

Exam: AWS Certified Developer Associate (DVA-C01)

Total number of questions: 504

Exam A: 188 questions

Exam B: 208 questions

Exam C: 108 questions

Ebay: BestExamPractice

EXAM A

QUESTION 1. You have an application running on Amazon Elastic Compute Cloud (Amazon EC2) that needs read-only access to several AWS services. What is the best way to grant that application permissions only to a specific set of resources within your account?

- A.** Use API credentials derived based on the AWS account.
- B.** Launch the EC2 instance into an AWS Identity and Access Management (IAM) role and attach the ReadOnlyAccess IAM-managed policy.
- C.** Declare the necessary permissions as statements in the AWS SDK configuration file on the EC2 instance.
- D.** Launch the EC2 instance into an IAM role with custom IAM policies for the permissions.

Correct answer:D

QUESTION 2. You have deployed a new application in the US West (Oregon) Region. However, you have accidentally deployed an Amazon Polly lexicon needed for your application in EU (London). How can you use your lexicon to synthesize speech while minimizing the changes to your application code and reducing cost?

- A.** Point your SDK client to the EU (London) for all requests to Amazon Polly, but to US West (Oregon) for all other API calls.
- B.** No action needed; the data is automatically available from all Regions.
- C.** Upload a copy of the lexicon to US West (Oregon).
- D.** Move the rest of the application resources to EU (London).

Correct answer:C

QUESTION 3. When you're placing subnets for a specific Amazon Virtual Private Cloud (Amazon VPC), you can place the subnets in which of the following?

- A.** In any Availability Zone within the Region for the Amazon VPC
- B.** In any Availability Zone in any Region
- C.** In any AWS edge location
- D.** In any specific AWS data center

Correct answer:A

QUESTION 4. You have identified two Amazon Elastic Compute Cloud (Amazon EC2) instances in your account that appear to have the same private IP address. What could be the cause?

- A.** These instances are in different Amazon Virtual Private Cloud (Amazon VPCs).
- B.** The instances are in different subnets.
- C.** The instances have different network ACLs.
- D.** The instances have different security groups.

Correct answer:A

QUESTION 5. You have a workload that requires 15,000 consistent IOPS for data that must be durable.

What combination of the following do you need? (Select TWO.)

- A. Use an Amazon Elastic Block Store (Amazon EBS) optimized instance.
- B. Use an instance store.
- C. Use a Provisioned IOPS SSD volume.
- D. Use a previous-generation EBS volume.

Correct answer: AC

QUESTION 6. Your company stores critical documents in Amazon Simple Storage Service (Amazon S3),

but it wants to minimize cost. Most documents are used actively for only about one month and then used much less frequently after that. However, all data needs to be available within minutes when requested. How can you meet these requirements?

- A. Migrate the data to Amazon S3 Reduced Redundancy Storage (RRS) after 30 days.
- B. Migrate the data to Amazon S3 Glacier after 30 days.
- C. Migrate the data to Amazon S3 Standard – Infrequent Access (IA) after 30 days.
- D. Turn on versioning and then migrate the older version to Amazon S3 Glacier.

Correct answer: C

QUESTION 7. You are migrating your company's applications and data from on-premises to the AWS

Cloud. You have performed a data inventory and discovered that you will need to transfer about 2 PB of data to AWS. Which migration option will be the best choice for your company with minimal cost and shortest time?

- A. AWS Snowball
- B. AWS Snowmobile
- C. Upload files directly to AWS over the internet using Amazon Simple Storage Service (Amazon S3) Transfer Acceleration.
- D. Amazon Kinesis Data Firehose

Correct answer: A

QUESTION 8. You are changing your application to take advantage of the elasticity and cost benefits provided

by AWS Auto Scaling. To do this, you must move session state information from the individual Amazon Elastic Compute Cloud (Amazon EC2) instances. Which of the following AWS Cloud services is best suited as an alternative for storing session state information?

- A. Amazon DynamoDB
- B. Amazon Redshift
- C. AWS Storage Gateway
- D. Amazon Kinesis

Correct answer: A

QUESTION 9. Your company's senior management wants to query several data stores to obtain a "big picture" view of the business. The amount of data contained within the data stores is at least 2 TB in size. Which of the following is the best AWS service to deliver results to senior management?

- A. Amazon Elastic Block Store (Amazon EBS)
- B. Amazon Simple Storage Service (Amazon S3)
- C. Amazon Relational Database Service (Amazon RDS)
- D. Amazon Redshift

Correct answer:D

QUESTION 10. Your ecommerce application provides daily and ad hoc reporting to various business

units on customer purchases. These operations result in a high level of read traffic to your MySQL Amazon Relational Database Service (Amazon RDS) instance. What can you do to scale up read traffic without impacting your database's performance?

- A. Increase the allocated storage for the Amazon RDS instance.
- B. Modify the Amazon RDS instance to be a Multi-AZ deployment.

- C. Create a read replica for an Amazon RDS instance.
- D. Change the Amazon RDS instance DB engine version.

Correct answer:C

QUESTION 11. Your company has refactored their application to use NoSQL instead of SQL. They would like to use a managed service for running the new NoSQL database. Which AWS service should you recommend?

- A. Amazon Relational Database Service (Amazon RDS)
- B. Amazon Elastic Compute Cloud (Amazon EC2)
- C. Amazon DynamoDB
- D. Amazon Redshift

Correct answer:C

QUESTION 12. A company is currently using Amazon Relational Database Service (Amazon RDS);

however, they are retiring a database that is currently running. They have automatic backups enabled on the database. They want to make sure that they retain the last backup before deleting the Amazon RDS database. As the lead developer on the project, what should you do?

- A. Delete the database. Amazon RDS automatic backups are already enabled.
- B. Create a manual snapshot before deleting the database.
- C. Use the AWS Database Migration Service (AWS DMS) to back up the database.

D. SSH into the Amazon RDS database and perform a SQL dump.

Correct answer:B

QUESTION 13. When using Amazon Redshift, which node do you use to run your SQL queries?

- A. Compute node
- B. Cluster node
- C. Master node
- D. Leader node

Correct answer:D

QUESTION 14. Your company is building a recommendation feature for their application. They would like

to use an AWS managed graph database. Which service should you recommend?

- A. Amazon Relational Database Service (Amazon RDS)
- B. Amazon Neptune
- C. Amazon ElastiCache
- D. Amazon Redshift

Correct answer:B

QUESTION 15. You have an Amazon DynamoDB table that has a partition key and a sort key. However, a

business analyst on your team wants to be able to query the DynamoDB table with a different partition key. What should you do?

- A. Create a local secondary index.
- B. Create a global secondary index.
- C. Create a new DynamoDB table.
- D. Advise the business analyst that this is not possible.

Correct answer:B

QUESTION 16. An application is using Amazon DynamoDB. Recently, a developer on your team has

noticed that occasionally the application does not return the most up-to-date data after a read from the database. How can you solve this issue?

- A. Increase the number of read capacity units (RCUs) for the table.
- B. Increase the number of write capacity units (WCUs) for the table.
- C. Refactor the application to use a SQL database.
- D. Configure the application to perform a strongly consistent read.

Correct answer:D

QUESTION 17. A developer on your team would like to test a new idea and requires a NoSQL database.

Your current applications are using Amazon DynamoDB. What should you recommend?

- A. Create a new table inside DynamoDB.
- B. Use DynamoDB Local.
- C. Use another NoSQL database on-premises.
- D. Create an Amazon Elastic Compute Cloud (Amazon EC2) instance, and install a NoSQL database.

Correct answer: B

QUESTION 18. The AWS Encryption SDK provides an encryption library that integrates with AWS Key

Management Service (AWS KMS) as a master key provider. Which of the following operations does the AWS Encryption SDK perform to build on the AWS SDKs?

- A. Generates, encrypts, and decrypts data keys
- B. Uses the data keys to encrypt and decrypt your raw data
- C. Stores the encrypted data keys with the corresponding encrypted data in a single object
- D. All of the above

Correct answer: D

QUESTION 19. Of all the cryptographic algorithms that the AWS Encryption SDK supports, which one is the default algorithm?

- A. AES-256
- B. AES-192
- C. AES-128
- D. SSH-256

Correct answer: A

QUESTION 20. Amazon Elastic Block Store (Amazon EBS) volumes are encrypted by default.

- A. True
- B. False

Correct answer: B

QUESTION 21. Which of the following cannot be retained when deleting an AWS Elastic Beanstalk environment?

- A. Source code from the Git repository
- B. Data from the automatic backups of an Amazon Relational Database Service (Amazon RDS) instance
- C. Packaged code from the source bundle stored in an Amazon Simple Storage Service (Amazon S3) bucket

D. Data from the snapshot of an Amazon RDS instance

Correct answer:B

QUESTION 22. Which of the following is not part of the AWS Elastic Beanstalk functionality?

- A. Notify the account user of language runtime platform changes
- B. Display events per environment
- C. Show instance statuses per environment
- D. Perform automatic changes to AWS Identity and Access Management (IAM) policies

Correct answer:D

QUESTION 23. What happens to AWS CodePipeline revisions that, upon reaching a manual approval gate, are rejected?

- A. The pipeline continues.
- B. A notification is sent to the account administrator.
- C. The revision is treated as failed.
- D. The pipeline creates a revision clone and continues.

Correct answer:C

QUESTION 24. Which of the following is an invalid strategy for migrating data to AWS CodeCommit?

- A. Incrementally committing files from a large repository
- B. Syncing the files from Amazon Simple Storage Service (Amazon S3) using the sync AWS CLI command
- C. Cloning an existing repository, updating the remote, and pushing
- D. Manually creating files in the AWS Management Console

Correct answer:B

QUESTION 25. You have an AWS CodeBuild task in your pipeline that requires large binary files that do

not frequently change. What would be the best way to include these files in your build?

- A. Store the files in your source code repository. They will be passed in as part of the revision.
- B. Store the files in an Amazon Simple Storage Service (Amazon S3) bucket and copy them during the build.
- C. Create a custom build container that includes the files.
- D. It is not possible to include files above a certain size.

Correct answer:C

QUESTION 26. When you update an AWS::S3::Bucket resource, what is the expected behavior if the Name property is updated?

- A. The resource is updated with no interruption.
- B. The resource is updated with some interruption.
- C. The resource is replaced.
- D. The resource is deleted.

Correct answer:C

QUESTION 27. What is the preferred method for updating resources created by AWS CloudFormation?

- A. Updating the resource directly in the AWS Management Console
- B. Submitting an updated template to AWS CloudFormation to modify the stack
- C. Updating the resource using the AWS Command Line Interface (AWS CLI)
- D. Updating the resource using an AWS Software Development Kit (AWS SDK)

Correct answer:B

QUESTION 28. When does the AWS OpsWorks Stacks configure lifecycle event run?

- A. On individual instances immediately when they are first created
- B. On individual instances after a deploy lifecycle event
- C. On all instances in a stack when a single instance comes online or goes offline
- D. On all instances in a stack after a deploy lifecycle event

Correct answer:C

QUESTION 29. Which non-Amazon Elastic Compute Cloud (Amazon EC2) AWS resources can AWS

OpsWorks Stacks manage? (Select THREE.)

- A. Elastic IP addresses
- B. Amazon Elastic Block Store (Amazon EBS) volumes
- C. Amazon Relational Database Service (Amazon RDS) database instances
- D. Amazon ElastiCache clusters
- E. Amazon Redshift data warehouses

Correct answer:ABC

QUESTION 30. Which AWS Cloud service can Simple Active Directory (Simple AD) use to authenticate users?

- A. Amazon WorkDocs
- B. Amazon Cognito
- C. Amazon Elastic Compute Cloud (Amazon EC2)
- D. Amazon Simple Storage Service (Amazon S3)

Correct answer:A

QUESTION 31. What is the best application of Amazon Cognito?

- A. Use instead of Active Directory for AWS Identity and Access Management (IAM) users.
- B. Provide authentication to third-party web applications.
- C. Use as an Amazon Aurora database.
- D. Use to access objects in an Amazon Simple Storage Service (Amazon S3) bucket.

Correct answer: B

QUESTION 32. You manage a sales tracking system in which point-of-sale devices send transactions of this form:

```
{"date": "2017-01-30", "amount": 100.20, "product_id": "1012", "region": "WA", "customer_id": "3382"}
```

You need to generate two real-time reports. The first reports on the total sales per day for each customer. The second reports on the total sales per day for each product. Which AWS offerings and services can you use to generate these real-time reports?

- A. Ingest the data through Amazon Kinesis Data Streams. Use Amazon Kinesis Data Analytics to query for sales per day for each product and sales per day for each customer using SQL queries. Feed the result into two new streams in Amazon Kinesis Data Firehose.
- B. Ingest the data through Kinesis Data Streams. Use Kinesis Data Firehose to query for sales per day for each product and sales per day for each customer with SQL queries. Feed the result into two new streams in Kinesis Data Firehose.

C. Ingest the data through Kinesis Data Analytics. Use Kinesis Data Streams to query for sales per day for each product and sales per day for each customer with SQL queries. Feed the result into two new streams in Kinesis Data Firehose.

D. Ingest the data in Amazon Simple Queue Service (Amazon SQS). Use Kinesis Data Firehose to query for sales per day for each product and sales per day for each customer with SQL queries. Feed the result into two new streams in Kinesis Data Firehose.

Correct answer: A

QUESTION 33. You design an application for selling toys online. Every time a customer orders a toy, you

want to add an item into the orders table in Amazon DynamoDB and send an email to the customer acknowledging their order. The solution should be performant and cost-effective. How can you trigger this email?

- A. Use an Amazon Simple Queue Service (Amazon SQS) queue.
- B. Schedule an AWS Lambda function to check for changes to the orders table every minute.
- C. Schedule an Lambda function to check for changes to the orders table every second.
- D. Use Amazon DynamoDB Streams.

Correct answer: D

QUESTION 34. A company would like to use Amazon DynamoDB. They want to set up a NoSQL-style

trigger. Is this something that can be accomplished? If so, how?

- A. No. This cannot be done with DynamoDB and NoSQL.
- B. Yes, but not with AWS Lambda.
- C. No. DynamoDB is not a supported event source for Lambda.
- D. Yes. You can use Amazon DynamoDB Streams and poll them with Lambda.

Correct answer:D

QUESTION 35. A company wants to access the infrastructure on which AWS Lambda runs. Is this possible?

- A. No. Lambda is a managed service and runs the necessary infrastructure on your behalf.
- B. Yes. They can access the infrastructure and make changes to the underlying OS.
- C. Yes. They need to open a support ticket.
- D. Yes, but they need to contact their Solutions Architect to provide access to the environment.

Correct answer:A

QUESTION 36. Using the smallest amount of memory possible for an AWS Lambda function, currently

128 MB, will result in the lowest bill.

- A. True. Lambda bills based on the total memory allocated.
- B. False. Lambda has a flat rate—memory allocation is not important for billing, only performance.
- C. False. Lambda bills based on memory plus the number of times that you trigger the function.
- D. False. Lambda bills based on memory, the amount of compute time spent on a function in 100-ms increments, and the number of times that you execute or trigger a function.

Correct answer:D

QUESTION 37. Which Amazon services can you use for caching? (Select TWO.)

- A. AWS CloudFormation
- B. Amazon Simple Storage Service (Amazon S3)
- C. Amazon CloudFront
- D. Amazon ElastiCache

Correct answer:CD

QUESTION 38. Which Amazon API Gateway feature enables you to create a separate path that can be helpful

in creating a development endpoint and a production endpoint?

- A. Authorizers

- B. API keys
- C. Stages
- D. Cross-origin resource sharing (CORS)

Correct answer:C

QUESTION 39. Which of the following methods does Amazon API Gateway support?

- A. GET
- B. POST
- C. OPTIONS
- D. All of the above

Correct answer:D

QUESTION 40. Which authorization mechanisms does Amazon API Gateway support?

- A. AWS Identity and Access Management (IAM) policies
- B. AWS Lambda custom authorizers
- C. Amazon Cognito user pools
- D. All of the above

Correct answer:D

QUESTION 41. Which tool can you use to develop and test AWS Lambda functions locally?

- A. AWS Serverless Application Model (AWS SAM)
- B. AWS SAM CLI
- C. AWS CloudFormation
- D. None of the above

Correct answer:B

QUESTION 42. Which serverless AWS service can you use to store user session state?

- A. Amazon Elastic Compute Cloud (Amazon EC2)
- B. Amazon ElastiCache
- C. AWS Elastic Beanstalk
- D. Amazon DynamoDB

Correct answer:D

QUESTION 43. Which AWS service can you use to store user profile information?

- A. Amazon CloudFront
- B. Amazon Cognito
- C. Amazon Kinesis
- D. AWS Lambda

Correct answer:B

QUESTION 44. Which of the following objects are good candidates to store in a cache? (Select THREE.)

- A. Session state
- B. Shopping cart
- C. Product catalog
- D. Bank account balance

Correct answer:ABC

QUESTION 45. Which of the following cache engines does Amazon ElastiCache support? (Select TWO.)

- A. Redis
- B. MySQL
- C. Couchbase
- D. Memcached

Correct answer:AD

QUESTION 46. How can you aggregate Amazon CloudWatch metrics across Regions?

- A. CloudWatch does not aggregate data across Regions.
- B. This is enabled by default.
- C. Send the metric data from other Regions to Amazon Simple Storage Service (Amazon S3) for retrieval by CloudWatch.
- D. Stream the metric data to Amazon Kinesis, and retrieve it using an AWS Lambda function.

Correct answer:A

QUESTION 47. Why would an Amazon CloudWatch alarm report as INSUFFICIENT_DATA instead of OK or ALARM? (Select THREE.)

- A. The alarm was just created.
- B. The metric is not available.
- C. There is an AWS Identity and Access Management (IAM) permission preventing the metric from receiving data.
- D. Not enough data is available for the metric to determine the alarm state.
- E. The alarm period is missing.

Correct answer:ABD

QUESTION 48. You were asked to develop an administrative web application that consumes low throughput and rarely receives high traffic. Which of the following instance type families will be the most optimized choice?

- A. Memory optimized

- B. Compute optimized
- C. General purpose
- D. Accelerated computing

Correct answer:C

QUESTION 49. Which of the following AWS Cost Management Tools can you use to view your costs and

find ways to take advantage of elasticity?

- A. AWS Cost Explorer
- B. AWS Trusted Advisor
- C. Amazon CloudWatch
- D. Amazon EC2 Auto Scaling

Correct answer:A

QUESTION 50. Because cloud resources are easier to deploy and they incur usage-based costs, your organization

is setting up good governance rules to manage costs. They are currently focusing on controlling and restricting Amazon Elastic Compute Cloud (Amazon EC2) instance deployments.

Which of the following is an effective recommendation?

- A. Seek approval from Cost Engineering teams before deploying any EC2 instances.
- B. Use AWS Identity and Access Management (IAM) policies to enable engineers to deploy EC2 instances only when specific mandatory tags are used.
- C. Review Amazon CloudWatch metrics to optimize the resource utilization.
- D. Use AWS Cost Explorer usage and forecasting reports.

Correct answer:B

QUESTION 51. Because your applications are showing a consistent steady-state compute usage, you have

decided to purchase Amazon Elastic Compute Cloud (Amazon EC2) Reserved Instances to gain significant pricing discounts. Which of the following is *not* the best purchase option?

- A. All Upfront
- B. Partial Upfront
- C. No Upfront
- D. Pay-as-you-go

Correct answer:D

QUESTION 52. Your application processes transaction-heavy and IOPS-intensive database workloads. You

need to choose the right Amazon Elastic Block Store (Amazon EBS) volume so that application performance is not affected. Which of the following options would you suggest?

- A. HDD-backed storage (st1)

- B. SSD-backed storage (io1)
- C. Amazon Simple Storage Service (Amazon S3) Intelligent Tier class storage
- D. Cold HDD-backed storage (sc1)

Correct answer: B

QUESTION 53. A legacy financial institution is planning for a huge technical upgrade and planning to go global. The architecture depends heavily on using caching solutions. Which one of the following services does *not* fit into the caching solutions?

- A. Amazon ElastiCache for Redis
- B. Amazon ElastiCache for Memcached
- C. Amazon DynamoDB Accelerator
- D. Amazon Elastic Compute Cloud (Amazon EC2) memory-optimized

Correct answer: D

QUESTION 54. Which of the following characteristics separates Amazon DynamoDB from the Amazon

Relational Database Service (Amazon RDS) design?

- A. Incurs the performance costs of an ACID-compliant transaction system
- B. Normalizes data and stores it on multiple tables
- C. Keeps related data together
- D. May require expensive joins

Correct answer: C

QUESTION 55. Which of the following partition key choices is an inefficient design that leads to poor distribution of the data in an Amazon DynamoDB table?

- A. User ID, where the application has many users
- B. Device ID, where each device accesses data at relatively similar intervals
- C. Status code, where there are only a few possible status codes
- D. Session ID, where the user session remains distinct

Correct answer: C

QUESTION 56. You are planning to build serverless backends by using AWS Lambda to handle web,

mobile, Internet of Things (IoT), and third-party API requests. Which of the following are the main benefits in opting for a serverless architecture in this scenario? (Select THREE.)

- A. No need to manage servers
- B. No need to ensure application fault tolerance and fleet management
- C. No charge for idle capacity
- D. Flexible maintenance schedules
- E. Powered for high complex processing

Correct answer:ABC

QUESTION 57. Your enterprise infrastructure has recently migrated to the AWS Cloud. You are now trying to optimize the storage solutions. Which of the following are the appropriate storage management tools that you can use to review and analyze the storage classes and access patterns usage to help reduce costs? (Select TWO.)

- A. Amazon Simple Storage Service (Amazon S3) analytics
- B. Cost allocation Amazon S3 bucket tags
- C. Amazon S3 Transfer Acceleration
- D. Amazon Route 53
- E. AWS Budgets

Correct answer:AB

QUESTION 58. What are some challenges to consider when using the AWS Command Line Interface (AWS CLI) or AWS software development kits (AWS SDKs) to provision and manage infrastructure compared to AWS CloudFormation?

