Top 100 Amazon Web Service Interview Questions with Answers

1. What is AWS ?

AWS attains as Amazon Web Service; this is a gathering of remote computing settings also identified as cloud computing policies. This unique realm of cloud computing is also recognized as IaaS or Infrastructure as a Service.

2. What are the key components of AWS ?

The fundamental elements of AWS are

Route 53: A DNS web service

- **Easy E-mail Service:** It permits addressing e-mail utilizing RESTFUL API request or through normal SMTP
- **Identity and Access Management:** It gives heightened protection and identity control for your AWS account
- **Simple Storage Device or (S3):** It is a warehouse equipment and the well-known widely utilized AWS service
- **Elastic Compute Cloud (EC2):** It affords on-demand computing sources for hosting purposes. It is extremely valuable in trouble of variable workloads
- **Elastic Block Store (EBS):** It presents persistent storage masses that connect to EC2 to enable you to endure data beyond the lifespan of a particular EC2
- **CloudWatch:** To observe AWS sources, It permits managers to inspect and obtain key Additionally, one can produce a notification alert in the state of crisis.

3. what is S3 ?

S3 holds for Simple Storage Service. You can utilize S3 interface to save and recover the unspecified volume of data, at any time and from everywhere on the web. For S3, the payment type is “pay as you go”.

4.What Is The Importance Of Buffer In Amazon Web Services?

An Elastic Load Balancer ensures that the incoming traffic is distributed optimally across various AWS instances. A buffer will synchronize different

components and makes the arrangement additional elastic to a burst of load or traffic. The components are prone to work in an unstable way of receiving and processing the requests. The buffer creates the equilibrium linking various apparatus and crafts them effort at the identical rate to supply more rapid services.

5.What does an AMI include ?

- An AMI comprises the following elements.
- A template to the source quantity concerning the instance.
- Launch authorities determine which AWS accounts can avail the AMI to drive instances
- A base design mapping that defines the amounts to join to the instance while it is originated.

6.How can you send request to Amazon S3 ?

Amazon S3 is a REST service, you can transmit the appeal by applying the REST API or the AWS SDK wrapper archives that envelop the underlying Amazon S3 REST API.

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

In each of your AWS accounts, by default, You can produce up to 100 buckets.

8.What Is The Importance Of Buffer In Amazon Web Services?

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9. What Is The Way To Secure Data For Carrying In The Cloud?

One thing must be ensured that no one should seize the information in the cloud while data is moving from point one to another and also there should not be any leakage with the security key from several storerooms in the cloud. Segregation of information from additional companies' information and then encrypting it by means of approved methods is one of the options.

10. Name The Several Layers Of Cloud Computing?

Here is the list of layers of the cloud computing

PaaS – Platform as a Service

IaaS – Infrastructure as a Service

SaaS – Software as a Service

11.Explain Can You Vertically Scale An Amazon Instance ? How?

Surely, you can vertically estimate on Amazon instance. During that Twist up a fresh massive instance than the one you are currently governing. Delay that instance and separate the source webs mass of server and dispatch. Next, quit your existing instance and separate its source quantity.

Note the different machine ID and connect that source mass to your fresh server

Also, begin it repeatedly Study AWS Training Online From Real Time Experts

12. What Are The Components Involved In Amazon Web Services?

There are 4 components involved and are as below. Amazon S3: with this, one can retrieve the key information which are occupied in creating cloud structural design and amount of produced information also can be stored in this component that is the consequence of the key specified. Amazon EC2 instance: helpful to run a large distributed system on the Hadoop cluster. Automatic parallelization and job scheduling can be achieved by this component.

Amazon SQS: this component acts as a mediator between different controllers. Also worn for cushioning requirements those are obtained by the manager of Amazon.

Amazon SimpleDB: helps in storing the transitional position log and the errands executed by the consumers.

13. What Is Lambda@edge In Aws?

In AWS, we can use Lambda@Edge utility to solve the problem of low network latency for end users.

In Lambda@Edge there is no need to provision or manage servers. We can just upload our Node.js code to AWS Lambda and create functions that will be triggered on CloudFront requests.

When a request for content is received by CloudFront edge location, the Lambda code is ready to execute.

This is a very good option for scaling up the operations in CloudFront without managing servers.

14. Distinguish Between Scalability And Flexibility?

The aptitude of any scheme to enhance the tasks on hand on its present hardware resources to grip inconsistency in command is known as scalability. The capability of a scheme to augment the tasks on hand on its present and supplementary hardware property is recognized as flexibility, hence enabling the industry to convene command devoid of putting in the infrastructure at all. AWS has several configuration management solutions for AWS scalability, flexibility, availability and management.

15. Name The Various Layers Of The Cloud Architecture?

There are 5 layers and are listed below

CC- Cluster Controller

SC- Storage Controller

CLC- Cloud Controller

Walrus

NC- Node Controller

16.Explain can you vertically scale an Amazon instance ? How ?

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17. Explain what is T2 instances ?

T2 instances are outlined to present average baseline execution and the ability to explode to powerful execution as needed by the workload.

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

Among private and public subnets in VPC, database servers should ideally originate toward separate subnets.

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

The buffer is utilized to deliver the system further robust to handle traffic or load by synchronizing different component. Usually, elements sustain and process the demands in an unreliable mode, With the aid of buffer, the elements will be (sap training) equivalent and will operate at the similar speed to accommodate high-speed services.

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

The feasible connection failures one might battle while correlating instances are

- Consolidation timed out
- User key not acknowledged by the server
- Host key not detected, license denied
- Unguarded private key file
- Server rejected our key or No sustained authentication program available
- Error handling Mind Term on Safari Browser
- Error utilizing Mac OS X RDP Client

21. Explain Elastic Block Storage ? What type of performance can you expect ? How do you back it up? How do you improve performance ?

That indicates it is RAID warehouse to begin with, so it’s irrelevant and faults tolerant. If disks expire in the RAID you don’t miss data. Excellent! It is more virtualized, therefore you can provision and designate warehouse, and connect it

to your server with multiple API appeals. No calling the storage specialist and asking him or her to operate specific requests from the hardware vendor.

Execution on EBS can manifest variability. Such signifies that can run above the SLA enforcement level, suddenly descend under it. The SLA gives you among a medium disk I/O speed you can foresee. That can prevent any groups particularly performance specialists who suspect stable and compatible disk throughput on a server. Common physically entertained servers perform that direction. Pragmatic AWS cases do not.

Backup EBS masses by utilizing the snap convenience through API proposal or by a GUI interface same elasticfox.

Progress execution by practicing Linux software invasion and striping over four extents.

21. What Are The Different Types Of Events Triggered By Amazon Cloud Front?

Different types of events triggered by Amazon CloudFront are as follows:

- **Viewer Request:** When an end user or a client program makes an HTTP/HTTPS request to CloudFront, this event is triggered at the Edge Location closer to the end user.
- **Viewer Response:** When a CloudFront server is ready to respond to a request, this event is triggered.
- **Origin Request:** When CloudFront server does not have the requested object in its cache, the request is forwarded to Origin server. At this time this event is triggered.
- **Origin Response:** When CloudFront server at an Edge location receives the response from Origin server, this event is triggered.

22. Which Automation Gears Can Help With Spinup Services?

The API tools can be used for spinup services and also for the written scripts. Those scripts could be coded in Perl, bash or other languages of your preference. There is one more option that is patterned administration and stipulating tools such as a dummy or improved descendant. A tool called Scalr

can also be used and finally we can go with a controlled explanation like a Rightscale.

23. What Is An Ami ? How Do I Build One?

AMI holds for Amazon Machine Image. It is efficiently a snap of the source filesystem. Products appliance servers have a bio that shows the master drive report of the initial slice on a disk. A disk form though can lie anyplace physically on a disc, so Linux can boot from an absolute position on the EBS warehouse interface.

Create a unique AMI at beginning rotating up and instance from a granted AMI. Later uniting combinations and components as needed. Comprise wary of setting delicate data over an AMI (learn salesforce online). For instance, your way credentials should be joined to an instance later spinup. Among a database, mount an external volume that carries your MySQL data next spinup actually enough.

24. What Are The Main Features Of Amazon Cloud Front?

Some of the main features of Amazon CloudFront are as follows: Device Detection Protocol Detection Geo Targeting Cache Behavior Cross Origin Resource Sharing Multiple Origin Servers HTTP Cookies Query String Parameters Custom SSL.

25. What Is The Relation Between An Instance And Ami?

AMI can be elaborated as Amazon Machine Image, basically, a template consisting software configuration part. For example an OS, applications, application server. If you start an instance, a duplicate of the AMI in a row as an unspoken attendant in the cloud.

26. What Is Amazon Ec2 Service?

Amazon Elastic Compute Cloud (Amazon EC2) is a web service that provides resizable (scalable) computing capacity in the cloud. You can use Amazon EC2 to launch as many virtual servers you need. In Amazon EC2 you can configure security and networking as well as manage storage.Amazon EC2 service also helps in obtaining and configuring capacity using minimal friction.

27. What Are The Features Of The Amazon Ec2 Service?

As the Amazon EC2 service is a cloud service so it has all the cloud features. Amazon EC2 provides the following features:

- Virtual computing environment (known as instances)
- re-configured templates for your instances (known as Amazon Machine Images – AMIs)
- Amazon Machine Images (AMIs) is a complete package that you need for your server (including the operating system and additional software)
- Amazon EC2 provides various configurations of CPU, memory, storage and networking capacity for your instances (known as instance type)
- Secure login information for your instances using key pairs (AWS stores the public key and you can store the private key in a secure place)
- Storage volumes of temporary data is deleted when you stop or terminate your instance (known as instance store volumes)
- Amazon EC2 provides persistent storage volumes (using Amazon Elastic Block Store – EBS)
- A firewall that enables you to specify the protocols, ports, and source IP ranges that can reach your instances using security groups
- Static IP addresses for dynamic cloud computing (known as Elastic IP address)
- Amazon EC2 provides metadata (known as tags)
- Amazon EC2 provides virtual networks that are logically isolated from the rest of the AWS cloud, and that you can optionally connect to your own network (known as virtual private clouds – VPCs)

28. What Is Amazon Machine Image And What Is The Relation Between Instance And Ami?

- Amazon Web Services provides several ways to access Amazon EC2, like web-based interface, AWS Command Line Interface (CLI) and Amazon Tools for Windows Powershell. First, you need to sign up for an AWS account and you can access Amazon EC2.

- Amazon EC2 provides a Query API. These requests are HTTP or HTTPS requests that use the HTTP verbs GET or POST and a Query parameter named Action.

29. What Is Amazon Machine Image (ami)?

An Amazon Machine Image (AMI) is a template that contains a software configuration (for example, an operating system, an application server, and applications). From an AMI, we launch an instance, which is a copy of the AMI running as a virtual server in the cloud. We can even launch multiple instances of an AMI.

30. What Is The Relation Between Instance And Ami?

We can launch different types of instances from a single AMI. An instance type essentially determines the hardware of the host computer used for your instance. Each instance type offers different compute and memory capabilities.

After we launch an instance, it looks like a traditional host, and we can interact with it as we would do with any computer. We have complete control of our instances; we can use sudo to run commands that require root privileges.

31. Explain Storage For Amazon Ec2 Instance.?

Amazon EC2 provides many data storage options for your instances. Each option has a unique combination of performance and durability. These storages can be used independently or in combination to suit your requirements.

There are mainly four types of storages provided by AWS:

- Amazon EBS: Its durable, block-level storage volumes can attached in running Amazon EC2 instance. The Amazon EBS volume persists independently from the running life of an Amazon EC2 instance. After an EBS volume is attached to an instance, you can use it like any other physical hard drive. Amazon EBS encryption feature supports encryption feature.
- Amazon EC2 Instance Store: Storage disk that is attached to the host computer is referred to as instance store. The instance storage provides temporary block-level storage for Amazon EC2 instances. The data on an

instance store volume persists only during the life of the associated Amazon EC2 instance; if you stop or terminate an instance, any data on instance store volumes is lost.

- Amazon S3: Amazon S3 provides access to reliable and inexpensive data storage infrastructure. It is designed to make web-scale computing easier by enabling you to store and retrieve any amount of data, at any time, from within Amazon EC2 or anywhere on the web.
- Adding Storage: Every time you launch an instance from an AMI, a root storage device is created for that instance. The root storage device contains all the information necessary to boot the instance. You can specify storage volumes in addition to the root device volume when you create an AMI or launch an instance using block device mapping.

32. What Are The Security Best Practices For Amazon Ec2?

There are several best practices for secure Amazon EC2. Following are few of them.

- Use AWS Identity and Access Management (AM) to control access to your AWS resources.
- Restrict access by only allowing trusted hosts or networks to access ports on your instance.
- Review the rules in your security groups regularly, and ensure that you apply the principle of least
- Privilege — only open up permissions that you require.
- Disable password-based logins for instances launched from your AMI. Passwords can be found or cracked, and are a security risk.

33. Explain Stopping, Starting, And Terminating An Amazon Ec2 Instance?

Stopping and Starting an instance: When an instance is stopped, the instance performs a normal shutdown and then transitions to a stopped state. All of its Amazon EBS volumes remain attached, and you can start the instance again at a later time. You are not charged for additional instance hours while the instance is in a stopped state.

Terminating an instance: When an instance is terminated, the instance performs a normal shutdown, then the attached Amazon EBS volumes are deleted unless the volume's deleteOnTermination attribute is set to false. The instance itself is also deleted, and you can't start the instance again at a later time.

34 .What is S3 ? What is it used for ? Should encryption be used ?

S3 implies for Simple Storage Service. You can believe it similar ftp warehouse, wherever you can transfer records to and from beyond, merely not uprise it similar to a filesystem. AWS automatically places your snaps there, at the same time AMIs there. sensitive data is treated with Encryption, as S3 is an exclusive technology promoted by Amazon themselves, and as still unproven vis-a-vis a protection viewpoint.

35. What is an AMI ? How do I build one ?

AMI holds for Amazon Machine Image. It is efficiently a snap of the source filesystem. Products appliance servers have a bio that shows the master drive report of the initial slice on a disk. A disk form though can lie anyplace physically on a disc, so Linux can boot from an absolute position on the EBS warehouse interface.

