

#1

You notice that your administrator has not created a security group. The admin created 3 EC2 instances that were launched into the default security group. No changes were made to the default security group. What characteristics will the default security group provide? (Choose 3 answers)

No inbound traffic will be allowed to the EC2 instances.

All inbound traffic will be allowed to the EC2 instances.

The EC2 instances will be able to communicate with each other.

All outbound traffic from the EC2 instances will be allowed.

Explanation

Your VPC automatically comes with a default security group. Each EC2 instance that you launch in your VPC is automatically associated with the default security group if you don't specify a different security group when you launch the instance. **The default security group disallows all inbound traffic and allows all outbound traffic.** However, the rules for a default security group can be changed.

 http://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VPC_SecurityGroups.html

#6

Which of the following services can improve instance network performance to speeds of up to 100 Gbps and is available at no cost?

AWS Global Accelerator

Amazon CloudFront

Elastic Network Adapter (ENA)

Elastic Network Interface (ENI)

Explanation

If you are looking to enable enhanced networking features to reach speeds of up to 100 Gbps for your Linux compute instances, then you can do so using an ENA. However, ENAs are only supported on a limited number of instances as shown below, and by instances running kernel versions 2.6.32 and 3.2 and above.

In addition to 100 Gbps speeds, enhanced networking offers higher bandwidth with increased packet per second (PPS) performance, and a big bonus of enhanced networking is that it is offered at no extra cost. In fact, when launching an instance using Amazon Linux 2 or with the latest version of the Amazon Linux AMI, then the instance will have enhanced networking enabled by default, providing its provisioned with one of the supported instance types mentioned earlier.

 </course/saa-networking/ec2-enhanced-networking-with-the-enhanced-network-adaptor-ena/>

#9

You want to allow an on-premises network to connect to multiple separate VPCs within your AWS network through a central network hub. What service would you need to provide the centralized network hub between multiple VPCs and your on-premises

network?

VPC peering

AWS VPN

AWS Direct Connect

AWS Transit Gateway

Explanation

The central connection point or hub between the multiple VPCs and the hybrid connection to an on-premises network will be AWS Transit Gateway. The network suggested in this scenario would certainly include VPC peering connections and either VPNs or Direct Connect, but the component that connects them all is AWS Transit Gateway.



[/course/saa-networking/vpc-transit-gateway/](#)

#11

You want to connect a single VPC network with a company's on-premises network. You will encrypt the network traffic that travels over the public internet between the two destinations. Which AWS network connection method would meet your needs?

A Virtual Private Network (VPN)

AWS Direct Connect

VPC Peering connections

AWS Transit Gateway

Explanation

A VPN is the best choice because it can provide a hybrid connection and encrypt network traffic over the public internet. VPC peering connections can connect two VPCs. AWS Transit Gateway can create a hub between multiple VPCs and an on-premise network, but this case only requires connecting two networks so a central hub is not necessary. Direct Connect would provide a private network connection, which is also not necessary.



[/course/saa-networking/vpc-vpn-direct-connect/](#)

#2

You are designing a VPC for a large insurance company. Because their data is highly sensitive, you plan to implement several security features including security groups, network access control lists (ACL), and server-side encryption. You first want to set up security groups for security at the instance level. Which statements regarding security group features are correct? (Choose 3 answers)

- You can specify allow rules but not deny rules.
- You can specify separate rules for inbound and outbound traffic.
- X You can specify allow and deny rules.
- ✓ By default, new security groups include a rule allowing all outbound traffic.

Explanation

A *security group* acts as a virtual firewall for your instance to control inbound and outbound traffic. For each security group, you add *rules* that control the inbound traffic to instances, and a separate set of rules that control the outbound traffic. You can specify allow rules, but not deny rules. You can specify separate rules for inbound and outbound traffic.



http://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VPC_SecurityGroups.html

#3

You are in charge of the VPC for your company. You are developing an overall architectural document for the VPC including specifics about the VPC, Internet Gateway, Network Access Control Lists, Security Groups, and EC2 instances. You want to provide details on public IP addresses and elastic IP addresses and when you might use one over the other. What can you detail about the benefits of Elastic IP addresses? (Choose 3 Answers)

- ✓ The Elastic IP address is not tied to the life of an EC2 instance.
- ✓ The Elastic IP address can be moved to a new instance in the case of instance failure.
- X The Elastic IP address can be stretched across two EC2 instances at once.
- ✓ The loose coupling provided by the Elastic IP addresses is helpful in failover situations.

Explanation

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.

An Elastic IP address is a public IPv4 address, which is reachable from the Internet. If your instance does not have a public IPv4 address, you can associate an Elastic IP address with your instance to enable communication with the Internet; for example, to connect to your instance from your local computer.



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

#4

A customer has EC2 instances in two different VPCs and wants them to easily communicate with each other. VPC peering seems ideal without the need of a transit gateway, but there are some things you need to consider. Which two of the following do you need to ensure are correct for this to work? (Choose 2 answers)

- The VPCs are directly connected with a single peering connection.

The VPCs' CIDR blocks need to be the same

The VPCs' CIDR blocks cannot overlap.

The VPCs both need to have EC2 instances with the same operating system

Explanation

To create a VPC peering connection with another VPC, you need to be aware of the following limitations and rules:

- You cannot create a VPC peering connection between VPCs that have matching or overlapping IPv4 or IPv6 CIDR blocks. Amazon always assigns your VPC a unique IPv6 CIDR block. If your IPv6 CIDR blocks are unique but your IPv4 blocks are not, you cannot create the peering connection.
- Transitive routing is not supported - that is you cannot route traffic through a intermediate (shared) VPC.

 <http://docs.aws.amazon.com/AmazonVPC/latest/PeeringGuide/vpc-peering-overview.html#vpc-peering-limitations>

#5

AWS provides two features that you can use to increase security in your VPC: *security groups* and *network ACLs (NACLs)*. Which of the following statements are true in relation to security groups and NACLs in your VPC? (Choose 2 answers)

Security groups control inbound and outbound traffic for your instances

Security groups control inbound and outbound traffic for your instances and for your subnets.

Security groups control inbound and outbound traffic for your instances and outbound traffic for your subnets.

NACLs control inbound and outbound traffic for your subnets.

Explanation

AWS provides two features that you can use to increase security in your VPC: *security groups* and *network ACLs*. Security groups control inbound and outbound traffic for your instances, and network ACLs control inbound and outbound traffic for your subnets. In most cases, security groups can meet your needs; however, you can also use network ACLs if you want an additional layer of security for your VPC.

 http://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VPC_Scenario2.html

#7

Which of the following EC2 instances cannot initiate outbound traffic to the public internet?

