1)Mention what the key components of AWS are?

ans: Security management

For management

Networking

Security

Storage

AWS Marketplace

Load balancing

Automation and orchestration

AWS Management Console

For data management

Learn

Simple Storage Service

Amazon cluster

AWS Personal Health Dashboard

Customer enablement

Events

Explore More

For development

For Migration

Other services

Partner Network

Products

Reliability

Sign out of aws builder id

2)What is cloud computing?

ans: cloud computing is the delivery of computing services—including servers, storage, databases, networking, software, analytics,

and intelligence—over the Internet (“the cloud”) to offer faster innovation, flexible resources, and economies of scale.

3) What are the main features of the Amazon EC2 instance?

ans: Amazon Elastic Compute Cloud (Amazon EC2) is a web service that provides secure, resizable compute capacity in the cloud.

4) List possible storage options for Amazon EC2 instance.

ans: Amazon Elastic Block Store.

Amazon EC2 instance store.

Use Amazon EFS with Amazon EC2.

Use Amazon S3 with Amazon EC2.

5) What security practices should be followed for Amazon EC2 instance?

ans: Manage access to AWS resources and APIs using identity federation with an identity provider and IAM roles whenever possible. ...

Implement the least permissive rules for your security group. ...

Regularly patch, update, and secure the operating system and applications on your instance.

6) What are the components of AWS Databases?

ans: Endpoint type – Source or target.

Engine type – Type of database engine, such as Oracle or PostgreSQL.

Server name – Server name or IP address that AWS DMS can reach.

Port – Port number used for database server connections.

Encryption – Secure Socket Layer (SSL) mode, if SSL is used to encrypt the connection

7) Explain AWS DevOps tools to build and deploy software in the cloud.?

ans: automate manual tasks, help teams manage complex environments at scale, and keep engineers in control of the high velocity

that is enabled by DevOps.

8) Explain what S3 is?

ans: an object storage service that offers industry-leading scalability, data availability, security, and performance.

9) How many buckets can you create in AWS by default?

ans: By default, you can create up to 100 buckets in each of your AWS accounts.

(If you need more buckets, you can increase your account bucket limit to a maximum of 1,000 buckets by submitting a

service limit increase.)

10) Explain can you vertically scale an Amazon instance? How?

ans: To vertically scale an individual AWS EC2 instance up or down the instance has to be stopped,

then the instance size changed, then restarted.

11) Explain what T2 instances is?

ans: T2 instances are Burstable Performance Instances that provide a baseline level of CPU performance with the ability to burst

above the baseline.

12) In VPC with private and public subnets, database servers should ideally be launched into which subnet?

ans: With private and public subnets in VPC, database servers should ideally launch into private subnets.

13) Mention what the security best practices for Amazon EC2 are?

ans: Manage access to AWS resources and APIs using identity federation with an identity provider and IAM roles whenever possible. ...

Implement the least permissive rules for your security group. ...

Regularly patch, update, and secure the operating system and applications on your instance.

14) Explain how the buffer is used in Amazon web services?

ans: Buffer helps to synchronize different components, which gets requests and processes it in an unsynchronized way.

It manages the balance between various components in order to maintain the speed and provide a faster service.

In AWS buffer also ensures efficiency over traffic or load.

15) While connecting to your instance what are the possible connection issues one might face?

ans: Invalid device name

Instance limit exceeded

Insufficient instance capacity

The requested configuration is currently not supported. Please check the documentation for supported configurations.

Instance terminates immediately

Insufficient permissions

16) What are key-pairs in AWS?

ans: A key pair is a combination of a public key that is used to encrypt data and a private key that is used to decrypt data.

17) What are the different types of instances?

ans: General Purpose Instances.

Compute Optimized Instances.

Memory-Optimized Instances.

Storage Optimized Instances.

Accelerated Computing Instances.

18) Is the property of broadcast or multicast supported by Amazon VPC?

ans: No, currently Amazon VPI does not provide support for broadcast or multicast.