- A. Reduction of human error
- B. Repeatable infrastructure
- C. Reduced IAM permissions requirements
- D. Versionable infrastructure
- E. All of the above

Correct answer:E

QUESTION 59. What does a service token represent in a custom resource declaration?

- A. The AWS service that receives the request
- B. The Amazon Simple Notification Service (Amazon SNS) or AWS Lambda resource Amazon Resource Name (ARN) that receives the request
- C. The on-premises server IP address that receives the request
- D. The type of action to take
- E. The commands to execute for the custom resource

Correct answer:B

QUESTION 60. You are creating a custom resource associated with AWS Lambda that will execute several database functions in an Amazon Relational Database Service (Amazon RDS) database instance. As part of this, the functions will return data you would like to use in other resources declared in your AWS CloudFormation template.

How would you best pass this data to the other resources declared in the template?

- A. Store the data in a JSON file in an Amazon Simple Storage Service (Amazon S3) bucket, and use the AWS Command Line Interface (AWS CLI) to download the object.

- B. Store the output data in AWS Systems Manager Parameter Store, and query the parameter store using the AWS CLI.
- C. Use custom resource outputs to declare the returned data as resource properties. Then, query the properties using the Fn::GetAtt intrinsic function.
- D. This cannot be accomplished.

Correct answer:C

QUESTION 61. Which of the following is typically used to sign API calls to AWS services?

- A. Customer master key (CMK)
- B. AWS access key
- C. IAM user name and password
- D. Account number

Correct answer:B

QUESTION 62. When you make API calls to AWS services, for most services those requests are directed at a specific endpoint that corresponds to which of the following?

- A. AWS facility
- B. AWS Availability Zone
- C. AWS Region
- D. AWS edge location

Correct answer:C

QUESTION 63. When you're configuring a local development machine to make AWS API calls, which of the following is the simplest secure method of obtaining an API credential?

- A. Create an IAM user, assign permissions by adding the user to an IAM group with IAM policies attached, and generate an access key for programmatic access.
- B. Sign in with your email and password, and visit My Security Credentials to generate an access key.
- C. Generate long-term credentials for a built-in IAM role.
- D. Use your existing user name and password by configuring local environment variables.

Correct answer:A

QUESTION 64. You have a large number of employees, and each employee already has an identity in an external directory. How might you manage AWS API credentials for each employee so that they can interact with AWS for short-term sessions?

- A. Create an IAM user and credentials for each member of your organization.
- B. Share a single password through a file stored in an encrypted Amazon S3 bucket.
- C. Define a set of IAM roles, and establish a trust relationship between your directory and AWS.

D. Configure the AWS Key Management Service (AWS KMS) to store credentials for each user.
Correct answer: C

QUESTION 65. You have a team member who needs access to write records to an existing Amazon DynamoDB table within your account. How might you grant write permission to this specific table and only this table?

- A.** Write a custom IAM policy that specifies the table as the resource, and attach that policy to the IAM user for the team member.
- B.** Attach the DynamoDBFullAccess managed policy to the IAM role used by the team member.
- C.** Delete the table and recreate it. Permissions are set when the DynamoDB table is created.
- D.** Create a new user within DynamoDB, and assign table write permissions.

Correct answer: A

QUESTION 66. You created a Movies DynamoDB table in the AWS Management Console, but when you

try to list your DynamoDB tables by using the Java SDK, you do not see this table. Why?

- A.** DynamoDB tables created in the AWS Management Console are not accessible from the API.
- B.** Your SDK may be listing your resources from a different AWS Region in which the table does not exist.
- C.** The security group applied to the Movies table is keeping it hidden.
- D.** Listing tables is supported only in C# and not in the Java SDK.

Correct answer: B

QUESTION 67. You make an API request to describe voices offered by Amazon Polly by using the AWS CLI,

and you receive the following error message:

Could not connect to the endpoint URL:

https://polly.us-east-1a.amazonaws.com/v1/voices

What went wrong?

- A.** Your API credentials have been rejected.
- B.** You have incorrectly configured the AWS Region for your API call.
- C.** Amazon Polly does not offer a feature to describe the list of available voices.
- D.** Amazon Polly is not accessible from the AWS CLI because it is only in the AWS SDK.

Correct answer: B

QUESTION 68. To what resource does this IAM policy grant access, and for which actions?

```
{  
  "Version": "2012-10-17",
```

```
"Statement": {  
  "Effect": "Allow",  
  "Action": "s3:ListBucket",  
  "Resource": "arn:aws:s3:::example_bucket"  
}
```

- A. The policy grants full access to read the objects in the Amazon S3 bucket.
- B. The policy grants the holder the permission to list the contents of the Amazon S3 bucket called example_bucket.
- C. Nothing. The policy was valid only until October 17, 2012 (2012-10-17), and is now expired.
- D. The policy grants the user access to list the contents of all Amazon S3 buckets within the current account.

Correct answer: B

QUESTION 69. When an IAM user makes an API call, that user's long-term credentials are valid in which context?

- A. Only in the AWS Region in which their identity resides
- B. Only in the Availability Zone in which their identity resides
- C. Only in the edge location in which their identity resides
- D. Across multiple AWS Regions

Correct answer: D

QUESTION 70. When you use identity federation to assume a role, where are the credentials you use to make AWS API calls generated?

- A. Access key ID and secret access key are generated locally on the client.
- B. The AWS Security Token Service (AWS STS) generates the access key ID, secret access key, and session token.
- C. The AWS Key Management Service (AWS KMS) generates a customer master key (CMK).
- D. Your Security Assertion Markup Language (SAML) identity provider generates the access key ID, secret access key, and session token.

Correct answer: B

QUESTION 71. You have an on-premises application that needs to sample data from all your Amazon DynamoDB tables. You have defined an IAM user for your application called TableAuditor. How can you give the TableAuditor user read access to new DynamoDB tables as soon they are created in your account?

- A. Define a custom IAM policy that lists each DynamoDB table. Revoke the access key,

and issue a new access key for TableAuditor when tables are created.

B. Create an IAM user and attach one custom IAM policy per AWS Region that has DynamoDB tables.

C. Add the TableAuditor user to the IAM role DynamoDBReadOnlyAccess.

D. Attach the AWS managed IAM policy AmazonDynamoDBReadOnlyAccess to the TableAuditor user.

Correct answer:D

QUESTION 72. The principals who have access to assume an IAM role are defined in which document?

A. IAM access policy

B. IAM trust policy

C. MS grant token

D. AWS credentials file

Correct answer:B

QUESTION 73. A new developer has joined your small team. You would like to help your team member set

up a development computer for access to the team account quickly and securely. How do you proceed?

A. Generate an access key based on your IAM user, and share it with your team member.

B. Create a new directory with AWS Directory Service, and assign permissions in the AWS Key Management Service (AWS KMS).

C. Create an IAM user, add it to an IAM group that has the appropriate permissions, and generate a long-term access key.

D. Create a new IAM role for this team member, assign permissions to the role, and generate a long-term access key.

Correct answer:C

QUESTION 74. You have been working with the Amazon Polly service in your application by using the

Python SDK for Linux. You are building a second application in C#, and you would like to run that application on a separate Windows Server with .NET. How can you proceed?

A. Migrate all your code for all applications to C#, and modify your account to a Windows account.

B. Go to the Amazon Polly service, and change the supported languages to include .NET.

C. Install the AWS SDK for .NET on your Windows Server, and leave your existing application unchanged.

D. Implement a proxy service that accepts your API requests, and translate them to Python.

Correct answer:C

QUESTION 75. You are a Virginia-based company, and you have been asked to implement a custom application

exclusively for customers in Australia. This application has no dependencies on any of your existing applications. What is a method you use to keep the customer latency to this new application low?

- A.** Set up an AWS Direct Connect (DX) between your on-premises environment and US East (N Virginia), and host the application from your own data center in Virginia.
- B.** Create all resources for this application in the Asia Pacific (Sydney) Region, and manage them from your current account.
- C.** Deploy the application to the US East (N Virginia) Region, and select Amazon EC2 instances with enhanced networking.
- D.** It does not matter which region you select, because all resources are automatically replicated globally.

Correct answer: B

QUESTION 76. How can code running on an Amazon Elastic Compute Cloud (Amazon EC2) instance

automatically discover its public IP address?

- A.** The public IP address is presented to the OS on the instance automatically. No extra steps are required.
- B.** The instance can query another Amazon EC2 instance in the same Amazon Virtual Private Cloud (Amazon VPC).
- C.** You must use a third-party service to look up the public IP.
- D.** The instance can make an HTTP query to the Amazon EC2 metadata service at 169.254.169.254.

Correct answer: D

QUESTION 77. How can you customize the software of your Amazon Elastic Compute Cloud (Amazon

EC2) instance beyond what the Amazon Machine Image (AMI) provides?

- A.** Provide a user data attribute at launch that contains a script or directives to install additional packages.
- B.** Additional packages are installed automatically by placing them in a special Amazon Simple Storage Service (Amazon S3) bucket in your account.
- C.** You do not have permissions to install new software on Amazon EC2 aside from what is in the AMI.
- D.** Unlock the instance using the AWS Key Management Service (AWS KMS) and then sign in to install new packages.

Correct answer: A

QUESTION 78. You have a process running on an Amazon Elastic Compute Cloud (Amazon EC2) instance that exceeds the 2 GB of RAM allocated to the instance. This is causing the process to run slowly. How can you resolve the issue?

- A.** Stop the instance, change the instance type to one with more RAM, and then start the instance.
- B.** Modify the RAM allocation for the instance while it is running.
- C.** Take a snapshot of the data and then launch a new instance. You cannot change the RAM allocation.
- D.** Send an email to AWS Support to install additional RAM on the server.

Correct answer:A

QUESTION 79. You have launched an Amazon Elastic Compute Cloud (Amazon EC2) Windows instance, and you would like to connect to it using the Remote Desktop Protocol. The instance is in a public subnet and has a public IP address. How do you find the password to the Administrator account?

- A.** Decrypt the password by using the private key from the Amazon EC2 key pair that you used to launch the instance.
- B.** Use the password that you provided when you launched the instance.
- C.** Create a new AWS Identity and Access Management (IAM) role, and use the password for that role.
- D.** Create an IAM user, and use the password for that user.

Correct answer:A

QUESTION 80. What steps must you take to ensure that an Amazon EC2 instance can receive web requests from customers on the internet? (Select THREE.)

- A.** Assign a public IP address to the instance.
- B.** Launch the instance in a subnet where the route table routes internet-bound traffic to an internet gateway.
- C.** Launch the instance in a subnet where the route table rules send internet-bound traffic to a NAT gateway.
- D.** Set the outbound rules for the security group to allow HTTP and HTTPS traffic.
- E.** Set the inbound rules for the security group to allow HTTP and HTTPS traffic.

Correct answer:ABE

QUESTION 81. Which of the following are true about Amazon Machine Images (AMI)? (Select TWO.)

- A.** AMI can be used to launch one or multiple Amazon EC2 instances.
- B.** AMI is automatically available in all AWS Regions.

- C. All AMIs are created and maintained by AWS.
 - D. AMIs are available for both Windows and Linux instances.
- Correct answer:AD**

QUESTION 82. Which of the following are true about Amazon Elastic Compute Cloud (Amazon EC2) instance types? (Select TWO.)

- A. All Amazon EC2 instance types include instance store for ephemeral storage.
- B. All Amazon EC2 instance types can use EBS volumes for persistent storage.
- C. Amazon EC2 instances cannot be resized once launched.
- D. Some Amazon EC2 instances may have access to GPUs or other hardware accelerators.

Correct answer:BD

QUESTION 83. Which of the following actions are valid based on the Amazon Elastic Compute Cloud (Amazon EC2) instance lifecycle? (Select TWO.)

- A. Starting a previously terminated instance
- B. Starting a previously stopped instance
- C. Rebooting a stopped instance
- D. Stopping a running instance

Correct answer:BD

QUESTION 84. You have a development Amazon Elastic Compute Cloud (Amazon EC2) instance where you have installed Apache Web Server and MySQL. How do you verify that the web server application can communicate with the database given that they are both running on the same instance?

- A. Modify the security group for the instance.
- B. Assign the instance a public IP address.
- C. Modify the network access control list (network ACL) for the instance.
- D. No extra configuration is required.

Correct answer:D

QUESTION 85. What type of route must exist in the associated route table for a subnet to be a public subnet?

- A. A route to a VPN gateway
- B. Only the local route is required.
- C. A route to an internet gateway
- D. A route to a NAT gateway or NAT instance
- E. A route to an Amazon VPC endpoint

Correct answer:C

QUESTION 86. What type of route must exist in the associated route table for a subnet to be a private subnet that allows outbound internet access?

- A. A route to a VPN gateway
- B. Only the local route is required.
- C. A route to an internet gateway
- D. A route to a NAT gateway or NAT instance
- E. A route to an Amazon Virtual Private Cloud (Amazon VPC) endpoint

Correct answer:D

QUESTION 87. Which feature of Amazon Virtual Private Cloud (Amazon VPC) enables you to see which network requests are being accepted or rejected in your Amazon VPC?

- A. Internet gateway
- B. NAT gateway
- C. Route table
- D. Amazon VPC Flow Log

Correct answer:D

QUESTION 88. Which AWS service enables you to track the CPU utilization of an Amazon Elastic Compute Cloud (Amazon EC2) instance?

- A. AWS Config
- B. AWS Lambda
- C. Amazon CloudWatch
- D. Amazon Virtual Private Cloud (Amazon VPC)

Correct answer:C

QUESTION 89. What happens to the data stored on an Amazon Elastic Block Store (Amazon EBS) volume when you stop an Amazon Elastic Compute Cloud (Amazon EC2) instance?

- A. The data is moved to Amazon Simple Storage Service (Amazon S3).
- B. The data persists in the EBS volume.
- C. The volume is deleted.
- D. An EBS-backed instance cannot be stopped.

Correct answer:B

QUESTION 90. Which programming language can you use to write the code that runs on an Amazon EC2

instance?

- A. C++
- B. Java
- C. Ruby
- D. JavaScript
- E. Python
- F. All of the above

Correct answer:F

QUESTION 91. You have launched an Amazon EC2 instance in a public subnet. The instance has a public IP address, and you have confirmed that the Apache web server is running. However, your internet users are unable to make web requests to the instance. How can you resolve the issue? (Select TWO.)

- A. Modify the security group to allow outbound traffic on port 80 to anywhere.
- B. Modify the security group for the web server to allow inbound traffic port 80 from anywhere.
- C. Modify the security group for the web server to allow inbound traffic on port 443 from anywhere.
- D. Modify the security group to allow outbound traffic from port 443 to anywhere.

Correct answer:BC

QUESTION 92. Which of the following are the customer's responsibility concerning Amazon EC2 instances? (Select TWO.)

- A. Decommissioning storage hardware
- B. Patching the guest operating system
- C. Securing physical access to the host machine
- D. Managing the sign-in accounts and credentials on the guest operating system
- E. Maintaining the software that runs on the underlying host machine

Correct answer:BD

QUESTION 93. You are restoring an Amazon Elastic Block Store (Amazon EBS) volume from a snapshot.

How long will it take before the data is available?

- A. It depends on the provisioned size of the volume.
- B. The data will be available immediately.
- C. It depends on the amount of data stored on the volume.
- D. It depends on whether the attached instance is an Amazon EBS-optimized instance.

Correct answer:B

QUESTION 94. What are some of the key characteristics of Amazon Simple Storage Service (Amazon S3)?

(Select THREE.)

- A. All objects have a URL.
- B. Amazon S3 can store unlimited amounts of data.
- C. Buckets can be mounted to the file system of multiple Amazon EC2 instances.
- D. Amazon S3 uses a Representational State Transfer (REST) application program interface (API).
- E. You must pre-allocate the storage in a bucket.

Correct answer: ABD

QUESTION 95. Amazon S3 Glacier is well-suited to data that is which of the following? (Select TWO.)

- A. Infrequently or rarely accessed
- B. Must be immediately available when needed
- C. Is available after a three- to five-hour restore period
- D. Is frequently erased within 30 days

Correct answer: AC

QUESTION 96. You have valuable media files hosted on AWS and want them to be served only to authenticated users of your web application. You are concerned that your content could be stolen and distributed for free. How can you protect your content?

- A. Use static web hosting.
- B. Generate presigned URLs for content in the web application.
- C. Use AWS Identity and Access Management (IAM) policies to restrict access.
- D. Use logging to track your content.

Correct answer: B

QUESTION 97. Which of the following are features of Amazon Elastic Block Store (Amazon EBS)?

(Select TWO.)

- A. Data stored on Amazon EBS is automatically replicated within an Availability Zone.
- B. Amazon EBS data is automatically backed up to tape.
- C. Amazon EBS volumes can be encrypted transparently to workloads on the attached instance.
- D. Data on an Amazon EBS volume is lost when the attached instance is stopped.

Correct answer: AD

QUESTION 98. Which option should you choose for Amazon EFS when tens, hundreds, or thousands of

Amazon EC2 instances will be accessing the file system concurrently?

A. General-Purpose performance mode

B. RAID 0

C. Max I/O performance mode

D. Change to a larger instance

Correct answer:C

QUESTION 99. Which of the following must be performed to host a static website in an Amazon Simple

Storage Service (Amazon S3) bucket? (Select THREE.)

A. Configure the bucket for static hosting, and specify an index and error document.

B. Create a bucket with the same name as the website.

C. Enable File Transfer Protocol (FTP) on the bucket.

D. Make the objects in the bucket world-readable.

E. Enable HTTP on the bucket.

Correct answer:ABD

QUESTION 100. You have a workload that requires 1 TB of durable block storage at 1,500 IOPS during

normal use. Every night there is an extract, transform, load (ETL) task that requires 3,000 IOPS for 15 minutes. What is the most appropriate volume type for this workload?

A. Use a Provisioned IOPS SSD volume at 3,000 IOPS.

B. Use an instance store.

C. Use a general-purpose SSD volume.

D. Use a magnetic volume.

Correct answer:C

QUESTION 101. Which statements about Amazon S3 Glacier are true? (Select THREE.)

A. It stores data in objects that live in buckets.

B. Archives are identified by user-specified key names.

C. Archives take 3–5 hours to restore.

D. Vaults can be locked.

E. It can be used as a standalone service and as an Amazon S3 storage class.

Correct answer:CDE

QUESTION 102. You are developing an application that will be running on several hundred Amazon EC2

instances. The application on each instance will be required to reach out through a file system protocol concurrently to a file system holding the files. Which storage option should you choose?

A. Amazon EFS

B. Amazon EBS

- C. Amazon EC2 instance store
- D. Amazon S3

Correct answer:A

QUESTION 103. You need to take a snapshot of an Amazon Elastic Block Store (Amazon EBS) volume. How long will the volume be unavailable?

- A. It depends on the provisioned size of the volume.
- B. The volume will be available immediately.
- C. It depends on the amount of data stored on the volume.
- D. It depends on whether the attached instance is an Amazon EBS–optimized instance.

Correct answer:B

QUESTION 104. Amazon Simple Storage Service (S3) bucket policies can restrict access to an Amazon S3 bucket and objects by which of the following? (Select THREE.)

- A. Company name
- B. IP address range
- C. AWS account
- D. Country of origin
- E. Objects with a specific prefix

Correct answer:BCE

QUESTION 105. Which of the following are *not* appropriate use cases for Amazon Simple Storage Service (Amazon S3)? (Select TWO.)

- A. Storing static web content or hosting a static website
- B. Storing a file system mounted to an Amazon Elastic Compute Cloud (Amazon EC2) instance
- C. Storing backups for a relational database
- D. Primary storage for a database
- E. Storing logs for analytics

Correct answer:BD

QUESTION 106. Which features enable you to manage access to Amazon Simple Storage Service (Amazon S3) buckets or objects? (Select THREE.)

- A. Enable static website hosting on the bucket.
- B. Create a presigned URL for an object.
- C. Use an Amazon S3 Access Control List (ACL) on a bucket or object.
- D. Use a lifecycle policy.
- E. Use an Amazon S3 bucket policy.

Correct answer:BCE

QUESTION 107. Your application stores critical data in Amazon Simple Storage Service (Amazon S3), which must be protected against inadvertent or intentional deletion. How can this data be protected? (Select TWO.)

- A. Use cross-region replication to copy data to another bucket automatically.
- B. Set a vault lock.
- C. Enable versioning on the bucket.
- D. Use a lifecycle policy to migrate data to Amazon S3 Glacier.
- E. Enable MFA Delete on the bucket.

Correct answer:CE

QUESTION 108. You have a set of users that have been granted access to your Amazon S3 bucket. For compliance purposes, you need to keep track of all files accessed in that bucket. To have a record of who accessed your Amazon Simple Storage Service (Amazon S3) data and from where, what should you do?

- A. Enable versioning on the bucket.
- B. Enable website hosting on the bucket.
- C. Enable server access logging on the bucket.
- D. Create an AWS Identity and Access Management (IAM) bucket policy.
- E. Enable Amazon CloudWatch logs.

Correct answer:C

QUESTION 109. What are some reasons to enable cross-region replication on an Amazon Simple Storage Service (Amazon S3) bucket? (Select THREE.)

- A. Your compliance requirements dictate that you store data at an even further distance than Availability Zones, which are tens of miles apart.
- B. Minimize latency when your customers are in two geographic regions.
- C. You need a backup of your data in case of accidental deletion.
- D. You have compute clusters in two different AWS Regions that analyze the same set of objects.
- E. Your data requires at least five nines of durability.

Correct answer:ABD

QUESTION 110. Your company requires that all data sent to external storage be encrypted before being sent.

You will be sending company data to Amazon S3. Which Amazon Simple Storage Service (Amazon S3) encryption solution will meet this requirement?

- A. Server-Side Encryption with AWS managed keys (SSE-S3)
- B. Server-Side Encryption with customer-provided keys (SSE-C)

- C. Client-side encryption with customer-managed keys
 - D. Server-side encryption with AWS Key Management Service (AWS KMS) keys (SSE-KMS)
- Correct answer: C**

QUESTION 111. How is data stored in Amazon Simple Storage Service (Amazon S3) for high durability?

- A. Data is automatically replicated to other regions.
- B. Data is automatically replicated within a region.
- C. Data is replicated only if versioning is enabled on the bucket.
- D. Data is automatically backed up on tape and restored if needed.