An instance with an assigned public IP address in a public subnet.

An instance with an assigned Elastic IP address in a public subnet.

An instance with an assigned private IP address only, in a private subnet with a route to a NAT Gateway.

An instance with an assigned private IP address in a private subnet.

Explanation

The only EC2 instance from the four choices above that cannot initiate outbound traffic to the public internet is an Amazon EC2 instance with an assigned private IP address in a private subnet.

An instance with an assigned public IP or EIP address in a public subnet is about as ready as you can be to send and receive traffic from the public internet.

An instance with an assigned private IP address only, in a private subnet with a route to a NAT Gateway, can initiate outbound traffic to the public internet.



#8

Which of the following AWS Networking components reduces the latency of network traffic between external users and applications hosted on AWS by directing customer traffic to AWS network infrastructure, such as edge locations and the AWS private network, instead of the public internet?

 Elastic Network Adapters (ENA) Elastic IP addresses (EIP) AWS Global Accelerators Elastic Network Interfaces (ENI)

Explanation

The ultimate aim of the AWS Global Accelerator is to get UDP and TCP traffic from your end user clients to your applications faster and quicker and more reliably, through the use of the AWS global infrastructure and specified endpoints, instead of having to traverse the public internet, which is not as reliable and carries a higher security risk.



[/course/aws-networking-features-essential-for-a-solutions-architect/aws-global-accelerator/](#)

#10

Which choice correctly describes the differences between security groups and Network Access Control Lists (NACLs)? (Choose 2 answers)

 Security Groups operate at the instance level and support allow rules only. NACLs operate at the instance level and support allow and deny rules. NACLs operate at the subnet level and support deny rules only. NACLs operate at the subnet level and support allow and deny rules.

Explanation

You can secure your VPC instances using only security groups; however, you can add NACLs as a second layer of defense. Security groups — Act as a firewall for associated Amazon EC2 instances, controlling both inbound and outbound traffic at the instance level . Network access control lists (NACLs) — Act as a firewall for associated subnets, controlling both inbound and outbound traffic at the subnet level . Security Groups supports allow rules only while Network Access Control Lists support allow and deny rules.

#12

What features of VPC security groups are correct? (Choose 2 answers)

Instances associated with the same security group can not talk to each other unless rules are added specifically allowing communication.

Instances associated with the same security group can always communicate.

Security Groups are stateless.

You can change the security group that an instance is associated with after launch and the changes will take effect immediately.

Explanation

Instances associated with a security group can't talk to each other unless you add rules allowing it (exception: the default security group has these rules by default). By default, a security group includes an outbound rule that allows all outbound traffic. You can remove the rule and add outbound rules that allow specific outbound traffic only. If your security group has no outbound rules, no outbound traffic is allowed.

 http://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VPC_SecurityGroups.html

#13

With a(n) _____ , you can mask the failure of an instance by rapidly remapping the address to another instance in your VPC.

Elastic IP address

Private IP address

Public IP address

Reserved IP address

Explanation

With an Elastic IP address, you can mask the failure of an instance by rapidly remapping the address to another instance in your VPC. You can associate an Elastic IP address with any instance or network interface for your VPC.

 <http://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/vpc-ip-addressing.html>

#14

Your company is going to a hybrid cloud environment. You have been tasked to lead the design and implementation of this effort. You recommend Route 53 as a DNS solution for the cloud environment. What features of Route 53 will enable seamless

integration into your overall DNS solution? (Choose 3 answers)

Route 53 can handle on-premises DNS resolution on its own.

Route 53 can host public domain names for external web apps.

Route 53 can be configured for failover situations.

Route 53 can use geo-based, weighted, and latency-based routing.

Explanation

As you establish private connectivity between your on-premises networks and your AWS Virtual Private Cloud (VPC) environments, the need for Domain Name System (DNS) resolution across these environments grows in importance. One common approach used to address this need is to run DNS servers on Amazon EC2 across multiple Availability Zones (AZs) and integrate them with private on-premises DNS domains. Simple AD provides redundant and managed DNS services across AZs. These DNS services automatically forward requests for non-authoritative domains to the VPC-provided DNS. Therefore, they can be used to resolve DNS records stored in a Route 53 private hosted zone.



<https://aws.amazon.com/blogs/security/how-to-set-up-dns-resolution-between-on-premises-networks-and-aws-using-aws-directory-service-and-amazon-route-53/>

#3

While building your environment on AWS you decide to use Key Management Service to help you manage encryption of data volumes. As part of your architecture you design a disaster recovery environment in a second region. What should you anticipate in your architecture regarding the use of KMS in this environment?

KMS is not highly available by default; you have to make sure you span KMS across at least two availability zones to avoid single points of failure.

KMS is region-specific and keys created in one region are not migrated or distributed to other regions; you have to account in your architecture for cross-region encryption of data between primary and disaster recovery environments.

KMS is a global service, your architecture must account for regularly migrating encryption keys across regions to allow disaster recovery environment to decrypt volumes.

KMS is highly available within the region; to make it span across multiple regions you have to connect primary and DR environments with a Direct Connect line.

Explanation

Key Management Service is highly available within a region. It's important that you understand Key Management Service is highly available in a single region. Key Management Service is not a global or multi-region service.

 [/amazon-web-services/amazon-web-services-key-management-service-kms-course/key-management-service-basics.html](https://amazon-web-services/amazon-web-services-key-management-service-kms-course/key-management-service-basics.html)

Covered in this lecture



Encryption Summary



Course: Designing Secure Applications and Architectures

10m

#4

What is Envelope Encryption in the context of Key Management Service (KMS)?

It is the practice of encrypting the Master Key when exported from KMS to be used in another region or system.

Two-tier hierarchy system to encrypt data with data key and then encrypt data key with master key.

It is the practice of encrypting the Master Key when exported from on-premises appliance to be imported in KMS.

It is the practice of encrypting data objects using Customer Master Key managed by KMS.

Explanation

Enveloper Encryption is a two-tier or multi-tier of encryption, it is the system by which data is encrypted using Data Keys and then those Keys are encrypted with Key Encryption Key. The same process could be applied multiple times if needed to encrypt the Key Encryption Key with another KEK, etc.

