NEW PRACTICE TEST III

Attempt	1	**Completed on**	Tuesday , 29 January 2019 , 02:01 PM
Marks Obtained	1 / 65	**Time Taken**	00 H 00 M 34 S
Your score is	1.54%	**Result**	Fail

| Domains / Topics wise Quiz Performance Report

S.No.	Topic	Total Questions	Correct	Incorrect	Unattempted
1	Other	65	1	0	64

65 Questions	**1** Correct	**0** Incorrect	**64** Unattempted	**Show Answers**	All ▼

QUESTION 1   CORRECT

Your team needs to setup a DynamoDB table. An application which picks up date from various IoT devices will be writing data to the underlying table. As per the requirements, there would be around 40 devices writing data every 10 seconds. Each data write would be around 1KB. As a Systems Administrator, how much Write throughput would you assign for the underlying table?

○ A. 2

◉ B. 4 ✔

○ C. 10

○ D. 12

Explanation :

Answer - B
We have to calculate the number of writes per second which is number of devices(40) divided by 10 seconds = 4. Now since we need 1KB of writes, we just need to provide a write capacity of 4.

Based on the above analysis, all other options are invalid.

For more information on provisioned throughput, please refer to the below URL

https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/HowItWorks.ProvisionedThroughput.html
(https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/HowItWorks.ProvisionedThroughput.html)

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QUESTION 2   UNATTEMPTED

Your company current has a set of resources defined in AWS. As per the business continuity policy you have to ensure that backups are in place for all resources. For which of the following does AWS have the facility of automated backups. Choose 2 answers from the options give below

- ☐ **A.** AWS EC2
- ☐ **B.** AWS EBS
- ☐ **C.** AWS RDS ✔
- ☐ **D.** AWS Redshift ✔

Explanation :

Answer – C and D

The AWS Documentation mentions the following

Amazon RDS creates and saves automated backups of your DB instance. Amazon RDS creates a storage volume snapshot of your DB instance, backing up the entire DB instance and not just individual databases

When automated snapshots are enabled for a cluster, Amazon Redshift periodically takes snapshots of that cluster, usually every eight hours or following every 5 GB per node of data changes, or whichever comes first. Automated snapshots are enabled by default when you create a cluster. These snapshots are deleted at the end of a retention period. The default retention period is one day, but you can modify it by using the Amazon Redshift console or programmatically by using the Amazon Redshift API.

Option A is invalid because for creating a backup of the EC2 Instance, you have to create an AMI

Option B is invalid because for creating a backup of the EBS volume, you have to create a snapshot

For more information on Automated backup, please refer to the below URL

https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_WorkingWithAutomatedBackups.html
(https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_WorkingWithAutomatedBackups.html)

For more information on working with snapshots in AWS Redshift, please refer to the below URL

https://docs.aws.amazon.com/redshift/latest/mgmt/working-with-snapshots.html
(https://docs.aws.amazon.com/redshift/latest/mgmt/working-with-snapshots.html)

QUESTION 3   **UNATTEMPTED**

One of your Systems Administrators has defined the following NACL's rules for a subnet

Summary	**Inbound Rules**	Outbound Rules	Subnet Associations	Tags

Allows inbound traffic. Because network ACLs are stateless, you must create inbound and outbound rules.

Edit ✅ Save Successful

View: All rules ▾

Rule #	Type	Protocol	Port Range	Source	Allow / Deny
100	ALL Traffic	ALL	ALL	0.0.0.0/0	DENY
105	HTTP (80)	TCP (6)	80	0.0.0.0/0	ALLOW
*	ALL Traffic	ALL	ALL	0.0.0.0/0	DENY

A security Rule has also been defined for an EC2 Instance in the subnet to allow all incoming traffic on port 80 from anywhere. Which of the following is TRUE based on the above settings?

○ **A.** A request from a workstation on the Internet with IP address 52.10.1.2 will be allowed onto the EC2 Instance on port 80

○ **B.** All traffic on all ports will not be allowed to flow into the subnet ✔

○ **C.** There will be an error in setting the rules for the Security Group rules due to the clash in rules

○ **D.** All traffic out of the subnet will be denied

Explanation :

Answer – B

In the above screenshot, the Rule number 100 will be evaluated first and hence all traffic will be denied into the subnet

Option A is incorrect since by default Rule 100 will be evaluated first and hence all traffic will be denied into the subnet

Option C is incorrect since the settings for the NACL and the Security Groups are separate

Option D is incorrect since we don't know the Outbound rules to make a decision on this statement.

For more information on Network Access Control Lists, please refer to the below URL

https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VPC_ACLs.html

(https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VPC_ACLs.html)

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QUESTION 4   UNATTEMPTED

Your company currently has a hybrid IT architecture. There is a VPN connection setup between AWS VPC and the on-premise data centre. There is a requirement that all Instances in the VPC use the On-premise DNS server for resolving DNS names. How could you achieve this?

- ○   A. Create an Internal Route 53 hosted zone
- ○   B. Create a secondary DNS server in AWS
- ○   C. Create a DHCP Options set and assign it to the VPC ✔
- ○   D. Modify the DNS resolution of the VPC

Explanation :

Answer – C

The AWS Documentation mentions the following

The Amazon EC2 instances you launch into a nondefault VPC are private by default; they're not assigned a public IPv4 address unless you specifically assign one during launch, or you modify the subnet's public IPv4 address attribute. By default, all instances in a nondefault VPC receive an unresolvable host name that AWS assigns (for example, ip-10-0-0-202). You can assign your own domain name to your instances and use up to four of your own DNS servers. To do that, you must specify a special set of DHCP options to use with the VPC.

Option A is incorrect since you need to create a Private hosted zone for routing of DNS names local to the VPC

Option B is incorrect since here you would need to also manage the replication between DNS servers

Option D is incorrect since the resolution is based on Amazon DNS servers

For more information on DHCP options set, please refer to the below URL
https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VPC_DHCP_Options.html
(https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VPC_DHCP_Options.html)

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QUESTION 5   UNATTEMPTED

Your company currently manages an on-premise MySQL database. They need to migrate this to AWS. They don't want the headache of operating and scaling the database. Which of the following would you consider for this purpose?

○ **A.** AWS RDS

○ **B.** AWS DynamoDB

○ **C.** AWS Redshift

○ **D.** AWS Aurora ✔

Explanation :

Answer – D
The AWS Documentation mentions the following
Amazon Aurora (Aurora) is a fully managed, MySQL- and PostgreSQL-compatible, relational database engine. It combines the speed and reliability of high-end commercial databases with the simplicity and cost-effectiveness of open-source databases.
Aurora makes it simple and cost-effective to set up, operate, and scale your MySQL and PostgreSQL deployments, freeing you to focus on your business and applications. Amazon RDS provides administration for Aurora by handling routine database tasks such as provisioning, patching, backup, recovery, failure detection, and repair. Amazon RDS also provides push-button migration tools to convert your existing Amazon RDS for MySQL and Amazon RDS for PostgreSQL applications to Aurora.
Option A is incorrect since here you still need to partially manage the way the database is managed and scaled.
Option B is incorrect since this is a fully managed NoSQL database
Option C is incorrect since this is a data warehousing solution
For more information on Amazon Aurora, please refer to the below URL
https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/CHAP_Aurora.html
(https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/CHAP_Aurora.html)

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Your company has a set of resources hosted in AWS. Your Senior management is not pleased with the recent bill for the usage of AWS resources and has requested you to cut costs wherever possible. Which of the following can assist in this cause? Choose 3 answers from the options given below

☐   **A.** Consider purchasing reserved instances for those workloads which run continuously and on a daily basis   ✔

☐   **B.** Consider deleting EBS volumes which are not attached to EC2 Instances and not being used   ✔

☐   **C.** Consider not using Autoscaling Groups as they incur a cost

☐   **D.** Consider terminating EC2 Instances which are not being used   ✔

Explanation :

Answer – A,B and D
The AWS Documentation mentions the following
Amazon EC2 Reserved Instances (RI) provide a significant discount (up to 75%) compared to On-Demand pricing and provide a capacity reservation when used in a specific Availability Zone.

Billing and Metering

Q: Will I be billed for the IOPS provisioned on a Provisioned IOPS volume when it is disconnected from an instance ?

Yes, you will be billed for the IOPS provisioned when it is disconnected from an instance. When a volume is detached, we recommend you consider creating a snapshot and deleting the volume to reduce costs. For more information, see the "Underutilized Amazon EBS Volumes" cost optimization check in Trusted Advisor. This item checks your Amazon Elastic Block Store (Amazon EBS) volume configurations and warns when volumes appear to be underused.

You can delete your instance when you no longer need it. This is referred to as *terminating* your instance. As soon as the state of an instance changes to shutting-down or terminated, you stop incurring charges for that instance.

Option C is invalid since Autoscaling Groups on their own don't incur any sort of cost.
For more information on reserved instances , EBS volumes and terminating instances please refer to the below URL
https://aws.amazon.com/ec2/pricing/reserved-instances/
(https://aws.amazon.com/ec2/pricing/reserved-instances/)
https://aws.amazon.com/ebs/faqs/ (https://aws.amazon.com/ebs/faqs/)
https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/terminating-instances.html
(https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/terminating-instances.html)

QUESTION 7   UNATTEMPTED

You are working as a Systems administrator for a company. You have been instructed to present the metrics for the below

·   CPU Utilization for the underlying EC2 Instances

·   Network Throughput into the EC2 Instances

·   The amount of bytes read and written to the volume

·   The amount of Disk storage left on the volume

Which of the following would require a custom cloudwatch metric for monitoring purposes?

○   **A.** CPU Utilization for the underlying EC2 Instances

○   **B.** Network Throughput into the EC2 Instances

○   **C.** The amount of bytes read and written to the volume

○   **D.** The amount of Disk storage left on the volume   ✔

Explanation :

Answer – D
If you look at the AWS Documentation, below are the metrics available. You only need a custom metric for the amount of disk storage left on the volume

Metric	Description
VolumeReadBytes VolumeWriteBytes	Provides information on the I/O operations in a specified period of time. The Sum statistic reports the total number of bytes transferred during the period. The Average statistic reports the average size of each I/O operation during the period, except on volumes attached to a C5, C5d, i3.metal, M5, M5d, R5, R5d, and z1d instance, where the average represents the average over the specified period. The SampleCount statistic reports the total number of I/O operations during the period, except on volumes attached to a C5, C5d, i3.metal, M5, M5d, R5, R5d, and z1d instance, where the sample count represents the number of data points used in the statistical calculation. Data is reported to CloudWatch only when the volume is active.
NetworkIn	The number of bytes received on all network interfaces by the instance. This metric identifies the volume of incoming network traffic to a single instance. The number reported is the number of bytes received during the period. If you are using basic (five-minute) monitoring, you can divide this number by 300 to find Bytes/second. If you have detailed (one-minute) monitoring, divide it by 60.
CPUUtilization	The percentage of allocated EC2 compute units that are currently in use on the instance. This metric identifies the processing power required to run an application upon a selected instance. To use the percentiles statistic, you must enable detailed monitoring. Depending on the instance type, tools in your operating system can show a lower percentage than CloudWatch when the instance is not allocated a full processor core.

For more information on monitoring volumes, please refer to the below URL
https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/monitoring-volume-status.html
(https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/monitoring-volume-status.html)

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QUESTION 8   UNATTEMPTED

You're working as a Systems Administrator for a company. They have just started using AWS. You are trying to understand those aspects which you can do yourself and those where you need to contact AWS. For which of the following would you need to contact AWS. Choose 2 answers from the options given below.

☐   A. Getting a consolidated bill for all of the accounts you own

B. Getting compliance documents from AWS to get a breakdown of their physical infrastructure

C. Request for increase in the number load balancers per region ✔

D. Request for increase in the the number of DynamoDB tables per account more then allocated by default. ✔

Explanation :

Answer – C and D
The AWS Documentation gives all the service limits and what you can request them for increasing the limits

Elastic Load Balancing Limits

Elastic Load Balancing supports three types of load balancers: Application Load Balancers, Network Load Balancers, and Classic Load Balancers.