Correct answer: B

QUESTION 112. Which AWS database service is best suited for managing highly connected datasets?

- A. Amazon Aurora
- B. Amazon Neptune
- C. Amazon DynamoDB
- D. Amazon Redshift

Correct answer: B

QUESTION 113. You are designing an ecommerce web application that will scale to potentially hundreds of

thousands of concurrent users. Which database technology is best suited to hold the session state for large numbers of concurrent users?

- A. Relational database by using Amazon Relational Database Service (Amazon RDS)
- B. NoSQL database table by using Amazon DynamoDB
- C. Data warehouse by using Amazon Redshift
- D. MySQL on Amazon EC2

Correct answer: B

QUESTION 114. How many read capacity units (RCUs) do you need to support 25 *strongly consistent* reads

per seconds of 15 KB?

- A. 100 RCUs
- B. 25 RCUs
- C. 10 RCUs
- D. 15 RCUs

Correct answer: A

QUESTION 115. How many read capacity units (RCUs) do you need to support 25 *eventually consistent* reads per seconds of 15 KB?

- A. 10 RCUs
- B. 25 RCUs
- C. 50 RCUs
- D. 15 RCUs

Correct answer:C

QUESTION 116. How many write capacity units (WCUs) are needed to support 100 writers per second of 512 bytes?

- A. 129 WCUs
- B. 25 WCUs
- C. 10 WCUs
- D. 100 WCUs

Correct answer:D

QUESTION 117. Your company is using Amazon DynamoDB, and they would like to implement a writethrough caching mechanism. They would like to get everything up and running in only a few short weeks. Additionally, your company would like to refrain from managing any additional servers. You are the lead developer on the project; what should you recommend?

- A. Build your own custom caching application.
- B. Implement Amazon DynamoDB Accelerator (DAX).
- C. Run Redis on Amazon EC2.
- D. Run Memcached on Amazon EC2.

Correct answer:B

QUESTION 118. Your company would like to implement a highly available caching solution for its SQL database running on Amazon RDS. Currently, all of its services are running in the AWS Cloud. As their lead developer, what should you recommend?

- A. Implement your own caching solution on-premises.
- B. Implement Amazon ElastiCache for Redis.
- C. Implement Amazon ElastiCache for Memcached.
- D. Implement Amazon DynamoDB Accelerator (DAX).

Correct answer:B

QUESTION 119. A company is looking to run analytical queries and would like to implement a data warehouse. It estimates that it has roughly 300 TB worth of data, which is expected to

double in the next three years. Which AWS service should you recommend?

- A. Relational database by using Amazon Relational Database Service (Amazon RDS)
- B. NoSQL database table by using Amazon DynamoDB
- C. Data warehouse by using Amazon Redshift
- D. Amazon ElastiCache for Redis

Correct answer:C

QUESTION 120. A company is experiencing an issue with Amazon DynamoDB whereby the data is taking

longer than expected to return from a query. You are tasked with investigating the problem. After looking at the application code, you realize that a Scan operation is being called for a large DynamoDB table. What should you do or recommend?

- A. Implement a query instead of a scan, if possible, as queries are more efficient than a scan.
- B. Do nothing; the problem should go away on its own.
- C. Implement a strongly consistent read.
- D. Increase the write capacity units (WCUs).

Correct answer:A

QUESTION 121. Which components are required in an encryption system? (Select THREE.)

- A. A user to upload data
- B. Data to encrypt
- C. A database to store encryption keys
- D. A method to encrypt data
- E. A cryptographic algorithm

Correct answer:BDE

QUESTION 122. Which of the following does Amazon Relational Database Service (Amazon RDS) manage

on your behalf? (Select THREE.)

- A. Database settings
- B. Database software installation and patching
- C. Query optimization
- D. Hardware provisioning
- E. Backups

Correct answer:BDE

QUESTION 123. Which are the components of key management infrastructure (KMI)? (Select TWO.)

- A. Storage layer
- B. Data layer
- C. Management layer
- D. Encryption layer

Correct answer:AC

QUESTION 124. Which of the following are methods for you and AWS to provide an encryption method and

key management infrastructure (KMI)? (Select THREE.)

- A. You control the encryption method and key management, and AWS provides the storage component of the KMI.
- B. You control the storage component of the KMI, and AWS provides the encryption method and key management.
- C. You control the encryption method and KMI.
- D. AWS controls the encryption method and the entire KMI.
- E. None of the above.

Correct answer:ACD

QUESTION 125. Which AWS encryption service provides asymmetric encryption capabilities?

- A. AWS Key Management Service (AWS KMS).
- B. AWS CloudHSM.
- C. AWS does not provide asymmetric encryption services.
- D. None of the above.

Correct answer:B

QUESTION 126. Which AWS encryption service provides symmetric encryption capabilities? (Select TWO.)

- A. AWS Key Management Service (AWS KMS).
- B. AWS CloudHSM.
- C. AWS does not provide symmetric encryption services.
- D. None of the above.

Correct answer:AB

QUESTION 127. An organization is using Amazon Simple Storage Service (Amazon S3), and it would like

to ensure that all objects that are stored in Amazon S3 are encrypted. However, it does not want to be responsible for managing any of the encryption keys. As their lead developer, which service and feature should you recommend?

- A. Server-side encryption with AWS Key Management Service (SSE-KMS).
- B. Customer-provided encryption keys (SSE-C).
- C. Amazon S3 managed encryption keys (SSE-S3).
- D. This is not possible in AWS.

Correct answer:C

QUESTION 128. Which feature of AWS Key Management Service (AWS KMS) enables you to use an AWS

CloudHSM cluster for the storage of your encryption keys?

- A. Centralized key management
- B. AWS CloudHSM
- C. Custom key stores
- D. S3DistCp

Correct answer:C

QUESTION 129. An organization is using AWS Key Management Service (AWS KMS) to support encryption

and would like to encrypt Amazon Elastic Block Store (Amazon EBS) volumes. It wants to encrypt its volumes quickly, with little development time. As their lead developer, what should you recommend?

- A. Implement AWS KMS to encrypt the Amazon EBS volumes.
- B. Use open source or third-party encryption tooling.
- C. Use AWS CloudHSM.
- D. AWS does not provide a mechanism to encrypt Amazon EBS volumes.

Correct answer:A

QUESTION 130. Which of the following AWS services does not integrate with AWS Key Management Service (AWS KMS)?

- A. Amazon Elastic Block Store (Amazon EBS)
- B. Amazon Simple Storage Service (Amazon S3)
- C. Amazon Redshift
- D. None of the above

Correct answer:D

QUESTION 131. You have two AWS CodeDeploy applications that deploy to the same Amazon EC2 Auto

Scaling group. The first deploys an e-commerce app, while the second deploys custom administration software. You are attempting to deploy an update to one application but cannot do so because another deployment is already in progress. You do not see any instances undergoing deployment at this time. What could be the cause of this?

- A. If both deployment groups reference the same Auto Scaling group, a failure of the first group's deployment can block the second until the deployment times out. Since the instance that failed deployment has been terminated from the Auto Scaling group, the AWS CodeDeploy agent is unable to provide results to the service.
- B. The AWS CodeDeploy agent is not installed on the instances as part of the launch configuration user data script.
- C. If both deployment groups reference the same Auto Scaling group, a failure of the first

group's deployment can block the second until the deployment times out. Since the instance that failed deployment has been terminated from the Auto Scaling group, the AWS CodeDeploy service is unable to request status updates from the Amazon EC2 API.

D. The AWS CodeDeploy agent is not installed in the Amazon Machine Image (AMI) being used.

Correct answer:A

QUESTION 132. If you specify a hook script in the ApplicationStop lifecycle event of an AWS CodeDeploy

appspec.yml, will it run on the first deployment to your instance(s)?

A. Yes

B. No

C. The ApplicationStop lifecycle event does not exist.

D. It will run only if your application is running.

Correct answer:B

QUESTION 133. If a single pipeline contains multiple sources, such as an AWS CodeCommit repository and

an Amazon S3 archive, under what circumstances will the pipeline be triggered?

A. When either a commit is pushed to the repository or the archive is updated, regardless of timing.

B. When a commit is pushed to the repository and the archive is updated at the same time.

C. When either a commit is pushed to the repository or the archive is updated, but not when both are updated at the same time.

D. AWS CodePipeline does not support multiple sources in the same pipeline.

Correct answer:A

QUESTION 134. If you want to implement a deployment pipeline that deploys both source files and large binary

objects to instance(s), how would you best achieve this while taking cost into consideration?

A. Store both the source files and binary objects in AWS CodeCommit.

B. Build the binary objects into the AMI of the instance(s) being deployed. Store the source files in AWS CodeCommit.

C. Store the source files in AWS CodeCommit. Store the binary objects in an Amazon S3 archive.

D. Store the source files in AWS CodeCommit. Store the binary objects on an Amazon Elastic Block Store (Amazon EBS) volume, taking snapshots of the volume whenever a new one needs to be created.

E. Store the source files in AWS CodeCommit. Store the binary objects in Amazon S3 and access them from an Amazon CloudFront distribution.

Correct answer:C

QUESTION 135. Your team is building a deployment pipeline to a sensitive application in your environment

using AWS CodeDeploy. The application consists of an Amazon EC2 Auto Scaling group of instances behind an Elastic Load Balancing load balancer. The nature of the application requires 100 percent availability for both successful and failed deployments. The development team want to deploy changes multiple times per day.

How would this be achieved at the lowest cost and with the fastest deployments?

- A. Rolling deployments with an additional batch
- B. Rolling deployments without an additional batch
- C. Blue/green deployments
- D. Immutable updates

Correct answer:D

QUESTION 136. What would cause an access denied error when attempting to download an archive file

from Amazon S3 during a pipeline execution?

- A. Insufficient user permissions for the user initiating the pipeline
- B. Insufficient user permissions for the user uploading the Amazon S3 archive
- C. Insufficient role permissions for the Amazon S3 service role
- D. Insufficient role permissions for the AWS CodePipeline service role

Correct answer:D

QUESTION 137. How do you output build artifacts from AWS CodeBuild to AWS CodePipeline?

- A. Write the outputs to STDOUT from the build container.
- B. Specify artifact files in the buildspec.yml configuration file.
- C. Upload the files to Amazon S3 from the build environment.
- D. Output artifacts are not supported with AWS CodeBuild.

Correct answer:B

QUESTION 138. What would be the most secure means of providing secrets to an AWS CodeBuild environment?

- A. Create a custom build environment with the secrets included in configuration files.
- B. Upload the secrets to Amazon S3 and download the object when the build job runs. Protect the bucket and object with an appropriate bucket policy.
- C. Save the secrets in AWS Systems Manager Parameter Store and query them as needed. Encrypt the secrets with an AWS Key Management Service (AWS KMS) key. Include appropriate AWS KMS permissions to your build environment's IAM role.
- D. Include the secrets in the source repository or archive.

Correct answer:C

QUESTION 139. In which of the pipeline actions can you execute AWS Lambda functions?

- A. Invoke
- B. Deploy
- C. Build
- D. Approval
- E. Test

Correct answer:A

QUESTION 140. In what ways can pipeline actions be ordered in a stage? (Select TWO.)

- A. Series
- B. Parallel
- C. Stages support only one action each
- D. First-in-first-out (FIFO)
- E. Last-in-first-out (LIFO)

Correct answer:AB

QUESTION 141. If you would like to delete an AWS CloudFormation stack before you deploy a new one in your pipeline, what would be the correct set of actions?

- A. One action that specifies "Create or update a stack."
- B. Two actions: the first specifies "Create or update a stack," and the second specifies "Delete a stack."
- C. Three actions: the first specifies "Delete a stack," the second specifies "Create or update a stack," and the third specifies "Replace a failed stack."
- D. Two actions: the first specifies "Delete a stack," and the second specifies "Create or update a stack."

Correct answer:D

QUESTION 142. How can you connect to an AWS CodeCommit repository without Git credentials?

- A. It is not possible.
- B. HTTPS
- C. SSH
- D. AWS CodeCommit credential helper

Correct answer:D

QUESTION 143. Of the following, which event cannot be used to generate notifications to an Amazon

Simple Notification Service (SNS) topic from AWS CodeCommit without using a trigger?

- A. Pull Request Creation
- B. Commit Comments
- C. Commit Creation
- D. Pull Request Comments

Correct answer:C

QUESTION 144. Which pipeline actions support AWS CodeBuild projects? (Select TWO.)

- A. Invoke
- B. Deploy
- C. Build
- D. Approval
- E. Test

Correct answer:CE

QUESTION 145. Can data passed to build projects using environment variables be encrypted or protected?

- A. Yes, this is supported natively by AWS CodeBuild.
- B. No, it is not supported.
- C. No, but this can be enabled in the console.
- D. No, but this can be supported using other AWS products and services.

Correct answer:D

QUESTION 146. What is the only deployment type supported by on-premises instances?

- A. In-place
- B. Blue/green
- C. Immutable
- D. Progressive

Correct answer:A

QUESTION 147. If your AWS CodeDeploy configuration includes creation of a file, nginx.conf, but the

file already exists on the server (prior to the use of AWS CodeDeploy), what is the default behavior that will occur during deployment?

- A. The file will be replaced.
- B. The file will be renamed nginx.conf.bak, and the new file will be created.
- C. The deployment will fail.
- D. The deployment will continue, but the file will not be modified.

Correct answer:C

QUESTION 148. How does AWS Lambda support in-place deployments?

- A. Function versions are overwritten during the deployment.
- B. New function versions are created, and then version numbers are switched.
- C. AWS Lambda does not support in-place deployments.
- D. Function aliases are overwritten during the deployment.

Correct answer:C

QUESTION 149. What is the minimum number of stages required by a pipeline in AWS CodePipeline?

- A. 0
- B. 1
- C. 2
- D. 3

Correct answer:C

QUESTION 150. If an instance is running low on storage, and you find that there are a large number of deployment revisions stored by AWS CodeDeploy, what can be done to free up this space permanently?

- A. Delete the old revisions.
- B. Add an additional Amazon EBS volume.
- C. Configure the AWS CodeDeploy agent to store fewer revisions.
- D. Delete all of the revisions, and push all new code.

Correct answer:C

QUESTION 151. Which of the AWS CloudFormation template sections is/are required?

- A. AWSTemplateFormatVersion
- B. Parameters
- C. Metadata
- D. Resources
- E. All of the above

Correct answer:D

QUESTION 152. You are writing an AWS CloudFormation template and would like to create an output

value corresponding to your application's website URL. The application is composed of two application servers in a private subnet behind an Elastic Load Balancing load balancer. The application servers read from the Amazon Relational Database Service (Amazon RDS) database instance. The logical IDs of the instances are AppServerA and AppServerB. The logical IDs of the load balancer and database are AppLB and AppDB, respectively.

```
"Outputs" : {  
  "AppEndpoint" : {  
    "Description" : "URL to access the application",  
    "Value" : "Value to return"  
  }  
}
```

Which code correctly completes the previous output declaration?

- A. { "Fn::Join": ["", [https://, { "Ref": "AppLB" }, "/login.php"]] }
- B. { "Fn::Join": ["", [https://, { "Fn::GetAtt": ["AppServerA", "PublicDNSName"] }, "/login.php"]] }
- C. { "Fn::Join": ["", [https://, { "Ref": ["AppLB", "DNSName"] }, "/login.php"]] }
- D. { "Fn::Join": ["", [https://, { "Fn::GetAtt": ["AppDB", "Endpoint.Address"] }, "/login.php"]] }
- E. { "Fn::Join": ["", [https://, { "Fn::GetAtt": ["AppLB", "DNSName"] }, "/login.php"]] }

Correct answer:E

QUESTION 153. An AWS CloudFormation template you have written uses a CreationPolicy to ensure

that video transcoding instances launch and configure before the application server instances so that they are available before users are able to access the website. However, you are finding that the stack always reaches the creation policy's timeout value before the transcoding instances complete setup.

Why could this be? (Select THREE.)

- A. The user data script does not include a call to cfn-signal.
- B. The instance could not be launched because of account limits.
- C. The user data script fails before reaching the cfn-signal step.
- D. The instance cannot connect to the AWS CloudFormation endpoint when calling cfn-signal.

Correct answer:ACD

QUESTION 154. When you attempt to update an Amazon Relational Database Service (Amazon RDS)

instance in your AWS CloudFormation stack, you experience a Resource failed to stabilize error, which causes the stack to roll back any changes you attempted.

What might be the cause of this error, and how could it be resolved?

- A. The database is corrupted and cannot be updated. Take a snapshot of the database, and use it to create a replacement.
- B. The database took too long to update. Remove the database from the AWS CloudFormation stack by applying a DeletionPolicy of Retain, and manage the stack using the Amazon RDS console or AWS CLI.
- C. The database took too long to update, and the session credentials used by AWS CloudFormation timed out. Use a service role to perform the update.
- D. You have attempted to perform an update that is not supported by Amazon RDS. Review the specification documentation and attempt a valid update.
- E. I/O has not been halted on the database before performing the update, and AWS CloudFormation timed out waiting for database transactions to halt. Temporarily block I/O and attempt the update again.

Correct answer:C

QUESTION 155. A custom resource associated with AWS Lambda in your stack creates successfully; however, it attempts to update the resource result in the failure message Custom Resource failed to stabilize in the expected time. After you add a service role to extend the timeout duration, the issue still persists.

What may also be the cause of this error?

- A.** The custom resource defined a function for handling the CREATE action but did not do the same for the UPDATE action; thus, a success or failure signal was not sent to AWS CloudFormation.
- B.** The service role does not have appropriate permissions to invoke the custom resource function.
- C.** The custom resource function no longer exists.
- D.** All of the above.

Correct answer:A

QUESTION 156. After you deploy an AWS Serverless Application Model (AWS SAM) template to AWS

CloudFormation, can you view the original template? Why or why not?

- A.** No, after the template is submitted and the AWS::Serverless transform is executed, an AWS CloudFormation-supported template is generated.
- B.** Yes, the original template is saved and accessible using the get-stack-template AWS CLI command.
- C.** Yes, it is saved in the Amazon Simple Storage Service (Amazon S3) bucket created by AWS CloudFormation for AWS SAM templates.
- D.** No, AWS CloudFormation does not retain processed templates.

Correct answer:A

QUESTION 157. When defining an AWS Serverless Application Model (AWS SAM) template, how can you create an Amazon API Gateway as part of the stack?

- A.** By defining an AWS::ApiGateway::RestApi resource and any associated AWS::ApiGateway::Method resources
- B.** One will be created automatically for you whenever AWS::Serverless::Function resources are declared with one or more Events.
- C.** By defining an AWS::Serverless::Api and providing an inline or external Swagger definition
- D.** AWS::ApiGateway::RestApi resources are not supported in AWS SAM templates.
- E.** A, B, and C

Correct answer:E

QUESTION 158. Which of these helper scripts performs updates to OS configuration when an AWS

CloudFormation stack updates?

- A.** cfn-hup

- B. cfn-init
- C. cfn-signal
- D. cfn-update

Correct answer:A

QUESTION 159. Which of these options allows you to specify a required number of signals to mark the resource as CREATE_COMPLETE?

- A. Wait Condition
- B. Wait Condition Handler
- C. CreationPolicy
- D. WaitCount

Correct answer:C

QUESTION 160. How would you preview the changes a stack update will make without affecting any resources in your account?

- A. Create a change set.
- B. Perform the stack update, and then manually roll back.
- C. Perform the stack update on a test stack.
- D. Do a manual diff of both templates.

Correct answer:A

QUESTION 161. How would you access a property of a resource created in a nested stack?

- A. This cannot be done.
- B. In the child stack, declare the resource property as a stack output. In the parent stack, use Fn::GetAtt and pass in two parameters, the child stack logical ID and Outputs.NestedStackOutputName.
- C. In the child stack, export the resource property. In the parent stack, import the exported value.
- D. Use the cross-stack references.

Correct answer:B

QUESTION 162. By default, with what permissions will AWS CloudFormation stack operations perform?

- A. Full administrator
- B. The permissions of the user performing the operation
- C. The AWS CloudFormation service role
- D. The AWS CloudFormation does not use permissions

Correct answer:B

QUESTION 163. An AWS CloudFormation template declares two resources: an AWS Lambda function and an Amazon DynamoDB table. The function code is declared inline as part of the template and references the table. In what order will AWS CloudFormation provision the two resources?

- A. Amazon DynamoDB table, AWS Lambda function
- B. AWS Lambda function, Amazon DynamoDB table
- C. This cannot be determined ahead of time.
- D. This depends on the template.

Correct answer: C

QUESTION 164. Which occurs during a replacing update?

- A. The resource becomes unavailable.
- B. The resource physical ID changes.
- C. A new resource is created.
- D. The original resource is deleted during the cleanup phase.
- E. All of the above

Correct answer: E

QUESTION 165. Which of the update types results in resource downtime? (Select TWO.)

- A. Update with No Interruption
- B. Update with Some Interruption
- C. Replacing Update
- D. Update with No Data
- E. Static Update

Correct answer: BC

QUESTION 166. What must occur before a stack that exports an output can be deleted?

- A. Any stacks importing the exported value must remove the import.
- B. The export must be removed from the stack.
- C. Nothing is required.
- D. The stack must be deleted.

Correct answer: A

QUESTION 167. If an AWS CloudFormation stack is in UPDATE_IN_PROGRESS state, which of the states are possible transitions? (Select THREE.)

- A. UPDATE_ROLLBACK_COMPLETE
- B. UPDATE_FAILED
- C. UPDATE_ROLLBACK_FAILED
- D. UPDATE_COMPLETE
- E. UPDATE_COMPLETE_CLEANUP_IN_PROGRESS

Correct answer: BDE

QUESTION 168. What does it mean when an AWS CloudFormation stack is in UPDATE_COMPLETE_CLEANUP_IN_PROGRESS state?

- A. The stack has failed to update, and it is removing newly created resources.
- B. The stack has successfully updated, and it is removing old resources.
- C. The stack has successfully updated, and it is removing new resources.
- D. The stack has failed to update, and it is removing old resources.

Correct answer: B

QUESTION 169. Which of the formats are valid for an AWS CloudFormation template? (Select TWO.)