 [/amazon-web-services/amazon-web-services-key-management-service-kms-course/key-management-service-basics.html](https://amazon-web-services/amazon-web-services-key-management-service-kms-course/key-management-service-basics.html)

Covered in this lecture



Components of KMS

Course: How to Use KMS Key Encryption to Protect Your Data

11m

#5

You have encrypted data using SSE-KMS, and now wish to decrypt the data and review it. To which service do you, the client, send a request?

Amazon S3

AWS KMS

AWS SDK

AWS Backup

Explanation

Even though AWS KMS creates the CMK keys that encrypt and decrypt your data, all data requests should go through Amazon S3.

</course/s3-encryption-mechanisms/s3-encrypt-sse-kms/>

Covered in this lecture



Server-Side Encryption with KMS Managed Keys (SSE-KMS)



Course: Understanding S3 Encryption Mechanisms to Secure your Data

1m

#7

When an AWS CloudHSM device is initialized, what happens to the existing keys stored on the device?

The existing keys are destroyed.

The existing keys are updated.

The existing keys are backed up to Amazon S3.

The existing keys are unchanged.

Explanation

Two, be careful when initializing a CloudHSM. This action will destroy the keys, so either have another copy of the keys or be absolutely sure you do not and never, ever will need these keys to decrypt any data.

</course/get-started-with-aws-cloudhsm/what-is-cloudhsm/>

Covered in this lecture



What is CloudHSM?



Course: Manage Your Own Encryption Keys Using AWS CloudHSM

5m

#9

Key Management Service is used to help you manage and maintain encryption keys. By default, Where does KMS maintain and store those keys?

KMS stores keys on multi-tenant hardware security modules (HSMs).

KMS stores keys on physical drives accessible only by KMS service APIs.

KMS stores keys on key vault accessible only by key owner (the IAM user created the key).

KMS is backed by encrypted EBS volumes, this is where keys are kept and maintained.

Explanation

S3 provides the back-end system that Key Management Service is built upon which helps ensure a low latency for access to keys and the high throughput for multiple customer and data encryption keys

[@/amazon-web-services/amazon-web-services-key-management-service-kms-course/key-management-service-basics.html](https://amazon-web-services/amazon-web-services-key-management-service-kms-course/key-management-service-basics.html)

Covered in this lecture



Summary - Domain Three

Course: Domain three - Summary - Designing Secure Application and Architectures

5m



#10

Which Amazon S3 data encryption mechanism offers the highest level of ease, but the least amount of customer control?

SSE-S3

SSE-KMS

SSE-C

CSE-C

Explanation

SSE-S3 allows the user to simply upload objects to S3, and AWS handles the data encryption, decryption, key management, object storage, and key rotation.

[@/course/s3-encryption-mechanisms/s3-encrypt-overview-encryption-mechanisms/](https://course/s3-encryption-mechanisms/s3-encrypt-overview-encryption-mechanisms/)

Covered in this lecture



Overview of Encryption Mechanisms

Course: Understanding S3 Encryption Mechanisms to Secure your Data

2m



AWS Cloud HSMs are designed to securely store and use _____ data without exposing it outside the boundary of the _____.

#11

 user subscription; software application cryptographic key; hardware appliance X cryptographic key; software application X user subscription; hardware appliance**Explanation**

A hardware security module (HSM) is a hardware appliance that provides secure key storage and cryptographic operations within a tamper-resistant hardware module. AWS Cloud HSMs are designed to securely store cryptographic key material and use the key material without exposing it outside the cryptographic boundary of the appliance.

 <http://docs.aws.amazon.com/clouhsm/latest/userguide/cloud-hsm-overview.html>

#12

What action does the S3 Master Key perform in the SSE-S3 encryption and decryption process?

 X It encrypts and decrypts the object uploaded into S3 ✓ It encrypts and decrypts the data key for the S3 object X It correlates each object with its specific data key X It allows the user to authenticate and receive access to the related object**Explanation**

In the SSE-S3 encryption process, the Master key encrypts and decrypts the data key. The data key, in turn, encrypts and decrypts the actual object stored in S3.

 </course/s3-encryption-mechanisms/s3-encrypt-sse-s3/>

Covered in this lecture**Server-Side Encryption with S3 Managed Keys (SSE-S3)**

Course: Understanding S3 Encryption Mechanisms to Secure your Data

1m



#13

Which statement is correct about AWS Key Management Service (KMS)?

 X KMS is a managed service from AWS that can help you generate Key-Pairs to use for instance authentication. X KMS is an Identity and Access Management (IAM) service that helps you generate SSH keys for IAM users to use for Authentication instead of passwords. X KMS is a managed service from AWS that provides Encryption-as-a-service to data at rest. ✓ KMS is a managed service from AWS that enables you to easily manage and maintain encryption Keys.

Explanation

Key Management Service is a software as a service offering from Amazon. It is a managed service provided by Amazon that enables you to easily manage encryption keys.

Administrators at Amazon do not have access to your keys. They cannot recover your keys and they do not help you with encryption of your keys. AWS simply administers the operating system and the underlying application it's up to us to administer our encryption keys and administer how those keys are used.

 <https://cloudacademy.com/course/amazon-web-services-key-management-service-kms-course/key-management-service-basics.html>

#14

Which Amazon S3 encryption mechanism involves creating a 'salted' HMAC value of the data key used to encrypt an object stored in an S3 bucket?

- SSE-C
- SSE-S3
- CSE-KMS
- SSE-KMS

Explanation

During the SSE-C encryption process, S3 will use the Customer-provided Key to encrypt the Object Data. S3 will also create a salted HMAC value of the Customer-provided Key for future validation requests. The encrypted Object Data, along with the HMAC value of the Customer Key is then saved and stored on S3.

 <https://cloudacademy.com/course/s3-encryption-mechanisms/s3-encrypt-sse-c/>

Covered in this lecture**Server-Side Encryption with Customer Provided keys (SSE-C)**

Course: Understanding S3 Encryption Mechanisms to Secure your Data

1m



#1

What is the difference between Customer Master Key (CMK) and Data Key in the context of Key Management Service?

- X Customer Master Key is maintained in KMS while Data Keys are stored and maintained in IAM
- ✓ Customer Master Key is used to protect data keys, Data Keys are used to encrypt and decrypt data objects
- X Customer Master Key can be restored if lost while Data Keys cannot be restored
- X Customer Master Key is used to encrypt application data while Data Keys are used to protect AWS resources like volumes and S3 objects

Explanation

Customer Master Key is the primary object in KMS. It is used to protect Data Keys which are used to encrypt and decrypt data objects whenever needed.

Customer Master Key is maintained in KMS and if lost no one can help you recover it.