Create a unique AMI at beginning rotating up and instance from a granted AMI. Later uniting combinations and components as needed. Comprise wary of setting delicate data over an AMI (learn salesforce online). For instance, your way credentials should be joined to an instance later spinup. Among a database, mount an external volume that carries your MySQL data next spinup actually enough.

36.Can I Vertically Scale An Amazon Instance? How?

Yes.This is an incredible feature of AWS and cloud virtualization. Spin up a new larger instance than the one you are currently running. Pause that instance and detach the root ebs volume from this server and discard. Then stop your live instance, detach its root volume. Note down the unique device ID and attach that root volume to your new server. And then start it again. Voila, you have scaled vertically in-place!!

37. Define Auto Scaling ?

Answer: Auto-scaling is one of the conspicuous characteristics feature of AWS anywhere it authorizes you to systematize and robotically obligation and twist up new models externally that necessary for your entanglement. This can be accomplished by initiating brims and metrics to view.If these proposals are demolished, the latest model of your preference will be configured, wrapped up and cloned into the weight administrator panel.

38. Which automation gears can help with spinup services ?

For the written scripts we can use spinup services with the help of API tools.These scripts could be coded in bash, Perl, or any another language of your choice.There is one more alternative that is patterned control and stipulating devices before-mentioned as a dummy or advanced descendant. A machine termed as Scalar can likewise be utilized and ultimately we can proceed with a constrained expression like a RightScale.

39. Is it possible to scale an Amazon instance vertically ? How ?

Yes, it is possible to scale an Amazon instance vertically because of an unbelievable characteristic of cloud virtualization and AWS. Spinup is a huge case while correlated to the one which you are working with. Let up the case and distribute the source EBS bulk of this server and eliminate. Subsequent, end your existing instance, exclude its root volume. Enter down the peculiar device ID and join source volume to your fresh server and begin it repeatedly. This is the way to scaling vertically in position.

40. How the processes start, stop and terminate works ?

Starting and stopping of an instance: If an instance goes arrested or died, the instance performs a normal power cut and then transfer over to a sealed area. You can build the case then for all the EBS masses of Amazon persist and associated. If an instance is in ending state, suddenly you will not get charged to the additional instance

Finishing the instance: If an instance goes stopped it serves to perform a standard blackout, therefore the EBS capacities which are connected will get

excluded save the volume's delete On Termination feature is fixed to zero. In such instances, the instance will get eliminated and cannot set it up afterward.

41. Explain in detail the function of Amazon Machine Image (AMI) ?

An Amazon Machine Image AMI is a pattern that comprises a software conformation (for instance, an operative system, a request server, and applications). From an AMI, we present an example, which is a duplicate of the AMI successively as a virtual server in the cloud. We can even offer plentiful examples of an AMI.

42. If I'm expending Amazon Cloud Front, can I custom Direct Connect to handover objects from my own data centre ?

Certainly. Amazon Cloud Front stipulations culture rises computing sources of separate AWS. By AWS Direct Connect, you will be accelerating with the appropriate information substitution rates. AWS Training Free Demo

43.If my AWS Direct Connect flops, will I lose my connection ?

If a gridlock AWS Direct connects has been transposed, in the event of a let-down, it will convert over to the next one. It is voluntary to allow Bidirectional Forwarding Detection (BFD) while systematizing your rules to safeguard quicker identification and failover. Proceeding the opposite hand, if you have built a backup IPsec VPN connecting as an option, all VPC transactions will failover to the backup VPN association routinely.

44. What is AWS Certificate Manager ?

AWS Certificate Manager (ACM) manages the complexity of extending, provisioning, and regulating certificates granted over ACM (ACM Certificates) to your AWS-based websites and forms. You work ACM to petition and maintain the certificate and later practice other AWS services to provision the ACM Certificate for your website or purpose. As designated in the subsequent instance, ACM Certificates are currently ready for performance with only Elastic Load Balancing and Amazon CloudFront. You cannot handle ACM Certificates outside of AWS.

45. Explain What is Redshift ?

The executes it easy and cost-effective to efficiently investigate all your data employing your current marketing intelligence devices which is a completely controlled, high-speed, it is petabyte-scale data repository service known as Redshift.

46. Mention what are the differences between Amazon S3 and EC2 ?

S3: Amazon S3 is simply a storage aid, typically applied to save huge binary records. Amazon too has additional warehouse and database settings, same as RDS to relational databases and DynamoDB concerning NoSQL.

EC2: An EC2 instance is similar to a foreign computer working Linux or Windows and on which you can install whatever software you need, including a Network server operating PHP code and a database server.

47.Explain what is C4 instances ?

C4 instances are absolute for compute-bound purposes that serve from powerful-performance processors. AWS Interview Questions and Answers

48. Explain what is DynamoDB in AWS ?

Amazon DynamoDB is a completely controlled NoSQL database aid that renders quick and anticipated execution with seamless scalability. You can perform Amazon DynamoDB to formulate a database table that can save and reclaim any quantity of data, and help any level of application transactions. Amazon DynamoDB automatically increases the data and transactions for the table above an adequate number of servers to supervise the inquiry function designated by the customer and the volume of data saved, while keeping constant and quick execution.

49. Explain what is ElastiCache ?

A web service that executes it comfortable to set up, maintain, and scale classified in-memory cache settings in the cloud is known as ElastiCache.

50. What is the AWS Key Management Service ?

A managed service that makes it easy for you to create and control the encryption keys used to encrypt your data is known as the AWS Key Management Service (AWS KMS).

51. What is AWS WAF ? What are the potential benefits of using WAF ?

AWS WAF is a web application firewall that lets you monitor the HTTP and HTTPS applications that are promoted to Amazon CloudFront and gives you regulate path to your content. Based on circumstances that you stipulate, such as the IP addresses that grants originate from or the consequences of query series, CloudFront returns to applications either with the petitioned content or with an HTTP 403 situation code (Forbidden). You can further configure CloudFront to restore a pattern failure page when an application is obstructed.

Advantages of utilizing WAF:

- Further security versus web initiatives relating circumstances that you designate. You can describe situations by managing characteristics of web inquiries such as the IP address that the applications originate from, the rates in headers, chains that rise in the applications, and the presence of hateful SQL code in the call, which is recognized as SQL injection.
- Rules that you can reuse for various network appeals
- Real-time metrics and examined web demands
- Computerized command practicing the AWS WAF API

52. What is Amazon EMR ?

Amazon Elastic MapReduce (Amazon EMR) is a survived cluster stage that interprets working big data structures, before-mentioned as Apache Spark and Apache Hadoop, on AWS to treat and investigate enormous volumes of data. By adopting these structures and relevant open-source designs, such as Apache Pig and Apache Hive, you can prepare data for analytics goals and marketing intellect workloads. Additionally, you can use Amazon EMR to convert and migrate vast masses of information into and of other AWS data repositories and databases, such as Amazon DynamoDB and Amazon Simple Storage Service (Amazon S3).

53.What is AWS Data Pipeline ? and what are the components of AWS Data Pipeline ?

A web service that you can implement to automate the journey and exchange of data are called AWS Data Pipeline. Beside AWS you can define data-driven workflows so that companies can be reliant on the favorable execution of initial jobs.

The succeeding components of AWS Data Pipeline work collectively to get your data:

- A pipeline key indicates the business appraised of your data administration. For additional data, observe Pipeline Definition File Syntax.
- A pipeline registers and tracks responsibilities. You upload your pipeline accuracy to the pipeline and when excite the pipeline. You can control the pipeline variety for a working pipeline and stimulate the pipeline regularly for it to receive the issue. You can deactivate the pipeline, replace a data storage, and before initiate the pipeline newly. If you are terminated with your pipeline, you can cancel it.
- Task Runner studies for services and then performs those duties. For instance, Task Runner could replicate log records to Amazon S3 and push Amazon EMR organizations. Task Runner is uns automatically on devices designed by your pipeline keys. You can create a custom task runner application, or you can make the Task Runner form that is offered by AWS Data Pipeline.AWS EC2 Interview Questions

54. What is Amazon Kinesis Firehose ?

A fully managed service for delivering real-time streaming data to destinations such as Amazon Simple Storage Service (Amazon S3) and Amazon Redshift is known as Amazon Kinesis Firehose.

55. What Is Amazon CloudSearch and its features ?

A thoroughly managed service in the cloud that creates it simple to set up, maintain, and estimate a search solution for your website or application is called Amazon CloudSearch.

we can use Amazon CloudSearch to catalog and explore both plain text and structured data. Amazon CloudSearch characteristics:

Entire text search with language-specific text processing

- Range searches
- Prefix searches
- Boolean search
- FacetingTerm boosting
- Highlighting
- Autocomplete Advices

56. Explain what is Regions and Endpoints in AWS ?

An endpoint is a URL that is the entry point for a web service. To decrease data latency in your forms, most Amazon Web Services results enable you to choose a sectional endpoint to make your applications.

Some services, before-mentioned as Amazon EC2, let you define an endpoint that does not cover a particular area.IAM, do not sustain regions; their endpoints, consequently, do not incorporate a region proposed by Amazon Web Services Tutorials Some services.Amazon Web Services Tutorials

57. What are the different types of cloud services ?

Infrastructure as a Service (IaaS), Software as a Service (SaaS), Platform as a Service (PaaS), and Data as a Service (DaaS).

58. What is SimpleDB ?

A structured records or data repository that encourages indexing and data doubts to both EC2 and S3 is known as SimpleDB.

59. What is the type of architecture, where half of the workload is on the public load while at the same time half of it is on the local storage ?

Hybrid cloud architecture.

60. Should encryption be used for S3 ?

Encryption should be examined for delicate information or data as S3 is a proprietary technology.

61. What are the various AMI design options ?

Fully Baked AMI, JeOS (just enough operating system) AMI, and Hybrid AMI.

62. What is Geo Restriction in CloudFront ?

Geo restriction, also known as geoblocking, is used to prevent users in specific geographic locations from accessing content that you're distributing through a CloudFront web distribution. Amazon Web Services Training

63.Can S3 be used with EC2 instances, how?

It can be used for instances with root devices backed by local instance storage. By using Amazon S3, developers have access to the same highly scalable, reliable, fast, inexpensive data storage infrastructure that Amazon uses to run its own global network of web sites. In order to execute systems in the Amazon EC2 environment, developers use the tools provided to load their Amazon Machine Images (AMIs) into Amazon S3 and to move them between Amazon S3 and Amazon EC2.

Another use case could be for websites hosted on EC2 to load their static content from S3.

64.Can I connect my corporate datacenter to the Amazon Cloud?

Yes, you can do this by establishing a VPN(Virtual Private Network) connection between your company's network and your VPC (Virtual Private Cloud), this will allow you to interact with your EC2 instances as if they were within your existing network.

65.Is it possible to change the private IP addresses of an EC2 while it is running/stopped in a VPC?

Primary private IP address is attached with the instance throughout its lifetime and cannot be changed, however secondary private addresses can be unassigned, assigned or moved between interfaces or instances at any point.

66.If I'm using Amazon CloudFront, can I use Direct Connect to transfer objects from my own data center?

Yes. Amazon CloudFront supports custom origins including origins from outside of AWS. With AWS Direct Connect, you will be charged with the respective data transfer rates.

67. If my AWS Direct Connect fails, will I lose my connectivity?

If a backup AWS Direct connect has been configured, in the event of a failure it will switch over to the second one. It is recommended to enable Bidirectional Forwarding Detection (BFD) when configuring your connections to ensure faster detection and failover. On the other hand, if you have configured a backup IPsec VPN connection instead, all VPC traffic will failover to the backup VPN connection automatically. Traffic to/from public resources such as Amazon S3 will be routed over the Internet. If you do not have a backup AWS Direct Connect link or a IPsec VPN link, then Amazon VPC traffic will be dropped in the event of a failure.

68.What is the difference between Scalability and Elasticity?

Scalability is the ability of a system to increase its hardware resources to handle the increase in demand. It can be done by increasing the hardware specifications or increasing the processing nodes.

Elasticity is the ability of a system to handle increase in the workload by adding additional hardware resources when the demand increases(same as scaling) but also rolling back the scaled resources, when the resources are no longer needed. This is particularly helpful in Cloud environments, where a pay per use model is followed.

69.How will you change the instance type for instances which are running in your application tier and are using Auto Scaling. Where will you change it ?

In Auto Scaling launch configuration, Auto scaling tags configuration, is used to attach metadata to your instances, to change the instance type you have to use auto scaling launch configuration.

70.Suppose you have an application where you have to render images and also do some general computing. From the following services which service will best fit your need?

Classic Load Balancer and Application Load Balancer. You will choose an application load balancer, since it supports path based routing, which means it can take decisions based on the URL, therefore if your task needs image rendering it will route it to a different instance, and for general computing it will route it to a different instance.

71.You have a content management system running on an Amazon EC2 instance that is approaching 100% CPU utilization. How to reduce load on the Amazon EC2 instance?

Create a load balancer, and register the Amazon EC2 instance with it.

- Creating alone an autoscaling group will not solve the issue, until you attach a load balancer to it. Once you attach a load balancer to an autoscaling group, it will efficiently distribute the load among all the instances. Option B – CloudFront is a CDN, it is a data transfer tool therefore will not help reduce load on the EC2 instance. Similarly the other option – Launch configuration is a template for configuration which has no connection with reducing loads.

72.When should I use a Classic Load Balancer and when should I use an Application load balancer?

A Classic Load Balancer is ideal for simple load balancing of traffic across multiple EC2 instances, while an Application Load Balancer is ideal for microservices or container-based architectures where there is a need to route traffic to multiple services or load balance across multiple ports on the same EC2 instance.

73. What does Connection draining do?

A.Terminates instances which are not in use.

B.Re-routes traffic from instances which are to be updated or failed a health check.

C.Re-routes traffic from instances which have more workload to instances which have less workload.

D.Drains all the connections from an instance, with one click.

Answer B.

Connection draining is a service under ELB which constantly monitors the health of the instances. If any instance fails a health check or if any instance has to be patched with a software update, it pulls all the traffic from that instance and re routes them to other instances.

