AWS Architect Associate Interview Questions

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1. What is Amazon Web Services?

Answer: AWS stands for Amazon Web Services, which is a cloud computing platform. It is designed in such a way that it provides cloud services in the form of small building blocks, and these blocks help create and deploy various types of applications in the cloud. These sequences of small blocks are integrated to deliver the services in a highly scalable manner.

2. What are the Main Components of AWS?

Answer: The Key Components of AWS are:

- Simple Email Service: It allows you to send emails with the help of regular SMTP or by using a restful API call
- Route 53: It's a DNS web service.
- Simple Storage Device S3: It is a widely used storage device service in AWS Identity and Access Management
- Elastic compute cloud (EC2): It acts as an on-demand computing resource for hosting applications. EC2 is very helpful in time of uncertain workloads.
- Elastic Block Store: It allows you to store constant volumes of data which is integrated with EC2 and enable you to data persist.
- Cloud watch: It allows you to watch the critical areas of the AWS with which you can even set a reminder for troubleshooting.

3. Explain what S3 is all about?

Answer: S3 is the abbreviation for a simple storage service. It is used for storing and retrieving data at anytime and anywhere on the web. S3 makes web-scale computing easier for developers. The payment mode of S3 is available on a pay as you go basis.

4. What is AMI?

Answer: It stands for Amazon Machine Image. The AMI contains essential information required to launch an instance, and it is a copy of AMI running in the cloud. You can download as many examples as possible from multiple AIMs.

5. What is the relationship between an instance and AMI?

Answer: Using a single AMI, you can download as many instances as you can. An instance type is used to define the hardware of the host computer for your situation. Each instance is unique and provides the facilities in computational and

storage capabilities. Once you install an instance, it looks similar to a traditional host with which we can interact in the same way we do with a computer.

6. What are the things that are included in the AIM?

Answer: An AIM consists of the things which are mentioned below:

- A template for the instance
- Launch permissions
- A block mapping which decides the volume to be attached when it gets launched.

7. What is an EIP?

Answer: The Elastic IP address (EIP) is a static Ipv4 address offered by AWS to manage dynamic cloud computing services. Connect your AWS account with EIP so that if you want static IPv4 address for your instance, you can be associated with the EIP which enables communication with the internet.

8. What is Cloud Front?

Answer: Cloud Front is a content delivery network offered by AWS, and it speeds up the distribution of dynamic and static web content such as .css, .js, .html and image files to the users. It delivers the content with low latency and high trAnswerfer speed to the users. AWS provides CDN for less price and it suits best for startups.

10. What is VPC?

Answer: Virtual Private Cloud (VPC) allows you to launch AWS resources into the virtual network. It allows users to create and customize network configurations according to users' business requirements.

11. What is the VPC peering connection?

Answer: VPC peering connection is a networking connection that allows connecting one VPC with the other. It enables the route traffic between two VPCs using IPv6 and Ipv4 addresses. Instances within the VPCs behave like as they are in the same network.

12. What is the procedure to send a request to Amazon S3?

Answer: S3 in Amazon is a REST service, and you can send requests by using the AWS SDK or REST API wrapper libraries.

13. What are NAT gateways?

Answer: Network Address Translation (NAT) allows instances to connect in a private subnet with the internet and other AWS services. NAT prevents the internet to have an initial connection with the instances.

14. What is SNS?

Answer: Amazon Simple Notification Service (SNS) is a web service provided by the AWS. It manages and delivers the messages or notifications to the users and clients from any cloud platform. In SNS, there are two types of clients: subscribers and publishers. Publishers produce and send a message to the subscriber instance through the communication channels. Subscribers receive the notification from the publisher over one of the supported protocols such as Amazon SQS, HTTP, and Lambda, etc. Amazon SNS automatically triggers the service and sends an email with a message that "your EC2 instance is growing" when you are using Auto Scaling.

15. What is SQS?

Answer: Amazon SQS stands for Simple Queue Service, and it manages the message queue service. Using this service, you can move the data or message from one application to another even though it is not in the running or active state. SQS sends messages between multiple services, including S3, DynamoDB, EC2 Instance, and also it uses the Java message queue service to deliver the information. The maximum visibility timeout of a message is 12 hours in the SQS queue.

16. What are the types of queues in SQS?

Answer: There are two types of queues in SQS. They are as follows:
Standard Queues: It is a default queue type. It provides an unlimited number of transactions per second and at least once message delivery option.
FIFO Queues: FIFO queues are designed to ensure that the order of messages is received and sent is strictly preserved as in the exact order that they sent.

17. Explain the types of instances available?

Answer: Below stated are the available instances:

- General-purpose
- Storage optimized
- Accelerated computing
- Computer-optimized

- Memory-optimized

18. Explain about DynamoDB?
Answer: If you want to have a faster and flexible NoSQL database, then the right thing available is DynamoDB, which is a flexible and efficient database model available in Amazon web services.

19. What is Glacier?
Answer: Amazon Glacier is one of the most important services provided by AWS. The Glacier is an online web storage service that provides you with low cost and effective storage with security features for archival and data backup. With Glacier, you can store the information effectively for months, years, or even decades.

20. What is Redshift?
Answer: Redshift is a big data product used as a data warehouse in the cloud. It is the fast, reliable and powerful product of a big data warehouse.

21. What are the Types of AMI Provided by AWS?
Answer: Below listed are the two kinds of AMIs provided by AWS:

- EBS backed
- Instance store backed

22. What is an ELB?
Answer: Elastic Load Balancer is a load balancing service offered by AWS. It distributes incoming resources and controls the application traffic to meet traffic demands.

23. What are the types of load balancers in EC2?
Answer: There are three types of load balancers in EC2. They are as follows:
Application Load Balancer: Application load balancer designed to make routing decisions at the application layer. ALC supports dynamic host port mapping and path-based routings.
Network Load Balancer: Network load balancer is designed to make routing decisions at the transport layer. It handles millions of requests per second. Using the flow hash routing algorithm, NCL selects the target from the target groups after receiving a connection from the load balancer.

Classic Load Balancer: Classic load balancer is designed to make routing decisions either at the application layer or transport layer. It requires a fixed relationship between container instance port and load balancer port.

24. Explain what is a T2 instance?

Answer: T2 instance is one of the low-cost Amazon instances that provides a baseline level of CPU performance.

25. Mention the security best practices for Amazon EC2.

Answer: Security best practices for Amazon EC2 are as below:

- Security and network
- Storage
- Resource Management
- Recovery and Backup

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

Answer: The following are the connection issues faced by the user:

- User key not recognized by the server
- Permission denied
- Connection timeout
- Cannot connect using user's browser
- Server unexpectedly closed network connection
- Unprotected private key
- Cannot ping the instance
- Server refused host key
- The private key must begin with "BEGIN RSA PRIVATE KEY" and end with "END RSA PRIVATE KEY."

27. What are key-pairs in AWS?

Answer: Amazon EC2 uses both public and private keys to encrypt and decrypt the login information. The sender uses a public key to encrypt the data and the receiver uses a private key to decrypt the data. Private and public keys are known as key pairs. The public key enables you to access the instance securely and a private key is used instead of a password.

28. What is SimpleDB?

Answer: SimpleDB is one of Amazon services offered by AWS. It is a distributed database and highly available NoSQL data store that offloads the work of database administrators.

