DIAGNOSTIC TEST

Attempt	1	**Completed on**	Tuesday , 29 January 2019 , 04:27 PM
Marks Obtained	0 / 60	**Time Taken**	00 H 00 M 24 S
Your score is	0.0%	**Result**	Fail

Domains / Topics wise Quiz Performance Report

S.No.	Topic	Total Questions	Correct	Incorrect	Unattempted
1	Other	59	0	1	58
2	Monitoring and Troubleshooting	1	0	0	1

60 Questions	0 Correct	1 Incorrect	59 Unattempted

Show Answers: All

QUESTION 1 INCORRECT

If you are connecting to AWS from a computer and not an EC2 instance, you need to create an AWS user, attach permissions, generate access keys and store the API access keys in the AWS credentials file. Choose the correct answer from the options below.

- **A.** True ✔
- **B.** False ✖

Explanation :

Answer – A

When you access AWS programmatically, you use an access key to verify your identity and the identity of your applications. An access key consists of an access key ID and a secret access key.
If you do need to create access keys for programmatic access to AWS, create an IAM user and grant that user only the permissions he or she needs. Then generate an access key for that user.
Don't embed access keys directly into code.
Put access keys in one of the following locations:
The AWS credentials file. The AWS SDKs and AWS CLI automatically use the credentials that you store in the AWS credentials file.
Environment variables. On a multitenant system, choose user environment variables, not system environment variables.
For more information on IAM access keys please visit the link:

- http://docs.aws.amazon.com/IAM/latest/UserGuide/id_credentials_access-keys.html (http://docs.aws.amazon.com/IAM/latest/UserGuide/id_credentials_access-keys.html)
- https://docs.aws.amazon.com/general/latest/gr/aws-access-keys-best-practices.html (https://docs.aws.amazon.com/general/latest/gr/aws-access-keys-best-practices.html)

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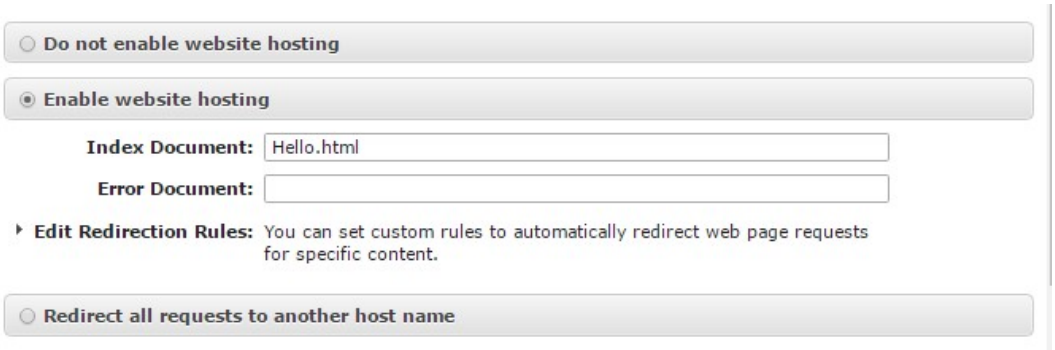
QUESTION 2 UNATTEMPTED

You decide to configure a bucket for static website hosting. As per the AWS documentation, you create a bucket named 'mybucket.com' and then you enable website hosting with an index document of 'index.html' and you leave the error document as blank. You then upload a file named 'index.html' to the bucket. After clicking on the endpoint of mybucket.com.s3-website-us-east-1.amazonAWS.com you receive 403 Forbidden error. You then change the CORS configuration on the bucket so that everyone has access, however you still receive the 403 Forbidden error. What additional step do you need to do so that the endpoint is accessible to everyone? Choose the correct answer from the options below

- **A.** Register mybucket.com on Route53
- **B.** Wait for the DNS change to propagate
- **C.** You need to add a name for the error document, because it is a required field.
- **D.** Change the permissions on the index.html file also, so that everyone has access. ✔

Explanation :

Answer – D
The below example shows a bucket for which “Enable website hosting” is available.



Next the file Hello.html is uploaded which is also mentioned as the index document in the last step.

Name	Storage Class	Size	Last Modified
Hello.html	Standard	5 bytes	Thu Feb 02 00:18:37 GMT+400 2017
aws-programmatic-access-test-object	Standard	4 bytes	Wed Jul 27 12:40:02 GMT+400 2016

Next you have to ensure that Everyone has permissions to View the document

For more information on web site hosting in S3, please visit the below link:

- http://docs.aws.amazon.com/AmazonS3/latest/dev/WebsiteHosting.html (http://docs.aws.amazon.com/AmazonS3/latest/dev/WebsiteHosting.html)

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QUESTION 3 UNATTEMPTED

In regards to their data consistency model, AWS states that "Amazon S3 buckets in all Regions provide read-after-write consistency for PUTS of new objects and eventual consistency for overwrite PUTS and DELETES." What does AWS actually mean when they say Read-after-write consistency for PUTS of new objects? Choose the correct answer from the options below

- **A.** If you write a new key to S3, you will be able to retrieve any object immediately afterwards. Also, any newly created object or file will be visible immediately, without any delay. ✔

- **B.** If you write a new key to S3, a subsequent read might return the old data or the updated data. Your applications should be built with this uncertainty in mind.
- **C.** If you write a new key to S3, it may write corrupted or partial data.
- **D.** You cannot write a new key to S3 unless there has been a read done prior to the write

Explanation :

Answer – A
As per the AWS documentation it is clearly given that all regions provide read after write consistency hence the object would be immediately available.

Q: What data consistency model does Amazon S3 employ?

Amazon S3 buckets in all Regions provide read-after-write consistency for PUTS of new objects and eventual consistency for overwrite PUTS and DELETES.

For more information on S3, please visit the below link:

- https://aws.amazon.com/s3/faqs/ (https://aws.amazon.com/s3/faqs/)

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QUESTION 4 UNATTEMPTED

You decide to create a bucket on AWS S3 called 'bucketever' and then perform the following actions in the order that they are listed here.

- You upload a file to the bucket called 'file1'

- You enable versioning on the bucket

- You upload a file called 'file2'

- You upload a file called 'file3'

- You upload another file called 'file2'

Which of the following is true for your bucket 'bucketever'?

- **A.** There will be 1 version ID for file1, there will be 2 version IDs for file2 and 1 version ID for file3
- **B.** The version ID for file1 will be null, there will be 2 version IDs for file2 and 1 version ID for file3 ✔
- **C.** There will be 1 version ID for file1, the version ID for file2 will be null and there will be 1 version ID for file3

- **D.** All file version ID's will be null because versioning must be enabled before uploading objects to 'bucketever'

Explanation :

Answer – B
Any objects uploaded prior to versioning will have the version ID as NULL.
This is clearly mentioned in the AWS documentation.

- Objects stored in your bucket before you set the versioning state have a version ID of `null`. When you enable versioning, existing objects in your bucket do not change. What changes is how Amazon S3 handles the objects in future requests. For more information, see Managing Objects in a Versioning-Enabled Bucket.

For more information on S3 versioning, please visit the below link:

- http://docs.aws.amazon.com/AmazonS3/latest/dev/Versioning.html (http://docs.aws.amazon.com/AmazonS3/latest/dev/Versioning.html)

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QUESTION 5 UNATTEMPTED

Server-side encryption is about data encryption at rest. That is, Amazon S3 encrypts your data at the object level as it writes it to disk in its data centers and decrypts it for you when you go to access it. There are a few different options depending on how you choose to manage the encryption keys. One of the options is called 'Server-Side Encryption with Amazon S3-Managed Keys (SSE-S3)'. Which of the following best describes how this encryption method works? Choose the correct answer from the options below

- **A.** There are separate permissions for the use of an envelope key (that is, a key that protects your data's encryption key) that provides added protection against unauthorized access of your objects in S3 and also provides you with an audit trail of when your key was used and by whom.
- **B.** Each object is encrypted with a unique key employing strong encryption. As an additional safeguard, it encrypts the key itself with a master key that it regularly rotates. ✔
- **C.** You manage the encryption keys and Amazon S3 manages the encryption, as it writes to disk, and decryption, when you access your objects.
- **D.** A randomly generated data encryption key is returned from Amazon S3, which is used by the client to encrypt the object data.

Explanation :

Answer – B
S3 provide many encryption techniques.
Use Server-Side Encryption with Amazon S3-Managed Keys (SSE-S3) – Each object is encrypted with a unique key employing strong multi-factor encryption. As an additional safeguard, it encrypts the key itself with a master key that it regularly rotates. Amazon S3 server-side encryption uses one of the strongest block ciphers available, 256-bit Advanced Encryption Standard (AES-256), to encrypt your data.
For more information on S3 encryption, please visit the link:

- http://docs.aws.amazon.com/AmazonS3/latest/dev/serv-side-encryption.html (http://docs.aws.amazon.com/AmazonS3/latest/dev/serv-side-encryption.html)

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QUESTION 6 UNATTEMPTED

One of your requirements is to setup an S3 bucket to store your files like documents and images. However, those objects should not be directly accessible via the S3 URL, they should ONLY be accessible from pages on your website so that only your paying customers can see them. How could you implement this? Choose the correct answer from the options below

- **A.** Use HTTPS endpoints to encrypt your data
- **B.** You can use a bucket policy and check for the AWS:Referer key in a condition, where that key matches your domain ✔
- **C.** You can't. The S3 URL must be public in order to use it on your website.
- **D.** You can use server-side and client-side encryption, where only your application can decrypt the objects

Explanation :

Answer – B
Suppose you have a website with domain name (www.example.com or example.com) with links to photos and videos stored in your S3 bucket, examplebucket. By default, all the S3 resources are private, so only the AWS account that created the resources can access them. To allow read access to these objects from your website, you can add a bucket policy that allows s3:GetObject permission with a condition, using theAWS:referer key, that the get request must originate from specific webpages.
For more information on S3 bucket policy examples, please visit the link:

- http://docs.aws.amazon.com/AmazonS3/latest/dev/example-bucket-policies.html (http://docs.aws.amazon.com/AmazonS3/latest/dev/example-bucket-policies.html)

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QUESTION 7 UNATTEMPTED

Which of the descriptions below best describes what the following bucket policy does?

```
{
 "Version":"2012-10-17",
 "Id":"Statement1",
 "Statement":[
 {
  "Sid":" Statement2",
  "Effect":"Allow",
  "Principal":"*",
  "Action":"s3:GetObject",
  "Resource":"arn:AWS:s3:::mybucket/*",
  "Condition":{
     "StringLike":{"AWS:Referer":
["http://www.example.com/*","http://www.demo.com/*"]}
  }
 }
 ]
}
```

Choose the correct answer from the options below

- **A.** It allows read and write access to bucket 'mybucket'.
- **B.** It allows read access to bucket 'mybucket' but only if it is accessed from www.example.com or www.demo.com. ✔
- **C.** It allows read access to bucket 'mybucket' for all requests.