Application Load Balancers

Resource	Default Limit
Load balancers per region	20 †
Target groups per region	3000
Listeners per load balancer	50
Targets per load balancer	1000
Subnets per Availability Zone per load balancer	1
Security groups per load balancer	5
Rules per load balancer (not counting default rules)	100
Certificates per load balancer (not counting default certificates)	25
Number of times a target can be registered per load balancer	100
Load balancers per target group	1
Targets per target group	1000

† This limit includes both your Application Load Balancers and your Classic Load Balancers. This limit can be increased upon request.

Tables

Table Size

There is no practical limit on a table's size. Tables are unconstrained in terms of the number of items or the number of bytes.

Tables Per Account

For any AWS account, there is an initial limit of 256 tables per region.

To request a service limit increase see https://aws.amazon.com/support.

Option A is incorrect because Consolidating billing is an option which you can manage via the AWS portal
Option B is incorrect because normally AWS will not give details of their AWS data centre due to security concerns
For more information on the service limits, please refer to the below URL
https://docs.aws.amazon.com/general/latest/gr/aws_service_limits.html
(https://docs.aws.amazon.com/general/latest/gr/aws_service_limits.html)

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Your company is going through an audit which also includes the audit of the AWS resources. They are requesting for the compliance of AWS resources to various compliance standards. How could you go about working towards providing these compliance details?

- ○ A. Request a tour of the AWS physical data centre from AWS support

- ○ B. Request AWS support for all compliance-based documents

- ○ C. Request an AWS partner for all compliance-based documents

- ○ D. Go to the compliance portion of the AWS website and get all the required details ✔

Explanation :

Answer – D
The compliance documents are all given in the AWS Documentation

Compliance Resources

AWS Auditor Learning Path

Learn More »

Perform more productive audits of your resources by using the AWS Auditor Learning Path.

AWS Compliance Solutions Guide

Learn More »

View our repository of resources and processes needed to perform compliance responsibilities on AWS.

Option A is incorrect because normally AWS will not give details of their AWS data centre due to security concerns

Options B and C, although feasible , should not be ab option since they are already available on the web site

For more information on resource compliance with AWS, please refer to the below URL

https://aws.amazon.com/compliance/resources/ (https://aws.amazon.com/compliance/resources/)

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QUESTION 10   UNATTEMPTED

You've just created a Elastic Load balancer that is sitting in front of a set of EC2 Instances. These Instances are hosting a web server. During the testing phase, you are trying to reach the home page for the web server via the ELB but are not able to do so. You tried reaching the web server on the EC2 Instance itself via a bastion host and that seems to work. Which of the following could be reasons as to why it is not working via the ELB? Choose 2 answers from the options given below

☐ A. Ensure that the ELB is attached to a private subnet

☐ B. Ensure that the ELB is attached to a public subnet ✔

☐ C. Ensure that the ELB security group allows Inbound Traffic ✔

☐ D. Ensure that access logging is enabled for the ELB

Explanation :

Answer – B and C
The AWS Documentation mentions the following
If your Internet-facing load balancer in a VPC is not responding to requests, check for the following:
· Your Internet-facing load balancer is attached to a private subnet - Verify that you specified public subnets for your load balancer. A public subnet has a route to the Internet Gateway for your virtual private cloud (VPC).
· A security group or network ACL does not allow traffic - The security group for the load balancer and any network ACLs for the load balancer subnets must allow inbound traffic from the clients and outbound traffic to the clients on the listener ports

Option A is incorrect since the ELB needs to be created in the public subnet
Option D is incorrect since this can help debug the issue but not solve the issue
For more information on troubleshooting the ELB, please refer to the below URL
https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/elb-troubleshooting.html
(https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/elb-troubleshooting.html)

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QUESTION 11   UNATTEMPTED

Your company has a set of resources defined in AWS. The IT management wants to keep a control on the costs, so they have requested you to get alerts on the billing front. Which of the following must you enable before you can receive billing alerts in AWS?

○ A. Enable billing alerts in Account Preferences ✔

○ B. Enable billing alerts in Cloudwatch

○ C. Request AWS support to notify you on estimated charges

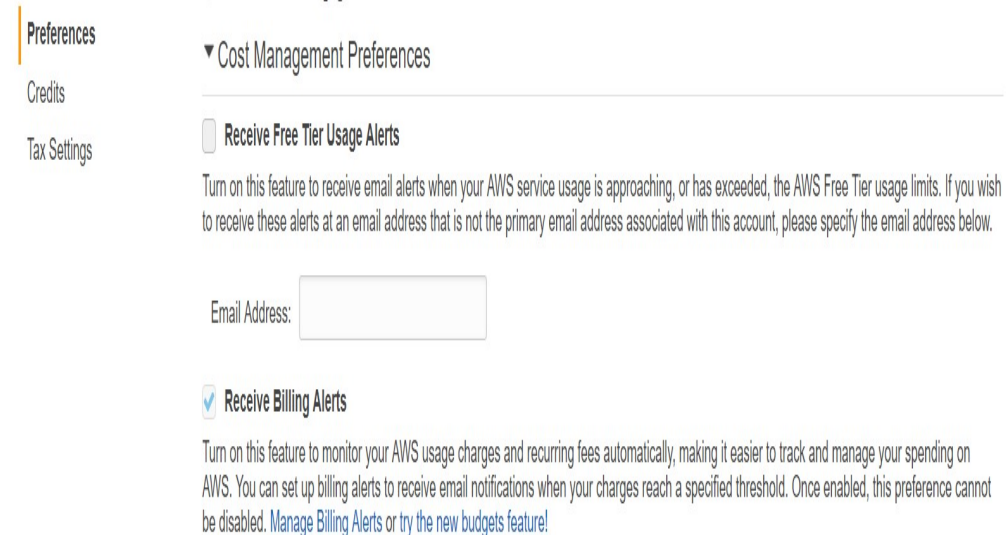○ D. Request an AWS support partner to notify you on estimated charges

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Explanation :

Answer - A

The AWS Documentation mentions the following

Before you can create an alarm for your estimated charges, you must enable billing alerts, so that you can monitor your estimated AWS charges and create an alarm using billing metric data. After you enable billing alerts, you cannot disable data collection, but you can delete any billing alarms that you created

The below snapshot from the AWS Console shows where this can be enabled

Preferences

Credits

Tax Settings

▼ Cost Management Preferences

☐ **Receive Free Tier Usage Alerts**

Turn on this feature to receive email alerts when your AWS service usage is approaching, or has exceeded, the AWS Free Tier usage limits. If you wish to receive these alerts at an email address that is not the primary email address associated with this account, please specify the email address below.

Email Address:

☑ **Receive Billing Alerts**

Turn on this feature to monitor your AWS usage charges and recurring fees automatically, making it easier to track and manage your spending on AWS. You can set up billing alerts to receive email notifications when your charges reach a specified threshold. Once enabled, this preference cannot be disabled. Manage Billing Alerts or try the new budgets feature!

Because this option is clearly available in AWS , all other options are invalid.

For more information on billing alerts, please refer to the below URL
https://docs.aws.amazon.com/AmazonCloudWatch/latest/monitoring/monitor_estimated_charges_with_cloudwatch
(https://docs.aws.amazon.com/AmazonCloudWatch/latest/monitoring/monitor_estimated_charges_with_cloudwatch

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QUESTION 12   UNATTEMPTED

Your company is hosting an application that consists of a blogging site that fetches data from a database. Some articles which are static in nature get a lot of hits and sometimes causes the application to behave slowly. Which of the following can be used to alleviate the issue of many users hitting the application for such pages?

○   A. Consider placing ElastiCache in front of the database

○   B. Consider creating a Read Replica of the database

○   C. Consider hosting the web pages using static web site hosting in S3   ✔

○   D. Consider using the latency policy in Route 53

Explanation :

Answer – C

The AWS Documentation mentions the following

You can host a static website on Amazon Simple Storage Service (Amazon S3). On a static website, individual webpages include static content. They might also contain client-side scripts. By contrast, a dynamic website relies on server-side processing, including server-side scripts such as PHP, JSP, or ASP.NET. Amazon S3 does not support server-side scripting. Amazon Web Services (AWS) also has resources for hosting dynamic websites.

- Option A is incorrect since the question states that the articles that are static in nature are getting lots of hits and is causing the application to respond slowly. The application response is not due to the dynamic content fetched from the DB. Since it is caused due to static pages we can opt for the static website hosting in S3.

- Option B and are incorrect since Read replica is good for reducing the latency in dynamic data

- Option D is incorrect since this is used for routing of traffic between multiple sites

For more information on static web site hosting, please refer to the below URL
https://docs.aws.amazon.com/AmazonS3/latest/dev/WebsiteHosting.html
(https://docs.aws.amazon.com/AmazonS3/latest/dev/WebsiteHosting.html)

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QUESTION 13   UNATTEMPTED

Your company is currently hosting an application using sites across various regions. Users would need to be directed to the site based on whichever takes the least amount of time to reach. How could you accomplish this using service in AWS?

○   A. Consider using Route 53 with latency-based routing ✔

○   B. Consider using the Application Load balancer with path-based routing

○   C. Consider using Route 53 with weighted-based routing

○   D. Consider using the Network Load balancer with an Elastic IP

Explanation :

Answer – A

The AWS Documentation mentions the following

If your application is hosted in multiple AWS Regions, you can improve performance for your users by serving their requests from the AWS Region that provides the lowest latency.

To use latency-based routing, you create latency records for your resources in multiple AWS Regions. When Route 53 receives a DNS query for your domain or subdomain (example.com or apex.example.com), it determines which AWS Regions you've created latency records for, determines which region gives the user the lowest latency, and then selects a latency record for that region. Route 53 responds with the value from the selected record, such as the IP address for a web server.

Options B and D are incorrect since you would not use Load balancers to distribute traffic across regions

Option C is incorrect since weighted-based routing is used for weighted distribution of traffic across sites

For more information on latency-based routing, please refer to the below URL

https://docs.aws.amazon.com/Route53/latest/DeveloperGuide/routing-policy.html (https://docs.aws.amazon.com/Route53/latest/DeveloperGuide/routing-policy.html)

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QUESTION 14   UNATTEMPTED

One of your team members launched an EC2 Linux based Instance and installed an application on it. A couple of weeks later, the user lost the private key and is not able to log into the Instance. What can you do in such a situation. Choose 2 answers from the options given below.

- ☐ A. Detach the root volume from the Instance and attach it to another instance ✔
- ☐ B. Terminate the Instance and create a new one
- ☐ C. Modify the authorized_keys file on the volume ✔
- ☐ D. Use another private key to log into the instance

Explanation :

Answer – A and C
The AWS Documentation mentions the following
If you lose the private key for an EBS-backed instance, you can regain access to your instance. You must stop the instance, detach its root volume and attach it to another instance as a data volume, modify the authorized_keys file, move the volume back to the original instance, and restart the instance.

Option B is incorrect since ideally you would want to work with the same instance
Option D is incorrect since you cannot use another private unless you change the public key on the instance
For more information on working with keys pairs, please refer to the below URL
https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ec2-key-pairs.html (https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ec2-key-pairs.html)

QUESTION 15   UNATTEMPTED

Your team needs to host an EC2 Instance in a VPC. They want to host an email server on the EC2 Instance. Which of the following steps must be carried out to ensure that this requirement is fulfilled. Choose 2 answers from the options given below

- ☐ **A.** Assign a Public IP to the EC2 Instance
- ☐ **B.** Assign an Elastic IP to the EC2 Instance ✔
- ☐ **C.** Create an ALIAS record for the EC2 Instance in Route 53
- ☐ **D.** Create an 'A' record for the EC2 Instance in Route 53 ✔

Explanation :

Answer – B and D
Option A is incorrect since you need to assign an Elastic IP
Option C is incorrect since you need to have an 'A' record in Route 53
The AWS Documentation mentions the following
If you intend to send email to third parties from an instance, we suggest you provision one or more Elastic IP addresses and provide them to us. AWS works with ISPs and internet anti-spam organizations to reduce the chance that your email sent from these addresses will be flagged as spam. In addition, assigning a static reverse DNS record to your Elastic IP address used to send email can help avoid having email flagged as spam by some anti-spam organizations. Note that a corresponding forward DNS record (record type A) pointing to your Elastic IP address must exist before we can create your reverse DNS record.
For more information on Elastic IP addressing, please refer to the below URL
https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/elastic-ip-addresses-eip.html
(https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/elastic-ip-addresses-eip.html)

QUESTION 16   UNATTEMPTED

Your company is hosting an application on an EC2 Instance. The application is a high revenue generating application and hence it needs to be ensured that it can be easily shifted to another EC2 Instance if the primary one goes down. You have created an AMI so that it can be used to spin up a secondary instance. Which of the following can also help to ensure a smooth switchover of the application onto a new instance in case the primary one fails

- ○ **A.** Assign a secondary ENI to the primary instance
- ○ **B.** Assign an Elastic IP to the primary instance ✔
- ○ **C.** Create a secondary Internet gateway for the VPC
- ○ **D.** Create a secondary NAT gateway for the VPC

Explanation :

Answer – B

The AWS Documentation mentions the following

You can disassociate an Elastic IP address from a resource, and reassociate it with a different resource. Any open connections to an instance continue to work for a time even after you disassociate its Elastic IP address and reassociate it with another instance. We recommend that you reopen these connections using the reassociated Elastic IP address.