29. What is Elastic Beanstalk?

Answer: Elastic Beanstalk is the best service offered by AWS for deploying and managing applications. It assists applications developed in Java, .Net, Node.js, PHP, Ruby, and Python. When you deploy the application, Elastic beanstalk builts the selected supported platform versions and AWS services like S3, SNS, EC2, cloud watch and auto scaling to run your application.

30. Mention a few benefits of the Elastic beanstalk.

Answer: Following are the few benefits of the Elastic Beanstalk:

- Easy and simple: Elastic Beanstalk enables you to manage and deploy the application easily and quickly.
- Auto scaling: Beanstalk scales up or down automatically when your application traffic increases or decreases.
- Developer productivity: Developers can easily deploy the application without any knowledge, but they need to maintain the application securely and user-friendly.
- Cost-effective: No charge for Beanstalk. Charges are applied for the AWS service resources which you are using for your application.
- Customization: Elastic Beanstalk allows users to select the configurations of AWS services that user want to use them for application development.
- Management and updates: It updates the application automatically when it changes the platform. Platform updates and infrastructure management are taken care of by AWS professionals.

31. Define regions and availability zones in Amazon EC2.

Answer: Amazon web service has a global infrastructure that is divided into availability zones and regions. Each region is divided into a geographic area and it has multiple isolated locations called availability zones.

32. What is Amazon EC2 Root Device Volume?

Answer: When the developer launches the instance, the root device volume is used to boot the instance that contains the image. When the developer introduces the Amazon EC2, all AMIs are propped up by an Amazon EC2 instance store.

33. What is Server Load Balancing?

Answer: A Server load balancer (SLB) provides content delivery and networking services using load balancing algorithms. SLB distributes the network traffic equally across a group of servers to ensure high-performance application delivery.

34. How does a server load balancer work?

Answer: The server load balancer works based on two approaches. They are:

- Transport level load balancing
- Application level load balancing

35. What are the advantages of the Server load balancer?

Answer: The advantages of server load balancer are as follows:

- Increases scalability
- Redundancy
- Maintenance and performance

36. Explain the process to secure the data for carrying in the cloud.

Answer: One thing that must be taken into consideration is that no one should resize the data while it is moving from one point to another. The other thing to consider is there should not be any kind of leakage with the security key from the multiple storerooms in the cloud. Dividing the information into different types and by encrypting it into the valid methods could help you in securing the data in the cloud.

37. What are the layers available in cloud computing?

Answer: Below listed are the various layers of cloud computing

- SaaS: Software as a Service
- PaaS: Platform as a Service
- IaaS: Infrastructure as a Service

38. Explain the layers of Cloud architecture?

Answer: We have five different types of layers available, which are:

- SC- Storage controller
- CC- cluster controller
- NC- Node controller
- Walrus
- CLC- cloud controller

39. What are the reserved instances?

Answer: It is nothing but a reservation of resources for one or three years and utilized whenever you need it. The reservation comes on a subscription basis available for a term of 1 year and three years. The hourly rate goes down as the usage increases. Purchasing reservations isn't just associated with the reservation of resources, but also, it comes with the capacity that is required for a particular zone.

40. What is meant by a cloud watch?

Answer: Cloud watching is a monitoring tool in Amazon Web Services with which you can monitor different resources of your organization. You can have a look at various things like health, applications, network, etc.

41. How many types of cloud watches do we have?

Answer: We have two types of cloud watches: essential monitoring and detailed monitoring. The necessary tracking will come to you at free of cost, but when it comes to detailed control, you need to pay for it.

42. Explain the cloud watch metrics that are meant for EC2 instances?

Answer: The available metrics for EC2 instances are Disk reads, CPU utilization, network packetsOut, CPUCreditUsage, Disk writes, network packetsIn, networkOut, and CPUCreditBalance.

43. What would be the minimum and maximum size of the individual objects that you can store in S3?

Answer: The minimum size of the object that you can store in S3 is 0 bytes, and the maximum size of an individual object that you can save is 5TB.

44. Explain the various storage classes available in S3?

Answer: Below mentioned are the storage classes available in S3.

- Standard frequency accessed
- One-zone infrequency accessed
- RRS – reduced redundancy storage
- Standard infrequency accessed
- Glacier

45. What are the methods to encrypt the data in S3?

Answer: We have three different methods available for encrypting the data in S3. They are as follows.

- Server-Side Encryption – C
- Server-Side Encryption – S3
- Server-Side Encryption – KMS

46. On what basis the pricing of the S3 is decided?

Answer: The pricing for S3 is decided by taking into consideration the below topics.

- Data transfer
- Storage used
- Number of requests
- Transfer acceleration
- Storage management

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

Answer: No, at present, Amazon VPC is not supporting any multicast or broadcast.

48. How many IP addresses are allowed for each account in AWS?

Answer: For each AWS account, 5 VPC elastic addresses are allowed.

49. What is meant by Edge location?

Answer: The actual content is cached at the places called edge locations. So whenever a user searches for the content, he will find the same at the edge locations.

50. What is Snowball?

Answer: Snowball is an option available in AWS to transport. Using snowball, one can transfer the data into the AWS and out of it. It helps us in transporting massive amounts of data from one destination to another. It helps in lowering the networking expenditure.

51. Explain the advantages of auto-scaling?

Answer: Below listed are the advantages of auto scaling.

- Better availability
- Better cost management
- High fault-tolerant

52. What is subnet?

Answer: When a large amount of IP addresses are divided into small chunks, then these tiny chunks are called Subnets.

53. What is the number of subnets that we can have per VPC?

Answer: Under one VPC, we can have 200 subnets.

54. What is AWS CloudTrail?

Answer: AWS Cloudtrail is an AWS service that helps you to enable governance, risk auditing and compliance of your AWS account. Cloud trail records event when actions are taken by the role, user or an AWS service. Events include when actions are taken by AWS command-line interface, AWS management console, APIs and AWS SDKs.

55. What is meant by Elasticache?

Answer: Elasticache is a web service that makes the path easier to deploy and store the data in the cloud easily.

56. Explain about AWS Lambda.

Answer: AWS Lambda is a computational service that enables you to run code without maintaining any servers. It automatically executes the code whenever needed. You are required to pay for the time that you have used it for. Lambda enables you to run the code virtually for any kind of application without managing any servers.

57. What is Geo Restriction in CloudFront?

Answer: It is an important feature available in AWS which helps you in preventing the users from accessing the content from specific regions. CloudFront is useful for distributing the content only to desired locations.

58. What is the actual boot time taken to instance stored-backend AMI?

Answer: It takes less than 5 minutes to store the instance-backed AMI.

59. Explain the essential features of the Amazon cloud search.

Answer: Below listed are the essential features of Amazon cloud search.

- Prefixes Searches
- Enter text search
- Boolean searches
- Range searches
- Autocomplete Advice

60. Give a few examples of DB engines that are used in AWS RDS.

Answer: Following are few examples of DB engines which are used in AWS RDS:

- MariaDB
- OracleDB
- MS-SQL DB
- MYSQL DB
- Postgre DB

61. What is the security group?

Answer: In AWS the in and out traffic to instances is controlled with virtual firewalls which are known as Security groups. Security groups allow you to control traffic based on various aspects such as protocol, port and source destination.

62. What is the difference between block storage and file storage?

Answer:

- Block Storage: it functions at a lower level and manages the data asset of blocks.

