Beginner Level

1. What is an S3 bucket in AWS?

Answer:

S3 (Simple Storage Service) is an object storage service where data is stored as objects within buckets. It is used to store files, backups, and media content, among other things.

2. How many uploads can be done in S3 on the free version?

Answer:

In the AWS Free Tier, you get 5 GB of standard storage, 20,000 GET requests, and 2,000 PUT requests per month for free. Exceeding these limits will incur charges.

3. What is the maximum storage available in S3?

Answer:

S3 provides virtually unlimited storage. There is no predefined storage limit for a bucket, but each individual object can be up to 5 TB in size.

4. What is the maximum number of buckets you can create in AWS and Terraform?

Answer:

- In AWS, you can create up to 100 buckets per account by default, but you can request a limit increase.

- In Terraform, the number of buckets you can create depends on the AWS limit and your code configuration.

Intermediate Level

5. What is an EC2 instance, and what is t2.micro?

Answer:

An EC2 instance is a virtual server on AWS. The t2.micro instance is part of the AWS Free Tier, offering 750 hours of usage per month. It provides 1 vCPU and 1 GB of RAM, making it suitable for low-traffic applications or testing environments.

6. How are users managed in AWS? What is the concept similar to EC2 but for users?

Answer:

AWS uses IAM (Identity and Access Management) to manage users, groups, and roles. Just like EC2 instances are virtual machines, IAM users are individual identities associated with an AWS account. These users have unique credentials and can have customized permissions to access AWS resources.

Advanced Level

7. What is Terraform, and how is it used?

Answer:

Terraform is an Infrastructure as Code (IaC) tool used to provision and manage cloud infrastructure. It allows you to define infrastructure using code and deploy it across multiple cloud providers consistently.

8. Explain the difference between IAC and IaaS.

Answer:

- Infrastructure as Code (IaC): Automates the provisioning and management of infrastructure using code, ensuring consistency and repeatability. Example: Terraform, CloudFormation.

- Infrastructure as a Service (IaaS): Provides on-demand access to computing resources like virtual machines, storage, and networks. Example: AWS EC2, Azure VMs.

Expert Level

9. What is the purpose of Nagios in monitoring?

Answer:

Nagios is an open-source monitoring tool used to monitor the health and performance of IT systems. It sends alerts when predefined thresholds are breached and helps ensure uptime.

10. How can SonarQube be used with Jenkins for code quality checks?

Answer:

1. Install the SonarQube plugin in Jenkins.

2. Configure the SonarQube server settings in Jenkins.

3. Add the SonarQube scanner in the Jenkins job pipeline.

4. Use the `sonar-scanner` command to analyze code during the build process, ensuring code quality in CI/CD pipelines.

This extended set covers topics from AWS storage limits to Terraform usage, IAM users, EC2 instances, and advanced monitoring tools. Let me know if you need further elaboration!