- **D.** It allows read or write access to bucket 'mybucket' but only if it is accessed from www.example.com or www.demo.com.

Explanation :

Answer – B
By default, all the S3 resources are private, so only the AWS account that created the resources can access them. To allow read access to these objects from your website, you can add a bucket policy that allows s3:GetObject permission with a condition, using the aws:referer key, that the get request must originate from specific webpages.

For more information on S3 bucket policy examples, please visit URL http://docs.aws.amazon.com/AmazonS3/latest/dev/example-bucket-policies.html (http://docs.aws.amazon.com/AmazonS3/latest/dev/example-bucket-policies.html)
Restricting access to a specific HTTP Referrer - http://docs.aws.amazon.com/AmazonS3/latest/dev/example-bucket-policies.html#example-bucket-policies-use-case-4 (http://docs.aws.amazon.com/AmazonS3/latest/dev/example-bucket-policies.html#example-bucket-policies-use-case-4)

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QUESTION 8 UNATTEMPTED

Your application is trying to upload a 6 GB file to Simple Storage Service and receive a "Your proposed upload exceeds the maximum allowed object size." error message. What is a possible solution for this? Choose the correct answer from the options below

- **A.** None, Simple Storage Service objects are limited to 5 GB
- **B.** Use the multipart upload API for this object ✔
- **C.** Use the large object upload API for this object
- **D.** Contact support to increase your object size limit

Explanation :

Answer – B
The Multipart upload API enables you to upload large objects in parts. You can use this API to upload new large objects or make a copy of an existing object (see Operations on Objects (http://docs.aws.amazon.com/AmazonS3/latest/dev/ObjectOperations.html)).
Multipart uploading is a three-step process: You initiate the upload, you upload the object parts, and after you have uploaded all the parts, you complete the multipart upload. Upon receiving the complete multipart upload request, Amazon S3 constructs the object from the uploaded parts, and you can then access the object just as you would any other object in your bucket.
For more information on S3 Multi Part file upload, please visit the link:

- http://docs.aws.amazon.com/AmazonS3/latest/dev/mpuoverview.html (http://docs.aws.amazon.com/AmazonS3/latest/dev/mpuoverview.html)

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QUESTION 9 UNATTEMPTED

While working with the AWS S3 API you receive the following error message: 409 Conflict. What might be the cause of this error?

- A. BadDigest
- B. User does not have proper permissions to make the API call
- C. Bucket already exists ✔
- D. Bucket name does not exist

Explanation :

Answer – C
This is clearly provided as part of the S3 error codes in the S3 documentation.

BucketAlreadyExists	The requested bucket name is not available. The bucket namespace is shared by all users of the system. Please select a different name and try again.	409 Conflict	Client

For more information on S3 Error codes, please visit the link:

- http://docs.aws.amazon.com/AmazonS3/latest/API/ErrorResponses.html#ErrorCodeList (http://docs.aws.amazon.com/AmazonS3/latest/API/ErrorResponses.html#ErrorCodeList)

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QUESTION 10 UNATTEMPTED

While hosting a static website with Amazon S3, your static JavaScript code attempts to include resources from another S3 bucket but permission is denied. How might you solve the problem? Choose the correct answer from the options below

- A. Enable CORS Configuration ✔
- B. Disable Public Object Permissions

- C. Move the object to the main bucket
- D. None of the above

Explanation :

Answer – A
Cross-origin resource sharing (CORS) defines a way for client web applications that are loaded in one domain to interact with resources in a different domain. With CORS support in Amazon S3, you can build rich client-side web applications with Amazon S3 and selectively allow cross-origin access to your Amazon S3 resources.
For more information on S3 CORS configuration, please visit the link:

- http://docs.aws.amazon.com/AmazonS3/latest/dev/cors.html (http://docs.aws.amazon.com/AmazonS3/latest/dev/cors.html)

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QUESTION 11 UNATTEMPTED

How much data can be stored in S3? Choose the correct answer from the options below

- A. 500 TB
- B. 500 GB
- C. 5GB
- D. No limits to the amount of data ✔

Explanation :

Answer – D
As per the AWS documentation it is clearly given that any amount of data can be stored in S3.

Q: How much data can I store?

The total volume of data and number of objects you can store are unlimited. Individual Amazon S3 objects can range in size from a minimum of 0 bytes to a maximum of 5 terabytes. The largest object that can be uploaded in a single PUT is 5 gigabytes. For objects larger than 100 megabytes, customers should consider using the Multipart Upload capability.

For more information on S3, please visit the below link:

- https://aws.amazon.com/s3/faqs/ (https://aws.amazon.com/s3/faqs/)

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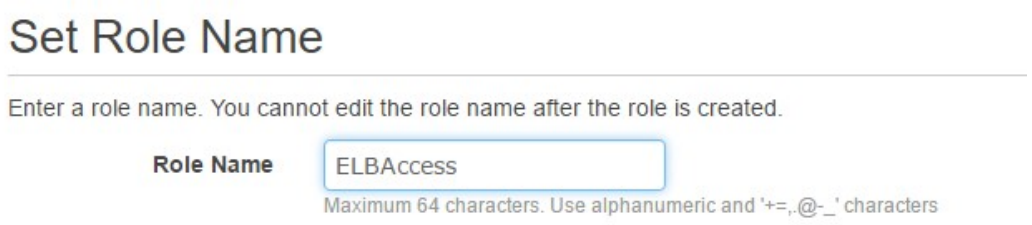
QUESTION 12 UNATTEMPTED

If you're executing .Net code against AWS on an EC2 instance that is assigned an IAM role, which of the following is a true statement? Choose the correct answer from the options below

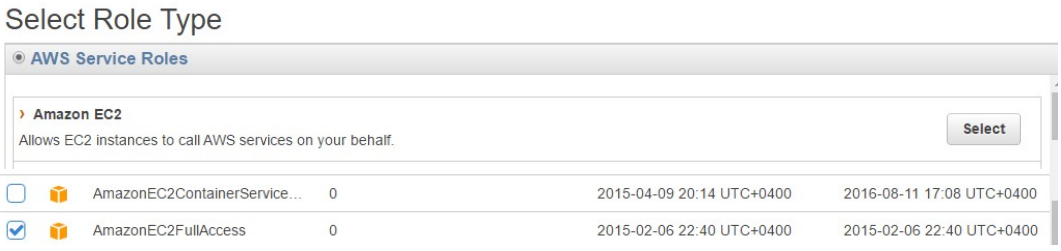
- A. The code will assume the same permissions as the IAM role ✔
- B. The code must have AWS access keys in order to execute
- C. Only .Net code can assume IAM roles
- D. None of the above

Explanation :

Answer – A
The best practise for IAM is to create roles which has specific access to an AWS service and then give the user permission to the AWS service via the role.
To get the role in place , follow the below steps
Step 1) Create a role which has the required ELB access



Step 2) You need to provide permissions to the underlying EC2 instances in the Elastic Load Balancer



For the best practises on IAM policies, please visit the link:

- http://docs.aws.amazon.com/IAM/latest/UserGuide/best-practices.html (http://docs.aws.amazon.com/IAM/latest/UserGuide/best-practices.html)

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QUESTION 13 UNATTEMPTED

In S3 what can be used to delete a large number of objects

- A. QuickDelete
- B. Multi-Object Delete ✔
- C. Multi-S3 Delete
- D. There is no such option available

Explanation :

Answer – B

As per the AWS documentation it is clearly given that any amount of data can be stored in S3.

Q: How can I delete large numbers of objects?

You can use Multi-Object Delete to delete large numbers of objects from Amazon S3. This feature allows you to send multiple object keys in a single request to speed up your deletes. Amazon does not charge you for using Multi-Object Delete.

For more information on S3, please visit the below link:

- https://aws.amazon.com/s3/faqs/ (https://aws.amazon.com/s3/faqs/)

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QUESTION 14 UNATTEMPTED

You are having trouble maintaining session states on some of your applications that are using an Elastic Load Balancer(ELB). As well as that there does not seem to be an even distribution of sessions across your ELB. To overcome this problem which of the following is the recommended method by AWS to try and rectify the issues that you are having?

Choose the correct answer from the options below

- A. Use ElastiCache, which is a web service that makes it easy to set up, manage, and scale a distributed in-memory cache environment in the cloud. ✔

- **B.** Use a special cookie to track the instance for each request to each listener. When the load balancer receives a request, it will then check to see if this cookie is present in the request.
- **C.** 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.
- **D.** If your application does not have its own session cookie, then you can configure Elastic Load Balancing to create a session cookie by specifying your own stickiness duration.

Explanation :

Answer – A
Answer A suggests use of AWS Elasticache which is an in-memory key-value store. This is required for improving session management. All other answers suggest use of sticky sessions. The scenario described here needs to avoid non-even distribution of sessions across ELB which most probably is a result of ELB sticky sessions. Under sticky sessions, ELB must send every request from a specific user to the same web server. This greatly limits elasticity. First, the ELB cannot distribute traffic evenly, often sending a disproportionate amount of traffic to one server. Second, auto scaling cannot terminate web servers without losing some user's session state.

The suggested solution is to use an external in-memory cache like Elasticache to store transient session data. It can further improve application performance by storing critical pieces of data in memory for low-latency access. By moving the session state to a central location, all the web servers can share a single copy of session state. This allows ELB to send requests to any web server, better distributing load across all the web servers. In addition, auto scaling can terminate individual web servers without losing session state information.

On architectural point of view, this sort of a solution is scalable and makes your applications stateless.

Using Amazon ElastiCache, you can add a caching or in-memory layer to your application architecture in a matter of minutes via a few clicks of the AWS Management Console. ElastiCache makes it easy to deploy and run Memcached or Redis protocol-compliant server nodes in the cloud. It improves the performance of web applications by allowing you to retrieve information from a fast, managed, in-memory system, instead of relying entirely on slower disk-based databases. ElastiCache is an AWS managed service which simplifies and offloads the management, monitoring and operation of in-memory environments, enabling your engineering resources to focus on developing applications. With ElastiCache, you can not only improve load and response times to user actions and queries, but also reduce the cost associated with scaling web applications.