- File Storage: The file storage operates at a higher level or operational level and manages data in the form of files and folders.

63. Explain the types of Routing policies available in Amazon route S3.
Answer:

- Latency-based
- Weighted
- Failover
- Simple
- Geolocation

64. List the default tables that we get when we create AWS VPC.
Answer:

- Network ACL
- Security group
- Route table

65. List the different ways to access AWS.
Answer: We have three different ways to access AWS, such as:

- Console
- SDK
- CLI

66. What are the EBS volumes?
Answer: The EBS is the abbreviation for Elastic Block Stores. These blocks act as a persistent volume which can be attached to the instances. The EBS volumes will store the data even if you stop the instances.

67. How can you control the security to your VPC?
Answer: You can use security groups, network access controls (ACLs) and flow logs to control your VPC security.

68. What restrictions apply to AWS Lambda function code?

Answer: Lambda imposes very few restrictions on operating system activities and standard language. However, there are few of the activities that have been disabled like for instance, inbound network connections and trace calls, which is a debugging system, and TCP port 25 traffic as a measure to anti-spam. For outbound connections IP/TCP sockets are supportive.

69. How long can an AWS Lambda function execute?

Answer: The complete execution has to take place within 300 seconds from placing the calls to AWS Lambda. 3 seconds is the default timeout however you can set any timeout value between 1 to 300 seconds

70. How does AWS Lambda secure my code?

Answer: What Lambda does is, it stores the code in the Amazon S3 and encrypts it when it is resting. AWS Lambda is known to perform an additional integrity check while the code is running.

71. On AWS Lambda what all kinds of code can run?

Answer: AWS Lambda offers you an easy way to get many activities done in the cloud. Like for instance, AWS Lambda can be used to build mobile back-ends from Amazon DynamoDB to retrieve and transform data. Handlers that transform and compress objects as they get uploaded to Amazon S3, using Amazon Kinesis the server-less processing of streaming data, and reporting and auditing of the API calls that are made to any Web Services of Amazon are other activities can be done in the cloud with the help of AWS Lambda.

72. What is the definition of Auto-Scaling?

Answer: It is a feature available in the Web services of Amazon that helps you enable to spin and configure the novel instances automatically. At any stage, you don’t have to interfere, and one can quickly do the monitoring using thresholds and metrics. You merely have to cross the threshold to enable the task and instances without any interference that may have increased horizontally.

73. Which all languages are supported by AWS Lambda?

Answer: AWS Lambda supports the codes that are written in Python, C# (.NET Core), Node.js (JavaScript), Java (Java 8 compatible), and Go. The code can also include existing libraries and even the native ones.

74. Is the infrastructure accessible on which the AWS Lambda runs?

Answer: No. As AWS Lambda starts operating the compute infrastructure on behalf of the user, the foundation on which AWS Lambda runs is not accessible. It allows Lambda to apply security patches, perform health checks, and work out other routine maintenance.

75. Can I use packages with AWS Lambda?

Answer: Absolutely yes! You can efficiently use custom as well as NPM packages to be precise.

76. Are AWS Lambda functions available and to what extent?

Answer: AWS Lambda has been so designed to use redundancy and replication so that it provides high availability for both, lambda functions it operates on and the service it provides. Maintenance windows and scheduled downtimes for Lambda functions.

77. On a functional level is there any default limit to be applied?

Answer: The default limit is applicable only at the account level. So no, there is no default limit applied at a functional level.

78. Do the AWS Lambda-based functions stay available when code or its configuration is changed?

Answer: Yes. When a Lambda function is updated, there shall be a brief period, less than a minute, when requests can be served by either the old or the new version of the function.

79. Is there any limit to the quantity of AWS Lambda functions that can be executed at once?

Answer: No. The AWS Lambda is designed so that it can run some instances of functions simultaneously. However, AWS Lambda has a by default safety threshold for some consecutive runs for every account per region. The maximum successive executions for single AWS Lambda functions can be controlled which can be used to reserve a portion of the account concurrency threshold for the critical functions or lower traffic rates to downstream the resources.

If you so wish to submit a query to increase the limit, you can refer to the Support Centre for more.

80. Name all Devices in snow family?

Answer: AWS Snowcone, AWS Snowball & AWS Snow Mobile

81. List some benefits of using Amazon DynamoDB?

Answer: Here is the list of some of the benefits of using Amazon DynamoDB:

- It is a managed service where there is no need to hire the experts or worry about installation, setup, cluster etc.,
- It is scalable.
- It provides the users high throughput at very low latency.
- It is durable and highly available.
- It is flexible and allows dynamic tables creation that includes multi-valued attributes.
- It is cost-effective.

82. What are the non-relational Databases?

Answer: The Non-Relational databases are NoSQL databases. These databases are categorized into four groups, and they are:

- Key-value stores
- Graph stores
- Column stores
- Document stores

83. Is DynamoDB free for use?

Answer: In Amazon DynamoDB you only pay for the resources you provision. Get started with free tier limits of DynamoDB on which many applications operate. In need of resources, the pricing per month varies depending on which type of resources you require.

84. Explain what is DynamoDB Mapper Class?

Answer: It is the entry point to DynamoDB. The DynamoDB Mapper class provides access to a DynamoDB endpoint and enables the user to access to their data in various tables, execute queries and scan against tables, and perform CRUD operations on items.

85. List the Data Types supported by DynamoDB?

Answer: DynamoDB supports four scalar data types, and they are:

- Number
- String
- Binary
- Boolean

DynamoDB supports collection data types such as:

- Number Set
- String Set
- Binary Set
- Heterogeneous List
- Heterogeneous Map
- DynamoDB also supports Null values.

86. Does DynamoDB support in-place atomic updates?

Answer: Amazon DynamoDB supports quick in-place atomic updates, where the numeric attribute's increment and decrement can be done in arrow using just one API call or similarly, you can add or remove sets, lists, or maps.

87. What kind of query functionality does DynamoDB support?

Answer: It supports GET/PUT operation using the user-defined primary key.
It provides flexible querying by letting query a non-primary key attribute using local secondary indexes and Global secondary indexes. It allows quick reads and writes data for an item associated with single attribute partition primary key.
It allows you to use the Query API to retrieve all the items for a single composite partition-sort key across a range of sort keys.

88. Does Amazon DynamoDB support conditional operations?

Answer: For an operation to be completed on an item, you have to specify a condition. You can define a Condition Expression that can be constructed from the following:

- Boolean functions: ATTRIBUTE_EXIST, CONTAINS, and BEGINS_WITH
- Comparison operators: =, <>, <, >, <=, >=, BETWEEN, and IN
- Logical operators: NOT, AND, and OR.

You can also construct a free-form conditional expression that combines multiple conditional clauses which also includes nested clauses.

89. List the APIs provided by Amazon DynamoDB?

Answer:

- CreateTable
- UpdateTable
- DeleteTable
- DescribeTable
- ListTables
- PutItem
- BatchWriteItem
- UpdateItem
- DeleteItem
- GetItem
- BatchGetItem
- Query
- Scan

90. Please explain key-value store?

Answer: It is a database service that provides and supports storing, updating and querying the objects that are identified using key and values that constitutes the actual content that is being stored.