74. When an instance is unhealthy, it is terminated and replaced with a new one, which of the following services does that?

A. Sticky Sessions

B. Fault Tolerance

C. Connection Draining

D. Monitoring

Answer B.

When ELB detects that an instance is unhealthy, it starts routing incoming traffic to other healthy instances in the region. If all the instances in a region becomes unhealthy, and if you have instances in some other availability zone/region, your traffic is directed to them. Once your instances become healthy again, they are re routed back to the original instances.

75. What are lifecycle hooks used for in AutoScaling?

They are used to put an additional wait time to a scale in or scale out event. Lifecycle hooks are used for putting wait time before any lifecycle action i.e launching or terminating an instance happens. The purpose of this wait time, can be anything from extracting log files before terminating an instance or installing the necessary softwares in an instance before launching it.

76.A user has setup an Auto Scaling group. Due to some issue the group has failed to launch a single instance for more than 24 hours. What will happen to Auto Scaling in this condition?

A.Auto Scaling will keep trying to launch the instance for 72 hours

B.Auto Scaling will suspend the scaling process

C.Auto Scaling will start an instance in a separate region

D.The Auto Scaling group will be terminated automatically

Answer B.

Auto Scaling allows you to suspend and then resume one or more of the Auto Scaling processes in your Auto Scaling group. This can be very useful when you want to investigate a configuration problem or other issue with your

web application, and then make changes to your application, without triggering the Auto Scaling process.

77. Suppose you have an application where you have to render images and also do some general computing.which service will best fit your need?

Application Load Balancer, since it supports path based routing, which means it can take decisions based on the URL, therefore if your task needs image rendering it will route it to a different instance, and for general computing it will route it to a different instance.

78. What is the difference between Scalability and Elasticity?

Scalability is the ability of a system to increase its hardware resources to handle the increase in demand. It can be done by increasing the hardware specifications or increasing the processing nodes.

Elasticity is the ability of a system to handle increase in the workload by adding additional hardware resources when the demand increases(same as scaling) but also rolling back the scaled resources, when the resources are no longer needed. This is particularly helpful in Cloud environments, where a pay per use model is followed.

79.How will you change the instance type for instances which are running in your application tier and are using Auto Scaling. Where will you change it from the following areas?

Auto Scaling launch configuration

Auto scaling tags configuration, is used to attach metadata to your instances, to change the instance type you have to use auto scaling launch configuration.

80.You have a content management system running on an Amazon EC2 instance that is approaching 100% CPU utilization. Which option will reduce load on the Amazon EC2 instance?

Create a load balancer, and register the Amazon EC2 instance with it.Creating alone an autoscaling group will not solve the issue, until you attach a load balancer to it. Once you attach a load balancer to an autoscaling group, it will

efficiently distribute the load among all the instances. Option B – CloudFront is a CDN, it is a data transfer tool therefore will not help reduce load on the EC2 instance. Similarly the other option – Launch configuration is a template for configuration which has no connection with reducing loads.

81. When should I use a Classic Load Balancer and when should I use an Application load balancer?

A Classic Load Balancer is ideal for simple load balancing of traffic across multiple EC2 instances, while an Application Load Balancer is ideal for microservices or container-based architectures where there is a need to route traffic to multiple services or load balance across multiple ports on the same EC2 instance.

82. What does Connection draining do?

Re-routes traffic from instances which are to be updated or failed a health check.Connection draining is a service under ELB which constantly monitors the health of the instances. If any instance fails a health check or if any instance has to be patched with a software update, it pulls all the traffic from that instance and re routes them to other instances.

83.When an instance is unhealthy, it is terminated and replaced with a new one, which of the following services does that?

Fault Tolerance.When ELB detects that an instance is unhealthy, it starts routing incoming traffic to other healthy instances in the region. If all the instances in a region becomes unhealthy, and if you have instances in some other availability zone/region, your traffic is directed to them. Once your instances become healthy again, they are re routed back to the original instances.

84. What are lifecycle hooks used for in AutoScaling?

A.They are used to do health checks on instances

B.They are used to put an additional wait time to a scale in or scale out event.

C.They are used to shorten the wait time to a scale in or scale out event

Answer B.

Lifecycle hooks are used for putting wait time before any lifecycle action i.e launching or terminating an instance happens. The purpose of this wait time, can be anything from extracting log files before terminating an instance or installing the necessary softwares in an instance before launching it.

85. A user has setup an Auto Scaling group. Due to some issue the group has failed to launch a single instance for more than 24 hours. What will happen to Auto Scaling in this condition?

A.Auto Scaling will keep trying to launch the instance for 72 hours

B.Auto Scaling will suspend the scaling process

C.Auto Scaling will start an instance in a separate region

D.The Auto Scaling group will be terminated automatically

Answer B.

Auto Scaling allows you to suspend and then resume one or more of the Auto Scaling processes in your Auto Scaling group. This can be very useful when you want to investigate a configuration problem or other issue with your web application, and then make changes to your application, without triggering the Auto Scaling process.

86. Which services you would not use to deploy an app?

Lambda is used for running server-less applications. It can be used to deploy functions triggered by events. When we say serverless, we mean without you worrying about the computing resources running in the background. It is not designed for creating applications which are publicly accessed.

87. How does Elastic Beanstalk apply updates?

By having a duplicate ready with updates before swapping. Elastic Beanstalk prepares a duplicate copy of the instance, before updating the original instance, and routes your traffic to the duplicate instance, so that, incase your updated application fails, it will switch back to the original instance, and there will be no downtime experienced by the users who are using your application.

88. How is AWS Elastic Beanstalk different than AWS OpsWorks?

AWS Elastic Beanstalk is an application management platform while OpsWorks is a configuration management platform. BeanStalk is an easy to use service which is used for deploying and scaling web applications developed with Java, .Net, PHP, Node.js, Python, Ruby, Go and Docker. Customers upload their code and Elastic Beanstalk automatically handles the deployment. The application will be ready to use without any infrastructure or resource configuration.

In contrast, AWS Opsworks is an integrated configuration management platform for IT administrators or DevOps engineers who want a high degree of customization and control over operations.

89. What happens if my application stops responding to requests in beanstalk?

AWS Beanstalk applications have a system in place for avoiding failures in the underlying infrastructure. If an Amazon EC2 instance fails for any reason, Beanstalk will use Auto Scaling to automatically launch a new instance. Beanstalk can also detect if your application is not responding on the custom link, even though the infrastructure appears healthy, it will be logged as an environmental event(e.g a bad version was deployed) so you can take an appropriate action.

90.How is AWS OpsWorks different than AWS CloudFormation?

OpsWorks and CloudFormation both support application modelling, deployment, configuration, management and related activities. Both support a wide variety of architectural patterns, from simple web applications to highly complex applications. AWS OpsWorks and AWS CloudFormation differ in abstraction level and areas of focus.

AWS CloudFormation is a building block service which enables customer to manage almost any AWS resource via JSON-based domain specific language. It provides foundational capabilities for the full breadth of AWS, without prescribing a particular model for development and operations. Customers define templates and use them to provision and manage AWS resources, operating systems and application code.

In contrast, AWS OpsWorks is a higher level service that focuses on providing highly productive and reliable DevOps experiences for IT administrators and ops-minded developers. To do this, AWS OpsWorks employs a configuration management model based on concepts such as stacks and layers, and provides integrated experiences for key activities like deployment, monitoring, auto-scaling, and automation. Compared to AWS CloudFormation, AWS OpsWorks supports a narrower range of application-oriented AWS resource types including Amazon EC2 instances, Amazon EBS volumes, Elastic IPs, and Amazon CloudWatch metrics.

91. I created a key in Oregon region to encrypt my data in North Virginia region for security purposes. I added two users to the key and an external AWS account. I wanted to encrypt an object in S3, so when I tried, the key that I just created was not listed. What could be the reason?

A.External aws accounts are not supported.

B.AWS S3 cannot be integrated KMS.

C.The Key should be in the same region.

D.New keys take some time to reflect in the list.

Answer C.

The key created and the data to be encrypted should be in the same region. Hence the approach taken here to secure the data is incorrect.

92. A company needs to monitor the read and write IOPS for their AWS MySQL RDS instance and send real-time alerts to their operations team. Which AWS services can accomplish this?

A.Amazon Simple Email Service

B.Amazon CloudWatch

C.Amazon Simple Queue Service

D.Amazon Route 53

Answer B.

Amazon CloudWatch is a cloud monitoring tool and hence this is the right service for the mentioned use case. The other options listed here are used for other purposes for example route 53 is used for DNS services, therefore CloudWatch will be the apt choice.

93. What happens when one of the resources in a stack cannot be created successfully in AWS OpsWorks?

When an event like this occurs, the "automatic rollback on error" feature is enabled, which causes all the AWS resources which were created successfully till the point where the error occurred to be deleted. This is helpful since it does not leave behind any erroneous data, it ensures the fact that stacks are either created fully or not created at all. It is useful in events where you may accidentally exceed your limit of the no. of Elastic IP addresses or maybe you may not have access to an EC2 AMI that you are trying to run etc.

94. What automation tools can you use to spinup servers?

Any of the following tools can be used:

Roll-your-own scripts, and use the AWS API tools. Such scripts could be written in bash, perl or other language of your choice.

Use a configuration management and provisioning tool like puppet or its successor Opscode Chef. You can also use a tool like Scalr.

Use a managed solution such as Rightscale.

95.Which AWS services will you use to collect and process e-commerce data for near real-time analysis?

A.Amazon ElastiCache

B.Amazon DynamoDB

C.Amazon Redshift

D.Amazon Elastic MapReduce

Answer B,C.

DynamoDB is a fully managed NoSQL database service. DynamoDB, therefore can be fed any type of unstructured data, which can be data from e-commerce websites as well, and later, an analysis can be done on them using Amazon Redshift. We are not using Elastic MapReduce, since a near real time analyses is needed.

96. Can I retrieve only a specific element of the data, if I have a nested JSON data in DynamoDB?

Yes. When using the GetItem, BatchGetItem, Query or Scan APIs, you can define a Projection Expression to determine which attributes should be retrieved from the table. Those attributes can include scalars, sets, or elements of a JSON document.

97.What happens to my backups and DB Snapshots if I delete my DB Instance?

When you delete a DB instance, you have an option of creating a final DB snapshot, if you do that you can restore your database from that snapshot. RDS retains this user-created DB snapshot along with all other manually created DB snapshots after the instance is deleted, also automated backups are deleted and only manually created DB Snapshots are retained.

98.How can I load my data to Amazon Redshift from different data sources like Amazon RDS, Amazon DynamoDB and Amazon EC2?

You can load the data in the following two ways:

You can use the COPY command to load data in parallel directly to Amazon Redshift from Amazon EMR, Amazon DynamoDB, or any SSH-enabled host.

AWS Data Pipeline provides a high performance, reliable, fault tolerant solution to load data from a variety of AWS data sources. You can use AWS Data Pipeline to specify the data source, desired data transformations, and then execute a pre-written import script to load your data into Amazon Redshift.

99.If my AWS Direct Connect fails, will I lose my connectivity?

If a backup AWS Direct connect has been configured, in the event of a failure it will switch over to the second one. It is recommended to enable Bidirectional Forwarding Detection (BFD) when configuring your connections to ensure faster detection and failover. On the other hand, if you have configured a

backup IPsec VPN connection instead, all VPC traffic will failover to the backup VPN connection automatically. Traffic to/from public resources such as Amazon S3 will be routed over the Internet. If you do not have a backup AWS Direct Connect link or a IPsec VPN link, then Amazon VPC traffic will be dropped in the event of a failure.

100.What are the best practices for Security in Amazon EC2?

There are several best practices to secure Amazon EC2. A few of them are given below:

- Use AWS Identity and Access Management (IAM) to control access to your AWS resources.
- Restrict access by only allowing trusted hosts or networks to access ports on your instance.
- Review the rules in your security groups regularly, and ensure that you apply the principle of least
- Privilege – only open up permissions that you require.
- Disable password-based logins for instances launched from your AMI. Passwords can be found or cracked, and are a security risk.

Top 100 AWS Interview Questions and Answers for 2023

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Land your dream job with these AWS interview questions and answers suitable for multiple AWS Cloud computing roles starting from beginner to advanced levels.

"I would like to become an AWS Solution Architect. What do you think are the most commonly asked AWS Architect Interview questions that I will have to answer during my interview?"

We often get asked this question by beginners and professionals looking to land a top cloud computing gig. If you are looking for an AWS cloud computing job, you will need to prepare a list of questions that can help you excel at your next cloud computing job interview. ProjectPro brings you the list of top AWS interview questions curated in close collaboration with a panel of AWS cloud computing experts.

Top AWS Interview Questions and Answers for 2023

AWS Basic Interview Questions

Below are some commonly-asked AWS Interview Questions and Answers for Freshers to gain a better understanding of the various AWS services and their implementation.

1. Differentiate between on-demand instances and spot instances.

Spot Instances are spare unused Elastic Compute Cloud (EC2) instances that one can bid for. Once the bid exceeds the existing spot price (which changes in real-time based on demand and supply), the spot instance will be launched. If the spot price exceeds the bid price, the instance can go away anytime and terminate within 2 minutes of notice. The best way to decide on the optimal bid price for a spot instance is to check the price history of the last 90 days available on the AWS console. The advantage of spot instances is that they are cost-effective, and the drawback is that they can be terminated anytime. Spot instances are ideal to use when –

- There are optional nice-to-have tasks.
- You have flexible workloads that can run when there is enough computing capacity.
- Tasks that require extra computing capacity to improve performance.

On-demand instances are made available whenever you require them, and you need to pay for the time you use them hourly. These instances can be released when they are no longer required and do not require any upfront commitment. The availability of these instances is guaranteed by AWS, unlike spot instances.

The best practice is to launch a couple of on-demand instances which can maintain a minimum level of guaranteed compute resources for the application and add on a few spot instances whenever there is an opportunity.

2. What is the boot time for an instance store-backed instance?

The boot time for an Amazon Instance Store -Backed AMI is usually less than 5 minutes.