19) Can you establish a Peering connection to a VPC in a different region?

ans: yes we can use vpc peering connection in two different regions with the help of instance id.

20) Explain Amazon ElasticCache?

ans: 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.

21)What restrictions apply to AWS Lambda function code?

ans: The maximum time a function can run is 15 minutes, and the default timeout is 3 seconds. Obviously, this makes Lambda unsuitable for long-running workloads.

The payload for each invocation of a Lambda function is limited to 6MB, and memory is limited to just under 3GB.

22)How do you trace user requests to Rest APIs (API Gateway)?

ans: AWS X-Ray

(we can use AWS X-Ray to trace and analyze user requests as they travel through your Amazon API Gateway REST APIs to the underlying services.

API Gateway supports X-Ray tracing for all API Gateway REST API endpoint types: Regional, edge-optimized, and private.)

23)What’s the difference between Amazon S3 and EC2?

ans: =>An EC2 instance is like a remote computer running Windows or Linux and on which you can install whatever software you want, including a Web server running PHP code and a database server.

=>Amazon S3 is just a storage service, typically used to store large binary files.

24) Explain how elasticity differs from scalability?

ans: =>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

25) What are the methods to deploy the latest application package to the servers in the autoscaling group in AWS?

ans: 1)Launch Configuration Update

2)Launch Template Update

3)Rolling Updates

4)Blue-Green Deployments

5)

26) Name the types of AMI provided by AWS?

ans: Operating System. You can choose an AMI on the basis of the supported operating system (or OS) like Windows or Linux.

32-bit or 64-bit Architecture. ...

Region. ...

Storage (EBS or Instance store) ...

Launch permissions. ...

Paravirtual or PV. ...

Hardware virtual machine (HVM) ...

(or)

Amazon Linux AMI

Amazon Linux 2 AMI

Amazon ECS-optimized AMI:

Amazon RDS-optimized AMI

Microsoft Windows Server AMIs

Ubuntu Server AMI

Red Hat Enterprise Linux AMI

SUSE Linux Enterprise Server AMI

Debian Linux AMI

Custom AMI

Community AMIs

27) Name the AWS service exists only to redundantly cache data and images?

ans:

28) What is Amazon EMR

ans: Amazon EMR (previously called Amazon Elastic MapReduce) is a managed cluster platform that simplifies running big data frameworks,

such as Apache Hadoop and Apache Spark, on AWS to process and analyze vast amounts of data.

Using these frameworks and related open-source projects, you can process data for analytics purposes and business intelligence workloads.

Amazon EMR also lets you transform and move large amounts of data into and out of other AWS data stores and databases, such as Amazon Simple Storage Service (Amazon S3) and Amazon DynamoDB.

29) What is boot time taken for the instance stored backed AMI?

ans: use this url: https://www.google.com/search?sca\_esv=575083004&rlz=1C1CHWL\_enIN1059IN1060&sxsrf=AM9HkKkB-tB8NP3dkJL81jMTd\_2LPoWP9A:1697784320621&q=What+is+boot+time+taken+for+the+instance+stored+backed+AMI?&nfpr=1&sa=X&ved=2ahUKEwjyrde6g4SCAxUNVN4KHXZ8CHwQvgUoAXoECAgQAg&biw=1280&bih=603&dpr=1.5

30) Do you need an internet gateway to use peering connections?

ans: No, you do not need an Internet Gateway (IGW) to use VPC (Virtual Private Cloud) peering connections in Amazon Web Services (AWS).

VPC peering is a method of connecting two or more VPCs in the same or different AWS accounts to allow them to communicate with each other as if they were on the same network.

Peering connections are private and do not rely on the internet.

31) How to connect EBS volume to multiple instances?

ans: Amazon EBS Multi-Attach enables you to attach a single Provisioned IOPS SSD (io1 or io2) volume to multiple instances that are in the same Availability Zone.

You can attach multiple Multi-Attach enabled volumes to an instance or set of instances.