[amazon-web-services/amazon-web-services-key-management-service-kms-course/key-management-service-basics.html](https://cloudacademy.com/course/amazon-web-services/amazon-web-services-key-management-service-kms-course/key-management-service-basics.html)

#2

Which Amazon S3 data encryption mechanism offers the highest level of control to the customer, but also requires the highest level of customer responsibility?

- X SSE-C
- ✓ CSE-C
- X SSE-S3
- X CSE-KMS

Explanation

Using CSE-C, AWS assists in creating the keys and storing the encrypted objects. Key storage, rotation, encryption and decryption is entirely performed on the client side.



[course/s3-encryption-mechanisms/s3-encrypt-cse-c/](https://cloudacademy.com/course/s3-encryption-mechanisms/s3-encrypt-cse-c/)

#6

As a best practice with CloudHSM, always deploy CloudHSM in a high availability configuration with at least _____ appliances in separate availability zones.

- ✓ two
- X three
- X four

five

Explanation

Always deploy CloudHSM in a high availability setup with at least two appliances in separate availability zones, and if possible, deploy a third either on-premises or in another AWS region.

 [/course/get-started-with-aws-cloudhsm/what-is-cloudhsm/](https://cloudacademy.com/course/get-started-with-aws-cloudhsm/what-is-cloudhsm/)

#8

You would like for AWS to manage data encryption for all objects in a given bucket. However, your company has strict requirements that require you to rotate encryption keys used to encrypt your data every 60 days. Which encryption option should you use?

 SSE-S3 SSE-KMS SSE-C CSE-KMS

Explanation

SSE-KMS allows S3 to use the key management service to generate your data encryption keys. KMS gives you a far greater flexibility of how your keys are managed. For example, you are able to disable, rotate, and apply access controls to the CMK, and audit logs against their usage using AWS Cloud Trail.

 [/course/s3-encryption-mechanisms/s3-encrypt-overview-encryption-mechanisms/](https://cloudacademy.com/course/s3-encryption-mechanisms/s3-encrypt-overview-encryption-mechanisms/)

#3

Which of the following is not a common use case for ElastiCache?

social networking sites

real-time analytics

customer relationship management systems

online games

Explanation

Before I finish this lecture covering ElastiCache, I want to point out some of the common use cases where you might use Amazon ElastiCache. Due to its incredibly fast performance and scaling abilities, this is commonly used in the online gaming industry, where it's vital that statistical information like a scoreboard is presented as quickly and as consistently as possible to all the players in the game. Another common use is for social networking sites, where they need a way to store temporary session information in session management. Real-time analytics is also a great use for ElastiCache, as it can be used in conjunction with other services such as Amazon Kinesis to ingest, process, and analyze data at scale.

 [/course/database-fundamentals-part-one-1064/amazon-elasticsearch/](https://cloudacademy.com/course/database-fundamentals-part-one-1064/amazon-elasticsearch/)

Covered in this lecture



Amazon ElastiCache

Course: Database Fundamentals for AWS - Part 1 of 2

8m



#5

A _____ can be considered the main or core component of the Amazon Redshift service.

cluster

compute node

node slice

table

Explanation

A cluster can be considered the main or core component of the Amazon Redshift service.

 [/course/database-fundamentals-aws-part-2-1063/amazon-redshift/](https://cloudacademy.com/course/database-fundamentals-aws-part-2-1063/amazon-redshift/)

Covered in this lecture



Amazon Redshift

Course: Database Fundamentals for AWS - Part 2 of 2

8m



#11

Which of the following statements about Amazon Neptune is not true?

It uses its own graph database engine.

It supports the Apache Tinkerpop Gremlin query framework.

It supports the WWW Sparql query framework.

It supports SQL queries.

Explanation

Amazon Neptune uses its own graph database engine and supports two graph query frameworks. One of these is Apache Tinkerpop Gremlin, and this allows you to query your graph running on your Neptune database, using the Gremlin traversal language. And we have the Worldwide Web Consortium Sparql.

 </course/database-fundamentals-part-one-1064/amazon-neptune/>

Covered in this lecture



Amazon Neptune

Course: Database Fundamentals for AWS - Part 1 of 2

8m



#1

How does the Amazon RDS multi-AZ model work?

A second, standby database is deployed and maintained in a different availability zone from the master using asynchronous replication.

A second, standby database is deployed and maintained in a different availability zone from the master, using synchronous replication.

A second, standby database is deployed and maintained in a different region from the master using synchronous replication.

A second, standby database is deployed and maintained in a different region from the master using asynchronous replication.

Explanation

In a Multi-AZ deployment, Amazon RDS automatically provisions and maintains a synchronous standby replica in a different Availability Zone.

 <http://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/Concepts.MultiAZ.html>

#2

Which of the following statements regarding Amazon RDS instance pricing is incorrect?

On-Demand instances cost more per hour than Reserved instances

Single-AZ configurations costs less than Multi-AZ configurations

Large instances cost more than small instances

Each Oracle BYOL license discount applies to all Oracle DB instance types and sizes

Explanation

Before you decide to use a BYOL license instance you need to ensure that your current license includes software update license and support for the particular instance that you are looking to create.

Also with BYOL for Oracle you have additional editions for deployment. This means that BYOL supports the following Oracle Editions:

Standard Edition

Standard Edition One (SE1)

Standard Edition Two (SE2)

Enterprise Edition

As you are only paying for the compute instances when using BYOL, there is no variation in prices between the different editions of Oracle being used.

 <https://course/understanding-costs-associated-with-amazon-rds-1050/rds-instance-purchasing-options/>

#4

Which of the following is an advantage of Amazon Redshift over a traditional database?

- Amazon Redshift is focused to work on online transaction processing for single row transactions.
- Amazon Redshift is able to work with a lot of unstructured data.
- Amazon Redshift is optimized for very fast execution of complex analytic queries.
- Amazon Redshift is designed to be used as a key-value store.

Explanation

A data warehouse system has very different design goals as compared to a typical transaction-oriented relational database system. An online transaction processing (OLTP) application is focused primarily on single row transactions, inserts, and updates. Amazon Redshift is optimized for very fast execution of complex analytic queries against very large data sets.

 http://docs.aws.amazon.com/redshift/latest/dg/t_Creating_tables.html

#6

Amazon ElastiCache allows you to retrieve information from ____.