3. Is it possible to vertically scale on an Amazon Instance? If yes, how?

Following are the steps to scale an Amazon Instance vertically –

- Spin up a larger Amazon instance than the existing one.
- Pause the existing instance to remove the root ebs volume from the server and discard.
- Stop the live running instance and detach its root volume.
- Make a note of the unique device ID and attach that root volume to the new server.
- Start the instance again.

4. Differentiate between vertical and horizontal scaling in AWS.

The main difference between vertical and horizontal scaling is how you add compute resources to your infrastructure. In vertical scaling, more power is added to the existing machine. In contrast, in horizontal scaling, additional resources are added to the system with the addition of more machines into the network so that the workload and processing are shared among

multiple devices. The best way to understand the difference is to imagine retiring your Toyota and buying a Ferrari because you need more horsepower. This is vertical scaling. Another way to get that added horsepower is not to ditch the Toyota for the Ferrari but buy another car. This can be related to horizontal scaling, where you drive several cars simultaneously.

When the users are up to 100, an Amazon EC2 instance alone is enough to run the entire web application or the database until the traffic ramps up. Under such circumstances, when the traffic ramps up, it is better to scale vertically by increasing the capacity of the EC2 instance to meet the increasing demands of the application. AWS supports instances up to 128 virtual cores or 488GB RAM.

When the users for your application grow up to 1000 or more, vertical cannot handle requests, and there is a need for horizontal scaling, which is achieved through a distributed file system, clustering, and load balancing.

5. What is the total number of buckets that can be created in AWS by default?

100 buckets can be created in each of the AWS accounts. If additional buckets are required, increase the bucket limit by submitting a service limit increase.

6. Differentiate between Amazon RDS, Redshift, and Dynamo DB.

Features	Amazon RDS	Redshift	Dynamo DB
Computing Resources	Instances with 64 vCPU and 244 GB RAM	Nodes with vCPU and 244 GB RAM	Not specified, SaaS-Software as a Service.
Maintenance Window	30 minutes every week.	30 minutes every week.	No impact
Database Engine	MySQL, Oracle DB, SQL Server, Amazon Aurora, Postgre SQL	Redshift	NoSQL

Primary Usage Feature	Conventional Databases	Data warehouse	Database for dynamically modified data
Multi A-Z Replication	Additional Service	Manual	In-built

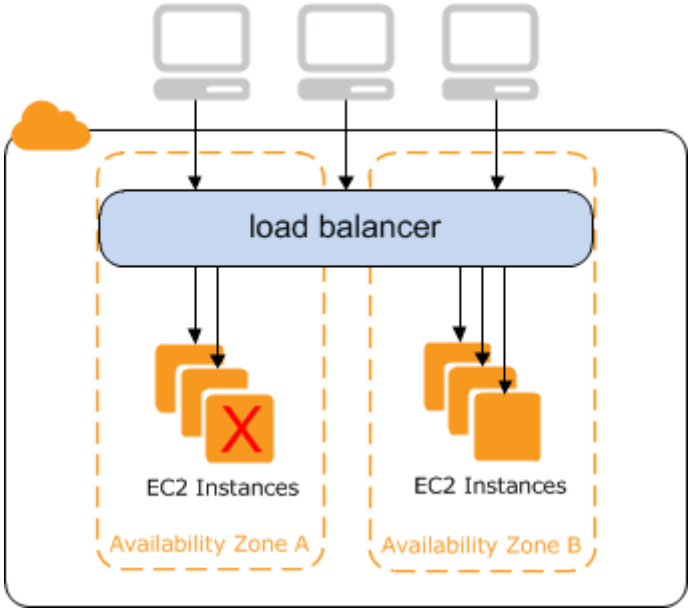
7. An organization wants to deploy a two-tier web application on AWS. The application requires complex query processing and table joins. However, the company has limited resources and requires high availability. Which is the best configuration for the company based on the requirements?

DynamoDB deals with core problems of database storage, scalability, management, reliability, and performance but does not have an RDBMS's functionalities. DynamoDB does not support complex joins or query processing, or complex transactions. You can run a relational engine on Amazon RDS or Amazon EC2 for this kind of functionality.

8. What should be the instance's tenancy attribute for running it on single-tenant hardware?

The instance tenancy attribute must be set to a dedicated instance, and other values might not be appropriate for this operation.

9. What are the important features of a classic load balancer in Amazon Elastic Compute Cloud (EC2)?



- The high availability feature ensures that the traffic is distributed among Amazon EC2 instances in single or multiple availability zones. This ensures a high scale of availability for incoming traffic.
- Classic load balancer can decide whether to route the traffic based on the health check's results.
- You can implement secure load balancing within a network by creating security groups in a VPC.
- Classic load balancer supports sticky sessions, which ensures a user's traffic is always routed to the same instance for a seamless experience.

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

Performance, pricing, latency, and response time are factors to consider when selecting the availability zone.

11. Which instance will you use for deploying a 4-node Hadoop cluster in AWS?

We can use a c4.8x large instance or i2.large for this, but using a c4.8x will require a better configuration on the PC.

12. How will you bind the user session with a specific instance in ELB (Elastic Load Balancer)?

This can be achieved by enabling Sticky Session.

13. What are the possible connection issues you encounter when connecting to an Amazon EC2 instance?

- Unprotected private key file
- Server refused key
- Connection timed out
- No supported authentication method available
- Host key not found,permission denied.
- User key not recognized by the server, permission denied.

14. Can you run multiple websites on an Amazon EC2 server using a single IP address?

More than one elastic IP is required to run multiple websites on Amazon EC2.

15. What happens when you reboot an Amazon EC2 instance?

Rebooting an instance is just similar to rebooting a PC. You do not return to the image's original state. However, the hard disk contents are the same as before the reboot.

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

Stopping an Amazon EC2 instance result in a normal shutdown being performed on the instance, and the instance is moved to a stop state. However, when an EC2 instance is terminated, it is transferred to a stopped state, and any EBS volumes attached to it are deleted and cannot be recovered.

Advanced AWS Interview Questions and Answers

Here are a few AWS Interview Questions and Answers for experienced professionals to further strengthen their knowledge of AWS services useful in cloud computing.

17. Mention the native AWS security logging capabilities.

AWS CloudTrail:

This AWS service facilitates security analysis, compliance auditing, and resource change tracking of an AWS environment. It can also provide a history of AWS API calls for a particular

account. CloudTrail is an essential AWS service required to understand AWS use and should be enabled in all AWS regions for all AWS accounts, irrespective of where the services are deployed. CloudTrail delivers log files and an optional log file integrity validation to a designated Amazon S3 (Amazon Simple Storage Service) bucket once almost every five minutes. When new logs have been delivered, AWS CloudTrail may be configured to send messages using Amazon Simple Notification Service (Amazon SNS). It can also integrate with AWS CloudWatch Logs and AWS Lambda for processing purposes.

AWS Config:

AWS Config is another significant AWS service that can create an AWS resource inventory, send notifications for configuration changes and maintain relationships among AWS resources. It provides a timeline of changes in resource configuration for specific services. If multiple changes occur over a short interval, then only the cumulative changes are recorded. Snapshots of changes are stored in a configured Amazon S3 bucket and can be set to send Amazon SNS notifications when resource changes are detected in AWS. Apart from tracking resource changes, AWS Config should be enabled to troubleshoot or perform any security analysis and demonstrate compliance over time or at a specific time interval.

AWS Detailed Billing Reports:

Detailed billing reports show the cost breakdown by the hour, day, or month, by a particular product or product resource, by each account in a company, or by customer-defined tags. Billing reports indicate how AWS resources are consumed and can be used to audit a company's consumption of AWS services. AWS publishes detailed billing reports to a specified S3 bucket in CSV format several times daily.

Amazon S3 (Simple Storage Service) Access Logs:

Amazon S3 Access logs record information about individual requests made to the Amazon S3 buckets and can be used to analyze traffic patterns, troubleshoot, and perform security and access auditing. The access logs are delivered to designated target S3 buckets on a best-effort basis. They can help users learn about the customer base, define access policies, and set lifecycle policies.

Elastic Load Balancing Access Logs:

Elastic Load Balancing Access logs record the individual requests made to a particular load balancer. They can also analyze traffic patterns, perform troubleshooting, and manage security and access auditing. The logs give information about the request processing durations. This data can improve user experiences by discovering user-facing errors generated by the load balancer and debugging any errors in communication between the load balancers and back-end web servers. Elastic Load Balancing access logs get delivered to a configured target S3 bucket based on the user requirements at five or sixty-minute intervals.

Amazon CloudFront Access Logs:

Amazon CloudFront Access logs record individual requests made to CloudFront distributions. Like the previous two access logs, Amazon CloudFront Access Logs can also be used to analyze traffic patterns, perform any troubleshooting required, and for security and access auditing. Users can use these access logs to gather insight about the customer base, define access policies, and set lifecycle policies. CloudFront Access logs get delivered to a configured S3 bucket on a best-effort basis.

Amazon Redshift Logs:

Amazon Redshift logs collect and record information concerning database connections, any changes to user definitions, and activity. The logs can be used for security monitoring and troubleshooting any database-related issues. Redshift logs get delivered to a designated S3 bucket.

Amazon Relational Database Service (RDS) Logs:

RDS logs record information on access, errors, performance, and database operation. They make it possible to analyze the security, performance, and operation of AWS-managed databases. RDS logs can be viewed or downloaded using the Amazon RDS console, the Amazon RDS API, or the AWS command-line interface. The log files may also be queried from a specific database table.

Amazon Relational Database Service (RDS) logs capture information about database access, performance, errors, and operation. These logs allow security, performance, and operation analysis of the AWS-managed databases. Customers can view, watch, or download these database logs using the Amazon RDS console, the AWS Command Line Interface, or the Amazon RDS API. the log files may also be queried by using DB engine-specific database tables.

Amazon VPC Flow Logs:

Amazon VPC Flow logs collect information specific to the IP traffic, incoming and outgoing from the Amazon Virtual Private Cloud (Amazon VPC) network interfaces. They can be applied, as per requirements, at the VPC, subnet, or individual Elastic Network Interface level. VPC Flow log data is stored using Amazon CloudWatch Logs. To perform any additional processing or analysis, the VPC Flow log data can be exported using Amazon CloudWatch. It is recommended to enable Amazon VPC flow logs for debugging or monitoring policies that require capturing and visualizing network flow data.

Centralized Log Management Options:

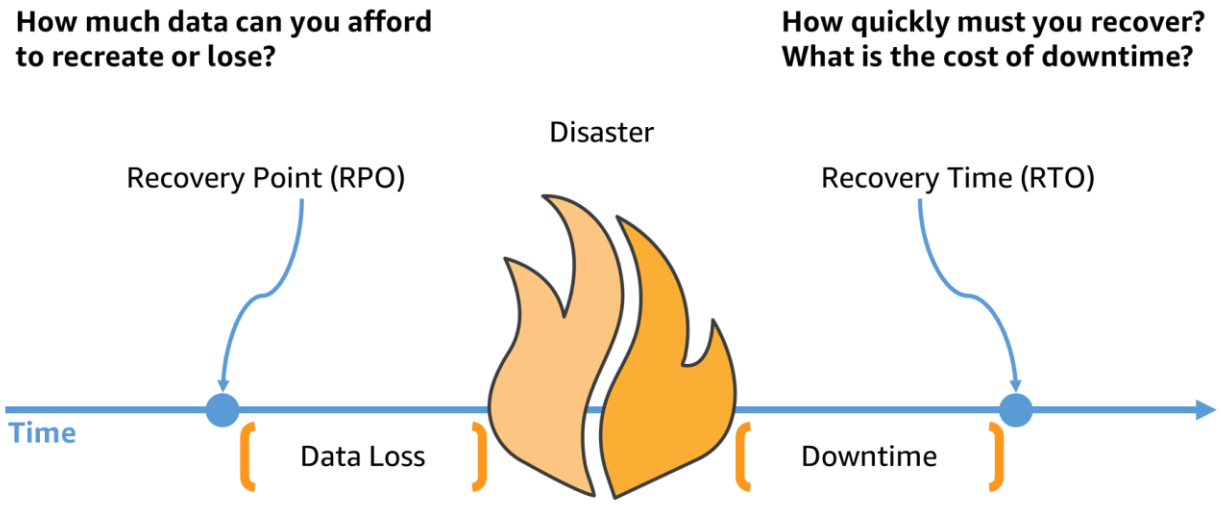
Various options are available in AWS for centrally managing log data. Most of the AWS audit and access logs data are delivered to Amazon S3 buckets, which users can configure.

Consolidation of all the Amazon S3-based logs into a centralized, secure bucket makes it easier to organize, manage and work with the data for further analysis and processing. The Amazon CloudWatch logs provide a centralized service where log data can be aggregated.

18. What is a DDoS attack, and how can you handle it?

A Denial of Service (DoS) attack occurs when a malicious attempt affects the availability of a particular system, such as an application or a website, to the end-users. A DDoS attack or a Distributed Denial of Service attack occurs when the attacker uses multiple sources to generate the attack.DDoS attacks are generally segregated based on the layer of the Open Systems Interconnection (OSI) model that they attack. The most common DDoS attacks tend to be at the Network, Transport, Presentation, and Application layers, corresponding to layers 3, 4, 6, and 7, respectively.

19. What are RTO and RPO in AWS?



The Disaster Recovery (DR) Strategy involves having backups for the data and redundant workload components. RTO and RPO are objectives used to restore the workload and define recovery objectives on downtime and data loss.

Recovery Time Objective or RTO is the maximum acceptable delay between the interruption of a service and its restoration. It determines an acceptable time window during which a service can remain unavailable.

Recovery Point Objective or RPO is the maximum amount of time allowed since the last data recovery point. It is used to determine what can be considered an acceptable loss of data from the last recovery point to the service interruption.

RPO and RTO are set by the organization using AWS and have to be set based on business needs. The cost of recovery and the probability of disruption can help an organization determine the RPO and RTO.

20. How can you automate EC2 backup by using EBS?

AWS EC2 instances can be backed up by creating snapshots of EBS volumes. The snapshots are stored with the help of Amazon S3. Snapshots can capture all the data contained in EBS volumes and create exact copies of this data. The snapshots can then be copied and transferred into another AWS region, ensuring safe and reliable storage of sensitive data.

