**AWS Questions**

If a message is retrieved from a queue in Amazon SQS, how long is the message  
inaccessible to other users by default?

**A. 30 seconds**

B. 0 seconds

C. 1 hour

D. 1 day

E. forever

In DynamoDB, what type of HTTP response codes indicate that a problem was found with  
the client request sent to the service?

A. 5xx HTTP response code

B. 200 HTTP response code

C. 306 HTTP response code

**D. 4xx HTTP response code**

What item operation allows the retrieval of multiple items from a DynamoDB table in a single  
API call?

A. GetItem

**B. BatchGetItem**

C. GetMultipleItems

D. GetItemRange

Company B provides an online image recognition service and utilizes SOS 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 of empty responses?

A. Set the imaging queue visibility Timeout attribute to 20 seconds

B. Set the DelaySeconds parameter of a message to 20 seconds

**C. Set the Imaging queue ReceiveMessageWaitTimeSeconds attribute to 20 seconds**

D. Set the imaging queue MessageRetentionPeriod attribute to 20 seconds

What is one key difference between an Amazon EBS-backed and an instance-store backed  
instance?

A. Virtual Private Cloud requires EBS backed instances

**B. Amazon EBS-backed instances can be stopped and restarted**

C. Auto scaling requires using Amazon EBS-backed instances.

D. Instance-store backed instances can be stopped and restarted.

Which operation could return temporarily inconsistent results?

A. Getting an object from Amazon S3 after it was deleted

B. Getting an object from Amazon S3 after it was initially created

C. Selecting a row from an Amazon RDS database after it was inserted

D. Selecting a row from an Amazon RDS database after it was deleted

An application stores payroll information nightly in DynamoDB for a large number of  
employees across hundreds of offices. Item attributes consist of individual name, office  
identifier, and cumulative daily hours. Managers run reports for ranges of names working in  
their office. One query is. “Return all Items in this office for names starting with A through  
E”. Which table configuration will result in the lowest impact on provisioned throughput for  
this query?

**A. Configure the table to have a range index on the name attribute, and a hash index on the   
office identifier**

B. Configure a hash index on the name attribute and no range index

C. Configure the table to have a hash index on the name attribute, and a range index on the   
office identifier

D. Configure a hash index on the office Identifier attribute and no range index

Which of the following services are key/value stores? Choose 3 answers

**A. Amazon ElastiCache**

B. Simple Notification Service

**C. DynamoDB**

D. Simple Workflow Service

**E. Simple Storage Service**

When using a large Scan operation in DynamoDB, what technique can be used to minimize  
the impact of a scan on a table’s provisioned throughput?

**A. Set a smaller page size for the scan**

B. Prewarm the table by updating all items

C. Use parallel scans

D. Define a range index on the table

Which of the following is chosen as the default region when making an API call with an  
AWS SDK?

A. ap-northeast-1

B. us-west-2

**C. us-east-1**

D. eu-west-1

E. us-central-1

After launching an instance that you intend to serve as a NAT (Network Address  
Translation) device in a public subnet you modify your route tables to have the NAT device  
be the target of internet bound traffic of your private subnet. When you try and make an

outbound connection to the Internet from an instance in the private subnet, you are not  
successful. Which of the following steps could resolve the issue?

A. Attaching a second Elastic Network interface (ENI) to the NAT instance, and placing it in   
the private subnet

B. Attaching an Elastic IP address to the instance in the private subnet

C. Attaching a second Elastic Network Interface (ENI) to the instance in the private subnet,   
and placing it in the public subnet

**D. Disabling the Source/Destination Check attribute on the NAT instance**

Which of the following programming languages have an officially supported AWS SDK?  
Choose 2 answers

**A. PHP**

B. Pascal

**C. Java**

D. SQL

E. Perl

Which of the following services are included at no additional cost with the use of the AWS  
platform? Choose 2 answers

**A. CloudFormation**

B. Simple Workflow Service

C. Elastic Load Balancing

D. Elastic Compute Cloud

E. Simple Storage Service

**F. Auto Scaling**

How can software determine the public and private IP addresses of the Amazon EC2  
instance that it is running on?

A. Query the appropriate Amazon CloudWatch metric.

B. Use ipconfig or ifconfig command.

C. Query the local instance userdata.

**D. Query the local instance metadata.**

You have an environment that consists of a public subnet using Amazon VPC and 3  
instances that are running in this subnet. These three instances can successfully  
communicate with other hosts on the Internet. You launch a fourth instance in the same  
subnet, using the same AMI and security group configuration you used for the others, but  
find that this instance cannot be accessed from the Internet. What should you do to enable  
internet access?

A. Deploy a NAT instance into the public subnet.

B. Modify the routing table for the public subnet

C. Configure a publically routable IP Address In the host OS of the fourth instance.

**D. Assign an Elastic IP address to the fourth instance.**

Which of the following are valid SNS delivery transports? Choose 2 answers

**A. SMS**

B. DynamoDB

**C. HTTP**

D. UDP

E. Named Pipes

You have reached your account limit for the number of CloudFormation stacks in a region. How do you increase your limit?

A. Make an API call

**B. Contact AWS**

C. Use the console

D. You cannot increase your limit

When uploading an object, what request header can be explicitly specified in a request to  
Amazon S3 to encrypt object data when saved on the server side?

A. x-amz-storage-class

B. Content-MD5

C. x-amz-security-token

**D. x-amz-server-side-encryption**

How is provisioned throughput affected by the chosen consistency model when reading  
data from a DynamoDB table?

A. Strongly consistent reads use the same amount of throughput as eventually consistent reads

B. Strongly consistent reads use variable throughput depending on read activity

**C. Strongly consistent reads use more throughput than eventually consistent reads.**

D. Strongly consistent reads use less throughput than eventually consistent reads

Company D is running their corporate website on Amazon S3 accessed from  
http//www.companyd.com. Their marketing team has published new web fonts to a separate  
S3 bucket accessed by the S3 endpoint https://s3-us-west1. amazonaws.com/cdfonts.  
While testing the new web fonts, Company D recognized the web fonts are being blocked  
by the browser. What should Company D do to prevent the web fonts from being blocked by  
the browser?

A. Create a policy on the cdfonts bucket to enable access to everyone

B. Add the Content-MD5 header to the request for webfonts in the cdfonts bucket from the website

**C. Configure the cdfonts bucket to allow cross-origin requests by creating a CORS configuration**

D. Enable versioning on the cdfonts bucket for each web font

Which of the following statements about SWF are true? Choose 3 answers

**A. SWF uses deciders and workers to complete tasks**

B. SWF requires at least 1 EC2 instance per domain

C. SWF triggers SNS notifications on task assignment

D. SWF requires an S3 bucket for workflow storage

**E. SWF tasks are assigned once and never duplicated**

**F. SWF workflow executions can last up to a year**

You are inserting 1000 new items every second in a DynamoDB table. Once an hour these  
items are analyzed and then are no longer needed. You need to minimize provisioned  
throughput, storage, and API calls. Given these requirements, what is the most efficient way  
to manage these Items after the analysis?

A. Retain the items in a single table

B. Delete items individually over a 24 hour period

**C. Delete the table and create a new table per hour**

D. Create a new table per hour

Which code snippet below returns the URL of a load balanced web site created in  
CloudFormation with an AWS::ElasticLoadBalancing::LoadBalancer resource name  
“ElasticLoad Balancer”?

**A. “Fn::Join” : [“”. [ “http://”, {“Fn::GetAtr” : [ “ElasticLoadBalancer”,”DNSName”]}]]**

B. “Fn::Join” : [“.”, [ “http://”, {“Ref” : “ElasticLoadBalancerDNSName”}]]

C. “Fn::Join” : [“”. [ “http://”, {“Ref” : “ElasticLoadBalancerUrl”}]]

D. “Fn::Join” : [“”. [ “http://”, {“Fn::GetAtr” : [ “ElasticLoadBalancer”,”Url”]}]]

Games-R-Us is launching a new game app for mobile devices. Users will log into the game  
using their existing Facebook account and the game will record player data and scoring  
information directly to a DynamoDB table. What is the most secure approach for signing  
requests to the DynamoDB API?

A. Create an IAM user with access credentials that are distributed with the mobile app to   
sign the requests

B. Distribute the AWS root account access credentials with the mobile app to sign the requests

**C. Request temporary security credentials using web identity federation to sign the requests**

D. Establish cross account access between the mobile app and the DynamoDB table to sign   
the requests

You run an ad-supported photo sharing website using S3 to serve photos to visitors of your  
site. At some point you find out that other sites have been linking to the photos on your site,  
causing loss to your business. What is an effective method to mitigate this?

A. Store photos on an EBS volume of the web server

**B. Remove public read access and use signed URLs with expiry dates.**

C. Use CloudFront distributions for static content.

D. Block the IPs of the offending websites in Security Groups.

What AWS products and features can be deployed by Elastic Beanstalk? Choose 3  
answers

**A. Auto scaling groups**

B. Route 53 hosted zones

**C. Elastic Load Balancers**

**D. RDS Instances**

E. Elastic IP addresses

F. SQS Queues

In AWS, which security aspects are the customer’s responsibility? Choose 4 answers

A. Decommissioning storage devices

**B. Patch management on the EC2 instance’s operating system**

C. Controlling physical access to compute resources

**D. Security Group and ACL (Access Control List) settings**

**E. Life-cycle management of IAM credentials**

**F. Encryption of EBS (Elastic Block Storage) volumes**

Which features can be used to restrict access to data in S3? Choose 2 answers

**A. Set an S3 Bucket policy.**

B. Enable IAM Identity Federation.

**C. Set an S3 ACL on the bucket or the object.**

D. Create a CloudFront distribution for the bucket

E. Use S3 Virtual Hosting

You attempt to store an object in the US-STANDARD region in Amazon S3, and receive a  
confirmation that it has been successfully stored. You then immediately make another API  
call and attempt to read this object. S3 tells you that the object does not exist What could  
explain this behavior?

A. US-STANDARD imposes a 1 second delay before new objects are readable.

B. You exceeded the bucket object limit, and once this limit is raised the object will be visible.

C. Objects in Amazon S3 do not become visible until they are replicated to a second region.

**D. US-STANDARD uses eventual consistency and it can take time for an object to be   
readable in a bucket**

Which of the following platforms are supported by Elastic Beanstalk? Choose 2 answers

**A. Apache Tomcat**

B. IBM Websphere

C. Oracle JBoss

D. Jetty

**E. .NET**

A meteorological system monitors 600 temperature gauges, obtaining temperature samples  
every minute and saving each sample to a DynamoDB table. Each sample involves writing  
1K of data and the writes are evenly distributed over time. How much write throughput is  
required for the target table?

A. 3600 write capacity units

B. 1 write capacity unit

**C. 10 write capacity units**

D. 60 write capacity units

E. 600 write capacity units

Which of the following are valid arguments for an SNS Publish request? Choose 3 answers

**A. Subject**

B. Language

**C. Message**

D. Destination

**E. TopicAm**

F. Format

What is the maximum number of S3 Buckets available per AWS account?

A. there is no limit

**B. 100 per account**

C. 500 per account

D. 100 per IAM user

E. 100 per region

What happens, by default, when one of the resources in a CloudFormation stack cannot be created?

A. The stack creation continues, and the final results indicate which steps failed.

B. CloudFormation templates are parsed in advance so stack creation is guaranteed to succeed.

C. Previously-created resources are kept but the stack creation terminates.

**D. Previously-created resources are deleted and the stack creation terminates.**

Company A has an S3 bucket containing premier content that they intend to make available  
to only paid subscribers of their website. The S3 bucket currently has default permissions of  
all objects being private to prevent inadvertent exposure of the premier content to  
non-paying website visitors. How can Company A provide only paid subscribers the ability  
to download a premier content file in the S3 bucket?

A. Apply a bucket policy that grants anonymous users to download the content from the S3 bucket

**B. Generate a pre-signed object URL for the premier content file when a paid subscriber requests a download**

C. Add a bucket policy that requires Multi-Factor Authentication for requests to access the S3 bucket objects

D. Enable server side encryption on the S3 bucket for data protection against the non-paying website visitors

You are writing to a DynamoDB table and receive the following exception:”  
ProvisionedThroughputExceededException”. though according to your Cloudwatch metrics  
for the table, you are not exceeding your provisioned throughput. What could be an  
explanation for this?

A. You haven’t provisioned enough DynamoDB storage instances

B. You’re exceeding your capacity on a particular Range Key

**C. You’re exceeding your capacity on a particular Hash Key**

D. You’re exceeding your capacity on a particular Sort Key

E. You haven’t configured DynamoDB Auto Scaling triggers

Which statements about DynamoDB are true? Choose 2 answers

**A. DynamoDB uses optimistic concurrency control**

B. DynamoDB restricts item access during writes

C. DynamoDB uses a pessimistic locking model

D. DynamoDB restricts item access during reads

**E. DynamoDB uses conditional writes for consistency**

Which of the following is an example of a good DynamoDB hash key schema for  
provisioned throughput efficiency?

**A. User ID, where the application has many different users.**

B. Status Code where most status codes are the same

C. Device ID, where one is by far more popular than all the others.

D. Game Type, where there are three possible game types

You have written an application that uses the Elastic Load Balancing service to spread  
traffic to several web servers Your users complain that they are sometimes forced to login  
again in the middle of using your application, after they have already togged in. This is not  
behavior you have designed. What is a possible solution to prevent this happening?

A. Use instance memory to save session state.

B. Use instance storage to save session state.

C. Use EBS to save session state

**D. Use ElastiCache to save session state.**

E. Use Glacier to save session slate.

What type of block cipher does Amazon S3 offer for server side encryption?

A. RC5

B. Blowfish

C. Triple DES

**D. Advanced Encryption Standard**

You are providing AWS consulting services for a company developing a new mobile  
application that will be leveraging Amazon SNS Mobile Push for push notifications. In order  
to send direct notification messages to individual devices each device registration identifier  
or token needs to be registered with SNS; however the developers are not sure of the best  
way to do this. You advise them to:

**A. Call the CreatePlatformEndPoint API function to register multiple device tokens.**

B. Bulk upload the device tokens contained in a CSV file via the AWS Management Console.

C. Let the push notification service (e.g. Amazon Device Messaging) handle the registration.

D. Implement a token vending service to handle the registration.

A corporate web application is deployed within an Amazon VPC, and is connected to the  
corporate data center via IPSec VPN. The application must authenticate against the  
on-premise LDAP server. Once authenticated, logged-in users can only access an S3  
keyspace specific to the user. Which two approaches can satisfy the objectives? Choose 2  
answers

**A. The application authenticates against LDAP, and retrieves the name of an IAM role   
associated with the user. The application then calls the IAM Security Token Service to   
assume that IAM Role. The application can use the temporary credentials to access the   
appropriate S3 bucket.**

B. Develop an identity broker which authenticates against IAM Security Token Service to   
assume an IAM Role to get temporary AWS security credentials. The application calls the   
identity broker to get AWS temporary security credentials with access to the appropriate S3   
bucket.

C. The application authenticates against IAM Security Token Service using the LDAP   
credentials. The application uses those temporary AWS security credentials to access the   
appropriate S3 bucket.

D. The application authenticates against LDAP. The application then calls the IAM Security   
Service to login to IAM using the LDAP credentials. The application can use the IAM   
temporary credentials to access the appropriate S3 bucket.

**E. Develop an identity broker which authenticates against LDAP, and then calls IAM   
Security Token Service to get IAM federated user credentials. The application calls the   
identity broker to get IAM federated user credentials with access to the appropriate S3   
bucket.**

An Amazon S3 bucket, “myawsbucket” is configured with website hosting in Tokyo region,  
what is the region-specific website endpoint?

A. www.myawsbucket.ap-northeast-1.amazonaws.com

**B. myawsbucket.s3-website-ap-northeast-l.amazonawscom**

C. myawsbucket.amazonaws.com

D. myawsbucket.tokyo.amazonaws.com

Which EC2 API call would you use to retrieve a list of Amazon Machine Images (AMIs)?

A. DescnbeInstances

B. You cannot retrieve a list of AMIs as there are over 10,000 AMIs

C. GetAMls

**D. DescribeImages**

E. DescribeAMls

Which of the following items are required to allow an application deployed on an EC2  
instance to write data to a DynamoDB table? Assume that no security Keys are allowed to  
be stored on the EC2 instance. Choose 2 answers

A. Create an IAM User that allows write access to the DynamoDB table.

B. Launch an EC2 Instance with the IAM User included in the launch configuration.

**C. Create an IAM Role that allows write access to the DynamoDB table.**

**D. Launch an EC2 Instance with the IAM Role included in the launch configuration.**

E. Add an IAM Role to a running EC2 instance.

F. Add an IAM User to a running EC2 Instance.

Which DynamoDB limits can be raised by contacting AWS support? Choose 2 answers

A. The number of hash keys per account

B. The maximum storage used per account

**C. The number of tables per account**

D. The number of local secondary indexes per account

**E. The number of provisioned throughput units per account**

Which approach below provides the least impact to provisioned throughput on the “Product” table?

A. Create an “Images” DynamoDB table to store the Image with a foreign key constraint to the “Product” table

B. Add an image data type to the “Product” table to store the images in binary format

C. Serialize the image and store it in multiple DynamoDB tables

**D. Store the images in Amazon S3 and add an S3 URL pointer to the “Product” table item   
for each image**

What is the format of structured notification messages sent by Amazon SNS?

A. An XML object containing MessageId, UnsubscribeURL, Subject, Message and other values

B. An JSON object containing MessageId, DuplicateFlag, Message and other values

C. An XML object containing MessageId, DuplicateFlag, Message and other values

**D. An JSON object containing MessageId, unsubscribeURL, Subject, Message and other values**

When a Simple Queue Service message triggers a task that takes 5 minutes to complete,  
which process below will result in successful processing of the message and remove it from  
the queue while minimizing the chances of duplicate processing?

A. Retrieve the message with an increased visibility timeout, delete the message from the queue, process the message

B. Retrieve the message with increased DelaySeconds, process the message, delete the message from the queue

C. Retrieve the message with an increased visibility timeout, process the message, delete the message from the queue

**D. Retrieve the message with increased DelaySeconds, delete the message from the   
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the message from the queue**

D. Retrieve the message with increased DelaySeconds, delete the message from the   
queue, process the message

EC2 instances are launched from Amazon Machine images (AMIS). A given public AMI can:

A. be used to launch EC2 Instances in any AWS region.

B. only be used to launch EC2 instances in the same country as the AMI is stored.

**C. only be used to launch EC2 instances in the same AWS region as the AMI is stored.**

D. only be used to launch EC2 instances in the same AWS availability zone as the AMI is   
stored

Which statements about DynamoDB are true? (Pick 2 correct answers)

A. DynamoDB uses a pessimistic locking model

**B. DynamoDB uses optimistic concurrency control**

**C. DynamoDB uses conditional writes for consistency**

D. DynamoDB restricts item access during reads

E. DynamoDB restricts item access during writes

What is one key difference between an Amazon EBS-backed and an instance-store backed instance?

A. Instance-store backed instances can be stopped and restarted

B. Auto scaling requires using Amazon EBS-backed instances

**C. Amazon EBS-backed instances can be stopped and restarted**

D. Virtual Private Cloud requires EBS backed instances

A corporate web application is deployed within an Amazon VPC, and is connected to the corporate data center via IPSec VPN. The application must authenticate against the on-premise LDAP server. Once authenticated, logged-in users can only access an S3 keyspace specific to the user. Which two approaches can satisfy the objectives?

A. The application authenticates against LDAP. The application then calls the IAM Security Service to login to IAM using the LDAP credentials. The application can use the IAM temporary credentials to access the appropriate S3 bucket.

**B. The application authenticates against LDAP, and retrieves the name of an IAM role associated with the user. The application then calls the IAM Security Token Service to assume that IAM Role. The application can use the temporary credentials to access the appropriate S3 bucket.**

C. The application authenticates against IAM Security Token Service using the LDAP credentials. The application uses those temporary AWS security credentials to access the appropriate S3 bucket.

**D. Develop an identity broker which authenticates against LDAP, and then calls IAM Security Token Service to get IAM federated user credentials. The application calls the identity broker to get IAM federated user credentials with access to the appropriate S3 bucket.**

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You run an ad-supported photo sharing website using S3 to serve photos to visitors of your site. At some point you find out that other sites have been linking to the photos on your site, causing loss to your business. What is an effective method to mitigate this?

A. Use CloudFront distributions for static content.

**B. Remove public read access and use signed URLs with expiry dates.**

C. Block the IPs of the offending websites in Security Groups.

D. Store photos on an EBS volume of the web server.

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? A. None, Simple Storage Service objects are limited to 5 GB

**B. Use the multi-part upload API for this object**

C. Use the large object upload API for this object

D. Contact support to increase your object size limit E. Upload to a different region

Amazon Glacier is designed for: (Choose 2 answers)

A. active database storage.

**B. infrequently accessed data.**

**C. data archives.**

D. frequently accessed data.

E. cached session data.

Your web application front end consists of multiple EC2 instances behind an Elastic Load Balancer. You configured ELB to perform health checks on these EC2 instances. If an instance fails to pass health checks, which statement will be true?

A. The instance is replaced automatically by the ELB.

B. The instance gets terminated automatically by the ELB.

**C. The ELB stops sending traffic to the instance that failed its health check.**

D. The instance gets quarantined by the ELB for root cause analysis.

You are building a system to distribute confidential training videos to employees. Using CloudFront, what method could be used to serve content that is stored in S3, but not publically accessible from S3 directly?

**A. Create an Origin Access Identity (OAI) for CloudFront and grant access to the objects in your S3 bucket to that OAI.**

B. Add the CloudFront account security group “amazon-cf/amazon-cf-sg” to the appropriate S3 bucket policy.

C. Create an Identity and Access Management (IAM) User for CloudFront and grant access to the objects in your S3 bucket to that IAM User.

D. Create a S3 bucket policy that lists the CloudFront distribution ID as the Principal and the target bucket as the Amazon Resource Name (ARN).

Which of the following will occur when an EC2 instance in a VPC (Virtual Private Cloud) with an associated Elastic IP is stopped and started? (Choose 2 answers)

A. The Elastic IP will be dissociated from the instance

**B. All data on instance-store devices will be lost**

C. All data on EBS (Elastic Block Store) devices will be lost

D. The ENI (Elastic Network Interface) is detached

**E. The underlying host for the instance is changed**

In the basic monitoring package for EC2, Amazon CloudWatch provides the following metrics:

A. web server visible metrics such as number failed transaction requests

B. operating system visible metrics such as memory utilization

C. database visible metrics such as number of connections

**D. hypervisor visible metrics such as CPU utilization**

Which is an operational process performed by AWS for data security?

A. AES-256 encryption of data stored on any shared storage device

**B. Decommissioning of storage devices using industry-standard practices**

C. Background virus scans of EBS volumes and EBS snapshots

D. Replication of data across multiple AWS Regions

E. Secure wiping of EBS data when an EBS volume is unmounted

To protect S3 data from both accidental deletion and accidental overwriting, you should:

**A. enable S3 versioning on the bucket**

B. access S3 data using only signed URLs

C. disable S3 delete using an IAM bucket policy

D. enable S3 Reduced Redundancy Storage E. enable Multi-Factor Authentication (MFA) protected access

What is the format of structured notification messages sent by Amazon SNS?

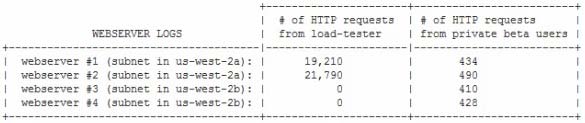
A. An XML object containing MessageId, UnsubscribeURL, Subject, Message and other values

B. An JSON object containing MessageId, DuplicateFlag, Message and other values

C. An XML object containing MessageId, DuplicateFlag, Message and other values

**D. An JSON object containing MessageId, unsubscribeURL, Subject, Message and other values**

A startup s photo-sharing site is deployed in a VPC. An ELB distributes web traffic across  
two subnets. ELB session stickiness is configured to use the AWS-generated session  
cookie, with a session TTL of 5 minutes. The webserver Auto Scaling Group is configured  
as: min-size=4, max-size=4. The startups preparing for a public launch, by running  
load-testing software installed on a single EC2 instance running in us-west-2a. After 60  
minutes of load-testing, the webserver logs show: Which recommendations can help ensure  
load-testing HTTP requests are evenly distributed across the four webservers? Choose 2  
answers.

[](http://cdn.aiotestking.com/wp-content/uploads/aws-cda/1.jpg)

**A. Re-configure the load-testing software to re-resolve DNS for each web request.**

B. Use a 3rd-party load-testing service which offers globally-distributed test clients.

C. Configure ELB and Auto Scaling to distribute across us-west-2a and us-west-2c.

**D. Configure ELB session stickiness to use the app-specific session cookie.**

E. Launch and run the load-tester EC2 instance from us-east-1 instead.

Which of the following are correct statements with policy evaluation logic in AWS Identity  
and Access Management? Choose 2 answers

A. An explicit deny does not override an explicit allow

B. By default, all request are allowed

**C. An explicit allow overrides default deny.**

D. An explicit allow overrides an explicit deny

**E. By default, all requests are denied**

How can you secure data at rest on an EBS volume?

A. Write the data randomly instead of sequentially.

**B. Use an encrypted file system on top of the BBS volume.**

C. Encrypt the volume using the S3 server-side encryption service.

D. Create an IAM policy that restricts read and write access to the volume.

E. Attach the volume to an instance using EC2’s SSL interface.

If an application is storing hourly log files from thousands of instances from a high traffic  
web site, which naming scheme would give optimal performance on S3?

A. Sequential

B. HH-DD-MM-YYYY-log\_instanceID

**C. YYYY-MM-DD-HH-log\_instanceID**

D. instanceID\_log-HH-DD-MM-YYYY

E. instanceID\_log-YYYY-MM-DD-HH

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“Your proposed upload exceeds the maximum allowed object size.” error message. What is  
a possible solution for this?

A. None, Simple Storage Service objects are limited to 5 GB

**B. Use the multi-part upload API for this object**

C. Use the large object upload API for this object

D. Contact support to increase your object size limit

E. Upload to a different region

Company C is currently hosting their corporate site in an Amazon S3 bucket with Static  
Website Hosting enabled. Currently, when visitors go to http://www.companyc.com the  
index.html page is returned. Company C now would like a new page welcome.html to be  
returned when a visitor enters http://www.companyc.com in the browser. Which of the  
following steps will allow Company C to meet this requirement? Choose 2 answers

**A. Upload an html page named welcome.html to their S3 bucket**

B. Create a welcome subfolder in their S3 bucket

**C. Set the Index Document property to welcome.html**

D. Move the index.html page to a welcome subfolder

E. Set the Error Document property to welcome.html

Which of the following statements about SQS is true?

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 exactly once and messages will be delivered in First in, First out order

**D. Messages will be delivered one or more times and message delivery order is indeterminate**

EC2 instances are launched from Amazon Machine images (AMIS). A given public AMI can:

A. be used to launch EC2 Instances in any AWS region.

B. only be used to launch EC2 instances in the same country as the AMI is stored.

**C. only be used to launch EC2 instances in the same AWS region as the AMI is stored.**

D. only be used to launch EC2 instances in the same AWS availability zone as the AMI is stored

When a Simple Queue Service message triggers a task that takes 5 minutes to complete,  
which process below will result in successful processing of the message and remove it from  
the queue while minimizing the chances of duplicate processing?

A. Retrieve the message with an increased visibility timeout, delete the message from the   
queue, process the message

B. Retrieve the message with increased DelaySeconds, process the message, delete the message from the queue

**C. Retrieve the message with an increased visibility timeout, process the message, delete the message from the queue**

D. Retrieve the message with increased DelaySeconds, delete the message from the queue, process the message

You attempt to store an object in the US-STANDARD region in Amazon S3, and receive a confirmation that it has been successfully stored. You then immediately make another API call and attempt to read this object. S3 tells you that the object does not exist. What could explain this behavior?