Please visit this FAQ for more information on Amazon ElastiCache - https://aws.amazon.com/elasticache/faqs/ (https://aws.amazon.com/elasticache/faqs/)

For a specific use case, please visit - https://aws.amazon.com/blogs/developer/elasticache-as-an-asp-net-session-store/ (https://aws.amazon.com/blogs/developer/elasticache-as-an-asp-net-session-store/)

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QUESTION 15 UNATTEMPTED

You are deploying your first EC2 instance in AWS and are using the AWS console to do this. You have chosen your AMI and your instance type and have now come to the screen where you configure your instance details. One of the things that you need to decide is whether you want to auto-assign a public IP address or not. You assume that if you do not choose this option you will be able to assign an Elastic IP address later, which happens to be a correct assumption. Which of the below options best describes why an Elastic IP address would be preferable to a public IP address? Choose the correct answer from the options below

- **A.** An Elastic IP address is free, whilst you must pay for a public IP address.
- **B.** With an Elastic IP address, you can mask the failure of an instance or software by rapidly remapping the address to another instance in your account. ✔
- **C.** You can have an unlimited amount of Elastic IP addresses, however public IP addresses are limited in number.
- **D.** An Elastic IP address cannot be accessed from the internet like a public IP address and hence is safer from a security standpoint.

Explanation :

Answer – B

This advantage is clearly mentioned in the AWS documentation

Elastic IP Addresses

An *Elastic IP address* is a static IPv4 address designed for dynamic cloud computing. An Elastic IP address is associated with your AWS account. With an Elastic IP address, you can mask the failure of an instance or software by rapidly remapping the address to another instance in your account.

For more information on elastic IP, please refer to the below link:

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

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QUESTION 16 UNATTEMPTED

What is the best method for maintaining application session state when using an Elastic Load Balancer? Choose the correct answer from the options below

- A. Enable Load Balancer Generated Cookie Stickiness
- B. Enable Application Generated Cookie Stickiness
- C. Use ElastiCache ✔
- D. Disable Stickiness

Explanation :

Answer – C
Amazon ElastiCache is a web service that makes it easy to deploy and run Memcached or Redis protocol-compliant server nodes in the cloud (https://aws.amazon.com/what-is-cloud-computing/). Amazon ElastiCache improves the performance of web applications by allowing you to retrieve information from a fast, managed, in-memory system, instead of relying entirely on slower disk-based databases. The service simplifies and offloads the management, monitoring and operation of in-memory environments, enabling your engineering resources to focus on developing applications. Using Amazon ElastiCache, you can not only improve load and response times to user actions and queries, but also reduce the cost associated with scaling web applications.
As an example for application session stickiness using Elastic cache, please refer to the below link:

- https://aws.amazon.com/blogs/developer/elasticache-as-an-asp-net-session-store/ (https://aws.amazon.com/blogs/developer/elasticache-as-an-asp-net-session-store/)

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QUESTION 17 UNATTEMPTED

AMIs can be shared to individual AWS accounts. Choose the correct answer from the options below

- A. True ✔
- B. False

Explanation :

Answer – A
This is clearly mentioned in the AWS documentation.

Sharing an AMI with Specific AWS Accounts

You can share an AMI with specific AWS accounts without making the AMI public. All you need are the AWS account IDs.

AMIs are a regional resource. Therefore, sharing an AMI makes it available in that region. To make an AMI available in a different region, copy the AMI to the region and then share it. For more information, see Copying an AMI.

For more information on how to share AMI's, please refer to the below link:

- http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/sharingamis-explicit.html (http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/sharingamis-explicit.html)

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QUESTION 18 UNATTEMPTED

EC2 instances are launched from Amazon Machine Images (AMIs). Which of the below options are true for a given public AMI.

- **A.** can only be used to launch EC2 instances in the same AWS availability zone as the AMI is stored
- **B.** can only be used to launch EC2 instances in the same country as the AMI is stored
- **C.** can be used to launch EC2 instances in any AWS region
- **D.** can only be used to launch EC2 instances in the same AWS region as the AMI is stored ✔

Explanation :

Answer – D
AMI's can only be shared within a region. To make them available across regions , you need to copy them across regions.
You can copy an Amazon Machine Image (AMI) within or across an AWS region using the AWS Management Console, the AWS command line tools or SDKs, or the Amazon EC2 API, all of which support the CopyImageaction. You can copy both Amazon EBS-backed AMIs and instance store-backed AMIs. You can copy AMIs with encrypted snapshots and encrypted AMIs.
For more information on how to copy AMI's, please refer to the below link:

- http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/CopyingAMIs.html (http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/CopyingAMIs.html)

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QUESTION 19 UNATTEMPTED

You have an instance store root device on /dev/sda1 on one of your EC2 instances. You are having trouble with this particular instance and you want to either Stop/Start or Terminate the instance but you do NOT want to lose any data that you have stored on /dev/sda1. Hence you are unsure as to what would be best and if you will lose this data using any of these methods to change your instance state. Which of the below statements best describes the effect each change of instance state would have on the data you have stored on /dev/sda1? Choose the correct answer from the options below

- **A.** Whether you stop/start, reboot the instance it does not matter because data on an EBS volume is not ephemeral and the data will not be lost regardless of what method is used.
- **B.** Whether you stop/start, reboot the instance it does not matter because data on an EBS volume is ephemeral and it will be lost no matter what method is used.
- **C.** If you stop/start the instance the data will not be lost. However if you either terminate or reboot the instance the data will be lost.
- **D.** The data in an instance store is not permanent - it persists only during the lifetime of the instance. The data will be lost if you terminate the instance If a user creates an EC2 instance with default parameters. The data will lose on/dev/sda1 if you terminate or stop/start the instance because data on an instance store volume is ephemeral. ✔

Explanation :

Answer – D
As per the AWS documentation , the data persistence is shown for Instance store backed AMI's.

The data in an instance store persists only during the lifetime of its associated instance. If an instance reboots (intentionally or unintentionally), data in the instance store persists. However, data in the instance store is lost under any of the following circumstances:

- The underlying disk drive fails
- The instance stops
- The instance terminates

Therefore, do not rely on instance store for valuable, long-term data. Instead, use more durable data storage, such as Amazon S3, Amazon EBS, or Amazon EFS.

Characteristic	Amazon EBS-Backed	Amazon Instance Store-Backed
Boot time	Usually less than 1 minute	Usually less than 5 minutes
Size limit	16 TiB	10 GiB
Root device volume	Amazon EBS volume	Instance store volume
Data persistence	By default, the root volume is deleted when the instance terminates.* Data on any other Amazon EBS volumes persists after instance termination by default. Data on any instance store volumes persists only during the life of the instance.	Data on any instance store volumes persists only during the life of the instance. Data on any Amazon EBS volumes persists after instance termination by default.

For more information on Instance type differences, please refer to the below link:

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

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QUESTION 20 UNATTEMPTED

After having created a new Linux instance on Amazon EC2, and downloaded the .pem file (called LAfile.pem) you try and SSH into your IP address (52.2.222.22) using the following command.

ssh -i LAfile.pem ec2-user@52.2.222.22

However you receive the following error.

WARNING: UNPROTECTED PRIVATE KEY FILE!

What is the most probable reason for this and how can you fix it?

- **A.** You do not have root access on your terminal and need to use the sudo option for this to work as follows. "sudo ssh -i LAfile.pem ec2-user@52.2.222.22"
- **B.** Your key file must not be publicly viewable for SSH to work. You need to modify your pem file as follows "chmod 400 LAfile.pem" ✔
- **C.** Your key file is not encrypted. You need to use the -u option for unencypted not the -i option as follows. "ssh -u LAfile.pem ec2-user@52.2.222.22"
- **D.** Your key file does not have the correct permissions for you to run the command. You need to modify your pem file as follows "chmod 644 LAfile.pem"

Explanation :

Answer – B
This sort of error is clearly mentioned In the AWS documentation

Error: Unprotected Private Key File

Your private key file must be protected from read and write operations from any other users. If your private key can be read or written to by anyone but you, then SSH ignores your key and you see the following warning message below.

```
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
@         WARNING: UNPROTECTED PRIVATE KEY FILE!          @
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
Permissions 0777 for '.ssh/my_private_key.pem' are too open.
It is required that your private key files are NOT accessible by others.
This private key will be ignored.
bad permissions: ignore key: .ssh/my_private_key.pem
Permission denied (publickey).
```

If you see a similar message when you try to log in to your instance, examine the first line of the error message to verify that you are using the correct public key for your instance. The above example uses the private key `.ssh/my_private_key.pem` with file permissions of `0777`, which allow anyone to read or write to this file. This permission level is very insecure, and so SSH ignores this key. To fix the error, execute the following command, substituting the path for your private key file.

```
$ chmod 0400 .ssh/my_private_key.pem
```

For more information on this error, please refer to the below link:

- http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/TroubleshootingInstancesConnecting.html#d0e132
(http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/TroubleshootingInstancesConnecting.html#d0e13283

Ask our Experts

QUESTION 21 UNATTEMPTED

Which API call occurs in the final process of creating an AMI? Choose the correct answer from the options below

- A. ami-create-image
- B. CreateImage
- C. RegisterImage ✔
- D. ami-register-image

Explanation :

Answer – C
Registers an AMI. When you're creating an AMI, this is the final step you must complete before you can launch an instance from the AMI
For more information on RegisterImage, please refer to the below link:

- http://docs.aws.amazon.com/AWSEC2/latest/APIReference/API_RegisterImage.html
(http://docs.aws.amazon.com/AWSEC2/latest/APIReference/API_RegisterImage.html)

Ask our Experts

QUESTION 22 UNATTEMPTED MONITORING AND TROUBLESHOOTING

What is one key difference between an Amazon EBS-backed and an instance-store backed instance? Choose the correct answer from the options below

- A. Instance-store backed instances can be stopped and restarted
- B. Auto scaling requires using Amazon EBS-backed instances
- C. Virtual Private Cloud requires EBS backed instances
- D. Amazon EBS-backed instances can be stopped and restarted ✔

Explanation :