91. What is primary key?

Answer: The Primary Keys serve as the means of unique identification for table items, and secondary indexes provide query flexibility. DynamoDB streams record events by modifying the table data. The Table Creation requires not only setting a name, but also the primary key; which identifies table items. No two items share a key. DynamoDB uses two types of primary keys −

- Partition Key: This simple primary key consists of a single attribute referred to as the “partition key.” Internally, DynamoDB uses the key value as input for a hash function to determine storage.

- Partition Key and Sort Key: This key, known as the “Composite Primary Key”, consists of two attributes. The partition key and the sort key.

DynamoDB applies the first attribute to a hash function, and stores items with the same partition key together; with their order determined by the sort key. Items can share partition keys, but not sort keys.

The Primary Key attributes only allow scalar (single) values; and string, number, or binary data types. The non-key attributes do not have these constraints.

92. How to connect My VPC to the Internet?

Answer: It is good news that Amazon VPC enables the creation of an Internet gateway. This allows Amazon EC2 occurrences in the VPC to access the Internet directly. There are numerous connectivity options for my VPC.
You can connect your Virtual Private Cloud to the following:

- Your corporate data center with the help of a Hardware Virtual Private Network connection
- The Internet through an internet gateway

- The Internet as well as your corporate data center, together. You can do this by using both, the virtual private gateway and the Internet gateway.
- Other VPCs through Virtual Private Cloud Peering condition
- Other Amazon Web Services

93. What are the components of Amazon Virtual Private Cloud?

Answer: Amazon VPC comprises a variety of objects that will be familiar to customers with existing networks:

- A Virtual Private Cloud: A logically isolated virtual network in the AWS cloud. You define a VPC's IP address space from ranges you select.
- Subnet: A segment of a VPC's IP address range where you can place groups of isolated resources.
- Internet Gateway: The Amazon VPC side of a connection to the public Internet.
- NAT Gateway: A highly available, managed Network Address Translation (NAT) service for your resources in a private subnet to access the Internet.
- Virtual private gateway: The Amazon VPC side of a VPN connection.
- Peering Connection: A peering connection enables you to route traffic via private IP addresses between two peered VPCs.
- VPC Endpoints: Enables private connectivity to services hosted in AWS, from within your VPC without using an Internet Gateway, VPN, Network Address Translation (NAT) devices, or firewall proxies.
- Egress-only Internet Gateway: A stateful gateway to provide egress only access for IPv6 traffic from the VPC to the Internet.

94. How to build a custom VPC?

Answer: In order to build a custom VPC, the following steps must be followed:

- Step 01. Create a VPC
- Step 02. Create Public Subnet & Private Subnet
- Step 03. Create IGW (Internet Gateway) & Attach to the VPC
- Step 04. Create Public and Private Route Table
- Step 05. Add IGW in Public Route table (0.0.0.0/0)
- Step 06. Add Public Subnet in Route table
- Step 07. Create a NAT Gateway in Public Subnet

- Step 08. Add NAT Gateway into the Private Route Table
- Step 09. Add Private Subnet in Private Route Table
- Step 10. Launch EC2 in this VPC & Validate your Connection

95. What are the advantages of using Amazon Web Services VPC?

Answer: It helps you to build a virtual network in the Amazon Web Services cloud. Also, for this process, no hardware, physical data centers or even VPNs will be required. You have absolute power over your own network space.
You can control how your network and Amazon EC2 that resources inside your network is actually exposed to the Internet. You also have the leverage to hugely enhance the security options in Amazon VPC to provide more granular access to and from the Amazon EC2 instances in your virtual network.

96. Can the network traffic in your VPC be monitored?

Answer: Yes, you can use the Amazon VPC flow logs feature to monitor the traffic of network in your Virtual Private Cloud.

97. Within which Amazon EC2 Region is Amazon VPC available?

Answer: It is available in multiple availability zones in all Amazon EC2 regions.

98. Can a VPC span multiple availability zones?

Answer: Yes, a virtual private cloud can easily span multiple availability zones.

99. How do you specify which availability zone my Amazon EC2 instances are launched in?

Answer: When Amazon EC2 instance is launched you must specify the subnet in which to launch the instance. This instance will be then launched in the availability zone that is associated with the given subnet.

100. Can you use your present AMIs in Amazon VPC?

Answer: You can very well use your existing AMIs in Amazon VPC that is registered within the same region as your VPC.

101. Are there any bandwidth limitations for Internet gateways?

Answer: An Internet gateway is horizontally scaled, highly available as well as redundant. Thus, there are no bandwidth limitations for Internet gateways.

102. How do you secure Amazon EC2 instances running within My VPC?

Answer: Amazon EC2 security groups are helpful to secure instances within an Amazon VPC. Security groups in VPC help you to specify both inbound as well as outbound network traffic that is allowed to and from each Amazon EC2 instance. The traffic that is not explicitly allowed to or from an instance is automatically denied.

103. What are the differences between security groups in a VPC and network ACLS in a VPC?

Answer: Security groups in a VPC mention which traffic is allowed to or from an Amazon EC2 instance. Network ACLs operate at the subnet level and evaluate the traffic that is entering and exiting a subnet. Network ACLs can be used to set both Allow as well as Deny rules. Network ACLs do not filter traffic between the instances in the same subnet. Besides this, the network ACLs performs stateless filtering while security groups perform filtering.

104. How do you determine which availability zone my subnets are located in?

Answer: When you create a subnet you need to mention the Availability Zone where to place the subnet. When using the VPC Wizard, you can select the subnet's Availability Zone in the wizard confirmation screen. While using the API or the CLI you can mention the Availability Zone for the subnet just as you create the subnet. If you do not specify an Availability Zone, the default "No Preference" option will be selected and the subnet will be created in an available Availability Zone in that region.

105. Can we connect multiple VPC with each other?

Answer: Yes, by using VPC peering

106. What do you understand by default VPC?

Answer: When a user avails Amazon EC2 resources for the first time, a logically isolated virtual network is created automatically in the AWS cloud for the AWS account. In a case where an instance is launched without a subnet ID, it shall automatically be launched in the default VPC.

107. State the advantage of a default VPC?

Answer: There are several advantages of default VPC. Firstly, if a resource is launched in default VPC, the user can avail the high-end network functions of Amazon VPC along with ease to use Amazon EC2. Secondly, without creating a VPC or launching the instances, the user can still avail several features such as different IP address, altering the security group membership, egress filtering of the security group and several network interfaces.

108. How will you differentiate between VPC security groups and VPC network ACLs?

Answer: When we talk about the VPC security group, it is responsible for tracking only the allowed traffic in EC2 instance, which comes in and goes out from Amazon. VPC network ACLs is a lot different. They are responsible for tracking the traffic only at the subnet level i.e. the traffic coming in or going out of subnet.
Network ACLs are unable to filter the traffic in the subnet between instances but can do stateless filtering and are used to set Allow and Deny rules. The security group on the other end can carry out stateful filtering.

109. How will you locate the availability Zone of subnets?

Answer: In order to create and place the subnet you must be specific about the availability zone. The user can use a VPC wizard for selecting the availability for a subnet with the help of a wizard confirmation screen. The subnet can be created in a specific availability zone with the help of API or CLI. In case the user does not select a specific availability zone then automatically the default zone “No Preference” gets selected. The subnet, therefore, will get created in the zone that’s available in the region.

110. What IP addresses range can be used in a VPC?

Answer: You can use any IPv4 address range.