**A. US-STANDARD uses eventual consistency and it can take time for an object to be readable in a bucket.**B. Objects in Amazon S3 do not become visible until they are replicated to a second region.  
C. US-STANDARD imposes a 1 second delay before new objects are readable  
D. You exceeded the bucket object limit, and once this limit is raised the object will be visible.

Which of the following instance types are available as Amazon EBS-backed only? Choose 2 answers

* 1. **General purpose T2**
  2. General purpose M3
  3. **Compute-optimized C4**
  4. Compute-optimized C3
  5. Storage-optimized 12

A t2.medium EC2 instance type must be launched with what type of Amazon Machine Image (AMI)?

* 1. An Instance store Hardware Virtual Machine AMI
  2. An Instance store Paravirtual AMI
  3. **An Amazon EBS-backed Hardware Virtual Machine AMI**
  4. An Amazon EBS-backed Paravirtual AMI

You have identified network throughput as a bottleneck on your m1.small EC2 instance when uploading data Into Amazon S3 In the same region. How do you remedy this situation? Add an additional ENI

* 1. **Change to a larger Instance**
  2. Use DirectConnect between EC2 and S3
  3. Use EBS PIOPS on the local volume

You are using an m1.small EC2 Instance with one 300 GB EBS volume to host a relational database. You determined that write throughput to the database needs to be increased. Which of the following approaches can help achieve this? Choose 2 answers

* 1. **Use an array of EBS volumes**
  2. Enable Multi-AZ mode.
  3. Place the instance in an Auto Scaling Groups
  4. Add an EBS volume and place into RAID 5.
  5. **Increase the size of the EC2 Instance.**
  6. Put the database behind an Elastic Load Balancer.

You are tasked with setting up a cluster of EC2 Instances for a NoSQL database. The database requires random read IO disk performance up to a 100,000 IOPS at 4KB block side per node. Which of the following EC2 instances will perform the best for this workload?

* 1. A High-Memory Quadruple Extra Large (m2.4xlarge) with EBS-Optimized set to true and a PIOPs EBS volume
  2. A Cluster Compute Eight Extra Large (cc2.8xlarge) using instance storage
  3. **High I/O Quadruple Extra Large (hi1.4xlarge) using instance storage**
  4. A Cluster GPU Quadruple Extra Large (cg1.4xlarge) using four separate 4000 PIOPS EBS volumes in a RAID 0 configuration

You are implementing a URL whitelisting system for a company that wants to restrict outbound HTTP’S connections to specific domains from their EC2-hosted applications you deploy a single EC2 instance running proxy software and configure It to accept traffic from all subnets and EC2 instances in the VPC. You configure the proxy to only pass through traffic to domains that you define in its whitelist configuration You have a nightly maintenance window or 10 minutes where ail instances fetch new software updates. Each update Is about 200MB In size and there are 500 instances In the VPC that routinely fetch updates After a few days you notice that some machines are failing to successfully download some, but not all of their updates within the maintenance window The download URLs used for these updates are correctly listed in the proxy’s whitelist configuration and you are able to access them manually using a web browser on the instances What might be happening? (Choose 2 answers)

1. **You are running the proxy on an undersized EC2 instance type so network throughput is not sufficient for all instances to download their updates in time.**
2. You have not allocated enough storage to the EC2 instance running me proxy so the network buffer is filling up causing some requests to fall
3. You are running the proxy in a public subnet but have not allocated enough EIPs to support the needed network throughput through the Internet Gateway (IGW)
4. **You are running the proxy on a affluently-sized EC2 instance in a private subnet and its network throughput is being throttled by a NAT running on an undersized EC2 instance**
5. The route table for the subnets containing the affected EC2 instances is not configured to direct network traffic for the software update locations to the proxy.

A user has launched an EC2 instance from an instance store backed AMI. The infrastructure team wants to create an AMI from the running instance. Which of the below mentioned credentials is not required while creating the AMI?

* 1. AWS account ID
  2. 509 certificate and private key
  3. **AWS login ID to login to the console**
  4. Access key and secret access key

A user has launched an EC2 Windows instance from an instance store backed AMI. The user wants to convert the AMI to an EBS backed AMI. How can the user convert it?

* 1. Attach an EBS volume to the instance and unbundle all the AMI bundled data inside the EBS
  2. **A Windows based instance store backed AMI cannot be converted to an EBS backed AMI**
  3. It is not possible to convert an instance store backed AMI to an EBS backed AMI
  4. Attach an EBS volume and use the copy command to copy all the ephemeral content to the EBS Volume

A user has launched two EBS backed EC2 instances in the US-East-1a region. The user wants to change the zone of one of the instances. How can the user change it?

* 1. Stop one of the instances and change the availability zone
  2. The zone can only be modified using the AWS CLI
  3. From the AWS EC2 console, select the Actions – > Change zones and specify new zone
  4. **Create an AMI of the running instance and launch the instance in a separate AZ**

A user has launched a large EBS backed EC2 instance in the US-East-1a region. The user wants to achieve Disaster Recovery (DR) for that instance by creating another small instance in Europe. How can the user achieve DR?

* 1. Copy the running instance using the “Instance Copy” command to the EU region
  2. **Create an AMI of the instance and copy the AMI to the EU region. Then launch the instance from the EU AMI**
  3. Copy the instance from the US East region to the EU region
  4. Use the “Launch more like this” option to copy the instance from one region to another

A user has launched an EC2 instance store backed instance in the US-East-1a zone. The user created AMI #1 and copied it to the Europe region. After that, the user made a few updates to the application running in the US-East-1a zone. The user makes an AMI#2 after the changes. If the user launches a new instance in Europe from the AMI #1 copy, which of the below mentioned statements is true?

* 1. The new instance will have the changes made after the AMI copy as AWS just copies the reference of the original AMI during the copying. Thus, the copied AMI will have all the updated data
  2. The new instance will have the changes made after the AMI copy since AWS keeps updating the AMI
  3. It is not possible to copy the instance store backed AMI from one region to another
  4. **The new instance in the EU region will not have the changes made after the AMI copy**

George has shared an EC2 AMI created in the US East region from his AWS account with Stefano. George copies the same AMI to the US West region. Can Stefano access the copied AMI of George’s account from the US West region?

* 1. **No, copy AMI does not copy the permission**
  2. It is not possible to share the AMI with a specific account
  3. Yes, since copy AMI copies all private account sharing permissions
  4. Yes, since copy AMI copies all the permissions attached with the AMI

How can you secure data at rest on an EBS volume?

* 1. Encrypt the volume using the S3 server-side encryption service
  2. Attach the volume to an instance using EC2’s SSL interface.
  3. Create an IAM policy that restricts read and write access to the volume.
  4. Write the data randomly instead of sequentially.
  5. **Use an encrypted file system on top of the EBS volume**

Your company policies require encryption of sensitive data at rest. You are considering the possible options for protecting data while storing it at rest on an EBS data volume, attached to an EC2 instance. Which of these options would allow you to encrypt your data at rest? (Choose 3 answers)

* 1. **Implement third party volume encryption tools** —
  2. Do nothing as EBS volumes are encrypted by default
  3. **Encrypt data inside your applications before storing it on EBS**
  4. **Encrypt data using native data encryption drivers at the file system level**
  5. Implement SSL/TLS for all services running on the server

A company is storing data on Amazon Simple Storage Service (S3). The company’s security policy mandates that data is encrypted at rest. Which of the following methods can achieve this? Choose 3 answers

* 1. **Use Amazon S3 server-side encryption with AWS Key Management Service managed keys**
  2. **Use Amazon S3 server-side encryption with customer-provided keys**
  3. Use Amazon S3 server-side encryption with EC2 key pair.
  4. Use Amazon S3 bucket policies to restrict access to the data at rest.
  5. **Encrypt the data on the client-side before ingesting to Amazon S3 using their own master key**
  6. Use SSL to encrypt the data while in transit to Amazon S3.

Which 2 services provide native encryption

* 1. Amazon EBS
  2. **Amazon Glacier**
  3. Amazon Redshift
  4. Amazon RDS
  5. **Amazon Storage Gateway**

Which service enables AWS customers to manage users and permissions in AWS?

* 1. AWS Access Control Service (ACS)
  2. **AWS Identity and Access Management (IAM)**
  3. AWS Identity Manager (AIM)

IAM provides several policy templates you can use to automatically assign permissions to the groups you create. The \_\_\_\_\_ policy template gives the Admins group permission to access all account resources, except your AWS account information

* 1. Read Only Access
  2. Power User Access
  3. AWS Cloud Formation Read Only Access
  4. **Administrator Access**

Every user you create in the IAM system starts with \_\_\_\_\_\_\_\_\_.

* 1. Partial permissions
  2. Full permissions
  3. **No permissions**

Groups can’t \_\_\_\_\_.

* 1. be nested more than 3 levels
  2. be nested at all
  3. be nested more than 4 levels
  4. be nested more than 2 levels

The \_\_\_\_\_ service is targeted at organizations with multiple users or systems that use AWS products such as Amazon EC2, Amazon SimpleDB, and the AWS Management Console.

* 1. Amazon RDS
  2. AWS Integrity Management
  3. AWS Identity and Access Management
  4. Amazon EMR

An AWS customer is deploying an application that is composed of an AutoScaling group of EC2 Instances. The customers security policy requires that every outbound connection from these instances to any other service within the customers Virtual Private Cloud must be authenticated using a unique x 509 certificate that contains the specific instanceid. In addition an x 509 certificates must Designed by the customer’s Key management service in order to be trusted for authentication. Which of the following configurations will support these requirements?

* 1. Configure an IAM Role that grants access to an Amazon S3 object containing a signed certificate and configure the Auto Scaling group to launch instances with this role Have the instances bootstrap get the certificate from Amazon S3 upon first boot.
  2. Embed a certificate into the Amazon Machine Image that is used by the Auto Scaling group Have the launched instances generate a certificate signature request with the instance’s assigned instance-id to the Key management service for signature.
  3. Configure the Auto Scaling group to send an SNS notification of the launch of a new instance to the trusted key management service. Have the Key management service generate a signed certificate and send it directly to the newly launched instance.
  4. Configure the launched instances to generate a new certificate upon first boot Have the Key management service poll the AutoScaling group for associated instances and send new instances a certificate signature (hat contains the specific instance-id.

When assessing an organization AWS use of AWS API access credentials which of the following three credentials should be evaluated? Choose 3 answers

* 1. Key pairs
  2. Console passwords
  3. Access keys
  4. Signing certificates
  5. Security Group memberships

An organization has created 50 IAM users. The organization wants that each user can change their password but cannot change their access keys. How can the organization achieve this?

* 1. The organization has to create a special password policy and attach it to each user
  2. The root account owner has to use CLI which forces each IAM user to change their password on first login
  3. By default each IAM user can modify their passwords
  4. Root account owner can set the policy from the IAM console under the password policy screen

An organization has created 50 IAM users. The organization has introduced a new policy which will change the access of an IAM user. How can the organization implement this effectively so that there is no need to apply the policy at the individual user level?

* 1. Use the IAM groups and add users as per their role to different groups and apply policy to group
  2. The user can create a policy and apply it to multiple users in a single go with the AWS CLI
  3. Add each user to the IAM role as per their organization role to achieve effective policy setup
  4. Use the IAM role and implement access at the role level

Your organization’s security policy requires that all privileged users either use frequently rotated passwords or one-time access credentials in addition to username/password. Which two of the following options would allow an organization to enforce this policy for AWS users? Choose 2 answers

* 1. Configure multi-factor authentication for privileged IAM users
  2. Create IAM users for privileged accounts
  3. Implement identity federation between your organization’s Identity provider leveraging the IAM Security Token Service
  4. Enable the IAM single-use password policy option for privileged users

Your organization is preparing for a security assessment of your use of AWS. In preparation for this assessment, which two IAM best practices should you consider implementing? Choose 2 answers

* 1. Create individual IAM users for everyone in your organization
  2. **Configure MFA on the root account and for privileged IAM users**
  3. **Assign IAM users and groups configured with policies granting least privilege access**
  4. Ensure all users have been assigned and are frequently rotating a password, access ID/secret key, and X.509 certificate

A company needs to deploy services to an AWS region which they have not previously used. The company currently has an AWS identity and Access Management (IAM) role for the Amazon EC2 instances, which permits the instance to have access to Amazon DynamoDB. The company wants their EC2 instances in the new region to have the same privileges. How should the company achieve this?

* 1. Create a new IAM role and associated policies within the new region
  2. **Assign the existing IAM role to the Amazon EC2 instances in the new region**
  3. Copy the IAM role and associated policies to the new region and attach it to the instances
  4. Create an Amazon Machine Image (AMI) of the instance and copy it to the desired region using the AMI Copy feature

After creating a new IAM user which of the following must be done before they can successfully make API calls?

* 1. Add a password to the user.
  2. Enable Multi-Factor Authentication for the user.
  3. Assign a Password Policy to the user.
  4. **Create a set of Access Keys for the user**

An organization is planning to create a user with IAM. They are trying to understand the limitations of IAM so that they can plan accordingly. Which of the below mentioned statements is not true with respect to the limitations of IAM?

* 1. **One IAM user can be a part of a maximum of 5 groups** (Refer [link](https://docs.aws.amazon.com/IAM/latest/UserGuide/reference_iam-limits.html))
  2. Organization can create 100 groups per AWS account
  3. One AWS account can have a maximum of 5000 IAM users
  4. One AWS account can have 250 roles

Within the IAM service a GROUP is regarded as a:

* 1. A collection of AWS accounts
  2. It’s the group of EC2 machines that gain the permissions specified in the GROUP.
  3. There’s no GROUP in IAM, but only USERS and RESOURCES.
  4. **A collection of users.**

Is there a limit to the number of groups you can have?

* 1. Yes for all users except root
  2. No
  3. Yes unless special permission granted
  4. **Yes for all users**

What is the default maximum number of MFA devices in use per AWS account (at the root account level)?

* 1. 1
  2. 5
  3. 15
  4. 10

When you use the AWS Management Console to delete an IAM user, IAM also deletes any signing certificates and any access keys belonging to the user.

* 1. FALSE
  2. This is configurable
  3. **TRUE**

IAM’s Policy Evaluation Logic always starts with a default \_\_\_\_\_\_\_\_\_\_\_\_ for every request, except for those that use the AWS account’s root security credentials b

* 1. Permit
  2. **Deny**
  3. Cancel

An organization has created 10 IAM users. The organization wants each of the IAM users to have access to a separate DynamoDB table. All the users are added to the same group and the organization wants to setup a group level policy for this. How can the organization achieve this?

* 1. Define the group policy and add a condition which allows the access based on the IAM name
  2. **Create a DynamoDB table with the same name as the IAM user name and define the policy rule which grants access based on the DynamoDB ARN using a variable**
  3. Create a separate DynamoDB database for each user and configure a policy in the group based on the DB variable
  4. It is not possible to have a group level policy which allows different IAM users to different DynamoDB Tables

An organization has setup multiple IAM users. The organization wants that each IAM user accesses the IAM console only within the organization and not from outside. How can it achieve this?

* 1. Create an IAM policy with the security group and use that security group for AWS console login
  2. **Create an IAM policy with a condition which denies access when the IP address range is not from the organization**
  3. Configure the EC2 instance security group which allows traffic only from the organization’s IP range
  4. Create an IAM policy with VPC and allow a secure gateway between the organization and AWS Console

Can I attach more than one policy to a particular entity?

* 1. **Yes always**
  2. Only if within GovCloud
  3. No
  4. Only if within VPC

A \_\_\_\_\_\_\_\_\_\_ is a document that provides a formal statement of one or more

* 1. permissions.
  2. **policy**
  3. permission
  4. Role
  5. resource

A \_\_\_\_\_\_\_\_\_\_ is the concept of allowing (or disallowing) an entity such as a user, group, or role some type of access to one or more resources.

* 1. user
  2. AWS Account
  3. resource
  4. **permission**

True or False: When using IAM to control access to your RDS resources, the key names that can be used are case sensitive. For example, aws:CurrentTime is NOT equivalent to AWS:currenttime.

* 1. **TRUE**
  2. FALSE

1. A company is building software on AWS that requires access to various AWS services. Which configuration should be used to ensure that AWS credentials (i.e., Access Key ID/Secret Access Key combination) are not compromised?
   1. Enable Multi-Factor Authentication for your AWS root account.
   2. **Assign an IAM role to the Amazon EC2 instance.**
   3. Store the AWS Access Key ID/Secret Access Key combination in software comments.
   4. Assign an IAM user to the Amazon EC2 Instance.
2. A photo-sharing service stores pictures in Amazon Simple Storage Service (S3) and allows application sign-in using an OpenID Connect-compatible identity provider. Which AWS Security Token Service approach to temporary access should you use for the Amazon S3 operations?
   1. SAML-based Identity Federation
   2. Cross-Account Access
   3. AWS IAM users
   4. **Web Identity Federation**
3. A company is preparing to give AWS Management Console access to developers. Company policy mandates identity federation and role-based access control. Roles are currently assigned using groups in the corporate Active Directory. What combination of the following will give developers access to the AWS console? (Select 2) Choose 2 answers
   1. **AWS Directory Service AD Connector**
   2. AWS Directory Service Simple AD
   3. AWS Identity and Access Management groups
   4. **AWS identity and Access Management roles**
   5. AWS identity and Access Management users
4. A customer needs corporate IT governance and cost oversight of all AWS resources consumed by its divisions. The divisions want to maintain administrative control of the discrete AWS resources they consume and keep those resources separate from the resources of other divisions. Which of the following options, when used together will support the autonomy/control of divisions while enabling corporate IT to maintain governance and cost oversight? Choose 2 answers
   1. Use AWS Consolidated Billing and disable AWS root account access for the child accounts.
   2. **Enable IAM cross-account access for all corporate IT administrators in each child account.**
   3. Create separate VPCs for each division within the corporate IT AWS account.
   4. **Use AWS Consolidated Billing to link the divisions’ accounts to a parent corporate account.**
   5. Write all child AWS CloudTrail and Amazon CloudWatch logs to each child account’s Amazon S3 ‘Log’ bucket.
5. Which of the following items are required to allow an application deployed on an EC2 instance to write data to a DynamoDB table? Assume that no security keys are allowed to be stored on the EC2 instance. (Choose 2 answers)
   1. **Create an IAM Role that allows write access to the DynamoDB table**
   2. Add an IAM Role to a running EC2 instance.
   3. Create an IAM User that allows write access to the DynamoDB table.
   4. Add an IAM User to a running EC2 instance.
   5. **Launch an EC2 Instance with the IAM Role included in the launch configuration**
6. Which technique can be used to integrate AWS IAM (Identity and Access Management) with an on-premise LDAP (Lightweight Directory Access Protocol) directory service?
   1. Use an IAM policy that references the LDAP account identifiers and the AWS credentials.
   2. Use SAML (Security Assertion Markup Language) to enable single sign-on between AWS and LDAP
   3. **Use AWS Security Token Service from an identity broker to issue short-lived AWS credentials**. —
   4. Use IAM roles to automatically rotate the IAM credentials when LDAP credentials are updated.
   5. Use the LDAP credentials to restrict a group of users from launching specific EC2 instance types.
7. You are looking to migrate your Development (Dev) and Test environments to AWS. You have decided to use separate AWS accounts to host each environment. You plan to link each accounts bill to a Master AWS account using Consolidated Billing. To make sure you Keep within budget you would like to implement a way for administrators in the Master account to have access to stop, delete and/or terminate resources in both the Dev and Test accounts. Identify which option will allow you to achieve this goal.
   1. Create IAM users in the Master account with full Admin permissions. Create cross-account roles in the Dev and Test accounts that grant the Master account access to the resources in the account by inheriting permissions from the Master account.
   2. Create IAM users and a cross-account role in the Master account that grants full Admin permissions to the Dev and Test accounts.
   3. **Create IAM users in the Master account Create cross-account roles in the Dev and Test accounts that have full Admin permissions and grant the Master account access**
   4. Link the accounts using Consolidated Billing. This will give IAM users in the Master account access to resources in the Dev and Test accounts
8. You have an application running on an EC2 Instance which will allow users to download flies from a private S3 bucket using a pre-assigned URL. Before generating the URL the application should verify the existence of the file in S3. How should the application use AWS credentials to access the S3 bucket securely?
   1. Use the AWS account access Keys the application retrieves the credentials from the source code of the application.
   2. Create a IAM user for the application with permissions that allow list access to the S3 bucket launch the instance as the IAM user and retrieve the IAM user’s credentials from the EC2 instance user data.
   3. **Create an IAM role for EC2 that allows list access to objects in the S3 bucket. Launch the instance with the role, and retrieve the role’s credentials from the EC2 Instance metadata**
   4. Create an IAM user for the application with permissions that allow list access to the S3 bucket. The application retrieves the IAM user credentials from a temporary directory with permissions that allow read access only to the application user.
9. You are designing a photo sharing mobile app the application will store all pictures in a single Amazon S3 bucket. Users will upload pictures from their mobile device directly to Amazon S3 and will be able to view and download their own pictures directly from Amazon S3. You want to configure security to handle potentially millions of users in the most secure manner possible. What should your server-side application do when a new user registers on the photo-sharing mobile application?
   1. Create a set of long-term credentials using AWS Security Token Service with appropriate permissions Store these credentials in the mobile app and use them to access Amazon S3.
   2. **Record the user’s Information in Amazon RDS and create a role in IAM with appropriate permissions. When the user uses their mobile app create temporary credentials using the AWS Security Token Service ‘AssumeRole’ function Store these credentials in the mobile app’s memory and use them to access Amazon S3 Generate new credentials the next time the user runs the mobile app.**
   3. Record the user’s Information In Amazon DynamoDB. When the user uses their mobile app create temporary credentials using AWS Security Token Service with appropriate permissions Store these credentials in the mobile app’s memory and use them to access Amazon S3 Generate new credentials the next time the user runs the mobile app.
   4. Create IAM user. Assign appropriate permissions to the IAM user Generate an access key and secret key for the IAM user, store them in the mobile app and use these credentials to access Amazon S3.
   5. Create an IAM user. Update the bucket policy with appropriate permissions for the IAM user Generate an access Key and secret Key for the IAM user, store them In the mobile app and use these credentials to access Amazon S3.
10. Your company has recently extended its datacenter into a VPC on AWS to add burst computing capacity as needed Members of your Network Operations Center need to be able to go to the AWS Management Console and administer Amazon EC2 instances as necessary You don’t want to create new IAM users for each NOC member and make those users sign in again to the AWS Management Console Which option below will meet the needs for your NOC members?
    1. Use OAuth 2 0 to retrieve temporary AWS security credentials to enable your NOC members to sign in to the AVVS Management Console.
    2. Use web Identity Federation to retrieve AWS temporary security credentials to enable your NOC members to sign in to the AWS Management Console.
    3. **Use your on-premises SAML 2.O-compliant identity provider (IDP) to grant the NOC members federated access to the AWS Management Console via the AWS single sign-on (SSO) endpoint.**
    4. Use your on-premises SAML 2.0-compliant identity provider (IDP) to retrieve temporary security credentials to enable NOC members to sign in to the AWS Management Console
11. An administrator is using Amazon CloudFormation to deploy a three tier web application that consists of a web tier and application tier that will utilize Amazon DynamoDB for storage when creating the CloudFormation template which of the following would allow the application instance access to the DynamoDB tables without exposing API credentials?
    1. Create an Identity and Access Management Role that has the required permissions to read and write from the required DynamoDB table and associate the Role to the application instances by referencing an instance profile.
    2. Use the Parameter section in the Cloud Formation template to nave the user input Access and Secret Keys from an already created IAM user that has me permissions required to read and write from the required DynamoDB table.
    3. **Create an Identity and Access Management Role that has the required permissions to read and write from the required DynamoDB table and reference the Role in the instance profile property of the application instance.**
    4. Create an identity and Access Management user in the CloudFormation template that has permissions to read and write from the required DynamoDB table, use the GetAtt function to retrieve the Access and secret keys and pass them to the application instance through user-data.
12. An enterprise wants to use a third-party SaaS application. The SaaS application needs to have access to issue several API commands to discover Amazon EC2 resources running within the enterprise’s account. The enterprise has internal security policies that require any outside access to their environment must conform to the principles of least privilege and there must be controls in place to ensure that the credentials used by the SaaS vendor cannot be used by any other third party. Which of the following would meet all of these conditions?
    1. From the AWS Management Console, navigate to the Security Credentials page and retrieve the access and secret key for your account.
    2. Create an IAM user within the enterprise account assign a user policy to the IAM user that allows only the actions required by the SaaS application create a new access and secret key for the user and provide these credentials to the SaaS provider.
    3. **Create an IAM role for cross-account access allows the SaaS provider’s account to assume the role and assign it a policy that allows only the actions required by the SaaS application.**
    4. Create an IAM role for EC2 instances, assign it a policy mat allows only the actions required tor the Saas application to work, provide the role ARM to the SaaS provider to use when launching their application instances.
13. A corporate web application is deployed within an Amazon Virtual Private Cloud (VPC) and is connected to the corporate data center via an iPsec VPN. The application must authenticate against the on-premises LDAP server. After authentication, each logged-in user can only access an Amazon Simple Storage Space (S3) keyspace specific to that user. Which two approaches can satisfy these objectives? (Choose 2 answers)
    1. Develop an identity broker that authenticates against IAM security Token service to assume a IAM role in order to get temporary AWS security credentials The application calls the identity broker to get AWS temporary security credentials with access to the appropriate S3 bucket.
    2. The application authenticates against LDAP and retrieves the name of an IAM role associated with the user. The application then calls the IAM Security Token Service to assume that IAM role The application can use the temporary credentials to access the appropriate S3 bucket. —
    3. **Develop an identity broker that authenticates against LDAP and then calls IAM Security Token Service to get IAM federated user credentials The application calls the identity broker to get IAM federated user credentials with access to the appropriate S3 bucket.**
    4. **The application authenticates against LDAP the application then calls the AWS identity and Access Management (IAM) Security Token service to log in to IAM using the LDAP credentials the application can use the IAM temporary credentials to access the appropriate S3 bucket.**
    5. The application authenticates against IAM Security Token Service using the LDAP credentials the application uses those temporary AWS security credentials to access the appropriate S3 bucket.
14. Company B is launching a new game app for mobile devices. Users will log into the game using their existing social media account to streamline data capture. Company B would like to directly save player data and scoring information from the mobile app to a DynamoDB table named Score Data When a user saves their game the progress data will be stored to the Game state S3 bucket. what is the best approach for storing data to DynamoDB and S3?
    1. Use an EC2 Instance that is launched with an EC2 role providing access to the Score Data DynamoDB table and the GameState S3 bucket that communicates with the mobile app via web services.
    2. **Use temporary security credentials that assume a role providing access to the Score Data DynamoDB table and the Game State S3 bucket using web identity federation**
    3. Use Login with Amazon allowing users to sign in with an Amazon account providing the mobile app with access to the Score Data DynamoDB table and the Game State S3 bucket.
    4. Use an IAM user with access credentials assigned a role providing access to the Score Data DynamoDB table and the Game State S3 bucket for distribution with the mobile app.
15. A user has created an application which will be hosted on EC2. The application makes calls to DynamoDB to fetch certain data. The application is using the DynamoDB SDK to connect with from the EC2 instance. Which of the below mentioned statements is true with respect to the best practice for security in this scenario?
    1. **The user should attach an IAM role with DynamoDB access to the EC2 instance**
    2. The user should create an IAM user with DynamoDB access and use its credentials within the application to connect with DynamoDB
    3. The user should create an IAM role, which has EC2 access so that it will allow deploying the application
    4. The user should create an IAM user with DynamoDB and EC2 access. Attach the user with the application so that it does not use the root account credentials
16. A user has created a mobile application which makes calls to DynamoDB to fetch certain data. The application is using the DynamoDB SDK and root account access/secret access key to connect to DynamoDB from mobile. Which of the below mentioned statements is true with respect to the best practice for security in this scenario?
    1. User should create a separate IAM user for each mobile application and provide DynamoDB access with it
    2. User should create an IAM role with DynamoDB and EC2 access. Attach the role with EC2 and route all calls from the mobile through EC2
    3. **The application should use an IAM role with web identity federation which validates calls to DynamoDB with identity providers, such as Google, Amazon, and Facebook**
    4. Create an IAM Role with DynamoDB access and attach it with the mobile application
17. You are managing the AWS account of a big organization. The organization has more than 1000+ employees and they want to provide access to the various services to most of the employees. Which of the below mentioned options is the best possible solution in this case?
    1. The user should create a separate IAM user for each employee and provide access to them as per the policy
    2. The user should create an IAM role and attach STS with the role. The user should attach that role to the EC2 instance and setup AWS authentication on that server
    3. The user should create IAM groups as per the organization’s departments and add each user to the group for better access control
    4. **Attach an IAM role with the organization’s authentication service to authorize each user for various AWS services**
18. Your fortune 500 company has under taken a TCO analysis evaluating the use of Amazon S3 versus acquiring more hardware The outcome was that all employees would be granted access to use Amazon S3 for storage of their personal documents Which of the following will you need to consider so you can set up a solution that incorporates single sign-on from your corporate AD or LDAP directory and restricts access for each user to a designated user folder in a bucket? (Choose 3 Answers)
    1. **Setting up a federation proxy or identity provider**
    2. **Using AWS Security Token Service to generate temporary tokens**
    3. Tagging each folder in the bucket
    4. **Configuring IAM role**
    5. Setting up a matching IAM user for every user in your corporate directory that needs access to a folder in the bucket