Option A is incorrect since the ENI would not help since the IP addressing is different for secondary ENI's

Option C is incorrect since the Internet gateway is already a durable and highly available software

Option D is incorrect since there is no mention of traffic having the need to pass through Internet from a private subnet

For more information on Elastic IP addressing, please refer to the below URL

https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/elastic-ip-addresses-eip.html
(https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/elastic-ip-addresses-eip.html)

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Your team has spun an Autoscaling Group and an Elastic Load Balancer. The Instances which are launched as part of the Autoscaling Group would be attached to the Elastic Load Balancer. After the application is being exercised by a set of users , it is being noticed that the traffic is not being evenly distributed across the EC2 Instances. Which of the following could be reasons for this? Choose 2 correct answers.

☐ **A.** Sticky sessions have been enabled for the load balancer ✔

☐ **B.** All subnets which have the EC2 Instances have not been registered with the load balancer ✔

☐ **C.** All regions which have the EC2 Instances have not been registered with the load balancer

☐ **D.** The subnets which hosts the EC2 Instances are private subnets

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Explanation :

Answer – A and B
The AWS Documentation mentions the following
Select subnets from the same Availability Zones as your instances. If your load balancer is an Internet-facing load balancer, you must select public subnets in order for your back-end instances to receive traffic from the load balancer (even if the back-end instances are in private subnets)
By default, a Classic Load Balancer routes each request independently to the registered instance with the smallest load. However, you can use the *sticky session* feature (also known as *session affinity*), which enables the load balancer to bind a user's session to a specific instance. This ensures that all requests from the user during the session are sent to the same instance.
Option C is invalid because its needs to be subnets and not regions
Option D is invalid because it's not an issue even if the subnets are private
For more information on sticky sessions and managing subnets for the ELB, please refer to the below URL
https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/elb-sticky-sessions.html
(https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/elb-sticky-sessions.html)
https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/elb-manage-subnets.html
(https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/elb-manage-subnets.html)

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QUESTION 18   UNATTEMPTED

A company is currently hosting an application that is setup on EC2 Instances. These EC2 Instances are being spun up as part of an Autoscaling Group. The application is being used extensively during office hours from 8-4. Users are complaining that the performance of the application is slow during the start of the day after which the application works properly. Which of the following can be done to ensure the application works properly in the beginning of the day?

○ **A.** Add a Dynamic scaling policy for the Autoscaling group to launch new instances based on the CPU utilization

○ **B.** Add a Dynamic scaling policy for the Autoscaling group to launch new instances based on the Memory utilization

○ **C.** Add a Scheduled scaling policy for the Autoscaling group to launch new instances before the start of the day ✔

○ **D.** Add an Application Load balancer to the entire setup

---

Explanation :

Answer – C
Here the best option is to ensure that the instances are already scaled up and ready before the start of the day. Since this is when the application is used the most
Options A and B are incorrect since by the time either the CPU or Memory hits a peak, the application already has performance issues, so you need to ensure the scaling is done before hand.
Option D is invalid since the Application load balancer can also balance the traffic and not increase the instances based on demand.
For more information on the scheduled scaling policy, please refer to the below URL
https://docs.aws.amazon.com/autoscaling/ec2/userguide/schedule_time.html
(https://docs.aws.amazon.com/autoscaling/ec2/userguide/schedule_time.html)

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QUESTION 19   UNATTEMPTED

You are a Systems Administrator for a company. There is a need to host a vendor-based product on an EC2 Instance. Due to the nature of the licensing model of the product, you need to ensure that you have control over the number of cores of the underlying hardware. In such a case, which of the following would you consider?

○ **A.** Reserved Instances

○ **B.** Dedicated Instances

○ **C.** Spot Instances

○ **D.** Dedicated Hosts ✔

Explanation :

Answer - D
The AWS Documentation mentions the following

You can use Dedicated Hosts and Dedicated instances to launch Amazon EC2 instances on physical servers that are dedicated for your use. An important difference between a Dedicated Host and a Dedicated instance is that a Dedicated Host gives you additional visibility and control over how instances are placed on a physical server, and you can consistently deploy your instances to the same physical server over time. As a result, Dedicated Hosts enable you to use your existing server-bound software licenses and address corporate compliance and regulatory requirements.

Because this is clearly mentioned in the documentation , all other options are invalid

For more information on dedicated hosts, please refer to the below URL

https://aws.amazon.com/ec2/dedicated-hosts/ (https://aws.amazon.com/ec2/dedicated-hosts/)

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QUESTION 20   UNATTEMPTED

You are a Systems Administrator for a company. The company has a number of databases that need to be migrated to AWS. These include a mixture of Oracle and MySQL v5.6 based workloads. Since the applications that connect to these databases also make read intensive reads to the database, it has been decided to create Read Replica's using the AWS RDS service. Which of the following could be an issue in this implementation?

○   **A.** Read Replica's are not supported with MySQL v5.6

○   **B.** You need to enable the Multi-AZ option for Read Replica's

○   **C.** You can't migrate an Oracle workload to AWS

○   **D.** Read Replica's are not supported with Oracle ✔

Explanation :

Answer – D

The AWS Documentation mentions the following

Amazon RDS uses the MariaDB, MySQL, and PostgreSQL DB engines' built-in replication functionality to create a special type of DB instance called a Read Replica from a source DB instance. Updates made to the source DB instance are asynchronously copied to the Read Replica. You can reduce the load on your source DB instance by routing read queries from your applications to the Read Replica. Using Read Replicas, you can elastically scale out beyond the capacity constraints of a single DB instance for read-heavy database workloads.

Option A is invalid because Read Replica's are supported with MySQL v5.6

Option B is invalid because this is not a requirement

Option C is invalid because you can migrate Oracle workloads to AWS.

For more information on using Read Replica's, please refer to the below URL

https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_ReadRepl.html (https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_ReadRepl.html)

Your team has a Memcached cluster defined in AWS. After usage of the solution, you can see a large number of evictions based on the recent cloudwatch metrics data. Which of the following can be used to solve the issue of the increased number of evictions? Choose 2 answers from the options given below.

- [ ] **A.** Add an additional node to the cluster ✔
- [ ] **B.** Change the underlying volume for the cluster to use Provisioned IOPS
- [ ] **C.** Consider increasing the node size ✔
- [ ] **D.** Consider restarting the cluster

Explanation :

Answer - A and C

The AWS Documentation mentions the following

Also, if you are experiencing evictions with your cluster, it is usually a sign that you need to scale up (use a node that has a larger memory footprint) or scale out (add additional nodes to the cluster) in order to accommodate the additional data. An exception to this rule is if you are purposefully relying on the cache engine to manage your keys by means of eviction, also referred to an LRU cache.

Option B is incorrect since this would not help with the evictions

Option D is incorrect since this would cause all the cache data to be flushed out

For more information on implementation for cache, please refer to the below URL

https://aws.amazon.com/caching/implementation-considerations/

(https://aws.amazon.com/caching/implementation-considerations/)

You are administering a MySQL instance that is hosted for your company. It is using the AWS RDS service. You need to understand which of the following activities would need to be performed in the maintenance window. Which of the following would you consider? Choose 3 answers from the options given below

☐ **A.** Update to the underlying Operating System ✔

☐ **B.** Creating an Options group for the database

☐ **C.** Changes to the underlying DB version ✔

☐ **D.** Patches applied to the server ✔

Explanation :

Answer – A,C and D
The AWS Documentation mentions the following
Periodically, Amazon RDS performs maintenance on Amazon RDS resources. Maintenance most often involves updates to the DB instance's or DB cluster's underlying operating system (OS) or database engine version. Updates to the operating system most often occur for security issues and should be done as soon as possible.
Option B is invalid because this will not cause a downtime for the database
For more information on the database maintenance window, please refer to the below URL
https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_UpgradeDBInstance.Maintenance.html
(https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_UpgradeDBInstance.Maintenance.html)

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QUESTION 23   UNATTEMPTED

A company is hosting an application in AWS. This application is making use of the AWS RDS service. The database is a MySQL database. The application is now facing a lot of performance issues. After further investigation it has been noticed that the database is being overloaded and is not able to withstand the number of read requests. Which of the following can be used to alleviate the performance issue for the database? Choose 2 answers from the options given below

☐ **A.** Increase the Instance type for the underlying database server ✔

☐ **B.** Add a Cloudfront distribution in front of the load balancer

☐ **C.** Add a Read Replica for the database ✔

☐ **D.** Enable Multi-AZ for the database

Explanation :

Answer – A and C

The AWS Documentation mentions the following

Vertical Scaling

To handle a higher load in your database, you can vertically scale up your master database with a simple push of a button. There are currently over 18 instance sizes that you can choose from when resizing your RDS MySQL, PostgreSQL, MariaDB, Oracle, or Microsoft SQL Server instance. For Amazon Aurora, you have 5 memory-optimized instance sizes to choose from. The wide selection of instance types allows you to choose the best resource and cost for your database server.

Horizontal Scaling

In addition to scaling your master database vertically, you can also improve the performance of a read-heavy database by using read replicas to horizontally scale your database. RDS MySQL, PostgreSQL, and MariaDB can have up to 5 read replicas, and Amazon Aurora can have up to 15 read replicas.

Option B is invalid since this is normally used for web distributions

Option D is invalid since this is used for high availability of databases

For more information on scaling your RDS database, please refer to the below URL

https://aws.amazon.com/blogs/database/scaling-your-amazon-rds-instance-vertically-and-horizontally/ (https://aws.amazon.com/blogs/database/scaling-your-amazon-rds-instance-vertically-and-horizontally/)

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QUESTION 24   UNATTEMPTED

Your team has setup an Autoscaling group which are launching instances for an application. The Instances are not launching, and you need to debug the issue. Which of the following can be issues related as to why the instances are not launching? Choose 3 answers from the options given below

☐ **A.** The key pair associated with the instance does not exist ✔

☐ **B.** The requested Availability Zone is no longer supported. ✔

☐ **C.** The instance type is no longer available ✔

☐ **D.** You have specified the wrong NACL

Explanation :

Answer – A,B and C

The AWS Documentation mentions the following

When your EC2 instances fail to launch, you might get one or more of the following error messages:

Error Messages

- The security group <name of the security group> does not exist. Launching EC2 instance failed.
- The key pair <key pair associated with your EC2 instance> does not exist. Launching EC2 instance failed.
- The requested configuration is currently not supported.
- AutoScalingGroup <Auto Scaling group name> not found.
- The requested Availability Zone is no longer supported. Please retry your request...
- Your requested instance type (<instance type>) is not supported in your requested Availability Zone (<instance Availability Zone>)...
- You are not subscribed to this service. Please see http://aws.amazon.com.
- Invalid device name upload. Launching EC2 instance failed.
- Value (<name associated with the instance storage device>) for parameter virtualName is invalid...
- EBS block device mappings not supported for instance-store AMIs.
- Placement groups may not be used with instances of type 'm1.large'. Launching EC2 instance failed.
- Client.InternalError: Client error on launch.