111. What are the different types of VPC endpoints available on Amazon VPC?

Answer: A VPC endpoint enables us to privately connect our VPC to support AWS services. Instances in our VPC do not require Public IP Addresses to communicate with resources in the service. They remove the need of Internet Gateway, Nat Gateway and VPN Connection to access AWS services.

112. Types of VPC endpoint

Answer: Interface endpoint & Gateway endpoint

113. How will I be charged and billed for my use of Amazon VPC?

Answer: There are no additional charges for creating and using the VPC itself.

114. What IP address ranges are assigned to a default Amazon VPC?

Answer: Default VPCs are assigned a CIDR range of 172.31.0.0/16. Default subnets within a default VPC are assigned /20 net blocks within the VPC CIDR range.

115. How large of a VPC can I create?

Answer: Currently, Amazon VPC supports five (5) IP address ranges, one (1) primary and four (4) secondary for IPv4. Each of these ranges can be between /28 (in CIDR notation) and /16 in size. The IP address ranges of your VPC should not overlap with the IP address ranges of your existing network.

116. What is Reachability Analyzer?

Answer: VPC Reachability Analyzer is a configuration analysis tool that enables us to perform connectivity testing between a source resource and a destination resource in our virtual private clouds (VPCs). At times, when customers are deploying large workloads in AWS, it is also quite difficult and time consuming to troubleshoot network connectivity issues mainly due to misconfigurations. This is where VPC Reachability Analyzer can help.

117. Max VPC Per region

Answer: 5 VPC per Region

118. Can I use all the IP addresses that I assign to a subnet?

Answer: No. Amazon reserves the first four (4) IP addresses and the last one (1) IP address of every subnet for IP networking purposes.

119. For which purpose AWS Reserve these 5 IP Address?

Answer: AWS Reserve 5 IP Addresses (First 4 & Last 1) in each subnet
First four addresses: 192.168.100.0 –192.168.100.3 & Last IP Address: 192.168.100.255

- 192.168.100.0: Network address
- 192.168.100.1: Reserved by AWS for the VPC router.
- 192.168.100.2: Reserved by AWS for mapping to AWS provided DNS.
- 192.168.100.3: For Future Use
- 192.168.100.255: Network broadcast address. We do not support broadcast in a VPC, therefore we reserve this address."

120. Can I specify which subnet will use which gateway as its default?

Answer: Yes. You may create a default route for each subnet. The default route can direct traffic to egress the VPC via the Internet gateway, the virtual private gateway, or the NAT gateway.

121. Can you use default VPC security group in your VPC?

Answer: No

122. Can Amazon EC2 instances within a VPC communicate with Amazon S3?

Answer: Yes. There are multiple options for your resources within a VPC to communicate with Amazon S3. You can use VPC Endpoint for S3, which makes sure all traffic remains within Amazon's network.

123. What is Amazon VPC flow logs?

Answer: VPC flow logs is a feature that enables you to capture information about the IP traffic going to and from network interfaces in your VPC. Flow logs data can be published to either Amazon CloudWatch Logs or Amazon S3

124. How can I use VPC flow logs?

Answer: You can create a flow log for a VPC, a subnet, or a network interface. If you create a flow log for a subnet or VPC, each network interface in that subnet or VPC is monitored.

125. Can I employ Amazon CloudWatch within Amazon VPC?

Answer: Yes

126. Can I employ Auto Scaling within Amazon VPC?

Answer: Yes

127. Do I need to have a VPN connection to use a default VPC?

Answer: No. Default VPCs are attached to the Internet and all instances launched in default subnets in the default VPC automatically receive public IP addresses. You can add a VPN connection to your default VPC if you choose.

128. Can I create additional subnets in my default VPC, such as private subnets?

Answer: Yes

129. How many default VPCs can I have?

Answer: You can have one default VPC in each AWS region

130. Can I delete a default VPC?

Answer: Yes, you can delete a default VPC. Once deleted, you can create a new default VPC directly from the VPC Console or by using the CLI. This will create a new default VPC in the region. This does not restore the previous VPC that was deleted.

131. Can I delete a default subnet?

Answer: Yes, you can delete a default subnet. Once deleted, you can create a new default subnet in the availability zone by using the CLI or SDK. This will create a new

default subnet in the availability zone specified. This does not restore the previous subnet that was deleted.

132. Can I create a peering connection to a VPC in a different region?

Answer: Yes. Peering connections can be created with VPCs in different regions. Inter-region VPC peering is available globally in all commercial regions (excluding China).

133. Can I peer my VPC with a VPC belonging to another AWS account?

Answer: Yes, assuming the owner of the other VPC accepts your peering connection request.

134. Can I peer two VPCs with matching IP address ranges?

Answer: No. Peered VPCs must have non-overlapping IP ranges.

135. How much do VPC peering connections cost?

Answer: There is no charge for creating VPC peering connections, however, data transfer across peering connections is charged.

136. Do I need an Internet Gateway to use peering connections?

Answer: No. VPC peering connections do not require an Internet Gateway.

137. If I delete my side of a peering connection, will the other side still have access to my VPC?

Answer: No. Either side of the peering connection can terminate the peering connection at any time. Terminating a peering connection means traffic won't flow between the two VPCs.

138. How many VPCs, subnets, Elastic IP addresses, and internet gateways can I create?

Answer:

- Five Amazon VPCs per AWS account per region
- Two hundred subnets per Amazon VPC
- Five Amazon VPC Elastic IP addresses per AWS account per region

- One internet gateway per Amazon VPC

139. What should you use to control traffic in and out of EC2 instances?
Answer: Security Group

140. Which webserver we can install in Windows?
Answer: Internet Information Services (IIS)

141. Can we generate PPK file using AWS Account?
Answer: Yes

142. What operating system environments are supported?
Answer: Amazon EC2 currently supports a variety of operating systems including: Amazon Linux, Ubuntu, Windows Server, Red Hat Enterprise Linux, SUSE Linux Enterprise Server, openSUSE Leap, Fedora, Fedora CoreOS, Debian, CentOS, Gentoo Linux, Oracle Linux, and FreeBSD. We are looking for ways to expand it to other platforms.

143. What Amazon EC2 instance types and AMIs work with Amazon EFS?
Answer: Amazon EFS is compatible with all Amazon EC2 instance types and is accessible from Linux-based AMIs.

144. How many Amazon EC2 instances can connect to EFS?
Answer: Amazon EFS supports one to thousands of Amazon EC2 instances connecting to a file system concurrently.

145. What use cases does Amazon EFS support?
Answer: Amazon EFS is designed to provide performance for a broad spectrum of workloads and applications, including big data and analytics, media processing workflows, content management, web serving, and home directories.

146. When should I use Amazon EFS vs. Amazon EBS vs. Amazon S3?
Answer: AWS offers cloud storage services to support a wide range of storage workloads.

- Amazon EFS is a file storage service for use with Amazon compute (EC2, containers, server less) and on-premises servers. EFS provides a file system interface, file system access semantics (such as strong consistency and file locking), and concurrently accessible storage for up to thousands of EC2 instances.
- Amazon Elastic Block Store (EBS) is a block-level storage service for use with EC2. Amazon EBS can deliver performance for workloads that require the lowest-latency access to data from a single EC2 instance.
- Amazon Simple Storage Service (S3) is an object storage service. Amazon S3 makes data available through an internet API that can be accessed anywhere.