Which of the following are valid statements about Amazon S3? Choose 2 answers

1. S3 provides read-after-write consistency for any type of PUT or DELETE.
2. Consistency is not guaranteed for any type of PUT or DELETE.
3. **A successful response to a PUT request only occurs when a complete object is saved**
4. Partially saved objects are immediately readable with a GET after an overwrite PUT.
5. **S3 provides eventual consistency for overwrite PUTS and DELETES**
6. Which of the following notification endpoints or clients does Amazon Simple Notification Service support? Choose 2 answers
   1. **Email**
   2. CloudFront distribution
   3. File Transfer Protocol
   4. **Short Message Service**
   5. Simple Network Management Protocol
7. What happens when you create a topic on Amazon SNS?
   1. The topic is created, and it has the name you specified for it.
   2. **An ARN (Amazon Resource Name) is created**
   3. You can create a topic on Amazon SQS, not on Amazon SNS.
   4. This question doesn’t make sense.
8. A user has deployed an application on his private cloud. The user is using his own monitoring tool. He wants to configure that whenever there is an error, the monitoring tool should notify him via SMS. Which of the below mentioned AWS services will help in this scenario?
   1. None because the user infrastructure is in the private cloud/
   2. **AWS SNS**
   3. AWS SES
   4. AWS SMS
9. A user wants to make so that whenever the CPU utilization of the AWS EC2 instance is above 90%, the redlight of his bedroom turns on. Which of the below mentioned AWS services is helpful for this purpose?
   1. AWS CloudWatch + AWS SES
   2. **AWS CloudWatch + AWS SNS**
   3. It is not possible to configure the light with the AWS infrastructure services
   4. AWS CloudWatch and a dedicated software turning on the light
10. A user is trying to understand AWS SNS. To which of the below mentioned end points is SNS unable to send a notification?
    1. Email JSON
    2. HTTP
    3. AWS SQS
    4. **AWS SES**
11. You are providing AWS consulting service for a company developing a new mobile application that will be leveraging amazon SNS push for push notifications. In order to send direct notification messages to individual devices each device registration identifier or token needs to be registered with SNS, however the developers are not sure of the best way to do this. You advise them to: –
    1. Bulk upload the device tokens contained in a CSV file via the AWS Management Console
    2. Let the push notification service (e.g. Amazon Device messaging) handle the registration
    3. Implement a token vending service to handle the registration
    4. **Call the CreatePlatformEndpoint API function to register multiple device tokens.**(Refer [documentation](http://docs.aws.amazon.com/sns/latest/dg/mobile-push-send-devicetoken.html))
12. A company has a workflow that sends video files from their on-premise system to AWS for transcoding. They use EC2 worker instances that pull transcoding jobs from SQS. Why is SQS an appropriate service for this scenario?
    1. SQS guarantees the order of the messages.
    2. SQS synchronously provides transcoding output.
    3. SQS checks the health of the worker instances.
    4. **SQS helps to facilitate horizontal scaling of encoding tasks**
13. Your application provides data transformation services. Files containing data to be transformed are first uploaded to Amazon S3 and then transformed by a fleet of spot EC2 instances. Files submitted by your premium customers must be transformed with the highest priority. How should you implement such a system?
    1. Use a DynamoDB table with an attribute defining the priority level. Transformation instances will scan the table for tasks, sorting the results by priority level.
    2. Use Route 53 latency based-routing to send high priority tasks to the closest transformation instances.
    3. **Use two SQS queues, one for high priority messages, and the other for default priority. Transformation instances first poll the high priority queue; if there is no message, they poll the default priority queue**
    4. Use a single SQS queue. Each message contains the priority level. Transformation instances poll high-priority messages first.
14. Your company plans to host a large donation website on Amazon Web Services (AWS). You anticipate a large and undetermined amount of traffic that will create many database writes. To be certain that you do not drop any writes to a database hosted on AWS. Which service should you use?
    1. Amazon RDS with provisioned IOPS up to the anticipated peak write throughput.
    2. **Amazon Simple Queue Service (SQS) for capturing the writes and draining the queue to write to the database**
    3. Amazon ElastiCache to store the writes until the writes are committed to the database.
    4. Amazon DynamoDB with provisioned write throughput up to the anticipated peak write throughput.
15. A customer has a 10 GB AWS Direct Connect connection to an AWS region where they have a web application hosted on Amazon Elastic Computer Cloud (EC2). The application has dependencies on an on-premises mainframe database that uses a BASE (Basic Available. Sort stale Eventual consistency) rather than an ACID (Atomicity. Consistency isolation. Durability) consistency model. The application is exhibiting undesirable behavior because the database is not able to handle the volume of writes. How can you reduce the load on your on-premises database resources in the most cost-effective way?
    1. Use an Amazon Elastic Map Reduce (EMR) S3DistCp as a synchronization mechanism between the onpremises database and a Hadoop cluster on AWS.
    2. **Modify the application to write to an Amazon SQS queue and develop a worker process to flush the queue to the on-premises database**
    3. Modify the application to use DynamoDB to feed an EMR cluster which uses a map function to write to the on-premises database.
    4. Provision an RDS read-replica database on AWS to handle the writes and synchronize the two databases using Data Pipeline.
16. An organization has created a Queue named “modularqueue” with SQS. The organization is not performing any operations such as SendMessage, ReceiveMessage, DeleteMessage, GetQueueAttributes, SetQueueAttributes, AddPermission, and RemovePermission on the queue. What can happen in this scenario?
    1. AWS SQS sends notification after 15 days for inactivity on queue
    2. **AWS SQS can delete queue after 30 days without notification**
    3. AWS SQS marks queue inactive after 30 days
    4. AWS SQS notifies the user after 2 weeks and deletes the queue after 3 weeks.
17. A user is using the AWS SQS to decouple the services. Which of the below mentioned operations is not supported by SQS?
    1. SendMessageBatch
    2. DeleteMessageBatch
    3. CreateQueue
    4. **DeleteMessageQueue**
18. A user has created a queue named “awsmodule” with SQS. One of the consumers of queue is down for 3 days and then becomes available. Will that component receive message from queue?
    1. **Yes, since SQS by default stores message for 4 days**
    2. No, since SQS by default stores message for 1 day only
    3. No, since SQS sends message to consumers who are available that time
    4. Yes, since SQS will not delete message until it is delivered to all consumers
19. A user has created a queue named “queue2” in US-East region with AWS SQS. The user’s AWS account ID is 123456789012. If the user wants to perform some action on this queue, which of the below Queue URL should he use?
    1. **http://sqs.us-east-1.amazonaws.com/123456789012/queue2**
    2. http://sqs.amazonaws.com/123456789012/queue2
    3. http://sqs. 123456789012.us-east-1.amazonaws.com/queue2
    4. http://123456789012.sqs.us-east-1.amazonaws.com/queue2
20. A user has created a queue named “myqueue” with SQS. There are four messages published to queue, which are not received by the consumer yet. If the user tries to delete the queue, what will happen?
    1. A user can never delete a queue manually. AWS deletes it after 30 days of inactivity on queue
    2. **It will delete the queue**
    3. It will initiate the delete but wait for four days before deleting until all messages are deleted automatically.
    4. I t will ask user to delete the messages first
21. A user has developed an application, which is required to send the data to a NoSQL database. The user wants to decouple the data sending such that the application keeps processing and sending data but does not wait for an acknowledgement of DB. Which of the below mentioned applications helps in this scenario?
    1. AWS Simple Notification Service
    2. AWS Simple Workflow
    3. **AWS Simple Queue Service**
    4. AWS Simple Query Service
22. You are building an online store on AWS that uses SQS to process your customer orders. Your backend system needs those messages in the same sequence the customer orders have been put in. How can you achieve that?
    1. It is not possible to do this with SQS
    2. **You can use sequencing information on each message**
    3. You can do this with SQS but you also need to use SWF
    4. Messages will arrive in the same order by default
23. A user has created a photo editing software and hosted it on EC2. The software accepts requests from the user about the photo format and resolution and sends a message to S3 to enhance the picture accordingly. Which of the below mentioned AWS services will help make a scalable software with the AWS infrastructure in this scenario?
    1. AWS Glacier
    2. AWS Elastic Transcoder
    3. AWS Simple Notification Service
    4. **AWS Simple Queue Service**
24. A user is launching an EC2 instance in the US East region. Which of the below mentioned options is recommended by AWS with respect to the selection of the availability zone?
    1. Always select the US-East-1-a zone for HA
    2. **Do not select the AZ; instead let AWS select the AZ**
    3. The user can never select the availability zone while launching an instance
    4. Always select the AZ while launching an instance
25. You nave multiple Amazon EC2 instances running in a cluster across multiple Availability Zones within the same region. What combination of the following should be used to ensure the highest network performance (packets per second), lowest latency, and lowest jitter? Choose 3 answers
    1. Amazon EC2 placement groups
    2. **Enhanced networking**
    3. Amazon PV AMI
    4. **Amazon HVM AMI**
    5. Amazon Linux
    6. **Amazon VPC**
26. Regarding the attaching of ENI to an instance, what does ‘warm attach’ refer to?
    1. **Attaching an ENI to an instance when it is stopped**
    2. Attaching an ENI to an instance when it is running
    3. Attaching an ENI to an instance during the launch process
27. Can I detach the primary (eth0) network interface when the instance is running or stopped?
    1. Yes, You can.
    2. **You cannot**
    3. Depends on the state of the interface at the time
28. By default what are ENIs that are automatically created and attached to instances using the EC2 console set to do when the attached instance terminates?
    1. Remain as is
    2. **Terminate**
    3. Hibernate
    4. Pause
29. Select the incorrect statement
    1. In Amazon EC2, the private IP addresses only returned to Amazon EC2 when the instance is stopped or terminated
    2. In Amazon VPC, an instance retains its private IP addresses when the instance is stopped.
    3. **In Amazon VPC, an instance does NOT retain its private IP addresses when the instance is stopped**
    4. In Amazon EC2, the private IP address is associated exclusively with the instance for its lifetime
30. To ensure failover capabilities, consider using a \_\_\_\_\_ for incoming traffic on a network interface”.
    1. primary public IP
    2. **secondary private IP**
    3. secondary public IP
    4. add on secondary IP

What are the Amazon EC2 API tools?