Option D is invalid because NACL's are linked to the subnets and not the EC2 Instances

For more information on the launch failure for EC2 Instances, please refer to the below URL
https://docs.aws.amazon.com/autoscaling/ec2/userguide/ts-as-instancelaunchfailure.html
(https://docs.aws.amazon.com/autoscaling/ec2/userguide/ts-as-instancelaunchfailure.html)

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QUESTION 25   UNATTEMPTED

Your company is planning on hosting an application on a set of EC2 Instances. These instances will sit behind an Elastic Load balancer. You need to ensure that Route 53 is configured with the company's domain name to the Elastic Load balancer. Which of the following record would you create for this requirement?

- ○ **A.** 'A' record
- ○ **B.** 'MX' record
- ○ **C.** ALIAS record ✔
- ○ **D.** 'AAAA' record

Explanation :

Answer – C

This is given in the AWS Documentation

Choosing Between Alias and Non-Alias Records

While ordinary Amazon Route 53 records are standard DNS records, *alias records* provide a Route 53–specific extension to DNS functionality. Instead of an IP address or a domain name, an alias record contains a pointer to an AWS resource such as a CloudFront distribution or an Amazon S3 bucket. When Route 53 receives a DNS query that matches the name and type in an alias record, Route 53 follows the pointer and responds with the applicable value:

- **An alternate domain name for a CloudFront distribution** – Route 53 responds as if the query had asked for the CloudFront distribution by using the CloudFront domain name, such as d111111abcdef8.cloudfront.net.
- **An Elastic Beanstalk environment** – Route 53 responds to each query with one or more IP addresses for the environment.
- **An ELB load balancer** – Route 53 responds to each query with one or more IP addresses for the load balancer.
- **An Amazon S3 bucket that is configured as a static website** – Route 53 responds to each query with one IP address for the Amazon S3 bucket.
- **Another Route 53 record in the same hosted zone** – Route 53 responds as if the query had asked for the record that is referenced by the pointer.

Option A is invalid because you use this record type to point to a resource via an IPv4 record

Option B is invalid because you use this record type for a Mail server record
Option D is invalid because you use this record type to point to a resource via an IPv6 record
For more information on choosing between ALIAS and non-ALIAS records, please refer to the below URL
https://docs.aws.amazon.com/Route53/latest/DeveloperGuide/resource-record-sets-choosing-alias-non-alias.html (https://docs.aws.amazon.com/Route53/latest/DeveloperGuide/resource-record-sets-choosing-alias-non-alias.html)

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QUESTION 26   UNATTEMPTED

You need to monitor the memory and swap usage for a set of Linux EC2 Instances. The metrics need to be available in the Cloudwatch dashboard. Which of the following do you need to do to achieve this?

○   **A. Register for a cloudwatch account**

○   **B. Install the necessary scripts on the EC2 Instance** ✔

○ **C.** Enable detailed monitoring on the instance

○ **D.** Enable basic monitoring on the instance

Explanation :

Answer – B

This is given in the AWS Documentation

The Amazon CloudWatch Monitoring Scripts for Amazon Elastic Compute Cloud (Amazon EC2) Linux-based instances demonstrate how to produce and consume Amazon CloudWatch custom metrics. These sample Perl scripts comprise a fully functional example that reports memory, swap, and disk space utilization metrics for a Linux instance.

Option A is invalid because you don't need to explicitly register for a cloudwatch account

Options C and are invalid because none of these monitoring options will give you memory and swap statistics on the instance

For more information on monitoring scripts for Linux instances, please refer to the below URL

https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/mon-scripts.html

(https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/mon-scripts.html)

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QUESTION 27   UNATTEMPTED

Your company has a requirement for launching instances for an application. The instances need to have a low latency between them and also have a high packet network performance Which of the following would you do to ensure these requirements are met. Choose 2 answers from the options given below

☐ **A.** Create a cluster placement group grouping the instances in multiple availability zone

☐ **B.** Create a cluster placement group grouping the instances in a single availability zone ✔

☐ **C.** Choose an GPU optimized Instance type for the underlying instance

☐ **D.** Choose an Instance type that supports Enhanced Networking for the underlying instance type ✔

Explanation :

Answer – B and D

This is given in the AWS Documentation

A cluster placement group is a logical grouping of instances within a single Availability Zone.

Cluster placement groups are recommended for applications that benefit from low network latency, high network throughput, or both, and if the majority of the network traffic is between the instances in the group. To provide the lowest latency and the highest packet-per-second network performance for your placement group, choose an instance type that supports enhanced networking

Option A is incorrect since the instances need to be placed in a single Availability Zone

Option C is incorrect this is used for graphic intensive applications

For more information on cluster placement groups, please refer to the below URL

https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/placement-groups.html (https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/placement-groups.html)

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QUESTION 28   UNATTEMPTED

You have been asked to create a Cloudformation template that would spin up resources on demand. You have to ensure that there is flexibility in the template so that values are based on the region in which the template is launched in. Which of the following section in the template can help you accomplish this?

○   **A. Resources**

○   **B. Conditions**

○   **C. Outputs**

○   **D. Mappings** ✔

Explanation :

Answer – D

This is given in the AWS Documentation

The optional Mappings section matches a key to a corresponding set of named values. For example, if you want to set values based on a region, you can create a mapping that uses the region name as a key and contains the values you want to specify for each specific region. You use the Fn::FindInMap intrinsic function to retrieve values in a map.

Option A is incorrect since this section is used to define the actual creation of resources

Option B is incorrect since this is used to include statements that define when a resource is created or when a property is defined.

Option C is incorrect since this is used to declare output values that you can import into other stacks (https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/intrinsic-function-reference-importvalue.html)

For more information on the mappings section in Cloudformation, please refer to the below URL

https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/mappings-section-structure.html (https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/mappings-section-structure.html)

QUESTION 29   UNATTEMPTED

You are working for a company that has a set of EC2 Instances in a VPC. There is a requirement to have a mountable file storage system that can be used and shared by the EC2 Instances. Which of the following would you use for this requirement?

○ **A.** AWS EFS ✔

○ **B.** AWS S3

○ **C.** AWS Glacier

○ **D.** AWS EBS

Explanation :

Answer – A

This is given in the AWS Documentation

Amazon EFS provides scalable file storage for use with Amazon EC2. You can create an EFS file system and configure your instances to mount the file system. You can use an EFS file system as a common data source for workloads and applications running on multiple instances.

Option B is incorrect since this is used as object-based storage.

Option C is incorrect since is used for archive storage.

Option D is incorrect since is used for local data storage.

For more information on the Amazon File System, please refer to the below URL

- https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/AmazonEFS.html (https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/AmazonEFS.html)

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QUESTION 30   UNATTEMPTED

You work as a System Administrator for a company. Your team has launched an Autoscaling Group and the set of underlying instances are now in the running state. There is now a requirement to change the Instance type for the underlying instances and ensure that the Autoscaling group launches the Instances with the new Instance type. How would you make these changes? Choose 2 answers from the options given below

☐ A. Create a new launch configuration ✔

☐ B. Modify the Autoscaling Group with the new launch configuration ✔

☐ C. Modify the Autoscaling Group with the modified launch configuration

☐ D. Modify the existing launch configuration

Explanation :

Answer – A and B
This is given in the AWS Documentation
You can specify your launch configuration with multiple Auto Scaling groups. However, you can only specify one launch configuration for an Auto Scaling group at a time, and you can't modify a launch configuration after you've created it. Therefore, if you want to change the launch configuration for an Auto Scaling group, you must create a launch configuration and then update your Auto Scaling group with the new launch configuration.
Options C and D are invalid because you cannot modify the existing launch configuration
For more information on the Launch configuration, please refer to the below URL
https://docs.aws.amazon.com/autoscaling/ec2/userguide/LaunchConfiguration.html
(https://docs.aws.amazon.com/autoscaling/ec2/userguide/LaunchConfiguration.html)

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QUESTION 31   UNATTEMPTED

You have a VPC and EC2 Instances hosted in the subnet. Your networking team now needs to understand the traffic that is being sent to the EC2 Instance in terms of the requester IP addresses. Which of the following would help in fulfilling this requirement?

○ A. Enabling CloudTrail

○ B. Installing IDS on each Instance

○ C. Enabling VPC Flow Logs ✔

○ D. Using Cloudwatch logs

Explanation :

Answer – C
VPC Flow logs can be used to fulfil this requirement. Below is a snippet from the AWS Documentation which shows the fields which get recorded in VPC Flow logs

Field	Description
version	The VPC Flow Logs version.
account-id	The AWS account ID for the flow log.
interface-id	The ID of the network interface for which the log stream applies.
srcaddr	The source IPv4 or IPv6 address. The IPv4 address of the network interface is always its private IPv4 address.
dstaddr	The destination IPv4 or IPv6 address. The IPv4 address of the network interface is always its private IPv4 address.
srcport	The source port of the traffic.
dstport	The destination port of the traffic.
protocol	The IANA protocol number of the traffic. For more information, go to Assigned Internet Protocol Numbers.
packets	The number of packets transferred during the capture window.
bytes	The number of bytes transferred during the capture window.
start	The time, in Unix seconds, of the start of the capture window.
end	The time, in Unix seconds, of the end of the capture window.
action	The action associated with the traffic: • ACCEPT: The recorded traffic was permitted by the security groups or network ACLs. • REJECT: The recorded traffic was not permitted by the security groups or network ACLs.

Option A is incorrect since this is an API monitoring service

Option B is incorrect this should be used when you want detailed packet filtering

Option D is incorrect since Cloudwatch logs will not give you the IP addresses coming into your EC2 Instances

For more information on VPC Flow logs, please refer to the below URL

https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/flow-logs.html

(https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/flow-logs.html)

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QUESTION 32   UNATTEMPTED

Your company has launched a set of resources in AWS. There is now a security mandate to ensure that all changes to the resources are monitored. Which of the following can help achieve this? Choose 2 answers from the options given below.

- [ ] **A.** AWS Cloudwatch
- [ ] **B.** AWS Cloudtrail ✔
- [ ] **C.** AWS Config ✔
- [ ] **D.** AWS Trusted Advisor

Explanation :

Answer – B and C

The AWS Documentation mentions the following

AWS Config is a service that enables you to assess, audit, and evaluate the configurations of your AWS resources. Config continuously monitors and records your AWS resource configurations and allows you to automate the evaluation of recorded configurations against desired configurations. With Config, you can review changes in configurations and relationships between AWS resources, dive into detailed resource configuration histories, and determine your overall compliance against the configurations specified in your internal guidelines. This enables you to simplify compliance auditing, security analysis, change management, and operational troubleshooting.

AWS CloudTrail is a service that enables governance, compliance, operational auditing, and risk auditing of your AWS account. With CloudTrail, you can log, continuously monitor, and retain account activity related to actions across your AWS infrastructure. CloudTrail provides event history of your AWS account activity, including actions taken through the AWS Management Console, AWS SDKs, command line tools, and other AWS services. This event history simplifies security analysis, resource change tracking, and troubleshooting.

Option A is incorrect since this will not give you the detailed configuration changes

Option D is incorrect since this tool can only give you key recommendations

For more information on AWS Config and AWS Cloudtrail, please refer to the below URL

https://aws.amazon.com/config/ (https://aws.amazon.com/config/)

https://aws.amazon.com/cloudtrail/ (https://aws.amazon.com/cloudtrail/)

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QUESTION 33   UNATTEMPTED

Your company currently has an application hosted on their on-premise environment. They have now setup a site on AWS and they need traffic to be evenly distributed across the 2 sites. Which of the following routing policy in Route 53 would you use for this purpose?

- ( ) **A.** Simple
- ( ) **B.** Failover
- ( ) **C.** Geolocation

○ **D.** Weighted ✔

Explanation :

Answer - D

The AWS Documentation mentions the following

Weighted routing lets you associate multiple resources with a single domain name (example.com) or subdomain name (acme.example.com) and choose how much traffic is routed to each resource. This can be useful for a variety of purposes, including load balancing and testing new versions of software.