- different web servers in the cloud
- NoSQL databases
- relational databases
- in-memory data stores

Explanation

Amazon ElastiCache is a service that makes it easy to deploy, operate, and scale open-source, in-memory data stores in the cloud. This service improves performance through caching, where web applications allow you to retrieve information from fast, managed in-memory data stores instead of relying entirely on slower disk-based solutions.

 </course/database-fundamentals-part-one-1064/amazon-elasticsearch/>

#7

How does in-memory caching improve the performance of applications in ElastiCache?

- It improves application performance by storing frequently-accessed data in memory for low-latency access.
- It improves application performance by using a part of instance RAM for caching important data.
- It improves application performance by deleting the requests that do not contain frequently accessed data.
- It improves application performance by implementing good database indexing strategies.

Explanation

In Amazon ElastiCache, in-memory caching improves application performance by storing critical pieces of data in memory for low-latency access. Cached information may include the results of I/O-intensive database queries or the results of computationally intensive calculations.



<http://aws.amazon.com/elasticsearch/faqs/#g4>

#8

Which of the following statements about **Amazon DynamoDB on-demand backups** is false?

The backup process for very large databases tends to be very slow.

False

Every time an on-demand backup is taken, a full backup of the entire table is included.

True

You can use AWS backup to schedule on-demand backups on a regular and recurring basis.

True

On-demand backups are not limited by the 35-day retention period.

True

Explanation

One of the main benefits that on-demand backups have over automatic backups is that they are not limited by the 35-day retention period and exist until you manually delete them. When performing your on-demand backups, you should rest in the comfort that it does not pose any kind of performance throughput impact against your table, thanks to a unique distributed technology that DynamoDB is built upon. This also enables your backup process to scale, which means that your backups can be created in seconds despite how big your database might be in size. Now, this has the benefit of requiring you not to specify backup windows or schedules. Every time an on-demand backup is taken, a full backup of the entire table is included. Also, much like in RDS, you can also use AWS backup to schedule on-demand backups on a regular and recurring basis.



</course/backup-and-restore-capabilities-amazon-rds-amazon-dynamodb-1111/amazon-dynamodb-backup-capabilities/>

#9

When using Provisioned Capacity mode, how are you charged for Amazon DynamoDB?

by the total amount of throughput that you configure for your tables

by the total amount of storage space used by your data

by the amount of time your database is up and running

by the total amount of throughput that you configure for your tables plus the total amount of storage space used by your data

Explanation

You are charged for the total amount of throughput that you configure for your tables plus the total amount of storage space used by your data.



</course/database-fundamentals-part-one-1064/amazon-dynamodb/>

#10

Which of the following statements about read replicas in Amazon RDS is false?

A read replica allows its users to read and write data.



A read replica is kept in sync with the primary database.

If at any time your primary database goes down, you have the ability to promote a read replica into a new primary database.

✗ Read replicas help to alleviate the bottleneck on your primary database.

Explanation

A read replica is a copy of your database that gives the user another access point to retrieve data from. This helps to alleviate the bottleneck on your primary database. The read replica is kept in sync with the primary database and only allows its users to read data. If at any time your primary database happens to go down or become corrupted in some fashion, you have the ability to promote your read replica into a new primary database. Your traffic can migrate over to this copy using Route 53 failover routing and health checks.



[/course/understanding-rds-scaling-elasticity-1081/scaling-with-rds/](#)

#12

Amazon Neptune is a fast, reliable, secure, and fully managed _____ service.

✓ graph database

✗ SQL database

✗ caching

✗ data backup

Explanation

Amazon Neptune is a fast, reliable, secure, and fully managed graph database service.



[/course/database-fundamentals-part-one-1064/amazon-neptune/](#)

#13

Which of the following statements about Amazon DynamoDB is incorrect?

✗ Its tables are schemaless.

✗ It is designed to be used for ultra-high performance.

✓ It requires SQL.

✗ It is a key-value store database.

Explanation

Amazon DynamoDB is a NoSQL database, which means that it doesn't use the common Structured Query Language, SQL. It falls into a category of databases known as key-value stores.



[/course/database-fundamentals-part-one-1064/amazon-dynamodb/](#)

#14

What is a node slice in Amazon Redshift?

- a cached copy of query results
- a query performed on the data in your warehouse
- a grouping of compute nodes
- a partition of a compute node where the node's memory and disk spaces split

Explanation

A node slice is simply a partition of a compute node where the node's memory and disk spaces split.

 [/course/database-fundamentals-aws-part-2-1063/amazon-redshift/](#)

#3

If you have to host a server with a specific region and availability zone for a year, the cheapest way to start that instance is to use the _____.

 EBS-optimized instance

 Spot instance

 Dedicated instance

 Reserved Instance

Explanation

Amazon EC2 Reserved Instances can be a powerful and cost-saving strategy for running your business. Amazon EC2 Reserved Instances allow you to reserve Amazon EC2 computing capacity for 1 or 3 years, in exchange for a significant discount (up to 75%) compared to On-Demand instance pricing. Reserved Instances can significantly lower your computing costs for your workloads and provide a capacity reservation so that you can have confidence in your ability to launch the number of instances you have reserved when you need them.



<https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ec2-reserved-instances.html>

#4

Which type of Elastic Load Balancer support **is ideal for receiving inbound traffic from the clients outside the VPC**, offers TLS termination, and advanced routing?

 Network Load Balancers

 Application Load Balancers

 Classic Load Balancers

 Gateway Load Balancers

Explanation

Firstly, the Application Load Balancer provides a flexible feature set for your web applications running the HTTP or HTTPS protocols. The Application Load Balancer operates at the request level, and it also provides advanced routing, TLS termination, and visibility features targeted at application architectures, allowing you to route traffic to different ports on the same EC2 instance.

Network Load Balancers are used for ultra-high performance for your application while at the same time managing very low latencies. It operates at the connection level, routing traffic to targets within your VPC, and it's also capable of handling millions of requests per second.

Classic Load Balancers are primarily used for applications that were built in the existing EC2 Classic environment and operate at both the connection and request level. We'll now talk a little bit about the components of an AWS ELB and some of the principles behind them.



</course/saa-compute/what-elastic-load-balancer-elb/>

#5

What does selecting the Throttle option do in AWS Lambda?

sets the reserve concurrency limit of a Lambda function to zero

provides entry points to the Lambda function

associates the Lambda function to a particular project, department, or solution

sets the unreserved concurrency of an AWS Lambda account to zero

Explanation

The Throttle option is closely linked to the concurrency setting that we just talked about. Selecting this option sets the reserve concurrency limit of your function to zero.