1. They don’t exist. The Amazon EC2 AMI tools, instead, are used to manage permissions.
2. **Command-line tools to the Amazon EC2 web service**
3. They are a set of graphical tools to manage EC2 instances.
4. They don’t exist. The Amazon API tools are a client interface to Amazon Web Services.
5. You launch an Amazon EC2 instance without an assigned AWS identity and Access Management (IAM) role. Later, you decide that the instance should be running with an IAM role. Which action must you take in order to have a running Amazon EC2 instance with an IAM role assigned to it?
   1. Create an image of the instance, and register the image with an IAM role assigned and an Amazon EBS volume mapping.
   2. Create a new IAM role with the same permissions as an existing IAM role, and assign it to the running instance.
   3. Create an image of the instance, add a new IAM role with the same permissions as the desired IAM role, and deregister the image with the new role assigned.
   4. **Create an image of the instance, and use this image to launch a new instance with the desired IAM role assigned**
6. What does the following command do with respect to the Amazon EC2 security groups? ec2-revoke RevokeSecurityGroupIngress
   1. Removes one or more security groups from a rule.
   2. Removes one or more security groups from an Amazon EC2 instance.
   3. **Removes one or more rules from a security group**
   4. Removes a security group from our account.
7. Which of the following cannot be used in Amazon EC2 to control who has access to specific Amazon EC2 instances?
   1. Security Groups
   2. **IAM System**
   3. SSH keys
   4. Windows passwords
8. You must assign each server to at least \_\_\_\_\_ security group
   1. 3
   2. 2
   3. 4
   4. **1**
9. A company is building software on AWS that requires access to various AWS services. Which configuration should be used to ensure that AWS credentials (i.e., Access Key ID/Secret Access Key combination) are not compromised?
   1. Enable Multi-Factor Authentication for your AWS root account.
   2. **Assign an IAM role to the Amazon EC2 instance**
   3. Store the AWS Access Key ID/Secret Access Key combination in software comments.
   4. Assign an IAM user to the Amazon EC2 Instance.
10. Which of the following items are required to allow an application deployed on an EC2 instance to write data to a DynamoDB table? Assume that no security keys are allowed to be stored on the EC2 instance. (Choose 2 answers)
    1. **Create an IAM Role that allows write access to the DynamoDB table**
    2. Add an IAM Role to a running EC2 instance.
    3. Create an IAM User that allows write access to the DynamoDB table.
    4. Add an IAM User to a running EC2 instance.
    5. **Launch an EC2 Instance with the IAM Role included in the launch configuration**
11. You have an application running on an EC2 Instance, which will allow users to download flies from a private S3 bucket using a pre-assigned URL. Before generating the URL the application should verify the existence of the file in S3. How should the application use AWS credentials to access the S3 bucket securely?
    1. Use the AWS account access Keys the application retrieves the credentials from the source code of the application.
    2. Create a IAM user for the application with permissions that allow list access to the S3 bucket launch the instance as the IAM user and retrieve the IAM user’s credentials from the EC2 instance user data.
    3. **Create an IAM role for EC2 that allows list access to objects in the S3 bucket. Launch the instance with the role, and retrieve the role’s credentials from the EC2 Instance metadata**
    4. Create an IAM user for the application with permissions that allow list access to the S3 bucket. The application retrieves the IAM user credentials from a temporary directory with permissions that allow read access only to the application user.
12. A user has created an application, which will be hosted on EC2. The application makes calls to DynamoDB to fetch certain data. The application is using the DynamoDB SDK to connect with from the EC2 instance. Which of the below mentioned statements is true with respect to the best practice for security in this scenario?
    1. **The user should attach an IAM role with DynamoDB access to the EC2 instance**
    2. The user should create an IAM user with DynamoDB access and use its credentials within the application to connect with DynamoDB
    3. The user should create an IAM role, which has EC2 access so that it will allow deploying the application
    4. The user should create an IAM user with DynamoDB and EC2 access. Attach the user with the application so that it does not use the root account credentials
13. What does Amazon EC2 provide?
    1. **Virtual servers in the Cloud**
    2. A platform to run code (Java, PHP, Python), paying on an hourly basis.
    3. Computer Clusters in the Cloud.
    4. Physical servers, remotely managed by the customer.
14. A user has enabled termination protection on an EC2 instance. The user has also set Instance initiated shutdown behavior to terminate. When the user shuts down the instance from the OS, what will happen?
    1. The OS will shutdown but the instance will not be terminated due to protection
    2. **It will terminate the instance**
    3. It will not allow the user to shutdown the instance from the OS
    4. It is not possible to set the termination protection when an Instance initiated shutdown is set to Terminate
15. A user has launched an EC2 instance and deployed a production application in it. The user wants to prohibit any mistakes from the production team to avoid accidental termination. How can the user achieve this?
    1. **The user can the set DisableApiTermination attribute to avoid accidental termination**
    2. It is not possible to avoid accidental termination
    3. The user can set the Deletion termination flag to avoid accidental termination
    4. The user can set the InstanceInitiatedShutdownBehavior flag to avoid accidental termination
16. If I want my instance to run on a single-tenant hardware, which value do I have to set the instance’s tenancy attribute to?
    1. **dedicated**
    2. isolated
    3. one
    4. reserved
17. You have a video transcoding application running on Amazon EC2. Each instance polls a queue to find out which video should be transcoded, and then runs a transcoding process. If this process is interrupted, the video will be transcoded by another instance based on the queuing system. You have a large backlog of videos, which need to be transcoded, and would like to reduce this backlog by adding more instances. You will need these instances only until the backlog is reduced. Which type of Amazon EC2 instances should you use to reduce the backlog in the most cost efficient way?
    1. Reserved instances
    2. **Spot instances**
    3. Dedicated instances
    4. On-demand instances
18. The one-time payment for Reserved Instances is \_\_\_\_\_\_\_\_\_\_ refundable if the reservation is cancelled.
    1. always
    2. in some circumstances
    3. **never**
19. You run a web application where web servers on EC2 Instances are In an Auto Scaling group Monitoring over the last 6 months shows that 6 web servers are necessary to handle the minimum load. During the day up to 12 servers are needed Five to six days per year, the number of web servers required might go up to 15. What would you recommend to minimize costs while being able to provide hill availability?
    1. **6 Reserved instances (heavy utilization). 6 Reserved instances (medium utilization), rest covered by On-Demand instances**
    2. 6 Reserved instances (heavy utilization). 6 On-Demand instances, rest covered by Spot Instances (don’t go for spot as availability not guaranteed)
    3. 6 Reserved instances (heavy utilization) 6 Spot instances, rest covered by On-Demand instances (don’t go for spot as availability not guaranteed)
    4. 6 Reserved instances (heavy utilization) 6 Reserved instances (medium utilization) rest covered by Spot instances (don’t go for spot as availability not guaranteed)
20. A user is running one instance for only 3 hours every day. The user wants to save some cost with the instance. Which of the below mentioned Reserved Instance categories is advised in this case?
    1. **The user should not use RI; instead only go with the on-demand pricing**(seems question before the introduction of the Scheduled Reserved instances in Jan 2016, which can be used in this case)
    2. The user should use the AWS high utilized RI
    3. The user should use the AWS medium utilized RI
    4. The user should use the AWS low utilized RI
21. Which of the following are characteristics of a reserved instance? Choose 3 answers (but 4 answers seem correct)
    1. **It can be migrated across Availability Zones** (can be modified)
    2. It is specific to an Amazon Machine Image (AMI) (specific to platform)
    3. **It can be applied to instances launched by Auto Scaling (are allowed)**
    4. **It is specific to an instance Type** (specific to instance type but size can be changed)
    5. **It can be used to lower Total Cost of Ownership (TCO) of a system**(helps to reduce cost)
22. You have a distributed application that periodically processes large volumes of data across multiple Amazon EC2 Instances. The application is designed to recover gracefully from Amazon EC2 instance failures. You are required to accomplish this task in the most cost-effective way. Which of the following will meet your requirements?
    1. **Spot Instances**
    2. Reserved instances
    3. Dedicated instances
    4. On-Demand instances
23. Can I move a Reserved Instance from one Region to another?
    1. **No**
    2. Only if they are moving into GovCloud
    3. Yes
    4. Only if they are moving to US East from another region
24. An application you maintain consists of multiple EC2 instances in a default tenancy VPC. This application has undergone an internal audit and has been determined to require dedicated hardware for one instance. Your compliance team has given you a week to move this instance to single-tenant hardware. Which process will have minimal impact on your application while complying with this requirement?
    1. Create a new VPC with tenancy=dedicated and migrate to the new VPC(possible but impact not minimal)
    2. Use ec2-reboot-instances command line and set the parameter “dedicated=true”
    3. Right click on the instance, select properties and check the box for dedicated tenancy
    4. **Stop the instance, create an AMI, launch a new instance with tenancy=dedicated, and terminate the old instance**
25. When you view the block device mapping for your instance, you can see only the EBS volumes, not the instance store volumes.
    1. Depends on the instance type
    2. FALSE
    3. Depends on whether you use API call
    4. **TRUE**
26. Amazon EC2 provides a repository of public data sets that can be seamlessly integrated into AWS cloud-based applications. What is the monthly charge for using the public data sets?
    1. A 1 time charge of 10$ for all the datasets.
    2. 1$ per dataset per month
    3. 10$ per month for all the datasets
    4. **There is no charge for using the public data sets**
27. How many types of block devices does Amazon EC2 support?
    1. **2**
    2. 4
    3. 3
    4. 1
28. Please select the most correct answer regarding the persistence of the Amazon Instance Store
    1. **The data on an instance store volume persists only during the life of the associated Amazon EC2 instance**
    2. The data on an instance store volume is lost when the security group rule of the associated instance is changed.
    3. The data on an instance store volume persists even after associated Amazon EC2 instance is deleted
29. A user has launched an EC2 instance from an instance store backed AMI. The user has attached an additional instance store volume to the instance. The user wants to create an AMI from the running instance. Will the AMI have the additional instance store volume data?
    1. **Yes, the block device mapping will have information about the additional instance store volume**
    2. No, since the instance store backed AMI can have only the root volume bundled
    3. It is not possible to attach an additional instance store volume to the existing instance store backed AMI instance
    4. No, since this is ephemeral storage it will not be a part of the AMI
30. When an EC2 instance that is backed by an S3-based AMI Is terminated, what happens to the data on the root volume?
    1. Data is automatically saved as an EBS volume.
    2. Data is automatically saved as an EBS snapshot.
    3. **Data is automatically deleted**
    4. Data is unavailable until the instance is restarted.
31. A user has launched an EC2 instance from an instance store backed AMI. If the user restarts the instance, what will happen to the ephemeral storage data?
    1. All the data will be erased but the ephemeral storage will stay connected
    2. All data will be erased and the ephemeral storage is released
    3. It is not possible to restart an instance launched from an instance store backed AMI
    4. **The data is preserved**
32. When an EC2 EBS-backed instance is stopped, what happens to the data on any ephemeral store volumes?
    1. **Data will be deleted and will no longer be accessible**
    2. Data is automatically saved in an EBS volume.
    3. Data is automatically saved as an EBS snapshot
    4. Data is unavailable until the instance is restarted
33. A user has launched an EC2 Windows instance from an instance store backed AMI. The user has also set the Instance initiated shutdown behavior to stop. What will happen when the user shuts down the OS?
    1. It will not allow the user to shutdown the OS when the shutdown behavior is set to Stop
    2. **It is not possible to set the termination behavior to Stop for an Instance store backed AMI instance**
    3. The instance will stay running but the OS will be shutdown
    4. The instance will be terminated
34. Which of the following will occur when an EC2 instance in a VPC (Virtual Private Cloud) with an associated Elastic IP is stopped and started? (Choose 2 answers)
    1. The Elastic IP will be dissociated from the instance
    2. **All data on instance-store devices will be lost**
    3. All data on EBS (Elastic Block Store) devices will be lost
    4. The ENI (Elastic Network Interface) is detached
    5. **The underlying host for the instance is changed**
35. \_\_\_\_\_ is a durable, block-level storage volume that you can attach to a single, running Amazon EC2 instance.
    1. Amazon S3
    2. **Amazon EBS**
    3. None of these
    4. All of these
36. Which Amazon storage do you think is the best for my database-style applications that frequently encounter many random reads and writes across the dataset?
    1. None of these.
    2. Amazon Instance Storage
    3. Any of these
    4. **Amazon EBS**
37. What does Amazon EBS stand for?
    1. Elastic Block Storage
    2. Elastic Business Server
    3. Elastic Blade Server
    4. **Elastic Block Store**
38. Which Amazon Storage behaves like raw, unformatted, external block devices that you can attach to your instances?
    1. None of these.
    2. Amazon Instance Storage
    3. **Amazon EBS**
    4. All of these
39. A user has created numerous EBS volumes. What is the general limit for each AWS account for the maximum number of EBS volumes that can be created?
    1. 10000
    2. **5000**
    3. 100
    4. 1000
40. A user is trying to pre-warm a blank EBS volume attached to a Linux instance. Which of the below mentioned steps should be performed by the user?
    1. **There is no need to pre-warm an EBS volume**
    2. Contact AWS support to pre-warm (This used to be the case before, but pre warming is not necessary now)
    3. Unmount the volume before pre-warming
    4. Format the device
41. A user has created an EBS volume of 10 GB and attached it to a running instance. The user is trying to access EBS for first time. Which of the below mentioned options is the correct statement with respect to a first time EBS access?
    1. The volume will show a size of 8 GB
    2. **The volume will show a loss of the IOPS performance the first time**
    3. The volume will be blank
    4. If the EBS is mounted it will ask the user to create a file system
42. An existing application stores sensitive information on a non-boot Amazon EBS data volume attached to an Amazon Elastic Compute Cloud instance. Which of the following approaches would protect the sensitive data on an Amazon EBS volume?
    1. Upload your customer keys to AWS CloudHSM. Associate the Amazon EBS volume with AWS CloudHSM. Remount the Amazon EBS volume.
    2. Create and mount a new, encrypted Amazon EBS volume. Move the data to the new volume. Delete the old Amazon EBS volume.
    3. Unmount the EBS volume. Toggle the encryption attribute to True. Re-mount the Amazon EBS volume.
    4. **Snapshot the current Amazon EBS volume. Restore the snapshot to a new, encrypted Amazon EBS volume. Mount the Amazon EBS volume**
43. Which of the following approaches provides the lowest cost for Amazon Elastic Block Store snapshots while giving you the ability to fully restore data?
    1. Maintain two snapshots: the original snapshot and the latest incremental snapshot
    2. Maintain a volume snapshot; subsequent snapshots will overwrite one another
    3. **Maintain a single snapshot the latest snapshot is both Incremental and complete**
    4. Maintain the most current snapshot, archive the original and incremental to Amazon Glacier.
44. Which procedure for backing up a relational database on EC2 that is using a set of RAlDed EBS volumes for storage minimizes the time during which the database cannot be written to and results in a consistent backup?
    1. Detach EBS volumes, 2. Start EBS snapshot of volumes, 3. Re-attach EBS volumes
    2. **Stop the EC2 Instance. 2. Snapshot the EBS volumes**
    3. Suspend disk I/O, 2. Create an image of the EC2 Instance, 3. Resume disk I/O
    4. Suspend disk I/O, 2. Start EBS snapshot of volumes, 3. Resume disk I/O
    5. Suspend disk I/O, 2. Start EBS snapshot of volumes, 3. Wait for snapshots to complete, 4. Resume disk I/O
45. How can an EBS volume that is currently attached to an EC2 instance be migrated from one Availability Zone to another?
    1. Detach the volume and attach it to another EC2 instance in the other AZ.
    2. Simply create a new volume in the other AZ and specify the original volume as the source.
    3. **Create a snapshot of the volume, and create a new volume from the snapshot in the other AZ**
    4. Detach the volume, then use the ec2-migrate-voiume command to move it to another AZ.
46. Select the correct set of steps for exposing the snapshot only to specific AWS accounts
    1. Select Public for all the accounts and check mark those accounts with whom you want to expose the snapshots and click save.
    2. **Select Private and enter the IDs of those AWS accounts, and click Save.**
    3. Select Public, enter the IDs of those AWS accounts, and click Save.
    4. Select Public, mark the IDs of those AWS accounts as private, and click Save.
47. Is it possible to access your EBS snapshots?
    1. Yes, through the Amazon S3 APIs.
    2. **Yes, through the Amazon EC2 APIs**
    3. No, EBS snapshots cannot be accessed; they can only be used to create a new EBS volume.
    4. EBS doesn’t provide snapshots.
48. If an Amazon EBS volume is the root device of an instance, can I detach it without stopping the instance?
    1. Yes but only if Windows instance
    2. **No**
    3. Yes
    4. Yes but only if a Linux instance
49. Can we attach an EBS volume to more than one EC2 instance at the same time?
    1. Yes
    2. **No**
    3. Only EC2-optimized EBS volumes.
    4. Only in read mode.
50. Do the Amazon EBS volumes persist independently from the running life of an Amazon EC2 instance?
    1. **Only if instructed to when created**
    2. Yes
    3. No
51. Can I delete a snapshot of the root device of an EBS volume used by a registered AMI?
    1. Only via API
    2. Only via Console
    3. Yes
    4. **No**
52. How are the EBS snapshots saved on Amazon S3?
    1. Exponentially
    2. **Incrementally**
    3. EBS snapshots are not stored in the Amazon S3
    4. Decrementally
53. EBS Snapshots occur \_\_\_\_\_
    1. **Asynchronously**
    2. Synchronously
    3. Weekly
54. What will be the status of the snapshot until the snapshot is complete?
    1. Running
    2. Working
    3. Progressing
    4. **Pending**
55. By default, EBS volumes that are created and attached to an instance at launch are deleted when that instance is terminated. You can modify this behavior by changing the value of the flag\_\_\_\_\_ to false when you launch the instance
    1. **DeleteOnTermination**
    2. RemoveOnDeletion
    3. RemoveOnTermination
    4. TerminateOnDeletion
56. Before I delete an EBS volume, what can I do if I want to recreate the volume later?
    1. Create a copy of the EBS volume (not a snapshot)
    2. **Create and Store a snapshot of the volume**
    3. Download the content to an EC2 instance
    4. Back up the data in to a physical disk
57. Your company policies require encryption of sensitive data at rest. You are considering the possible options for protecting data while storing it at rest on an EBS data volume, attached to an EC2 instance. Which of these options would allow you to encrypt your data at rest? (Choose 3 answers)
    1. **Implement third party volume encryption tools**
    2. Do nothing as EBS volumes are encrypted by default
    3. **Encrypt data inside your applications before storing it on EBS**
    4. **Encrypt data using native data encryption drivers at the file system level**
    5. Implement SSL/TLS for all services running on the server
58. Which of the following are true regarding encrypted Amazon Elastic Block Store (EBS) volumes? Choose 2 answers
    1. **Supported on all Amazon EBS volume types**
    2. **Snapshots are automatically encrypted**
    3. Available to all instance types
    4. Existing volumes can be encrypted
    5. Shared volumes can be encrypted
59. Amazon EBS snapshots have which of the following two characteristics? (Choose 2.) Choose 2 answers
    1. **EBS snapshots only save incremental changes from snapshot to snapshot**
    2. **EBS snapshots can be created in real-time without stopping an EC2 instance** (the snapshot can be taken real time however it will not be consistent and the recommended way is to stop or freeze the IO)
    3. EBS snapshots can only be restored to an EBS volume of the same size or smaller (EBS volume restored from snapshots need to be of the same size of larger size)
    4. EBS snapshots can only be restored and mounted to an instance in the same Availability Zone as the original EBS volume**(**Snapshots are specific to Region and can be used to create a volume in any AZ and does not depend on the original EBS volume AZ**)**
60. How can you secure data at rest on an EBS volume?
    1. Encrypt the volume using the S3 server-side encryption service
    2. Attach the volume to an instance using EC2’s SSL interface.
    3. Create an IAM policy that restricts read and write access to the volume.
    4. Write the data randomly instead of sequentially.
    5. **Use an encrypted file system on top of the EBS volume**
61. A user has deployed an application on an EBS backed EC2 instance. For a better performance of application, it requires dedicated EC2 to EBS traffic. How can the user achieve this?
    1. Launch the EC2 instance as EBS dedicated with PIOPS EBS
    2. Launch the EC2 instance as EBS enhanced with PIOPS EBS
    3. Launch the EC2 instance as EBS dedicated with PIOPS EBS
    4. **Launch the EC2 instance as EBS optimized with PIOPS EBS**
62. A user is trying to launch an EBS backed EC2 instance under free usage. The user wants to achieve encryption of the EBS volume. How can the user encrypt the data at rest?
    1. Use AWS EBS encryption to encrypt the data at rest
    2. **User cannot use EBS encryption and has to encrypt the data manually or using a third party tool**
    3. The user has to select the encryption enabled flag while launching the EC2 instance
    4. Encryption of volume is not available as a part of the free usage tier
63. A user is planning to schedule a backup for an EBS volume. The user wants security of the snapshot data. How can the user achieve data encryption with a snapshot?
    1. **Use encrypted EBS volumes so that the snapshot will be encrypted by AWS**
    2. While creating a snapshot select the snapshot with encryption
    3. By default the snapshot is encrypted by AWS
    4. Enable server side encryption for the snapshot using S3
64. A user has launched an EBS backed EC2 instance. The user has rebooted the instance. Which of the below mentioned statements is not true with respect to the reboot action?
    1. The private and public address remains the same
    2. The Elastic IP remains associated with the instance
    3. The volume is preserved
    4. **The instance runs on a new host computer**
65. A sys admin is trying to understand EBS snapshots. Which of the below mentioned statements will not be useful to the admin to understand the concepts about a snapshot?
    1. **Snapshot is synchronous**
    2. It is recommended to stop the instance before taking a snapshot for consistent data
    3. Snapshot is incremental
    4. Snapshot captures the data that has been written to the hard disk when the snapshot command was executed
66. A user has launched an EBS backed EC2 instance. What will be the difference while performing the restart or stop/start options on that instance?
    1. **For restart it does not charge for an extra hour, while every stop/start it will be charged as a separate hour**
    2. Every restart is charged by AWS as a separate hour, while multiple start/stop actions during a single hour will be counted as a single hour
    3. For every restart or start/stop it will be charged as a separate hour
    4. For restart it charges extra only once, while for every stop/start it will be charged as a separate hour
67. A user has launched an EBS backed instance. The user started the instance at 9 AM in the morning. Between 9 AM to 10 AM, the user is testing some script. Thus, he stopped the instance twice and restarted it. In the same hour the user rebooted the instance once. For how many instance hours will AWS charge the user?
    1. **3 hours**
    2. 4 hours
    3. 2 hours
    4. 1 hour
68. When creation of an EBS snapshot is initiated but not completed, the EBS volume
    1. Cannot be detached or attached to an EC2 instance until me snapshot completes
    2. Can be used in read-only mode while me snapshot is in progress
    3. **Can be used while the snapshot Is in progress**
    4. Cannot be used until the snapshot completes
69. You are running a database on an EC2 instance, with the data stored on Elastic Block Store (EBS) for persistence At times throughout the day, you are seeing large variance in the response times of the database queries Looking into the instance with the isolate command you see a lot of wait time on the disk volume that the database’s data is stored on. What two ways can you improve the performance of the database’s storage while maintaining the current persistence of the data? Choose 2 answers
    1. Move to an SSD backed instance
    2. **Move the database to an EBS-Optimized Instance**
    3. **Use Provisioned IOPs EBS**
    4. Use the ephemeral storage on an m2.4xLarge Instance Instead
70. You have a server with a 5O0GB Amazon EBS data volume. The volume is 80% full. You need to back up the volume at regular intervals and be able to re-create the volume in a new Availability Zone in the shortest time possible. All applications using the volume can be paused for a period of a few minutes with no discernible user impact. Which of the following backup methods will best fulfill your requirements?
    1. **Take periodic snapshots of the EBS volume**
    2. Use a third-party Incremental backup application to back up to Amazon Glacier
    3. Periodically back up all data to a single compressed archive and archive to Amazon S3 using a parallelized multi-part upload
    4. Create another EBS volume in the second Availability Zone attach it to the Amazon EC2 instance, and use a disk manager to mirror me two disks
71. An organization wants to move to Cloud. They are looking for a secure encrypted database storage option. Which of the below mentioned AWS functionalities helps them to achieve this?
    1. AWS MFA with EBS
    2. **AWS EBS encryption**
    3. Multi-tier encryption with Redshift
    4. AWS S3 server-side storage
72. A user has stored data on an encrypted EBS volume. The user wants to share the data with his friend’s AWS account. How can user achieve this?
    1. Create an AMI from the volume and share the AMI
    2. **Copy the data to an unencrypted volume and then share**
    3. Take a snapshot and share the snapshot with a friend
    4. If both the accounts are using the same encryption key then the user can share the volume directly
73. You have launched an EC2 instance with four (4) 500 GB EBS Provisioned IOPS volumes attached. The EC2 Instance Is EBS-Optimized and supports 500 Mbps throughput between EC2 and EBS. The two EBS volumes are configured as a single RAID 0 device, and each Provisioned IOPS volume is provisioned with 4.000 IOPS (4000 16KB reads or writes) for a total of 16,000 random IOPS on the instance. The EC2 Instance initially delivers the expected 16,000 IOPS random read and write performance Sometime later in order to increase the total random I/O performance of the instance, you add an additional two 500 GB EBS Provisioned IOPS volumes to the RAID. Each volume Is provisioned to 4,000 lOPS like the original four for a total of 24,000 IOPS on the EC2 instance Monitoring shows that the EC2 instance CPU utilization increased from 50% to 70%, but the total random IOPS measured at the instance level does not increase at all. What is the problem and a valid solution?
    1. Larger storage volumes support higher Provisioned IOPS rates: increase the provisioned volume storage of each of the 6 EBS volumes to 1TB.
    2. **EBS-Optimized throughput limits the total IOPS that can be utilized use an EBS-Optimized instance that provides larger throughput. (**[E**C2**Instance types](http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ebs-ec2-config.html) have limit on max throughput and would 8xlarge or higher instance types to provide 24000 IOPS**)**
    3. Small block sizes cause performance degradation, limiting the I’O throughput, configure the instance device driver and file system to use 64KB blocks to increase throughput.
    4. RAID 0 only scales linearly to about 4 devices, use RAID 0 with 4 EBS Provisioned IOPS volumes but increase each Provisioned IOPS EBS volume to 6.000 IOPS.
    5. The standard EBS instance root volume limits the total IOPS rate, change the instant root volume to also be a 500GB 4,000 Provisioned IOPS volume
74. What is the minimum time Interval for the data that Amazon CloudWatch receives and aggregates?
    1. One second
    2. Five seconds
    3. **One minute**
    4. Three minutes
    5. Five minutes
75. In the ‘Detailed’ monitoring data available for your Amazon EBS volumes, Provisioned IOPS volumes automatically send \_\_\_\_\_ minute metrics to Amazon CloudWatch.
    1. 3
    2. **1**
    3. 5
    4. 2
76. Using Amazon CloudWatch’s Free Tier, what is the frequency of metric updates, which you receive?
    1. **5 minutes**
    2. 500 milliseconds.
    3. 30 seconds
    4. 1 minute
77. What is the type of monitoring data (for Amazon EBS volumes) which is available automatically in 5-minute periods at no charge called?
    1. **Basic**
    2. Primary
    3. Detailed
    4. Local
78. A user has created an Auto Scaling group using CLI. The user wants to enable CloudWatch detailed monitoring for that group. How can the user configure this?
    1. When the user sets an alarm on the Auto Scaling group, it automatically enables detail monitoring
    2. By default detailed monitoring is enabled for Auto Scaling
    3. Auto Scaling does not support detailed monitoring
    4. **Enable detail monitoring from the AWS console**
79. A user is trying to understand the detailed CloudWatch monitoring concept. Which of the below mentioned services provides detailed monitoring with CloudWatch without charging the user extra?
    1. AWS Auto Scaling
    2. **AWS Route 53**
    3. AWS EMR
    4. AWS SNS
80. A user is trying to understand the detailed CloudWatch monitoring concept. Which of the below mentioned services does not provide detailed monitoring with CloudWatch?
    1. **AWS EMR**
    2. AWS RDS
    3. AWS ELB
    4. AWS Route53
81. A user has enabled detailed CloudWatch monitoring with the AWS Simple Notification Service. Which of the below mentioned statements helps the user understand detailed monitoring better?
    1. SNS will send data every minute after configuration
    2. There is no need to enable since SNS provides data every minute
    3. AWS CloudWatch does not support monitoring for SNS
    4. **SNS cannot provide data every minute**
82. A user has configured an Auto Scaling group with ELB. The user has enabled detailed CloudWatch monitoring on Auto Scaling. Which of the below mentioned statements will help the user understand the functionality better?
    1. It is not possible to setup detailed monitoring for Auto Scaling
    2. **In this case, Auto Scaling will send data every minute and will charge the user extra**
    3. Detailed monitoring will send data every minute without additional charges
    4. Auto Scaling sends data every minute only and does not charge the user
83. Your firm has uploaded a large amount of aerial image data to S3. In the past, in your on-premises environment, you used a dedicated group of servers to oaten process this data and used Rabbit MQ, an open source messaging system, to get job information to the servers. Once processed the data would go to tape and be shipped offsite. Your manager told you to stay with the current design, and leverage AWS archival storage and messaging services to minimize cost. Which is correct?
    1. Use SQS for passing job messages, use Cloud Watch alarms to terminate EC2 worker instances when they become idle. Once data is processed, change the storage class of the S3 objects to Reduced Redundancy Storage.
    2. Setup Auto-Scaled workers triggered by queue depth that use spot instances to process messages in SQS. Once data is processed, change the storage class of the S3 objects to Reduced Redundancy Storage.
    3. **Setup Auto-Scaled workers triggered by queue depth that use spot instances to process messages in SQS. Once data is processed, change the storage class of the S3 objects to Glacier.**
    4. Use SNS to pass job messages use Cloud Watch alarms to terminate spot worker instances when they become idle. Once data is processed, change the storage class of the S3 object to Glacier.
84. You are developing a new mobile application and are considering storing user preferences in AWS, which would provide a more uniform cross-device experience to users using multiple mobile devices to access the application. The preference data for each user is estimated to be 50KB in size. Additionally 5 million customers are expected to use the application on a regular basis. The solution needs to be cost-effective, highly available, scalable and secure, how would you design a solution to meet the above requirements?
    1. Setup an RDS MySQL instance in 2 availability zones to store the user preference data. Deploy a public facing application on a server in front of the database to manage security and access credentials
    2. **Setup a DynamoDB table with an item for each user having the necessary attributes to hold the user preferences. The mobile application will query the user preferences directly from the DynamoDB table. Utilize STS. Web Identity Federation, and DynamoDB Fine Grained Access Control to authenticate and authorize access**
    3. Setup an RDS MySQL instance with multiple read replicas in 2 availability zones to store the user preference data .The mobile application will query the user preferences from the read replicas. Leverage the MySQL user management and access privilege system to manage security and access credentials.
    4. Store the user preference data in S3 Setup a DynamoDB table with an item for each user and an item attribute pointing to the user’ S3 object. The mobile application will retrieve the S3 URL from DynamoDB and then access the S3 object directly utilize STS, Web identity Federation, and S3 ACLs to authenticate and authorize access.
85. A company is building a voting system for a popular TV show, viewers would watch the performances then visit the show’s website to vote for their favorite performer. It is expected that in a short period of time after the show has finished the site will receive millions of visitors. The visitors will first login to the site using their Amazon.com credentials and then submit their vote. After the voting is completed the page will display the vote totals. The company needs to build the site such that can handle the rapid influx of traffic while maintaining good performance but also wants to keep costs to a minimum. Which of the design patterns below should they use?
    1. Use CloudFront and an Elastic Load balancer in front of an auto-scaled set of web servers, the web servers will first can the Login With Amazon service to authenticate the user then process the users vote and store the result into a multi-AZ Relational Database Service instance.
    2. Use CloudFront and the static website hosting feature of S3 with the Javascript SDK to call the Login With Amazon service to authenticate the user, use IAM Roles to gain permissions to a DynamoDB table to store the users vote.
    3. Use CloudFront and an Elastic Load Balancer in front of an auto-scaled set of web servers, the web servers will first call the Login with Amazon service to authenticate the user, the web servers will process the users vote and store the result into a DynamoDB table using IAM Roles for EC2 instances to gain permissions to the DynamoDB table.
    4. **Use CloudFront and an Elastic Load Balancer in front of an auto-scaled set of web servers, the web servers will first call the Login. With Amazon service to authenticate the user, the web servers would process the users vote and store the result into an SQS queue using IAM Roles for EC2 Instances to gain permissions to the SQS queue. A set of application servers will then retrieve the items from the queue and store the result into a DynamoDB table**
86. A large real-estate brokerage is exploring the option to adding a cost-effective location-based alert to their existing mobile application. The application backend infrastructure currently runs on AWS. Users who opt in to this service will receive alerts on their mobile device regarding real-estate offers in proximity to their location. For the alerts to be relevant delivery time needs to be in the low minute count. The existing mobile app has 5 million users across the US. Which one of the following architectural suggestions would you make to the customer?
    1. Mobile application will submit its location to a web service endpoint utilizing Elastic Load Balancing and EC2 instances. DynamoDB will be used to store and retrieve relevant offers. EC2 instances will communicate with mobile earners/device providers to push alerts back to mobile application. —
    2. Use AWS Direct Connect or VPN to establish connectivity with mobile carriers EC2 instances will receive the mobile applications location through carrier connection: RDS will be used to store and relevant offers. EC2 instances will communicate with mobile carriers to push alerts back to the mobile application
    3. **Mobile application will send device location using SQS. EC2 instances will retrieve the relevant offers from DynamoDB. AWS Mobile Push will be used to send offers to the mobile application**
    4. Mobile application will send device location using AWS Mobile Push. EC2 instances will retrieve the relevant offers from DynamoDB. EC2 instances will communicate with mobile carriers/device providers to push alerts back to the mobile application.
87. You are running a news website in the eu-west-1 region that updates every 15 minutes. The website has a worldwide audience it uses an Auto Scaling group behind an Elastic Load Balancer and an Amazon RDS database. Static content resides on Amazon S3, and is distributed through Amazon CloudFront. Your Auto Scaling group is set to trigger a scale up event at 60% CPU utilization; you use an Amazon RDS extra-large DB instance with 10.000 Provisioned IOPS its CPU utilization is around 80%. While freeable memory is in the 2 GB range. Web analytics reports show that the average load time of your web pages is around 1.5 to 2 seconds, but your SEO consultant wants to bring down the average load time to under 0.5 seconds. How would you improve page load times for your users? (Choose 3 answers)
    1. Lower the scale up trigger of your Auto Scaling group to 30% so it scales more aggressively.
    2. **Add an Amazon ElastiCache caching layer to your application for storing sessions and frequent DB queries**
    3. **Configure Amazon CloudFront dynamic content support to enable caching of re-usable content from your site**
    4. **Switch Amazon RDS database to the high memory extra-large Instance type**
    5. Set up a second installation in another region, and use the Amazon Route 53 latency-based routing feature to select the right region.
88. A read only news reporting site with a combined web and application tier and a database tier that receives large and unpredictable traffic demands must be able to respond to these traffic fluctuations automatically. What AWS services should be used meet these requirements?
    1. **Stateless instances for the web and application tier synchronized using ElastiCache Memcached in an autoscaling group monitored with CloudWatch. And RDS with read replicas.**
    2. Stateful instances for the web and application tier in an autoscaling group monitored with CloudWatch and RDS with read replicas
    3. Stateful instances for the web and application tier in an autoscaling group monitored with CloudWatch. And multi-AZ RDS
    4. Stateless instances for the web and application tier synchronized using ElastiCache Memcached in an autoscaling group monitored with CloudWatch and multi-AZ RDS
89. You have a periodic Image analysis application that gets some files as input, analyzes them and for each file writes some data in output to a ten file. The number of files in input per day is high and concentrated in a few hours of the day. Currently you have a server on EC2 with a large EBS volume that hosts the input data and the results it takes almost 20 hours per day to complete the process. What services could be used to reduce the elaboration time and improve the availability of the solution?
    1. **S3 to store I/O files. SQS to distribute elaboration commands to a group of hosts working in parallel. Auto scaling to dynamically size the group of hosts depending on the length of the SQS queue**
    2. EBS with Provisioned IOPS (PIOPS) to store I/O files. SNS to distribute elaboration commands to a group of hosts working in parallel Auto Scaling to dynamically size the group of hosts depending on the number of SNS notifications
    3. S3 to store I/O files, SNS to distribute evaporation commands to a group of hosts working in parallel. Auto scaling to dynamically size the group of hosts depending on the number of SNS notifications
    4. EBS with Provisioned IOPS (PIOPS) to store I/O files SOS to distribute elaboration commands to a group of hosts working in parallel Auto Scaling to dynamically size the group to hosts depending on the length of the SQS queue.
90. A 3-tier e-commerce web application is current deployed on-premises and will be migrated to AWS for greater scalability and elasticity The web server currently shares read-only data using a network distributed file system The app server tier uses a clustering mechanism for discovery and shared session state that depends on IP multicast The database tier uses shared-storage clustering to provide database fail over capability, and uses several read slaves for scaling. Data on all servers and the distributed file system directory is backed up weekly to off-site tapes. Which AWS storage and database architecture meets the requirements of the application?
    1. Web servers store read-only data in S3, and copy from S3 to root volume at boot time. App servers share state using a combination of DynamoDB and IP unicast. Database use RDS with multi-AZ deployment and one or more Read Replicas. Backup web and app servers backed up weekly via AMIs, database backed up via DB snapshots.
    2. **Web servers store read-only data in S3, and copy from S3 to root volume at boot time. App servers share state using a combination of DynamoDB and IP unicast. Database use RDS with multi-AZ deployment and one or more Read replicas. Backup web servers app servers, and database backed up weekly to Glacier using snapshots**
    3. Web servers store read-only data In S3 and copy from S3 to root volume at boot time. App servers share state using a combination of DynamoDB and IP unicast. Database use RDS with multi-AZ deployment Backup web and app servers backed up weekly via AMIs. Database backed up via DB snapshots
    4. Web servers, store read-only data in an EC2 NFS server, mount to each web server at boot time App servers share state using a combination of DynamoDB and IP multicast Database use RDS with multi-AZ deployment and one or more Read Replicas Backup web and app servers backed up weekly via AMIs database backed up via DB snapshots
91. Our company is getting ready to do a major public announcement of a social media site on AWS. The website is running on EC2 instances deployed across multiple Availability Zones with a Multi-AZ RDS MySQL Extra Large DB Instance. The site performs a high number of small reads and writes per second and relies on an eventual consistency model. After comprehensive tests you discover that there is read contention on RDS MySQL. Which are the best approaches to meet these requirements? (Choose 2 answers)
    1. **Deploy ElasticCache in-memory cache running in each availability zone**
    2. Implement sharding to distribute load to multiple RDS MySQL instances (Would distributed read write both, focus is on read contention)
    3. Increase the RDS MySQL Instance size and Implement provisioned IOPS (Would distributed read write both, focus is on read contention)
    4. **Add an RDS MySQL read replica in each availability zone**
92. Run 2-tier app with the following: an ELB, three web app server on EC2, and 1 MySQL RDS db. With grown load, db queries take longer and longer and slow down the overall response time for user request. What Options could speed up performance? (Choose 3)
    1. **Create an RDS read-replica and redirect half of the database read request to it**
    2. **Cache database queries in amazon ElastiCache**
    3. Setup RDS in multi-availability zone mode.
    4. **Shard the database and distribute loads between shards.**
    5. Use amazon CloudFront to cache database queries.

You are working with a customer who has 10 TB of archival data that they want to migrate to Amazon Glacier. The customer has a 1-Mbps connection to the Internet. Which service or feature provides the fastest method of getting the data into Amazon Glacier?