- A. YAML
- B. XML
- C. JSON
- D. Markdown
- E. LaTeX

Correct answer: AC

QUESTION 170. In what ways does Amazon Simple Storage Service (Amazon S3) object storage differ from block and file storage? (Select TWO.)

- A. Amazon S3 stores data in fixed size blocks.
- B. Objects are identified by a numbered address.
- C. Object can be any size.
- D. Objects contain both data and metadata.
- E. Objects are stored in buckets.

Correct answer: DE

QUESTION 171. When you launch an Amazon Elastic Compute Cloud (Amazon EC2) instance, which of the following is the most specific type of AWS entity in which you can place it?

- A. Region
- B. Availability Zone
- C. Edge location
- D. Data center

Correct answer: B

QUESTION 172. You have saved SSH connection information for an Amazon Elastic Compute Cloud (Amazon EC2) instance that you launched in a public subnet. You previously stopped the instance the last time you used it. Now that you have started the instance, you are unable to connect to the instance using the saved information. Which of the following could be the cause?

- A. Your SSH key pair has automatically expired.
- B. The public IP of the instance has changed.
- C. The security group rules have expired.
- D. SSH is enabled only for the first boot of an Amazon EC2 instance.

Correct answer: B

QUESTION 173. You are working from a new location today. You are unable to initiate a Remote Desktop Protocol (RDP) to your Windows instance, which is located in a public subnet. What could be the cause?

- A. Your new IP address may not match the inbound security group rules.
- B. Your new IP address may not match the outbound security group rules.
- C. RDP is not available for Windows instances, only SSH.
- D. RDP is enabled only for the first 24 hours of your instance runtime.

Correct answer: A

QUESTION 174. You have a backend Amazon EC2 instance providing a web service to your web server

instances. Your web servers are in a public subnet. You would like to block inbound requests from the internet to your backend instance but still allow the instance to make API requests over the public internet. What steps must you take? (Select TWO.)

- A. Launch the instance in a private subnet and rely on a NAT gateway in a public subnet to forward outbound internet requests.
- B. Configure the security group for the instance to explicitly deny inbound requests from the internet.
- C. Configure the network access control list (network ACL) for the public subnet to explicitly deny inbound web requests from the internet.
- D. Modify the inbound security group rules for the instance to allow only inbound requests from your web servers.

Correct answer: AD

QUESTION 175. You have launched an Amazon Elastic Compute Cloud (Amazon EC2) instance and loaded

your application code on it. You have now discovered that the instance is missing applications on which your code depends. How can you resolve this issue?

- A. Modify the instance profile to include the software dependencies.
- B. Create an AWS Identity and Access Management (IAM) user, and sign in to the instance to install the dependencies.
- C. Sign in to the instance as the default user, and install any additional dependencies that you need.
- D. File an AWS Support ticket, and request to install the software on your instance.

Correct answer: C

QUESTION 176. You are developing an application that will run across dozens of instances. It uses some components from a legacy application that requires some configuration files to be copied from a central location and be held on a volume local to each of the instances. You plan to modify your application with a new component in the future that will hold this configuration in Amazon DynamoDB. However, in the interim, which storage option should you use that will provide the lowest cost and the lowest latency for your application to access the configuration files?

- A. Amazon S3
- B. Amazon EBS
- C. Amazon EFS
- D. Amazon EC2 instance store

Correct answer: D

QUESTION 177. Which of the following operations can AWS Elastic Beanstalk do? (Select TWO.)

- A. Access an Amazon Simple Storage Service (Amazon S3) bucket
- B. Connect to an Amazon Relational Database Service (Amazon RDS) database
- C. Install agents for Amazon GuardDuty service
- D. Create and manage Amazon WorkSpaces

Correct answer: AB

QUESTION 178. Which service can be used to restrict access to AWS Elastic Beanstalk resources?

- A. AWS Config
- B. Amazon Relational Database Service (Amazon RDS)
- C. AWS Identity and Access Management (IAM)
- D. Amazon Simple Storage Service (Amazon S3)

Correct answer: C

QUESTION 179. Which AWS Identity and Access Management (IAM) entities are used when creating an environment? (Select TWO.)

- A. Federated role
- B. Service role
- C. Instance profile
- D. Profile role
- E. User name and access keys

Correct answer: BC

QUESTION 180. Which of the following describes how customers are charged for AWS Elastic Beanstalk?

- A. A monthly fee based on an hourly rate for use.
- B. A one-time upfront cost for each environment running.
- C. No additional charges.
- D. A fee is charged only when scaling to support traffic changes.

Correct answer: C

QUESTION 181. Which account is billed for user-accessed AWS resources allocated by AWS Elastic Beanstalk?

- A. The account running the services
- B. The cross-account able to access the shared services
- C. The cross-account with the Amazon Simple Storage Service (Amazon S3) bucket holding a downloaded copy of the code artifact
- D. All accounts involved

Correct answer: D

QUESTION 182. What can you *not* do to an Amazon Relational Database Service (Amazon RDS) instance with AWS Elastic Beanstalk?

- A. Create a database connection.
- B. Create a supported Oracle edition.
- C. Retain a database instance despite the deletion of the environment's database.
- D. Create a snapshot of the existing database (before deletion).

Correct answer: C

QUESTION 183. Which of the following languages is not supported by AWS Elastic Beanstalk?

- A. Java
- B. Node.js
- C. Objective C
- D. Go

Correct answer: C

QUESTION 184. What does the AWS Elastic Beanstalk service do?

- A. Deploys applications and architecture
- B. Stores static content
- C. Directs user traffic to Amazon Elastic Compute Cloud (Amazon EC2) instances
- D. Works with dynamic cloud changes as an IP address

Correct answer: A

QUESTION 185. Which operating systems does AWS Elastic Beanstalk support? (Select TWO.)

- A. Amazon Linux
- B. Ubuntu
- C. Windows Server
- D. Fedora
- E. Jetty

Correct answer: AC

QUESTION 186. Which of the following components can AWS Elastic Beanstalk deploy? (Select TWO.)

- A. Amazon Elastic Compute Cloud (Amazon EC2) instances with write capabilities to an Amazon DynamoDB table
- B. A worker application using Amazon Simple Queue Service (Amazon SQS)
- C. An Amazon Elastic Container Service (Amazon ECS) cluster supporting multiple containers
- D. A mixed fleet of Spot and Reserved Instances with four applications running in each environment
- E. A mixed fleet of Reserved Instances scheduled between 9 a.m. to 5 p.m. and On-Demand Instances used for processing data workloads when needed randomly

Correct answer: AB

QUESTION 187. Which of the following AWS services enables you to automate your build, test, deploy, and release process every time there is a code change?

- A. AWS CodeCommit
- B. AWS CodeDeploy
- C. AWS CodeBuild
- D. AWS CodePipeline

Correct answer: D

QUESTION 188. Which of the following resources can AWS Elastic Beanstalk use to create a web server environment? (Select FOUR.)

- A. Amazon Cognito User Pool
- B. AWS Serverless Application Model (AWS SAM) Local
- C. Auto Scaling group
- D. Amazon Elastic Compute Cloud (Amazon EC2)
- E. AWS Lambda

Correct answer: ABCD

EXAM B

Question #1

A Developer created a dashboard for an application using Amazon API Gateway, Amazon S3, AWS Lambda, and Amazon RDS. The Developer needs an authentication mechanism allowing a user to sign in and view the dashboard. It must be accessible from mobile applications,

desktops, and tablets, and must remember user preferences across platforms.
Which AWS service should the Developer use to support this authentication scenario?

- A. AWS KMS
- B. Amazon Cognito
- C. AWS Directory Service
- D. Amazon IAM

Correct Answer: D

Question #2

A Developer has created an S3 bucket s3://mycoolapp and has enabled server access logging that points to the folder s3://mycoolapp/logs. The Developer moved 100 KB of Cascading Style Sheets (CSS) documents to the folder s3://mycoolapp/css, and then stopped work. When the developer came back a few days later, the bucket was 50 GB.

What is the MOST likely cause of this situation?

- A. The CSS files were not compressed and S3 versioning was enabled.
- B. S3 replication was enabled on the bucket.
- C. Logging into the same bucket caused exponential log growth.
- D. An S3 lifecycle policy has moved the entire CSS file to S3 Infrequent Access.

Correct Answer: B

Question #3

A Developer is creating an Auto Scaling group whose instances need to publish a custom metric to Amazon CloudWatch.

Which method would be the MOST secure way to authenticate a CloudWatch PUT request?

- A. Create an IAM user with PutMetricData permission and put the user credentials in a private repository; have applications pull the credentials as needed.
- B. Create an IAM user with PutMetricData permission, and modify the Auto Scaling launch configuration to inject the user credentials into the instance user data.
- C. Modify the CloudWatch metric policies to allow the PutMetricData permission to instances from the Auto Scaling group.
- D. Create an IAM role with PutMetricData permission and modify the Auto Scaling launching configuration to launch instances using that role.

Correct Answer: D

Question #4

A Developer is working on an application that tracks hundreds of millions of product reviews in an Amazon DynamoDB table. The records include the data elements shown in the table:

Name	Type	Description
reviewID	Number	16 digit UUID
starRating	Number	Integer 1-5 of user rating
comment	String	User comment string
productID	Number	Product ID being reviewed

Which field, when used as the partition key, would result in the MOST consistent performance using DynamoDB?

- A. starRating
- B. reviewID
- C. comment
- D. productID

Correct Answer: B

Question #5

A Developer has written a serverless application using multiple AWS services. The business logic is written as a Lambda function which has dependencies on third-party libraries. The Lambda function endpoints will be exposed using Amazon API Gateway. The Lambda function will write the information to Amazon DynamoDB. The Developer is ready to deploy the application but must have the ability to rollback. How can this deployment be automated, based on these requirements?

- A. Deploy using Amazon Lambda API operations to create the Lambda function by providing a deployment package.
- B. Use an AWS CloudFormation template and use CloudFormation syntax to define the Lambda function resource in the template.
- C. Use syntax conforming to the Serverless Application Model in the AWS CloudFormation template to define the Lambda function resource.
- D. Create a bash script which uses AWS CLI to package and deploy the application.

Correct Answer: A

Reference:

<https://docs.aws.amazon.com/lambda/latest/dg/automating-deployment.html>

Question #6

What are the steps to using the AWS CLI to launch a templated serverless application?

- A. Use AWS CloudFormation get-template then CloudFormation execute-change-set.
- B. Use AWS CloudFormation validate-template then CloudFormation create-change-set.
- C. Use AWS CloudFormation package then CloudFormation deploy.
- D. Use AWS CloudFormation create-stack then CloudFormation update-stack.

Correct Answer: C

Reference:

<https://github.com/aws-labs/aws-sam-cli>

Question #7

A Developer is creating a web application that requires authentication, but also needs to support guest access to provide users limited access without having to authenticate. What service can provide support for the application to allow guest access?

- A. IAM temporary credentials using AWS STS.
- B. Amazon Directory Service
- C. Amazon Cognito with unauthenticated access enabled
- D. IAM with SAML integration

Correct Answer: C

Reference:

<https://aws.amazon.com/cognito/faqs/>

Question #8

An application takes 40 seconds to process instructions received in an Amazon SQS message. Assuming the SQS queue is configured with the default VisibilityTimeout value, what is the BEST way, upon receiving a message, to ensure that no other instances can retrieve a message that has already been processed or is currently being processed?

- A. Use the ChangeMessageVisibility API to increase the VisibilityTimeout, then use the DeleteMessage API to delete the message.
- B. Use the DeleteMessage API call to delete the message from the queue, then call DeleteQueue API to remove the queue.
- C. Use the ChangeMessageVisibility API to decrease the timeout value, then use the DeleteMessage API to delete the message.
- D. Use the DeleteMessageVisibility API to cancel the VisibilityTimeout, then use the DeleteMessage API to delete the message.

Correct Answer: A

Question #9

A Developer has implemented a Lambda function that needs to add new customers to an RDS database that is expected to run hundreds of times per hour. The Lambda function is configured to use 512MB of RAM and is based on the following pseudo code:

```
def lambda_handler(event, context):
```

```
    db = database.connect()
```

```
    db.statement('INSERT INTO Customers (CustomerName) VALUES  
                (context.name)')
```

```
    db.close()
```

After testing the Lambda function, the Developer notices that the Lambda execution time is much longer than expected. What should the Developer do to improve performance?

- A. Increase the amount of RAM allocated to the Lambda function, which will increase the number of threads the Lambda can use.
- B. Increase the size of the RDS database to allow for an increased number of database connections each hour.
- C. Move the database connection and close statement out of the handler. Place the connection in the global space.
- D. Replace RDS with Amazon DynamoDB to implement control over the number of writes per second.

Correct Answer: B

Question #10

A current architecture uses many Lambda functions invoking one another as a large state machine. The coordination of this state machine is legacy custom code that breaks easily. Which AWS Service can help refactor and manage the state machine?

- A. AWS Data Pipeline
- B. AWS SNS with AWS SQS
- C. Amazon Elastic MapReduce
- D. AWS Step Functions

Correct Answer: D

Question #11

A Developer is asked to implement a caching layer in front of Amazon RDS. Cached content is expensive to regenerate in case of service failure. Which implementation below would work while maintaining maximum uptime?

- A. Implement Amazon ElastiCache Redis in Cluster Mode
- B. Install Redis on an Amazon EC2 instance.
- C. Implement Amazon ElastiCache Memcached.
- D. Migrate the database to Amazon Redshift.

Correct Answer: A

Reference:

<https://aws.amazon.com/blogs/database/automating-sql-caching-for-amazon-elasticache-and-amazon-rds/>

Question #12

A current architecture uses many Lambda functions invoking one another as large state machine. The coordination of this state machine is legacy custom code that breaks easily. Which AWS Service can help refactor and manage the state machine?

- A. AWS Data Pipeline
- B. AWS SNS with AWS SQS
- C. Amazon Elastic MapReduce
- D. AWS Step Functions

Correct Answer: D

Question #13

A large e-commerce site is being designed to deliver static objects from Amazon S3. The Amazon S3 bucket will server more than 300 GET requests per second. What should be done to optimize performance? (Select TWO.)

- A. Integrate Amazon CloudFront with Amazon S3.
- B. Enable Amazon S3 cross-region replication.
- C. Delete expired Amazon S3 server log files.
- D. Configure Amazon S3 lifecycle rules.
- E. Randomize Amazon S3 key name prefixes.

Correct Answer: AB

Reference:

<http://jayendrapatil.com/aws-s3-best-practices/>

Question #14

A company is building a stock trading application that requires sub-millisecond latency in processing trading requests. Amazon DynamoDB is used to store all the trading data that is used to process each request. After load testing the application, the development team found that due to data retrieval times, the latency requirement is not satisfied. Because of sudden high spikes in the number of requests, DynamoDB read capacity has to be significantly over-provisioned to avoid throttling.

What steps should be taken to meet latency requirements and reduce the cost of running the application?

- A. Add Global Secondary Indexes for trading data.
- B. Store trading data in Amazon S3 and use Transfer Acceleration.
- C. Add retries with exponential back-off for DynamoDB queries
- D. Use DynamoDB Accelerator to cache trading data.

Correct Answer: A

Question #15

A Developer needs temporary access to resources in a second account.

What is the MOST secure way to achieve this?

- A. Use the Amazon Cognito user pools to get short-lived credentials for the second account.
- B. Create a dedicated IAM access key for the second account, and send it by mail.
- C. Create a cross-account access role, and use sts:AssumeRole API to get short-lived credentials.
- D. Establish trust, and add an SSH key for the second account to the IAM user.

Correct Answer: C

Reference:

https://docs.aws.amazon.com/IAM/latest/UserGuide/tutorial_cross-account-with-roles.html

Question #16

An application reads data from an Amazon DynamoDB table. Several times a day, for a period of 15 seconds, the application receives multiple errors.

ProvisionedThroughputExceeded -

How should this exception be handled?

- A. Create a new global secondary index for the table to help with the additional requests.

- B. Retry the failed read requests with exponential backoff.
- C. Immediately retry the failed read requests.
- D. Use the DynamoDB "UpdateItem" API to increase the provisioned throughput capacity of the table.

Correct Answer: B

Reference:

<https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/bp-query-scan.html>

Question #17

A Developer has created a large Lambda function, and deployment is failing with the following error:

ClientError: An error occurred (InvalidParameterValueException) when calling the CreateFunction operation: Unzipped size must be smaller than XXXXXXXXX bytes', where XXXXXXXXX is the current Lambda limit

What can the Developer do to fix this problem?

- A. Submit a limit increase request to AWS Support to increase the function to the size needed.
- B. Use a compression algorithm that is more efficient than ZIP.
- C. Break the function into multiple smaller Lambda functions.
- D. ZIP the ZIP file twice to compress it further.

Correct Answer: C

Question #18

Given the source code for an AWS Lambda function in the local store.py containing a handler function called get_store and the following AWS CloudFormation template:

```
Transform: AWS::Serverless-2016-10-31

Resources:
  StoreFunc:
    Type: AWS::Serverless::Function
    Properties:
      Handler: store.get_store
      Runtime: python3.6
```

What should be done to prepare the template so that it can be deployed using the AWS CLI command `aws cloudformation deploy`?

- A. Use aws cloudformation compile to base64 encode and embed the source file into a modified CloudFormation template.
- B. Use aws cloudformation package to upload the source code to an Amazon S3 bucket and produce a modified CloudFormation template.
- C. Use aws lambda zip to package the source file together with the CloudFormation template and deploy the resulting zip archive.
- D. Use aws serverless create-package to embed the source file directly into the existing CloudFormation template.

Correct Answer: D

Question #19

An application stores images in an S3 bucket. Amazon S3 event notifications are used to trigger a Lambda function that resizes the images. Processing each image takes less than a second. How will AWS Lambda handle the additional traffic?

- A. Lambda will scale out to execute the requests concurrently.
- B. Lambda will handle the requests sequentially in the order received.
- C. Lambda will process multiple images in a single execution.
- D. Lambda will add more compute to each execution to reduce processing time.

Correct Answer: A

Reference:

<https://docs.aws.amazon.com/lambda/latest/dg/scaling.html>

Question #20

A company wants to implement a continuous integration for its workloads on AWS. The company wants to trigger unit test in its pipeline for commits-on its code repository, and wants to be notified of failure events in the pipeline. How can these requirements be met?

- A. Store the source code in AWS CodeCommit. Create a CodePipeline to automate unit testing. Use Amazon SNS to trigger notifications of failure events.
- B. Store the source code in GitHub. Create a CodePipeline to automate unit testing. Use Amazon SES to trigger notifications of failure events.
- C. Store the source code on GitHub. Create a CodePipeline to automate unit testing. Use Amazon CloudWatch to trigger notifications of failure events.
- D. Store the source code in AWS CodeCommit. Create a CodePipeline to automate unit testing. Use Amazon CloudWatch to trigger notification of failure events.

Correct Answer: A

Question #21

A serverless application uses an API Gateway and AWS Lambda.

Where should the Lambda function store its session information across function calls?

- A. In an Amazon DynamoDB table
- B. In an Amazon SQS queue
- C. In the local filesystem
- D. In an SQLite session table using `"DSQLITE_ENABLE_SESSION"`

Correct Answer: A

Question #22

A Developer has created a software package to be deployed on multiple EC2 instances using IAM roles.

What actions could be performed to verify IAM access to get records from Amazon Kinesis Streams? (Select TWO.)

- A. Use the AWS CLI to retrieve the IAM group.
- B. Query Amazon EC2 metadata for in-line IAM policies.
- C. Request a token from AWS STS, and perform a describe action.
- D. Perform a get action using the `"--dry-run"` argument.
- E. Validate the IAM role policy with the IAM policy simulator.

Correct Answer: BE

Question #23

When writing a Lambda function, what is the benefit of instantiating AWS clients outside the scope of the handler?

- A. Legibility and stylistic convention
- B. Taking advantage of connection re-use
- C. Better error handling
- D. Creating a new instance per invocation

Correct Answer: B

Reference:

<https://www.jeremydaly.com/reuse-database-connections-aws-lambda/>

Question #24

An application on AWS is using third-party APIs. The Developer needs to monitor API errors in the code, and wants to receive notifications if failures go above a set threshold value. How can the Developer achieve these requirements?

- A. Publish a custom metric on Amazon CloudWatch and use Amazon SES for notification.
- B. Use an Amazon CloudWatch API-error metric and use Amazon SNS for notification.
- C. Use an Amazon CloudWatch API-error metric and use Amazon SES for notification.
- D. Publish a custom metric on Amazon CloudWatch and use Amazon SNS for notification.

Correct Answer: D

Question #25

A Developer has an application that can upload tens of thousands of objects per second to Amazon S3 in parallel within a single AWS account. As part of new requirements, data stored in S3 must use server side encryption with AWS KMS (SSE-KMS). After creating this change, performance of the application is slower.

Which of the following is MOST likely the cause of the application latency?

- A. Amazon S3 throttles the rate at which uploaded objects can be encrypted using Customer Master Keys.
- B. The AWS KMS API calls limit is less than needed to achieve the desired performance.
- C. The client encryption of the objects is using a poor algorithm.
- D. KMS requires that an alias be used to create an independent display name that can be mapped to a CMK.

Correct Answer: B

Question #26

A company wants to migrate its web application to AWS and leverage Auto Scaling to handle peak workloads. The Solutions Architect determined that the best metric for an Auto Scaling event is the number of concurrent users.

Based on this information, what should the Developer use to autoscale based on concurrent users?

- A. An Amazon SNS topic to be triggered when a concurrent user threshold is met
- B. An Amazon Cloudwatch Networkin metric
- C. Amazon CloudFront to leverage AWS Edge Locations
- D. A Custom Amazon CloudWatch metric for concurrent users.

Correct Answer: D

Question #27

A company is migrating its on-premises database to Amazon RDS for MySQL. The company has read-heavy workloads, and wants to make sure it re-factors its code to achieve optimum read performance for its queries.

How can this objective be met?

- A. Add database retries to effectively use RDS with vertical scaling
- B. Use RDS with multi-AZ deployment
- C. Add a connection string to use an RDS read replica for read queries
- D. Add a connection string to use a read replica on an EC2 instance.