[🔗 /course/understanding-aws-lambda-to-run-scale-code/demo-creating-a-lambda-function/](https://course.understanding-aws-lambda-to-run-scale-code/demo-creating-a-lambda-function/)

Covered in this lecture



Demo: Creating a Lambda Function

Course: Understanding AWS Lambda to Run & Scale Your Code



#6

You are configuring your application's compute layer using EC2 Auto Scaling. When configuring the group's capacity, you have set the auto scaling group's minimum capacity to four, the desired capacity to 8, and the maximum capacity to 16. When you deploy your auto scaling group, and the instances have completely deployed, how many instances will there be within your group?

4

8

12

16

Explanation

You configure the size of your Auto Scaling group by setting the minimum, maximum, and desired capacity. The minimum and maximum capacity are required to create an Auto Scaling group, while the desired capacity is optional. If you do not define your desired capacity upfront, it defaults to your minimum capacity.

By default, the minimum, maximum, and desired capacity are set to one instance when you create an Auto Scaling group from the console. If you change the desired capacity, the capacity that you specify will be the total number of instances launched right after creating your Auto Scaling group.

An Auto Scaling group is elastic as long as it has different values for minimum and maximum capacity. All requests to change the Auto Scaling group's desired capacity (either by manual scaling or automatic scaling) must fall within these limits.

If you choose to automatically scale your group, the maximum limit lets Amazon EC2 Auto Scaling scale out the number of instances as needed to handle an increase in demand. The minimum limit helps ensure that you always have a certain number of instances running at all times.

[🔗 https://docs.aws.amazon.com/autoscaling/ec2/userguide/asg-capacity-limits.html](https://docs.aws.amazon.com/autoscaling/ec2/userguide/asg-capacity-limits.html)

#10

You are managing a VPC for a client in the marketing industry. They have several tasks, such as flyer and coupon creation, which are not mission-critical and can just be restarted if the application terminates. You recommend using spot instances for the greatest cost savings.

Under what circumstances will a spot instance terminate? (Choose 3 answers)

The customer terminates them.

The spot price goes above the customer's bid price.

The customer is outbid by another customer.

There is not enough unused capacity to meet the demand for spot instances.

Explanation

Spot instances can be terminated by the customer if there is not enough unused capacity to meet the demand for spot instances, or by AWS if the Spot Price moves higher than a customer's maximum price. Spot instances are billed hourly, but you will not be charged for the hour if the instance is terminated by AWS. If you terminate the instance yourself, you will be charged for the full hour in which the termination occurred.



<https://aws.amazon.com/ec2/faqs/#spot-instances>

Covered in this lecture



Components of EC2 Auto Scaling



Course: Using Elastic Load Balancing & EC2 Auto Scaling to Support AWS Workloads

14m

#11

You purchased three reserved instances that match the specifications of three on-demand instances you have already deployed. What action is required to apply the discount?

Launch three new instances and terminate the existing on-demand ones.

No action is required. The reservation discount will apply to the three instances with matching specifications.

Stop and restart the existing on-demand instances to apply the discount.

Reboot the existing on-demand instances to apply the discount.

Explanation

If you purchase a Reserved Instance and you already have a running instance that matches the specifications of the Reserved Instance, the billing benefit is immediately applied. You do not have to restart your instances. If you do not have an eligible running instance, launch an instance and ensure that you match the same criteria that you specified for your Reserved Instance.



https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/apply_ri.html

#13

Where does the user define the desired capacity of the instances to be launched by Auto Scaling?

Auto Scaling configuration stage

Auto Scaling group

Auto Scaling policy

X Auto Scaling plan

Explanation

When you create an Auto Scaling group, you must specify a name, launch configuration, minimum number of instances, and maximum number of instances.

 <http://docs.aws.amazon.com/AutoScaling/latest/DeveloperGuide/AutoScalingGroup.html>

Covered in this lecture



Exam Prep -Domain One - Auto Scaling

Course: Solution Architect Associate for AWS - 2017 Exam Primer

7m



#1

Which of the following statements about event sources in AWS Lambda is true?

- For poll-based event sources, the mapping is maintained within the event source.
- For push-based event sources, the mapping is maintained within the Lambda function.
- For poll-based event sources, the invocation type is always synchronous.
- For push-based event sources, the invocation type is always asynchronous.

Explanation

For poll-based event sources, the invocation type is always synchronous.

 [/course/understanding-aws-lambda-to-run-scale-code/understanding-event-source-mapping/](https://course/understanding-aws-lambda-to-run-scale-code/understanding-event-source-mapping/)

#2

What happens if an instance launched by Auto Scaling becomes unhealthy?

- The instance cannot become unhealthy.
- Auto Scaling will notify the user and the user can update the instance.
- Auto Scaling will terminate the instance but not launch a new instance.
- Auto Scaling will terminate the instance and launch a new healthy instance.

Explanation

Auto Scaling keeps checking the health of the EC2 instances launched by it at regular intervals. If an instance is observed as unhealthy, Auto Scaling will automatically terminate the instance and launch a new healthy instance. Thus, it maintains the number of instances as per the Auto Scaling group configuration.

 <http://docs.aws.amazon.com/AutoScaling/latest/DeveloperGuide/AutoScalingLifecycleHooks.html>

#7

You have been contracted by a company to design and implement their AWS cloud environment. The company has a very tight budget and would like to maximize savings wherever possible. They've gotten a 5-year government contract and the workload is expected to remain steady throughout the length of the contract. What type of instance will best meet their computing needs while providing maximum savings?

- Choose convertible reserved instances with a three-year term commitment and all payment upfront
- Choose standard reserved instances with a three-year term commitment and all payment upfront.
- Choose convertible reserved instances with a one-year commitment and no payment upfront.
- Choose standard reserved instances with a one-year commitment and no payment upfront.

Explanation

When you purchase a Reserved Instance, choose a payment option, term, and an offering class that suits your needs. Generally speaking, you can save more money choosing Reserved Instances with a higher upfront payment. There are three payment options (No Upfront, Partial Upfront, All Upfront), two-term lengths (one-year or three-years), and two offering classes (Convertible and Standard). Convertible RIs offer up to a 55% discount, while Standard offers up to a 75% discount. No Upfront and Partial Upfront Reserved Instances are billed for usage on an hourly basis, regardless of whether they are being used. All Upfront Reserved Instances have no additional hourly charges.



#8

A user has configured an Auto Scaling group with the minimum capacity of three (3) instances, and the maximum capacity of ten (10) instances. You have not specified a desired capacity. When the auto scaling group's configuration is complete, how many instances will be launched?