1. Amazon Glacier multipart upload
2. AWS Storage Gateway
3. VM Import/Export
4. **AWS Import/Export**
5. Which of the following are use cases for Amazon DynamoDB? Choose 3 answers
   1. Storing BLOB data.
   2. **Managing web sessions**
   3. **Storing JSON documents**
   4. **Storing metadata for Amazon S3 objects**
   5. Running relational joins and complex updates.
   6. Storing large amounts of infrequently accessed data.
6. A client application requires operating system privileges on a relational database server. What is an appropriate configuration for highly available database architecture?
   1. A standalone Amazon EC2 instance
   2. Amazon RDS in a Multi-AZ configuration
   3. Amazon EC2 instances in a replication configuration utilizing a single Availability Zone
   4. **Amazon EC2 instances in a replication configuration utilizing two different Availability Zones**
7. You are developing a new mobile application and are considering storing user preferences in AWS, which would provide a more uniform cross-device experience to users using multiple mobile devices to access the application. The preference data for each user is estimated to be 50KB in size. Additionally 5 million customers are expected to use the application on a regular basis. The solution needs to be cost-effective, highly available, scalable and secure, how would you design a solution to meet the above requirements?
   1. Setup an RDS MySQL instance in 2 availability zones to store the user preference data. Deploy a public facing application on a server in front of the database to manage security and access credentials
   2. **Setup a DynamoDB table with an item for each user having the necessary attributes to hold the user preferences. The mobile application will query the user preferences directly from the DynamoDB table. Utilize STS. Web Identity Federation, and DynamoDB Fine Grained Access Control to authenticate and authorize access**(DynamoDB provides high availability as it synchronously replicates data across three facilities within an AWS Region and scalability as it is designed to scale its provisioned throughput up or down while still remaining available. Also suitable for storing user preference data)
   3. Setup an RDS MySQL instance with multiple read replicas in 2 availability zones to store the user preference data .The mobile application will query the user preferences from the read replicas. Leverage the MySQL user management and access privilege system to manage security and access credentials.
   4. Store the user preference data in S3 Setup a DynamoDB table with an item for each user and an item attribute pointing to the user’ S3 object. The mobile application will retrieve the S3 URL from DynamoDB and then access the S3 object directly utilize STS, Web identity Federation, and S3 ACLs to authenticate and authorize access.
8. A media company produces new video files on-premises every day with a total size of around 100GB after compression. All files have a size of 1-2 GB and need to be uploaded to Amazon S3 every night in a fixed time window between 3am and 5am. Current upload takes almost 3 hours, although less than half of the available bandwidth is used. What step(s) would ensure that the file uploads are able to complete in the allotted time window?
   1. Increase your network bandwidth to provide faster throughput to S3
   2. **Upload the files in parallel to S3 using multipart upload**
   3. Pack all files into a single archive, upload it to S3, then extract the files in AWS
   4. Use AWS Import/Export to transfer the video files
9. You are designing a web application that stores static assets in an Amazon Simple Storage Service (S3) bucket. You expect this bucket to immediately receive over 150 PUT requests per second. What should you do to ensure optimal performance?
   1. Use multi-part upload.
   2. **Add a random prefix to the key names.**
   3. Amazon S3 will automatically manage performance at this scale.
   4. Use a predictable naming scheme, such as sequential numbers or date time sequences, in the key names
10. You have an application running on an Amazon Elastic Compute Cloud instance, that uploads 5 GB video objects to Amazon Simple Storage Service (S3). Video uploads are taking longer than expected, resulting in poor application performance. Which method will help improve performance of your application?
    1. Enable enhanced networking
    2. **Use Amazon S3 multipart upload**
    3. Leveraging Amazon CloudFront, use the HTTP POST method to reduce latency.
    4. Use Amazon Elastic Block Store Provisioned IOPs and use an Amazon EBS-optimized instance
11. An organization has established an Internet-based VPN connection between their on-premises data center and AWS. They are considering migrating from VPN to AWS Direct Connect. Which operational concern should drive an organization to consider switching from an Internet-based VPN connection to AWS Direct Connect?
    1. AWS Direct Connect provides greater redundancy than an Internet-based VPN connection.
    2. AWS Direct Connect provides greater resiliency than an Internet-based VPN connection.
    3. **AWS Direct Connect provides greater bandwidth than an Internet-based VPN connection.**
    4. AWS Direct Connect provides greater control of network provider selection than an Internet-based VPN connection.
12. You are building a solution for a customer to extend their on-premises data center to AWS. The customer requires a 50-Mbps dedicated and private connection to their VPC. Which AWS product or feature satisfies this requirement?
    1. Amazon VPC peering
    2. Elastic IP Addresses
    3. **AWS Direct Connect**
    4. Amazon VPC virtual private gateway
13. Does AWS Direct Connect allow you access to all Availabilities Zones within a Region?
    1. Depends on the type of connection
    2. No
    3. **Yes**
    4. Only when there’s just one availability zone in a region. If there are more than one, only one availability zone can be accessed directly.
14. Is there any way to own a direct connection to Amazon Web Services?
    1. You can create an encrypted tunnel to VPC, but you don’t own the connection.
    2. Yes, it’s called Amazon Dedicated Connection.
    3. No, AWS only allows access from the public Internet.
    4. **Yes, it’s called Direct Connect**
15. A customer has established an AWS Direct Connect connection to AWS. The link is up and routes are being advertised from the customer’s end, however the customer is unable to connect from EC2 instances inside its VPC to servers residing in its datacenter. Which of the following options provide a viable solution to remedy this situation? (Choose 2 answers)
    1. Add a route to the route table with an iPsec VPN connection as the target (deals with VPN)
    2. **Enable route propagation to the Virtual Private Gateway (VGW)**
    3. Enable route propagation to the customer gateway (CGW) (route propagation is enabled on VGW)
    4. Modify the route table of all Instances using the ‘route’ command. (no route command available)
    5. **Modify the Instances VPC subnet route table by adding a route back to the customer’s on-premises environment.**
16. Your company previously configured a heavily used, dynamically routed VPN connection between your on premises data center and AWS. You recently provisioned a Direct Connect connection and would like to start using the new connection. After configuring Direct Connect settings in the AWS Console, which of the following options will provide the most seamless transition for your users?
    1. Delete your existing VPN connection to avoid routing loops configure your Direct Connect router with the appropriate settings and verity network traffic is leveraging Direct Connect.
    2. Configure your Direct Connect router with a higher BGP priority than your VPN router, verify network traffic is leveraging Direct Connect and then delete your existing VPN connection.
    3. **Update your VPC route tables to point to the Direct Connect connection configure your Direct Connect router with the appropriate settings verify network traffic is leveraging Direct Connect and then delete the VPN connection.**
    4. Configure your Direct Connect router, update your VPC route tables to point to the Direct Connect connection, configure your VPN connection with a higher BGP priority. And verify network traffic is leveraging the Direct Connect connection
17. You are designing the network infrastructure for an application server in Amazon VPC. Users will access all the application instances from the Internet as well as from an on-premises network The on-premises network is connected to your VPC over an AWS Direct Connect link. How would you design routing to meet the above requirements?
    1. **Configure a single routing Table with a default route via the Internet gateway Propagate a default route via BGP on the AWS Direct Connect customer router Associate the routing table with all VPC subnets**
    2. Configure a single routing table with a default route via the internet gateway Propagate specific routes for the on-premises networks via BGP on the AWS Direct Connect customer router Associate the routing table with all VPC subnets.
    3. Configure a single routing table with two default routes: one to the internet via an Internet gateway the other to the on-premises network via the VPN gateway use this routing table across all subnets in your VPC.
    4. Configure two routing tables one that has a default route via the Internet gateway and another that has a default route via the VPN gateway Associate both routing tables with each VPC subnet.
18. You are implementing AWS Direct Connect. You intend to use AWS public service end points such as Amazon S3, across the AWS Direct Connect link. You want other Internet traffic to use your existing link to an Internet Service Provider. What is the correct way to configure AWS Direct Connect for access to services such as Amazon S3?
    1. Configure a public Interface on your AWS Direct Connect link Configure a static route via your AWS Direct Connect link that points to Amazon S3 Advertise a default route to AWS using BGP.
    2. Create a private interface on your AWS Direct Connect link. Configure a static route via your AWS Direct connect link that points to Amazon S3 Configure specific routes to your network in your VPC.
    3. **Create a public interface on your AWS Direct Connect link Redistribute BGP routes into your existing routing infrastructure advertise specific routes for your network to AWS**
    4. Create a private interface on your AWS Direct connect link. Redistribute BGP routes into your existing routing infrastructure and advertise a default route to AWS.
19. A user has launched an RDS MySQL DB with the Multi AZ feature. The user has scheduled the scaling of instance storage during maintenance window. What is the correct order of events during maintenance window? 1. Perform maintenance on standby 2. Promote standby to primary 3. Perform maintenance on original primary 4. Promote original master back as primary
    1. 1, 2, 3, 4
    2. **1, 2, 3**
    3. 2, 3, 4, 1
20. Can I control if and when MySQL based RDS Instance is upgraded to new supported versions?
    1. No
    2. Only in VPC
    3. **Yes**
21. A user has scheduled the maintenance window of an RDS DB on Monday at 3 AM. Which of the below mentioned events may force to take the DB instance offline during the maintenance window?
    1. Enabling Read Replica
    2. Making the DB Multi AZ
    3. DB password change
    4. **Security patching**
22. A user has launched an RDS postgreSQL DB with AWS. The user did not specify the maintenance window during creation. The user has configured RDS to update the DB instance type from micro to large. If the user wants to have it during the maintenance window, what will AWS do?
    1. AWS will not allow to update the DB until the maintenance window is configured
    2. **AWS will select the default maintenance window if the user has not provided it**
    3. AWS will ask the user to specify the maintenance window during the update
    4. It is not possible to change the DB size from micro to large with RDS
23. Can I test my DB Instance against a new version before upgrading?
    1. No
    2. **Yes**
    3. Only in VPC
24. When should I choose Provisioned IOPS over Standard RDS storage?
    1. If you have batch-oriented workloads
    2. **If you use production online transaction processing (OLTP) workloads**
    3. If you have workloads that are not sensitive to consistent performance
25. Is decreasing the storage size of a DB Instance permitted?
    1. Depends on the RDMS used
    2. Yes
    3. **No**
26. Because of the extensibility limitations of striped storage attached to Windows Server, Amazon RDS does not currently support increasing storage on a \_\_\_\_\_ DB Instance.
    1. **SQL Server**
    2. MySQL
    3. Oracle
27. If I want to run a database in an Amazon instance, which is the most recommended Amazon storage option?
    1. Amazon Instance Storage
    2. **Amazon EBS**
    3. You can’t run a database inside an Amazon instance.
    4. Amazon S3
28. For each DB Instance class, what is the maximum size of associated storage capacity?
    1. 1TB
    2. 2TB
    3. 500GB
    4. **6TB (Except SQL Server which is currently 4TB)**
29. A user has launched an EC2 instance. The instance got terminated as soon as it was launched. Which of the below mentioned options is not a possible reason for this?
    1. **The user account has reached the maximum EC2 instance limit**
    2. The snapshot is corrupt
    3. The AMI is missing. It is the required part
    4. The user account has reached the maximum volume limit
30. If you’re unable to connect via SSH to your EC2 instance, which of the following should you check and possibly correct to restore connectivity?
    1. Adjust Security Group to permit egress traffic over TCP port 443 from your IP.
    2. Configure the IAM role to permit changes to security group settings.
    3. Modify the instance security group to allow ingress of ICMP packets from your IP.
    4. **Adjust the instance’s Security Group to permit ingress traffic over port 22 from your IP**
    5. Apply the most recently released Operating System security patches.
31. You try to connect via SSH to a newly created Amazon EC2 instance and get one of the following error messages: “Network error: Connection timed out” or “Error connecting to [instance], reason: -> Connection timed out: connect,” You have confirmed that the network and security group rules are configured correctly and the instance is passing status checks. What steps should you take to identify the source of the behavior? Choose 2 answers
    1. **Verify that the private key file corresponds to the Amazon EC2 key pair assigned at launch.**
    2. Verify that your IAM user policy has permission to launch Amazon EC2 instances.
    3. **Verify that you are connecting with the appropriate user name for your AMI.**
    4. Verify that the Amazon EC2 Instance was launched with the proper IAM role.
    5. Verify that your federation trust to AWS has been established.
32. A user has launched an EBS backed EC2 instance in the us-east-1a region. The user stopped the instance and started it back after 20 days. AWS throws up an ‘Insufficient Instance Capacity’ error. What can be the possible reason for this?
    1. **AWS does not have sufficient capacity in that availability zone**
    2. AWS zone mapping is changed for that user account
    3. There is some issue with the host capacity on which the instance is launched
    4. The user account has reached the maximum EC2 instance limit
33. A user is trying to connect to a running EC2 instance using SSH. However, the user gets an Unprotected Private Key File error. Which of the below mentioned options can be a possible reason for rejection?
    1. **The private key file has the wrong file permission**
    2. The ppk file used for SSH is read only
    3. The public key file has the wrong permission
    4. The user has provided the wrong user name for the OS login
34. A user has launched an EC2 instance. However, due to some reason the instance was terminated. If the user wants to find out the reason for termination, where can he find the details?
    1. It is not possible to find the details after the instance is terminated
    2. **The user can get information from the AWS console, by checking the Instance description under the State transition reason label**
    3. The user can get information from the AWS console, by checking the Instance description under the Instance Status Change reason label
    4. The user can get information from the AWS console, by checking the Instance description under the Instance Termination reason label
35. You have a Linux EC2 web server instance running inside a VPC. The instance is in a public subnet and has an EIP associated with it so you can connect to it over the Internet via HTTP or SSH. The instance was also fully accessible when you last logged in via SSH and was also serving web requests on port 80. Now you are not able to SSH into the host nor does it respond to web requests on port 80, that were working fine last time you checked. You have double-checked that all networking configuration parameters (security groups route tables, IGW, EIP. NACLs etc.) are properly configured and you haven’t made any changes to those anyway since you were last able to reach the Instance). You look at the EC2 console and notice that system status check shows “impaired.” Which should be your next step in troubleshooting and attempting to get the instance back to a healthy state so that you can log in again?
    1. **Stop and start the instance so that it will be able to be redeployed on a healthy host system that most likely will fix the “impaired” system status (**for system status check impaired status you need Stop Start for EBS and terminate and relaunch for Instance store**)**
    2. Reboot your instance so that the operating system will have a chance to boot in a clean healthy state that most likely will fix the ‘impaired” system status
    3. Add another dynamic private IP address to me instance and try to connect via that new path, since the networking stack of the OS may be locked up causing the “impaired” system status.
    4. Add another Elastic Network Interface to the instance and try to connect via that new path since the networking stack of the OS may be locked up causing the “impaired” system status
    5. un-map and then re-map the EIP to the instance, since the IGW/NAT gateway may not be working properly, causing the “impaired” system status
36. A user is trying to connect to a running EC2 instance using SSH. However, the user gets a connection time out error. Which of the below mentioned options is not a possible reason for rejection?
    1. **The access key to connect to the instance is wrong**
    2. The security group is not configured properly
    3. The private key used to launch the instance is not correct
    4. The instance CPU is heavily loaded
37. A user is trying to connect to a running EC2 instance using SSH. However, the user gets a Host key not found error. Which of the below mentioned options is a possible reason for rejection?
    1. **The user has provided the wrong user name for the OS login**
    2. The instance CPU is heavily loaded
    3. The security group is not configured properly
    4. The access key to connect to the instance is wrong
38. You are running a successful multi-tier web application on AWS and your marketing department has asked you to add a reporting tier to the application. The reporting tier will aggregate and publish status reports every 30 minutes from user-generated information that is being stored in your web applications database. You are currently running a Multi-AZ RDS MySQL instance for the database tier. You also have implemented ElastiCache as a database caching layer between the application tier and database tier. Please select the answer that will allow you to successfully implement the reporting tier with as little impact as possible to your database.
    1. Continually send transaction logs from your master database to an S3 bucket and generate the reports off the S3 bucket using S3 byte range requests.
    2. Generate the reports by querying the synchronously replicated standby RDS MySQL instance maintained through Multi-AZ (Standby instance cannot be used as a scaling solution)
    3. **Launch a RDS Read Replica connected to your Multi AZ master database and generate reports by querying the Read Replica.**
    4. Generate the reports by querying the ElastiCache database caching tier. (ElasticCache does not maintain full data and is simply a chaching solution)
39. A company is deploying a new two-tier web application in AWS. The company has limited staff and requires high availability, and the application requires complex queries and table joins. Which configuration provides the solution for the company’s requirements?
    1. MySQL Installed on two Amazon EC2 Instances in a single Availability Zone (does not provide High Availaility out of the box)
    2. **Amazon RDS for MySQL with Multi-AZ**
    3. Amazon ElastiCache (Just a caching solution)
    4. Amazon DynamoDB (Not suitable for complex queries and joins)
40. Your company is getting ready to do a major public announcement of a social media site on AWS. The website is running on EC2 instances deployed across multiple Availability Zones with a Multi-AZ RDS MySQL Extra Large DB Instance. The site performs a high number of small reads and writes per second and relies on an eventual consistency model. After comprehensive tests you discover that there is read contention on RDS MySQL. Which are the best approaches to meet these requirements? (Choose 2 answers)
    1. **Deploy ElasticCache in-memory cache running in each availability zone**
    2. Implement sharding to distribute load to multiple RDS MySQL instances (this is only a read contention, the writes work fine)
    3. Increase the RDS MySQL Instance size and Implement provisioned IOPS (this is only a read contention, the writes work fine)
    4. **Add an RDS MySQL read replica in each availability zone**
41. Your company has HQ in Tokyo and branch offices all over the world and is using logistics software with a multi-regional deployment on AWS in Japan, Europe and US .The logistic software has a 3-tier architecture and currently uses MySQL 5.6 for data persistence. Each region has deployed its own database. In the HQ region you run an hourly batch process reading data from every region to compute cross-regional reports that are sent by email to all offices this batch process must be completed as fast as possible to quickly optimize logistics how do you build the database architecture in order to meet the requirements?
    1. **For each regional deployment, use RDS MySQL with a master in the region and a read replica in the HQ region**
    2. For each regional deployment, use MySQL on EC2 with a master in the region and send hourly EBS snapshots to the HQ region
    3. For each regional deployment, use RDS MySQL with a master in the region and send hourly RDS snapshots to the HQ region
    4. For each regional deployment, use MySQL on EC2 with a master in the region and use S3 to copy data files hourly to the HQ region
    5. Use Direct Connect to connect all regional MySQL deployments to the HQ region and reduce network latency for the batch process
42. What would happen to an RDS (Relational Database Service) multi-Availability Zone deployment if the primary DB instance fails?
    1. The IP of the primary DB Instance is switched to the standby DB Instance.
    2. A new DB instance is created in the standby availability zone.
    3. **The canonical name record (CNAME) is changed from primary to standby.**
    4. The RDS (Relational Database Service) DB instance reboots.
43. Your business is building a new application that will store its entire customer database on a RDS MySQL database, and will have various applications and users that will query that data for different purposes. Large analytics jobs on the database are likely to cause other applications to not be able to get the query results they need to, before time out. Also, as your data grows, these analytics jobs will start to take more time, increasing the negative effect on the other applications. How do you solve the contention issues between these different workloads on the same data?
    1. Enable Multi-AZ mode on the RDS instance
    2. Use ElastiCache to offload the analytics job data
    3. **Create RDS Read-Replicas for the analytics work**
    4. Run the RDS instance on the largest size possible
44. Will my standby RDS instance be in the same Availability Zone as my primary?
    1. Only for Oracle RDS types
    2. Yes
    3. Only if configured at launch
    4. **No**
45. Is creating a Read Replica of another Read Replica supported?
    1. Only in certain regions
    2. **Only with MySQL based RDS**
    3. Only for Oracle RDS types
    4. No
46. A user is planning to set up the Multi AZ feature of RDS. Which of the below mentioned conditions won’t take advantage of the Multi AZ feature?
    1. Availability zone outage
    2. A manual failover of the DB instance using Reboot with failover option
    3. **Region outage**
    4. When the user changes the DB instance’s server type
47. When you run a DB Instance as a Multi-AZ deployment, the “\_\_\_\_\_” serves database writes and reads
    1. secondary
    2. backup
    3. stand by
    4. **primary**
48. When running my DB Instance as a Multi-AZ deployment, can I use the standby for read or write operations?
    1. Yes
    2. Only with MSSQL based RDS
    3. Only for Oracle RDS instances
    4. **No**
49. Read Replicas require a transactional storage engine and are only supported for the \_\_\_\_\_\_\_\_\_ storage engine
    1. OracleISAM
    2. MSSQLDB
    3. **InnoDB**
    4. MyISAM
50. A user is configuring the Multi AZ feature of an RDS DB. The user came to know that this RDS DB does not use the AWS technology, but uses server mirroring to achieve replication. Which DB is the user using right now?
    1. My SQL
    2. Oracle
    3. **MS SQL**
    4. PostgreSQL
51. If I have multiple Read Replicas for my master DB Instance and I promote one of them, what happens to the rest of the Read Replicas?
    1. **The remaining Read Replicas will still replicate from the older master DB Instance**
    2. The remaining Read Replicas will be deleted
    3. The remaining Read Replicas will be combined to one read replica
52. If you have chosen Multi-AZ deployment, in the event of a planned or unplanned outage of your primary DB Instance, Amazon RDS automatically switches to the standby replica. The automatic failover mechanism simply changes the \_\_\_\_\_\_ record of the main DB Instance to point to the standby DB Instance.
    1. DNAME
    2. **CNAME**
    3. TXT
    4. MX
53. When automatic failover occurs, Amazon RDS will emit a DB Instance event to inform you that automatic failover occurred. You can use the \_\_\_\_\_ to return information about events related to your DB Instance
    1. FetchFailure
    2. DescriveFailure
    3. **DescribeEvents**
    4. FetchEvents
54. The new DB Instance that is created when you promote a Read Replica retains the backup window period.
    1. **TRUE**
    2. FALSE
55. Will I be alerted when automatic failover occurs?
    1. **Only if SNS configured**
    2. No
    3. Yes
    4. Only if Cloudwatch configured
56. Can I initiate a “forced failover” for my MySQL Multi-AZ DB Instance deployment?
    1. Only in certain regions
    2. Only in VPC
    3. **Yes**
    4. No
57. A user is accessing RDS from an application. The user has enabled the Multi AZ feature with the MS SQL RDS DB. During a planned outage how will AWS ensure that a switch from DB to a standby replica will not affect access to the application?
    1. RDS will have an internal IP which will redirect all requests to the new DB
    2. **RDS uses DNS to switch over to standby replica for seamless transition**
    3. The switch over changes Hardware so RDS does not need to worry about access
    4. RDS will have both the DBs running independently and the user has to manually switch over
58. Which of the following is part of the failover process for a Multi-Availability Zone Amazon Relational Database Service (RDS) instance?
    1. The failed RDS DB instance reboots.
    2. The IP of the primary DB instance is switched to the standby DB instance.
    3. **The DNS record for the RDS endpoint is changed from primary to standby.**
    4. A new DB instance is created in the standby availability zone.
59. A company is building a two-tier web application to serve dynamic transaction-based content. The data tier is leveraging an Online Transactional Processing (OLTP) database. What services should you leverage to enable an elastic and scalable web tier?
    1. **Elastic Load Balancing, Amazon EC2, and Auto Scaling**
    2. Elastic Load Balancing, Amazon RDS with Multi-AZ, and Amazon S3
    3. Amazon RDS with Multi-AZ and Auto Scaling
    4. Amazon EC2, Amazon DynamoDB, and Amazon S3
60. A user has configured ELB with Auto Scaling. The user suspended the Auto Scaling AddToLoadBalancer, which adds instances to the load balancer. process for a while. What will happen to the instances launched during the suspension period?
    1. **The instances will not be registered with ELB and the user has to manually register when the process is resumed**
    2. The instances will be registered with ELB only once the process has resumed
    3. Auto Scaling will not launch the instance during this period due to process suspension
    4. It is not possible to suspend only the AddToLoadBalancer process
61. You have an Auto Scaling group associated with an Elastic Load Balancer (ELB). You have noticed that instances launched via the Auto Scaling group are being marked unhealthy due to an ELB health check, but these unhealthy instances are not being terminated. What do you need to do to ensure trial instances marked unhealthy by the ELB will be terminated and replaced?
    1. Change the thresholds set on the Auto Scaling group health check
    2. **Add an Elastic Load Balancing health check to your Auto Scaling group**
    3. Increase the value for the Health check interval set on the Elastic Load Balancer
    4. Change the health check set on the Elastic Load Balancer to use TCP rather than HTTP checks
62. You have in total 5 offices, and the entire employee related information is stored under AWS VPC instances. Now all the offices want to connect the instances in VPC using VPN. Which of the below help you to implement this?
    1. you can have redundant customer gateways between your data center and your VPC
    2. you can have multiple locations connected to the AWS VPN CloudHub
    3. You have to define 5 different static IP addresses in route table.
    4. **1 and 2**
    5. 1,2 and 3
63. You have in total 15 offices, and the entire employee related information is stored under AWS VPC instances. Now all the offices want to connect the instances in VPC using VPN. What problem do you see in this scenario?
    1. You can not create more than 1 VPN connections with single VPC (Can be created)
    2. You can not create more than 10 VPN connections with single VPC (soft limit can be extended)
    3. When you create multiple VPN connections, the virtual private gateway can not sends network traffic to the appropriate VPN connection using statically assigned routes. (Can route the traffic to correct connection)
    4. Statically assigned routes cannot be configured in case of more than 1 VPN with virtual private gateway. (can be configured)
    5. **None of above**
64. Your company Is moving towards tracking web page users with a small tracking Image loaded on each page Currently you are serving this image out of US-East, but are starting to get concerned about the time It takes to load the image for users on the west coast. What are the two best ways to speed up serving this image? Choose 2 answers
    1. **Use Route 53’s Latency Based Routing and serve the image out of US-West-2 as well as US-East-1**
    2. **Serve the image out through CloudFront**
    3. Serve the image out of S3 so that it isn’t being served oft of your web application tier
    4. Use EBS PIOPs to serve the image faster out of your EC2 instances
65. You deployed your company website using Elastic Beanstalk and you enabled log file rotation to S3. An Elastic Map Reduce job is periodically analyzing the logs on S3 to build a usage dashboard that you share with your CIO. You recently improved overall performance of the website using Cloud Front for dynamic content delivery and your website as the origin. After this architectural change, the usage dashboard shows that the traffic on your website dropped by an order of magnitude. How do you fix your usage dashboard’?
    1. **Enable CloudFront to deliver access logs to S3 and use them as input of the Elastic Map Reduce job**
    2. Turn on Cloud Trail and use trail log tiles on S3 as input of the Elastic Map Reduce job
    3. Change your log collection process to use Cloud Watch ELB metrics as input of the Elastic Map Reduce job
    4. Use Elastic Beanstalk “Rebuild Environment” option to update log delivery to the Elastic Map Reduce job.
    5. Use Elastic Beanstalk ‘Restart App server(s)” option to update log delivery to the Elastic Map Reduce job.
66. An AWS customer runs a public blogging website. The site users upload two million blog entries a month. The average blog entry size is 200 KB. The access rate to blog entries drops to negligible 6 months after publication and users rarely access a blog entry 1 year after publication. Additionally, blog entries have a high update rate during the first 3 months following publication; this drops to no updates after 6 months. The customer wants to use CloudFront to improve his user’s load times. Which of the following recommendations would you make to the customer?
    1. Duplicate entries into two different buckets and create two separate CloudFront distributions where S3 access is restricted only to Cloud Front identity
    2. Create a CloudFront distribution with “US & Europe” price class for US/Europe users and a different CloudFront distribution with All Edge Locations for the remaining users.
    3. **Create a CloudFront distribution with S3 access restricted only to the CloudFront identity and partition the blog entry’s location in S3 according to the month it was uploaded to be used with CloudFront behaviors**
    4. Create a CloudFront distribution with Restrict Viewer Access Forward Query string set to true and minimum TTL of 0.
67. Your company has on-premises multi-tier PHP web application, which recently experienced downtime due to a large burst in web traffic due to a company announcement. Over the coming days, you are expecting similar announcements to drive similar unpredictable bursts, and are looking to find ways to quickly improve your infrastructures ability to handle unexpected increases in traffic. The application currently consists of 2 tiers a web tier, which consists of a load balancer, and several Linux Apache web servers as well as a database tier which hosts a Linux server hosting a MySQL database. Which scenario below will provide full site functionality, while helping to improve the ability of your application in the short timeframe required?
    1. **Offload traffic from on-premises environment Setup a CloudFront distribution and configure CloudFront to cache objects from a custom origin Choose to customize your object cache behavior, and select a TTL that objects should exist in cache.**
    2. Migrate to AWS Use VM Import/Export to quickly convert an on-premises web server to an AMI create an Auto Scaling group, which uses the imported AMI to scale the web tier based on incoming traffic Create an RDS read replica and setup replication between the RDS instance and on-premises MySQL server to migrate the database.
    3. Failover environment: Create an S3 bucket and configure it tor website hosting Migrate your DNS to Route53 using zone (lie import and leverage Route53 DNS failover to failover to the S3 hosted website.
    4. Hybrid environment Create an AMI which can be used of launch web serfers in EC2 Create an Auto Scaling group which uses the \* AMI to scale the web tier based on incoming traffic Leverage Elastic Load Balancing to balance traffic between on-premises web servers and those hosted in AWS.
68. You are building a system to distribute confidential training videos to employees. Using CloudFront, what method could be used to serve content that is stored in S3, but not publically accessible from S3 directly?
    1. **Create an Origin Access Identity (OAI) for CloudFront and grant access to the objects in your S3 bucket to that OAI.**
    2. Add the CloudFront account security group “amazon-cf/amazon-cf-sg” to the appropriate S3 bucket policy.
    3. Create an Identity and Access Management (IAM) User for CloudFront and grant access to the objects in your S3 bucket to that IAM User.
    4. Create a S3 bucket policy that lists the CloudFront distribution ID as the Principal and the target bucket as the Amazon Resource Name (ARN).
69. You currently operate a web application In the AWS US-East region. The application runs on an auto-scaled layer of EC2 instances and an RDS Multi-AZ database. Your IT security compliance officer has tasked you to develop a reliable and durable logging solution to track changes made to your EC2, IAM and RDS resources. The solution must ensure the integrity and confidentiality of your log data. Which of these solutions would you recommend?
    1. **Create a new CloudTrail trail with one new S3 bucket to store the logs and with the global services option selected. Use IAM roles, S3 bucket policies and Multi Factor Authentication (MFA) Delete on the S3 bucket that stores your logs. (**Single New bucket with global services option for IAM and MFA delete for confidentiality**)**
    2. Create a new CloudTrail with one new S3 bucket to store the logs. Configure SNS to send log file delivery notifications to your management system. Use IAM roles and S3 bucket policies on the S3 bucket that stores your logs. (Missing Global Services for IAM)
    3. Create a new CloudTrail trail with an existing S3 bucket to store the logs and with the global services option selected Use S3 ACLs and Multi Factor Authentication (MFA) Delete on the S3 bucket that stores your logs. (Existing bucket prevents confidentiality)
    4. Create three new CloudTrail trails with three new S3 buckets to store the logs one for the AWS Management console, one for AWS SDKs and one for command line tools. Use IAM roles and S3 bucket policies on the S3 buckets that store your logs (3 buckets not needed, Missing Global services options)
70. Which of the following are true regarding AWS CloudTrail? Choose 3 answers
    1. **CloudTrail is enabled globally** (it can be enabled for all regions and also per region basis)
    2. CloudTrail is enabled by default (is not enabled by default)
    3. **CloudTrail is enabled on a per-region basis** (it can be enabled for all regions and also per region basis)
    4. CloudTrail is enabled on a per-service basis (once enabled it is applicable for all the supported services, service can’t be selected)
    5. **Logs can be delivered to a single Amazon S3 bucket for aggregation**
    6. CloudTrail is enabled for all available services within a region. (is enabled only for CloudTrail supported services)
    7. Logs can only be processed and delivered to the region in which they are generated. (can be logged to bucket is any region)
71. An organization has configured the custom metric upload with CloudWatch. The organization has given permission to its employees to upload data using CLI as well SDK. How can the user track the calls made to CloudWatch?
    1. The user can enable logging with CloudWatch which logs all the activities
    2. **Use CloudTrail to monitor the API calls**
    3. Create an IAM user and allow each user to log the data using the S3 bucket
    4. Enable detailed monitoring with CloudWatch
72. A user is trying to understand the CloudWatch metrics for the AWS services. It is required that the user should first understand the namespace for the AWS services. Which of the below mentioned is not a valid namespace for the AWS services?
    1. AWS/StorageGateway
    2. **AWS/CloudTrail (**[CloudWatch supported namespaces](http://docs.aws.amazon.com/AmazonCloudWatch/latest/DeveloperGuide/aws-namespaces.html)**)**
    3. AWS/ElastiCache
    4. AWS/SWF
73. Fill in the blanks: \_\_\_\_\_\_\_\_\_ let you categorize your EC2 resources in different ways, for example, by purpose, owner, or environment.
    1. Wildcards
    2. Pointers
    3. **Tags**
    4. Special filters
74. Please select the Amazon EC2 resource, which can be tagged.
    1. Key pairs
    2. Elastic IP addresses
    3. Placement groups
    4. **Amazon EBS snapshots**
75. Can the string value of ‘Key’ be prefixed with aws:?
    1. **No**
    2. Only for EC2 not S3
    3. Yes
    4. Only for S3 not EC
76. What is the maximum key length of a tag?
    1. 512 Unicode characters
    2. 64 Unicode characters
    3. 256 Unicode characters
    4. **128 Unicode characters**
77. An organization has launched 5 instances: 2 for production and 3 for testing. The organization wants that one particular group of IAM users should only access the test instances and not the production ones. How can the organization set that as a part of the policy?
    1. Launch the test and production instances in separate regions and allow region wise access to the group
    2. Define the IAM policy which allows access based on the instance ID
    3. Create an IAM policy with a condition which allows access to only small instances
    4. **Define the tags on the test and production servers and add a condition to the IAM policy which allows access to specific tags**
78. A user has launched multiple EC2 instances for the purpose of development and testing in the same region. The user wants to find the separate cost for the production and development instances. How can the user find the cost distribution?
    1. The user should download the activity report of the EC2 services as it has the instance ID wise data
    2. It is not possible to get the AWS cost usage data of single region instances separately
    3. User should use Cost Distribution Metadata and AWS detailed billing
    4. **User should use Cost Allocation Tags and AWS billing reports**
79. An organization is using cost allocation tags to find the cost distribution of different departments and projects. One of the instances has two separate tags with the key/ value as “InstanceName/HR”, “CostCenter/HR”. What will AWS do in this case?
    1. InstanceName is a reserved tag for AWS. Thus, AWS will not allow this tag
    2. AWS will not allow the tags as the value is the same for different keys
    3. AWS will allow tags but will not show correctly in the cost allocation report due to the same value of the two separate keys
    4. **AWS will allow both the tags and show properly in the cost distribution report**
80. A user is launching an instance. He is on the “Tag the instance” screen. Which of the below mentioned information will not help the user understand the functionality of an AWS tag?
    1. Each tag will have a key and value
    2. The user can apply tags to the S3 bucket
    3. **The maximum value of the tag key length is 64 unicode characters**
    4. AWS tags are used to find the cost distribution of various resources
81. Your system recently experienced down time during the troubleshooting process. You found that a new administrator mistakenly terminated several production EC2 instances. Which of the following strategies will help prevent a similar situation in the future? The administrator still must be able to:- launch, start stop, and terminate development resources. – launch and start production instances.
    1. Create an IAM user, which is not allowed to terminate instances by leveraging production EC2 termination protection. (EC2 termination protection is enabled on EC2 instance)
    2. **Leverage resource based tagging along with an IAM user, which can prevent specific users from terminating production EC2 resources.**
    3. Leverage EC2 termination protection and multi-factor authentication, which together require users to authenticate before terminating EC2 instances. (Does not prevent user from terminating instance)
    4. Create an IAM user and apply an IAM role, which prevents users from terminating production EC2 instances. (Role is not applied to User but assumed by the User)
82. You have deployed a web application targeting a global audience across multiple AWS Regions under the domain name.example.com. You decide to use Route53 Latency-Based Routing to serve web requests to users from the region closest to the user. To provide business continuity in the event of server downtime you configure weighted record sets associated with two web servers in separate Availability Zones per region. During a DR test you notice that when you disable all web servers in one of the regions Route53 does not automatically direct all users to the other region. What could be happening? (Choose 2 answers)
    1. Latency resource record sets cannot be used in combination with weighted resource record sets.
    2. **You did not setup an http health check for one or more of the weighted resource record sets associated with me disabled web servers**
    3. The value of the weight associated with the latency alias resource record set in the region with the disabled servers is higher than the weight for the other region.
    4. One of the two working web servers in the other region did not pass its HTTP health check
    5. **You did not set “Evaluate Target Health” to “Yes” on the latency alias resource record set associated with example com in the region where you disabled the servers.**
83. The compliance department within your multi-national organization requires that all data for your customers that reside in the European Union (EU) must not leave the EU and also data for customers that reside in the US must not leave the US without explicit authorization. What must you do to comply with this requirement for a web based profile management application running on EC2?
    1. Run EC2 instances in multiple AWS Availability Zones in single Region and leverage an Elastic Load Balancer with session stickiness to route traffic to the appropriate zone to create their profile (should be in different regions)
    2. Run EC2 instances in multiple Regions and leverage Route 53’s Latency Based Routing capabilities to route traffic to the appropriate region to create their profile (Latency based routing policy would not guarantee the compliance requirement)
    3. **Run EC2 instances in multiple Regions and leverage a third party data provider to determine if a user needs to be redirect to the appropriate region to create their profile**
    4. Run EC2 instances in multiple AWS Availability Zones in a single Region and leverage a third party data provider to determine if a user needs to be redirect to the appropriate zone to create their profile (should be in different regions)
84. A US-based company is expanding their web presence into Europe. The company wants to extend their AWS infrastructure from Northern Virginia (us-east-1) into the Dublin (eu-west-1) region. Which of the following options would enable an equivalent experience for users on both continents?
    1. Use a public-facing load balancer per region to load-balance web traffic, and enable HTTP health checks.
    2. Use a public-facing load balancer per region to load-balance web traffic, and enable sticky sessions.
    3. **Use Amazon Route 53, and apply a geolocation routing policy to distribute traffic across both regions**
    4. Use Amazon Route 53, and apply a weighted routing policy to distribute traffic across both regions.
85. You have been asked to propose a multi-region deployment of a web-facing application where a controlled portion of your traffic is being processed by an alternate region. Which configuration would achieve that goal?
    1. **Route53 record sets with weighted routing policy**
    2. Route53 record sets with latency based routing policy
    3. Auto Scaling with scheduled scaling actions set
    4. Elastic Load Balancing with health checks enabled
86. Your company Is moving towards tracking web page users with a small tracking Image loaded on each page Currently you are serving this image out of US-East, but are starting to get concerned about the time It takes to load the image for users on the west coast. What are the two best ways to speed up serving this image? Choose 2 answers
    1. **Use Route 53’s Latency Based Routing and serve the image out of US-West-2 as well as US-East-1**
    2. **Serve the image out through CloudFront**
    3. Serve the image out of S3 so that it isn’t being served oft of your web application tier
    4. Use EBS PIOPs to serve the image faster out of your EC2 instances