Option A is invalid since this only let's you configure standard DNS records, with no special Route 53 routing such as weighted or latency

Option B is invalid since this let's you route traffic to a resource when the resource is healthy or to a different resource when the first resource is unhealthy.

Option B is invalid since this let's you choose the resources that serve your traffic based on the geographic location of your users

For more information on AWS Route 53 Routing policies, please refer to the below URL

- https://docs.aws.amazon.com/Route53/latest/DeveloperGuide/routing-policy.html (https://docs.aws.amazon.com/Route53/latest/DeveloperGuide/routing-policy.html)

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QUESTION 34   UNATTEMPTED

Your team is planning on hosting their files in AWS. These files would be used frequently in the first 2 months after which they would be used less frequently. They want to ensure that costs are kept at a minimum while using AWS services. Which of the following would you consider for this requirement?

○ **A.** Store the files on EBS volumes and then use lifecycle policies to create snapshots

○ **B.** Store the files on EBS volumes and then use lifecycle policies to copy the files to Amazon Glacier

○ **C.** Store the files on S3 and then then use lifecycle policies to copy the files to Amazon Glacier ✔

○ **D.** Store the files on Amazon Glacier and then then use lifecycle policies to copy the files to Amazon S3

Explanation :

Answer – C

The AWS Documentation mentions the following

To manage your objects so that they are stored cost effectively throughout their lifecycle, configure their lifecycle. A *lifecycle configuration* is a set of rules that define actions that Amazon S3 applies to a group of objects. There are two types of actions:

· Transition actions—Define when objects transition to another storage class (http://docs.aws.amazon.com/AmazonS3/latest/dev/storage-class-intro.html). For example, you might choose to transition objects to the STANDARD_IA storage class 30 days after you created them, or archive objects to the GLACIER storage class one year after creating them.

· Expiration actions—Define when objects expire. Amazon S3 deletes expired objects on your behalf. The lifecycle expiration costs depend on when you choose to expire objects

Options A and B are invalid because you should not use EBS volumes for the storage because that would be expensive
Option D is incorrect because you should use Amazon S3 initially
For more information on Object lifecycle, please refer to the below URL
https://docs.aws.amazon.com/AmazonS3/latest/dev/object-lifecycle-mgmt.html
(https://docs.aws.amazon.com/AmazonS3/latest/dev/object-lifecycle-mgmt.html)

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QUESTION 35   UNATTEMPTED

You need to setup the following environment in AWS

· An EC2 instance hosting a web application in a public subnet

· An EC2 instance hosting a database server in a private subnet

Which of the following would you use to ensure that the database server could connect to the internet for updates?

○ **A.** NAT gateway ✔
○ **B.** Elastic IP
○ **C.** Public IP
○ **D.** Internet gateway

Explanation :

Answer – A

The AWS Documentation mentions the following

You can use a network address translation (NAT) gateway to enable instances in a private subnet to connect to the internet or other AWS services, but prevent the internet from initiating a connection with those instances.

Option B is incorrect since this is when you want to assign a static routable IP address to the instance

Option C is incorrect since this is when you want to assign a dynamically routable IP address to the instance

Option D is incorrect since the instance needs to be in a private subnet

For more information on the NAT gateway, please refer to the below URL

- https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/vpc-nat-gateway.html (https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/vpc-nat-gateway.html)

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Your team has servers in a private subnet in AWS. You need to devise a secure mechanism to connect to the servers in the private subnet. How could you accomplish this?

- ○ **A. Change the Route tables for the subnet to add the Internet gateway**
- ○ **B. Change the Route tables for the subnet to add the NAT gateway**
- ○ **C. Add a bastion host in a private subnet**
- ○ **D. Add a bastion host in a public subnet ✔**

Explanation :

Answer – D

In an Amazon Web Services (AWS) context, a bastion host is defined as "a server whose purpose is to provide access to a private network from an external network, such as the Internet. Because of its exposure to potential attack, a bastion host must minimize the chances of penetration.

Option A is incorrect since this would expose the servers to the Internet

Option B is incorrect since the NAT gateway is used for outward communication from the EC2 Instances only

Option C is incorrect since the bastion host needs to be in a public subnet

For more information on the bastion host, please refer to the below URL

https://en.wikipedia.org/wiki/Bastion_host (https://en.wikipedia.org/wiki/Bastion_host)

QUESTION 37   UNATTEMPTED

Your team needs to have a data warehousing solution on the AWS Cloud. The solution needs to have the ability to have backup's in place. Which of the following would you consider for this requirement?

○ **A.** AWS Redshift ✔

○ **B.** AWS DynamoDB

○ **C.** AWS RDS

○ **D.** AWS EMR

Explanation :

Answer – A
The AWS Documentation mentions the following
Amazon Redshift is a fully managed, petabyte-scale data warehouse service in the cloud. You can start with just a few hundred gigabytes of data and scale to a petabyte or more. This enables you to use your data to acquire new insights for your business and customers.
Snapshots are point-in-time backups of a cluster. There are two types of snapshots: automated and manual. Amazon Redshift stores these snapshots internally in Amazon Simple Storage Service (Amazon S3) by using an encrypted Secure Sockets Layer (SSL) connection. If you need to restore from a snapshot, Amazon Redshift creates a new cluster and imports data from the snapshot that you specify.
Option B is incorrect since this is a NoSQL data store
Option C is incorrect since this is a relational database service
Option D is incorrect since this is a Big data service
For more information on AWS Redshift, please refer to the below URL
https://docs.aws.amazon.com/redshift/latest/mgmt/overview.html
(https://docs.aws.amazon.com/redshift/latest/mgmt/overview.html)

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QUESTION 38   UNATTEMPTED

Your company is planning on hosting a database using the AWS RDS service. You have to come up with the forecasted costs. Which of the following do you need to consider which are part of the costing aspects for the database? Choose 3 answers from the options given below

☐   **A.** The storage allocated to the server ✔

☐   **B.** The amount of data transferred to an EC2 Instance in the same region

☐   **C.** The Instance type for the database server ✔

☐   **D.** The number of hours the database is running ✔

Explanation :

Answer – A,C and D

The AWS Documentation mentions the following

Amazon RDS instances are billed based on the following components:

·   DB instance hours (per hour) – Based on the DB instance class of the DB instance (for example, db.t2.small or db.m4.large). Partial DB instance hours consumed are billed as full hours.

·   Storage (per GiB per month) – Storage capacity that you have provisioned to your DB instance. If you scale your provisioned storage capacity within the month, your bill is pro-rated.

·   I/O requests (per 1 million requests per month) – Total number of storage I/O requests that you have made in a billing cycle, for Amazon RDS magnetic storage and Amazon Aurora only.

·   Provisioned IOPS (per IOPS per month) – Provisioned IOPS rate, regardless of IOPS consumed, for Amazon RDS Provisioned IOPS (SSD) Storage only.

·   Backup storage (per GiB per month) – Backup storage is the storage that is associated with automated database backups and any active database snapshots that you have taken. Increasing your backup retention period or taking additional database snapshots increases the backup storage consumed by your database.

·   Data transfer (per GB) – Data transfer in and out of your DB instance from or to the internet and other AWS Regions.

Option B is incorrect since the amount of data transfer internally within a region is free.

For more information on AWS DB billing, please refer to the below URL

https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/User_DBInstanceBilling.html (https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/User_DBInstanceBilling.html)

Ask our Experts   👍 👎

QUESTION   39   UNATTEMPTED

Your company has a set of EBS volumes. There is a request to ensure that automated backups of the EBS volumes are in place. Which of the following would you use for this purpose?

○ **A.** Amazon Data Lifecycle Manager ✔

○ **B.** S3 Lifecycle policies

○ **C.** AWS Config

○ **D.** AWS Inspector

Explanation :

Answer – A

The AWS Documentation mentions the following

You can use Amazon Data Lifecycle Manager (Amazon DLM) to automate the creation, retention, and deletion of snapshots taken to back up your Amazon EBS volumes. Automating snapshot management helps you to:

· Protect valuable data by enforcing a regular backup schedule.

· Retain backups as required by auditors or internal compliance.

· Reduce storage costs by deleting outdated backups.

Option B is incorrect since this is used for the Simple Storage service

Option C is incorrect since this is a configuration service

Option D is incorrect since this is used to scan EC2 Instances for vulnerabilties

For more information on snapshot lifecycle, please refer to the below URL

https://docs.aws.amazon.com/AWSEC2/latest/WindowsGuide/snapshot-lifecycle.html

(https://docs.aws.amazon.com/AWSEC2/latest/WindowsGuide/snapshot-lifecycle.html)

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Your company has a set of EC2 Instances. There is a requirement to ensure that all EBS volumes, both root and data must be preserved even after the instance is terminated. How can you achieve this?

○ **A.** Set the DisableApiTermination attribute on the EC2 Instance to True

○ **B.** Set the DeletionOnTermination attribute for the volumes to True

○ **C.** Set the DisableApiTermination attribute on the EC2 Instance to False

○ **D.** Set the DeletionOnTermination attribute for the volumes to False ✔

Explanation :

Answer – D

The AWS Documentation mentions the following

When an instance terminates, Amazon EC2 uses the value of the DeleteOnTermination attribute for

each attached Amazon EBS volume to determine whether to preserve or delete the volume. By default, the DeletionOnTermination attribute for the root volume of an instance is set to true. Therefore, the default is to delete the root volume of an instance when the instance terminates.

Volume Type ⓘ	Device ⓘ	Snapshot ⓘ	Size (GiB) ⓘ	Volume Type ⓘ	IOPS ⓘ	Throughput (MB/s) ⓘ	Delete on Termination ⓘ	Encrypted ⓘ	
Root	/dev/sda1	snap-02196f4f8507c9598	10	General Purpose SSD (gp2) ▾	100 / 3000	N/A	☑	Not Encrypted	
EBS ▾	/dev/sdb ▾	Search (case-insensit	8	General Purpose SSD (gp2) ▾	100 / 3000	N/A	☐	Not Encrypted ▾	✖

Add New Volume

Options A and C are incorrect since these are used for the EC2 Instance
For more information on terminating instances, please refer to the below URL

https://docs.aws.amazon.com/AWSEC2/latest/WindowsGuide/terminating-instances.html
(https://docs.aws.amazon.com/AWSEC2/latest/WindowsGuide/terminating-instances.html)

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You work as a Systems Administrator for a company. They have just started using AWS and you have started building EC2 Instances out of custom baked AMI's. It is your responsibility to ensure that all AMI's are kept up to date with the latest patches. Which of the following can help automate this requirement?

○ **A.** AWS Trusted Advisor

○ **B.** AWS Systems Manager ✔

○ **C.** EC2 Dashboard

○ **D.** AWS Opswork

Explanation :

Answer – B
The AWS Documentation mentions the following
Systems Manager Automation is an AWS-hosted service that simplifies common instance and system maintenance and deployment tasks. For example, you can use Automation as part of your change management process to keep your Amazon Machine Images (AMIs) up-to-date with the latest application build. Or, let's say you want to create a backup of a database and upload it nightly to Amazon S3. With Automation, you can avoid deploying scripts and scheduling logic directly to the instance. Instead, you can run maintenance activities through Systems Manager Run Command and AWS Lambda steps orchestrated by the Automation service.

Option A is incorrect since this is just a recommendations-based service
Option C is incorrect this will just give information and services that you can use with EC2
Option D is incorrect this is normally used along with configuration management tools such as Chef and Puppet
For more information on the Systems Manager, please refer to the below URL
https://docs.aws.amazon.com/systems-manager/latest/userguide/systems-manager-automation.html (https://docs.aws.amazon.com/systems-manager/latest/userguide/systems-manager-automation.html)

Ask our Experts

QUESTION 42   UNATTEMPTED

A company is planning a disaster recovery procedure for their application hosted on AWS. The requirement is that the least amount of time is spent in downtime whenever the primary site goes down. Which of the following is the ideal disaster recovery scenario to use in this case?

○   **A. Backup and Restore**

○   **B. Pilot Light**

○   **C. Warm standby**

○   **D. Multi-Site** ✔

Explanation :

Answer - D
So, if you look at the Spectrum of disaster recovery scenarios, the one with Multi-Site is the one which offers the least amount of downtime. Hence all other options are invalid.