147. What are the Storage Classes available in Amazon S3?

Answer: The Storage Classes that are available in the Amazon S3 are the following:

- Amazon S3 Glacier Instant Retrieval storage class
- Amazon S3 Glacier Flexible Retrieval (Formerly S3 Glacier) storage class
- Amazon S3 Glacier Deep Archive (S3 Glacier Deep Archive)
- S3 Outposts storage class
- Amazon S3 Standard-Infrequent Access (S3 Standard-IA)
- Amazon S3 One Zone-Infrequent Access (S3 One Zone-IA)
- Amazon S3 Standard (S3 Standard)
- Amazon S3 Reduced Redundancy Storage
- Amazon S3 Intelligent-Tiering (S3 Intelligent-Tiering)

148. How do you monitor Amazon VPC?

Answer: You can monitor VPC by using:

- CloudWatch and CloudWatch logs
- VPC Flow Logs

149. What is the difference between an IAM role and an IAM user?

Answer: The two key differences between the IAM role and IAM user are:

- An IAM role is an IAM entity that defines a set of permissions for making AWS service requests, while an IAM user has permanent long-term credentials and is used to interact with the AWS services directly.
- In the IAM role, trusted entities, like IAM users, applications, or an AWS service, assume roles whereas the IAM user has full access to all the AWS IAM functionalities.

150. What is the difference between a Domain and a Hosted Zone?

Answer: Domain: A domain is a collection of data describing a self-contained administrative and technical unit. For example, www.ankitcloud.click is a domain and a general DNS concept.

Hosted zone: A hosted zone is a container that holds information about how you want to route traffic on the internet for a specific domain. For example, lms.ankitcloud.click is a hosted zone.

151. What is CloudWatch?

Answer: CloudWatch helps you to monitor AWS environments like EC2, RDS Instances, and CPU utilization. It also triggers alarms depending on various metrics.

152. Types of Replication in S3?

Answer: Cross Region Replication & Same Region Replication

153. How Many types of Policies in Route53?

Answer: Total 5 Types of Policies

- Simple Routing Policy
- Latency Routing Policy
- Failover Routing Policy
- Weighted Routing Policy
- Geolocation Routing Policy

154. Can we block the object from deletion in S3?

Answer: Yes by using Object lock

155. What is object Lock in S3?

Answer: It allows us to offer a level of protection against our objects in your bucket and prevents them from being deleted, either for a set period of time that is defined by us. We can't enable/disable the object lock after creation of the bucket.

156. Types of protection modes in Object Lock

Answer:

- Compliance: This is the stricter mode, intended for regulatory compliance. Once in Compliance mode, retention configuration cannot be relaxed; in particular, the retention time period cannot be decreased and the mode cannot be changed.

- Governance: Objects against can be protected from being deleted by most users, but we can still grant some users permission to alter the retention settings or delete the object if necessary.

157. How much do IAM roles cost?

Answer: IAM roles are free of charge.

158. How does AWS DataSync access my Amazon EFS file system?

Answer: AWS DataSync accesses your Amazon EFS file system using the NFS protocol. The DataSync service mounts your file system from within your VPC from Elastic Network Interfaces (ENIs) managed by the DataSync service. DataSync fully manages the creation, use, and deletion of these ENIs on your behalf.

159. Can I use AWS DataSync with all Amazon EFS storage classes?

Answer: Yes. You can use AWS DataSync to copy files into Amazon EFS

160. Can I use AWS DataSync to replicate my Amazon EFS file system to a different AWS Region?

Answer: Yes. You can use AWS DataSync to schedule periodic replication of your Amazon EFS file system to a second Amazon EFS file system within the same AWS account. This capability is available for both same-region and cross-region deployments.

161. What is Route 53?

Answer: Route 53 is the DNS service provided by AWS. Route 53 is one of the most well-known, reliable, and cost-effective services for managing domains.

162. How do I get started with Amazon Route 53?

Answer: Amazon Route 53 has a simple web service interface that lets you get started in minutes. Your DNS records are organized into "hosted zones" that you configure with the AWS Management Console or Route 53's API. To use Route 53, you simply:

- Subscribe to the service by clicking on the sign-up button on the service page.
- If you already have a domain name:
    - Use the AWS Management Console or the CreateHostedZone API to create a hosted zone that can store DNS records for your domain. Upon creating the hosted zone, you receive four Route 53 name servers across four different Top-Level Domains (TLDs) to help ensure a high level of availability.
    - Additionally, you can transfer your domain name to Route 53's management via either the AWS Management Console or the API.
- If you don't already have a domain name:
    - Use the AWS Management Console or the API to register your new domain name.
    - Route 53 automatically creates a hosted zone that stores DNS records for your domain. You also receive four Route 53 name servers across four different Top-Level Domains (TLDs) to help ensure a high level of availability.
- Your hosted zone will be initially populated with a basic set of DNS records, including four virtual name servers that will answer queries for your domain. You can add, delete or change records in this set by using the AWS Management Console or by calling the ChangeResourceRecordSet API. A list of supported DNS records is available here.
- If your domain name is not managed by Route 53, you will need to inform the registrar with whom you registered your domain name to update the name servers for your domain to the ones associated with your hosted zone. If your

domain name is managed by Route 53 already, your domain name will be automatically associated with the name servers hosting your zone.

163. What are the DNS server names for the Amazon Route 53 service?

Answer: To provide you with a highly available service, each Amazon Route 53 hosted zone is served by its own set of virtual DNS servers. The DNS server names for each hosted zone are thus assigned by the system when that hosted zone is created.

164. What is the difference between a Domain and a Hosted Zone?

Answer: A domain is a general DNS concept. Domain names are easily recognizable names for numerically addressed Internet resources. For example, amazon.com is a domain. A hosted zone is an Amazon Route 53 concept. A hosted zone is analogous to a traditional DNS zone file; it represents a collection of records that can be managed together, belonging to a single parent domain name. All resource record sets within a hosted zone must have the hosted zone's domain name as a suffix. For example, the amazon.com hosted zone may contain records named www.amazon.com, and www.aws.amazon.com, but not a record named www.amazon.ca. You can use the Route 53 Management Console or API to create, inspect, modify, and delete hosted zones. You can also use the Management Console or API to register new domain names and transfer existing domain names into Route 53's management.

165. What is the price of Amazon Route 53?

Answer: Amazon Route 53 charges are based on actual usage of the service for Hosted Zones, Queries, Health Checks, and Domain Names. For full details, see the Amazon Route 53 **pricing page**.

166. Can I use third party domain with Route 53?

Answer: Yes

167. Is there a limit to the number of hosted zones I can manage using Amazon Route 53?

Answer: Each Amazon Route 53 account is limited to a maximum of 500 hosted zones and 10,000 resource record sets per hosted zone. Complete our request for a higher limit and we will respond to your request within two business days.

168. Can I create multiple hosted zones for the same domain name?

Answer: Yes. Creating multiple hosted zones allows you to verify your DNS setting in a "test" environment, and then replicate those settings on a "production" hosted zone. For example, hosted zone Z1234 might be your test version of example.com, hosted on name servers ns-1, ns-2, ns-3, and ns-4. Similarly, hosted zone Z5678 might be your production version of example.com, hosted on ns-5, ns-6, ns-7, and ns-8. Since each hosted zone has a virtual set of name servers associated with that zone, Route 53 will answer DNS queries for example.com differently depending on which name server you send the DNS query to.