Answer – D
This is clearly mentioned in the AWS documentation

Characteristic	Amazon EBS-Backed	Amazon Instance Store-Backed
Boot time	Usually less than 1 minute	Usually less than 5 minutes
Size limit	16 TiB	10 GiB
Root device volume	Amazon EBS volume	Instance store volume
Data persistence	By default, the root volume is deleted when the instance terminates.* Data on any other Amazon EBS volumes persists after instance termination by default. Data on any instance store volumes persists only during the life of the instance.	Data on any instance store volumes persists only during the life of the instance. Data on any Amazon EBS volumes persists after instance termination by default.
Upgrading	The instance type, kernel, RAM disk, and user data can be changed while the instance is stopped.	Instance attributes are fixed for the life of an instance.
Charges	You're charged for instance usage, Amazon EBS volume usage, and storing your AMI as an Amazon EBS snapshot.	You're charged for instance usage and storing your AMI in Amazon S3
AMI creation/bundling	Uses a single command/call	Requires installation and use of AMI tools
Stopped state	Can be placed in stopped state where instance is not running, but the root volume is persisted in Amazon EBS	Cannot be in stopped state; instances are running or terminated

For more information on Instance type differences, please refer to the below link:

- http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ComponentsAMIs.html (http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ComponentsAMIs.html)

Ask our Experts

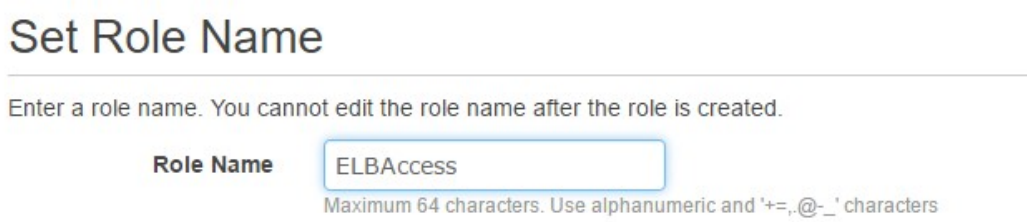
QUESTION 23 UNATTEMPTED

An IAM role, when assigned to an EC2 instance, will allow code to be executed on that instance without API access keys. Choose the correct answer from the options below

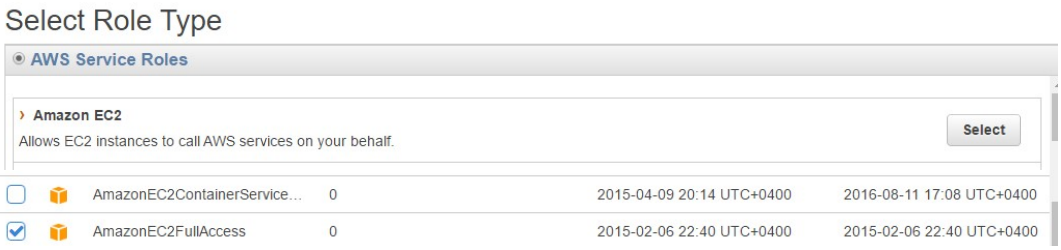
- A. True ✔
- B. False

Explanation :

Answer – A
The best practise for IAM is to create roles which has specific access to an AWS service and then give the user permission to the AWS service via the role.
To get the role in place , follow the below steps
Step 1) Create a role which has the required ELB access



Step 2) You need to provide permissions to the underlying EC2 instances in the Elastic Load Balancer



For the best practises on IAM policies, please visit the link:

- http://docs.aws.amazon.com/IAM/latest/UserGuide/best-practices.html (http://docs.aws.amazon.com/IAM/latest/UserGuide/best-practices.html)

Ask our Experts

QUESTION 24 UNATTEMPTED

Which API call would best be used to describe an Amazon Machine Image? Choose the correct answer from the options below

- A. DescribeImage
- B. DescribeImages ✔
- C. ami-describe-image
- D. ami-describe-images

Explanation :

Answer – B
Describes one or more of the images (AMIs, AKIs, and ARIs) available to you. Images available to you include public images, private images that you own, and private images owned by other AWS accounts but for which you have explicit launch permissions.
For more information on DescribeImages, please refer to the below link:

- http://docs.aws.amazon.com/AWSEC2/latest/APIReference/API_DescribeImages.html (http://docs.aws.amazon.com/AWSEC2/latest/APIReference/API_DescribeImages.html)

Ask our Experts

QUESTION 25 UNATTEMPTED

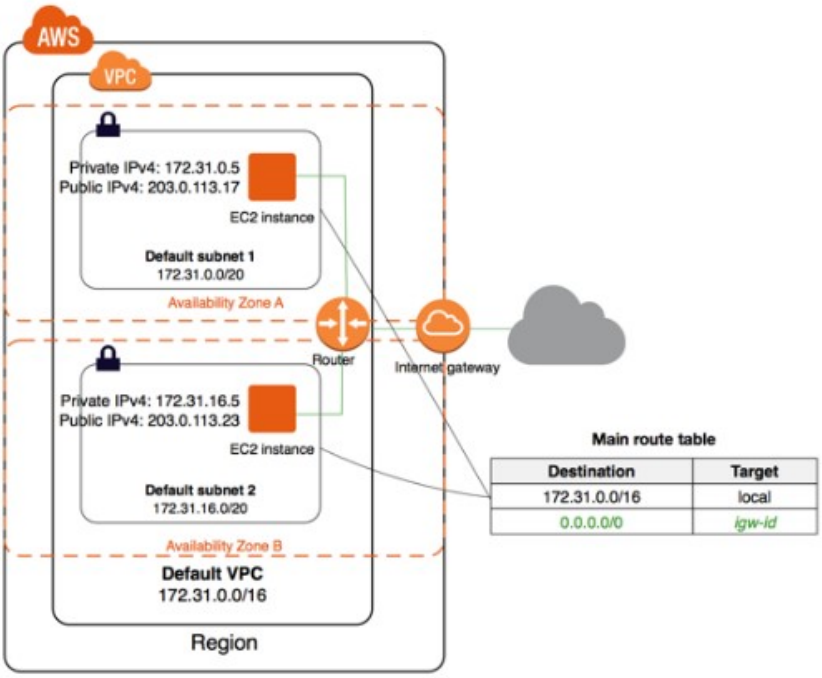
To enable a VPC EC2 instance to be publicly accessible without a NAT instance or NAT Gateway, it must have a public IP address inside of a subnet that has a route to an internet gateway. Choose the correct answer from the options below

- A. True ✔
- B. False

Explanation :

Answer – A

The below example shows a VPC which has an EC2 instance in a subnet which has an internet gateway. You can see that in order to get to the internet, it needs to have a public IP address.



For more information on the default VPC, please refer to the below link:

- http://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/default-vpc.html (http://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/default-vpc.html)

Ask our Experts

QUESTION 26 UNATTEMPTED

Someone on your team configured a Virtual Private Cloud with two public subnets in two separate AZs and two private subnets in two separate AZs. Each public subnet AZ has a matching private subnet AZ. The VPC and its subnets are properly configured. You also notice that there are multiple webserver instances in the private subnet, and you've been charged with setting up a public-facing Elastic Load Balancer which will accept requests from clients and distribute those requests to the webserver instances. How can you set this up? Choose the correct answer from the options below

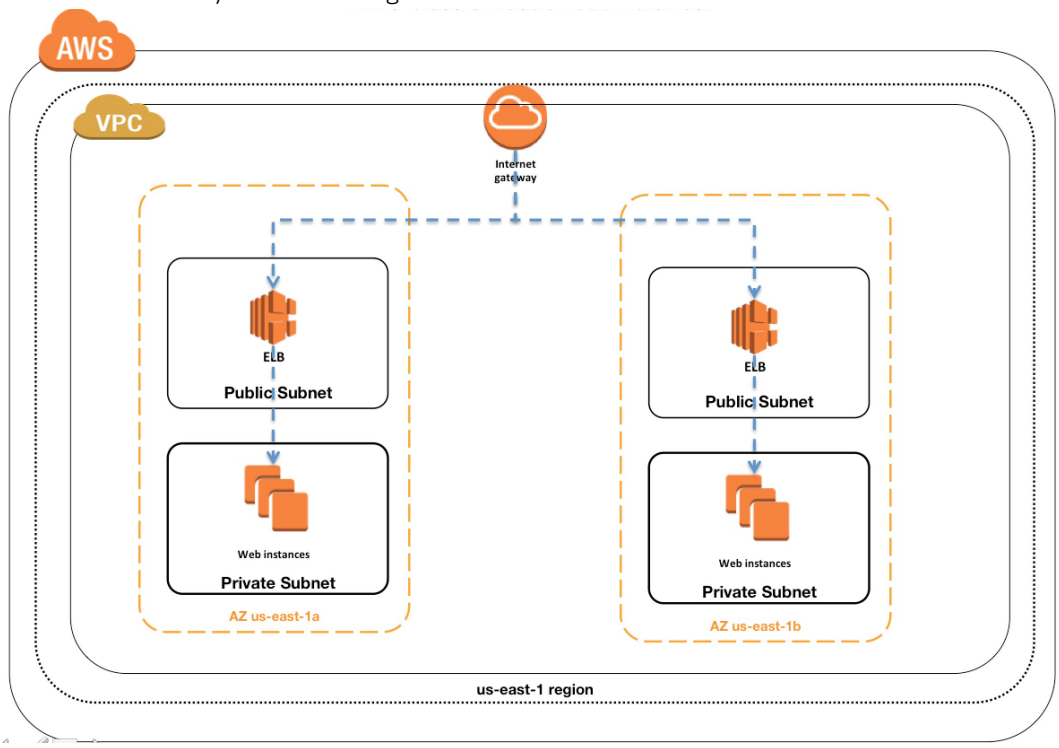
- **A.** Select both of the private subnets which contain the webserver instances when configuring the ELB.
- **B.** Select both of the public subnets which contain the webserver instances when configuring the ELB.

- C. Select both of the public subnets when configuring the ELB. ✔
- D. You can't. Webserver instances must be in public subnets in order for this to work.

Explanation :

Answer – C

When you create a load balancer in a VPC, you can make it an internal load balancer or an Internet-facing load balancer. You create an Internet-facing load balancer in a public subnet. Load balancers in EC2-Classic are always Internet-facing load balancers.