Before running AWS EC2 backup, it is recommended to stop the instance or detach the EBS volume that will be backed up. This ensures that any failures or errors that occur will not affect newly created snapshots.

The following steps must be followed to back up an Amazon EC2 instance:

1. Sign in to the AWS account, and launch the AWS console.
2. Launch the EC2 Management Console from the Services option.
3. From the list of running instances, select the instance that has to be backed up.
4. Find the Amazon EBS volumes attached locally to that particular instance.
5. List the snapshots of each of the volumes, and specify a retention period for the snapshots. A snapshot has to be created of each volume too.
6. Remember to remove snapshots that are older than the retention period.

21. Explain how one can add an existing instance to a new Auto Scaling group?

To add an existing instance to a new Auto Scaling group:

1. Open the EC2 console.
2. From the instances, select the instance that is to be added
3. Go to Actions -> Instance Setting -> Attach to Auto Scaling Group
4. Select a new Auto Scaling group and link this particular group to the instance.

Scenario-Based AWS Interview Questions

22. You have a web server on an EC2 instance. Your instance can get to the web but nobody can get to your web server. How will you troubleshoot this issue?

23. What steps will you perform to enable a server in a private subnet of a VPC to download updates from the web?

24. How will you build a self-healing AWS cloud architecture?

25. How will you design an Amazon Web Services cloud architecture for failure?

26. As an AWS solution architect, how will you implement disaster recovery on AWS?

27. You run a news website in the eu-west-1 region, which updates every 15 minutes. The website is accessed by audiences across the globe and uses an auto-scaling group behind an Elastic load balancer and Amazon relation database service. Static content for the application is on Amazon S3 and is distributed using CloudFront. The auto-scaling group is set to trigger a scale-up event with 60% CPU utilization. You use an extra large DB instance with 10.000 Provisioned IOPS that gives CPU Utilization of around 80% with freeable memory in the 2GB range. The web analytics report shows that the load time for the web pages is an average of 2 seconds, but the SEO consultant suggests that you bring the average load time of your pages to less than 0.5 seconds. What will you do to improve the website's page load time for your users?

28. How will you right-size a system for normal and peak traffic situations?

29. Tell us about a situation where you were given feedback that made you change your architectural design strategy.

30. What challenges are you looking forward to for the position as an AWS solutions architect?

31. Describe a successful AWS project which reflects your design and implementation experience with AWS Solutions Architecture.

32. How will you design an e-commerce application using AWS services?

33. What characteristics will you consider when designing an Amazon Cloud solution?

34. When would you prefer to use provisioned IOPS over Standard RDS storage?

35. What do you think AWS is missing from a solutions architect's perspective?

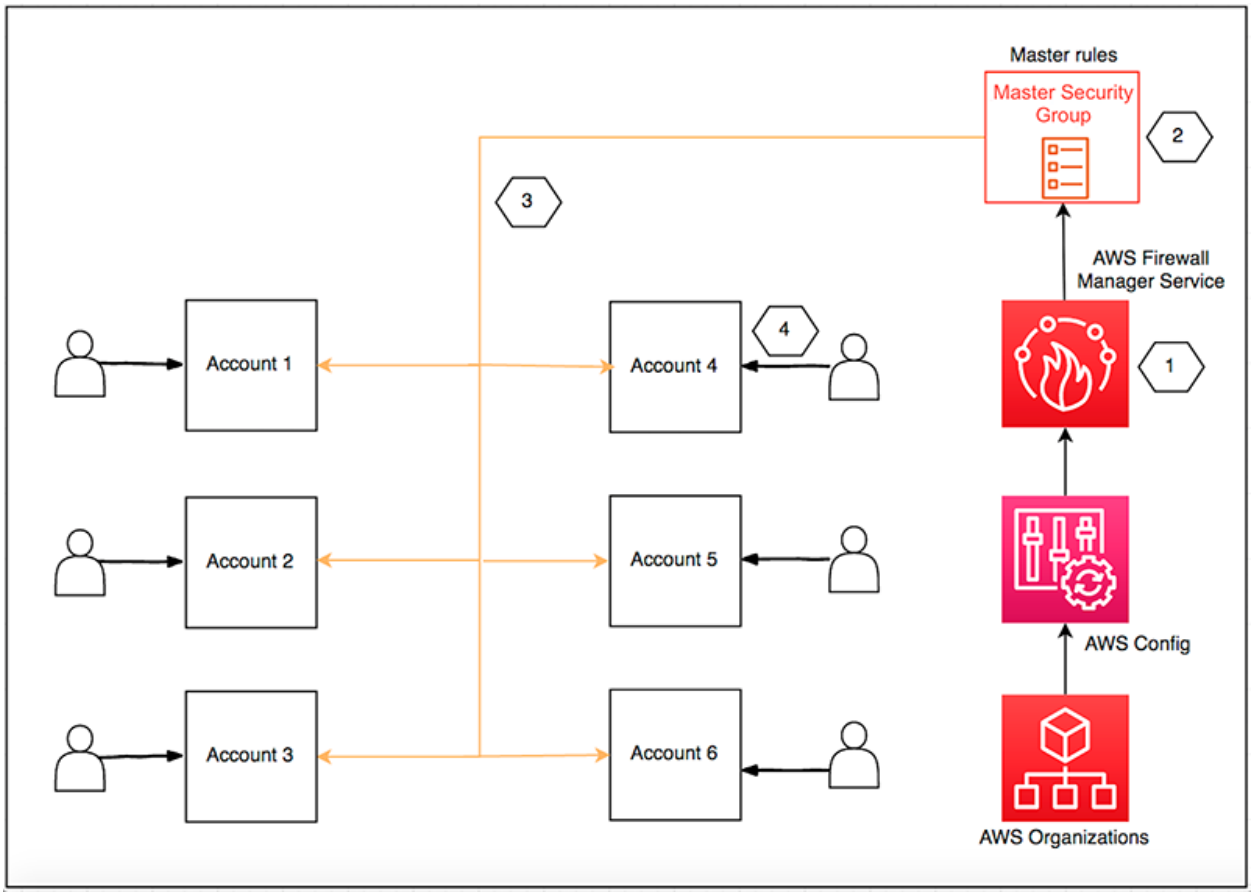
36. What if Google decides to host YouTube.com on AWS? How will you design the solution architecture?

AWS EC2 Interview Questions and Answers

37. Is it possible to cast-off S3 with EC2 instances? If yes, how?

It is possible to cast-off S3 with EC2 instances using root approaches backed by native occurrence storage.

38. How can you safeguard EC2 instances running on a VPC?



AWS Security groups associated with EC2 instances can help you safeguard EC2 instances running in a VPC by providing security at the protocol and port access level. You can configure both INBOUND and OUTBOUND traffic to enable secured access for the EC2 instance.AWS security groups are much similar to a firewall-they contain a set of rules which filter the traffic coming into and out of an EC2 instance and deny any unauthorized access to EC2 instances.

39. How many EC2 instances can be used in a VPC?

There is a limit of running up to a total of 20 on-demand instances across the instance family, you can purchase 20 reserved instances and request spot instances as per your dynamic spot limit region.

40. What are some of the key best practices for security in Amazon EC2?

- Create individual AWS IAM (Identity and Access Management) users to control access to your AWS recourses. Creating separate IAM users provides separate credentials for

every user, making it possible to assign different permissions to each user based on the access requirements.
- Secure the AWS Root account and its access keys.
- Harden EC2 instances by disabling unnecessary services and applications by installing only necessary software and tools on EC2 instances.
- Grant the least privileges by opening up permissions that are required to perform a specific task and not more than that. Additional permissions can be granted as required.
- Define and review the security group rules regularly.
- Have a well-defined, strong password policy for all users.
- Deploy anti-virus software on the AWS network to protect it from Trojans, Viruses, etc.

41. A distributed application that processes huge amounts of data across various EC2 instances. The application is designed to recover gracefully from EC2 instance failures. How will you accomplish this in a cost-effective manner?

An on-demand or reserved instance will not be ideal in this case, as the task here is not continuous. Moreover. Launching an on-demand instance whenever work comes up makes no sense because on-demand instances are expensive. In this case, the ideal choice would be to opt for a spot instance owing to its cost-effectiveness and no long-term commitments.

AWS S3 Interview Questions and Answers

42. Will you use encryption for S3?

It is better to consider encryption for sensitive data on S3 as it is a proprietary technology.

43. How can you send a request to Amazon S3?

Using the REST API or the AWS SDK wrapper libraries, which wrap the underlying Amazon S3 REST API.

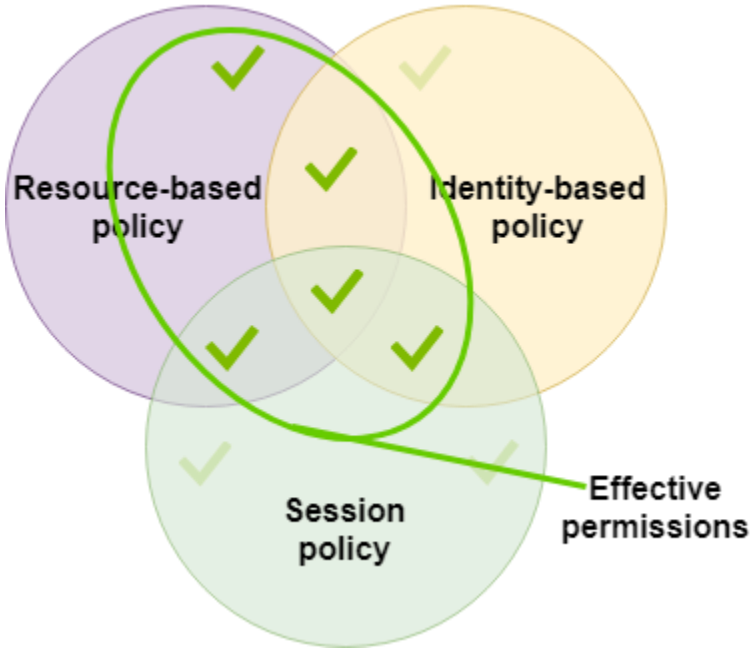
44. What is the difference between Amazon S3 and EBS?

	Amazon S3	EBS

Paradigm	Object Store	Filesystem
Security	Private Key or Public Key	Visible only to your EC2
Redundancy	Across data centers	Within the data center
Performance	Fast	Superfast

AWS IAM Interview Questions and Answers

45. What do you understand by AWS policies?



In AWS, policies are objects that regulate the permissions of an entity (users, groups, or roles) or an AWS resource. In AWS, policies are saved as JSON objects. Identity-based policies, resource-based policies, permissions borders, Organizations SCPs, ACLs, and session policies are the six categories of policies that AWS offers.

46. What does AWS IAM MFA support mean?

MFA refers to Multi-Factor Authentication. AWS IAM MFA adds an extra layer of security by requesting a user's username and password and a code generated by the MFA device connected to the user account for accessing the AWS management console.

47. How do IAM roles work?

IAM Role is an IAM Identity formed in an AWS account and granted particular authorization policies. These policies outline what each IAM (Identity and Access Management) role is allowed and prohibited to perform within the AWS account. IAM roles do not store login credentials or access keys; instead, a temporary security credential is created specifically for each role session. These are typically used to grant access to users, services, or applications that need explicit permission to use an AWS resource.

48. What happens if you have an AWS IAM statement that enables a principal to conduct an activity on a resource and another statement that restricts that same action on the same resource?

If more than one statement is applicable, the Deny effect always succeeds.

49. Which identities are available in the Principal element?

IAM roles & roles from within your AWS accounts are the most important type of identities. In addition, you can define federated users, role sessions, and a complete AWS account. AWS services like ec2, cloudtrail, or dynamodb rank as the second most significant type of principal.

AWS Cloud Engineer Interview Questions and Answers

50. If you have half of the workload on the public cloud while the other half is on local storage, what architecture will you use for this?

Hybrid Cloud Architecture.

51. What does an AWS Availability Zone mean?

AWS availability zones must be traversed to access the resources that AWS has to offer. Applications will be designed effectively for fault tolerance. Availability Zones have low latency communications with one another to efficiently support fault tolerance.

52. What does "data center" mean for Amazon Web Services (AWS)?

According to the Amazon Web Services concept, the data center consists of the physical servers that power the offered AWS resources. Each availability zone will certainly include one

or more AWS data centers to offer Amazon Web Services customers the necessary assistance and support.

AWS Technical Interview Questions

53. A content management system running on an EC2 instance is approaching 100% CPU utilization. How will you reduce the load on the EC2 instance?

This can be done by attaching a load balancer to an auto scaling group to efficiently distribute load among multiple instances.

54. What happens when you launch instances in Amazon VPC?

Each instance has a default IP address when launched in Amazon VPC. This approach is considered ideal when connecting cloud resources with data centers.

55. Can you modify the private IP address of an EC2 instance while it is running in a VPC?

It is not possible to change the primary private IP addresses. However, secondary IP addresses can be assigned, unassigned, or moved between instances at any given point.

56. You are launching an instance under the free usage tier from AMI, having a snapshot size of 50GB. How will you launch the instance under the free usage tier?

It is not possible to launch this instance under the free usage tier.

57. Which load balancer will you use to make routing decisions at the application or transport layer that supports VPC or EC2?

Classic Load Balancer.

Terraform AWS Interview Questions and Answers

58. What is the Terraform provider?

Terraform is a platform for managing and configuring infrastructure resources, including computer systems, virtual machines (VMs), network switches, containers, etc. An API provider is in charge of meaningful API interactions that reveal resources. Terraform works with a wide range of cloud service providers.

59. Can we develop on-premise infrastructure using Terraform?

It is possible to build on-premise infrastructure using Terraform. We can choose from a wide range of options to determine which vendor best satisfies our needs.

60. Can you set up several providers using Terraform?

Terraform enables multi-provider deployments, including SDN management and on-premise applications like OpenStack and VMware.

61. What causes a duplicate resource error to be ignored during terraform application?

Here are some of the possible reasons:

- Rebuild the resources using Terraform after deleting them from the cloud provider's API.
- Eliminate some resources from the code to prevent Terraform from managing them.
- Import resources into Terraform, then remove any code that attempts to copy them.

