1. **Mention what the key components of AWS?**

Amazon Web Services (AWS) is a comprehensive cloud computing platform that offers a wide range of services and features here are some key components of AWS.

* Compute Services:
* *Storage Services:*
* Database Services:
* Networking Services:
* Management and Monitoring:
* Security and Identity:

1. **What is cloud computing?**

Cloud computing is the delivery of computing services over the internet, including servers, storage, databases, networking, software, and analytics. Cloud computing allows users to access computing resources on-demand, without direct management by the user. The data is stored on physical servers, which are maintained by a cloud service provider.

1. **What are the main features of the Amazon EC2 instance?**
   * **Instance Types.**
   * Operating Systems and Software.
   * Storage
   * Networking
   * Maintenance
2. **List possible storage options for Amazon EC2 instance?**

* Amazon Elastic Block Store (EBS).
* Instance Store.
* Amazon Simple Storage Service (S3).
* Amazon Elastic File System (EFS).

1. **What security practices should be followed for Amazon EC2 instance?**

* Manage Access.
* Secure Network Access.
* Regularly Patch and Update.
* VPC and Subnet Isolation.
* Data Encryption.
* Third-Party Security Tools.
* Use Key Pairs for SSH
* Use IAM Roles
* Use Multi-Factor Authentication (MFA)
* Data Backups and Snapshots
* Instance Lockdown
* Network Intrusion Detection/Prevention

1. **What are the components of AWS Databases?**

* Attributes.
* Items.
* Replication Instance.
* Replication Task.
* Migration Projects.
* Data Providers.
* Scalability.
* Security.
* Database Engines.

1. **Explain AWS DevOps tools to build and deploy software in the cloud?**

* **AWS CodePipeline:** AWS CodePipeline is a continuous integration and continuous delivery (CI/CD) service that helps you build, test, and deploy your code every time there is a code change.
* **AWS CodeBuild:** AWS CodeBuild is a fully managed build service that compiles source code, runs tests, and produces software packages that are ready to deploy.
* **AWS CodeDeploy:** AWS CodeDeploy is a fully managed deployment service that automates software deployments to a variety of compute services, including Amazon EC2, AWS Fargate, AWS Lambda, and your on-premises servers.
* **AWS CodeStar:** AWS CodeStar is a fully managed service that makes it easy to develop, build, and deploy applications on AWS.
* **AWS OpsWorks:** AWS OpsWorks is a configuration management service that provides managed instances of Chef and Puppet.OpsWorks can be used to automate the configuration of Amazon EC2 instances, and it can also be used to manage on-premises servers.
* **AWS CloudFormation:** AWS CloudFormation is a service that helps you model and set up your Amazon Web Services resources so that you can spend less time managing those resources and more time focusing on your applications that run in AWS.
* **AWS Elastic Beanstalk:** AWS Elastic Beanstalk is an easy-to-use service for deploying and scaling web applications and services developed with Java, .NET, PHP, Node.js, Python, Ruby, Go, and Docker on familiar servers such as Apache, Nginx, Passenger, and IIS.
* **AWS X-Ray:** AWS X-Ray is a service that helps developers analyze and debug production, distributed applications, such as those built using a microservices architecture.
* **AWS Lambda:** AWS Lambda is a compute service that lets you run code without provisioning or managing servers. Lambda automatically scales your application in response to incoming requests, and you pay only for the compute time that

1. **Explain what S3 is?**

Amazon S3 is an object storage service that stores data as objects within buckets. An object is a file and any metadata that describes the file. A bucket is a container for objects. To store your data in Amazon S3, you first create a bucket and specify a bucket name and AWS Region.

1. **How many buckets can you create in AWS by default?**

By default, AWS allows you to create up to 100 S3 buckets per AWS account in each AWS Region. This limit can be increased by requesting a service limit increase from AWS Support if you need to create more buckets in a particular region.

1. **Explain can you vertically scale an Amazon instance? How?**

Yes, Amazon EC2 instances can be vertically scaled by changing the instance type to one with more CPU, memory, or storage. The following are the steps to vertically scale an Amazon EC2 instance.

* **Stop the instance:** Before you can change the instance type, you need.
* **Change the instance type**: After stopping the instance, you can change the instance type to one with more CPU, memory, or storage.
* **Start the instance**: After changing the instance type, you can start the instance again.

1. **Explain what T2 instances is?**

Amazon EC2 T2 instances are a low-cost, general-purpose instance type that provides a baseline level of CPU performance with the ability to burst above the baseline when needed.

1. **In VPC with private and public subnets, database servers should ideally be launched into which subnet?**

In a VPC with private and public subnets, database servers should ideally be launched into the private subnets

1. **Mention what the security best practices for Amazon EC2 are?**

* Manage Access.
* Secure Network Access.
* Regularly Patch and Update.
* VPC and Subnet Isolation.
* Data Encryption.
* Third-Party Security Tools.
* Use Key Pairs for SSH

1. **Explain how the buffer is used in Amazon web services?**

 In order to make system more efficient against the burst of traffic or load, buffer is used. It synchronizes different component . The component always receives and processes the request in an unbalanced way.

1. **While connecting to your instance what are the possible connection issues one might face?**

When connecting to an Amazon EC2 instance, there are several possible connection issues that one might face. Some of the common issues are.

* Incorrect Credentials.
* Instance Not Ready.
* Security Group Rules.
* Key Pair Issues.
* Network Access Control List.
* SSH Key Permission Issues.
* Elastic IP Address

1. **What are key-pairs in AWS?**

In Amazon Web Services, a key pair is a set of security credentials that consists of a public key and a private key. The public key is stored on the Amazon EC2 instance, while the private key is stored on the user's local computer. The private key is used to prove the user's identity when connecting to an Amazon EC2 instance.