For more information on the AWS ELB, please refer to the below link:

- https://aws.amazon.com/premiumsupport/knowledge-center/public-load-balancer-private-ec2/ (https://aws.amazon.com/premiumsupport/knowledge-center/public-load-balancer-private-ec2/)
- https://aws.amazon.com/elasticloadbalancing/classicloadbalancer/ (https://aws.amazon.com/elasticloadbalancing/classicloadbalancer/)

Ask our Experts

QUESTION 27 UNATTEMPTED

Being a good solutions architect means you will always plan for failures in your AWS cloud environment. Choose the correct answer from the options below

- **A.** True ✔
- **B.** False

Explanation :

Answer – A
An AWS architect should always design their environment to be prone to disaster recovery. AWS allows one via AMI's , Cloud formation template and a variety of other services to create disaster recovery scenarios for an organization.
For more information on the AWS disaster recovery, please refer to the below link:

- https://aws.amazon.com/disaster-recovery/ (https://aws.amazon.com/disaster-recovery/)

Ask our Experts

QUESTION 28 UNATTEMPTED

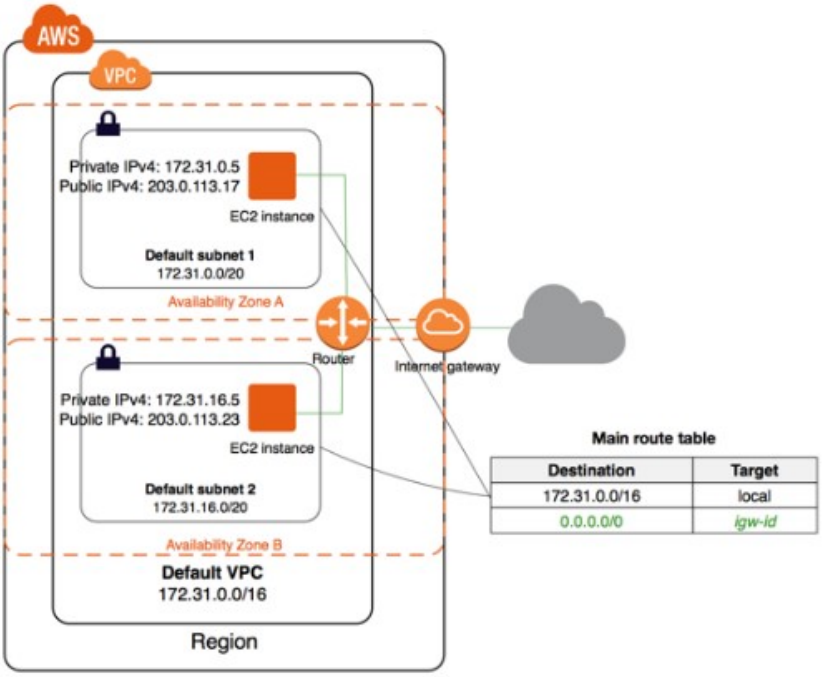
You have created a VPC that has just one subnet with an internet gateway attached and required route table entry set. Which of the following is true with regards to the connection of an EC2 instance located in the VPC?

Choose the correct answer from the options below.

- **A.** It can connect.
- **B.** It does not need a NAT instance or an EIP to communicate with the internet.
- **C.** It needs an EIP or public IP assigned to it in order to connect to the internet and send data in or out. ✔
- **D.** None of the above

Explanation :

Answer – C
The below example shows a VPC which has an EC2 instance in a subnet which has an internet gateway. You can see that in order to get to the internet, it needs to have a public IP address.



For more information on the default VPC, please refer to the below link:

- http://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/default-vpc.html (http://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/default-vpc.html)

Ask our Experts

QUESTION 29 UNATTEMPTED

What is the hourly rate to run a VPC? Choose the correct answer from the options below

- A. .002/hour
- B. .01/hour
- C. Free ✔
- D. .05/hour

Explanation :

This is clearly mentioned in the AWS documentation that there are no charges for using a VPC.

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

There are no additional charges for creating and using the VPC itself. Usage charges for other Amazon Web Services, including Amazon EC2, still apply at published rates for those resources, including data transfer charges. If you connect your VPC to your corporate datacenter using the optional hardware VPN connection, pricing is per VPN connection-hour (the amount of time you have a VPN connection in the "available" state.) Partial hours are billed as full hours. Data transferred over VPN connections will be charged at standard AWS Data Transfer rates. For VPC-VPN pricing information, please visit the pricing section of the Amazon VPC product page.

For more information on VPC's, please refer to the below link:

- https://aws.amazon.com/vpc/faqs/ (https://aws.amazon.com/vpc/faqs/)

Ask our Experts

QUESTION 30 UNATTEMPTED

You have multiple instances behind private and public subnets. How can you connect instances in private subnet to the internet to download system updates? Choose the correct answer from the options below

- A. Assign EIP to each instance
- B. Create a NAT instance ✔
- C. Connect to a VPN
- D. Use both a NAT instance and a VPN

Explanation :

Answer – B

You can use a network address translation (NAT) instance in a public subnet in your VPC to enable instances in the private subnet to initiate outbound IPv4 traffic to the Internet or other AWS services, but prevent the instances from receiving inbound traffic initiated by someone on the Internet.

For more information on NAT instances, please refer to the below link:

- http://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VPC_NAT_Instance.html (http://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VPC_NAT_Instance.html)

Ask our Experts

QUESTION 31 UNATTEMPTED

Can a VPC subnet can have multiple route tables. Choose the correct answer from the options below

- A. True
- B. False ✔

Explanation :

Answer – B
This is clearly mentioned in the AWS documentation that there can be only one route table per subnet

A *route table* contains a set of rules, called *routes*, that are used to determine where network traffic is directed.

Each subnet in your VPC must be associated with a route table; the table controls the routing for the subnet. A subnet can only be associated with one route table at a time, but you can associate multiple subnets with the same route table.

For more information on Route tables, please refer to the below link:

- http://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VPC_Route_Tables.html (http://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VPC_Route_Tables.html)

Ask our Experts

QUESTION 32 UNATTEMPTED

To connect your remote office to your VPC for internal network access, what would you need to use? Choose the correct answer from the options below

- A. VPN ✔
- B. Server
- C. Elastic IP Address
- D. None of the above

Explanation :

Answer – A
You can connect your VPC to remote networks by using a VPN connection. The following are some of the connectivity options available to you.

- AWS hardware VPN - You can create an IPsec, hardware VPN connection between your VPC and your remote network. On the AWS side of the VPN connection, a *virtual private gateway* provides two VPN endpoints for automatic failover. You configure your *customer gateway*, which is the physical device or software application on the remote side of the VPN connection.
- AWS Direct Connect - AWS Direct Connect provides a dedicated private connection from a remote network to your VPC. You can combine this connection with an AWS hardware VPN connection to create an IPsec-encrypted connection.

- AWS VPN CloudHub - If you have more than one remote network (for example, multiple branch offices), you can create multiple AWS hardware VPN connections via your VPC to enable communication between these networks.
- Software VPN - You can create a VPN connection to your remote network by using an Amazon EC2 instance in your VPC that's running a software VPN appliance. AWS does not provide or maintain software VPN appliances; however, you can choose from a range of products provided by partners and open source communities

For more information on AWS VPN's, please refer to the below link:

- http://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/vpn-connections.html (http://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/vpn-connections.html)

Ask our Experts

QUESTION 33 UNATTEMPTED

All operations on elastic IP addresses can be performed programmatically through the API, or manually from the AWS Management Console. Choose the correct answer from the options below

- A. True
- B. False ✔

Explanation :

Answer – B
########
This from aws doc:

Recovering an Elastic IP Address

If you have released your Elastic IP address, you might be able to recover it. The following rules apply:

- You cannot recover an Elastic IP address if it has been allocated to another AWS account, or if it will result in your exceeding your Elastic IP address limit.
- You cannot recover tags associated with an Elastic IP address.
- You can recover an Elastic IP address using the Amazon EC2 API or a command line tool only.

########
For more information on AWS Elastic IP's, please refer to the below link:

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

Ask our Experts

QUESTION 34 UNATTEMPTED

Buckets can contain both encrypted and non-encrypted objects. Choose the correct answer from the options below

- A. True ✔
- B. False

Explanation :

Answer – A
When objects are uploaded to S3 , they can either be encrypted or non-encrypted. There are various ways to encrypt objects is S3.
Use Server-Side Encryption with Amazon S3-Managed Keys (SSE-S3) – Each object is encrypted with a unique key employing strong multi-factor encryption. As an additional safeguard, it encrypts the key itself with a master key that it regularly rotates. Amazon S3 server-side encryption uses one of the strongest block ciphers available, 256-bit Advanced Encryption Standard (AES-256), to encrypt your data.
Use Server-Side Encryption with AWS KMS-Managed Keys (SSE-KMS) – Similar to SSE-S3, but with some additional benefits along with some additional charges for using this service. There are separate permissions for the use of an envelope key (that is, a key that protects your data's encryption key) that provides added protection against unauthorized access of your objects in S3. SSE-KMS also provides you with an audit trail of when your key was used and by whom. Additionally, you have the option to create and manage encryption keys yourself, or use a default key that is unique to you, the service you're using, and the region you're working in.

Use Server-Side Encryption with Customer-Provided Keys (SSE-C) – You manage the encryption keys and Amazon S3 manages the encryption, as it writes to disks, and decryption, when you access your objects.
For client side encryption please check below AWS docs link:

- http://docs.aws.amazon.com/AmazonS3/latest/dev/UsingClientSideEncryption.html (http://docs.aws.amazon.com/AmazonS3/latest/dev/UsingClientSideEncryption.html)

Ask our Experts

QUESTION 35 UNATTEMPTED

Elastic Load Balancing uses what technologies for request routing? Choose the 2 correct answer from the options below

- [ ] **A.** DNS ✔
- [ ] **B.** Route 53 ✔
- [ ] **C.** RDS
- [ ] **D.** EC2

Explanation :

Answer – A and B
When you use ELB, you are given a DNS host name - any request sent to this host name are delegated to a pool of Amazon EC2 instances. Route 53 is Amazon's DNS service that handles DNS on the backend.
For more information on AWS ELB, please refer to the below link:

- https://aws.amazon.com/elasticloadbalancing/ (https://aws.amazon.com/elasticloadbalancing/)

Ask our Experts

QUESTION 36 UNATTEMPTED

Describe the process of registering a mobile device with SNS push notification service using GCM. Choose the correct answer from the options below

- ○ **A.** Submit GCM notification credentials to Amazon SNS, then receive the Registration ID for each mobile device. After that, pass the device token to SNS, and SNS then creates a mobile subscription endpoint for each device and communicates with the GCM service on your behalf ✔
- ○ **B.** Pass device token to SNS to create mobile subscription endpoint for each mobile device, then request the device token from each mobile device. SNS then communicates on your behalf to the GCM service
- ○ **C.** Receive Registration ID and token for each mobile device. Then, register the mobile application with Amazon SNS, and pass the GCM token credentials to Amazon SNS
- ○ **D.** None of the above

Explanation :

Answer – A
For Amazon SNS to send notification messages to mobile endpoints, whether it is direct or with subscriptions to a topic, you first need to register the app with AWS. To register your mobile app with AWS, enter a name to represent your app, select the platform that will be supported, and provide your

credentials for the notification service platform. After the app is registered with AWS, the next step is to create an endpoint for the app and mobile device. The endpoint is then used by Amazon SNS for sending notification messages to the app and device.
For more information on entire mobile process for SNS, please refer to the link:

- http://docs.aws.amazon.com/sns/latest/dg/mobile-push-send-register.html (http://docs.aws.amazon.com/sns/latest/dg/mobile-push-send-register.html)

Ask our Experts

QUESTION 37 UNATTEMPTED

Regarding the evaluation logic when managing Access to Your Amazon SNS Topics, the following things can be stated.