You are working with a customer who has 10 TB of archival data that they want to migrate to Amazon Glacier. The customer has a 1-Mbps connection to the Internet. Which service or feature provides the fastest method of getting the data into Amazon Glacier?

1. Amazon Glacier multipart upload
2. AWS Storage Gateway
3. VM Import/Export
4. **AWS Import/Export**
5. Which of the following are use cases for Amazon DynamoDB? Choose 3 answers
   1. Storing BLOB data.
   2. **Managing web sessions**
   3. **Storing JSON documents**
   4. **Storing metadata for Amazon S3 objects**
   5. Running relational joins and complex updates.
   6. Storing large amounts of infrequently accessed data.
6. A client application requires operating system privileges on a relational database server. What is an appropriate configuration for highly available database architecture?
   1. A standalone Amazon EC2 instance
   2. Amazon RDS in a Multi-AZ configuration
   3. Amazon EC2 instances in a replication configuration utilizing a single Availability Zone
   4. **Amazon EC2 instances in a replication configuration utilizing two different Availability Zones**
7. You are developing a new mobile application and are considering storing user preferences in AWS, which would provide a more uniform cross-device experience to users using multiple mobile devices to access the application. The preference data for each user is estimated to be 50KB in size. Additionally 5 million customers are expected to use the application on a regular basis. The solution needs to be cost-effective, highly available, scalable and secure, how would you design a solution to meet the above requirements?
   1. Setup an RDS MySQL instance in 2 availability zones to store the user preference data. Deploy a public facing application on a server in front of the database to manage security and access credentials
   2. **Setup a DynamoDB table with an item for each user having the necessary attributes to hold the user preferences. The mobile application will query the user preferences directly from the DynamoDB table. Utilize STS. Web Identity Federation, and DynamoDB Fine Grained Access Control to authenticate and authorize access**(DynamoDB provides high availability as it synchronously replicates data across three facilities within an AWS Region and scalability as it is designed to scale its provisioned throughput up or down while still remaining available. Also suitable for storing user preference data)
   3. Setup an RDS MySQL instance with multiple read replicas in 2 availability zones to store the user preference data .The mobile application will query the user preferences from the read replicas. Leverage the MySQL user management and access privilege system to manage security and access credentials.
   4. Store the user preference data in S3 Setup a DynamoDB table with an item for each user and an item attribute pointing to the user’ S3 object. The mobile application will retrieve the S3 URL from DynamoDB and then access the S3 object directly utilize STS, Web identity Federation, and S3 ACLs to authenticate and authorize access.
8. In the shared security model, AWS is responsible for which of the following security best practices (check all that apply) :
   1. **Penetration testing**
   2. Operating system account security management
   3. **Threat modeling**
   4. User group access management
   5. **Static code analysis**
9. You are running a web-application on AWS consisting of the following components an Elastic Load Balancer (ELB) an Auto-Scaling Group of EC2 instances running Linux/PHP/Apache, and Relational DataBase Service (RDS) MySQL. Which security measures fall into AWS’s responsibility?
   1. Protect the EC2 instances against unsolicited access by enforcing the principle of least-privilege access
   2. **Protect against IP spoofing or packet sniffing**
   3. Assure all communication between EC2 instances and ELB is encrypted
   4. Install latest security patches on ELB. RDS and EC2 instances
10. In AWS, which security aspects are the customer’s responsibility? Choose 4 answers
    1. Controlling physical access to compute resources
    2. **Patch management on the EC2 instances operating system**
    3. **Encryption of EBS (Elastic Block Storage) volumes**
    4. **Life-cycle management of IAM credentials**
    5. Decommissioning storage devices
    6. **Security Group and ACL (Access Control List) settings**
11. Per the AWS Acceptable Use Policy, penetration testing of EC2 instances:
    1. May be performed by AWS, and will be performed by AWS upon customer request.
    2. May be performed by AWS, and is periodically performed by AWS.
    3. Are expressly prohibited under all circumstances.
    4. **May be performed by the customer on their own instances with prior authorization from AWS.**
    5. May be performed by the customer on their own instances, only if performed from EC2 instances
12. Which is an operational process performed by AWS for data security?
    1. AES-256 encryption of data stored on any shared storage device
    2. **Decommissioning of storage devices using industry-standard practices**
    3. Background virus scans of EBS volumes and EBS snapshots
    4. Replication of data across multiple AWS Regions
    5. Secure wiping of EBS data when an EBS volume is unmounted
13. A media company produces new video files on-premises every day with a total size of around 100GB after compression. All files have a size of 1-2 GB and need to be uploaded to Amazon S3 every night in a fixed time window between 3am and 5am. Current upload takes almost 3 hours, although less than half of the available bandwidth is used. What step(s) would ensure that the file uploads are able to complete in the allotted time window?
    1. Increase your network bandwidth to provide faster throughput to S3
    2. **Upload the files in parallel to S3 using multipart upload**
    3. Pack all files into a single archive, upload it to S3, then extract the files in AWS
    4. Use AWS Import/Export to transfer the video files
14. You are designing a web application that stores static assets in an Amazon Simple Storage Service (S3) bucket. You expect this bucket to immediately receive over 150 PUT requests per second. What should you do to ensure optimal performance?
    1. Use multi-part upload.
    2. **Add a random prefix to the key names.**
    3. Amazon S3 will automatically manage performance at this scale.
    4. Use a predictable naming scheme, such as sequential numbers or date time sequences, in the key names
15. You have an application running on an Amazon Elastic Compute Cloud instance, that uploads 5 GB video objects to Amazon Simple Storage Service (S3). Video uploads are taking longer than expected, resulting in poor application performance. Which method will help improve performance of your application?
    1. Enable enhanced networking
    2. **Use Amazon S3 multipart upload**
    3. Leveraging Amazon CloudFront, use the HTTP POST method to reduce latency.
    4. Use Amazon Elastic Block Store Provisioned IOPs and use an Amazon EBS-optimized instance
16. What does Amazon S3 stand for?
    1. Simple Storage Solution.
    2. Storage Storage Storage (triple redundancy Storage).
    3. Storage Server Solution.
    4. **Simple Storage Service**
17. What are characteristics of Amazon S3? Choose 2 answers
    1. **Objects are directly accessible via a URL**
    2. S3 should be used to host a relational database
    3. S3 allows you to store objects or virtually unlimited size
    4. **S3 allows you to store virtually unlimited amounts of data**
    5. S3 offers Provisioned IOPS
18. You are building an automated transcription service in which Amazon EC2 worker instances process an uploaded audio file and generate a text file. You must store both of these files in the same durable storage until the text file is retrieved. You do not know what the storage capacity requirements are. Which storage option is both cost-efficient and scalable?
    1. Multiple Amazon EBS volume with snapshots
    2. A single Amazon Glacier vault
    3. **A single Amazon S3 bucket**
    4. Multiple instance stores
19. A user wants to upload a complete folder to AWS S3 using the S3 Management console. How can the user perform this activity?
    1. Just drag and drop the folder using the flash tool provided by S3
    2. Use the Enable Enhanced Folder option from the S3 console while uploading objects
    3. The user cannot upload the whole folder in one go with the S3 management console
    4. **Use the Enable Enhanced Uploader option from the S3 console while uploading objects**
20. A media company produces new video files on-premises every day with a total size of around 100GB after compression. All files have a size of 1-2 GB and need to be uploaded to Amazon S3 every night in a fixed time window between 3am and 5am. Current upload takes almost 3 hours, although less than half of the available bandwidth is used. What step(s) would ensure that the file uploads are able to complete in the allotted time window?
    1. Increase your network bandwidth to provide faster throughput to S3
    2. **Upload the files in parallel to S3 using mulipart upload**
    3. Pack all files into a single archive, upload it to S3, then extract the files in AWS
    4. Use AWS Import/Export to transfer the video files
21. A company is deploying a two-tier, highly available web application to AWS. Which service provides durable storage for static content while utilizing lower Overall CPU resources for the web tier?
    1. Amazon EBS volume
    2. **Amazon S3**
    3. Amazon EC2 instance store
    4. Amazon RDS instance
22. You have an application running on an Amazon Elastic Compute Cloud instance, that uploads 5 GB video objects to Amazon Simple Storage Service (S3). Video uploads are taking longer than expected, resulting in poor application performance. Which method will help improve performance of your application?
    1. Enable enhanced networking
    2. **Use Amazon S3 multipart upload**
    3. Leveraging Amazon CloudFront, use the HTTP POST method to reduce latency.
    4. Use Amazon Elastic Block Store Provisioned IOPs and use an Amazon EBS-optimized instance
23. When you put objects in Amazon S3, what is the indication that an object was successfully stored?
    1. Each S3 account has a special bucket named\_s3\_logs. Success codes are written to this bucket with a timestamp and checksum.
    2. A success code is inserted into the S3 object metadata.
    3. **A HTTP 200 result code and MD5 checksum, taken together, indicate that the operation was successful.**
    4. Amazon S3 is engineered for 99.999999999% durability. Therefore there is no need to confirm that data was inserted.
24. You have private video content in S3 that you want to serve to subscribed users on the Internet. User IDs, credentials, and subscriptions are stored in an Amazon RDS database. Which configuration will allow you to securely serve private content to your users?
    1. **Generate pre-signed URLs for each user as they request access to protected S3 content**
    2. Create an IAM user for each subscribed user and assign the GetObject permission to each IAM user
    3. Create an S3 bucket policy that limits access to your private content to only your subscribed users’ credentials
    4. Create a CloudFront Origin Identity user for your subscribed users and assign the GetObject permission to this user
25. You run an ad-supported photo sharing website using S3 to serve photos to visitors of your site. At some point you find out that other sites have been linking to the photos on your site, causing loss to your business. What is an effective method to mitigate this?
    1. **Remove public read access and use signed URLs with expiry dates.**
    2. Use CloudFront distributions for static content.
    3. Block the IPs of the offending websites in Security Groups.
    4. Store photos on an EBS volume of the web server.
26. You are designing a web application that stores static assets in an Amazon Simple Storage Service (S3) bucket. You expect this bucket to immediately receive over 150 PUT requests per second. What should you do to ensure optimal performance?
    1. Use multi-part upload.
    2. **Add a random prefix to the key names.**
    3. Amazon S3 will automatically manage performance at this scale.
    4. Use a predictable naming scheme, such as sequential numbers or date time sequences, in the key names
27. What is the maximum number of S3 buckets available per AWS Account?
    1. 100 Per region
    2. There is no Limit
    3. **100 Per Account**(Refer [documentation](http://docs.aws.amazon.com/AmazonS3/latest/dev/BucketRestrictions.html))
    4. 500 Per Account
    5. 100 Per IAM User
28. An organization’s security policy requires multiple copies of all critical data to be replicated across at least a primary and backup data center. The organization has decided to store some critical data on Amazon S3. Which option should you implement to ensure this requirement is met?
    1. **Use the S3 copy API to replicate data between two S3 buckets in different regions**
    2. You do not need to implement anything since S3 data is automatically replicated between regions
    3. Use the S3 copy API to replicate data between two S3 buckets in different facilities within an AWS Region
    4. You do not need to implement anything since S3 data is automatically replicated between multiple facilities within an AWS Region
29. A customer wants to track access to their Amazon Simple Storage Service (S3) buckets and also use this information for their internal security and access audits. Which of the following will meet the Customer requirement?
    1. Enable AWS CloudTrail to audit all Amazon S3 bucket access.
    2. **Enable server access logging for all required Amazon S3 buckets**
    3. Enable the Requester Pays option to track access via AWS Billing
    4. Enable Amazon S3 event notifications for Put and Post.
30. What does RRS stand for when talking about S3?
    1. Redundancy Removal System
    2. Relational Rights Storage
    3. Regional Rights Standard
    4. **Reduced Redundancy Storage**
31. What is the durability of S3 RRS?
    1. **99.99%**
    2. 99.95%
    3. 99.995%
    4. 99.999999999%
32. What is the Reduced Redundancy option in Amazon S3?
    1. **Less redundancy for a lower cost**
    2. It doesn’t exist in Amazon S3, but in Amazon EBS.
    3. It allows you to destroy any copy of your files outside a specific jurisdiction.
    4. It doesn’t exist at all
33. An application is generating a log file every 5 minutes. The log file is not critical but may be required only for verification in case of some major issue. The file should be accessible over the internet whenever required. Which of the below mentioned options is a best possible storage solution for it?
    1. AWS S3
    2. AWS Glacier
    3. AWS RDS
    4. **AWS S3 RRS**
34. A company is storing data on Amazon Simple Storage Service (S3). The company’s security policy mandates that data is encrypted at rest. Which of the following methods can achieve this? Choose 3 answers
    1. **Use Amazon S3 server-side encryption with AWS Key Management Service managed keys**
    2. **Use Amazon S3 server-side encryption with customer-provided keys**
    3. Use Amazon S3 server-side encryption with EC2 key pair.
    4. Use Amazon S3 bucket policies to restrict access to the data at rest.
    5. **Encrypt the data on the client-side before ingesting to Amazon S3 using their own master key**
    6. Use SSL to encrypt the data while in transit to Amazon S3.
35. A user has enabled versioning on an S3 bucket. The user is using server side encryption for data at Rest. If the user is supplying his own keys for encryption (SSE-C) which of the below mentioned statements is true?
    1. The user should use the same encryption key for all versions of the same object
    2. **It is possible to have different encryption keys for different versions of the same object**
    3. AWS S3 does not allow the user to upload his own keys for server side encryption
    4. The SSE-C does not work when versioning is enabled
36. A storage admin wants to encrypt all the objects stored in S3 using server side encryption. The user does not want to use the AES 256 encryption key provided by S3. How can the user achieve this?
    1. The admin should upload his secret key to the AWS console and let S3 decrypt the objects
    2. The admin should use CLI or API to upload the encryption key to the S3 bucket. When making a call to the S3 API mention the encryption key URL in each request
    3. S3 does not support client supplied encryption keys for server side encryption
    4. **The admin should send the keys and encryption algorithm with each API call**
37. A user has enabled versioning on an S3 bucket. The user is using server side encryption for data at rest. If the user is supplying his own keys for encryption (SSE-C), what is recommended to the user for the purpose of security?
    1. User should not use his own security key as it is not secure
    2. Configure S3 to rotate the user’s encryption key at regular intervals
    3. Configure S3 to store the user’s keys securely with SSL
    4. **Keep rotating the encryption key manually at the client side**
38. A system admin is planning to encrypt all objects being uploaded to S3 from an application. The system admin does not want to implement his own encryption algorithm; instead he is planning to use server side encryption by supplying his own key (SSE-C.. Which parameter is not required while making a call for SSE-C?
    1. **x-amz-server-side-encryption-customer-key-AES-256**
    2. x-amz-server-side-encryption-customer-key
    3. x-amz-server-side-encryption-customer-algorithm
    4. x-amz-server-side-encryption-customer-key-MD5
39. A customer is leveraging Amazon Simple Storage Service in eu-west-1 to store static content for a web-based property. The customer is storing objects using the Standard Storage class. Where are the customers objects replicated?
    1. A single facility in eu-west-1 and a single facility in eu-central-1
    2. A single facility in eu-west-1 and a single facility in us-east-1
    3. **Multiple facilities in eu-west-1**
    4. A single facility in eu-west-1
40. Which features can be used to restrict access to data in S3? Choose 2 answers
    1. **Set an S3 ACL on the bucket or the object.**
    2. Create a CloudFront distribution for the bucket.
    3. **Set an S3 bucket policy.**
    4. Enable IAM Identity Federation
    5. Use S3 Virtual Hosting
41. Which method can be used to prevent an IP address block from accessing public objects in an S3 bucket?
    1. **Create a bucket policy and apply it to the bucket**
    2. Create a NACL and attach it to the VPC of the bucket
    3. Create an ACL and apply it to all objects in the bucket
    4. Modify the IAM policies of any users that would access the bucket
42. A user has granted read/write permission of his S3 bucket using ACL. Which of the below mentioned options is a valid ID to grant permission to other AWS accounts (grantee. using ACL?
    1. IAM User ID
    2. S3 Secure ID
    3. Access ID
    4. **Canonical user ID**
43. A root account owner has given full access of his S3 bucket to one of the IAM users using the bucket ACL. When the IAM user logs in to the S3 console, which actions can he perform?
    1. He can just view the content of the bucket
    2. He can do all the operations on the bucket
    3. It is not possible to give access to an IAM user using ACL
    4. The IAM user can perform all operations on the bucket using only API/SDK
44. A root AWS account owner is trying to understand various options to set the permission to AWS S3. Which of the below mentioned options is not the right option to grant permission for S3?
    1. User Access Policy
    2. **S3 Object Policy**
    3. S3 Bucket Policy
    4. S3 ACL
45. A system admin is managing buckets, objects and folders with AWS S3. Which of the below mentioned statements is true and should be taken in consideration by the sysadmin?
    1. **Folders support only ACL**
    2. Both the object and bucket can have an Access Policy but folder cannot have policy
    3. Folders can have a policy
    4. Both the object and bucket can have ACL but folders cannot have ACL
46. A user has created an S3 bucket which is not publicly accessible. The bucket is having thirty objects which are also private. If the user wants to make the objects public, how can he configure this with minimal efforts?
    1. User should select all objects from the console and apply a single policy to mark them public
    2. User can write a program which programmatically makes all objects public using S3 SDK
    3. **Set the AWS bucket policy which marks all objects as public**
    4. Make the bucket ACL as public so it will also mark all objects as public
47. You need to configure an Amazon S3 bucket to serve static assets for your public-facing web application. Which methods ensure that all objects uploaded to the bucket are set to public read? Choose 2 answers
    1. **Set permissions on the object to public read during upload.**
    2. Configure the bucket ACL to set all objects to public read.
    3. **Configure the bucket policy to set all objects to public read.**
    4. Use AWS Identity and Access Management roles to set the bucket to public read.
    5. Amazon S3 objects default to public read, so no action is needed.
48. Amazon S3 doesn’t automatically give a user who creates \_\_\_\_\_ permission to perform other actions on that bucket or object.
    1. a file
    2. **a bucket or object**
    3. a bucket or file
    4. a object or file
49. A root account owner is trying to understand the S3 bucket ACL. Which of the below mentioned options cannot be used to grant ACL on the object using the authorized predefined group?
    1. Authenticated user group
    2. All users group
    3. Log Delivery Group
    4. **Canonical user group**
50. Which set of Amazon S3 features helps to prevent and recover from accidental data loss?
    1. Object lifecycle and service access logging
    2. **Object versioning and Multi-factor authentication**
    3. Access controls and server-side encryption
    4. Website hosting and Amazon S3 policies
51. You use S3 to store critical data for your company Several users within your group currently have full permissions to your S3 buckets. You need to come up with a solution that does not impact your users and also protect against the accidental deletion of objects. Which two options will address this issue? Choose 2 answers
    1. **Enable versioning on your S3 Buckets**
    2. **Configure your S3 Buckets with MFA delete**
    3. Create a Bucket policy and only allow read only permissions to all users at the bucket level
    4. Enable object life cycle policies and configure the data older than 3 months to be archived in Glacier
52. When you view the block device mapping for your instance, you can see only the EBS volumes, not the instance store volumes.
    1. Depends on the instance type
    2. FALSE
    3. Depends on whether you use API call
    4. **TRUE**
53. Amazon EC2 provides a repository of public data sets that can be seamlessly integrated into AWS cloud-based applications. What is the monthly charge for using the public data sets?
    1. A 1 time charge of 10$ for all the datasets.
    2. 1$ per dataset per month
    3. 10$ per month for all the datasets
    4. **There is no charge for using the public data sets**
54. How many types of block devices does Amazon EC2 support?
    1. **2**
    2. 4
    3. 3
    4. 1
55. \_\_\_\_\_ is a durable, block-level storage volume that you can attach to a single, running Amazon EC2 instance.
    1. Amazon S3
    2. **Amazon EBS**
    3. None of these
    4. All of these