169. Difference between S3, EBS & EFS

Answer:

Storage Options	S3	EBS	EFS
Type of Storage	Object storage (photos, videos, documents, etc.)	Block storage for an EC2 instance	File system storage for multiple EC2 instances
Pricing	Pay as you use	Pay for provisioned Capacity	Pay as you use
Max Storage Size	Unlimited	One volume: 16 TB or 64 TB	Unlimited
Max File Size	One object: 5 TB	Max file size = max volume size	Single file: 47.9 TB
Service endpoint	Within VPC; Without VPC (S3 URL)	Within a VPC	Within a VPC
Latency	Low for varying request types,	Lower latency than EFS and S3	Low, uses Max I/O mode for higher performance
Backup and Restore	Use Versioning	Snapshots	EFS to EFS Replication (Using AWS Data sync Service)
Availability	S3 Standard – 99.99% S3 Standard-IA – 99.9% S3 One Zone-IA – 99.5% S3 Intelligent Tiering – 99.9%	Volume – 99.999%	File System – 99.9% (Multi – AZ)
Data Access	Can be accessed over the internet by millions	Generally accessed by a single EC2 instance in a single AZ	Can be accessed by thousands of EC2 instances from different Availability Zone

Use Cases	Web applications, content management, photos, videos, backups, big data	Boot volumes, transactional and NoSQL databases, data warehousing & ETL	Home directories, database backups, developer tools, container storage, big data analytics

170. Does Amazon Route 53 also provide website hosting?

Answer: No. Amazon Route 53 is an authoritative DNS service and does not provide website hosting. However, you can use Amazon Simple Storage Service (Amazon S3) to host a static website. To host a dynamic website or other web applications, you can use Amazon Elastic Compute Cloud (Amazon EC2), which provides flexibility, control, and significant cost savings over traditional web hosting solutions. Learn more about Amazon EC2 here.

171. Which DNS record types does Amazon Route 53 support?

Answer: Amazon Route 53 currently supports the following DNS record types:

- A (address record)
- AAAA (IPv6 address record)
- CNAME (canonical name record)
- CAA (certification authority authorization)
- MX (mail exchange record)
- NAPTR (name authority pointer record)
- NS (name server record)
- PTR (pointer record)
- SOA (start of authority record)
- SPF (sender policy framework)
- SRV (service locator)
- TXT (text record)

Amazon Route 53 also offers alias records, which are an Amazon Route 53-specific extension to DNS. You can create alias records to route traffic to selected AWS resources, including Amazon Elastic Load Balancing load balancers, Amazon CloudFront distributions, AWS Elastic Beanstalk environments, API Gateways, VPC interface endpoints, and Amazon S3 buckets that are configured as websites. Alias record typically have a type of A or AAAA, but they work like a CNAME record.

Using an alias record, you can map your record name (example.com) to the DNS name for an AWS resource (elb1234.elb.amazonaws.com). Resolvers see the A or AAAA record and the IP address of the AWS resource.

172. Does Amazon Route 53 support Weighted Round Robin (WRR)?
Answer: Yes. Weighted Round Robin allows you to assign weights to resource record sets in order to specify the frequency with which different responses are served. You may want to use this capability to do A/B testing, sending a small portion of traffic to a server on which you've made a software change. For instance, suppose you have two record sets associated with one DNS name—one with weight 3 and one with weight 1. In this case, 75% of the time Route 53 will return the record set with weight 3 and 25% of the time Route 53 will return the record set with weight 1. Weights can be any number between 0 and 255.

173. What is Amazon Route 53's Latency Based Routing (LBR) feature?
Answer: LBR (Latency Based Routing) is a new feature for Amazon Route 53 that helps you improve your application's performance for a global audience. You can run applications in multiple AWS regions and Amazon Route 53, using dozens of edge locations worldwide, will route end users to the AWS region that provides the lowest latency.

174. What is the price for Amazon Route 53's Latency Based Routing (LBR) feature?
Answer: Like all AWS services, there are no upfront fees or long term commitments to use Amazon Route 53 and LBR. Customers simply pay for the hosted zones and queries they actually use. Please visit the Amazon Route 53 pricing page for details on pricing for Latency Based Routing queries.

175. What is Amazon Route 53's Geo DNS feature?
Answer: Route 53 Geo DNS lets you balance load by directing requests to specific endpoints based on the geographic location from which the request originates. Geo DNS makes it possible to customize localized content, such as presenting detail pages in the right language or restricting distribution of content to only the markets you have licensed. Geo DNS also lets you balance load across endpoints in a predictable, easy-to-manage way, ensuring that each end-user location is

consistently routed to the same endpoint. Geo DNS provides three levels of geographic granularity: continent, country, and state, and Geo DNS also provides a global record which is served in cases where an end user's location doesn't match any of the specific Geo DNS records you have created.

176. How do I get started using Amazon Route 53's Geo DNS feature?
Answer: You can start using Amazon Route 53's Geo DNS feature quickly and easily by using either the AWS Management Console or the Route 53 API. You simply create a record set and specify the applicable values for that type of record set, mark that record set as a Geo DNS-enabled Record Set, and select the geographic region (global, continent, country, or state) that you want the record to apply to. You can learn more about how to use Geo DNS in the Amazon Route 53 Developer Guide.

177. Can I have a Geo DNS record for a continent and different Geo DNS records for countries within that continent? Or a Geo DNS record for a country and Geo DNS records for states within that country?
Answer: Yes, you can have Geo DNS records for overlapping geographic regions (e.g., a continent and countries within that continent, or a country and states within that country). For each end user's location, Route 53 will return the most specific Geo DNS record that includes that location. In other words, for a given end user's location, Route 53 will first return a state record; if no state record is found, Route 53 will return a country record; if no country record is found, Route 53 will return a continent record; and finally, if no continent record is found, Route 53 will return the global record.

178. What is the difference between Latency Based Routing and Geo DNS?
Answer: Geo DNS bases routing decisions on the geographic location of the requests. In some cases, geography is a good proxy for latency; but there are certainly situations where it is not. Latency Based Routing utilizes latency measurements between viewer networks and AWS datacenters. These measurements are used to determine which endpoint to direct users toward.

If your goal is to minimize end-user latency, we recommend using Latency Based Routing. If you have compliance, localization requirements, or other use cases that

require stable routing from a specific geography to a specific endpoint, we recommend using Geo DNS.

179. Does Amazon Route 53 support multiple values in response to DNS queries?

Answer: Route 53 now supports multivalve answers in response to DNS queries. While not a substitute for a load balancer, the ability to return multiple health-checkable IP addresses in response to DNS queries is a way to use DNS to improve availability and load balancing. If you want to route traffic randomly to multiple resources, such as web servers, you can create one multivalve answer record for each resource and, optionally, associate an Amazon Route 53 health check with each record. Amazon Route 53 supports up to eight healthy records in response to each DNS query.

180. What is the difference between a traffic policy and a policy record?

Answer: A traffic policy is the set of rules that you define to route end users' requests to one of your application's endpoints. You can create a traffic policy using the visual policy builder in the Amazon Route 53 Traffic Flow section of the Amazon Route 53 console. You can also create traffic policies as JSON-formatted text files and upload these policies using the Route 53 API, the AWS CLI, or the various AWS SDKs.