Correct Answer: C

Question #28

A Developer is receiving HTTP 400: ThrottlingException errors intermittently when calling the Amazon CloudWatch API. When a call fails, no data is retrieved.

What best practice should first be applied to address this issue?

- A. Contact AWS Support for a limit increase.
- B. Use the AWS CLI to get the metrics
- C. Analyze the applications and remove the API call
- D. Retry the call with exponential backoff

Correct Answer: B

Question #29

A Developer is testing a Docker-based application that uses the AWS SDK to interact with Amazon DynamoDB. In the local development environment, the application has used IAM access keys. The application is now ready for deployment onto an ECS cluster.

How should the application authenticate with AWS services in production?

- A. Configure an ECS task IAM role for the application to use
- B. Refactor the application to call AWS STS AssumeRole based on an instance role
- C. Configure AWS access key/secret access key environment variables with new credentials
- D. Configure the credentials file with a new access key/secret access key

Correct Answer: A

Question #30

A Developer created a Lambda function for a web application backend. When testing the Lambda function from the AWS Lambda console, the Developer can see that the function is being executed, but there is no log data being generated in Amazon CloudWatch Logs, even after several minutes.

What could cause this situation?

- A. The Lambda function does not have any explicit log statements for the log data to send it to CloudWatch Logs.
- B. The Lambda function is missing CloudWatch Logs as a source trigger to send log data.
- C. The execution role for the Lambda function is missing permissions to write log data to the CloudWatch Logs.
- D. The Lambda function is missing a target CloudWatch Log group.

Correct Answer: C

Reference:

<https://docs.aws.amazon.com/lambda/latest/dg/monitoring-functions.html>

(see note)

Question #31

An application has hundreds of users. Each user may use multiple devices to access the application. The Developer wants to assign unique identifiers to these users regardless of the device they use.

Which of the following methods should be used to obtain unique identifiers?

- A. Create a user table in Amazon DynamoDB as key-value pairs of users and their devices. Use these keys as unique identifiers.
- B. Use IAM-generated access key IDs for the users as the unique identifier, but do not store secret keys.
- C. Implement developer-authenticated identities by using Amazon Cognito, and get credentials for these identities.
- D. Assign IAM users and roles to the users. Use the unique IAM resource ID as the unique identifier.

Correct Answer: D

Question #32

An application is designed to use Amazon SQS to manage messages from many independent senders. Each sender's messages must be processed in the order they are received. Which SQS feature should be implemented by the Developer?

- A. Configure each sender with a unique MessageGroupId
- B. Enable MessageDeduplicationIds on the SQS queue
- C. Configure each message with unique MessageGroupIds.
- D. Enable ContentBasedDeduplication on the SQS queue

Correct Answer: C

Reference:

<https://aws.amazon.com/blogs/developer/how-the-amazon-sqs-fifo-api-works/>

Question #33

A deployment package uses the AWS CLI to copy files into any S3 bucket in the account, using access keys stored in environment variables. The package is running on EC2 instances, and the instances have been modified to run with an assumed IAM role and a more restrictive policy that allows access to only one bucket. After the change, the Developer logs into the host and still has the ability to write into all of the S3 buckets in that account.

What is the MOST likely cause of this situation?

- A. An IAM inline policy is being used on the IAM role
- B. An IAM managed policy is being used on the IAM role
- C. The AWS CLI is corrupt and needs to be reinstalled
- D. The AWS credential provider looks for instance profile credentials last

Correct Answer: B

Question #34

A Developer is writing transactions into a DynamoDB table called "SystemUpdates" that has 5 write capacity units.

Which option has the highest read throughput?

- A. Eventually consistent reads of 5 read capacity units reading items that are 4 KB in size
- B. Strongly consistent reads of 5 read capacity units reading items that are 4 KB in size
- C. Eventually consistent reads of 15 read capacity units reading items that are 1 KB in size
- D. Strongly consistent reads of 15 read capacity units reading items that are 1 KB in size

Correct Answer: B

Question #35

Where should an Elastic Beanstalk configuration file named healthcheckur1.config be placed in the application source bundle?

- A. In the root of the application
- B. In the bin folder
- C. In healthcheckur1.config.ebextension under root
- D. In the .ebextensions folder

Correct Answer: D

Reference:

<https://docs.aws.amazon.com/elasticbeanstalk/latest/dg/ebextensions.html>

Question #36

During non-peak hours, a Developer wants to minimize the execution time of a full Amazon DynamoDB table scan without affecting normal workloads. The workloads average half of the strongly consistent read capacity units during non-peak hours. How would the Developer optimize this scan?

- A. Use parallel scans while limiting the rate
- B. Use sequential scans
- C. Increase read capacity units during the scan operation
- D. Change consistency to eventually consistent during the scan operation

Correct Answer: B

Question #37

A Developer is creating a Lambda function and will be using external libraries that are not included in the standard Lambda libraries.

What action would minimize the Lambda compute time consumed?

- A. Install the dependencies and external libraries at the beginning of the Lambda function.
- B. Create a Lambda deployment package that includes the external libraries.
- C. Copy the external libraries to Amazon S3, and reference the external libraries to the S3 location.
- D. Install the external libraries in Lambda to be available to all Lambda functions.

Correct Answer: D

Question #38

A Developer is writing a Linux-based application to run on AWS Elastic Beanstalk. Application requirements state that the application must maintain full capacity during updates while minimizing cost.

Which type of Elastic Beanstalk deployment policy should the Developer specify for the environment?

- A. Immutable
- B. Rolling
- C. All at Once
- D. Rolling with additional batch

Correct Answer: A

Reference:

<https://aws.amazon.com/about-aws/whats-new/2016/04/aws-elastic-beanstalk-adds-two-new-deployment-policies-and-amazon-linux-ami-2016-03-update/>

Question #39

An application under development is required to store hundreds of video files. The data must be encrypted within the application prior to storage, with a unique key for each video file.

How should the Developer code the application?

- A. Use the KMS Encrypt API to encrypt the data. Store the encrypted data key and data.
- B. Use a cryptography library to generate an encryption key for the application. Use the encryption key to encrypt the data. Store the encrypted data.
- C. Use the KMS GenerateDataKey API to get a data key. Encrypt the data with the data key. Store the encrypted data key and data.
- D. Upload the data to an S3 bucket using server side-encryption with an AWS KMS key.

Correct Answer: B

Question #40

A Developer is creating an application that needs to locate the public IPv4 address of the Amazon EC2 instance on which it runs. How can the application locate this information?

- A. Get the instance metadata by retrieving <http://169.254.169.254/latest/metadata/>.
- B. Get the instance user data by retrieving <http://169.254.169.254/latest/userdata/>.
- C. Get the application to run IFCONFIG to get the public IP address.
- D. Get the application to run IPCONFIG to get the public IP address.

Correct Answer: A

Reference:

<https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/using-instance-addressing.html>

Question #41

The Lambda function below is being called through an API using Amazon API Gateway. The average execution time for the Lambda function is about 1 second.

The pseudocode for the Lambda function is as shown in the exhibit.

```
include "3rd party encryption module"

include "match module"

lambda_handler(event, context)

    rds_host = "rds-instance-endpoint"
    name = db_username
    password = db_password
    db_name = db_name

    # Connect to the RDS Database

    Conn = RDSConnection(rds_host, user=name, passwd=password,
    db=db_name, connect_timeout=5)

    #Perform some Processing reading data from the RDS database

    #Code Block

    #Code Block

    #Code Block
```

What two actions can be taken to improve the performance of this Lambda function without increasing the cost of the solution? (Select two.)

- A. Package only the modules the Lambda function requires
- B. Use Amazon DynamoDB instead of Amazon RDS
- C. Move the initialization of the variable Amazon RDS connection outside of the handler function
- D. Implement custom database connection pooling with the Lambda function
- E. Implement local caching of Amazon RDS data so Lambda can re-use the cache

Correct Answer: AE

Question #42

An application will ingest data at a very high throughput from many sources and must store the data in an Amazon S3 bucket. Which service would BEST accomplish this task?

- A. Amazon Kinesis Firehose
- B. Amazon S3 Acceleration Transfer
- C. Amazon SQS
- D. Amazon SNS

Correct Answer: A

Question #43

A Developer has setup an Amazon Kinesis Stream with 4 shards to ingest a maximum of 2500 records per second. A Lambda function has been configured to process these records. In which order will these records be processed?

- A. Lambda will receive each record in the reverse order it was placed into the stream following a LIFO (last-in, first-out) method
- B. Lambda will receive each record in the exact order it was placed into the stream following a FIFO (first-in, first-out) method.
- C. Lambda will receive each record in the exact order it was placed into the shard following a FIFO (first-in, first-out) method. There is no guarantee of order across shards.
- D. The Developer can select FIFO, (first-in, first-out), LIFO (last-in, last-out), random, or request specific record using the getRecords API.

Correct Answer: C

Question #44

A static website is hosted in an Amazon S3 bucket. Several HTML pages on the site use JavaScript to download images from another Amazon S3 bucket. These images are not displayed when users browse the site. What is the possible cause for the issue?

- A. The referenced Amazon S3 bucket is in another region.
- B. The images must be stored in the same Amazon S3 bucket.
- C. Port 80 must be opened on the security group in which the Amazon S3 bucket is located.
- D. Cross Origin Resource Sharing must be enabled on the Amazon S3 bucket.

Correct Answer: D

Question #45

Amazon S3 has the following structure: S3://BUCKET/FOLDERNAME/FILENAME.zip

Which S3 best practice would optimize performance with thousands of PUT request each second to a single bucket?

- A. Prefix folder names with user id; for example, s3://BUCKET/2013-FOLDERNAME/FILENAME.zip
- B. Prefix file names with timestamps; for example, s3://BUCKET/FOLDERNAME/2013-26-05-15-00-00-FILENAME.zip
- C. Prefix file names with random hex hashes; for example, s3://BUCKET/FOLDERNAME/23a6-FILENAME.zip
- D. Prefix folder names with random hex hashes; for example, s3://BUCKET/23a6-FOLDERNAME/FILENAME.zip

Correct Answer: B

Reference:

<http://jayendrapatil.com/aws-s3-best-practices/>

Question #46

For a deployment using AWS CodeDeploy, what is the run order of the hooks for in-place deployments?

- A. Before Install -> Application Stop -> Application Start -> After Install
- B. Application Stop -> Before Install -> After Install -> Application Start
- C. Before Install -> Application Stop -> Validate Service -> Application Start
- D. Application Stop -> Before Install -> Validate Service -> Application Start

Correct Answer: B

Reference:

<https://docs.aws.amazon.com/codedeploy/latest/userguide/reference-appspec-file-structure-hooks.html>

Question #47

A Developer is developing an application that manages financial transactions. To improve security, multi-factor authentication (MFA) will be required as part of the login protocol.

What services can the Developer use to meet these requirements?

- A. Amazon DynamoDB to store MFA session data, and Amazon SNS to send MFA codes
- B. Amazon Cognito with MFA
- C. AWS Directory Service
- D. AWS IAM with MFA enabled

Correct Answer: D

Reference:

<https://aws.amazon.com/iam/details/mfa/>

Question #48

A game stores user game data in an Amazon DynamoDB table. Individual users should not have access to other users' game data. How can this be accomplished?

- A. Encrypt the game data with individual user keys.
- B. Restrict access to specific items based on certain primary key values.
- C. Stage data in SQS queues to inject metadata before accessing DynamoDB.
- D. Read records from DynamoDB and discard irrelevant data client-side.

Correct Answer: B

Reference:

<https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/specifying-conditions.html>

Question #49

A company developed a set of APIs that are being served through the Amazon API Gateway. The API calls need to be authenticated based on OpenID identity providers such as Amazon or Facebook. The APIs should allow access based on a custom authorization model. Which is the simplest and MOST secure design to use to build an authentication and authorization model for the APIs?

- A. Use Amazon Cognito user pools and a custom authorizer to authenticate and authorize users based on JSON Web Tokens.
- B. Build a OpenID token broker with Amazon and Facebook. Users will authenticate with these identify providers and pass the JSON Web Token to the API to authenticate each API call.
- C. Store user credentials in Amazon DynamoDB and have the application retrieve temporary credentials from AWS STS. Make API calls by passing user credentials to the APIs for authentication and authorization.
- D. Use Amazon RDS to store user credentials and pass them to the APIs for authentications and authorization.

Correct Answer: A

Question #50

A supplier is writing a new RESTful API for customers to query the status of orders. The customers requested the following API endpoint.

<http://www.supplierdomain.com/status/customerID>

Which of the following application designs meet the requirements? (Select two.)

- A. Amazon SQS; Amazon SNS
- B. Elastic Load Balancing; Amazon EC2
- C. Amazon ElastiCache; Amazon Elasticsearch Service
- D. Amazon API Gateway; AWS Lambda
- E. Amazon S3; Amazon CloudFront

Correct Answer: DE

Question #51

A development team consists of 10 team members. Similar to a home directory for each team member the manager wants to grant access to user-specific folders in an Amazon S3 bucket. For the team member with the username "TeamMemberX", the snippet of the IAM policy looks like this:

```
{ "Sid": "AllowS3ActionToFolders", "Effect": "Allow", "Action":
  ["s3:*"], "Resource":
  ["arn:aws:s3:::companyname/home/TeamMemberX/*"] }
```

Instead of creating distinct policies for each team member, what approach can be used to make this policy snippet generic for all team members?

- A. Use IAM policy condition
- B. Use IAM policy principal
- C. Use IAM policy variables
- D. Use IAM policy resource

Correct Answer: A

Question #52

A legacy service has an XML-based SOAP interface. The Developer wants to expose the functionality of the service to external clients with the Amazon API Gateway. Which technique will accomplish this?

- A. Create a RESTful API with the API Gateway; transform the incoming JSON into a valid XML message for the SOAP interface using mapping templates.
- B. Create a RESTful API with the API Gateway; pass the incoming JSON to the SOAP interface through an Application Load Balancer.
- C. Create a RESTful API with the API Gateway; pass the incoming XML to the SOAP interface through an Application Load Balancer.

- D. Create a RESTful API with the API Gateway; transform the incoming XML into a valid message for the SOAP interface using mapping templates.

Correct Answer: B

Question #53

A company is using AWS CodeBuild to compile a website from source code stored in AWS CodeCommit. A recent change to the source code has resulted in the CodeBuild project being unable to successfully compile the website. How should the Developer identify the cause of the failures?

- A. Modify the buildspec.yml file to include steps to send the output of build commands to Amazon CloudWatch.
- B. Use a custom Docker image that includes the AWS X-Ray agent in the AWS CodeBuild project configuration.
- C. Check the build logs of the failed phase in the last build attempt in the AWS CodeBuild project build history.
- D. Manually re-run the build process on a local machine so that the output can be visualized.

Correct Answer: A

Question #54

A web application is using Amazon Kinesis Streams for clickstream data that may not be consumed for up to 12 hours. How can the Developer implement encryption at rest for data within the Kinesis Streams?

- A. Enable SSL connections to Kinesis
- B. Use Amazon Kinesis Consumer Library
- C. Encrypt the data once it is at rest with a Lambda function
- D. Enable server-side encryption in Kinesis Streams

Correct Answer: D

Reference:

<https://aws.amazon.com/about-aws/whats-new/2017/07/amazon-kinesis-streams-introduces-server-side-encryption/>

Question #55

A Developer wants to use AWS X-Ray to trace a user request end-to-end throughout the software stack. The Developer made the necessary changes in the application tested it, and found that the application is able to send the traces to AWS X-Ray. However, when the

application is deployed to an EC2 instance, the traces are not available.
Which of the following could create this situation? (Select two.)

- A. The traces are reaching X-Ray, but the Developer does not have access to view the records.
- B. The X-Ray daemon is not installed on the EC2 instance.
- C. The X-Ray endpoint specified in the application configuration is incorrect.
- D. The instance role does not have "xray:BatchGetTraces" and "xray:GetTraceGraph" permissions.
- E. The instance role does not have "xray:PutTraceSegments" and "xray:PutTelemetryRecords" permissions.

Correct Answer: BE

Question #56

A Developer executed a AWS CLI command and received the error shown below:

```
A client error (UnauthorizedOperation) occurred when calling the RunInstances operation:
You are not authorized to perform this operation. Encoded authorization failure message:
oGsbAaIV7wlfj8zUqebHUANHZFbmkzILlxyj_y9xwhIHk99U_cUq1FIeZnskWDjQ1wSHstVfdCEyZILGoccGpCiC
IhORceWF9rRwFTnEcRJ3N9iTrPAE1WHveC5Z54ALPaWlEjHlLg8CaB8d8lCKmxQuylCm0r1Bf2fHJRUjAYopMVmga
8olFmKA19yn_Z5rI120Q9p5ZIMX28zYM4dTulcJQUQjosgrEejfiIMYDda8l7Ooko9H6VmGJX62KfkRa5l7yE6hhh
2bIwA6tpyCJy2LWFRTe4bafqAyoqkarhPA4mGiZyWn4gSqbo8o-
uqSIvWYPweakKGkampa0arcFR4gBD7Ph097WYBkzX9hVjGppLMy4jpXRv
```

What action should the Developer perform to make this error human-readable?

- A. Make a call to AWS KMS to decode the message.
- B. Use the AWS STS decode-authorization-message API to decode the message.
- C. Use an open source decoding library to decode the message.
- D. Use the AWS IAM decode-authorization-message API to decode this message.

Correct Answer: B

Question #57

A company is using Amazon API Gateway to manage access to a set of microservices implemented as AWS Lambda functions. Following a bug report, the company makes a minor breaking change to one of the APIs.

In order to avoid impacting existing clients when the new API is deployed, the company wants to

allow clients six months to migrate from v1 to v2.
Which approach should the Developer use to handle this change?

- A. Update the underlying Lambda function and provide clients with the new Lambda invocation URL.
- B. Use API Gateway to automatically propagate the change to clients, specifying 180 days in the phased deployment parameter.
- C. Use API Gateway to deploy a new stage named v2 to the API and provide users with its URL.
- D. Update the underlying Lambda function, create an Amazon CloudFront distribution with the updated Lambda function as its origin.

Correct Answer: C

Question #58

A company has written a Java AWS Lambda function to be triggered whenever a user uploads an image to an Amazon S3 bucket. The function converts the original image to several different formats and then copies the resulting images to another Amazon S3 bucket.

The Developers find that no images are being copied to the second Amazon S3 bucket. They have tested the code on an Amazon EC2 instance with 1GB of RAM, and it takes an average of 500 seconds to complete.

What is the MOST likely cause of the problem?

- A. The Lambda function has insufficient memory and needs to be increased to 1 GB to match the Amazon EC2 instance
- B. Files need to be copied to the same Amazon S3 bucket for processing, so the second bucket needs to be deleted.
- C. Lambda functions have a maximum execution limit of 300 seconds, therefore the function is not completing.
- D. There is a problem with the Java runtime for Lambda, and the function needs to be converted to node.js.

Correct Answer: C

Question #59

An application stops working with the following error: The specified bucket does not exist.
Where is the BEST place to start the root cause analysis?

- A. Check the Elastic Load Balancer logs for DeleteBucket requests.
- B. Check the application logs in Amazon CloudWatch Logs for Amazon S3 DeleteBucket errors.
- C. Check AWS X-Ray for Amazon S3 DeleteBucket alarms.
- D. Check AWS CloudTrail for a DeleteBucket event.

Correct Answer: D

Reference:

<https://github.com/serverless/serverless-graphql/issues/72>

Question #60

An organization must store thousands of sensitive audio and video files in an Amazon S3 bucket. Organizational security policies require that all data written to this bucket be encrypted. How can compliance with this policy be ensured?

- A. Use AWS Lambda to send notifications to the security team if unencrypted objects are put in the bucket.
- B. Configure an Amazon S3 bucket policy to prevent the upload of objects that do not contain the x-amz-server-side-encryption header.
- C. Create an Amazon CloudWatch event rule to verify that all objects stored in the Amazon S3 bucket are encrypted.
- D. Configure an Amazon S3 bucket policy to prevent the upload of objects that contain the x-amz-server-side-encryption header.

Correct Answer: B

Question #61

An application overwrites an object in Amazon S3, and then immediately reads the same object. Why would the application sometimes retrieve the old version of the object?

- A. S3 overwrite PUTS are eventually consistent, so the application may read the old object.
- B. The application needs to add extra metadata to label the latest version when uploading to Amazon S3.
- C. All S3 PUTS are eventually consistent, so the application may read the old object.
- D. The application needs to explicitly specify latest version when retrieving the object.

Correct Answer: A

Question #62

The release process workflow of an application requires a manual approval before the code is deployed into the production environment.

What is the BEST way to achieve this using AWS CodePipeline?

- A. Use multiple pipelines to allow approval
- B. Use an approval action in a stage

- C. Disable the stage transition to allow manual approval
- D. Disable a stage just prior the deployment stage

Correct Answer: D

Question #63

Where should the appspec.yml file be placed in order for AWS CodeDeploy to work?

- A. In the root of the application source code directory structure
- B. In the bin folder along with all the compiled code
- C. In an S3 bucket
- D. In the same folder as the application configuration files

Correct Answer: A

Reference:

<https://docs.aws.amazon.com/codedeploy/latest/userguide/reference-appspec-file.html>

Question #64

An existing serverless application processes uploaded image files. The process currently uses a single Lambda function that takes an image file, performs the processing, and stores the file in Amazon S3. Users of the application now require thumbnail generation of the images. Users want to avoid any impact to the time it takes to perform the image uploads.

How can thumbnail generation be added to the application, meeting user requirements while minimizing changes to existing code?

- A. Change the existing Lambda function handling the uploads to create thumbnails at the time of upload. Have the function store both the image and thumbnail in Amazon S3.
- B. Create a second Lambda function that handles thumbnail generation and storage. Change the existing Lambda function to invoke it asynchronously.
- C. Create an S3 event notification with a Lambda function destination. Create a new Lambda function to generate and store thumbnails.
- D. Create an S3 event notification to an SQS Queue. Create a scheduled Lambda function that processes the queue, and generates and stores thumbnails.