62. What is a Resource Graph in Terraform?

The resources are represented using a resource graph. You can create and modify different resources at the same time. To change the configuration of the graph, Terraform develops a strategy. It immediately creates a framework to help us identify drawbacks.

AWS Glue Interview Questions and Answers

63. How does AWS Glue Data Catalog work?

AWS Glue Data Catalog is a managed AWS service that enables you to store, annotate, and exchange metadata in the AWS Cloud. Each AWS account and region has a different set of AWS Glue Data Catalogs. It establishes a single location where several systems can store and obtain metadata to keep data in data silos and query and modify the data using that metadata. AWS Identity and Access Management (IAM) policies restrict access to the data sources managed by the AWS Glue Data Catalog.

64. What exactly does the AWS Glue Schema Registry do?

You can validate and control the lifecycle of streaming data using registered Apache Avro schemas by the AWS Glue Schema Registry. Schema Registry is useful for Apache Kafka, AWS Lambda, Amazon Managed Streaming for Apache Kafka (MSK), Amazon Kinesis Data Streams, Apache Flink, and Amazon Kinesis Data Analytics for Apache Flink.

65. What relationship exists between AWS Glue and AWS Lake Formation?

The shared infrastructure of AWS Glue, which provides serverless architecture, console controls, ETL code development, and task monitoring, is beneficial for AWS Lake Formation.

66. How can AWS Glue Schema Registry keep applications highly available?

The Schema Registry storage and control layer supports the AWS Glue SLA, and the serializers and deserializers employ best-practice caching techniques to maximize client schema availability.

67. What do you understand by the AWS Glue database?

Name	Database	Location	Classification	Last updated
foursquare_airports	adx2	s3://processed-external-d...	parquet	19 May 2020 2:23 PM UTC-5
foursquare_casual_dining_chains	adx2	s3://processed-external-d...	parquet	15 May 2020 1:33 AM UTC-5
foursquare_casual_dining_chains	adx	s3://processed-external-d...	csv	2 June 2020 10:29 AM UT...
foursquare_fast_food	adx	s3://processed-external-d...	csv	2 June 2020 10:28 AM UT...
foursquare_fast_food	adx2	s3://processed-external-d...	parquet	15 May 2020 1:33 AM UTC-5

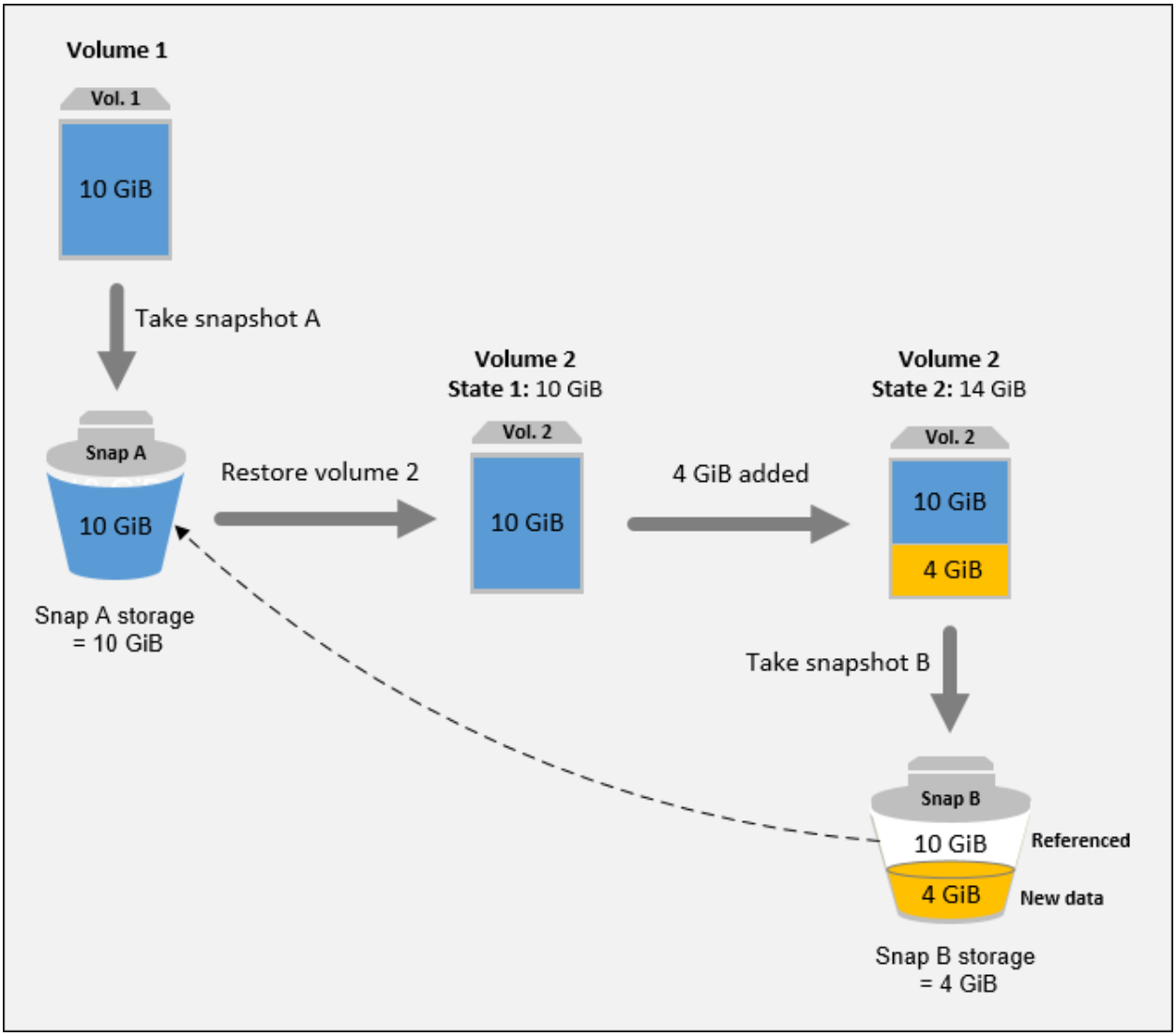
The AWS Glue Data Catalog database is a container for storing tables. You create a database when you launch a crawler or manually add a table. The database list in the AWS Glue console contains a list of all of your databases.

AWS Lambda Interview Questions and Answers

68. What are the best security techniques in Lambda?

In Lambda, you can find some of the best alternatives for security. When it comes to limiting access to resources, you can use Identity Access and Management. Another option that extends permissions is a privilege. Access might be restricted to unreliable or unauthorized hosts. The security group's regulations can be reviewed over time to maintain the pace.

69. What does Amazon elastic block store mean?



It is a virtual storage area network that allows for the execution of tasks. Users do not need to worry about data loss even if a disk in the RAID is damaged because it can accept flaws easily. Elastic Block Storage allows for the provisioning and allocation of storage. It can also be linked to the API if necessary.

70. How much time can an AWS Lambda function run for?

After making the requests to AWS Lambda, the entire execution must occur within 300 seconds. Although the timeout is set at 3 seconds by default, you can change it to any value between 1 and 300 seconds.

71. Is the infrastructure that supports AWS Lambda accessible?

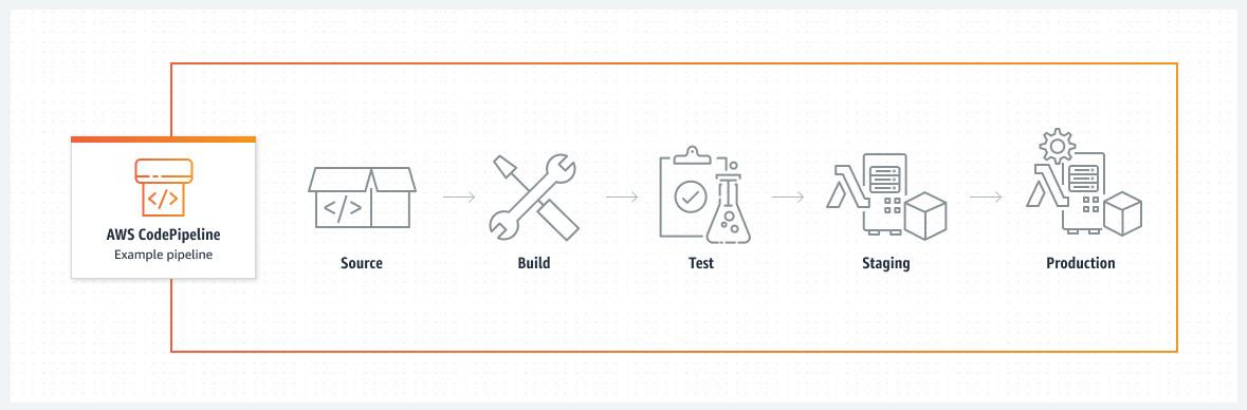
No, the foundation on which AWS Lambda runs is inaccessible after it begins managing the compute infrastructure on the user's behalf. It enables Lambda to carry out health checks, deploy security patches, and execute other standard maintenance.

72. Do the AWS Lambda-based functions remain operational if the code or configuration changes?

Yes. When a Lambda function is updated, there will be a limited timeframe, less than a minute—during which both the old and new versions of the function can handle requests.

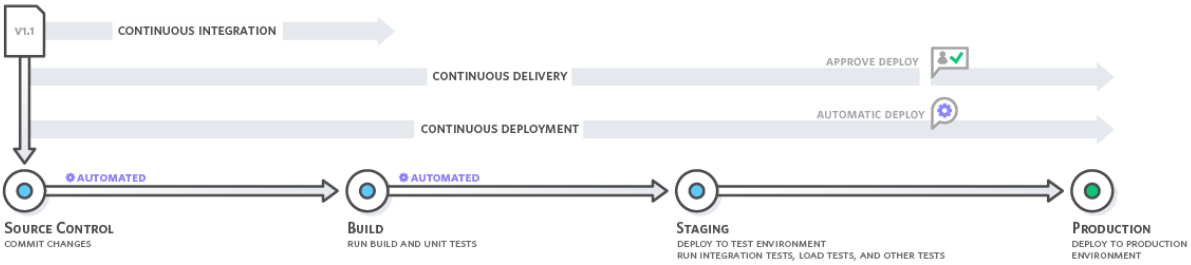
AWS Interview Questions and Answers for DevOps

73. What does AWS DevOps' CodePipeline mean?



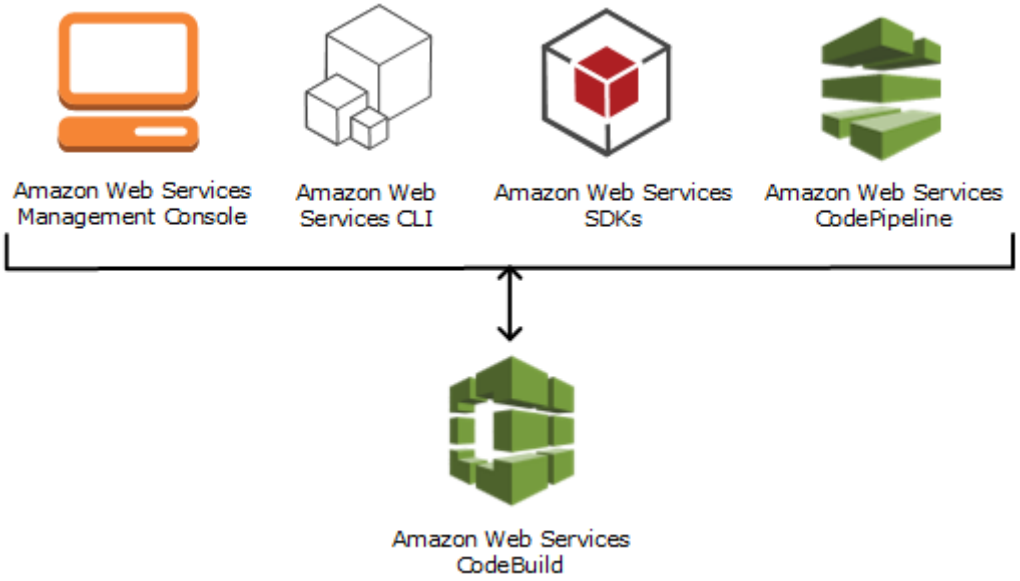
AWS offers a service called CodePipeline that offers continuous integration and continuous delivery features. It also offers provisions for infrastructure upgrades. The user-defined set release model protocols make it very simple to perform tasks like building, testing, and deploying after each build.

74. How can AWS DevOps manage continuous integration and deployment?



The source code for an application must be stored and versioned using AWS Developer tools. The application is then built, tested, and deployed automatically using the services to an AWS instance or a local environment. When implementing continuous integration and deployment services, it is better to start with CodePipeline and use CodeBuild and CodeDeploy as necessary.

75. What role does CodeBuild play in the release process automation?



Setting up CodeBuild first, then connecting it directly with the AWS CodePipeline, makes it simple to set up and configure the release process. This makes it possible to add build steps continually, and as a result, AWS handles the processes for continuous integration and continuous deployment.

76. Is it possible to use Jenkins and AWS CodeBuild together with AWS DevOps?

It is simple to combine AWS CodeBuild with Jenkins to perform and execute jobs in Jenkins. Creating and manually controlling each worker node in Jenkins is no longer necessary because build jobs are pushed to CodeBuild and then executed there.

77. How does CloudFormation vary from AWS Elastic Beanstalk?

AWS Elastic BeanStalk and CloudFormation are two core services by AWS. Their architecture makes it simple for them to work together. EBS offers an environment in which cloud-deployed applications can be deployed. To manage the lifecycle of the apps, this is incorporated with CloudFormation's tools. This makes using several AWS resources quite simple. This ensures great scalability in terms of using it for various applications, from older applications to container-based solutions.

AWS Interview Questions and Answers for Java Developer

78. Is one Elastic IP enough for all the instances you have been running?

There are both public and private addresses for the instances. Until the Amazon EC2 or instance is terminated or disabled, the private and public addresses are still associated with them. Elastic addresses can be used in place of these addresses, and they remain with the instance as long as the user doesn't explicitly disconnect them. There will be a need for more than one Elastic IP if numerous websites are hosted on an EC2 server.