The goal at evaluation time is to decide whether a given request should be allowed or denied. The evaluation logic follows several basic rules:

- By default, all requests to use your resource coming from anyone but you are denied

- An allow overrides any default denies

- An explicit deny overrides any allows

- The order in which the policies are evaluated is not important

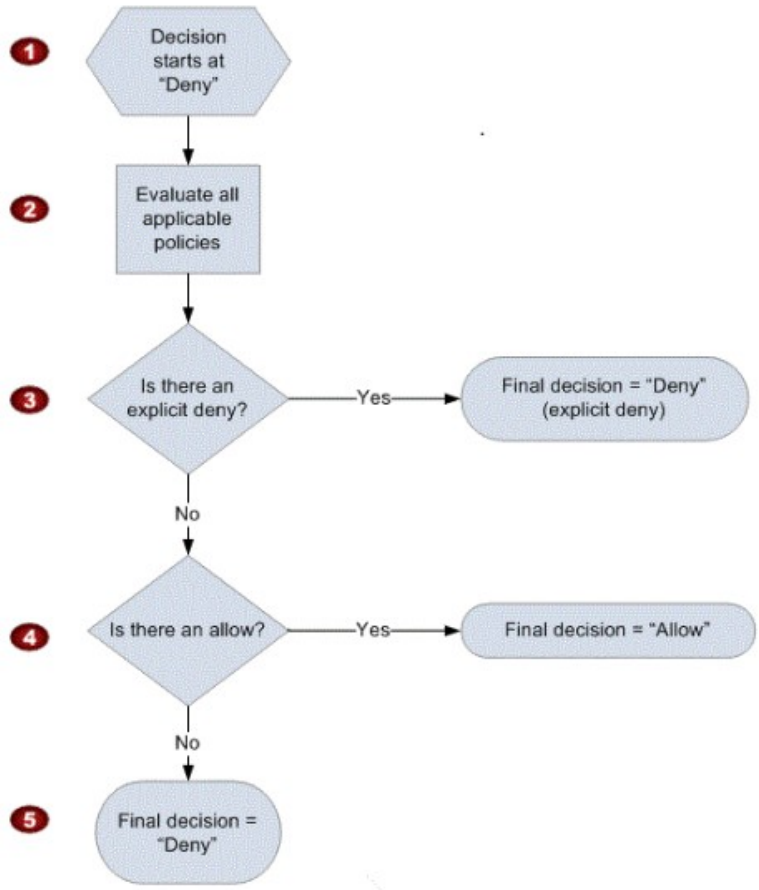
- A policy results in a default deny if it doesn't directly apply to the request.

Keeping the above in mind, what will be the policy result, if a user requests to use Amazon SNS, but the policy on the topic doesn't refer to the user's AWS account at all?

- **A.** A default deny ✔
- **B.** An explicit deny
- **C.** An allow
- **D.** An explicit allow

Explanation :

Answer – A
The below diagram shows the evaluation logic of IAM policies. And as per the evaluation logic, it is clear that the above scenario leads to a default deny.



For more information on the IAM policy evaluation logic, please refer to the link:

- http://docs.aws.amazon.com/IAM/latest/UserGuide/reference_policies_evaluation-logic.html (http://docs.aws.amazon.com/IAM/latest/UserGuide/reference_policies_evaluation-logic.html)

Ask our Experts

QUESTION 38 UNATTEMPTED

True or False: A core benefit of using a SQS subscription endpoint with Amazon SNS is that SQS Messages can be delivered to applications that require immediate notification of an event and messages are also persistent in an Amazon SQS queue for other applications to process later in time (considering the SQS limitation on how long the messages can be stored in SQS queue).

- A. True ✔
- B. False

Explanation :

Answer – A
The Amazon Simple Queue Service (http://aws.amazon.com/sqs/) (SQS) and the Amazon Simple Notification Service (http://aws.amazon.com/sns/) (SNS) are important "glue" components for scalable, cloud-based applications (see the Reference Architectures in the AWS Architecture Center (http://aws.amazon.com/architecture/) to learn more about how to put them to use in your own applications).
One common design pattern is called "fanout." In this pattern, a message published to an SNS topic is distributed to a number of SQS queues in parallel. By using this pattern, you can build applications that take advantage parallel, asynchronous processing
For more information on SNS and SQS integration, please refer to the link:

- https://aws.amazon.com/blogs/aws/queues-and-notifications-now-best-friends/ (https://aws.amazon.com/blogs/aws/queues-and-notifications-now-best-friends/)

Ask our Experts

QUESTION 39 UNATTEMPTED

What is the main advantage of using Amazon SQS? Choose the correct answer from the options below

- **A.** SQS allows time-critical messages to be sent through a push mechanism eliminating the need to poll for data
- **B.** SQS is used by distributed applications and can be used to decouple sending and receiving components without requiring each application component to be concurrently available ✔
- **C.** SQS is the only method available that interacts with workers
- **D.** None of the above

Explanation :

Answer – B
Amazon Simple Queue Service (SQS) is a fast, reliable, scalable, fully managed message queuing service. Amazon SQS makes it simple and cost-effective to decouple the components of a cloud application. You can use Amazon SQS to transmit any volume of data, without losing messages or requiring other services to be always available.
For more information on SQS, please refer to the link:

- https://aws.amazon.com/sqs/ (https://aws.amazon.com/sqs/)

Ask our Experts

QUESTION 40 UNATTEMPTED

You have developed an application that sends an Amazon SNS message to a topic whenever an order is placed for one of your products on an online store you have just created. Any Amazon SQS queues that are subscribed to that topic would receive identical notifications when a new order is placed. This method of message deliver is called the "fanout" scenario. Which of the below descriptions is the closest in describing the common attributes of this scenario? Choose the correct answer from the options below

- **A.** The Amazon SNS message is sent to a topic and then replicated and pushed to multiple Amazon SQS queues, HTTP endpoints, or email addresses, which allows for parallel asynchronous processing. ✔
- **B.** It enables you to send messages directly to mobile apps, HTTP endpoints, or email addresses, which allows for parallel synchronous processing.
- **C.** The Amazon SNS message is sent to a topic and then replicated and pushed to multiple Amazon SQS queues, HTTP endpoints, or email addresses, which allows for parallel synchronous processing.
- **D.** The application and system alerts are notifications, triggered by predefined thresholds, sent to specified users by SMS and/or email.

Explanation :

Answer – A
The Amazon Simple Queue Service (http://aws.amazon.com/sqs/) (SQS) and the Amazon Simple Notification Service (http://aws.amazon.com/sns/) (SNS) are important “glue” components for scalable, cloud-based applications (see the Reference Architectures in the AWS Architecture Center (http://aws.amazon.com/architecture/) to learn more about how to put them to use in your own applications).
One common design pattern is called “fanout.” In this pattern, a message published to an SNS topic is distributed to a number of SQS queues in parallel. By using this pattern, you can build applications that take advantage parallel, asynchronous processing
For more information on SNS fanout scenario, please refer to the link:

- https://aws.amazon.com/blogs/aws/queues-and-notifications-now-best-friends/ (https://aws.amazon.com/blogs/aws/queues-and-notifications-now-best-friends/)

Note:
The difference between Option A and C : **Asynchronous and Synchronous**
Option A says that "The Amazon SNS message is sent to a topic and then replicated and pushed to multiple Amazon SQS queues, HTTP endpoints, or email addresses, which allows for parallel **asynchronous processing."**

Option C says that ". The Amazon SNS message is sent to a topic and then replicated and pushed to multiple Amazon SQS queues, HTTP endpoints, or email addresses, which allows for parallel **synchronous processing**."

Ask our Experts

QUESTION 41 UNATTEMPTED

Which of the following would you not expect to see in an SNS message body?