 3 5 4 8

Explanation

When the user configures the launch configuration and the Auto Scaling group, the Auto Scaling group will start instances by launching the minimum number (or the desired number, if specified) of EC2 instances. If there are no other scaling conditions attached to the Auto Scaling group, it will maintain the minimum number of running instances at all times.



<http://docs.aws.amazon.com/AutoScaling/latest/DeveloperGuide/as-maintain-instance-levels.html>

#9

Considering Amazon EC2, which purchase option below allows customers to select and control a specific, physical server within an AWS data center servers solely for their use?

 dedicated host instances dedicated instances on-demand instances reserved instances

Explanation

When you launch instances on a Dedicated Host, the instances run on a physical server that is dedicated for your use. While Dedicated instances also run on dedicated hardware, Dedicated Hosts provide further visibility and control by allowing you to

place your instances on a specific, physical server. This enables you to deploy instances using configurations that help address corporate compliance and regulatory requirements.

 <https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/dedicated-hosts-overview.html>

#12

What are environment variables in AWS Lambda?

- variables whose values dictate how long a Lambda function should run before it terminates
- key-value pairs that allow you to associate a Lambda function to a particular project, department, or solution
- entry points within a Lambda function's code to execute that function
- key-value pairs that allow you to incorporate variables into a Lambda function without embedding them directly into your code

Explanation

Environment variables are key-value pairs that allow you to incorporate variables into your function without embedding them directly into your code.

 </course/understanding-aws-lambda-to-run-scale-code/demo-creating-a-lambda-function/>

#14

Which type of elastic load balancer operates at the layer 4 of the OSI model, is designed to minimize latency between targets within a VPC, and can handle millions of requests per second?

- Network Load Balancers
- Application Load Balancers
- Classic Load Balancers
- Gateway Load Balancers

Explanation

Firstly, the **Application Load Balancer** provides a flexible feature set for your web applications running the HTTP or HTTPS protocols. The Application Load Balancer **operates at the request level**, and it also provides advanced routing, TLS termination, and visibility features targeted at application architectures, allowing you to route traffic to different ports on the same EC2 instance.

Network Load Balancers are used for ultra-high performance for your application while at the same time managing very low latencies. **It operates at the connection level, routing traffic to targets within your VPC**, and it's also capable of handling millions of requests per second.

Classic Load Balancers are primarily used for applications that were built in the existing EC2 Classic environment and **operate at both the connection and request level**. We'll now talk a little bit about the components of an AWS ELB and some of the principles behind them.

 /course/saa-compute/what-elastic-load-balancer-elb/

Which statement below best describes the service Amazon Elastic File System (EFS) provides?

It offers concurrently-accessible storage for thousands of Amazon Elastic Compute Cloud (EC2) instances.

It provides visualization tools and wizards for creating machine learning models.

It allows data to be accessed anywhere through an Internet Application Program Interface (API).

It offloads the administrative burdens of operating and scaling object storage in AWS.

Explanation

[Amazon EFS](#) is a file storage service used with Amazon EC2. It is designed to be highly durable and available. It provides a file system interface, file system access semantics such as file locking and strong consistency, and concurrently-accessible storage for up to thousands of Amazon EC2 instances.

 <https://aws.amazon.com/efs/faq/>

Covered in this lecture



Summary

Course: Using Amazon EFS to Create Elastic File Systems for Linux-Based Workloads

7m



#2

Which statement about EC2 instance store volumes is incorrect?

The storage cost is included in the EC2 instance price.

Instance store volumes offer very high I/O speed.

The instance store volumes reside on the same hardware as host instance.

They are available for all instance types.

Explanation

Even though EC2 instance store volumes are part of the EC2 service itself, they are not available for all instance types. To see which instance types offer it, be sure to review the documentation closely.

 <https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/InstanceStorage.html>

#3

Which of the following statements about Amazon Elastic File System (EFS) is false?

It uses standard operating system APIs, so any application that is designed to work with standard operating system APIs will work with EFS.

It uses strong consistency.

It uses file locking.

Any EFS application deployments that span across multiple availability zones cannot access the same file systems.

Explanation

It uses standard operating system APIs, so any application that is designed to work with standard operating system APIs will work with EFS. It supports both NFS versions 4.1 and 4.0, and uses standard file system semantics such as strong consistency and file locking. It's replicated across availability zones in a single region, making EFS a highly reliable storage service. The EFS file system is also regional, and so any application deployments that span across multiple availability zones can all access the same file systems, providing a level of high availability of your application storage layer.

[🔗 /course/introduction-to-amazon-elastic-file-system/amazon-elastic-file-system-1/](https://cloudacademy.com/course/introduction-to-amazon-elastic-file-system/amazon-elastic-file-system-1/)

Covered in this lecture



Amazon Elastic File System

Course: Introduction to Amazon Elastic File System (EFS)

9m



#4

You have decided to use AWS Storage Gateway, but want all data within the gateway to be retrievable to on-premise employees with minimal latency. Which type of storage gateway would best suit you?

File gateway

Stored volume gateway

Cached volume gateway

Tape gateway

Explanation

Both file gateways and cached volume gateways provide local caches to store frequently accessed data. Stored volume gateways keep all files locally, so all stored data can be retrieved with low latency, and so is the best option in this case.

[🔗 https://docs.aws.amazon.com/storagegateway/latest/userguide/StorageGatewayConcepts.html](https://docs.aws.amazon.com/storagegateway/latest/userguide/StorageGatewayConcepts.html)

#6

At what level can Amazon S3 Access Control Lists (ACLs) be applied?

the bucket and object level

the bucket level only

the object level only

the bucket, object and account level

Explanation

S3 ACLs allow identities to access specific objects within buckets a different layered approach than bucket policies which are applied at the bucket level only. ACLs allow you to set certain permissions on each object within a specific Bucket.

These ACLs do not follow that same format as the policies defined by IAM and Bucket policies. Instead, they are far less granular, and different permissions can be applied depending if you are applying an ACL at the bucket or object level.

 http://docs.aws.amazon.com/AmazonS3/latest/dev/S3_ACLs_UsingACLs.html

#12

What is one difference between S3 bucket policies and IAM policies?

- Only IAM policies offer fine-grained access control.
- Only S3 bucket policies offer or restrict cross-account access to a bucket or object.
- IAM can restrict access on an object level, but bucket policies cannot.**
- Bucket policies can only control access to specific buckets and the objects in it.