79. What networking performance metrics can you expect when launching instances in a cluster placement group?

The following factors affect network performance:

- Type of instance
- Network performance criteria

When instances are launched in a cluster placement group, one should expect the following:

- Single flow of 10 Gbps.
- 20 Gbps full-duplex
- The network traffic will be restricted to 5 Gbps irrespective of the placement unit.

80. What can you do to increase data transfer rates in Snowball?

The following techniques can speed up data transport solution in Snowballs:

- Execute multiple copy operations simultaneously.
- Copy data to a single snowball from many workstations.

- To reduce the encryption overhead, it is best to transfer large files into small batches of smaller files.
- Removing any additional hops.

81. Consider a scenario where you want to change your current domain name registration to Amazon Route S3 without affecting your web traffic. How can you do it?

Below are the steps to transfer your domain name registration to Amazon Route S3:

- Obtain a list of the DNS records related to your domain name.
- Create a hosted zone using the Route 53 Management Console, which will store your domain's DNS records, and launch the transfer operation from there.
- Get in touch with the domain name registrar you used to register. Examine the transfer processes.
- When the registrar communicates the need for the new name server delegations, your DNS requests will be processed.

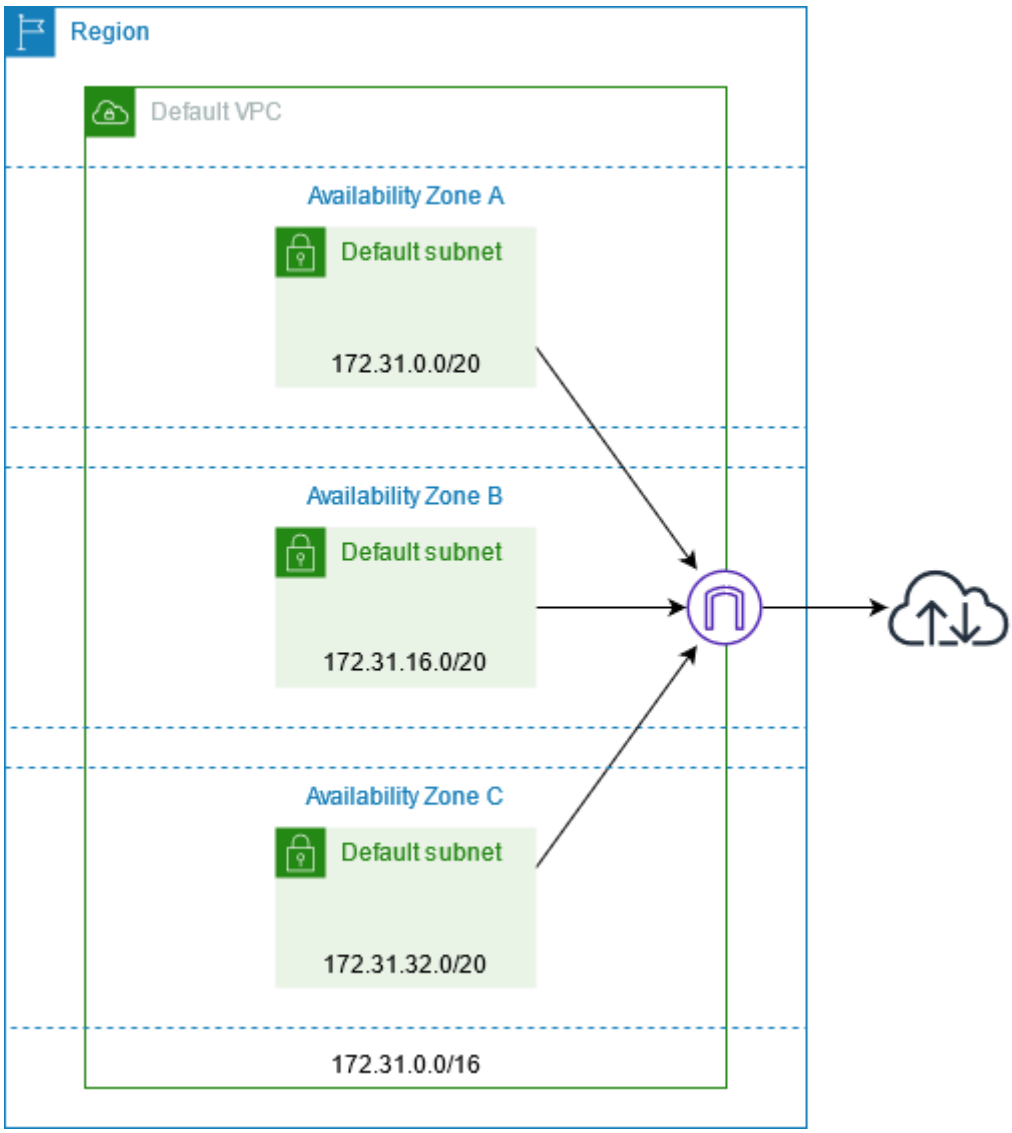
82. How do you send a request to Amazon S3?

There are different options for submitting requests to Amazon S3:

- Use REST APIs.
- Use AWS SDK Wrapper Libraries.

AWS Interview Questions for Testers

83. Mention the default tables you receive while establishing an AWS VPC.



When building an AWS VPC, we get the three default tables- Network ACL, Security Group, and Route table.

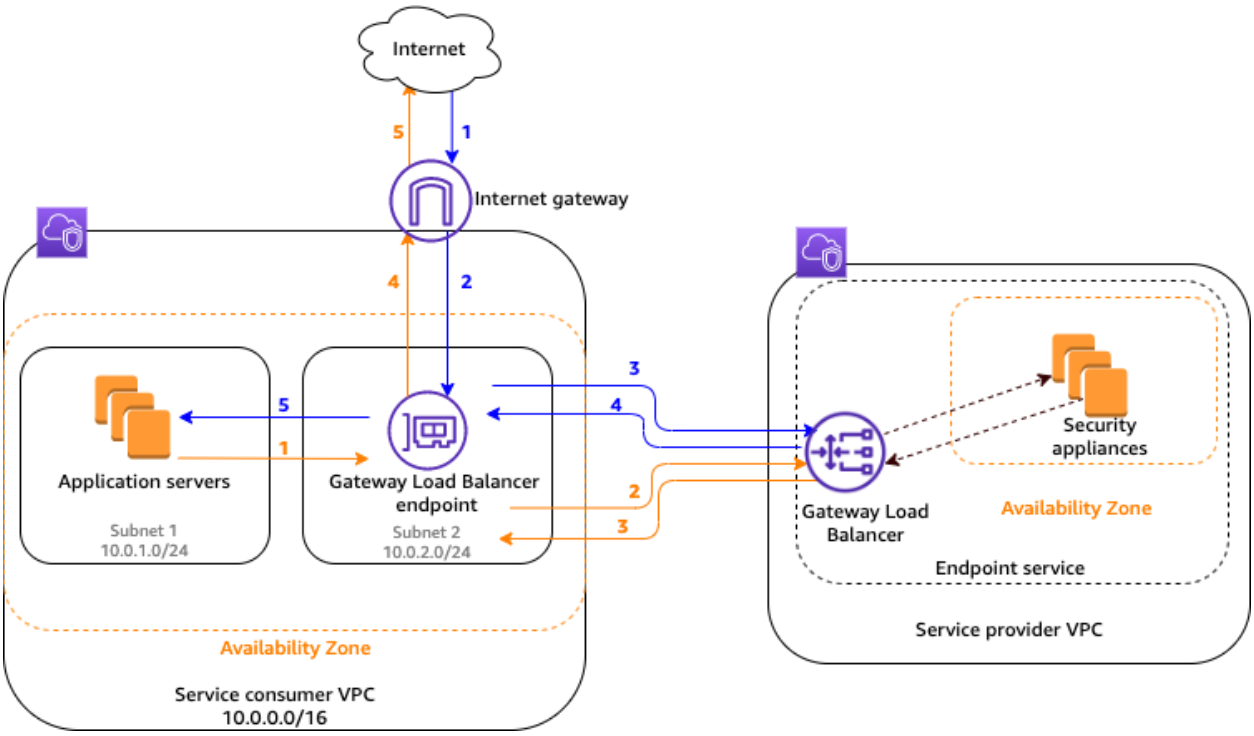
84. How do you ensure the security of your VPC?

To regulate the security of your VPC, use security groups, network access control lists (ACLs), and flow logs.

85. What does security group mean?

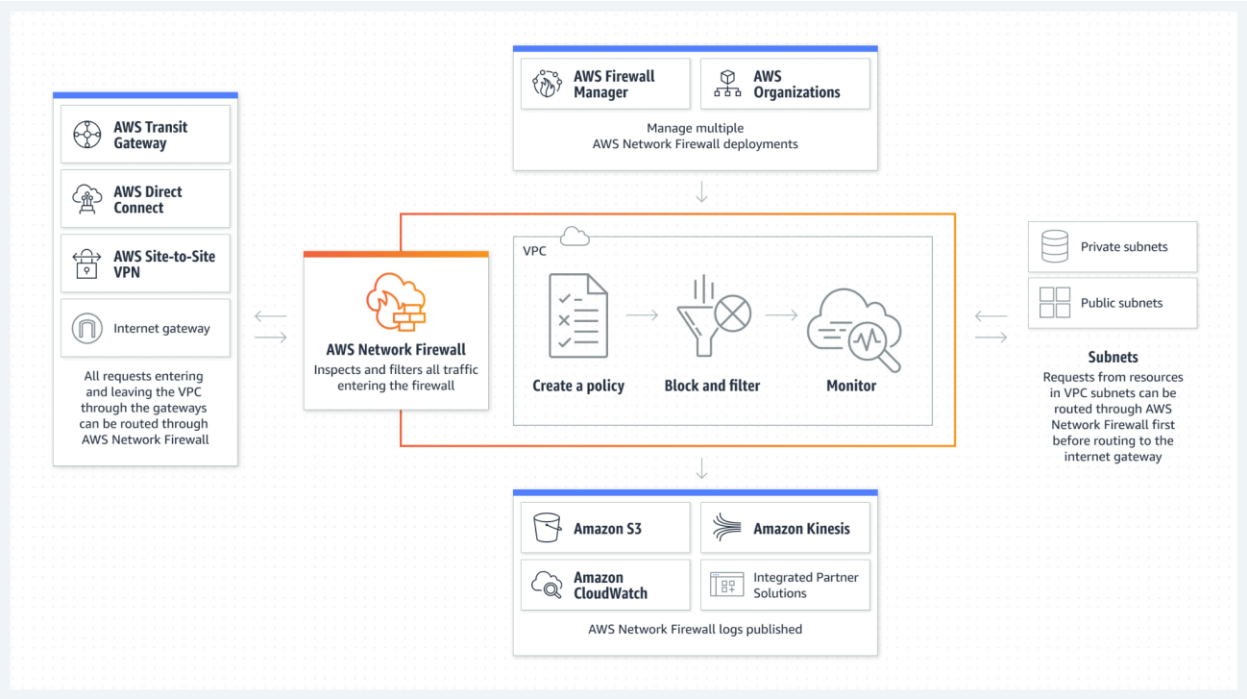
In AWS, security groups, which are essentially virtual firewalls, are used to regulate the inbound and outbound traffic to instances. You can manage traffic depending on different criteria, such as protocol, port, and source and destination.

86. What purpose does the ELB gateway load balancer endpoint serve?



Application servers in the service consumer virtual private cloud (VPC) and virtual appliances in that VPC are connected privately using ELB gateway load balancer endpoints.

87. How is a VPC protected by the AWS Network Firewall?



The stateful firewall by AWS Network firewall protects against unauthorized access to your Virtual Private Cloud (VPC) by monitoring connections and identifying protocols. This service's intrusion prevention program uses active flow inspection to detect and rectify loopholes in security using single-based detection. This AWS service employs web filtering to block known malicious URLs.

AWS Data Engineer Interview Questions and Answers

88. What type of performance can you expect from Elastic Block Storage service? How do you back it up and enhance the performance?

The performance of elastic block storage varies, i.e., it can go above the SLA performance level and drop below it. SLA provides an average disk I/O rate which can, at times, frustrate performance experts who yearn for reliable and consistent disk throughput on a server. Virtual AWS instances do not behave this way. One can back up EBS volumes through a graphical user interface like elasticfox or the snapshot facility through an API call. Also, the performance can be improved by using Linux software raid and striping across four volumes.

89. Imagine that you have an AWS application that requires 24x7 availability and can be down only for a maximum of 15 minutes. How will you ensure that the database hosted on your EBS volume is backed up?

Automated backups are the key processes as they work in the background without requiring manual intervention. Whenever there is a need to back up the data, AWS API and AWS CLI play a vital role in automating the process through scripts. The best way is to prepare for a timely backup of the EBS of the EC2 instance. The EBS snapshot should be stored on Amazon S3 (Amazon Simple Storage Service) and can be used to recover the database instance in case of any failure or downtime.

90. You create a Route 53 latency record set from your domain to a system in Singapore and a similar record to a machine in Oregon. When a user in India visits your domain, to which location will he be routed?

Assuming that the application is hosted on an Amazon EC2 instance and multiple instances of the applications are deployed on different EC2 regions. The request is most likely to go to Singapore because Amazon Route 53 is based on latency, and it routes the requests based on the location that is likely to give the fastest response possible.