56. Which Amazon storage do you think is the best for my database-style applications that frequently encounter many random reads and writes across the dataset?
    1. None of these.
    2. Amazon Instance Storage
    3. Any of these
    4. **Amazon EBS**
57. What does Amazon EBS stand for?
    1. Elastic Block Storage
    2. Elastic Business Server
    3. Elastic Blade Server
    4. **Elastic Block Store**
58. Which Amazon Storage behaves like raw, unformatted, external block devices that you can attach to your instances?
    1. None of these.
    2. Amazon Instance Storage
    3. **Amazon EBS**
    4. All of these
59. A user has created numerous EBS volumes. What is the general limit for each AWS account for the maximum number of EBS volumes that can be created?
    1. 10000
    2. **5000**
    3. 100
    4. 1000
60. A user is trying to pre-warm a blank EBS volume attached to a Linux instance. Which of the below mentioned steps should be performed by the user?
    1. **There is no need to pre-warm an EBS volume**
    2. Contact AWS support to pre-warm (This used to be the case before, but pre warming is not necessary now)
    3. Unmount the volume before pre-warming
    4. Format the device
61. A user has created an EBS volume of 10 GB and attached it to a running instance. The user is trying to access EBS for first time. Which of the below mentioned options is the correct statement with respect to a first time EBS access?
    1. The volume will show a size of 8 GB
    2. **The volume will show a loss of the IOPS performance the first time**
    3. The volume will be blank
    4. If the EBS is mounted it will ask the user to create a file system
62. An existing application stores sensitive information on a non-boot Amazon EBS data volume attached to an Amazon Elastic Compute Cloud instance. Which of the following approaches would protect the sensitive data on an Amazon EBS volume?
    1. Upload your customer keys to AWS CloudHSM. Associate the Amazon EBS volume with AWS CloudHSM. Remount the Amazon EBS volume.
    2. Create and mount a new, encrypted Amazon EBS volume. Move the data to the new volume. Delete the old Amazon EBS volume.
    3. Unmount the EBS volume. Toggle the encryption attribute to True. Re-mount the Amazon EBS volume.
    4. **Snapshot the current Amazon EBS volume. Restore the snapshot to a new, encrypted Amazon EBS volume. Mount the Amazon EBS volume**
63. Which of the following approaches provides the lowest cost for Amazon Elastic Block Store snapshots while giving you the ability to fully restore data?
    1. Maintain two snapshots: the original snapshot and the latest incremental snapshot
    2. Maintain a volume snapshot; subsequent snapshots will overwrite one another
    3. **Maintain a single snapshot the latest snapshot is both Incremental and complete**
    4. Maintain the most current snapshot, archive the original and incremental to Amazon Glacier.
64. Which procedure for backing up a relational database on EC2 that is using a set of RAlDed EBS volumes for storage minimizes the time during which the database cannot be written to and results in a consistent backup?
    1. Detach EBS volumes, 2. Start EBS snapshot of volumes, 3. Re-attach EBS volumes
    2. **Stop the EC2 Instance. 2. Snapshot the EBS volumes**
    3. Suspend disk I/O, 2. Create an image of the EC2 Instance, 3. Resume disk I/O
    4. Suspend disk I/O, 2. Start EBS snapshot of volumes, 3. Resume disk I/O
    5. Suspend disk I/O, 2. Start EBS snapshot of volumes, 3. Wait for snapshots to complete, 4. Resume disk I/O
65. How can an EBS volume that is currently attached to an EC2 instance be migrated from one Availability Zone to another?
    1. Detach the volume and attach it to another EC2 instance in the other AZ.
    2. Simply create a new volume in the other AZ and specify the original volume as the source.
    3. **Create a snapshot of the volume, and create a new volume from the snapshot in the other AZ**
    4. Detach the volume, then use the ec2-migrate-voiume command to move it to another AZ.
66. Select the correct set of steps for exposing the snapshot only to specific AWS accounts
    1. Select Public for all the accounts and check mark those accounts with whom you want to expose the snapshots and click save.
    2. **Select Private and enter the IDs of those AWS accounts, and click Save.**
    3. Select Public, enter the IDs of those AWS accounts, and click Save.
    4. Select Public, mark the IDs of those AWS accounts as private, and click Save.
67. Is it possible to access your EBS snapshots?
    1. Yes, through the Amazon S3 APIs.
    2. **Yes, through the Amazon EC2 APIs**
    3. No, EBS snapshots cannot be accessed; they can only be used to create a new EBS volume.
    4. EBS doesn’t provide snapshots.
68. If an Amazon EBS volume is the root device of an instance, can I detach it without stopping the instance?
    1. Yes but only if Windows instance
    2. **No**
    3. Yes
    4. Yes but only if a Linux instance
69. Can we attach an EBS volume to more than one EC2 instance at the same time?
    1. Yes
    2. **No**
    3. Only EC2-optimized EBS volumes.
    4. Only in read mode.
70. Do the Amazon EBS volumes persist independently from the running life of an Amazon EC2 instance?
    1. **Only if instructed to when created**
    2. Yes
    3. No
71. Can I delete a snapshot of the root device of an EBS volume used by a registered AMI?
    1. Only via API
    2. Only via Console
    3. Yes
    4. **No**
72. How are the EBS snapshots saved on Amazon S3?
    1. Exponentially
    2. **Incrementally**
    3. EBS snapshots are not stored in the Amazon S3
    4. Decrementally
73. EBS Snapshots occur \_\_\_\_\_
    1. **Asynchronously**
    2. Synchronously
    3. Weekly
74. What will be the status of the snapshot until the snapshot is complete?
    1. Running
    2. Working
    3. Progressing
    4. **Pending**
75. By default, EBS volumes that are created and attached to an instance at launch are deleted when that instance is terminated. You can modify this behavior by changing the value of the flag\_\_\_\_\_ to false when you launch the instance
    1. **DeleteOnTermination**
    2. RemoveOnDeletion
    3. RemoveOnTermination
    4. TerminateOnDeletion
76. Before I delete an EBS volume, what can I do if I want to recreate the volume later?
    1. Create a copy of the EBS volume (not a snapshot)
    2. **Create and Store a snapshot of the volume**
    3. Download the content to an EC2 instance
    4. Back up the data in to a physical disk
77. Your company policies require encryption of sensitive data at rest. You are considering the possible options for protecting data while storing it at rest on an EBS data volume, attached to an EC2 instance. Which of these options would allow you to encrypt your data at rest? (Choose 3 answers)
    1. **Implement third party volume encryption tools**
    2. Do nothing as EBS volumes are encrypted by default
    3. **Encrypt data inside your applications before storing it on EBS**
    4. **Encrypt data using native data encryption drivers at the file system level**
    5. Implement SSL/TLS for all services running on the server
78. Which of the following are true regarding encrypted Amazon Elastic Block Store (EBS) volumes? Choose 2 answers
    1. **Supported on all Amazon EBS volume types**
    2. **Snapshots are automatically encrypted**
    3. Available to all instance types
    4. Existing volumes can be encrypted
    5. Shared volumes can be encrypted
79. Amazon EBS snapshots have which of the following two characteristics? (Choose 2.) Choose 2 answers
    1. **EBS snapshots only save incremental changes from snapshot to snapshot**
    2. **EBS snapshots can be created in real-time without stopping an EC2 instance** (the snapshot can be taken real time however it will not be consistent and the recommended way is to stop or freeze the IO)
    3. EBS snapshots can only be restored to an EBS volume of the same size or smaller (EBS volume restored from snapshots need to be of the same size of larger size)
    4. EBS snapshots can only be restored and mounted to an instance in the same Availability Zone as the original EBS volume**(**Snapshots are specific to Region and can be used to create a volume in any AZ and does not depend on the original EBS volume AZ**)**
80. How can you secure data at rest on an EBS volume?
    1. Encrypt the volume using the S3 server-side encryption service
    2. Attach the volume to an instance using EC2’s SSL interface.
    3. Create an IAM policy that restricts read and write access to the volume.
    4. Write the data randomly instead of sequentially.
    5. **Use an encrypted file system on top of the EBS volume**
81. A user has deployed an application on an EBS backed EC2 instance. For a better performance of application, it requires dedicated EC2 to EBS traffic. How can the user achieve this?
    1. Launch the EC2 instance as EBS dedicated with PIOPS EBS
    2. Launch the EC2 instance as EBS enhanced with PIOPS EBS
    3. Launch the EC2 instance as EBS dedicated with PIOPS EBS
    4. **Launch the EC2 instance as EBS optimized with PIOPS EBS**
82. A user is trying to launch an EBS backed EC2 instance under free usage. The user wants to achieve encryption of the EBS volume. How can the user encrypt the data at rest?
    1. Use AWS EBS encryption to encrypt the data at rest
    2. **User cannot use EBS encryption and has to encrypt the data manually or using a third party tool**
    3. The user has to select the encryption enabled flag while launching the EC2 instance
    4. Encryption of volume is not available as a part of the free usage tier
83. A user is planning to schedule a backup for an EBS volume. The user wants security of the snapshot data. How can the user achieve data encryption with a snapshot?
    1. **Use encrypted EBS volumes so that the snapshot will be encrypted by AWS**
    2. While creating a snapshot select the snapshot with encryption
    3. By default the snapshot is encrypted by AWS
    4. Enable server side encryption for the snapshot using S3
84. A user has launched an EBS backed EC2 instance. The user has rebooted the instance. Which of the below mentioned statements is not true with respect to the reboot action?
    1. The private and public address remains the same
    2. The Elastic IP remains associated with the instance
    3. The volume is preserved
    4. **The instance runs on a new host computer**
85. A sys admin is trying to understand EBS snapshots. Which of the below mentioned statements will not be useful to the admin to understand the concepts about a snapshot?
    1. **Snapshot is synchronous**
    2. It is recommended to stop the instance before taking a snapshot for consistent data
    3. Snapshot is incremental
    4. Snapshot captures the data that has been written to the hard disk when the snapshot command was executed
86. A user has launched an EBS backed EC2 instance. What will be the difference while performing the restart or stop/start options on that instance?
    1. **For restart it does not charge for an extra hour, while every stop/start it will be charged as a separate hour**
    2. Every restart is charged by AWS as a separate hour, while multiple start/stop actions during a single hour will be counted as a single hour
    3. For every restart or start/stop it will be charged as a separate hour
    4. For restart it charges extra only once, while for every stop/start it will be charged as a separate hour
87. A user has launched an EBS backed instance. The user started the instance at 9 AM in the morning. Between 9 AM to 10 AM, the user is testing some script. Thus, he stopped the instance twice and restarted it. In the same hour the user rebooted the instance once. For how many instance hours will AWS charge the user?
    1. **3 hours**
    2. 4 hours
    3. 2 hours
    4. 1 hour
88. When creation of an EBS snapshot is initiated but not completed, the EBS volume
    1. Cannot be detached or attached to an EC2 instance until me snapshot completes
    2. Can be used in read-only mode while me snapshot is in progress
    3. **Can be used while the snapshot Is in progress**
    4. Cannot be used until the snapshot completes
89. You are running a database on an EC2 instance, with the data stored on Elastic Block Store (EBS) for persistence At times throughout the day, you are seeing large variance in the response times of the database queries Looking into the instance with the isolate command you see a lot of wait time on the disk volume that the database’s data is stored on. What two ways can you improve the performance of the database’s storage while maintaining the current persistence of the data? Choose 2 answers
    1. Move to an SSD backed instance
    2. **Move the database to an EBS-Optimized Instance**
    3. **Use Provisioned IOPs EBS**
    4. Use the ephemeral storage on an m2.4xLarge Instance Instead
90. You have a server with a 5O0GB Amazon EBS data volume. The volume is 80% full. You need to back up the volume at regular intervals and be able to re-create the volume in a new Availability Zone in the shortest time possible. All applications using the volume can be paused for a period of a few minutes with no discernible user impact. Which of the following backup methods will best fulfill your requirements?
    1. **Take periodic snapshots of the EBS volume**
    2. Use a third-party Incremental backup application to back up to Amazon Glacier
    3. Periodically back up all data to a single compressed archive and archive to Amazon S3 using a parallelized multi-part upload
    4. Create another EBS volume in the second Availability Zone attach it to the Amazon EC2 instance, and use a disk manager to mirror me two disks
91. An organization wants to move to Cloud. They are looking for a secure encrypted database storage option. Which of the below mentioned AWS functionalities helps them to achieve this?
    1. AWS MFA with EBS
    2. **AWS EBS encryption**
    3. Multi-tier encryption with Redshift
    4. AWS S3 server-side storage
92. A user has stored data on an encrypted EBS volume. The user wants to share the data with his friend’s AWS account. How can user achieve this?
    1. Create an AMI from the volume and share the AMI
    2. **Copy the data to an unencrypted volume and then share**
    3. Take a snapshot and share the snapshot with a friend
    4. If both the accounts are using the same encryption key then the user can share the volume directly
93. You have launched an EC2 instance with four (4) 500 GB EBS Provisioned IOPS volumes attached. The EC2 Instance Is EBS-Optimized and supports 500 Mbps throughput between EC2 and EBS. The two EBS volumes are configured as a single RAID 0 device, and each Provisioned IOPS volume is provisioned with 4.000 IOPS (4000 16KB reads or writes) for a total of 16,000 random IOPS on the instance. The EC2 Instance initially delivers the expected 16,000 IOPS random read and write performance Sometime later in order to increase the total random I/O performance of the instance, you add an additional two 500 GB EBS Provisioned IOPS volumes to the RAID. Each volume Is provisioned to 4,000 lOPS like the original four for a total of 24,000 IOPS on the EC2 instance Monitoring shows that the EC2 instance CPU utilization increased from 50% to 70%, but the total random IOPS measured at the instance level does not increase at all. What is the problem and a valid solution?
    1. Larger storage volumes support higher Provisioned IOPS rates: increase the provisioned volume storage of each of the 6 EBS volumes to 1TB.
    2. **EBS-Optimized throughput limits the total IOPS that can be utilized use an EBS-Optimized instance that provides larger throughput. (**[E**C2**Instance types](http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ebs-ec2-config.html) have limit on max throughput and would 8xlarge or higher instance types to provide 24000 IOPS**)**
    3. Small block sizes cause performance degradation, limiting the I’O throughput, configure the instance device driver and file system to use 64KB blocks to increase throughput.
    4. RAID 0 only scales linearly to about 4 devices, use RAID 0 with 4 EBS Provisioned IOPS volumes but increase each Provisioned IOPS EBS volume to 6.000 IOPS.
    5. The standard EBS instance root volume limits the total IOPS rate, change the instant root volume to also be a 500GB 4,000 Provisioned IOPS volume
94. EC2 EBS-backed (EBS root) instance is stopped, what happens to the data on any ephemeral store volumes?
    1. Data is automatically saved in an EBS volume.
    2. Data is unavailable until the instance is restarted.
    3. **Data will be deleted and will no longer be accessible.**
    4. Data is automatically saved as an EBS snapshot.
95. When an EC2 instance that is backed by an S3-based AMI is terminated, what happens to the data on the root volume?
    1. Data is automatically saved as an EBS snapshot.
    2. Data is automatically saved as an EBS volume.
    3. Data is unavailable until the instance is restarted.
    4. **Data is automatically deleted.**
96. Which of the following will occur when an EC2 instance in a VPC (Virtual Private Cloud) with an associated Elastic IP is stopped and started? (Choose 2 answers)
    1. The Elastic IP will be dissociated from the instance
    2. **All data on instance-store devices will be lost**
    3. All data on EBS (Elastic Block Store) devices will be lost
    4. The ENI (Elastic Network Interface) is detached
    5. **The underlying host for the instance is changed**
97. In the basic monitoring package for EC2, Amazon CloudWatch provides the following metrics:
    1. Web server visible metrics such as number failed transaction requests
    2. Operating system visible metrics such as memory utilization
    3. Database visible metrics such as number of connections
    4. **Hypervisor visible metrics such as CPU utilization**
98. Which of the following requires a custom CloudWatch metric to monitor?
    1. **Memory Utilization of an EC2 instance**
    2. CPU Utilization of an EC2 instance
    3. Disk usage activity of an EC2 instance
    4. Data transfer of an EC2 instance
99. A user has configured CloudWatch monitoring on an EBS backed EC2 instance. If the user has not attached any additional device, which of the below mentioned metrics will always show a 0 value?
    1. **DiskReadBytes**
    2. NetworkIn
    3. NetworkOut
    4. CPUUtilization
100. A user is running a batch process on EBS backed EC2 instances. The batch process starts a few instances to process Hadoop Map reduce jobs, which can run between 50 – 600 minutes or sometimes for more time. The user wants to configure that the instance gets terminated only when the process is completed. How can the user configure this with CloudWatch?
     1. **Setup the CloudWatch action to terminate the instance when the CPU utilization is less than 5%**
     2. Setup the CloudWatch with Auto Scaling to terminate all the instances
     3. Setup a job which terminates all instances after 600 minutes
     4. It is not possible to terminate instances automatically
101. An AWS account owner has setup multiple IAM users. One IAM user only has CloudWatch access. He has setup the alarm action, which stops the EC2 instances when the CPU utilization is below the threshold limit. What will happen in this case?
     1. It is not possible to stop the instance using the CloudWatch alarm
     2. CloudWatch will stop the instance when the action is executed
     3. The user cannot set an alarm on EC2 since he does not have the permission
     4. **The user can setup the action but it will not be executed if the user does not have EC2 rights**
102. A user has launched 10 instances from the same AMI ID using Auto Scaling. The user is trying to see the average CPU utilization across all instances of the last 2 weeks under the CloudWatch console. How can the user achieve this?
     1. View the Auto Scaling CPU metrics
     2. **Aggregate the data over the instance AMI ID**
     3. The user has to use the CloudWatchanalyser to find the average data across instances
     4. It is not possible to see the average CPU utilization of the same AMI ID since the instance ID is different
103. What is the minimum time Interval for the data that Amazon CloudWatch receives and aggregates?
     1. One second
     2. Five seconds
     3. **One minute**
     4. Three minutes
     5. Five minutes
104. In the ‘Detailed’ monitoring data available for your Amazon EBS volumes, Provisioned IOPS volumes automatically send \_\_\_\_\_ minute metrics to Amazon CloudWatch.
     1. 3
     2. **1**
     3. 5
     4. 2
105. Using Amazon CloudWatch’s Free Tier, what is the frequency of metric updates, which you receive?
     1. **5 minutes**
     2. 500 milliseconds.
     3. 30 seconds
     4. 1 minute
106. What is the type of monitoring data (for Amazon EBS volumes) which is available automatically in 5-minute periods at no charge called?
     1. **Basic**
     2. Primary
     3. Detailed
     4. Local
107. A user has created an Auto Scaling group using CLI. The user wants to enable CloudWatch detailed monitoring for that group. How can the user configure this?
     1. When the user sets an alarm on the Auto Scaling group, it automatically enables detail monitoring
     2. By default detailed monitoring is enabled for Auto Scaling
     3. Auto Scaling does not support detailed monitoring
     4. **Enable detail monitoring from the AWS console**
108. A user is trying to understand the detailed CloudWatch monitoring concept. Which of the below mentioned services provides detailed monitoring with CloudWatch without charging the user extra?
     1. AWS Auto Scaling
     2. **AWS Route 53**
     3. AWS EMR
     4. AWS SNS
109. A user is trying to understand the detailed CloudWatch monitoring concept. Which of the below mentioned services does not provide detailed monitoring with CloudWatch?
     1. **AWS EMR**
     2. AWS RDS
     3. AWS ELB
     4. AWS Route53
110. A user has enabled detailed CloudWatch monitoring with the AWS Simple Notification Service. Which of the below mentioned statements helps the user understand detailed monitoring better?
     1. SNS will send data every minute after configuration
     2. There is no need to enable since SNS provides data every minute
     3. AWS CloudWatch does not support monitoring for SNS
     4. **SNS cannot provide data every minute**
111. A user has configured an Auto Scaling group with ELB. The user has enabled detailed CloudWatch monitoring on Auto Scaling. Which of the below mentioned statements will help the user understand the functionality better?
     1. It is not possible to setup detailed monitoring for Auto Scaling
     2. **In this case, Auto Scaling will send data every minute and will charge the user extra**
     3. Detailed monitoring will send data every minute without additional charges
     4. Auto Scaling sends data every minute only and does not charge the user

An admin is planning to monitor the ELB. Which of the below mentioned services does not help the admin capture the monitoring information about the ELB activity

1. ELB Access logs
2. **ELB health check**
3. CloudWatch metrics
4. ELB API calls with CloudTrail

Your organization is preparing for a security assessment of your use of AWS. In preparation for this assessment, which two IAM best practices should you consider implementing? Choose 2 answers

* Create individual IAM users for everyone in your organization (May not be needed as can use Roles as well)
* **Configure MFA on the root account and for privileged IAM users**
* **Assign IAM users and groups configured with policies granting least privilege access**
* Ensure all users have been assigned and are frequently rotating a password, access ID/secret key, and X.509 certificate (Must be assigned only if using console or through command line)