Example Disaster Recovery Scenarios with AWS

This section outlines four DR scenarios that highlight the use of AWS and compare AWS with traditional DR methods. The following figure shows a spectrum for the four scenarios, arranged by how quickly a system can be available to users after a DR event.

Figure 1: Spectrum of Disaster Recovery Options

For more information on Disaster recovery, please refer to the below URL
https://media.amazonwebservices.com/AWS_Disaster_Recovery.pdf
(https://media.amazonwebservices.com/AWS_Disaster_Recovery.pdf)

Ask our Experts

QUESTION 43   UNATTEMPTED

Your application architecture design currently looks at the use of SQS queues for messaging. One of the requirements it to ensure a separate queue is kept in place for those messages which are not processed successfully. Which of the following would you configure for this purpose?

○   A. FIFO Queues

○   B. Dead letter queues ✔

○   C. Queues with short polling configured

○   D. Delay queues

Explanation :

Answer – B
The AWS Documentation mentions the following
Amazon SQS supports *dead-letter queues*, which other queues (*source queues*) can target for messages that can't be processed (consumed) successfully. Dead-letter queues are useful for debugging your application or messaging system because they let you isolate problematic messages to determine why their processing doesn't succeed.

Option A is invalid since this is used to create First In First out queues

Option C is invalid since this is like having a standard queue

Option D is invalid since these queues are used to postpone the delivery of new messages to a queue for a number of seconds

For more information on dead letter queues, please refer to the below URL

https://docs.aws.amazon.com/AWSSimpleQueueService/latest/SQSDeveloperGuide/sqs-dead-letter-queues.html

(https://docs.aws.amazon.com/AWSSimpleQueueService/latest/SQSDeveloperGuide/sqs-dead-letter-queues.html)

Ask our Experts

QUESTION 44   UNATTEMPTED

You are a Systems Administrator for a company. You have been instructed to manage the users in AWS for the company. Which of the following are some of the best practises which you must follow with regards to managing security credentials in AWS. Choose 3 answers from the options below

- [ ] **A.** Use the AWS Root access keys for critical applications to access AWS resources

- [ ] **B.** Enable MFA for Privileged users ✔

- [ ] **C.** Use IAM Roles for EC2 Instances ✔

- [ ] **D.** Grant access on a least privilege basis ✔

Explanation :

Answer – B, C and D
The AWS Documentation mentions the following

IAM Best Practices

To help secure your AWS resources, follow these recommendations for the AWS Identity and Access Management (IAM) service

Topics

- Lock Away Your AWS Account Root User Access Keys
- Create Individual IAM Users
- Use Groups to Assign Permissions to IAM Users
- Use AWS Defined Policies to Assign Permissions Whenever Possible
- Grant Least Privilege
- Use Access Levels to Review IAM Permissions
- Configure a Strong Password Policy for Your Users
- Enable MFA for Privileged Users
- Use Roles for Applications That Run on Amazon EC2 Instances
- Use Roles to Delegate Permissions
- Do Not Share Access Keys
- Rotate Credentials Regularly
- Remove Unnecessary Credentials
- Use Policy Conditions for Extra Security
- Monitor Activity in Your AWS Account
- Video Presentation About IAM Best Practices

Option A is invalid since the root access keys should not be used in any form or manner

For more information on best practises for IAM, please refer to the below URL
https://docs.aws.amazon.com/IAM/latest/UserGuide/best-practices.html
(https://docs.aws.amazon.com/IAM/latest/UserGuide/best-practices.html)

Ask our Experts

QUESTION 45   UNATTEMPTED

You are a Systems Administrator for a company. The company has a set of EC2 Instances. There is a requirement for log files from the EC2 Instances to be shipped onto an S3 bucket for further analysis. Which of the below service can help facilitate this requirement?

○ **A.** AWS DataPipeline ✔

○ **B.** AWS Athena

○ **C.** AWS Redshift

○ **D.** AWS DynamoDB

Explanation :

Answer – A

The AWS Documentation mentions the following

AWS Data Pipeline is a web service that you can use to automate the movement and transformation of data. With AWS Data Pipeline, you can define data-driven workflows, so that tasks can be dependent on the successful completion of previous tasks. You define the parameters of your data transformations and AWS Data Pipeline enforces the logic that you've set up.
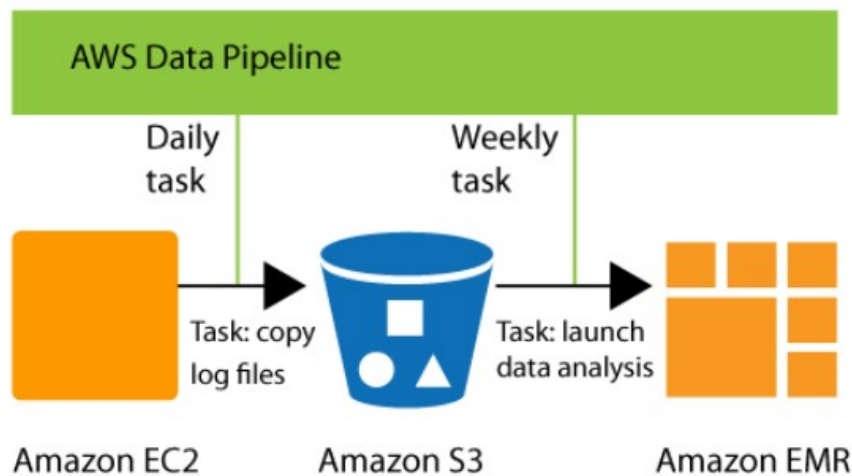
Option B is incorrect since this is an interactive query service that makes it easy to analyze data in Amazon S3

Option C is incorrect since this is a data warehousing solution

Option D is incorrect since this is a NoSQL database

For more information on AWS Data Pipeline, please refer to the below URL

https://docs.aws.amazon.com/datapipeline/latest/DeveloperGuide/what-is-datapipeline.html

(https://docs.aws.amazon.com/datapipeline/latest/DeveloperGuide/what-is-datapipeline.html)

Ask our Experts   👍 👎

You need to conduct the penetration testing for EC2 Instances in your company's AWS account. You need to do this as part of the security procedure for the company. Which of the following is TRUE when it comes to penetration testing for EC2 Instances?

○   **A.** It is not allowed under any circumstances

○   **B.** It can be performed by AWS at certain times

○   **C.** It can be performed by you on your instances with prior authorization from AWS
     ✔

○   **D.** It can be performed at any point in time

Explanation :

Answer – C
The AWS Documentation mentions the following

Simulated Event Testing

Our **Acceptable Use Policy** describes permitted and prohibited behavior on AWS and includes descriptions of prohibited security violations and network abuse. However, because penetration testing and other simulated events are frequently indistinguishable from these activities, we have established a policy for customers to request permission to conduct penetration tests and vulnerability scans to or originating from the AWS environment.

Because of what is mentioned in the AWS Documentation, all other options are invalid

For more information on penetration testing, please refer to the below URL
https://aws.amazon.com/security/penetration-testing/
(https://aws.amazon.com/security/penetration-testing/)

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QUESTION 47   UNATTEMPTED

You need to setup the following environment in AWS

· An EC2 instance hosting a web application in a public subnet

· An EC2 instance hosting a database server in a private subnet

There is a requirement for the EC2 Instance in the private subnet to access an S3 bucket. Which of the following are steps in the implementation process? Choose 2 answers from the options given below

☐ **A.** Provision an Internet gateway

☐ **B.** Provision a VPC Endpoint gateway ✔

☐ **C.** Change the Route table for the private subnet to route traffic through an Internet gateway

☐ **D.** Change the Route table for the private subnet to route traffic through a VPC Endpoint gateway ✔

Explanation :

Answer – B and D
The AWS Documentation mentions the following
A gateway endpoint is a gateway that is a target for a specified route in your route table, used for traffic destined to a supported AWS service. The following AWS services are supported:
· Amazon S3
· DynamoDB

Options A and C are incorrect since you should not use an Internet gateway for the private subnet
For more information on VPC Endpoints, please refer to the below URL
https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/vpc-endpoints.html
(https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/vpc-endpoints.html)

Ask our Experts 👍 👎

QUESTION 48   UNATTEMPTED

Your team member has defined the following bucket policy on one of the buckets

```
{
  "Version": "2012-10-17",
  "Id": "Sample123",
  "Statement": [
```

```
   {

     "Sid": "",

     "Effect": "Deny",

     "Principal": "*",

     "Action": "s3:*",

     "Resource": "arn:aws:s3:::examplebucket/*",

     "Condition": { "Null": { "aws:MultiFactorAuthAge": true }}

   }

 ]

}
```

What does this bucket policy do?

- ○ **A.** Allows access to the bucket if the IAM user has successfully logged into the console using a password

- ○ **B.** Allows access to the bucket if the IAM user has successfully logged into the console using Access keys

- ○ **C.** Denies access to the bucket if the user has used an MFA device for authentication

- ○ **D.** Denies access to the Bucket if the user is not authenticating via MFA device. ✔

Explanation :

Answer - D
Such an example is given in the AWS Documentation

When Amazon S3 receives a request with MFA authentication, the aws:MultiFactorAuthAge key provides a numeric value indicating how long ago (in seconds) the temporary credential was created. If the temporary credential provided in the request was not created using an MFA device, this key value is null (absent). In a bucket policy, you can add a condition to check this value, as shown in the following example bucket policy. The policy denies any Amazon S3 operation on the /taxdocuments folder in the examplebucket bucket if the request is not MFA authenticated. To learn more about MFA authentication, see Using Multi-Factor Authentication (MFA) in AWS in the *IAM User Guide*.

```
{
    "Version": "2012-10-17",
    "Id": "123",
    "Statement": [
      {
        "Sid": "",
        "Effect": "Deny",
        "Principal": "*",
        "Action": "s3:*",
        "Resource": "arn:aws:s3:::examplebucket/taxdocuments/*",
        "Condition": { "Null": { "aws:MultiFactorAuthAge": true }}
      }
    ]
}
```

Because of the example given in the AWS Documentation , all other options are invalid.

For more information on sample bucket policies, please refer to the below URL
https://docs.aws.amazon.com/AmazonS3/latest/dev/example-bucket-policies.html
(https://docs.aws.amazon.com/AmazonS3/latest/dev/example-bucket-policies.html)

Ask our Experts

QUESTION 49   UNATTEMPTED

You have an S3 bucket defined in AWS. You need to give users the ability to upload objects to the bucket. But you don't want to provide public access for the bucket. How can you ensure that users can add objects to the bucket?

○   A. Create a bucket ACL to provide the required permission

○   B. Create a pre-signed URL for the S3 bucket ✔

○   C. Provide a Cloudfront distribution in front of the bucket

○   D. Provide an ElastiCache in front of the bucket

Explanation :

Answer – B

The AWS Documentation mentions the following

All objects and buckets by default are private. The pre-signed URLs are useful if you want your user/customer to be able to upload a specific object to your bucket, but you don't require them to have AWS security credentials or permissions. When you create a pre-signed URL, you must provide your security credentials and then specify a bucket name, an object key, an HTTP method (PUT for uploading objects), and an expiration date and time. The pre-signed URLs are valid only for the specified duration.

Option A is invalid because this would again mean you need to give permissions on the bucket

Option C is invalid because this is normally used for content distribution

Option D is invalid because this is normally used to cache content

For more information on pre-signed URL's, please refer to the below URL

https://docs.aws.amazon.com/AmazonS3/latest/dev/PresignedUrlUploadObject.html (https://docs.aws.amazon.com/AmazonS3/latest/dev/PresignedUrlUploadObject.html)

Ask our Experts   👍 👎

A company needs to migrate their data warehousing solution to AWS. They want to be able to shift the data in the easiest way possible. Which of the following could help them in the data migration process?