Explanation

S3 bucket policies and IAM policies both offer fine-grained access control. It is possible to offer cross-account access via S3 bucket policies and IAM policies, although IAM requires a trust policy that is not required for S3 bucket policies. Neither bucket policies or IAM policies can restrict access at an object level. This is only possible with Access Control Lists. However, bucket policies can only pertain to a specific bucket, not to all buckets for a given account, or for all buckets for all users of a specific account.

 <https://docs.aws.amazon.com/AmazonS3/latest/dev/access-control-overview.html>

Covered in this lecture



Identity and Access Management



Course: AWS Security Best Practices: Abstract and Container Services

6m

#14

Which types of AWS Storage Gateway offer local caches for frequently accessed data? (Choose 2 answers)

- File gateways
- Cached volume gateways
- Stored volume gateways**
- Tape gateways

Explanation

Both file gateways and cached volume gateways provide local caches to store frequently accessed data. Stored volume gateways keep all files locally, so all stored data can be retrieved with reduced latency. Tape gateways are an archival method, and not ideal for data that needs to be readily available.

 <https://docs.aws.amazon.com/storagegateway/latest/userguide/StorageGatewayConcepts.html>

Covered in this lecture



Summary

Course: Using AWS Storage for On-Premises Backup & Disaster Recovery

12m

#5

Which EBS volume type is ideal for applications requiring I/O intensive workloads?

General Purpose SSD volume (GP2)

Provisioned IOPS SSD volume (IO1)

Cold HDD (SC1)

Throughput Optimized HDD (ST1)

Explanation

Provisioned IOPS SSD volumes deliver enhanced predictable performance for applications requiring I/O intensive workloads. They also have the ability to specify IOPS rate during the creation of a new EBS volume. And when the volume is attached to an EBS-optimized instance, EBS will deliver the IOPS defined and required within 10%, 99.9% of the time throughout the year. And the volumes range from four to sixteen terabytes in size. Per volume, the maximum IOPS possible is set to 20,000 IOPS.

 course/introduction-ebs-instance-storage/amazon-elastic-block-store-ebs-1/?context_resource=lp&context_id=954

#7

You are helping a client design a static website that will potentially grow exponentially in the first few years of existence. You outline the benefits of using Amazon S3 to host this website. What characteristics of S3 elasticity and scalability can you feature? (Choose 2 answers)

S3 supports an unlimited number of files in a bucket.

S3 bucket names can be replicated in multiple regions.

S3 synchronously replicates objects to all availability zones in multiple regions.

S3 asynchronously replicates objects to all availability zones within a region.

Explanation

With Amazon S3, you can store as much data as you want and access it when needed. S3 supports an unlimited number of files in a bucket so it is not necessary to know your storage needs up front or try to estimate. S3 can be scaled quickly and appropriately to meet the storage demands of your environment. S3 asynchronously replicates information to all availability zones within a region. Amazon S3 scales to support very high request rates. If your request rate grows steadily, Amazon S3 automatically partitions your buckets as needed to support higher request rates.

 <http://docs.aws.amazon.com/AmazonS3/latest/dev/request-rate-perf-considerations.html>

#8

An Amazon EC2 instance store provides temporary block-level storage for your instance. Ephemeral storage is ideal for _____.

persistent data

storing critical system files

high-performance storage of user files

non-persistent data

Explanation

An Amazon EC2 Instance Store provides temporary block-level storage for your instance. An instance store is ideal for temporary storage of information that changes frequently, such as buffers, caches, scratch data, and other temporary content. Ephemeral storage is ideal for non-persistent data.

 <http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/InstanceStorage.html>

#9

In AWS Storage Gateway, the data written to your stored volumes is stored on your on-premises storage hardware and asynchronously backed up to _____.

- Amazon EBS in the form of Amazon S3 snapshots
- Amazon EBS in the form of Amazon EC2 images
- Amazon S3 in the form of Amazon S3 replicas
- Amazon S3 in the form of Amazon EBS snapshots

Explanation

In AWS Storage Gateway, data written to your gateway-stored volumes is stored on your on-premises storage hardware and asynchronously backed up to Amazon S3 in the form of Amazon EBS snapshots.

 <http://docs.aws.amazon.com/storagegateway/latest/userguide/storage-gateway-stored-volume-concepts.html>

#10

Which EBS volume type is ideal for large workloads that are accessed infrequently?

- General Purpose SSD volume (GP2)
- Provisioned IOPS SSD volume (IO1)
- Cold HDD (SC1)
- Throughput Optimized HDD (ST1)

Explanation

The cold HDD volumes offer the lowest cost compared to all other EBS volumes types. They are suited for workloads that are large in size and accessed infrequently. Their key performance attribute is its throughput capabilities in megabytes per second. It also has the ability to burst up to 80 megabits per second per terabyte, with a maximum burst capacity for each volume set at

250 megabytes per second. It will deliver the expected throughput 99% of the time over a given year, and due to the nature of these volumes, it's not possible to use these as boot volumes for your EC2 instances.

 [/course/introduction-ebs-instance-storage/amazon-elastic-block-store-ebs-1/?context_resource=ln&context_id=954](https://cloudacademy.com/course/introduction-ebs-instance-storage/amazon-elastic-block-store-ebs-1/?context_resource=ln&context_id=954)

#11

Which Amazon S3 storage class is for re-creatable, infrequently accessed data that needs millisecond access?

S3 One Zone - Infrequent Access

S3 Glacier

S3 Standard

S3 Intelligent - Tiering

Explanation

S3 One Zone - Infrequent Access is for re-creatable, infrequently accessed data that needs millisecond access.

 [/course/understanding-the-costs-of-amazon-s3-1221/amazon-s3-and-glacier/](https://cloudacademy.com/course/understanding-the-costs-of-amazon-s3-1221/amazon-s3-and-glacier/)

#13

In Amazon S3, a bucket owner has a version-enabled bucket containing a few objects. What will happen to the existing objects when he updates them?

The older objects will be overwritten with their respective version IDs.

The older objects remain unchanged, while new version IDs are assigned to the new objects.

The older objects are moved to the Reduced Redundancy Storage (RRS) with the existing version IDs, when the new objects with new version IDs are created.

The older objects will be stored with new key names and version IDs.

Explanation

When a bucket owner PUTs an object in a versioning-enabled bucket, the noncurrent version is not overwritten. Instead, Amazon S3 generates a new version ID and adds the newer version to the bucket.

 <http://docs.aws.amazon.com/AmazonS3/latest/dev/ObjectVersioning.html>