By itself, a traffic policy doesn't affect how end users are routed to your application because it isn't yet associated with your application's DNS name (such as www.example.com). To start using Amazon Route 53 Traffic Flow to route traffic to your application using the traffic policy you've created, you create a policy record which associates the traffic policy with the appropriate DNS name within an Amazon Route 53 hosted zone that you own. For example, if you want to use a traffic policy that you've named my-first-traffic-policy to manage traffic for your application at www.example.com, you will create a policy record for www.example.com within your hosted zone example.com and choose my-first-traffic-policy as the traffic policy.

Policy records are visible in both the Amazon Route 53 Traffic Flow and Amazon Route 53 Hosted Zone sections of the Amazon Route 53 console.

181. Difference between an AMI and EBS snapshots

Answer: **Click Here**

182. Difference between Elastic Beanstalk and Cloud Formation

Answer: **Click Here**

183. Can we use load balancer with 3rd Party domain?

Answer: No

184. For Which Route 53 Policy health check is mandatory?

Answer: Failover Policy

185. What is Amazon RDS?

Answer: Amazon Relational Database Service (Amazon RDS) is a managed service that makes it easy to set up, operate, and scale a relational database in the cloud.

186. What does it mean to run a DB Instance as a read replica?

Answer: Read replicas make it easy to take advantage of supported engines' built-in replication functionality to elastically scale out beyond the capacity constraints of a single DB instance for read-heavy database workloads.

187. How many read replicas can I create for a given source DB instance?

Answer: Amazon RDS for MySQL, MariaDB, PostgreSQL, Oracle, and SQL Server allow you to create up to 5 read replicas for a given source DB instance.

188. Can I create a read replica in an AWS Region different from that of the source DB instance?

Answer: Yes, Amazon RDS (except RDS for SQL Server) supports cross-region read replicas. The amount of time between when data is written to the source DB instance and when it is available in the read replica will depend on the network latency between the two regions.

189. What is Amazon Athena?

Answer: Amazon Athena is an interactive query service that makes it easy to analyze data in Amazon S3 using standard SQL. Athena is server less, so there is no infrastructure to setup or manage, and you can start analyzing data immediately. You don't even need to load your data into Athena, it works directly with data stored in S3.

190. What is AWS Backup?

Answer: AWS Backup is a fully managed service that enables you to centralize and automate data protection across on-premises and AWS services.

191. What can I back up using AWS Backup?

Answer: You can use AWS Backup to create and manage the backups of the following AWS services: Amazon Elastic Block Store (EBS) volumes, Amazon Elastic Compute Cloud (EC2) instances (including Windows applications), Amazon Relational Database Service (RDS) databases (including Amazon Aurora clusters), Amazon DynamoDB tables, Amazon Elastic File System (EFS) file systems, Amazon FSx for Windows File Server file systems, Amazon FSx for Lustre file systems, Amazon Neptune databases, Amazon DocumentDB (with MongoDB compatibility) databases, AWS Storage Gateway volumes, and Amazon Simple Storage Service (S3). You can also use AWS Backup to create and manage backups of VMware CloudTM on AWS and on-premises VMware virtual machines.

192. Which languages and development stacks does AWS Elastic Beanstalk support?

Answer: AWS Elastic Beanstalk supports the following languages and development stacks:

- Apache Tomcat for Java applications
- Apache HTTP Server for PHP applications
- Apache HTTP Server for Python applications
- Nginx or Apache HTTP Server for Node.js applications
- Passenger or Puma for Ruby applications
- Microsoft IIS 7.5, 8.0, and 8.5 for .NET applications
- Java SE
- Docker

- Go

193. What is Amazon Trusted Advisor?

Answer: Amazon Trusted Advisor is an application that draws upon best practices learned from Amazon Web Services' aggregated operational history of serving hundreds of thousands of Amazon Web Services customers. Trusted Advisor inspects your Amazon Web Services environment and makes recommendations for saving money, improving system performance, or closing security gaps.

194. What does Trusted Advisor check?

Answer: Trusted Advisor includes an ever-expanding list of checks in the following four categories:

- **Cost Optimization**: recommendations that can potentially save you money by highlighting unused resources and opportunities to reduce your bill.
- **Security**: identification of security settings that could make your Amazon Web Services solution less secure.
- **Fault Tolerance**: recommendations that help increase the resiliency of your Amazon Web Services solution by highlighting redundancy shortfalls, current service limits, and over utilized resources.
- **Performance**: recommendations that can help to improve the speed and responsiveness of your applications.

195. What is Amazon CloudFront?

Answer: Amazon CloudFront is a web service that gives businesses and web application developers an easy and cost effective way to distribute content with low latency and high data transfer speeds.

196. What is Amazon CloudWatch Logs?

Answer: Amazon CloudWatch Logs lets you monitor and troubleshoot your systems and applications using your existing system, application and custom log files. With CloudWatch Logs, you can monitor your logs, in near real time, for specific phrases, values or patterns.

197. How do I decide which load balancer to select for my application?

Answer: Elastic Load Balancing (ELB) supports four types of load balancers. You can select the appropriate load balancer based on your application needs. If you need to load balance HTTP requests, we recommend you use the Application Load Balancer (ALB). For network/transport protocols (layer4 – TCP, UDP) load balancing, and for extreme performance/low latency applications we recommend using Network Load Balancer. If your application is built within the Amazon Elastic Compute Cloud (Amazon EC2) Classic network, you should use Classic Load Balancer. If you need to deploy and run third-party virtual appliances, you can use Gateway Load Balancer.

198. What are Amazon S3 Event Notifications?

Answer: You can enable Amazon S3 Event Notifications and receive them in response to specific events in your S3 bucket, such as PUT, POST, COPY, and DELETE events.

199. What is Amazon S3 Cross-Region Replication (CRR)?

Answer: CRR is an Amazon S3 feature that automatically replicates data between buckets across different AWS Regions. With CRR, you can set up replication at a bucket level, a shared prefix level, or an object level using S3 object tags.

200. What is Amazon S3 Same-Region Replication (SRR)?

Answer: SRR is an Amazon S3 feature that automatically replicates data between buckets within the same AWS Region. With SRR, you can set up replication at a bucket level, a shared prefix level, or an object level using S3 object tags. You can use SRR to create one or more copies of your data in the same AWS Region.

201. What is AWS Snowmobile?

Answer: AWS Snowmobile is the first exabyte-scale data migration service that allows you to move very large datasets from on-premises to AWS. Each Snowmobile is a secured data truck with up to 100PB storage capacity that can be dispatched to your site and connected directly to your network backbone to perform high-speed data migration.

202. What is the difference between IAM roles and policies?

Answer: IAM roles define the set of permissions for making AWS service request whereas IAM policies define the permissions that you will require.

203. Can we reduce the Hard disk?

Answer: No, it is not possible to decrease the size of hard disk

204. What is virtualization in cloud computing AWS?

Answer: Virtualization allows one physical computer to host several virtual computing instances. In other words, one powerful physical server with 128 CPU cores and 1 TB of memory can host virtual Windows desktops for more than 100 users. It's a great way to share and allocate computing resources across many users.

205. Types of virtualization in AWS

Answer: Paravirtual (PV) & Hardware Virtual Machine (HVM)

206. What is the difference between PV and HVM virtualization types in ec2?

Answer: Para-virtualization used to be the recommended choice, as it gave you better performance (with a much closer integration to the virtualization host, through patched specialized kernels/drivers on both the host and the guest).

Hardware-assisted virtualization uses the benefits provided in modern hardware, and it doesn't require any kind of custom kernel or patches