1. **What are the different types of instances?**

* General Purpose Instances.
* Compute Optimized Instances.
* Memory Optimized Instances.
* Storage Optimized Instances.
* Accelerated Computing Instances.

1. **Is the property of broadcast or multicast supported by Amazon VPC?**

Amazon Virtual Private Cloud (Amazon VPC) does not support broadcast or multicast traffic

1. **Can you establish a Peering connection to a VPC in a different region?**

Yes, it is possible to establish a peering connection to a VPC in a different region in Amazon Web Services.

1. **Explain Amazon ElasticCache?**

Amazon ElastiCache is a web service that makes it easy to set up, manage, and scale a distributed in-memory data store or cache environment in the cloud.

1. **What restrictions apply to AWS Lambda function code?**

AWS Lambda functions have certain restrictions and limitations related to the function code, deployment package, execution environment, and more.

1. **How do you trace user requests to Rest APIs (API Gateway)?**

To trace user requests to REST APIs in Amazon API Gateway, users can use AWS X-Ray

1. **What’s the difference between Amazon S3 and EC2?**

Amazon EC2 serves as an instance to access cloud-based servers, while Amazon S3 is used for storing data**.**

1. **Explain how elasticity differs from scalability?**

Scalability is the ability to add, remove, or reconfigure hardware and software resources to handle an increase or decrease in usage. Elasticity is automatically scaling up or down resources to meet user demands. The key difference between scalability and elasticity is the level of automation.

1. **What are the methods to deploy the latest application package to the servers in the autoscaling group in AWS?**

There are several methods to deploy the latest application package to the servers in the autoscaling group in AWS.

* Immutable Deployments:
* Blue-Green Deployments:
* Rolling Deployments:
* In-Place Deployments
* Custom Deployment Strategies

1. **Name the types of AMI provided by AWS?**

* Amazon Linux AMI
* Amazon Linux 2 AMI
* Ubuntu AMI
* Red Hat Enterprise Linux (RHEL) AMI
* SUSE Linux Enterprise Server (SLES) AMI
* Microsoft Windows AMI
* CentOS AMI
* Debian AMI
* Custom AMIs
* Marketplace AMIs
* Community AMIs
* ECS-Optimized AMI
* Lambda AMI

1. **Name the AWS service exists only to redundantly cache data and images?**

The AWS service that exists only to redundantly cache data and images is Amazon ElastiCache.

1. **What is Amazon EMR?**

Amazon EMR (Elastic MapReduce) is a managed big data platform offered by Amazon Web Services (AWS) that allows organizations to process and analyze large amounts of data using open-source distributed processing frameworks such as Apache Spark, Apache Hive, and Presto.

1. **What is boot time taken for the instance stored backed AMI?**

According to the AWS documentation, the boot time for an instance store-backed AMI is usually less than 5 minutes.

1. **Do you need an internet gateway to use peering connections?**

No, an internet gateway is not required to use peering connections in Amazon VPC.

1. **How to connect EBS volume to multiple instances?**

To connect an EBS volume to multiple instances using Multi-Attach, users can follow these steps:

* Create an EBS volume with Multi-Attach enabled.
* Attach the EBS volume to the first instance using the console or the AWS CLI.
* Attach the EBS volume to the second instance using the console or the AWS CLI.
* SSH into the instances to verify that the EBS volume is attached to both instances.

1. **List different types of cloud services?**

* Infrastructure as a Service (IaaS)
* Platform as a Service (PaaS)
* Software as a Service (SaaS)
* Function as a Service (FaaS)

1. **Differentiate between Amazon RDS, Redshift, and Dynamo DB?**

The main difference between the two services is that Amazon RDS is designed for use with relational databases. In contrast, DynamoDB is intended for use with non-relational databases. RDS is more expensive than DynamoDB but offers more features and flexibility.

1. **What parameters will you consider when choosing the availability zone?**

* Latency and proximity
* Compliance
* Service-level agreement
* Multi-AZ deployment
* Data synchronization
* Cost
* Scalability
* Redundancy

1. **How is stopping an Amazon EC2 instance different from terminating it?**

Stopping an ec2 instance differs from Terminateing an EC2 instance since you cannot restart a terminated instance.

1. **What is the alternative to cloud computing?**

* Fog Computing
* Edge Computing
* On-Prem Hosting
* Mesh Computing
* Bare Metal Cloud (BMC)
* External Hard Drives

1. **How do you monitor an Amazon EC2 Linux instance?**

To monitor an Amazon EC2 Linux instance, users can use Amazon CloudWatch, which collects and processes raw data from Amazon EC2 into readable, near real-time metrics.

1. **What is the difference between vertical and horizontal scaling?**

The primary difference between horizontal scaling and vertical scaling is that horizontal scaling involves adding more machines or nodes to a system, while vertical scaling involves adding more power (CPU, RAM, storage, etc.) to an existing machine.

1. **What best practices do you follow for good security in Amazon EC2?**

* Manage Access.
* Secure Network Access.
* Regularly Patch and Update.
* VPC and Subnet Isolation.
* Data Encryption.
* Third-Party Security Tools.
* Use Key Pairs for SSH
* Use IAM Roles
* Use Multi-Factor Authentication (MFA)
* Data Backups and Snapshots
* Instance Lockdown
* Network Intrusion Detection/Prevention