- A. Signature
- B. MessageId
- C. SigningCertURL
- D. SubjectId ✔

Explanation :

Answer – D

An example of the notification is shown below , here you can see the Subject but not SubjectId

```
POST / HTTP/1.1
x-amz-sns-message-type: Notification
x-amz-sns-message-id: 22b80b92-fdea-4c2c-8f9d-bdfb0c7bf324
x-amz-sns-topic-arn: arn:aws:sns:us-west-2:123456789012:MyTopic
x-amz-sns-subscription-arn: arn:aws:sns:us-west-2:123456789012:MyTopic:c9135db0-26c4-47ec
Content-Length: 773
Content-Type: text/plain; charset=UTF-8
Host: myhost.example.com
Connection: Keep-Alive
User-Agent: Amazon Simple Notification Service Agent

{
  "Type" : "Notification",
  "MessageId" : "22b80b92-fdea-4c2c-8f9d-bdfb0c7bf324",
  "TopicArn" : "arn:aws:sns:us-west-2:123456789012:MyTopic",
  "Subject" : "My First Message",
  "Message" : "Hello world!",
  "Timestamp" : "2012-05-02T00:54:06.655Z",
  "SignatureVersion" : "1",
  "Signature" : "EXAMPLEw6JRNwm1LFQL4ICB0bnXrdB8ClRMTQFGBqwLpGbM78tJ4etTwC5zU7O3tS6tGpey
  "SigningCertURL" : "https://sns.us-west-2.amazonaws.com/SimpleNotificationService-f3ec
  "UnsubscribeURL" : "https://sns.us-west-2.amazonaws.com/?Action=Unsubscribe&Subscriptio
}
```

For more information on SNS notification format, please refer to the link:

- http://docs.aws.amazon.com/sns/latest/dg/json-formats.html (http://docs.aws.amazon.com/sns/latest/dg/json-formats.html)

Ask our Experts

QUESTION 42 UNATTEMPTED

Which of the following would you expect to see in the body of an SNS notification? Choose the correct answer from the options below

- A. UnsubscribeURL ✔
- B. MessageBody
- C. SignatureId
- D. Subjects

Explanation :

Answer – A

An example of the notification is shown below , here you can see the UnsubscribeURL

```
POST / HTTP/1.1
x-amz-sns-message-type: Notification
x-amz-sns-message-id: 22b80b92-fdea-4c2c-8f9d-bdfb0c7bf324
x-amz-sns-topic-arn: arn:aws:sns:us-west-2:123456789012:MyTopic
x-amz-sns-subscription-arn: arn:aws:sns:us-west-2:123456789012:MyTopic:c9135db0-26c4-47ec
Content-Length: 773
Content-Type: text/plain; charset=UTF-8
Host: myhost.example.com
Connection: Keep-Alive
User-Agent: Amazon Simple Notification Service Agent

{
  "Type" : "Notification",
  "MessageId" : "22b80b92-fdea-4c2c-8f9d-bdfb0c7bf324",
  "TopicArn" : "arn:aws:sns:us-west-2:123456789012:MyTopic",
  "Subject" : "My First Message",
  "Message" : "Hello world!",
  "Timestamp" : "2012-05-02T00:54:06.655Z",
  "SignatureVersion" : "1",
  "Signature" : "EXAMPLEw6JRNwm1LFQL4ICB0bnXrdB8ClRMTQFGBqwLpGbM78tJ4etTwC5zU7O3tS6tGpey
  "SigningCertURL" : "https://sns.us-west-2.amazonaws.com/SimpleNotificationService-f3ec
  "UnsubscribeURL" : "https://sns.us-west-2.amazonaws.com/?Action=Unsubscribe&Subscriptic
}
```

For more information on SNS notification format, please refer to the link:

- http://docs.aws.amazon.com/sns/latest/dg/json-formats.html (http://docs.aws.amazon.com/sns/latest/dg/json-formats.html)

Ask our Experts

QUESTION 43 UNATTEMPTED

Your application utilizes Amazon S3 reduced redundancy storage and you have configured the s3:ReducedRedundancyLostObject notification on your Amazon S3 Bucket. What services might you use to create a "distributed" platform that replaces lost RRS objects on Amazon S3 automatically? Choose the correct answer from the options below

- **A.** SNS with an SMS subscription endpoint
- **B.** SNS with a website subscription endpoint as the worker instance
- **C.** SNS with subscription endpoints
- **D.** SNS with SQS subscription endpoint with a worker instance ✔

Explanation :

Answer – D
Amazon Simple Queue Service (SQS) is a fast, reliable, scalable, fully managed message queuing service. Amazon SQS makes it simple and cost-effective to decouple the components of a cloud application. You can use Amazon SQS to transmit any volume of data, without losing messages or requiring other services to be always available.
For more information on SQS, please refer to the link:

- https://aws.amazon.com/sqs/ (https://aws.amazon.com/sqs/)

Ask our Experts

QUESTION 44 UNATTEMPTED

You have just set up a push notification service to send a message to an app installed on a device with the Apple Push Notification Service. It seems to work fine. You now want to send a message to an app installed on devices for multiple platforms, those being the Apple Push Notification Service(APNS) and Google Cloud Messaging for Android (GCM). What do you need to do first for this to be successful? Choose the correct answer from the options below

- **A.** Create a Platform Application Object which will connect all of the mobile devices with your app to the correct SNS topic.
- **B.** Get a set of credentials in order to be able to connect to the push notification service you are trying to setup. ✔
- **C.** Request a Token from Mobile Platforms, so that each device has the correct access control policies to access the SNS publisher.
- **D.** Request Credentials from Mobile Platforms, so that each device has the correct access control policies to access the SNS publisher.

Explanation :

Answer – B

For Amazon SNS to send notification messages to mobile endpoints, whether it is direct or with subscriptions to a topic, you first need to register the app with AWS. To register your mobile app with AWS, enter a name to represent your app, select the platform that will be supported, and provide your credentials for the notification service platform. After the app is registered with AWS, the next step is to create an endpoint for the app and mobile device. The endpoint is then used by Amazon SNS for sending notification messages to the app and device.
For more information on SNS, please refer to the link:

- http://docs.aws.amazon.com/sns/latest/dg/mobile-push-send-register.html (http://docs.aws.amazon.com/sns/latest/dg/mobile-push-send-register.html)

Ask our Experts

QUESTION 45 UNATTEMPTED

Which of the following request headers, when specified in an API call, will cause an object to be SSE-S3? Choose the correct answer from the options below

- A. AES256
- B. amz-server-side-encryption
- C. x-amz-server-side-encryption ✔
- D. server-side-encryption

Explanation :

Answer – C
Server-side encryption is about protecting data at rest. Server-side encryption with Amazon S3-managed encryption keys (SSE-S3) employs strong multi-factor encryption. Amazon S3 encrypts each object with a unique key. As an additional safeguard, it encrypts the key itself with a master key that it regularly rotates. Amazon S3 server-side encryption uses one of the strongest block ciphers available, 256-bit Advanced Encryption Standard (AES-256), to encrypt your data.
The object creation REST APIs (see Specifying Server-Side Encryption Using the REST API (http://docs.aws.amazon.com/AmazonS3/latest/dev/SSEUsingRESTAPI.html)) provide a request header, x-amz-server-side-encryption that you can use to request server-side encryption.
For more information on S3 encryption, please visit the link:

- http://docs.aws.amazon.com/AmazonS3/latest/dev/serv-side-encryption.html (http://docs.aws.amazon.com/AmazonS3/latest/dev/serv-side-encryption.html)

Ask our Experts

QUESTION 46 UNATTEMPTED

Amazon Simple Notification Service (Amazon SNS) provides support for delivery of message attributes to Amazon SQS endpoints and each message attribute consists of the following items: Name, Type and Value. Which of the following is TRUE, regarding message attributes? Choose the correct answer from the options below

- **A.** Name, type, and value can be empty or null but the message body cannot be empty or null.
- **B.** Name, type and value should not be empty or null but the message body can be empty or null.
- **C.** Name, type, and value can be empty or null and the message body can be empty or null.
- **D.** Name, type, and value must not be empty or null and the message body shouldn't be empty or null either. ✔

Explanation :

Answer – D
Amazon Simple Notification Service (Amazon SNS) provides support for delivery of message attributes to Amazon SQS endpoints. Message attributes allow you to provide structured metadata items (such as timestamps, geospatial data, signatures, and identifiers) about the message
Also the requirement for each attribute to be not NULL in addition to the message body is given in the AWS documentation.

> Name, type, and value must not be empty or null. In addition, the message body should not be empty or null. All parts of the message attribute, including name, type, and value, are included in the message size restriction, which is currently 256 KB (262,144 bytes).

Message attributes are optional and separate from, but sent along with, the message body. This information can be used by the receiver of the message to help decide how to handle the message without having to first process the message body. Each message can have up to 10 attributes.

For more information on SNS message attributes, please refer to the link:

- http://docs.aws.amazon.com/sns/latest/dg/SNSMessageAttributes.html (http://docs.aws.amazon.com/sns/latest/dg/SNSMessageAttributes.html)

Ask our Experts

QUESTION 47 UNATTEMPTED

Which of the following is true if long polling is enabled? Choose the correct answer from the options below

- A. If long polling is enabled, then each poll only polls a subset of SQS servers; in order for all messages to be received, polling must continuously occur
- B. Increases costs because each request lasts longer
- C. The reader will listen to the queue until timeout
- D. The reader will listen to the queue until a message is available or until timeout ✔

Explanation :

Answer – D
Amazon SQS long polling is a way to retrieve messages from your Amazon SQS queues. While the regular short polling returns immediately, even if the message queue being polled is empty, long polling doesn't return a response until a message arrives in the message queue, or the long poll times out.
Long polling makes it inexpensive to retrieve messages from your Amazon SQS queue as soon as the messages are available. Using long polling might reduce the cost of using SQS, because you can reduce the number of empty receives
For more information on Long polling, please refer to the link:

- http://docs.aws.amazon.com/AWSSimpleQueueService/latest/SQSDeveloperGuide/sqs-long-polling.html (http://docs.aws.amazon.com/AWSSimpleQueueService/latest/SQSDeveloperGuide/sqs-long-polling.html)

Ask our Experts

QUESTION 48 UNATTEMPTED

What is Amazon SQS max message size? Choose the correct answer from the options below

- A. 64KB
- B. 128KB
- C. 16 KB
- D. 256KB ✔

Explanation :

Answer – D
This is clearly specified in the AWS documentation.

To configure the maximum message size, use the console or the SetQueueAttributes method to set the MaximumMessageSize attribute. This attribute specifies the limit on bytes that an Amazon SQS message can contain. Set this limit to a value between 1,024 bytes (1 KB), and 262,144 bytes (256 KB). For more information, see Using Amazon SQS Message Attributes in the *Amazon SQS Developer Guide*.

To send messages larger than 256 KB, use the Amazon SQS Extended Client Library for Java. This library lets you send an Amazon SQS message that contains a reference to a message payload in Amazon S3 that can be as large as 2 GB. For FIFO queues, see "Are Amazon SQS FIFO queues compatible with the Amazon SQS Buffered Asynchronous Client, the Amazon SQS Extended Client Library for Java, or the Amazon SQS Java Message Service (JMS) Client?"

For more information on AWS SQS, please refer to the link:

- https://aws.amazon.com/sqs/faqs/ (https://aws.amazon.com/sqs/faqs/)

Ask our Experts

QUESTION 49 UNATTEMPTED

Company B is using Amazon SQS to decouple their systems for scaleability. However, they need to send messages up to 456Kb in size. What might Company B do in order to send more than 256KB of data? Choose the correct answer from the options below

- **A.** Set the MaximumMessageSize attribute to 456KB
- **B.** Use the Amazon SQS Extended Client Library for Java ✔
- **C.** Any of the above
- **D.** Request an increase of the message limit by contacting Amazon

Explanation :

Answer – B

This is clearly specified in the AWS documentation.