1. What does Amazon RDS stand for?
   1. Regional Data Server.
   2. **Relational Database Service**
   3. Regional Database Service.
2. How many relational database engines does RDS currently support?
   1. **MySQL, Postgres, MariaDB, Oracle and Microsoft SQL Server**
   2. Just two: MySQL and Oracle.
   3. Five: MySQL, PostgreSQL, MongoDB, Cassandra and SQLite.
   4. Just one: MySQL.
3. If I modify a DB Instance or the DB parameter group associated with the instance, should I reboot the instance for the changes to take effect?
   1. No
   2. **Yes**
4. What is the name of licensing model in which I can use your existing Oracle Database licenses to run Oracle deployments on Amazon RDS?
   1. **Bring Your Own License**
   2. Role Bases License
   3. Enterprise License
   4. License Included
5. Will I be charged if the DB instance is idle?
   1. No
   2. **Yes**
   3. Only is running in GovCloud
   4. Only if running in VPC
6. What is the minimum charge for the data transferred between Amazon RDS and Amazon EC2 Instances in the same Availability Zone?
   1. USD 0.10 per GB
   2. **No charge. It is free.**
   3. USD 0.02 per GB
   4. USD 0.01 per GB
7. Does Amazon RDS allow direct host access via Telnet, Secure Shell (SSH), or Windows Remote Desktop Connection?
   1. Yes
   2. **No**
   3. Depends on if it is in VPC or not
8. What are the two types of licensing options available for using Amazon RDS for Oracle?
   1. BYOL and Enterprise License
   2. **BYOL and License Included**
   3. Enterprise License and License Included
   4. Role based License and License Included
9. Amazon RDS automated backups and DB Snapshots are currently supported for only the \_\_\_\_\_\_\_\_\_\_ storage engine
   1. **InnoDB**
   2. MyISAM
10. Automated backups are enabled by default for a new DB Instance.
    1. **TRUE**
    2. FALSE
11. Amazon RDS DB snapshots and automated backups are stored in
    1. **Amazon S3**
    2. Amazon EBS Volume
    3. Amazon RDS
    4. Amazon EMR
12. You receive a frantic call from a new DBA who accidentally dropped a table containing all your customers. Which Amazon RDS feature will allow you to reliably restore your database to within 5 minutes of when the mistake was made?
    1. Multi-AZ RDS
    2. RDS snapshots
    3. RDS read replicas
    4. **RDS automated backup**
13. Disabling automated backups \_\_\_\_\_\_ disable the point-in-time recovery.
    1. if configured to can
    2. will never
    3. **will**
14. Changes to the backup window take effect \_\_\_\_\_\_.
    1. from the next billing cycle
    2. after 30 minutes
    3. **immediately**
    4. after 24 hours
15. You can modify the backup retention period; valid values are 0 (for no backup retention) to a maximum of \_\_\_\_\_\_\_\_\_\_\_ days.
    1. 45
    2. **35**
    3. 15
    4. 5
16. Amazon RDS automated backups and DB Snapshots are currently supported for only the \_\_\_\_\_\_ storage engine
    1. MyISAM
    2. **InnoDB**
17. What happens to the I/O operations while you take a database snapshot?
    1. **I/O operations to the database are suspended for a few minutes while the backup is in progress.**
    2. I/O operations to the database are sent to a Replica (if available) for a few minutes while the backup is in progress.
    3. I/O operations will be functioning normally
    4. I/O operations to the database are suspended for an hour while the backup is in progress
18. True or False: When you perform a restore operation to a point in time or from a DB Snapshot, a new DB Instance is created with a new endpoint.
    1. FALSE
    2. **TRUE**
19. True or False: Manually created DB Snapshots are deleted after the DB Instance is deleted.
    1. TRUE
    2. **FALSE**
20. A user has launched an RDS MySQL DB with the Multi AZ feature. The user has scheduled the scaling of instance storage during maintenance window. What is the correct order of events during maintenance window? 1. Perform maintenance on standby 2. Promote standby to primary 3. Perform maintenance on original primary 4. Promote original master back as primary
    1. 1, 2, 3, 4
    2. **1, 2, 3**
    3. 2, 3, 4, 1
21. Can I control if and when MySQL based RDS Instance is upgraded to new supported versions?
    1. No
    2. Only in VPC
    3. **Yes**
22. A user has scheduled the maintenance window of an RDS DB on Monday at 3 AM. Which of the below mentioned events may force to take the DB instance offline during the maintenance window?
    1. Enabling Read Replica
    2. Making the DB Multi AZ
    3. DB password change
    4. **Security patching**
23. A user has launched an RDS postgreSQL DB with AWS. The user did not specify the maintenance window during creation. The user has configured RDS to update the DB instance type from micro to large. If the user wants to have it during the maintenance window, what will AWS do?
    1. AWS will not allow to update the DB until the maintenance window is configured
    2. **AWS will select the default maintenance window if the user has not provided it**
    3. AWS will ask the user to specify the maintenance window during the update
    4. It is not possible to change the DB size from micro to large with RDS
24. Can I test my DB Instance against a new version before upgrading?
    1. No
    2. **Yes**
    3. Only in VPC
25. When should I choose Provisioned IOPS over Standard RDS storage?
    1. If you have batch-oriented workloads
    2. **If you use production online transaction processing (OLTP) workloads**
    3. If you have workloads that are not sensitive to consistent performance
26. Is decreasing the storage size of a DB Instance permitted?
    1. Depends on the RDMS used
    2. Yes
    3. **No**
27. Because of the extensibility limitations of striped storage attached to Windows Server, Amazon RDS does not currently support increasing storage on a \_\_\_\_\_ DB Instance.
    1. **SQL Server**
    2. MySQL
    3. Oracle
28. If I want to run a database in an Amazon instance, which is the most recommended Amazon storage option?
    1. Amazon Instance Storage
    2. **Amazon EBS**
    3. You can’t run a database inside an Amazon instance.
    4. Amazon S3
29. For each DB Instance class, what is the maximum size of associated storage capacity?
    1. 1TB
    2. 2TB
    3. 500GB
    4. **6TB (Except SQL Server which is currently 4TB)**
30. You are running a successful multi-tier web application on AWS and your marketing department has asked you to add a reporting tier to the application. The reporting tier will aggregate and publish status reports every 30 minutes from user-generated information that is being stored in your web applications database. You are currently running a Multi-AZ RDS MySQL instance for the database tier. You also have implemented ElastiCache as a database caching layer between the application tier and database tier. Please select the answer that will allow you to successfully implement the reporting tier with as little impact as possible to your database.
    1. Continually send transaction logs from your master database to an S3 bucket and generate the reports off the S3 bucket using S3 byte range requests.
    2. Generate the reports by querying the synchronously replicated standby RDS MySQL instance maintained through Multi-AZ (Standby instance cannot be used as a scaling solution)
    3. **Launch a RDS Read Replica connected to your Multi AZ master database and generate reports by querying the Read Replica.**
    4. Generate the reports by querying the ElastiCache database caching tier. (ElasticCache does not maintain full data and is simply a chaching solution)
31. A company is deploying a new two-tier web application in AWS. The company has limited staff and requires high availability, and the application requires complex queries and table joins. Which configuration provides the solution for the company’s requirements?
    1. MySQL Installed on two Amazon EC2 Instances in a single Availability Zone (does not provide High Availaility out of the box)
    2. **Amazon RDS for MySQL with Multi-AZ**
    3. Amazon ElastiCache (Just a caching solution)
    4. Amazon DynamoDB (Not suitable for complex queries and joins)
32. Your company is getting ready to do a major public announcement of a social media site on AWS. The website is running on EC2 instances deployed across multiple Availability Zones with a Multi-AZ RDS MySQL Extra Large DB Instance. The site performs a high number of small reads and writes per second and relies on an eventual consistency model. After comprehensive tests you discover that there is read contention on RDS MySQL. Which are the best approaches to meet these requirements? (Choose 2 answers)
    1. **Deploy ElasticCache in-memory cache running in each availability zone**
    2. Implement sharding to distribute load to multiple RDS MySQL instances (this is only a read contention, the writes work fine)
    3. Increase the RDS MySQL Instance size and Implement provisioned IOPS (this is only a read contention, the writes work fine)
    4. **Add an RDS MySQL read replica in each availability zone**
33. Your company has HQ in Tokyo and branch offices all over the world and is using logistics software with a multi-regional deployment on AWS in Japan, Europe and US .The logistic software has a 3-tier architecture and currently uses MySQL 5.6 for data persistence. Each region has deployed its own database. In the HQ region you run an hourly batch process reading data from every region to compute cross-regional reports that are sent by email to all offices this batch process must be completed as fast as possible to quickly optimize logistics how do you build the database architecture in order to meet the requirements?
    1. **For each regional deployment, use RDS MySQL with a master in the region and a read replica in the HQ region**
    2. For each regional deployment, use MySQL on EC2 with a master in the region and send hourly EBS snapshots to the HQ region
    3. For each regional deployment, use RDS MySQL with a master in the region and send hourly RDS snapshots to the HQ region
    4. For each regional deployment, use MySQL on EC2 with a master in the region and use S3 to copy data files hourly to the HQ region
    5. Use Direct Connect to connect all regional MySQL deployments to the HQ region and reduce network latency for the batch process
34. What would happen to an RDS (Relational Database Service) multi-Availability Zone deployment if the primary DB instance fails?
    1. The IP of the primary DB Instance is switched to the standby DB Instance.
    2. A new DB instance is created in the standby availability zone.
    3. **The canonical name record (CNAME) is changed from primary to standby.**
    4. The RDS (Relational Database Service) DB instance reboots.
35. Your business is building a new application that will store its entire customer database on a RDS MySQL database, and will have various applications and users that will query that data for different purposes. Large analytics jobs on the database are likely to cause other applications to not be able to get the query results they need to, before time out. Also, as your data grows, these analytics jobs will start to take more time, increasing the negative effect on the other applications. How do you solve the contention issues between these different workloads on the same data?
    1. Enable Multi-AZ mode on the RDS instance
    2. Use ElastiCache to offload the analytics job data
    3. **Create RDS Read-Replicas for the analytics work**
    4. Run the RDS instance on the largest size possible
36. Will my standby RDS instance be in the same Availability Zone as my primary?
    1. Only for Oracle RDS types
    2. Yes
    3. Only if configured at launch
    4. **No**
37. Is creating a Read Replica of another Read Replica supported?
    1. Only in certain regions
    2. **Only with MySQL based RDS**
    3. Only for Oracle RDS types
    4. No
38. A user is planning to set up the Multi AZ feature of RDS. Which of the below mentioned conditions won’t take advantage of the Multi AZ feature?
    1. Availability zone outage
    2. A manual failover of the DB instance using Reboot with failover option
    3. **Region outage**
    4. When the user changes the DB instance’s server type
39. When you run a DB Instance as a Multi-AZ deployment, the “\_\_\_\_\_” serves database writes and reads
    1. secondary
    2. backup
    3. stand by
    4. **primary**
40. When running my DB Instance as a Multi-AZ deployment, can I use the standby for read or write operations?
    1. Yes
    2. Only with MSSQL based RDS
    3. Only for Oracle RDS instances
    4. **No**
41. Read Replicas require a transactional storage engine and are only supported for the \_\_\_\_\_\_\_\_\_ storage engine
    1. OracleISAM
    2. MSSQLDB
    3. **InnoDB**
    4. MyISAM
42. A user is configuring the Multi AZ feature of an RDS DB. The user came to know that this RDS DB does not use the AWS technology, but uses server mirroring to achieve replication. Which DB is the user using right now?
    1. My SQL
    2. Oracle
    3. **MS SQL**
    4. PostgreSQL
43. If I have multiple Read Replicas for my master DB Instance and I promote one of them, what happens to the rest of the Read Replicas?
    1. **The remaining Read Replicas will still replicate from the older master DB Instance**
    2. The remaining Read Replicas will be deleted
    3. The remaining Read Replicas will be combined to one read replica
44. If you have chosen Multi-AZ deployment, in the event of a planned or unplanned outage of your primary DB Instance, Amazon RDS automatically switches to the standby replica. The automatic failover mechanism simply changes the \_\_\_\_\_\_ record of the main DB Instance to point to the standby DB Instance.
    1. DNAME
    2. **CNAME**
    3. TXT
    4. MX
45. When automatic failover occurs, Amazon RDS will emit a DB Instance event to inform you that automatic failover occurred. You can use the \_\_\_\_\_ to return information about events related to your DB Instance
    1. FetchFailure
    2. DescriveFailure
    3. **DescribeEvents**
    4. FetchEvents
46. The new DB Instance that is created when you promote a Read Replica retains the backup window period.
    1. **TRUE**
    2. FALSE
47. Will I be alerted when automatic failover occurs?
    1. **Only if SNS configured**
    2. No
    3. Yes
    4. Only if Cloudwatch configured
48. Can I initiate a “forced failover” for my MySQL Multi-AZ DB Instance deployment?
    1. Only in certain regions
    2. Only in VPC
    3. **Yes**
    4. No
49. A user is accessing RDS from an application. The user has enabled the Multi AZ feature with the MS SQL RDS DB. During a planned outage how will AWS ensure that a switch from DB to a standby replica will not affect access to the application?
    1. RDS will have an internal IP which will redirect all requests to the new DB
    2. **RDS uses DNS to switch over to standby replica for seamless transition**
    3. The switch over changes Hardware so RDS does not need to worry about access
    4. RDS will have both the DBs running independently and the user has to manually switch over
50. Which of the following is part of the failover process for a Multi-Availability Zone Amazon Relational Database Service (RDS) instance?
    1. The failed RDS DB instance reboots.
    2. The IP of the primary DB instance is switched to the standby DB instance.
    3. **The DNS record for the RDS endpoint is changed from primary to standby.**
    4. A new DB instance is created in the standby availability zone.
51. Which of the following are use cases for Amazon DynamoDB? Choose 3 answers
    1. Storing BLOB data.
    2. **Managing web sessions**
    3. **Storing JSON documents**
    4. **Storing metadata for Amazon S3 objects**
    5. Running relational joins and complex updates.
    6. Storing large amounts of infrequently accessed data.
52. A client application requires operating system privileges on a relational database server. What is an appropriate configuration for highly available database architecture?
    1. A standalone Amazon EC2 instance
    2. Amazon RDS in a Multi-AZ configuration
    3. Amazon EC2 instances in a replication configuration utilizing a single Availability Zone
    4. **Amazon EC2 instances in a replication configuration utilizing two different Availability Zones**
53. You are developing a new mobile application and are considering storing user preferences in AWS, which would provide a more uniform cross-device experience to users using multiple mobile devices to access the application. The preference data for each user is estimated to be 50KB in size. Additionally 5 million customers are expected to use the application on a regular basis. The solution needs to be cost-effective, highly available, scalable and secure, how would you design a solution to meet the above requirements?
    1. Setup an RDS MySQL instance in 2 availability zones to store the user preference data. Deploy a public facing application on a server in front of the database to manage security and access credentials
    2. **Setup a DynamoDB table with an item for each user having the necessary attributes to hold the user preferences. The mobile application will query the user preferences directly from the DynamoDB table. Utilize STS. Web Identity Federation, and DynamoDB Fine Grained Access Control to authenticate and authorize access**(DynamoDB provides high availability as it synchronously replicates data across three facilities within an AWS Region and scalability as it is designed to scale its provisioned throughput up or down while still remaining available. Also suitable for storing user preference data)
    3. Setup an RDS MySQL instance with multiple read replicas in 2 availability zones to store the user preference data .The mobile application will query the user preferences from the read replicas. Leverage the MySQL user management and access privilege system to manage security and access credentials.
    4. Store the user preference data in S3 Setup a DynamoDB table with an item for each user and an item attribute pointing to the user’ S3 object. The mobile application will retrieve the S3 URL from DynamoDB and then access the S3 object directly utilize STS, Web identity Federation, and S3 ACLs to authenticate and authorize access.

You are working with a customer who has 10 TB of archival data that they want to migrate to Amazon Glacier. The customer has a 1-Mbps connection to the Internet. Which service or feature provides the fastest method of getting the data into Amazon Glacier?

1. Amazon Glacier multipart upload
2. AWS Storage Gateway
3. VM Import/Export
4. **AWS Import/Export**
5. What does Amazon SWF stand for?
   1. Simple Web Flow
   2. **Simple Work Flow**
   3. Simple Wireless Forms
   4. Simple Web Form
6. For which of the following use cases are Simple Workflow Service (SWF) and Amazon EC2 an appropriate solution? Choose 2 answers
   1. Using as an endpoint to collect thousands of data points per hour from a distributed fleet of sensors
   2. **Managing a multi-step and multi-decision checkout process of an e-commerce website**
   3. **Orchestrating the execution of distributed and auditable business processes**
   4. Using as an SNS (Simple Notification Service) endpoint to trigger execution of video transcoding jobs
   5. Using as a distributed session store for your web application
7. Amazon SWF is designed to help users…
   1. … Design graphical user interface interactions
   2. … Manage user identification and authorization
   3. … Store Web content
   4. **… Coordinate synchronous and asynchronous tasks which are distributed and fault tolerant.**
8. What does a “Domain” refer to in Amazon SWF?
   1. A security group in which only tasks inside can communicate with each other
   2. A special type of worker
   3. **A collection of related Workflows**
   4. The DNS record for the Amazon SWF service
9. Your company produces customer commissioned one-of-a-kind skiing helmets combining nigh fashion with custom technical enhancements Customers can show oft their Individuality on the ski slopes and have access to head-up-displays. GPS rear-view cams and any other technical innovation they wish to embed in the helmet. The current manufacturing process is data rich and complex including assessments to ensure that the custom electronics and materials used to assemble the helmets are to the highest standards Assessments are a mixture of human and automated assessments you need to add a new set of assessment to model the failure modes of the custom electronics using GPUs with CUD across a cluster of servers with low latency networking. What architecture would allow you to automate the existing process using a hybrid approach and ensure that the architecture can support the evolution of processes over time?
   1. Use AWS Data Pipeline to manage movement of data & meta-data and assessments Use an auto-scaling group of G2 instances in a placement group.
   2. **Use Amazon Simple Workflow (SWF) to manage assessments, movement of data & meta-data. Use an autoscaling group of G2 instances in a placement group.**
   3. Use Amazon Simple Workflow (SWF) lo manages assessments movement of data & meta-data Use an autoscaling group of C3 instances with SR-IOV (Single Root I/O Virtualization).
   4. Use AWS data Pipeline to manage movement of data & meta-data and assessments use auto-scaling group of C3 with SR-IOV (Single Root I/O virtualization).
10. Your startup wants to implement an order fulfillment process for selling a personalized gadget that needs an average of 3-4 days to produce with some orders taking up to 6 months you expect 10 orders per day on your first day. 1000 orders per day after 6 months and 10,000 orders after 12 months. Orders coming in are checked for consistency men dispatched to your manufacturing plant for production quality control packaging shipment and payment processing If the product does not meet the quality standards at any stage of the process employees may force the process to repeat a step Customers are notified via email about order status and any critical issues with their orders such as payment failure. Your case architecture includes AWS Elastic Beanstalk for your website with an RDS MySQL instance for customer data and orders. How can you implement the order fulfillment process while making sure that the emails are delivered reliably?
    1. Add a business process management application to your Elastic Beanstalk app servers and re-use the ROS database for tracking order status use one of the Elastic Beanstalk instances to send emails to customers.
    2. Use SWF with an Auto Scaling group of activity workers and a decider instance in another Auto Scaling group with min/max=1. Use the decider instance to send emails to customers.
    3. **Use SWF with an Auto Scaling group of activity workers and a decider instance in another Auto Scaling group with min/max=1. Use SES to send emails to customers.**
    4. Use an SQS queue to manage all process tasks Use an Auto Scaling group of EC2 Instances that poll the tasks and execute them. Use SES to send emails to customers.

You’ve been hired to enhance the overall security posture for a very large e-commerce site. They have a well architected multi-tier application running in a VPC that uses ELBs in front of both the web and the app tier with static assets served directly from S3. They are using a combination of RDS and DynamoDB for their dynamic data and then archiving nightly into S3 for further processing with EMR. They are concerned because they found questionable log entries and suspect someone is attempting to gain unauthorized access. Which approach provides a cost effective scalable mitigation to this kind of attack?

1. Recommend mat they lease space at a DirectConnect partner location and establish a 1G DirectConnect connection to tneirvPC they would then establish Internet connectivity into their space, filter the traffic in hardware Web Application Firewall (WAF). And then pass the traffic through the DirectConnect connection into their application running in their VPC. (Not cost effective)
2. Add previously identified hostile source IPs as an explicit INBOUND DENY NACL to the web tier subnet. (does not protect against new source)
3. **Add a WAF tier by creating a new ELB and an AutoScaling group of EC2 Instances running a host-based WAF. They would redirect Route 53 to resolve to the new WAF tier ELB. The WAF tier would then pass the traffic to the current web tier. Web tier Security Groups would be updated to only allow traffic from the WAF tier Security Group**
4. Remove all but TLS 1.2 from the web tier ELB and enable Advanced Protocol Filtering This will enable the ELB itself to perform WAF functionality. (No advanced protocol filtering in ELB)
5. What does Amazon Route53 provide?
   1. A global Content Delivery Network.
   2. None of these.
   3. **A scalable Domain Name System**
   4. An SSH endpoint for Amazon EC2.
6. Does Amazon Route 53 support NS Records?
   1. Yes, it supports Name Service records.
   2. No
   3. It supports only MX records.
   4. **Yes, it supports Name Server records.**
7. Does Route 53 support MX Records?
   1. **Yes**
   2. It supports CNAME records, but not MX records.
   3. No
   4. Only Primary MX records. Secondary MX records are not supported.
8. Which of the following statements are true about Amazon Route 53 resource records? Choose 2 answers
   1. **An Alias record can map one DNS name to another Amazon Route 53 DNS name.**
   2. A CNAME record can be created for your zone apex.
   3. **An Amazon Route 53 CNAME record can point to any DNS record hosted anywhere.**
   4. TTL can be set for an Alias record in Amazon Route 53.
   5. An Amazon Route 53 Alias record can point to any DNS record hosted anywhere.
9. A customer is hosting their company website on a cluster of web servers that are behind a public-facing load balancer. The customer also uses Amazon Route 53 to manage their public DNS. How should the customer configure the DNS zone apex record to point to the load balancer?
   1. Create an A record pointing to the IP address of the load balancer
   2. Create a CNAME record pointing to the load balancer DNS name.
   3. Create a CNAME record aliased to the load balancer DNS name.
   4. **Create an A record aliased to the load balancer DNS name**
10. A user has configured ELB with three instances. The user wants to achieve High Availability as well as redundancy with ELB. Which of the below mentioned AWS services helps the user achieve this for ELB?
    1. **Route 53**
    2. AWS Mechanical Turk
    3. Auto Scaling
    4. AWS EMR
11. How can the domain’s zone apex for example “myzoneapexdomain com” be pointed towards an Elastic Load Balancer?
    1. By using an AAAA record
    2. By using an A record
    3. By using an Amazon Route 53 CNAME record
    4. **By using an Amazon Route 53 Alias record**
12. In the basic monitoring package for EC2, Amazon CloudWatch provides the following metrics:
    1. Web server visible metrics such as number failed transaction requests
    2. Operating system visible metrics such as memory utilization
    3. Database visible metrics such as number of connections
    4. **Hypervisor visible metrics such as CPU utilization**
13. Which of the following requires a custom CloudWatch metric to monitor?
    1. **Memory Utilization of an EC2 instance**
    2. CPU Utilization of an EC2 instance
    3. Disk usage activity of an EC2 instance
    4. Data transfer of an EC2 instance
14. A user has configured CloudWatch monitoring on an EBS backed EC2 instance. If the user has not attached any additional device, which of the below mentioned metrics will always show a 0 value?
    1. **DiskReadBytes**
    2. NetworkIn
    3. NetworkOut
    4. CPUUtilization
15. A user is running a batch process on EBS backed EC2 instances. The batch process starts a few instances to process Hadoop Map reduce jobs, which can run between 50 – 600 minutes or sometimes for more time. The user wants to configure that the instance gets terminated only when the process is completed. How can the user configure this with CloudWatch?
    1. **Setup the CloudWatch action to terminate the instance when the CPU utilization is less than 5%**
    2. Setup the CloudWatch with Auto Scaling to terminate all the instances
    3. Setup a job which terminates all instances after 600 minutes
    4. It is not possible to terminate instances automatically
16. An AWS account owner has setup multiple IAM users. One IAM user only has CloudWatch access. He has setup the alarm action, which stops the EC2 instances when the CPU utilization is below the threshold limit. What will happen in this case?
    1. It is not possible to stop the instance using the CloudWatch alarm
    2. CloudWatch will stop the instance when the action is executed
    3. The user cannot set an alarm on EC2 since he does not have the permission
    4. **The user can setup the action but it will not be executed if the user does not have EC2 rights**
17. A user has launched 10 instances from the same AMI ID using Auto Scaling. The user is trying to see the average CPU utilization across all instances of the last 2 weeks under the CloudWatch console. How can the user achieve this?
    1. View the Auto Scaling CPU metrics
    2. **Aggregate the data over the instance AMI ID**
    3. The user has to use the CloudWatchanalyser to find the average data across instances
    4. It is not possible to see the average CPU utilization of the same AMI ID since the instance ID is different
18. What does Amazon RDS stand for?
    1. Regional Data Server.
    2. **Relational Database Service**
    3. Regional Database Service.
19. How many relational database engines does RDS currently support?
    1. **MySQL, Postgres, MariaDB, Oracle and Microsoft SQL Server**
    2. Just two: MySQL and Oracle.
    3. Five: MySQL, PostgreSQL, MongoDB, Cassandra and SQLite.
    4. Just one: MySQL.
20. If I modify a DB Instance or the DB parameter group associated with the instance, should I reboot the instance for the changes to take effect?
    1. No
    2. **Yes**
21. What is the name of licensing model in which I can use your existing Oracle Database licenses to run Oracle deployments on Amazon RDS?
    1. **Bring Your Own License**
    2. Role Bases License
    3. Enterprise License
    4. License Included
22. Will I be charged if the DB instance is idle?
    1. No
    2. **Yes**
    3. Only is running in GovCloud
    4. Only if running in VPC
23. What is the minimum charge for the data transferred between Amazon RDS and Amazon EC2 Instances in the same Availability Zone?
    1. USD 0.10 per GB
    2. **No charge. It is free.**
    3. USD 0.02 per GB
    4. USD 0.01 per GB
24. Does Amazon RDS allow direct host access via Telnet, Secure Shell (SSH), or Windows Remote Desktop Connection?
    1. Yes
    2. **No**
    3. Depends on if it is in VPC or not
25. What are the two types of licensing options available for using Amazon RDS for Oracle?
    1. BYOL and Enterprise License
    2. **BYOL and License Included**
    3. Enterprise License and License Included
    4. Role based License and License Included
26. A company needs to monitor the read and write IOPs metrics for their AWS MySQL RDS instance and send real-time alerts to their operations team. Which AWS services can accomplish this? Choose 2 answers
    1. Amazon Simple Email Service (Cannot be integrated with CloudWatch directly)
    2. **Amazon CloudWatch**
    3. Amazon Simple Queue Service
    4. Amazon Route 53
    5. **Amazon Simple Notification Service**
27. A customer needs to capture all client connection information from their load balancer every five minutes. The company wants to use this data for analyzing traffic patterns and troubleshooting their applications. Which of the following options meets the customer requirements?
    1. Enable AWS CloudTrail for the load balancer.
    2. **Enable access logs on the load balancer.** (Refer [link](https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/access-log-collection.html))
    3. Install the Amazon CloudWatch Logs agent on the load balancer.
    4. Enable Amazon CloudWatch metrics on the load balancer
28. A user is running a batch process on EBS backed EC2 instances. The batch process starts a few instances to process Hadoop Map reduce jobs, which can run between 50 – 600 minutes or sometimes for more time. The user wants to configure that the instance gets terminated only when the process is completed. How can the user configure this with CloudWatch?
    1. **Setup the CloudWatch action to terminate the instance when the CPU utilization is less than 5%**
    2. Setup the CloudWatch with Auto Scaling to terminate all the instances
    3. Setup a job which terminates all instances after 600 minutes
    4. It is not possible to terminate instances automatically
29. A user has two EC2 instances running in two separate regions. The user is running an internal memory management tool, which captures the data and sends it to CloudWatch in US East, using a CLI with the same namespace and metric. Which of the below mentioned options is true with respect to the above statement?
    1. The setup will not work as CloudWatch cannot receive data across regions
    2. **CloudWatch will receive and aggregate the data based on the namespace and metric**
    3. CloudWatch will give an error since the data will conflict due to two sources
    4. CloudWatch will take the data of the server, which sends the data first
30. A user is sending the data to CloudWatch using the CloudWatch API. The user is sending data 90 minutes in the future. What will CloudWatch do in this case?
    1. **CloudWatch will accept the data**
    2. It is not possible to send data of the future
    3. It is not possible to send the data manually to CloudWatch
    4. The user cannot send data for more than 60 minutes in the future
31. A user is having data generated randomly based on a certain event. The user wants to upload that data to CloudWatch. It may happen that event may not have data generated for some period due to randomness. Which of the below mentioned options is a recommended option for this case?
    1. For the period when there is no data, the user should not send the data at all
    2. For the period when there is no data the user should send a blank value
    3. **For the period when there is no data the user should send the value as 0**(Refer [User Guide)](https://docs.aws.amazon.com/AmazonCloudWatch/latest/monitoring/publishingMetrics.html#publishingZero)
    4. The user must upload the data to CloudWatch as having no data for some period will cause an error at CloudWatch monitoring
32. A user has a weighing plant. The user measures the weight of some goods every 5 minutes and sends data to AWS CloudWatch for monitoring and tracking. Which of the below mentioned parameters is mandatory for the user to include in the request list?
    1. Value
    2. **Namespace**
    3. Metric Name
    4. Timezone
33. A user has a refrigerator plant. The user is measuring the temperature of the plant every 15 minutes. If the user wants to send the data to CloudWatch to view the data visually, which of the below mentioned statements is true with respect to the information given above?
    1. **The user needs to use AWS CLI or API to upload the data**
    2. The user can use the AWS Import Export facility to import data to CloudWatch
    3. The user will upload data from the AWS console
    4. The user cannot upload data to CloudWatch since it is not an AWS service metric
34. A user has launched an EC2 instance. The user is planning to setup the CloudWatch alarm. Which of the below mentioned actions is not supported by the CloudWatch alarm?
    1. **Notify the Auto Scaling launch config to scale up**
    2. Send an SMS using SNS
    3. Notify the Auto Scaling group to scale down
    4. Stop the EC2 instance
35. A user has a refrigerator plant. The user is measuring the temperature of the plant every 15 minutes. If the user wants to send the data to CloudWatch to view the data visually, which of the below mentioned statements is true with respect to the information given above?
    1. **The user needs to use AWS CLI or API to upload the data**
    2. The user can use the AWS Import Export facility to import data to CloudWatch
    3. The user will upload data from the AWS console
    4. The user cannot upload data to CloudWatch since it is not an AWS service metric
36. A user is trying to aggregate all the CloudWatch metric data of the last 1 week. Which of the below mentioned statistics is not available for the user as a part of data aggregation?
    1. **Aggregate**
    2. Sum
    3. Sample data
    4. Average
37. A user has setup a CloudWatch alarm on an EC2 action when the CPU utilization is above 75%. The alarm sends a notification to SNS on the alarm state. If the user wants to simulate the alarm action how can he achieve this?
    1. Run activities on the CPU such that its utilization reaches above 75%
    2. From the AWS console change the state to ‘Alarm’
    3. **The user can set the alarm state to ‘Alarm’ using CLI**
    4. Run the SNS action manually
38. A user is publishing custom metrics to CloudWatch. Which of the below mentioned statements will help the user understand the functionality better?
    1. The user can use the CloudWatch Import tool
    2. **The user should be able to see the data in the console after around 15 minutes**
    3. If the user is uploading the custom data, the user must supply the namespace, timezone, and metric name as part of the command
    4. The user can view as well as upload data using the console, CLI and APIs
39. You are running a database on an EC2 instance, with the data stored on Elastic Block Store (EBS) for persistence At times throughout the day, you are seeing large variance in the response times of the database queries Looking into the instance with the isolate command you see a lot of wait time on the disk volume that the database’s data is stored on. What two ways can you improve the performance of the database’s storage while maintaining the current persistence of the data? Choose 2 answers
    1. Move to an SSD backed instance
    2. **Move the database to an EBS-Optimized Instance**
    3. **Use Provisioned IOPs EBS**
    4. Use the ephemeral storage on an m2.4xLarge Instance Instead
40. Amazon RDS automated backups and DB Snapshots are currently supported for only the \_\_\_\_\_\_\_\_\_\_ storage engine
    1. **InnoDB**
    2. MyISAM
41. Amazon RDS automated backups and DB Snapshots are currently supported for only the \_\_\_\_\_\_\_\_\_\_ storage engine
    1. **InnoDB**
    2. MyISAM
42. Automated backups are enabled by default for a new DB Instance.
    1. **TRUE**
    2. FALSE
43. Amazon RDS DB snapshots and automated backups are stored in
    1. **Amazon S3**
    2. Amazon EBS Volume
    3. Amazon RDS
    4. Amazon EMR
44. You receive a frantic call from a new DBA who accidentally dropped a table containing all your customers. Which Amazon RDS feature will allow you to reliably restore your database to within 5 minutes of when the mistake was made?
    1. Multi-AZ RDS
    2. RDS snapshots
    3. RDS read replicas
    4. **RDS automated backup**
45. Disabling automated backups \_\_\_\_\_\_ disable the point-in-time recovery.
    1. if configured to can
    2. will never
    3. **will**
46. Changes to the backup window take effect \_\_\_\_\_\_.
    1. from the next billing cycle
    2. after 30 minutes
    3. **immediately**
    4. after 24 hours
47. You can modify the backup retention period; valid values are 0 (for no backup retention) to a maximum of \_\_\_\_\_\_\_\_\_\_\_ days.
    1. 45
    2. **35**
    3. 15
    4. 5
48. Amazon RDS automated backups and DB Snapshots are currently supported for only the \_\_\_\_\_\_ storage engine
    1. MyISAM
    2. **InnoDB**
49. What happens to the I/O operations while you take a database snapshot?
    1. **I/O operations to the database are suspended for a few minutes while the backup is in progress.**
    2. I/O operations to the database are sent to a Replica (if available) for a few minutes while the backup is in progress.
    3. I/O operations will be functioning normally
    4. I/O operations to the database are suspended for an hour while the backup is in progress
50. True or False: When you perform a restore operation to a point in time or from a DB Snapshot, a new DB Instance is created with a new endpoint.
    1. FALSE
    2. **TRUE**
51. True or False: Manually created DB Snapshots are deleted after the DB Instance is deleted.
    1. TRUE
    2. **FALSE**