91. How will you access the data on EBS in AWS?

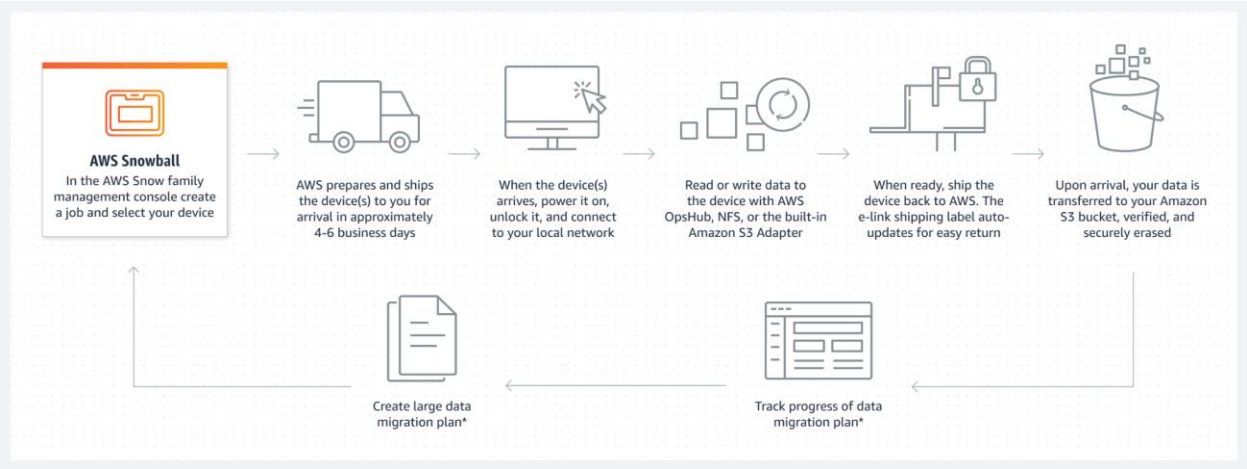
Elastic block storage, as the name indicates, provides persistent, highly available, and high-performance block-level storage that can be attached to a running EC2 instance. The storage can be formatted and mounted as a file system, or the raw storage can be accessed directly.

92. How will you configure an instance with the application and its dependencies and make it ready to serve traffic?

You can achieve this with the use of lifecycle hooks. They are powerful as they let you pause the creation or termination of an instance so that you can sneak peek in and perform custom actions like configuring the instance, downloading the required files, and any other steps that are required to make the instance ready. Every auto-scaling group can have multiple lifecycle hooks.

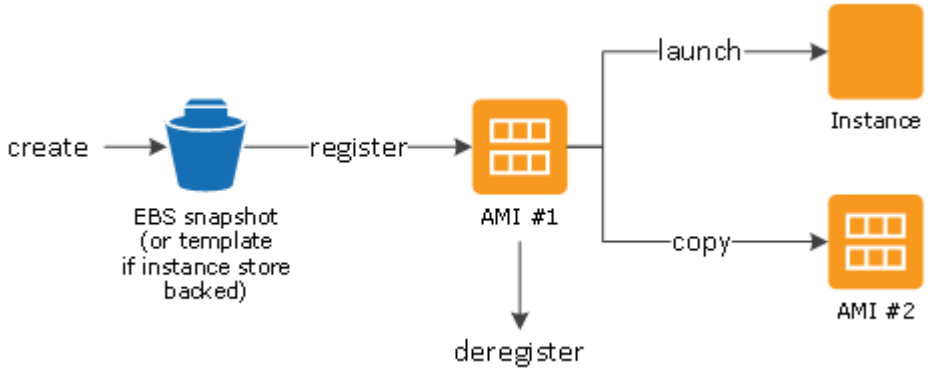
Infosys AWS Interview Questions

93. What do AWS export and import mean?



AWS Import/Export enables you to move data across AWS (Amazon S3 buckets, Amazon EBS snapshots, or Amazon Glacier vaults) using portable storage devices.

94. What do you understand by AMI?



AMI refers to Amazon Machine Image. It's a template that includes the details (an operating system, an application server, and apps) necessary to start an instance. It is a replica of the AMI executing as a virtual server in the cloud.

95. Define the relationship between an instance and AMI.

You can launch instances from a single AMI. An instance type specifies the hardware of the host computer that hosts your instance. Each type of instance offers different cloud computing and memory resources. Once an instance has been launched, it becomes a standard host and can be used in the same way as any other computer.

96. Compare AWS with OpenStack.

Services	AWS	OpenStack
User Interface	GUI-Console API-EC2 API CLI -Available	GUI-Console API-EC2 API CLI -Available
Computation	EC2	Nova
File Storage	S3	Swift
Block Storage	EBS	Cinder
Networking	IP addressing Egress, Load Balancing Firewall (DNS), VPC	IP addressing load balancing firewall (DNS)
Big Data	Elastic MapReduce	-

If you are willing to leverage various AWS resources and want to push forward on AWS certifications, these AWS interview questions will help you get through the door. However, you will also need hands-on and real-life exposure to AWS projects to successfully work on this cloud computing platform. Check out the ProjectPro repository to get your hands on some industry-level Data Science and Big Data projects to learn how to leverage AWS services efficiently.

FAQs on AWS Interview Questions and Answers

1. Is AWS Interview difficult?

AWS interview is slightly tricky but with the right amount of preparation and AWS training you can surely crack this interview.

2. How do I prepare for Amazon AWS Interview?

You can prepare for the Amazon AWS interview by learning the fundamentals of AWS services and gaining hands-on experience by working on real-world AWS projects on Github and ProjectPro. Another important step is to check out Amazon AWS interview questions to understand the topics you need to know for this interview.

3. Is AWS good for career?

Yes, AWS is good for your career because it offers higher salaries and a wide range of job opportunities, including those for cloud architects, cloud developers, cloud engineers, cloud network engineers, and more.

Top 50 AWS Interview Questions & Answers

1) Explain what AWS is?

AWS stands for Amazon Web Service; it is a collection of remote computing services also known as a cloud computing platform. This new realm of cloud computing is also known as IaaS or Infrastructure as a Service.

2) Mention what the key components of AWS are?

The key components of AWS are

- **Route 53:**A DNS web service
- **Simple E-mail Service:**It allows sending e-mail using RESTFUL API call or via regular SMTP
- **Identity and Access Management:**It provides enhanced security and identity management for your AWS account
- **Simple Storage Device or (S3):**It is a storage device and the most widely used AWS service
- **Elastic Compute Cloud (EC2):** It provides on-demand computing resources for hosting applications. It is handy in case of unpredictable workloads
- **Elastic Block Store (EBS):**It offers persistent storage volumes that attach to EC2 to allow you to persist data past the lifespan of a single Amazon EC2 instance
- **CloudWatch:** To monitor AWS resources, It allows administrators to view and collect key Also, one can set a notification alarm in case of trouble.

3) Explain what S3 is?

S3 stands for Simple Storage Service. You can use S3 interface to store and retrieve any amount of data, at any time and from anywhere on the web. For S3, the payment model is “pay as you go."

4) What is AMI?

AMI stands for Amazon Machine Image. It's a template that provides the information (an operating system, an application server, and applications) required to launch an instance, which is a copy of the AMI running as a virtual server in the cloud. You can launch instances from as many different AMIs as you need.

5) Mention what the relationship between an instance and AMI is?

From a single AMI, you can launch multiple types of instances. An instance type defines the hardware of the host computer used for your instance. Each instance type provides different computer and memory capabilities. Once you launch an instance, it looks like a traditional host, and we can interact with it as we would with any computer.

6) What does an AMI include?

An AMI includes the following things

- A template for the root volume for the instance
- Launch permissions decide which AWS accounts can avail the AMI to launch instances
- A block device mapping that determines the volumes to attach to the instance when it is launched

7) How can you send a request to Amazon S3?

Amazon S3 is a REST service, and you can send a request by using the REST API or the AWS SDK wrapper libraries that wrap the underlying Amazon S3 REST API.

8) Mention what the difference between Amazon S3 and EC2 is?

The difference between EC2 and Amazon S3 is that

EC2	S3
• It is a cloud web service used for hosting your application • It is like a huge computer machine which can run either Linux or Windows and can handle application like PHP, Python, Apache or any databases	• It is a data storage system where any amount of data can be stored • It has a REST interface and uses secure HMAC-SHA1 authentication keys

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

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

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

Yes, you can vertically scale on Amazon instance. For that

- Spin up a new larger instance than the one you are currently running
- Pause that instance and detach the root webs volume from the server and discard
- Then stop your live instance and detach its root volume
- Note the unique device ID and attach that root volume to your new server
- And start it again

11) Explain what T2 instances is?

T2 instances are designed to provide moderate baseline performance and the capability to burst to higher performance as required by the workload.

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

into which subnet?

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?

For secure Amazon EC2 best practices, follow the following steps

- Use AWS identity and access management to control access to your AWS resources
- Restrict access by allowing only trusted hosts or networks to access ports on your instance
- Review the rules in your security groups regularly
- Only open up permissions that you require
- Disable password-based login, for example, launched from your AMI

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

The buffer is used to make the system more robust to manage traffic or load by synchronizing different component. Usually, components receive and process the requests in an unbalanced way. With the help of buffer, the components will be balanced and will work at the same speed to provide faster services.

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

The possible connection errors one might encounter while connecting instances are

- Connection timed out
- User key not recognized by the server
- Host key not found, permission denied
- An unprotected private key file
- Server refused our key or No supported authentication method available
- Error using MindTerm on Safari Browser
- Error using Mac OS X RDP Client

16) What are key-pairs in AWS?

Key-pairs are secure login information for your virtual machines. To connect to the instances,

you can use key-pairs which contain a public-key and private-key.

17) What are the different types of instances?

Following are the types of instances:

- General purpose
- Computer Optimized
- Memory Optimized
- Storage Optimized
- Accelerated Computing

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

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

19) How many Elastic IPs is allows you to create by AWS?

5 VPC Elastic IP addresses are allowed for each AWS account.

20) Explain default storage class in S3

The default storage class is a Standard frequently accessed.

21) What are the roles?

Roles are used to providing permissions to entities which you can trust within your AWS account. Roles are very similar to users. However, with roles, you do not require to create any username and password to work with the resources.

22) What are the edge locations?

Edge location is the area where the contents will be cached. So, when a user is trying to accessing any content, the content will automatically be searched in the edge location.

23) What is VPC?

VPC stands for Virtual Private Cloud. It allows you to customize your networking configuration. It is a network which is logically isolated from another network in the cloud. It allows you to have your IP address range, internet gateways, subnet and security groups.

24) Explain snowball

Snowball is a data transport option. It used source appliances to a large amount of data into and out of AWS. With the help of snowball, you can transfer a massive amount of data from one place to another. It helps you to reduce networking costs.

25) What is a redshift?

Redshift is a big data warehouse product. It is fast and powerful, fully managed data warehouse service in the cloud.

26) What are the advantages of auto-scaling?

Following are the advantages of autoscaling

- Offers fault tolerance
- Better availability
- Better cost management

27) What is meant by subnet?

A large section of IP Address divided into chunks is known as subnets.

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

No, It's only possible between VPCs in the same region.

29) What is SQL?

Simple Queues Services also known as SQL. It is distributed queuing service which acts as a mediator for two controllers.

30) How many subnets can you have per VPC?

You can have 200 subnets per VPC.

31) DNS and Load Balancer service comes under which type of cloud service?

DNS and Load Balancer and DNS services come under IAAS-storage cloud service.

32) What is the role of AWS CloudTrail?

CloudTrail is a specially designed tool for logging and tracking API calls. It helps to audit all S3 bucket accesses.

33) When EC2 officially launched?

EC2 officially launched in the year 2006.

34) What is SimpleDB?

SimpleDB is a data repository of structure record which encourages data doubts and indexing both S3 and EC2are called SimpleDB.

35) Explain Amazon ElasticCache

Amazon Elasticcache is a web service which makes it easy to deploy, scale and store data in the cloud.

36) What is AWS Lambda?

Lambda is an Amazon compute service which allows you to run code in the AWS Cloud without managing servers.

37) Name the types of AMI provided by AWS

The types of AMI provided by AWS are:

1. Instance store backed
2. EBS backed

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

AWS Edge locations are service which redundantly cache data and images.

39) Explain Geo Restriction in CloudFront

A Geo-restriction feature helps you to prevent users of specific geographic locations from accessing content which you're distributing through a CloudFront web distribution.

40) What is Amazon EMR?

EMR is a survived cluster stage which helps you to interpret the working of data structures before the intimation. Apache Hadoop and Apache Spark on the Amazon Web Services helps you to investigate a large amount of data. You can prepare data for the analytics goals and marketing intellect workloads using Apache Hive and using other relevant open source designs.

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

The boot time for an Amazon instance store-backend AMI is less than 5 minutes.

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

Yes, the Internet gateway is needed to use VPC (virtual private cloud peering) connections.

43) How to connect EBS volume to multiple instances?

We can't be able to connect EBS volume to multiple instances. Although, you can connect various EBS Volumes to a single instance.

44) List different types of cloud services

Various types of cloud services are:

- Software as a Service (SaaS),
- Data as a Service (DaaS)
- Platform as a Service (PaaS)
- Infrastructure as a Service (IaaS).

45) State the difference between An Instance and AMI

AMI is a template consisting software configuration part. For example Operating systems, applications, application server if you start an instance, a duplicate of the AMI in a row as an attendant in the cloud.

46) What are the different types of Load Balancer in AWS services?

Two types of Load balancer are:

1. Application Load Balancer
2. Classic Load Balancer

47) In which situation you will select provisioned IOPS over standard RDS storage?

You should select provisioned IOPS storage over standard RDS storage if you want to perform batch-related workloads.

48) What are the important features of Amazon cloud search?

Important features of the Amazon cloud are:

- Boolean searches
- Prefix Searches
- Range searches
- Entire text search
- AutoComplete advice

49) Can vertically scaling is allows in Amazon Instance?

Yes, you can vertically estimate one Amazon instance.

50) What is the use of lifecycle hooks in Autoscaling?

Lifecycle hooks are used for autoscaling to put an additional wait time to a scale in or scale out event.

51) What are various layers of Cloud Architecture explained in AWS training?

Different layers of cloud architecture are:

- Cloud controller
- Cluster controller
- Storage Controller
- Node Controller

52) What are the storage class available in Amazon s3?

Storage classes available with Amazon s3 are:

- Amazon S3 standard
- Amazon S3 standard-infrequent Access
- Amazon S3 Reduced Redundancy Storage
- Amazon Glacier

53) Name some of the DB engines which can be used in AWS RDS

1. MS-SQL DB
2. MariaDB
3. MYSQL DB
4. OracleDB
5. PostgreDB

Refer our AWS Tutorials for an extra edge in your interview.