Correct Answer: A

Reference:

<https://docs.aws.amazon.com/lambda/latest/dg/with-s3-example.html>

Question #65

A Developer must re-implement the business logic for an order fulfillment system. The business logic has to make requests to multiple vendors to decide where to purchase an item. The whole

process can take up to a week to complete.

What is the MOST efficient and SIMPLEST way to implement a system that meets these requirements?

- A. Use AWS Step Functions to execute parallel Lambda functions, and join the results.
- B. Create an AWS SQS for each vendor, poll the queue from a worker instance, and joint the results.
- C. Use AWS Lambda to asynchronously call a Lambda function for each vendor, and join the results.
- D. Use Amazon CloudWatch Events to orchestrate the Lambda functions.

Correct Answer: D

Question #66

A customer wants to deploy its source code on an AWS Elastic Beanstalk environment. The customer needs to perform deployment with minimal outage and should only use existing instances to retain application access log.

What deployment policy would satisfy these requirements?

- A. Rolling
- B. All at once
- C. Rolling with an additional batch
- D. Immutable

Correct Answer: A

Reference:

<https://docs.aws.amazon.com/elasticbeanstalk/latest/dg/using-features.rollingupdates.html>

Question #67

A Developer has been asked to build a real-time dashboard web application to visualize the key prefixes and storage size of objects in Amazon S3 buckets.

Amazon DynamoDB will be used to store the Amazon S3 metadata.

What is the optimal and MOST cost-effective design to ensure that the real-time dashboard is kept up to date with the state of the objects in the Amazon S3 buckets?

- A. Use an Amazon CloudWatch event backed by an AWS Lambda function. Issue an Amazon S3 API call to get a list of all Amazon S3 objects and persist the metadata within DynamoDB. Have the web application poll the DynamoDB table to reflect this change.
- B. Use Amazon S3 Event Notification backed by a Lambda function to persist the metadata into DynamoDB. Have the web application poll the DynamoDB table to reflect this change.

- C. Run a cron job within an Amazon EC2 instance to list all objects within Amazon S3 and persist the metadata into DynamoDB. Have the web application poll the DynamoDB table to reflect this change.
- D. Create a new Amazon EMR cluster to get all the metadata about Amazon S3 objects; persist the metadata into DynamoDB. Have the web application poll the DynamoDB table to reflect this change.

Correct Answer: A

Question #68

A Developer must repeatedly and consistently deploy a serverless RESTful API on AWS. Which techniques will work? (Choose two.)

- A. Define a Swagger file. Use AWS Elastic Beanstalk to deploy the Swagger file.
- B. Define a Swagger file. Use AWS CodeDeploy to deploy the Swagger file.
- C. Deploy a SAM template with an inline Swagger definition.
- D. Define a Swagger file. Deploy a SAM template that references the Swagger file.
- E. Define an inline Swagger definition in a Lambda function. Invoke the Lambda function.

Correct Answer: DE

Question #69

A set of APIs are exposed to customers using the Amazon API Gateway. These APIs have caching enabled on the API Gateway. Customers have asked for an option to invalidate this cache for each of the APIs.

What action can be taken to allow API customers to invalidate the API Cache?

- A. Ask customers to use AWS credentials to call the InvalidateCache API.
- B. Ask customers to invoke an AWS API endpoint which invalidates the cache.
- C. Ask customers to pass an HTTP header called Cache-Control:max-age=0.
- D. Ask customers to add a query string parameter called "INVALIDATE_CACHE" when making an API call.

Correct Answer: B

Question #70

A Developer uses AWS CodeDeploy to automate application deployment that connects to an external MySQL database. The Developer wants to securely access the encrypted secrets, such as API keys and database passwords.

Which of the following solutions would involve the LEAST administrative effort?

- A. Save the secrets in Amazon S3 with AWS KMS server-side encryption, and use a signed URL to access them by using the IAM role from Amazon EC2 instances.
- B. Use the instance metadata to store the secrets and to programmatically access the secrets from EC2 instances.
- C. Use the Amazon DynamoDB client-side encryption library to save the secrets in DynamoDB and to programmatically access the secrets from EC2 instances.
- D. Use AWS SSM Parameter Store to store the secrets and to programmatically access them by using the IAM role from EC2 instances.

Correct Answer: A

Question #71

An application running on EC2 instances is storing data in an S3 bucket. Security policy mandates that all data must be encrypted in transit.

How can the Developer ensure that all traffic to the S3 bucket is encrypted?

- A. Install certificates on the EC2 instances.
- B. Create a bucket policy that allows traffic where SecureTransport is true.
- C. Create an HTTPS redirect on the EC2 instances.
- D. Create a bucket policy that denies traffic where SecureTransport is false.

Correct Answer: B

Question #72

A company is developing a new online game that will run on top of Amazon ECS. Four distinct Amazon ECS services will be part of the architecture, each requiring specific permissions to various AWS services. The company wants to optimize the use of the underlying Amazon EC2 instances by bin packing the containers based on memory reservation.

Which configuration would allow the Development team to meet these requirements MOST securely?

- A. Create a new Identity and Access Management (IAM) instance profile containing the required permissions for the various ECS services, then associate that instance role with the underlying EC2 instances.
- B. Create four distinct IAM roles, each containing the required permissions for the associated ECS service, then configure each ECS service to reference the associated IAM role.
- C. Create four distinct IAM roles, each containing the required permissions for the associated ECS service, then, create an IAM group and configure the ECS cluster to reference that group.
- D. Create four distinct IAM roles, each containing the required permissions for the associated ECS service, then configure each ECS task definition to reference the associated IAM role.

Correct Answer: C

Question #73

A company needs to encrypt data at rest, but it wants to leverage an AWS managed service using its own master key.

Which of the following AWS service can be used to meet these requirements?

- A. SSE with Amazon S3
- B. SSE with AWS KMS
- C. Client-side encryption
- D. AWS IAM roles and policies

Correct Answer: B

Question #74

When a Developer tries to run an AWS CodeBuild project, it raises an error because the length of all environment variables exceeds the limit for the combined maximum of characters.

What is the recommended solution?

- A. Add the export LC_ALL="en_US.utf8" command to the pre_build section to ensure POSIX localization.
- B. Use Amazon Cognito to store key-value pairs for large numbers of environment variables.
- C. Update the settings for the build project to use an Amazon S3 bucket for large numbers of environment variables.
- D. Use AWS Systems Manager Parameter Store to store large numbers of environment variables.

Correct Answer: D

Question #75

A Lambda function is packaged for deployment to multiple environments, including development, test, production, etc. Each environment has unique set of resources such as databases, etc.

How can the Lambda function use the resources for the current environment?

- A. Apply tags to the Lambda functions.
- B. Hardcore resources in the source code.
- C. Use environment variables for the Lambda functions.
- D. Use separate function for development and production.

Correct Answer: C

Question #76

The Developer for a retail company must integrate a fraud detection solution into the order processing solution. The fraud detection solution takes between ten and thirty minutes to verify an order. At peak, the web site can receive one hundred orders per minute.

What is the most scalable method to add the fraud detection solution to the order processing pipeline?

- A. Add all new orders to an Amazon SQS queue. Configure a fleet of 10 EC2 instances spanning multiple AZs with the fraud detection solution installed on them to pull orders from this queue. Update the order with a pass or fails status.
- B. Add all new orders to an SQS queue. Configure an Auto Scaling group that uses the queue depth metric as its unit of scale to launch a dynamically-sized fleet of EC2 instances spanning multiple AZs with the fraud detection solution installed on them to pull orders from this queue. Update the order with a pass or fails status.
- C. Add all new orders to an Amazon Kinesis Stream. Subscribe a Lambda function to automatically read batches of records from the Kinesis Stream. The Lambda function includes the fraud detection software and will update the order with a pass or fail status.
- D. Write all new orders to Amazon DynamoDB. Configure DynamoDB Streams to include all new orders. Subscribe a Lambda function to automatically read batches of records from the Kinesis Stream. The Lambda function includes the fraud detection software and will update the order with a pass or fail status.

Correct Answer: D

Question #77

A Developer is creating a mobile application with a limited budget. The solution requires a scalable service that will enable customers to sign up and authenticate into the mobile application while using the organization's current SAML 2.0 identity provider.

Which AWS service should be used to meet these requirements?

- A. AWS Lambda
- B. Amazon Cognito
- C. AWS IAM
- D. Amazon EC2

Correct Answer: B

Question #78

An application is real-time processing millions of events that are received through an API. What service could be used to allow multiple consumers to process the data concurrently and MOST cost-effectively?

- A. Amazon SNS with fanout to an SQS queue for each application
- B. Amazon SNS with fanout to an SQS FIFO (first-in, first-out) queue for each application
- C. Amazon Kinesis Firehouse
- D. Amazon Kinesis Streams

Correct Answer: D

Reference:

<https://aws.amazon.com/kinesis/data-streams/getting-started/>

Question #79

A Developer needs to use AWS X-Ray to monitor an application that is deployed on EC2 instances.

What steps have to be executed to perform the monitoring?

- A. Deploy the X-Ray SDK with the application and use X-Ray annotation.
- B. Install the X-Ray daemon and instrument the application code.
- C. Install the X-Ray daemon and configure it to forward data to Amazon CloudWatch Events.
- D. Deploy the X-Ray SDK with the application and instrument the application code.

Correct Answer: A

Reference:

<https://aws.amazon.com/blogs/aws/category/aws-x-ray/>

Question #80

A Developer will be using the AWS CLI on a local development server to manage AWS services.

What can be done to ensure that the CLI uses the Developer's IAM permissions when making commands?

- A. Specify the Developer's IAM access key ID and secret access key as parameters for each CLI command.
- B. Run the aws configure CLI command, and provide the Developer's IAM access key ID and secret access key.
- C. Specify the Developer's IAM user name and password as parameters for each CLI command.
- D. Use the Developer's IAM role when making the CLI command.

Correct Answer: B

Reference:

<https://aws.amazon.com/premiumsupport/knowledge-center/iam-assume-role-cli/>

Question #81

After installing the AWS CLI, a Developer tries to run the command `aws configure` but receives the following error:

Error: aws: command not found -
What is the most likely cause of this error?

- A. The aws executable is not in the PATH environment variable.
- B. Access to the aws executable has been denied to the installer.
- C. Incorrect AWS credentials were provided.
- D. The aws script does not have an executable file mode.

Correct Answer: D

Reference:

<https://docs.aws.amazon.com/cli/latest/userguide/troubleshooting.html>

Question #82

An on-premises legacy application is caching data files locally and writing shared images to local disks.

What is necessary to allow for horizontal scaling when migrating the application to AWS?

- A. Modify the application to have both shared images and caching data written to Amazon EBS.
- B. Modify the application to read and write cache data on Amazon S3, and also store shared images on S3.
- C. Modify the application to use Amazon S3 for serving shared images; cache data can then be written to local disks.
- D. Modify the application to read and write cache data on Amazon S3, while continuing to write shared images to local disks.

Correct Answer: B

Question #83

A Developer must trigger an AWS Lambda function based on the item lifecycle activity in an Amazon DynamoDB table.

How can the Developer create the solution?

- A. Enable a DynamoDB stream that publishes an Amazon SNS message. Trigger the Lambda function synchronously from the SNS message.
- B. Enable a DynamoDB stream that publishes an SNS message. Trigger the Lambda function asynchronously from the SNS message.
- C. Enable a DynamoDB stream, and trigger the Lambda function synchronously from the stream.
- D. Enable a DynamoDB stream, and trigger the Lambda function asynchronously from the stream.

Correct Answer: C

Reference:

<https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/Streams.Lambda.html>

Question #84

A gaming company is developing a mobile game application for iOS® and Android® platforms. This mobile game securely stores user data locally on the device.

The company wants to allow users to use multiple device for the game, which requires user data synchronization across device.

Which service should be used to synchronize user data across devices without the need to create a backend application?

- A. AWS Lambda
- B. Amazon S3
- C. Amazon DynamoDB
- D. Amazon Cognito

Correct Answer: D

Reference:

<https://docs.aws.amazon.com/cognito/latest/developerguide/cognito-sync.html>

Question #85

An on-premises application is implemented using a Linux, Apache, MySQL and PHP (LAMP) stack. The Developer wants to run this application in AWS.

Which of the following sets of AWS services can be used to run this stack?

- A. Amazon API Gateway, Amazon S3
- B. AWS Lambda, Amazon DynamoDB
- C. Amazon EC2, Amazon Aurora
- D. Amazon Cognito, Amazon RDS
- E. Amazon ECS, Amazon EBS

Correct Answer: C

Reference:

https://docs.aws.amazon.com/elasticbeanstalk/latest/dg/php-ha-tutorial.html?icmpid=docs_tutorial_projects

Question #86

An application displays a status dashboard. The status is updated by 1 KB messages from an SQS queue. Although the status changes infrequently, the

Developer must minimize the time between the message arrival in the queue and the dashboard update.

What technique provides the shortest delay in updating the dashboard?

- A. Retrieve the messages from the queue using long polling every 20 seconds.
- B. Reduce the size of the messages by compressing them before sending.
- C. Retrieve the messages from the queue using short polling every 10 seconds.
- D. Reduce the size of each message payload by sending it in two parts.

Correct Answer: A

Question #87

A company is using AWS CodePipeline to deliver one of its applications. The delivery pipeline is triggered by changes to the master branch of an AWS CodeCommit repository and uses AWS CodeBuild to implement the test and build stages of the process and AWS CodeDeploy to deploy the application.

The pipeline has been operating successfully for several months and there have been no modifications. Following a recent change to the application's source code, AWS CodeDeploy has not deployed the updates application as expected.

What are the possible causes? (Choose two.)

- A. The change was not made in the master branch of the AWS CodeCommit repository.
- B. One of the earlier stages in the pipeline failed and the pipeline has terminated.
- C. One of the Amazon EC2 instances in the company's AWS CodePipeline cluster is inactive.
- D. The AWS CodePipeline is incorrectly configured and is not executing AWS CodeDeploy.
- E. AWS CodePipeline does not have permissions to access AWS CodeCommit.

Correct Answer: BC

Question #88

A social media company is using Amazon Cognito in order to synchronize profiles across different mobile devices, to enable end users to have a seamless experience.

Which of the following configurations can be used to silently notify users whenever an update is available on all other devices?

- A. Modify the user pool to include all the devices which keep them in sync.
- B. Use the SyncCallback interface to receive notifications on the application.
- C. Use an Amazon Cognito stream to analyze the data and push the notifications.
- D. Use the push synchronization feature with the appropriate IAM role.

Correct Answer: C

Reference:

<https://docs.aws.amazon.com/cognito/latest/developerguide/cognito-sync.html>

Question #89

A website's page load times are gradually increasing as more users access the system at the same time. Analysis indicates that a user profile is being loaded from a database in all the web pages being visited by each user and this is increasing the database load and the page load latency. To address this issue the

Developer decides to cache the user profile data.

Which caching strategy will address this situation MOST efficiently?

- A. Create a new Amazon EC2 Instance and run a NoSQL database on it. Cache the profile data within this database using the write-through caching strategy.
- B. Create an Amazon ElastiCache cluster to cache the user profile data. Use a cache-aside caching strategy.
- C. Use a dedicated Amazon RDS instance for caching profile data. Use a write-through caching strategy.
- D. Create an ElastiCache cluster to cache the user profile data. Use a write-through caching strategy.

Correct Answer: B

Question #90

An application needs to use the IP address of the client in its processing. The application has been moved into AWS and has been placed behind an Application Load Balancer (ALB). However, all the client IP addresses now appear to be the same. The application must maintain the ability to scale horizontally.

Based on this scenario, what is the MOST cost-effective solution to this problem?

- A. Remove the application from the ALB. Delete the ALB and change Amazon Route 53 to direct traffic to the instance running the application.
- B. Remove the application from the ALB. Create a Classic Load Balancer in its place. Direct traffic to the application using the HTTP protocol.
- C. Alter the application code to inspect the X-Forwarded-For header. Ensure that the code can work properly if a list of IP addresses is passed in the header.
- D. Alter the application code to inspect a custom header. Alter the client code to pass the IP address in the custom header.

Correct Answer: C

Question #91

A development team is using AWS Elastic Beanstalk to deploy a two-tier application that consists of a load-balanced web tier and an Amazon RDS database tier in production. The team would like to separate the RDS instance from the Elastic Beanstalk. How can this be accomplished?

- A. Use the Elastic Beanstalk CLI to disassociate the database.
- B. Use the AWS CLI to disassociate the database.
- C. Change the deployment policy to disassociate the database.
- D. Recreate a new Elastic Beanstalk environment without Amazon RDS.

Correct Answer: C

Question #92

According to best practice, how should access keys be managed in AWS? (Choose two.)

- A. Use the same access key in all applications for consistency.
- B. Delete all access keys for the account root user.
- C. Leave unused access keys in the account for tracking purposes.
- D. Embed and encrypt access keys in code for continuous deployment.
- E. Use Amazon IAM roles instead of access keys where possible.

Correct Answer: BE

Reference:

<https://docs.aws.amazon.com/general/latest/gr/aws-access-keys-best-practices.html#iam-user-access-keys>

Question #93

The development team is working on an API that will be served from Amazon API gateway. The API will be served from three environments: development, test, and production. The API Gateway is configured to use 237 GB of cache in all three stages.

Which is the MOST cost-efficient deployment strategy?

- A. Create a single API Gateway with all three stages.
- B. Create three API Gateways, one for each stage in a single AWS account.
- C. Create an API Gateway in three separate AWS accounts.
- D. Enable the cache for development and test environments only when needed.

Correct Answer: D

Question #94

An application running on an Amazon Linux EC2 instance needs to manage the AWS infrastructure.

How can the EC2 instance be configured to make AWS API calls securely?

- A. Sign the AWS CLI command using the signature version 4 process.
- B. Run the aws configure AWS CLI command and specify the access key id and secret access key.
- C. Specify a role for the EC2 instance with the necessary privileges.
- D. Pass the access key id and secret access key as parameters for each AWS CLI command.

Correct Answer: C

Question #95

A company is migrating from a monolithic architecture to a microservices-based architecture. The Developers need to refactor the application so that the many microservices can asynchronously communicate with each other without impacting performance. Use of which managed AWS services will enable asynchronous message passing? (Choose two.)

- A. Amazon SQS
- B. Amazon Cognito
- C. Amazon Kinesis
- D. Amazon SNS
- E. Amazon ElastiCache

Correct Answer: AD

Question #96

An application runs on multiple EC2 instances behind an ELB. Where is the session data best written so that it can be served reliably across multiple requests?

- A. Write data to Amazon ElastiCache
- B. Write data to Amazon Elastic Block Store.
- C. Write data to Amazon EC2 Instance Store.
- D. Write data to the root filesystem.

Correct Answer: A

Reference:

https://docs.aws.amazon.com/aws-technical-content/latest/microservices-on-aws/microservices-on-aws.pdf?icmpid=link_from_whitepapers_page
(14)

Question #97

A Developer is creating a Lambda function that will generate and export a file. The function requires 100 MB of temporary storage for temporary files while executing. These files will not be needed after the function is complete.

How can the Developer MOST efficiently handle the temporary files?

- A. Store the files in EBS and delete the files at the end of the Lambda function.
- B. Copy the files to EFS and delete the files at the end of the Lambda function.
- C. Store the files in the /tmp directory and delete the files at the end of the Lambda function.
- D. Copy the files to an S3 bucket with a lifecycle policy to delete the files.

Correct Answer: C

Reference:

<https://forums.aws.amazon.com/thread.jspa?threadID=174119>

Question #98

A Developer has developed a web application and wants to deploy it quickly on a Tomcat server on AWS. The Developer wants to avoid having to manage the underlying infrastructure.

What is the easiest way to deploy the application, based on these requirements?

- A. AWS CloudFormation
- B. AWS Elastic Beanstalk
- C. Amazon S3
- D. AWS CodePipeline

Correct Answer: B

Reference:

<https://aws.amazon.com/answers/web-applications/aws-web-app-deployment-java/>

Question #99

An application uses Lambda functions to extract metadata from files uploaded to an S3 bucket; the metadata is stored in Amazon DynamoDB. The application starts behaving unexpectedly, and the Developer wants to examine the logs of the Lambda function code for errors.

Based on this system configuration, where would the Developer find the logs?

- A. Amazon S3
- B. AWS CloudTrail
- C. Amazon CloudWatch
- D. Amazon DynamoDB

Correct Answer: C

Question #100

An organization is using Amazon CloudFront to ensure that its users experience low-latency access to its web application. The organization has identified a need to encrypt all traffic between users and CloudFront, and all traffic between CloudFront and the web application. How can these requirements be met? (Choose two.)

- A. Use AWS KMS to encrypt traffic between CloudFront and the web application.
- B. Set the Origin Protocol Policy to "HTTPS Only".
- C. Set the Origin's HTTP Port to 443.
- D. Set the Viewer Protocol Policy to "HTTPS Only" or "Redirect HTTP to HTTPS".
- E. Enable the CloudFront option Restrict Viewer Access.

Correct Answer: CD

Question #101

An application is using Amazon DynamoDB as its data store, and should be able to read 100 items per second as strongly consistent reads. Each item is 5 KB in size. To what value should the table's provisioned read throughput be set?

- A. 50 read capacity units
- B. 100 read capacity units
- C. 200 read capacity units
- D. 500 read capacity units

Correct Answer: B

Reference:

<https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/HowItWorks.ReadWriteCapacityMode.html>

Question #102

A web application is designed to allow new users to create accounts using their email addresses. The application will store attributes for each user, and is expecting millions of user to sign up.

What should the Developer implement to achieve the design goals?

- A. Amazon Cognito user pools
- B. AWS Mobile Hub user data storage
- C. Amazon Cognito Sync
- D. AWS Mobile Hub cloud logic

Correct Answer: A

Reference:

<https://aws.amazon.com/cognito/>

Question #103

A company needs a new REST API that can return information about the contents of an Amazon S3 bucket, such as a count of the objects stored in it. The company has decided that the new API should be written as a microservice using AWS Lambda and Amazon API Gateway.

How should the Developer ensure that the microservice has the necessary access to the Amazon S3 bucket, while adhering to security best practices?