To configure the maximum message size, use the console or the SetQueueAttributes method to set the MaximumMessageSize attribute. This attribute specifies the limit on bytes that an Amazon SQS message can contain. Set this limit to a value between 1,024 bytes (1 KB), and 262,144 bytes (256 KB). For more information, see Using Amazon SQS Message Attributes in the *Amazon SQS Developer Guide*.

To send messages larger than 256 KB, use the Amazon SQS Extended Client Library for Java. This library lets you send an Amazon SQS message that contains a reference to a message payload in Amazon S3 that can be as large as 2 GB. For FIFO queues, see "Are Amazon SQS FIFO queues compatible with the Amazon SQS Buffered Asynchronous Client, the Amazon SQS Extended Client Library for Java, or the Amazon SQS Java Message Service (JMS) Client?"

For more information on AWS SQS, please refer to the link:

- https://aws.amazon.com/sqs/faqs/ (https://aws.amazon.com/sqs/faqs/)

Ask our Experts

QUESTION 50 UNATTEMPTED

Company B provides an online image recognition service and utilizes SQS to decouple system components for scalability. The SQS consumers poll the imaging queue as often as possible to keep end-to-end throughput as high as possible. However, Company B is realizing that polling in tight loops is burning CPU cycles and increasing costs with empty responses. How can Company B reduce the number empty responses? Choose the correct answer from the options below

- **A.** Set the imaging queue VisibilityTimeout attribute to 20 seconds
- **B.** Set the imaging queue ReceiveMessageWaitTimeSeconds Attribute to 20 seconds ✔
- **C.** Set the DelaySeconds parameter of a message to 20 seconds
- **D.** Set the imaging queue MessageRetentionPeriod attribute to 20 seconds

Explanation :

Answer – B
Amazon SQS long polling is a way to retrieve messages from your Amazon SQS queues. While the regular short polling returns immediately, even if the message queue being polled is empty, long polling doesn't return a response until a message arrives in the message queue, or the long poll times out. Long polling makes it inexpensive to retrieve messages from your Amazon SQS queue as soon as the messages are available. Using long polling might reduce the cost of using SQS, because you can reduce the number of empty receives
To enable long polling u need to set the value of ReceiveMessageWaitTimeSeconds to greater than 0 and less than or equal to 20 seconds.
For more information on Long polling, please refer to the link:

- http://docs.aws.amazon.com/AWSSimpleQueueService/latest/SQSDeveloperGuide/sqs-long-polling.html (http://docs.aws.amazon.com/AWSSimpleQueueService/latest/SQSDeveloperGuide/sqs-long-polling.html)

Ask our Experts

QUESTION 51 UNATTEMPTED

Which of the following statements is true about SQS standard queues?

Choose the correct answer from the options below.

- **A.** Messages will be delivered one or more times and messages will be delivered in First in, First out order

- **B.** Messages will be delivered exactly once and message delivery order is indeterminate
- **C.** Messages will be delivered one or more times and message delivery order is indeterminate ✔
- **D.** Messages will be delivered exactly once and messages will be delivered in First in, First out order

Explanation :

Answer – C
As per the AWS documentation, sqs queues can deliver the message more than one, and the order of messages is not defined.

> Standard queues provide a loose-FIFO capability that attempts to preserve the order of messages. However, because standard queues are designed to be massively scalable using a highly distributed architecture, receiving messages in the exact order they are sent is not guaranteed.
>
> **Q: Does Amazon SQS guarantee delivery of messages?**
>
> Standard queues provide at-least-once delivery, which means that each message is delivered at least once.

For more information on AWS SQS, please refer to the link:

- https://aws.amazon.com/sqs/faqs/ (https://aws.amazon.com/sqs/faqs/)

Ask our Experts

QUESTION 52 UNATTEMPTED

How many messages queues can be created in SQS? Choose the correct answer from the options below

- **A.** 50
- **B.** 100
- **C.** 200
- **D.** Any number ✔

Explanation :

Answer – D
As per the AWS documentation, there is no limit on the number of queues.

Q: How many message queues can I create?

You can create any number of message queues.

For more information on AWS SQS, please refer to the link:

- https://aws.amazon.com/sqs/faqs/ (https://aws.amazon.com/sqs/faqs/)

Ask our Experts

QUESTION 53 UNATTEMPTED

Can one configure anonymous access to a queue? Choose the correct answer from the options below

- A. True ✔
- B. False

Explanation :

Answer – A
As per the AWS documentation, anonymous access is allowed via IAM policies

Q: Does Amazon SQS support anonymous access?

Yes. You can configure an access policy that allows anonymous users to access a message queue.

For more information on AWS SQS, please refer to the link:

- https://aws.amazon.com/sqs/faqs/ (https://aws.amazon.com/sqs/faqs/)

Ask our Experts

QUESTION 54 UNATTEMPTED

How many requests in SQS are available in the free tier? Choose the correct answer from the options below

- A. 1000
- B. 1 million ✔
- C. 10,000

D. 10 million

Explanation :

Answer – B
As per the AWS documentation, 1 million requests are allowed in the free tier.

Q: What can I do with the Amazon SQS Free Tier?

The Amazon SQS Free Tier provides you with 1 million requests per month at no charge.

For more information on AWS SQS, please refer to the link:

- https://aws.amazon.com/sqs/faqs/ (https://aws.amazon.com/sqs/faqs/)

Ask our Experts

QUESTION 55 UNATTEMPTED

In SQS what is the maximum visibility timeout. Choose the correct answer from the options below

A. 1 hour
B. 1 day
C. 12 hours ✔
D. 24 hours

Explanation :

Answer – C
As per the AWS documentation, the timeout is 12 hours

Q: What is the maximum limit for message visibility?

The maximum visibility timeout for an Amazon SQS message is 12 hours.

For more information on AWS SQS, please refer to the link:

- https://aws.amazon.com/sqs/faqs/ (https://aws.amazon.com/sqs/faqs/)

Ask our Experts

QUESTION 56 UNATTEMPTED

Amazon S3 can use what type of server side encryption? Choose the correct answer from the options below

- A. MARS
- B. RC6
- C. AES256 ✔
- D. TKIP256

Explanation :

Answer – C
Server-side encryption is about protecting data at rest. Server-side encryption with Amazon S3-managed encryption keys (SSE-S3) employs strong multi-factor encryption. Amazon S3 encrypts each object with a unique key. As an additional safeguard, it encrypts the key itself with a master key that it regularly rotates. Amazon S3 server-side encryption uses one of the strongest block ciphers available, 256-bit Advanced Encryption Standard (AES-256), to encrypt your data.
For more information on S3 encryption, please visit the link:

- http://docs.aws.amazon.com/AmazonS3/latest/dev/serv-side-encryption.html (http://docs.aws.amazon.com/AmazonS3/latest/dev/serv-side-encryption.html)

Ask our Experts

QUESTION 57 UNATTEMPTED

Is SQS PCI DSS certified? Choose the correct answer from the options below

- A. True ✔
- B. False

Explanation :

Answer – A
As per the AWS documentation , AWS SQS is PCI DSS certified.

Q: Is Amazon SQS PCI DSS certified?

Yes. Amazon SQS is PCI DSS Level 1 certified. For more information, see PCI Compliance.

For more information on AWS SQS, please refer to the link:

- https://aws.amazon.com/sqs/faqs/ (https://aws.amazon.com/sqs/faqs/)

Ask our Experts

QUESTION 58 UNATTEMPTED

Which of the following is a valid S3 bucket name? Choose the correct answer from the options below

- A. .demo.com
- B. demo.com ✔
- C. -demo.com
- D. demo.-com

Explanation :

Answer – B
Some of the naming restrictions for buckets are given below

- Bucket names must be at least 3 and no more than 63 characters long.
- Bucket names must be a series of one or more labels. Adjacent labels are separated by a single period (.). Bucket names can contain lowercase letters, numbers, and hyphens. Each label must start and end with a lowercase letter or a number.
- Bucket names must not be formatted as an IP address (e.g., 192.168.5.4).
- When using virtual hosted–style buckets with SSL, the SSL wildcard certificate only matches buckets that do not contain periods. To work around this, use HTTP or write your own certificate verification logic. We recommend that you do not use periods (".") in bucket names.

For more information on S3 bucket naming conventions, please visit the link:

- http://docs.aws.amazon.com/AmazonS3/latest/dev/BucketRestrictions.html (http://docs.aws.amazon.com/AmazonS3/latest/dev/BucketRestrictions.html)

Ask our Experts

QUESTION 59 UNATTEMPTED

What is the maximum number of S3 buckets by default allowed per AWS account? Choose the correct answer from the options below.

- A. 100 ✔
- B. 50

- **C.** 1000
- **D.** 150

Explanation :

Answer – A
This is clearly mentioned in the AWS documentation.

Amazon Simple Storage Service (Amazon S3) Limits

Resource	Default Limit
Buckets	100 per account

For more information on AWS service limitations, please visit the link:

- http://docs.aws.amazon.com/general/latest/gr/aws_service_limits.html#limits_s3 (http://docs.aws.amazon.com/general/latest/gr/aws_service_limits.html#limits_s3)
- http://docs.aws.amazon.com/AmazonS3/latest/dev/BucketRestrictions.html (http://docs.aws.amazon.com/AmazonS3/latest/dev/BucketRestrictions.html)

Ask our Experts

QUESTION 60 UNATTEMPTED

You successfully upload a new item to the US-STANDARD region. You then immediately make another API call and attempt to read the object. What will happen? Choose the correct answer from the options below

- **A.** US-STANDARD uses eventual consistency and it can take time for an object to be readable in a bucket, so you will receive an HTTP 404 error
- **B.** Objects in Amazon S3 do not become visible until they are replicated to a second region. You will receive an HTTP 404 error
- **C.** US-STANDARD has read-after-write consistency, so you will be able to retrieve the object immediately ✔
- **D.** US-STANDARD imposes a 1 second delay before new objects are readable, but after that you will successfully retrieve the object

Explanation :

Answer – C
As per the AWS documentation it is clearly given that all regions provide read after write consistency

hence the object would be immediately available.

Q: What data consistency model does Amazon S3 employ?

Amazon S3 buckets in all Regions provide read-after-write consistency for PUTS of new objects and eventual consistency for overwrite PUTS and DELETES.

For more information on S3, please visit the below link:

- https://aws.amazon.com/s3/faqs/ (https://aws.amazon.com/s3/faqs/)

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