○   **A.** AWS S3 Lifecycle policies

○   **B.** AWS Database Migration Service ✔

○   **C.** AWS Cloudtrail

○   **D.** AWS Cloudwatch

Explanation :

Answer – B

The AWS Documentation mentions the following

AWS Database Migration Service (AWS DMS) is a cloud service that makes it easy to migrate relational databases, data warehouses, NoSQL databases, and other types of data stores. You can use AWS DMS to migrate your data into the AWS Cloud, between on-premises instances, or between combinations of cloud and on-premises setups.

Option A is invalid because this is used to transition objects from S3 to other storage classes like Glacier

Option C is invalid because this is used to monitor all API activity

Option D is invalid because this used for monitoring purposes

For more information on the database migration service, please refer to the below URL
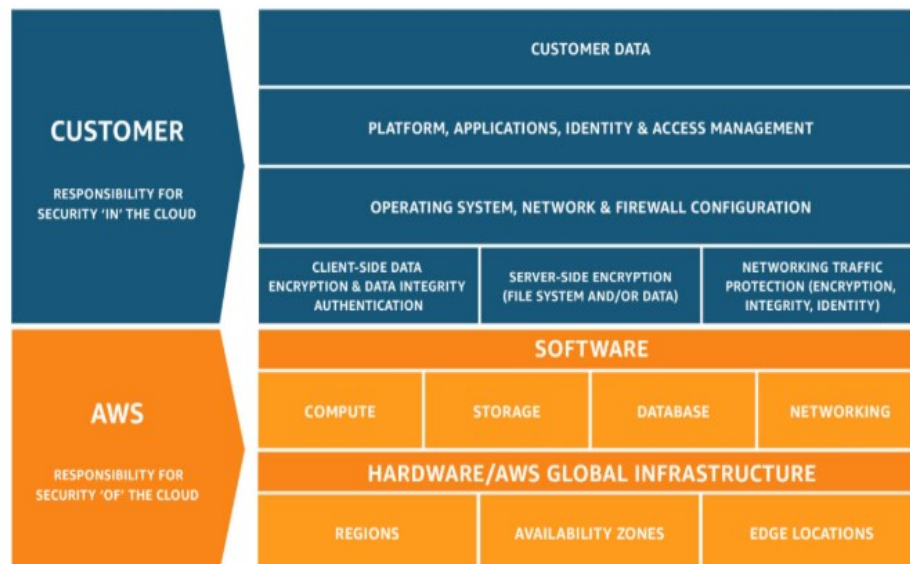
Ask our Experts 👍 👎

QUESTION 51   UNATTEMPTED

Your company currently has an AWS account. An audit is approaching, and you need to be prepared with the necessary artifacts to support the audit. As per the AWS responsibility model, what should you be responsible for, that could be questioned in the audit? Choose 2 answers from the options given below

☐ A. The global infrastructure that hosts the virtualization hypervisors

☐ B. Physical security for the AWS Data Centers

☐ C. The underlying Security groups for your EC2 Instances ✔

☐ D. The access keys rotation policy for your IAM users ✔

Explanation :

Answer – C and D
Below is the diagram for the Shared Responsibility Model. The global infrastructure and Physical security is part of the responsibility for AWS.

For more information on the Shared Responsibility Model, please refer to the below URL

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QUESTION 52   UNATTEMPTED

You've set up a VPC with a subnet. You've set up the EC2 Instance which has a public IP. You have set the Security Groups to allow access to your EC2 Instance. Which of the following are additional steps that need to be carried out to ensure that you can connect to the EC2 instance from the Internet? Please select 2 options from below

☐   A. Attach a NAT gateway to the VPC

☐   B. Attach an Internet gateway to the VPC ✔

☐   C. Modify the Route tables for traffic to flow via the NAT gateway

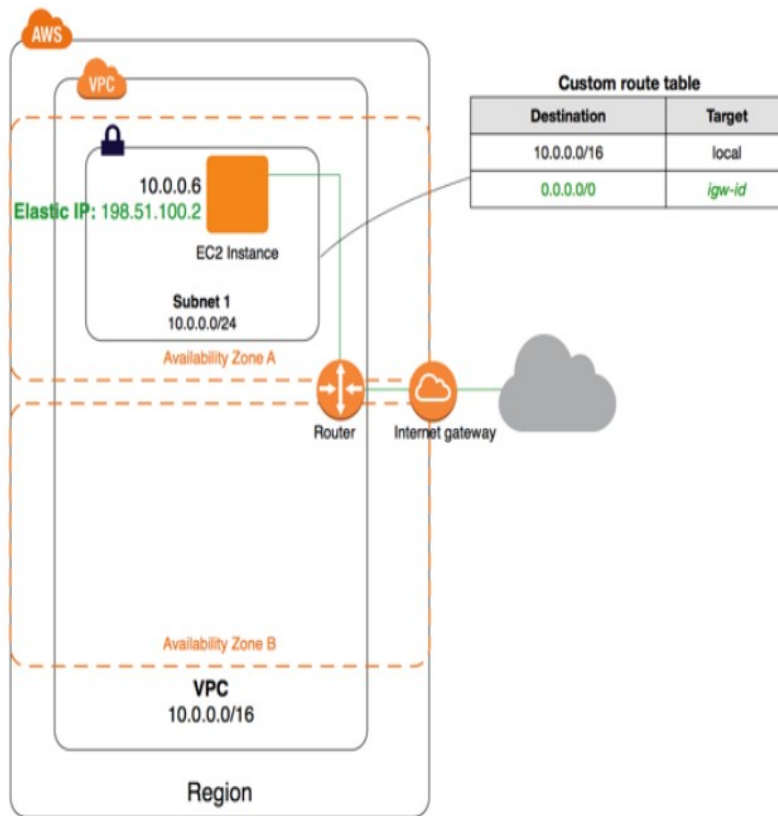☐   D. Modify the Route tables for traffic to flow via the Internet gateway ✔

Explanation :

Answer – B and D
The below diagram from the AWS Documentation shows this configuration where you need an Internet gateway and a route to the gateway in the Route table

Overview

The following diagram shows the key components of the configuration for this scenario.

Options A and C are incorrect because you normally use NAT gateways when you want instances in the private subnet to communicate with the Internet

For more information on this scenario, please refer to the below URL
https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VPC_Scenario1.html
(https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VPC_Scenario1.html)

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QUESTION 53   UNATTEMPTED

Your company has setup a dual tunnel VPN connection from their on-premise data center to AWS. They now need to setup a redundant connection. Which of the following can be done to have this in place?

O   **A.** Create an Internet gateway connection

O   **B.** Create a secondary VPN connection ✔

O   **C.** Create a NAT gateway connection

O   **D.** Since it's a dual VPN connection, there is already redundancy in place

---

Explanation :

Answer – B
This is mentioned in the AWS Documentation

Using Redundant VPN Connections to Provide Failover

As described earlier, a VPN connection has two tunnels to help ensure connectivity in case one of the VPN connections becomes unavailable. To protect against a loss of connectivity in case your customer gateway becomes unavailable, you can set up a second VPN connection to your VPC and virtual private gateway by using a second customer gateway. By using redundant VPN connections and customer gateways, you can perform maintenance on one of your customer gateways while traffic continues to flow over the second customer gateway's VPN connection. To establish redundant VPN connections and customer gateways on your remote network, you need to set up a second VPN connection. The customer gateway IP address for the second VPN connection must be publicly accessible.

Option A is incorrect since this only provide an open connection to the Internet

Option C is incorrect since this is used for communication in instances in the private subnet to the Internet
Option D is incorrect since you still need redundancy if the entire VPN connection fails
For more information on VPN connections, please refer to the below URL
https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VPC_VPN.html
(https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VPC_VPN.html)

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QUESTION 54   UNATTEMPTED

You have an EC2 Instance which is an EBS backed Instance. An application hosted on this instance is having issues. To resolve the issue, the best bet is to upgrade the instance to a higher instance type. How can you achieve this?

O   **A.** Directly change the instance type from the AWS Console

O   **B.** Stop the Instance and then change the Instance Type ✔

O   **C.** Detach the underlying EBS volumes and then change the Instance Type

○   **D. Detach the underlying ENI and then change the Instance Type**

Explanation :

Answer – B
This is given in the AWS Documentation

Resizing an Amazon EBS-backed Instance

You must stop your Amazon EBS-backed instance before you can change its instance type. When you stop and start an instance, be aware of the following:

- We move the instance to new hardware; however, the instance ID does not change.
- If your instance is running in a VPC and has a public IPv4 address, we release the address and give it a new public IPv4 address. The instance retains its private IPv4 addresses, any Elastic IP addresses, and any IPv6 addresses.
- If your instance is running in EC2-Classic, we give it new public and private IP addresses, and disassociate any Elastic IP address that's associated with the instance. Therefore, to ensure that your users can continue to use the applications that you're hosting on your instance uninterrupted, you must re-associate any Elastic IP address after you restart your instance.
- If your instance is in an Auto Scaling group, the Amazon EC2 Auto Scaling service marks the stopped instance as unhealthy, and may terminate it and launch a replacement instance. To prevent this, you can suspend the scaling processes for the group while you're resizing your instance. For more information, see Suspending and Resuming Scaling Processes in the *Amazon EC2 Auto Scaling User Guide*.
- Ensure that you plan for downtime while your instance is stopped. Stopping and resizing an instance may take a few minutes, and restarting your instance may take a variable amount of time depending on your application's startup scripts.

Because of what is provided in the AWS Documentation, all other options are invalid

For more information on Resizing EC2 Instances, please refer to the below URL
https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ec2-instance-resize.html
(https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ec2-instance-resize.html)

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QUESTION 55   UNATTEMPTED

You need to publish metrics from several devices onto Cloudwatch. There is a requirement to publish the metrics at an interval of 1 second. How can you accomplish this? Choose 2 answers from the options given below

☐   **A. Use the AWS CLI to publish custom metrics** ✔

☐ **B.** Publish custom metrics from the AWS Console

☐ **C.** Publish metrics with standard resolution

☐ **D.** Publish metrics with high resolution ✔

Explanation :

Answer – A and D

This is given in the AWS Documentation

Metrics produced by AWS services are standard resolution by default. When you publish a custom metric, you can define it as either standard resolution or high resolution. When you publish a high-resolution metric, CloudWatch stores it with a resolution of 1 second, and you can read and retrieve it with a period of 1 second, 5 seconds, 10 seconds, 30 seconds, or any multiple of 60 seconds.

Option B is incorrect since you cannot publish custom metrics from the Console

Option C is incorrect since you need high resolution for 1 second based metrics

For more information on publishing custom metrics, please refer to the below URL

https://docs.aws.amazon.com/AmazonCloudWatch/latest/monitoring/publishingMetrics.html (https://docs.aws.amazon.com/AmazonCloudWatch/latest/monitoring/publishingMetrics.html)

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QUESTION 56   UNATTEMPTED

You've setup an Autoscaling Group. You need to know whenever the Autoscaling Group scales the groups and adds new instances. Which of the following service when used in conjunction with Autoscaling Groups can achieve this?

○ **A.** AWS SQS

○ **B.** AWS SNS ✔

○ **C.** AWS SWF

○ **D.** AWS ELB

Explanation :

Answer – B

This is given in the AWS Documentation

When you use Amazon EC2 Auto Scaling to scale your applications automatically, it is useful to know when Amazon EC2 Auto Scaling is launching or terminating the EC2 instances in your Auto Scaling group. Amazon SNS coordinates and manages the delivery or sending of notifications to subscribing clients or endpoints. You can configure Amazon EC2 Auto Scaling to send an SNS notification whenever your Auto Scaling group scales.

Option A is incorrect since this is the messaging service

Option C is incorrect since this is the workflow service

Option D is incorrect since this is the load balancing service

For more information on Autoscaling SNS notifications, please refer to the below URL

https://docs.aws.amazon.com/autoscaling/ec2/userguide/ASGettingNotifications.html (https://docs.aws.amazon.com/autoscaling/ec2/userguide/ASGettingNotifications.html)

Ask our Experts 👍 👎

QUESTION 57   UNATTEMPTED

You've setup a Load Balancer in AWS. You've setup EC2 Instances in multiple availability zones and also ensure the load balancer has these availability zones added to it. Which of the following will ensure that traffic get distributed across the registered targets in all enabled Availability Zones?