- A. Create an IAM user that has permissions to access the Amazon S3 bucket, and store the IAM user credentials in the Lambda function source code.
- B. Create an IAM role that has permissions to access the Amazon S3 bucket and assign it to the Lambda function as its execution role.
- C. Create an Amazon S3 bucket policy that specifies the Lambda service as its principal and assign it to the Amazon S3 bucket.
- D. Create an IAM role, attach the AmazonS3FullAccess managed policy to it, and assign the role to the Lambda function as its execution role.

Correct Answer: C

Question #104

An application is running on an EC2 instance. The Developer wants to store an application metric in Amazon CloudWatch.

What is the best practice for implementing this requirement?

- A. Use the PUT Object API call to send data to an S3 bucket. Use an event notification to invoke a Lambda function to publish data to CloudWatch.
- B. Publish the metric data to an Amazon Kinesis Stream using a PutRecord API call. Subscribe a Lambda function that publishes data to CloudWatch.
- C. Use the CloudWatch PutMetricData API call to submit a custom metric to CloudWatch. Provide the required credentials to enable the API call.
- D. Use the CloudWatch PutMetricData API call to submit a custom metric to CloudWatch. Launch the EC2 instance with the required IAM role to enable the API call.

Correct Answer: C

Reference:

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

Question #105

Queries to an Amazon DynamoDB table are consuming a large amount of read capacity. The table has a significant number of large attributes. The application does not need all of the attribute data.

How can DynamoDB costs be minimized while maximizing application performance?

- A. Batch all the writes, and perform the write operations when no or few reads are being performed.
- B. Create a global secondary index with a minimum set of projected attributes.
- C. Implement exponential backoffs in the application.
- D. Load balance the reads to the table using an Application Load Balancer.

Correct Answer: C

Question #106

AWS CodeBuild builds code for an application, creates the Docker image, pushes the image to Amazon Elastic Container Registry (Amazon ECR), and tags the image with a unique identifier. If the Developers already have AWS CLI configured on their workstations, how can the Docker images be pulled to the workstations?

- A. Run the following: `docker pull REPOSITORY_URI : TAG`
- B. Run the output of the following: `aws ecr get-login` and then run: `docker pull REPOSITORY_URI : TAG`
- C. Run the following: `aws ecr get-login` and then run: `docker pull REPOSITORY_URI : TAG`
- D. Run the output of the following: `aws ecr get-download-url-for-layer` and then run: `docker pull REPOSITORY_URI : TAG`

Correct Answer: B

Question #107

A company caches session information for a web application in an Amazon DynamoDB table. The company wants an automated way to delete old items from the table.

What is the simplest way to do this?

- A. Write a script that deletes old records; schedule the scripts as a cron job on an Amazon EC2 instance.
- B. Add an attribute with the expiration time; enable the Time To Live feature based on that attribute.
- C. Each day, create a new table to hold session data; delete the previous day's table.
- D. Add an attribute with the expiration time; name the attribute ItemExpiration.

Correct Answer: B

Reference:

<https://aws.amazon.com/about-aws/whats-new/2017/02/amazon-dynamodb-now-supports-automatic-item-expiration-with-time-to-live-ttl/>

Question #108

An application is expected to process many files. Each file takes four minutes to process each AWS Lambda invocation. The Lambda function does not return any important data. What is the fastest way to process all the files?

- A. First split the files to make them smaller, then process with synchronous RequestResponse Lambda invocations.
- B. Make synchronous RequestResponse Lambda invocations and process the files one by one.
- C. Make asynchronous Event Lambda invocations and process the files in parallel.
- D. First join all the files, then process it all at once with an asynchronous Event Lambda invocation.

Correct Answer: C

Question #109

The upload of a 15 GB object to Amazon S3 fails. The error message reads: "Your proposed upload exceeds the maximum allowed object size." What technique will allow the Developer to upload this object?

- A. Upload the object using the multi-part upload API.
- B. Upload the object over an AWS Direct Connect connection.
- C. Contact AWS Support to increase the object size limit.
- D. Upload the object to another AWS region.

Correct Answer: A

Reference:

<https://acloud.guru/forums/aws-certified-solutions-architect-associate/discussion/-KACOEWK92oCmeCwuj4t/s3-question-on-multi-part-upload>

Question #110

A company has an AWS CloudFormation template that is stored as a single file. The template is able to launch and create a full infrastructure stack.

Which best practice would increase the maintainability of the template?

- A. Use nested stacks for common template patterns.
- B. Embed credentials to prevent typos.
- C. Remove mappings to decrease the number of variables.

- D. Use AWS::Include to reference publicly-hosted template files.

Correct Answer: A

Reference:

<https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/best-practices.html>

Question #111

A Developer wants to encrypt new objects that are being uploaded to an Amazon S3 bucket by an application. There must be an audit trail of who has used the key during this process. There should be no change to the performance of the application.

Which type of encryption meets these requirements?

- A. Server-side encryption using S3-managed keys
- B. Server-side encryption with AWS KMS-managed keys
- C. Client-side encryption with a client-side symmetric master key
- D. Client-side encryption with AWS KMS-managed keys

Correct Answer: A

Reference:

<https://docs.aws.amazon.com/AmazonS3/latest/dev/bucket-encryption.html>

Question #112

An on-premises application makes repeated calls to store files to Amazon S3. As usage of the application has increased, "LimitExceeded" errors are being logged.

What should be changed to fix this error?

- A. Implement exponential backoffs in the application.
- B. Load balance the application to multiple servers.
- C. Move the application to Amazon EC2.
- D. Add a one second delay to each API call.

Correct Answer: A

Question #113

An organization is storing large files in Amazon S3, and is writing a web application to display meta-data about the files to end-users. Based on the metadata a user selects an object to download. The organization needs a mechanism to index the files and provide single-digit millisecond latency retrieval for the metadata.

What AWS service should be used to accomplish this?

- A. Amazon DynamoDB
- B. Amazon EC2
- C. AWS Lambda
- D. Amazon RDS

Correct Answer: A

Amazon DynamoDB is a fast and flexible NoSQL database service for all applications that need consistent, single-digit millisecond latency at any scale. It is a fully managed database and supports both document and key-value data models. Its flexible data model and reliable performance make it a great fit for mobile, web, gaming, ad-tech, Internet of Things (IoT), and many other applications.

Reference:

<https://docs.aws.amazon.com/aws-technical-content/latest/aws-overview/database-services.html>

Question #114

While developing an application that runs on Amazon EC2 in an Amazon VPC, a Developer identifies the need for centralized storage of application-level logs.

Which AWS service can be used to securely store these logs?

- A. Amazon EC2 VPC Flow Logs
- B. Amazon CloudWatch Logs
- C. Amazon CloudSearch
- D. AWS CloudTrail

Correct Answer: B

Reference:

<https://aws.amazon.com/answers/logging/centralized-logging/>

Question #115

A stock market monitoring application uses Amazon Kinesis for data ingestion. During simulated tests of peak data rates, the Kinesis stream cannot keep up with the incoming data.

What step will allow Kinesis to accommodate the traffic during peak hours?

- A. Install the Kinesis Producer Library (KPL) for ingesting data into the stream.
- B. Reduce the data retention period to allow for more data ingestion using `DecreaseStreamRetentionPeriod`.
- C. Increase the shard count of the stream using `UpdateShardCount`.
- D. Ingest multiple records into the stream in a single call using `PutRecords`.

Correct Answer: A

Reference:

<https://aws.amazon.com/kinesis/data-streams/faqs/>

Question #116

Where can PortMapping be defined when launching containers in Amazon ECS?

- A. Security groups
- B. Amazon Elastic Container Registry (Amazon ECR)
- C. Container agent
- D. Task definition

Correct Answer: D

Reference:

https://docs.aws.amazon.com/AmazonECS/latest/userguide/task_definition_parameters.html

Question #117

An application uses Amazon Kinesis Data Streams to ingest and process large streams of data records in real time. Amazon EC2 instances consume and process the data from the shards of the Kinesis data stream by using Amazon Kinesis Client Library (KCL). The application handles the failure scenarios and does not require standby workers. The application reports that a specific shard is receiving more data than expected. To adapt to the changes in the rate of data flow, the "hot" shard is resharded.

Assuming that the initial number of shards in the Kinesis data stream is 4, and after resharding the number of shards increased to 6, what is the maximum number of EC2 instances that can be deployed to process data from all the shards?

- A. 12
- B. 6
- C. 4
- D. 1

Correct Answer: C

Question #118

A Development team is working on a case management solution that allows medical claims to be processed and reviewed. Users log in to provide information related to their medical and financial situations.

As part of the application, sensitive documents such as medical records, medical imaging, bank statements, and receipts are uploaded to Amazon S3. All documents must be securely transmitted and stored. All access to the documents must be recorded for auditing.

What is the MOST secure approach?

- A. Use S3 default encryption using Advanced Encryption Standard-256 (AES-256) on the destination bucket.
- B. Use Amazon Cognito for authorization and authentication to ensure the security of the application and documents.
- C. Use AWS Lambda to encrypt and decrypt objects as they are placed into the S3 bucket.
- D. Use client-side encryption/decryption with Amazon S3 and AWS KMS.

Correct Answer: D

Question #119

A company has an internet-facing application that uses Web Identity Federation to obtain a temporary credential from AWS Security Token Service (AWS STS). The app then uses the token to access AWS services.

Review the following response:

```
<AssumeRoleWithWebIdentityResponse xmlns="https://sts.amazonaws.com/doc/2011-06-15/">
  <AssumeRoleWithWebIdentityResult>
    <SubjectFromWebIdentityToken>amzn1.account.AF6RHO7KZU5XRVQJGKX6HB56KR2A</SubjectFromWebIdentityToken>
    <Audience>client.5498841531868486423.1548@apps.example.com</Audience>
    <AssumedRoleUser>
      <Arn>arn:aws:sts::123456789012:assumed-role/FederatedWebIdentityRole/app1</Arn>
      <AssumedRoleId>AROACLKWSQRAOEXAMPLE:app1</AssumedRoleId>
    </AssumedRoleUser>
    <Credentials>
      <SessionToken>AQoDYXdzEE0a8ANXXXXXXXXXN01ewxE5TijQyp+IEXAMPLE</SessionToken>
      <SecretAccessKey>wJalrXUtnFEMI/K7MDENG/bPxrFcYzEXAMPLEKEY</SecretAccessKey>
      <Expiration>2014-10-24T23:00:23Z</Expiration>
      <AccessKeyId>ASgeIAIOSFODNN7EXAMPLE</AccessKeyId>
    </Credentials>
    <Provider>www.amazon.com</Provider>
  </AssumeRoleWithWebIdentityResult>
  <ResponseMetadata>
    <RequestId>ad4156e9-bce1-11e2-82e6-6b6efEXAMPLE</RequestId>
  </ResponseMetadata>
</AssumeRoleWithWebIdentityResponse>
```

Based on the response displayed what permissions are associated with the call from the application?

- A. Permissions associated with the role AROACLKWSQRAOEXAMPLE:app1
- B. Permissions associated with the default role used when the AWS service was built
- C. Permission associated with the IAM principal that owns the AccessKeyID ASgeIAIOSFODNN7EXAMPLE
- D. Permissions associated with the account that owns the AWS service

Correct Answer: C

Question #120

A Developer is using AWS CLI, but when running list commands on a large number of resources, it is timing out.

What can be done to avoid this time-out?

- A. Use pagination
- B. Use shorthand syntax
- C. Use parameter values
- D. Use quoting strings

Correct Answer: A

Reference:

<https://docs.aws.amazon.com/cli/latest/userguide/cli-usage-pagination.html>

Question #121

What does an Amazon SQS delay queue accomplish?

- A. Messages are hidden for a configurable amount of time when they are first added to the queue.
- B. Messages are hidden for a configurable amount of time after they are consumed from the queue.
- C. The consumer can poll the queue for a configurable amount of time before retrieving a message.
- D. Message cannot be deleted for a configurable amount of time after they are consumed from the queue.

Correct Answer: A

Reference:

<https://docs.aws.amazon.com/AWSSimpleQueueService/latest/SQSDeveloperGuide/sqs-delay-queues.html>

Question #122

A company has multiple Developers located across the globe who are updating code incrementally for a development project. When Developers upload code concurrently, internet connectivity is slow and it is taking a long time to upload code for deployment in AWS Elastic Beanstalk.

Which step will result in minimized upload and deployment time with the LEAST amount of administrative effort?

- A. Allow the Developers to upload the code to an Amazon S3 bucket, and deploy it directly to Elastic Beanstalk.
- B. Allow the Developers to upload the code to a central FTP server to deploy the application to Elastic Beanstalk.
- C. Create an AWS CodeCommit repository, allow the Developers to commit code to it, and then directly deploy the code to Elastic Beanstalk.
- D. Create a code repository on an Amazon EC2 instance so that all Developers can update the code, and deploy the application from the instance to Elastic Beanstalk.

Correct Answer: C

Question #123

A company recently migrated its web, application and NoSQL database tiers to AWS. The company is using Auto Scaling to scale the web and application tiers.

More than 95 percent of the Amazon DynamoDB requests are repeated read-requests. How can the DynamoDB NoSQL tier be scaled up to cache these repeated requests?

- A. Amazon EMR
- B. Amazon DynamoDB Accelerator
- C. Amazon SQS
- D. Amazon CloudFront

Correct Answer: B

Reference:

<https://aws.amazon.com/dynamodb/dax/>

Question #124

A company is building an application to track athlete performance using an Amazon DynamoDB table. Each item in the table is identified by a partition key (user_id) and a sort key (sport_name). The table design is shown below:

```
Partition Key: user_id
Sort Key: sport_name
Attributes: score
           score_datetime
```

A Developer is asked to write a leaderboard application to display the top performers (user_id) based on the score for each sport_name.
What process will allow the Developer to extract results MOST efficiently from the DynamoDB table?

- A. Use a DynamoDB query operation with the key attributes of user_id and sport_name and order the results based on the score attribute.
- B. Create a global secondary index with a partition key of sport_name and a sort key of score, and get the results
- C. Use a DynamoDB scan operation to retrieve scores and user_id based on sport_name, and order the results based on the score attribute.
- D. Create a local secondary index with a primary key of sport_name and a sort key of score and get the results based on the score attribute.

Correct Answer: D

Question #125

A Developer is creating a mobile application that will not require users to log in.
What is the MOST efficient method to grant users access to AWS resources?

- A. Use an identity provider to securely authenticate with the application.
- B. Create an AWS Lambda function to create an IAM user when a user accesses the application.
- C. Create credentials using AWS KMS and apply these credentials to users when using the application.
- D. Use Amazon Cognito to associate unauthenticated users with an IAM role that has limited access to resources.

Correct Answer: C

Question #126

An application running on Amazon EC2 instances must access objects within an Amazon S3 bucket that are encrypted using server-side encryption using AWS KMS encryption keys (SSE-KMS). The application must have access to the customer master key (CMK) to decrypt the objects.
Which combination of steps will grant the application access? (Select TWO.)

- A. Write an S3 bucket policy that grants the bucket access to the key.
- B. Grant access to the key in the IAM EC2 role attached to the application's EC2 instances.
- C. Write a key policy that enables IAM policies to grant access to the key.
- D. Grant access to the key in the S3 bucket's ACL
- E. Create a Systems Manager parameter that exposes the KMS key to the EC2 instances.

Correct Answer: AE

Question #127

A company needs a fully-managed source control service that will work in AWS. The service must ensure that revision control synchronizes multiple distributed repositories by exchanging sets of changes peer-to-peer. All users need to work productively even when not connected to a network.

Which source control service should be used?

- A. Subversion
- B. AWS CodeBuild
- C. AWS CodeCommit
- D. AWS CodeStar

Correct Answer: C

Question #128

A Developer is writing a serverless application that requires that an AWS Lambda function be invoked every 10 minutes.

What is an automated and serverless way to trigger the function?

- A. Deploy an Amazon EC2 instance based on Linux, and edit its /etc/crontab file by adding a command to periodically invoke the Lambda function.
- B. Configure an environment variable named PERIOD for the Lambda function. Set the value to 600.
- C. Create an Amazon CloudWatch Events rule that triggers on a regular schedule to invoke the Lambda function.
- D. Create an Amazon SNS topic that has a subscription to the Lambda function with a 600-second timer.

Correct Answer: C

Reference:

<https://aws.amazon.com/blogs/architecture/a-serverless-solution-for-invoking-aws-lambda-at-a-sub-minute-frequency/>

Question #129

A Developer is writing an imaging micro service on AWS Lambda. The service is dependent on several libraries that are not available in the Lambda runtime environment.

Which strategy should the Developer follow to create the Lambda deployment package?

- A. Create a ZIP file with the source code and all dependent libraries.
- B. Create a ZIP file with the source code and a script that installs the dependent libraries at runtime.
- C. Create a ZIP file with the source code. Stage the dependent libraries on an Amazon S3 bucket indicated by the Lambda environment variable LD_LIBRARY_PATH
- D. Create a ZIP file with the source code and a buildspect.yaml file that installs the dependent libraries on AWS Lambda.

Correct Answer: B

Question #130

A Developer is designing a fault-tolerant environment where client sessions will be saved. How can the Developer ensure that no sessions are lost if an Amazon EC2 instance fails?

- A. Use sticky sessions with an Elastic Load Balancer target group.
- B. Use Amazon SQS to save session data.
- C. Use Amazon DynamoDB to perform scalable session handling.
- D. Use Elastic Load Balancer connection draining to stop sending requests to failing instances.

Correct Answer: A

Question #131

In a move toward using microservices, a company's Management team has asked all Development teams to build their services so that API requests depend only on that service's data store. One team is building a Payments service which has its own database; the service needs data that originates in the Accounts database. Both are using Amazon DynamoDB. What approach will result in the simplest, decoupled, and reliable method to get near-real time updates from the Accounts database?

- A. Use Amazon Glue to perform frequent ETL updates from the Accounts database to the Payments database.
- B. Use Amazon ElastiCache in Payments, with the cache updated by triggers in the Accounts database.
- C. Use Amazon Kinesis Data Firehose to deliver all changes from the Accounts database to the Payments database.
- D. Use Amazon DynamoDB Streams to deliver all changes from the Accounts database to the Payments database.

Correct Answer: D

Reference:

<https://aws.amazon.com/blogs/database/how-to-perform-ordered-data-replication-between-applications-by-using-amazon-dynamodb-streams/>

Question #132

How should custom libraries be utilized in AWS Lambda?

- A. Host the library on Amazon S3 and reference to it from the Lambda function.
- B. Install the library locally and upload a ZIP file of the Lambda function.
- C. Import the necessary Lambda blueprint when creating the function.
- D. Modify the function runtime to include the necessary library.

Correct Answer: D

Reference:

https://docs.aws.amazon.com/lambda/latest/dg/env_variables.html

Question #133

A company needs to secure its existing website running behind an Elastic Load Balancer. The website's Amazon EC2 instances are CPU-constrained. What should be done to secure the website while not increasing the CPU load on the EC2 web servers? (Select TWO.)

- A. Configure an Elastic Load Balancer with SSL pass-through.
- B. Configure SSL certificates on an Elastic Load Balancer.
- C. Configure an Elastic Load Balancer with a Loadable Storage System.
- D. Install SSL certificates on the EC2 instances.
- E. Configure an Elastic Load Balancer with SSL termination.

Correct Answer: BD

Question #134

An AWS Lambda function generates a 3MB JSON file and then uploads it to an Amazon S3 bucket daily. The file contains sensitive information, so the Developer must ensure that it is encrypted before uploading to the bucket.

Which of the following modifications should the Developer make to ensure that the data is encrypted before uploading it to the bucket?

- A. Use the default AWS KMS customer master key for S3 in the Lambda function code.
- B. Use the S3 managed key and call the GenerateDataKey API to encrypt the file.
- C. Use the GenerateDateKey API, then use that data key to encrypt the file in the Lambda function code.

- D. Use a custom KMS customer master key created for S3 in the Lambda function code.

Correct Answer: C

Question #135

A Developer wants to find a list of items in a global secondary index from an Amazon DynamoDB table.

Which DynamoDB API call can the Developer use in order to consume the LEAST number of read capacity units?

- A. Scan operation using eventually-consistent reads
- B. Query operation using strongly-consistent reads
- C. Query operation using eventually-consistent reads
- D. Scan operation using strongly-consistent reads

Correct Answer: C

Question #136

A Developer has published an update to an application that is served to a global user base using Amazon CloudFront. After deploying the application, users are not able to see the updated changes.

How can the Developer resolve this issue?

- A. Remove the origin from the CloudFront configuration and add it again.
- B. Disable forwarding of query strings and request headers from the CloudFront distribution configuration.
- C. Invalidate all the application objects from the edge caches.
- D. Disable the CloudFront distribution and enable it again to update all the edge locations.

Correct Answer: A

Question #137

A Developer must deploy a new AWS Lambda function using an AWS CloudFormation template.

Which procedures will deploy a Lambda function? (Select TWO.)

- A. Upload the code to an AWS CodeCommit repository, then add a reference to it in an AWS::Lambda::Function resource in the template.
- B. Create an AWS::Lambda::Function resource in the template, then write the code directly inside the CloudFormation template.

- C. Upload a .ZIP file containing the function code to Amazon S3, then add a reference to it in an AWS::Lambda::Function resource in the template.
- D. Upload a .ZIP file to AWS CloudFormation containing the function code, then add a reference to it in an AWS::Lambda::Function resource in the template.
- E. Upload the function code to a private Git repository, then add a reference to it in an AWS::Lambda::Function resource in the template.

Correct Answer: BD

Question #138

A Developer wants to enable AWS X-Ray for a secure application that runs in an Amazon ECS environment.

What combination of steps will enable X-Ray? (Select THREE.)

- A. Create a Docker image that runs the X-Ray daemon.
- B. Add instrumentation to the application code for X-Ray.
- C. Install the X-Ray daemon on the underlying EC2 instance.
- D. Configure and use an IAM EC2 instance role.
- E. Register the application with X-Ray.
- F. Configure and use an IAM role for tasks.

Correct Answer: BCE

Reference:

<https://aws.amazon.com/blogs/aws/category/aws-x-ray/>

Question #139

A Developer is designing a new application that uses Amazon S3. To satisfy compliance requirements, the Developer must encrypt the data at rest.

How can the Developer accomplish this?

