL enabled and unchecking the block public access option.

24. What is the difference between S3 Standard and S3 Glacier?

Answer: S3 Standard used for frequently accessed data with higher storage cost while S3 Glacier used for long term storage with low storage cost.

25. What is the purpose of an Internet Gateway in a VPC?

Answer: Internet Gateway is used to allow resources in your VPC to access the internet.

26. How is a public subnet different from a private subnet?

Answer: A public subnet has a route to the internet via an Internet Gateway, while a private subnet has no direct internet access.

27. Explain how CloudFront improves the performance and security of applications.

Answer:

28. How can you set up an alarm in CloudWatch to monitor CPU utilization?

Answer: Step 1: we select a metrics for an instance for cpu utilization
Step 2: define the alarm condition
Step 3: define name and select the sns topic
Step 4: create alarm

29. What is a CloudWatch metric?

Answer: A CloudWatch metric is a time-series data point that monitors AWS resource performance, such as CPU usage, memory, and network traffic.

30. Describe the steps to set up a WordPress site on an EC2 instance.

Answer: Step 1: Install Apache
Step 2: Install MySQL
Step 3: Install PHP
Step 4: Install WordPress
Step 5: Create a Database for WordPress
Step 6: Setup and Configure WordPress

31. What is Multi-AZ deployment in RDS, and why is it used?

Answer:

32. How do you back up an RDS instance?

Answer: we create a snapshot of an RDS instance.

33. What is the use of a lifecycle manager in AWS?

Answer:

34. How do you control costs using AWS Budgets?

Answer:

35. What is the difference between AWS Cost Explorer and AWS Budgets?

Answer:

36. What is the difference between IAM roles and IAM users?

Answer: IAM users: used for individuals who need direct AWS access
IAM roles: used for AWS services (e.g. EC2 accessing S3)

37. How can you enforce MFA (Multi-Factor Authentication) on an IAM user?

Answer: Step 1: Select the IAM user you want to enable MFA for
Step 2: Going to the Security credentials tab and clicking Assign MFA
Step 3: Choosing an MFA device
Step 4: Scanning the QR code or entering the setup codes.
Step 5: Verifying the MFA device by entering two consecutive authentication codes.
Step 6: Enforcing MFA via IAM policies using conditions like
`"aws:MultiFactorAuthPresent": true` to restrict access unless MFA is enabled.

38. What is the main difference between NFS and EFS?

Answer: NFS: A network file system protocol used for sharing files.
EFS: A fully managed AWS service that provides highly available NFS-based storage for AWS cloud environments.

39. How does an Application Load Balancer distribute traffic?

Answer: Application Load Balancer automatically distributes the incoming traffic across multiple targets like EC2.

40. What is the purpose of an Auto Scaling group?

Answer: Auto scaling allows you to automatically scale-up and scale-down the number of instances depending on the CPU utilization or memory utilization.

41. What does AWS CloudTrail track?

Answer: AWS CloudTrail tracks all user activities across an AWS account.

42. How can you ensure CloudTrail logs are not tampered with?

Answer:

43. What is the significance of CloudFormation stacks?

Answer: CloudFormation is a service which creates the AWS infrastructure using code. It helps to reduce time to manage resources. We can able to create our resources quickly and faster.

44. How do you update a CloudFormation stack without downtime?

Answer:

45. What is the difference between EBS and Instance Store?

Answer: Instance store: data is lost when the instance stops or terminates. It has no built-in backup option.

EBS: data remains even after instance termination. It supports snapshots for backup and recovery.

46. What is the difference between a security group and a NACL?

Answer: In NACL we can allow and deny the traffic but in the security group we can only allow the traffic. NACL is based on network level and security group is based on instance level.

47. How do you use SNS to send notifications for an EC2 instance failure?

Answer: Step 1: Create an SNS topic

Step 2: Subscribe to the topic

Step 3: Set up a CloudWatch alarm for EC2 instance failure

Configure the alarm action – Choose **"Send notification to SNS topic"** and select the SNS topic created earlier.

48. What is AWS ECR, and how is it used in a CI/CD pipeline?

Answer: AWS ECR is a fully managed service that allows you to store, manage, and deploy Docker images securely.

49. What is the purpose of AWS EKS?

Answer: AWS EKS is a managed Kubernetes service that simplifies deploying, scaling, and managing containerized applications on AWS.

50. How does EKS differ from ECS?

Answer: EKS uses Kubernetes for container orchestration across multiple environments, while ECS is an easier AWS only service for managing containers.