Each instance to which the volume is attached has full read and write permission to the shared volume.

Multi-Attach makes it easier for you to achieve higher application availability in applications that manage concurrent write operations.

32) List different types of cloud services

ans: SaaS(software as a service )

PaaS(platform as a service)

IaaS(insfrastructue as a service)

FaaS(function as a service)

33)Differentiate between Amazon RDS, Redshift, and Dynamo DB.

ans: Amazon RDS (Relational Database Service):

Database Type: RDS is a managed relational database service that supports various relational database engines such as MySQL, PostgreSQL, Oracle, Microsoft SQL Server, and Amazon Aurora.

Data Model: RDS is best suited for structured, tabular data with well-defined schemas. It uses SQL for querying and has support for transactions.

Scalability: RDS can be scaled vertically (by increasing instance size) and, with some limitations, horizontally using read replicas.

Data Size: RDS is typically used for smaller to medium-sized databases, but Amazon Aurora (a variant of RDS) can handle larger workloads effectively.

Use Cases: It is well-suited for traditional relational database applications, including e-commerce, content management systems, and line-of-business applications.

Amazon Redshift:

Database Type: Redshift is a fully managed data warehousing service built for analytics and business intelligence.

Data Model: Redshift is columnar-based and designed for analytical queries and data warehousing. It is not suitable for transactional workloads.

Scalability: Redshift is designed to scale horizontally across multiple nodes for massive parallel processing (MPP), making it a powerful option for data analytics and reporting.

Data Size: Redshift is optimized for large datasets and is typically used for data warehousing and analytics use cases.

Use Cases: It is ideal for running complex queries on large datasets, performing data analysis, and generating business insights.

Amazon DynamoDB:

Database Type: DynamoDB is a managed NoSQL database service that provides fast and predictable performance for web-scale applications.

Data Model: DynamoDB is schema-less and supports unstructured and semi-structured data. It is designed for flexible, low-latency data access.

Scalability: DynamoDB is highly scalable and can automatically handle changes in workload by scaling horizontally based on the desired read and write capacity units.

Data Size: It can handle datasets of varying sizes, from small to very large, and is designed for high-velocity, low-latency use cases.

Use Cases: DynamoDB is commonly used for applications that require high availability, low-latency data access, and scalability, such as gaming, mobile apps, and IoT.

34) What parameters will you consider when choosing the availability zone?

ans: Latency and proximity. The closest zone will offer the lowest latency.

Compliance. ...

Service-level agreement. ...

Cost. ...

Redundancy.

35) How is stopping an Amazon EC2 instance different from terminating it?

ans: “Stop”ping an ec2 instance differs from “Terminate”ing an EC2 instance since you cannot restart a terminated instance.

Because Amazon S3-backed AMIs can't be stopped, they're either running or terminated.

You can stop an Amazon EBS backed instance, but not an s3-backed.

36) What is the alternative to cloud computing?

ans: Edge computing is an innovative way of deploying and using technology that allows data to be processed on-premises near the customer.

This is opposed to the cloud, where data is processed and stored by a remote entity.

37) How do you monitor an Amazon EC2 Linux instance?

ans: You can monitor your instances using Amazon CloudWatch, which collects and processes raw data from Amazon EC2 into readable, near real-time metrics.

38) What is the difference between vertical and horizontal scaling?

ans: he 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.

40)What best practices do you follow for good security in Amazon EC2?

ans: 1)Least Privilege Access:

2)Security Groups:

3)Network ACLs

4)Public and Private Subnets:

5)Key Pairs

6)Patch Management

7)Instance Isolation

8)Data Encryption:

9)VPC Flow Logs

10)Instance Hardening

11)Monitoring and Alerts:

12)Backup and Snapshots

13)Multi-Factor Authentication (MFA)

14)Identity Federation

15)DDoS Protection

16)Instance Metadata Protection

17)EC2 Instance Types

18)Data Classification and Handling

19)Incident Response Plan

20)Compliance and Auditing