- ○ **A.** Enable Sticky Sessions
- ○ **B.** Enable cross-zone load balancing ✔
- ○ **C.** Enable proxy protocol
- ○ **D.** Enable connection draining

Explanation :

Answer – B

This is given in the AWS Documentation

The nodes for your load balancer distribute requests from clients to registered targets. When cross-zone load balancing is enabled, each load balancer node distributes traffic across the registered targets in all enabled Availability Zones. When cross-zone load balancing is disabled, each load balancer node distributes traffic across the registered targets in its Availability Zone only.

Option A is incorrect since this binds a user's session to a specific instance

Option C is incorrect since this is used to carry connection information from the source requesting the connection to the destination for which the connection was requested.

Option D is incorrect since this is used to stop sending requests to instances that are de-registering or unhealthy

For more information on how load balancing works, please refer to the below URL

https://docs.aws.amazon.com/elasticloadbalancing/latest/userguide/how-elastic-load-balancing-works.html (https://docs.aws.amazon.com/elasticloadbalancing/latest/userguide/how-elastic-load-balancing-works.html)

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QUESTION 58   UNATTEMPTED

Your company has a set of resources defined in AWS. They have a particular budget per month and want to be notified if they are coming close to that budget when it comes to the usage costs for the underlying resources. How could you achieve this requirement?

○   **A.**   Create an alarm based on the costing metrics for a collection of resources

○   **B.**   Create a billing alarm from within Cloudwatch ✔

○   **C.**   Create a billing alarm from within Cost Explorer

○   **D.**   Create a billing alarm from within IAM

Explanation :

Answer – B
This is given in the AWS Documentation
You can monitor your estimated AWS charges using Amazon CloudWatch. When you enable the monitoring of estimated charges for your AWS account, the estimated charges are calculated and sent several times daily to CloudWatch as metric data.
Option A is invalid because you cannot get cost as a metric specifically in Cloudwatch
Options C and D are invalid because the billing alarm needs to be created from Cloudwatch
For more information on monitoring charges with AWS Cloudwatch, please refer to the below URL
https://docs.aws.amazon.com/AmazonCloudWatch/latest/monitoring/monitor_estimated_charges_with_cloudwatch
(https://docs.aws.amazon.com/AmazonCloudWatch/latest/monitoring/monitor_estimated_charges_with_cloudwatch

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QUESTION 59   UNATTEMPTED

Your company has a set of resources defined in AWS. They want to optimize on the cost and explore avenues on how they can achieve this with their current set of resources. Which of the following can help them effectively manage this?

○   **A.** AWS Trusted Advisor ✔

○   **B.** AWS Inspector

○   **C.** AWS Config

○   **D.** AWS Personal health dashboard

Explanation :

Answer – A

In AWS Trusted Advisor, there is a special Cost Optimization section in place. This can give you recommendations on how you can improve on costs in your AWS environment.

Cost Optimization Checks

🔓 **Upgrade your Support plan to unlock all Trusted Advisor recommendations!**
You will have access to technical support from a cloud support engineer, with phone and chat support, support API, Identity and Access Management, Architecture support - use case guidance, and more.

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▸ **Low Utilization Amazon EC2 Instances**

Checks the Amazon Elastic Compute Cloud (Amazon EC2) instances that were running at any time during the last 14 days and alerts you if the daily CPU utilization was 10% or less and network I/O was 5 MB or less on 4 or more days.

▸ **Idle Load Balancers**

Checks your Elastic Load Balancing configuration for load balancers that are not actively used.

▸ **Underutilized Amazon EBS Volumes**

Checks Amazon Elastic Block Store (Amazon EBS) volume configurations and warns when volumes appear to be underused.

Option B is invalid because this is used to check for vulnerability on servers

Option C is invalid because this is used as a configuration service
Option D is invalid because this is used to check for the underlying health of the AWS services
For more information on the AWS Trusted Advisor, please refer to the below URL

https://aws.amazon.com/premiumsupport/trustedadvisor/
(https://aws.amazon.com/premiumsupport/trustedadvisor/)

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Your company has a set of Customer Master Keys defined in AWS KMS. You need to review who has access to which keys. You then need to make the required changes based on the policy documents defined by the company. Where could you make changes to who has access to the keys in the KMS service.

○   **A.** Bucket Policies

○   **B.** Object ACL's

○   **C.** Key Policies ✔

○   **D.** KMS Policies

Explanation :

Answer – C
The AWS Documentation mentions the following
Key policies are the primary way to control access to customer master keys (CMKs) in AWS KMS. They are not the only way to control access, but you cannot control access without them.
Options A and B are invalid because these are referent to access policies for S3
Option D is invalid because there are no KMS policies
For more information on Key policies, please refer to the below URL
https://docs.aws.amazon.com/kms/latest/developerguide/key-policies.html
(https://docs.aws.amazon.com/kms/latest/developerguide/key-policies.html)

Ask our Experts 👍 👎

Your company has a number of Cloudtrail log files defined. They now need to ensure that files should not be tampered with. How can you ensure this requirement is fulfilled?

○ **A.** Change the access for the log files to only allow read access

○ **B.** Enable log file integrity for the log files ✔

○ **C.** Change the IAM policy for the log files to only allow read access

○ **D.** Change the bucket ACL for the log files to only allow read access

---

Explanation :

Answer - B

The AWS Documentation mentions the following

To determine whether a log file was modified, deleted, or unchanged after CloudTrail delivered it, you can use CloudTrail log file integrity validation. This feature is built using industry standard algorithms: SHA-256 for hashing and SHA-256 with RSA for digital signing. This makes it computationally infeasible to modify, delete or forge CloudTrail log files without detection. You can use the AWS CLI to validate the files in the location where CloudTrail delivered them.

Because it is clearly mentioned in the AWS Documentation how this can be achieved , all other options are incorrect

For more information on Cloudtrail log file integrity, please refer to the below URL

https://docs.aws.amazon.com/awscloudtrail/latest/userguide/cloudtrail-log-file-validation-intro.html (https://docs.aws.amazon.com/awscloudtrail/latest/userguide/cloudtrail-log-file-validation-intro.html)

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You work for a company as a Systems Administrator. You have a vendor that needs access to an AWS resource in your company's account. You create an AWS user account. You want to restrict access to the resource using a policy for just that user over a brief period. Which of the following would be an ideal policy to use?

○ **A.** An AWS Managed Policy

○ **B.** An Inline Policy ✔

○ **C.** A Bucket Policy

○ **D.** A bucket ACL

Explanation :

Answer – B

The AWS Documentation gives an example on such a case

Inline policies are useful if you want to maintain a strict one-to-one relationship between a policy and the principal entity that it's applied to. For example, you want to be sure that the permissions in a policy are not inadvertently assigned to a principal entity other than the one they're intended for. When you use an inline policy, the permissions in the policy cannot be inadvertently attached to the wrong principal entity. In addition, when you use the AWS Management Console to delete that principal entity, the policies embedded in the principal entity are deleted as well. That's because they are part of the principal entity.

Option A is invalid because AWS Managed Polices are ok for a group of users , but for individual users , inline policies are better.

Option C and D are invalid because they are specifically meant for access to S3 buckets

For more information on policies, please visit the following url

https://docs.aws.amazon.com/IAM/latest/UserGuide/access_policies_managed-vs-inline.html (https://docs.aws.amazon.com/IAM/latest/UserGuide/access_policies_managed-vs-inline.html)

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QUESTION 63   UNATTEMPTED

Your company needs to implement a web application on AWS. They need to expose API's which can be invoked by customers. They don't want to manage the underlying Infrastructure for the web service. Which of the following 2 services would you implement for this purpose?

- ☐ **A.** AWS EC2
- ☐ **B.** AWS Lambda ✔
- ☐ **C.** AWS API gateway ✔
- ☐ **D.** AWS RDS

Explanation :

Answer – B and C
Option A is incorrect because here you need to manage the underlying compute service
Option D is incorrect because there is no mention of a data store requirement in the question
The AWS Documentation mentions the following
AWS Lambda lets you run code without provisioning or managing servers. You pay only for the compute time you consume - there is no charge when your code is not running.
With Lambda, you can run code for virtually any type of application or backend service - all with zero administration. Just upload your code and Lambda takes care of everything required to run and scale your code with high availability. You can set up your code to automatically trigger from other AWS services or call it directly from any web or mobile app.

Amazon API Gateway is a fully managed service that makes it easy for developers to create, publish, maintain, monitor, and secure APIs at any scale. With a few clicks in the AWS Management Console, you can create an API that acts as a "front door" for applications to access data, business logic, or functionality from your back-end services, such as workloads running on Amazon Elastic Compute Cloud (Amazon EC2), code running on AWS Lambda, or any web application.
For more information on AWS Lambda and API gateway, please visit the following url
https://aws.amazon.com/lambda/ (https://aws.amazon.com/lambda/)
https://aws.amazon.com/api-gateway/ (https://aws.amazon.com/api-gateway/)

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QUESTION 64   UNATTEMPTED

Your company needs to transfer a large petabyte data warehouse to AWS. They need to find an efficient way to transfer the data. Which of the following would you ideally try to implement?

- ○ **A.** Create an AWS Direct Connect connection
- ○ **B.** Use the AWS Snowball device ✔
- ○ **C.** Create an AWS software VPN solution
- ○ **D.** Create an AWS hardware VPN solution

> **Explanation :**
>
> Answer – B
> The AWS Documentation mentions the following
> Snowball is a petabyte-scale data transport solution that uses devices designed to be secure to transfer large amounts of data into and out of the AWS Cloud. Using Snowball addresses common challenges with large-scale data transfers including high network costs, long transfer times, and security concerns. Customers today use Snowball to migrate analytics data, genomics data, video libraries, image repositories, backups, and to archive part of data center shutdowns, tape replacement or application migration projects. Transferring data with Snowball is simple, fast, more secure, and can be as little as one-fifth the cost of transferring data via high-speed Internet.
> All other options are incorrect because they would all be inefficient ways to transfer such a large data store onto AWS.
> For more information on AWS Snowball, please visit the following url
> https://aws.amazon.com/snowball/ (https://aws.amazon.com/snowball/)

QUESTION 65   UNATTEMPTED

A company is planning on hosting their data store in AWS for their 3-tier application. The following are the key requirements for the database

·   Ability for multiple schema changes

·   The database should be durable

·   Changes to the database should not result in downtime

Which of the following would be the best data store option for the company?

O   **A.** AWS S3

O   **B.** AWS Redshift

O   **C.** AWS DynamoDB

O   **D.** AWS Aurora ✔

Explanation :

Answer: D

########

AWS Says" In Amazon Aurora, you can use fast DDL to execute an ALTER TABLE operation in place, nearly instantaneously. The operation completes without requiring the table to be copied and without having a material impact on other DML statements. Because the operation doesn't consume temporary storage for a table copy, it makes DDL statements practical even for large tables on small instance types.

Here's a performance comparison—you can see that Aurora is doing a constant time operation updating the Schema Version Table. In contrast, regular MySQL grows in near linear fashion with table size.

On r3.large		Aurora	MySQL 5.6	MySQL 5.7
	10GB table	0.27 sec	3,960 sec	1,600 sec
	50GB table	0.25 sec	23,400 sec	5,040 sec
	100GB table	0.26 sec	53,460 sec	9,720 sec

On r3.8xlarge		Aurora	MySQL 5.6	MySQL 5.7
	10GB table	0.06 sec	900 sec	1,080 sec
	50GB table	0.08 sec	4,680 sec	5,040 sec
	100GB table	0.15 sec	14,400 sec	9,720 sec

Amazon Aurora is a MySQL-compatible database that combines the speed and availability of high-end commercial databases with the simplicity and cost-effectiveness of open-source databases. Amazon Aurora has a taken a common data definition language (DDL) statement that typically requires hours to complete in MySQL and made it near-instantaneous.i.e.0.15 sec for a 100BG table on r3.8xlarge instance.
########

For mre information, Please refer to this below link:
https://aws.amazon.com/blogs/database/amazon-aurora-under-the-hood-fast-ddl/
(https://aws.amazon.com/blogs/database/amazon-aurora-under-the-hood-fast-ddl/)

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