- A. Use s3:x-amz-acl as a condition in the S3 bucket policy.
- B. Use Amazon RDS with default encryption.
- C. Use aws:SecureTransport as a condition in the S3 bucket policy.
- D. Turn on S3 default encryption for the S3 bucket.

Correct Answer: D

Question #140

An AWS Elastic Beanstalk application needs to be deployed in multiple regions and requires a different Amazon Machine Image (AMI) in each region.

Which AWS CloudFormation template key can be used to specify the correct AMI for each region?

- A. Parameters
- B. Outputs
- C. Mappings
- D. Resources

Correct Answer: C

Reference:

<https://docs.aws.amazon.com/marketplace/latest/userguide/cloudformation.html>

Question #141

A Developer has been asked to make changes to the source code of an AWS Lambda function. The function is managed using an AWS CloudFormation template. The template is configured to load the source code from an Amazon S3 bucket. The Developer manually created a .ZIP file deployment package containing the changes and put the file into the correct location on Amazon S3. When the function is invoked, the code changes have not been applied. What step is required to update the function with the changes?

- A. Delete the .ZIP file on S3, and re-upload by using a different object key name.
- B. Update the CloudFormation stack with the correct values for the function code properties S3Bucket, S3Key, or S3ObjectVersion.
- C. Ensure that the function source code is base64-encoded before uploading the deployment package to S3.
- D. Modify the execution role of the Lambda function to allow S3 access permission to the deployment package .ZIP file.

Correct Answer: D

Question #142

A Developer needs to design an application running on AWS that will be used to consume Amazon SQS messages that range from 1 KB up to 1GB in size. How should the Amazon SQS messages be managed?

- A. Use Amazon S3 and the Amazon SQS CLI.
- B. Use Amazon S3 and the Amazon SQS Extended Client Library for Java.
- C. Use Amazon EBS and the Amazon SQS CLI.
- D. Use Amazon EFS and the Amazon SQS CLI.

Correct Answer: B

Reference:

<https://docs.aws.amazon.com/AWSSimpleQueueService/latest/SQSDeveloperGuide/sqs-limits.html>

Question #143

A company is developing an application that will run on several Amazon EC2 instances in an Auto Scaling group and can access a database running on Amazon EC2. The application needs to store secrets required to connect to the database. The application must allow for periodic secret rotation, and there should be no changes to the application when a secret changes.

What is the SAFEST way to meet these requirements?

- A. Associate an IAM role to the EC2 instance where the application is running with permission to access the database.
- B. Use AWS Systems Manager Parameter Store with the SecureString data type to store secrets.
- C. Configure the application to store secrets in Amazon S3 object metadata.
- D. Hard code the database secrets in the application code itself.

Correct Answer: A

Question #144

A Developer writes an AWS Lambda function and uploads the code in a .ZIP file to Amazon S3. The Developer makes changes to the code and uploads a new .ZIP file to Amazon S3. However, Lambda executes the earlier code. How can the Developer fix this in the LEAST disruptive way?

- A. Create another Lambda function and specify the new .ZIP file.
- B. Call the update-function-code API.
- C. Remove the earlier .ZIP file first, then add the new .ZIP file.
- D. Call the create-alias API.

Correct Answer: B

Question #145

An AWS Lambda function must read data from an Amazon RDS MySQL database in a VPC and also reach a public endpoint over the internet to get additional data.

Which steps must be taken to allow the function to access both the RDS resource and the public endpoint? (Select TWO.)

- A. Modify the default configuration for the Lambda function to associate it with an Amazon VPC private subnet.
- B. Modify the default network access control list to allow outbound traffic.
- C. Add a NAT Gateway to the VPC.
- D. Modify the default configuration of the Lambda function to associate it with a VPC public subnet.
- E. Add an environmental variable to the Lambda function to allow outbound internet access.

Correct Answer: AC

Reference:

<https://docs.aws.amazon.com/lambda/latest/dg/vpc.html>

Question #146

A Developer must build an application that uses Amazon DynamoDB. The requirements state that items being stored in the DynamoDB table will be 7KB in size and that reads must be strongly consistent. The maximum read rate is 3 items per second, and the maximum write rate is 10 items per second.

How should the Developer size the DynamoDB table to meet these requirements?

- A. Read: 3 read capacity units Write: 70 write capacity units
- B. Read: 6 read capacity units Write: 70 write capacity units
- C. Read: 6 read capacity units Write: 10 write capacity units
- D. Read: 3 read capacity units Write: 10 write capacity units

Correct Answer: B

Question #147

A Developer is creating an AWS Lambda function to process a stream of data from an Amazon Kinesis Data Stream. When the Lambda function parses the data and encounters a missing field, it exits the function with an error. The function is generating duplicate records from the Kinesis stream. When the Developer looks at the stream output without the Lambda function, there are no duplicate records.

What is the reason for the duplicates?

- A. The Lambda function did not advance the Kinesis stream pointer to the next record after the error.
- B. The Lambda event source used asynchronous invocation, resulting in duplicate records.
- C. The Lambda function did not handle the error, and the Lambda service attempted to reprocess the data.
- D. The Lambda function is not keeping up with the amount of data coming from the stream.

—

Correct Answer: A

Question #148

A company maintains an application responsible for processing several thousand external callbacks each day. The company's System administrators want to know how many callbacks are being received on a rolling basis, and they want this data available for 10 days.

The company also wants the ability to issue automated alerts if the number of callbacks exceeds the defined thresholds.

What is the MOST cost-effective way to address the need to track and alert on these statistics?

- A. Push callback data to an Amazon RDS database that can be queried to show historical data and to alert on exceeded thresholds.
- B. Push callback data to AWS X-Ray and use AWS Lambda to query, display, and alert on exceeded thresholds.
- C. Push callback data to Amazon Kinesis Data Streams and invoke an AWS Lambda function that stores data in Amazon DynamoDB and sends the required alerts.
- D. Push callback data to Amazon CloudWatch as a custom metric and use the CloudWatch alerting mechanisms to alert System Administrators.

Correct Answer: C

Question #149

A company has a website that is developed in PHP and WordPress and is launched using AWS Elastic Beanstalk. There is a new version of the website that needs to be deployed in the Elastic Beanstalk environment. The company cannot tolerate having the website offline if an update fails. Deployments must have minimal impact and rollback as soon as possible.

What deployment method should be used?

- A. All at once
- B. Rolling
- C. Snapshots
- D. Immutable

Correct Answer: D

Question #150

A company has a multi-tiered web application on AWS. During a recent spike in traffic, one of the primary relational databases on Amazon RDS could not serve all the traffic. Some read queries for repeatedly accessed items failed, so users received error messages.

What can be done to minimize the impact on database read queries MOST efficiently during future traffic spikes?

- A. Use Amazon S3 to cache database query results.
- B. Use Amazon RDS as a custom origin for Amazon CloudFront.
- C. Use local storage and memory on Amazon EC2 instances to cache data.
- D. Use Amazon ElastiCache in front of the primary database to cache data.

Correct Answer: B

Question #151

A Development team currently supports an application that uses an in-memory store to save accumulated game results. Individual results are stored in a database. As part of migrating to AWS, the team needs to use automatic scaling. The team knows this will yield inconsistent results.

Where should the team store these accumulated game results to BEST allow for consistent results without impacting performance?

- A. Amazon S3
- B. Amazon RDS
- C. Amazon ElastiCache
- D. Amazon Kinesis

Correct Answer: C

Question #152

In a multi-container Docker environment in AWS Elastic Beanstalk, what is required to configure container instances in the environment?

- A. An Amazon ECS task definition
- B. An Amazon ECS cluster
- C. A Docker in an application package
- D. A CLI for Elastic Beanstalk

Correct Answer: A

Reference:

https://docs.aws.amazon.com/elasticbeanstalk/latest/dg/create_deploy_docker_ecs.html

Question #153

An application that runs on an Amazon EC2 instance needs to access and make API calls to multiple AWS services.

What is the MOST secure way to provide access to the AWS services with MINIMAL management overhead?

- A. Use AWS KMS to store and retrieve credentials.
- B. Use EC2 instance profiles.
- C. Use AWS root user to make requests to the application.
- D. Store and retrieve credentials from AWS CodeCommit.

Correct Answer: C

Question #154

A company is creating an application that will require users to access AWS services and allow them to reset their own passwords.

Which of the following would allow the company to manage users and authorization while allowing users to reset their own passwords?

- A. Amazon Cognito identity pools and AWS STS
- B. Amazon Cognito identity pools and AWS IAM
- C. Amazon Cognito user pools and AWS KMS
- D. Amazon Cognito user pools and identity pools

Correct Answer: B

Question #155

A company has three different environments: Development, QA, and Production. The company wants to deploy its code first in the Development environment, then QA, and then Production. Which AWS service can be used to meet this requirement?

- A. Use AWS CodeCommit to create multiple repositories to deploy the application.
- B. Use AWS CodeBuild to create, configure, and deploy multiple build application projects.
- C. Use AWS Data Pipeline to create multiple data pipeline provisions to deploy the application.
- D. Use AWS CodeDeploy to create multiple deployment groups.

Correct Answer: C

Question #156

A company uses Amazon DynamoDB for managing and tracking orders. The DynamoDB table is partitioned based on the order date. The company receives a huge increase in orders during a sales event, causing DynamoDB writes to throttle, and the consumed throughput is far below the provisioned throughput.

According to AWS best practices, how can this issue be resolved with MINIMAL costs?

- A. Create a new DynamoDB table for every order date.
- B. Increase the read and write capacity units of the DynamoDB table.
- C. Add a random number suffix to the partition key values.
- D. Add a global secondary index to the DynamoDB table.

Correct Answer: B

Reference:

<https://aws.amazon.com/premiumsupport/knowledge-center/throttled-ddb/>

Question #157

A company is providing services to many downstream consumers. Each consumer may connect to one or more services. This has resulted in a complex architecture that is difficult to manage and does not scale well. The company needs a single interface to manage these services to consumers.

Which AWS service should be used to refactor this architecture?

- A. AWS Lambda
- B. AWS X-Ray
- C. Amazon SQS
- D. Amazon API Gateway

Correct Answer: D

Question #158

A Developer is creating a serverless website with content that includes HTML files, images, videos, and JavaScript (client-side scripts).

Which combination of services should the Developer use to create the website?

- A. Amazon S3 and Amazon CloudFront
- B. Amazon EC2 and Amazon ElastiCache
- C. Amazon ECS and Redis
- D. AWS Lambda and Amazon API Gateway

Correct Answer: A

Reference:

<https://d1.awsstatic.com/whitepapers/Building%20Static%20Websites%20on%20AWS.pdf>

Question #159

A Development team has pushed out 10 applications running on several Amazon EC2 instances. The Operations team is asking for a graphical representation of one key performance metric for each application. These metrics should be available on one screen for easy

monitoring.

Which steps should the Developer take to accomplish this using Amazon CloudWatch?

- A. Create a custom namespace with a unique metric name for each application.
- B. Create a custom dimension with a unique metric name for each application.
- C. Create a custom event with a unique metric name for each application.
- D. Create a custom alarm with a unique metric name for each application.

Correct Answer: B

Reference:

<http://jayendrapatil.com/tag/cloudwatch/>

Question #160

A Developer wants access to make the log data of an application running on an EC2 instance available to systems administrators.

Which of the following enables monitoring of this metric in Amazon CloudWatch?

- A. Retrieve the log data from CloudWatch using the GetMetricData API call
- B. Retrieve the log data from AWS CloudTrail using the LookupEvents API call.
- C. Launch a new EC2 instance, configure Amazon CloudWatch Events, and then install the application.
- D. Install the Amazon CloudWatch Logs agent on the EC2 instance that the application is running on.

Correct Answer: D

Question #161

A nightly batch job loads 1 million new records into a DynamoDB table. The records are only needed for one hour, and the table needs to be empty by the next night's batch job.

Which is the MOST efficient and cost-effective method to provide an empty table?

- A. Use DeleteItem using a ConditionExpression.
- B. Use BatchWriteItem to empty all of the rows.
- C. Write a recursive function that scans and calls out DeleteItem.
- D. Create and then delete the table after the task has completed.

Correct Answer: A

Question #162

A company has an application that logs all information to Amazon S3. Whenever there is a new log file, an AWS Lambda function is invoked to process the log files. The code works, gathering all of the necessary information. However, when checking the Lambda function logs, duplicate entries with the same request ID are found.

What is causing the duplicate entries?

- A. The S3 bucket name was specified incorrectly.
- B. The Lambda function failed, and the Lambda service retired the invocation with a delay.
- C. There was an S3 outage, which caused duplicate entries of the sale log file.
- D. The application stopped intermittently and then resumed.

Correct Answer: B

Question #163

A company maintains a REST service using Amazon API Gateway and the API Gateway native API key validation. The company recently launched a new registration page, which allows users to sign up for the service. The registration page creates a new API key using CreateApiKey and sends the new key to the user. When the user attempts to call the API using this key, the user receives a 403 Forbidden error. Existing users are unaffected and can still call the API.

What code updates will grant these new users access to the API?

- A. The createDeployment method must be called so the API can be redeployed to include the newly created API key.
- B. The updateAuthorizer method must be called to update the API's authorizer to include the newly created API key.
- C. The importApiKeys method must be called to import all newly created API keys into the current stage of the API.
- D. The createUsagePlanKey method must be called to associate the newly created API key with the correct usage plan.

Correct Answer: C

Question #164

A Developer is writing a mobile application that allows users to view images from an S3 bucket. The users must be able to log in with their Amazon login, as well as Facebook® and/or Google® accounts.

How can the Developer provide this authentication functionality?

- A. Use Amazon Cognito with web identity federation.
- B. Use Amazon Cognito with SAML-based identity federation.

- C. Use AWS IAM Access/Secret keys in the application code to allow Get* on the S3 bucket.
- D. Use AWS STS AssumeRole in the application code and assume a role with Get* permissions on the S3 bucket.

Correct Answer: A

Reference:

<http://jayendrapatil.com/tag/iam-role/>

Question #165

A Developer has created a Lambda function and is finding that the function is taking longer to complete than expected. After some debugging, the Developer has discovered that increasing compute capacity would improve performance.

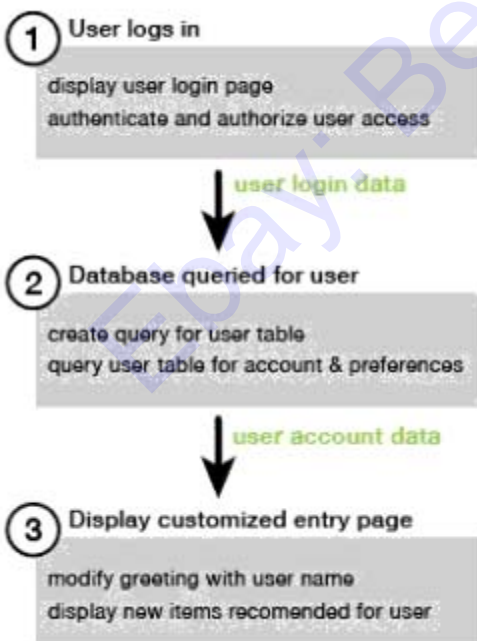
How can the Developer increase the Lambda compute resources?

- A. Run on a larger instance size with more compute capacity.
- B. Increase the maximum execution time.
- C. Specify a larger compute capacity when calling the Lambda function.
- D. Increase the allocated memory for the Lambda function.

Correct Answer: C

Question #166

An e-commerce site allows returning users to log in to display customized web pages. The workflow is shown in the image below:



An application is running on EC2 instances. Amazon RDS is used for the database that stores

user accounts and preferences. The website freezes or is slow to load while waiting for the login step to complete. The remaining components of the site are well-optimized. Which of the following techniques will resolve this issue? (Select Two.)

- A. Implement the user login page as an asynchronous Lambda function.
- B. Use Amazon ElastiCache for MemCached to cache user data.
- C. Use Amazon Application Load Balancer to load balance the traffic to the website.
- D. Call the database asynchronously so the code can continue executing.
- E. Batch login requests from hundreds of users together as a single read request to the database.

Correct Answer: BD

Question #167

A Developer is building a mobile application and needs any update to user profile data to be pushed to all devices accessing the specific identity. The Developer does not want to manage a back end to maintain the user profile data.

What is the MOST efficient way for the Developer to achieve these requirements using Amazon Cognito?

- A. Use Cognito federated identities.
- B. Use a Cognito user pool.
- C. Use Cognito Sync.
- D. Use Cognito events.

Correct Answer: A

Question #168

A company is migrating a single-server, on-premises web application to AWS. The company intends to use multiple servers behind an Elastic Load Balancer (ELB) to balance the load, and will also store session data in memory on the web server. The company does not want to lose that session data if a server fails or goes offline, and it wants to minimize user's downtime.

Where should the company move session data to MOST effectively reduce downtime and make users' session data more fault tolerant?

- A. An Amazon ElastiCache for Redis cluster
- B. A second Amazon EBS volume
- C. The web server's primary disk
- D. An Amazon EC2 instance dedicated to session data

Correct Answer: A

Question #169

A Developer created configuration specifications for an AWS Elastic Beanstalk application in a file named healthcheckurl.yaml in the .ebextensions/directory of their application source bundle. The file contains the following:

```
option_settings:
  - namespace: aws:elasticbeanstalk:application
    option_name: Application Healthcheck URL
    value: /health_check
```

After the application launches, the health check is not being run on the correct path, even though it is valid.

What can be done to correct this configuration file?

- A. Convert the file to JSON format.
- B. Rename the file to a .config extension.
- C. Change the configuration section from options_settings to resources.
- D. Change the namespace of the option settings to a custom namespace.

Correct Answer: C

Reference:

<https://docs.aws.amazon.com/elasticbeanstalk/latest/dg/ebextensions.html>

Question #170

A Developer is making changes to a custom application that is currently using AWS Elastic Beanstalk.

After the Developer completes the changes, what solutions will update the Elastic Beanstalk environment with the new application version? (Choose two.)

- A. Package the application code into a .zip file, and upload, then deploy the packaged application from the AWS Management Console
- B. Package the application code into a .tar file, create a new application version from the AWS Management Console, then update the environment by using AWS CLI
- C. Package the application code into a .tar file, and upload and deploy the packaged application from the AWS Management Console
- D. Package the application code into a .zip file, create a new application version from the packaged application by using AWS CLI, then update the environment by using AWS CLI
- E. Package the application code into a .zip file, create a new application version from the AWS Management Console, then rebuild the environment by using AWS CLI

Correct Answer: CD

Question #171

To include objects defined by the AWS Serverless Application Model (SAM) in an AWS CloudFormation template, in addition to Resources, what section MUST be included in the document root?

- A. Conditions
- B. Globals
- C. Transform
- D. Properties

Correct Answer: D

Reference:

<https://docs.aws.amazon.com/cloud9/latest/user-guide/lambda-functions.html>

Question #172

A company is using Amazon RDS MySQL instances for its application database tier and Apache Tomcat servers for its web tier. Most of the database queries from web applications are repeated read requests.

Use of which AWS service would increase in performance by adding in-memory store for repeated read queries?

- A. Amazon RDS Multi-AZ
- B. Amazon SQS
- C. Amazon ElastiCache
- D. Amazon RDS read replica

Correct Answer: A

Question #173

A Developer is investigating an issue whereby certain requests are passing through an Amazon API Gateway endpoint /MyAPI, but the requests do not reach the AWS Lambda function backing /MyAPI. The Developer found that a second Lambda function sometimes runs at maximum concurrency allowed for the given AWS account.

How can the Developer address this issue?

- A. Manually reduce the concurrent execution limit at the account level
- B. Add another API Gateway stage for /MyAPI, and shard the requests
- C. Configure the second Lambda function's concurrency execution limit
- D. Reduce the throttling limits in the API Gateway /MyAPI endpoint

Correct Answer: C

Question #174

A Developer must analyze performance issues with production-distributed applications written as AWS Lambda functions. These distributed Lambda applications invoke other components that make up the applications.

How should the Developer identify and troubleshoot the root cause of the performance issues in production?

- A. Add logging statements to the Lambda functions, then use Amazon CloudWatch to view the logs.
- B. Use AWS Cloud Trail and then examine the logs
- C. Use AWS X-Ray, then examine the segments and errors
- D. Run Amazon Inspector agents and then analyze performance

Correct Answer: C

Question #175

A Developer wants to debug an application by searching and filtering log data. The application logs are stored in Amazon CloudWatch Logs. The Developer creates a new metric filter to count exceptions in the application logs. However, no results are returned from the logs.

What is the reason that no filtered results are being returned?

- A. A setup of the Amazon CloudWatch interface VPC endpoint is required for filtering the CloudWatch Logs in the VPC
- B. CloudWatch Logs only publishes metric data for events that happen after the filter is created
- C. The log group for CloudWatch Logs should be first streamed to Amazon Elasticsearch Service before metric filtering returns the results
- D. Metric data points for logs groups can be filtered only after they are exported to an Amazon S3 bucket

Correct Answer: B

Reference:

<https://docs.aws.amazon.com/AmazonCloudWatch/latest/logs/MonitoringLogData.html>

Question #176

An e-commerce web application that shares session state on-premises is being migrated to AWS. The application must be fault tolerant, natively highly scalable, and any service interruption should not affect the user experience.

What is the best option to store the session state?

- A. Store the session state in Amazon ElastiCache
- B. Store the session state in Amazon CloudFront
- C. Store the session state in Amazon S3
- D. Enable session stickiness using elastic load balancers

Correct Answer: A

Question #177

A Developer is creating a template that uses AWS CloudFormation to deploy an application. This application is serverless and uses Amazon API Gateway, Amazon DynamoDB, and AWS Lambda. Which tool should the Developer use to define simplified syntax for expressing serverless resources?

- A. CloudFormation serverless intrinsic functions
- B. AWS serverless express
- C. An AWS serverless application model
- D. A CloudFormation serverless plugin

Correct Answer: C

Reference:

<https://docs.aws.amazon.com/lambda/latest/dg/lambda-application-fundamentals.html>

Question #178

A Developer has a stateful web server on-premises that is being migrated to AWS. The Developer must have greater elasticity in the new design. How should the Developer re-factor the application to make it more elastic? (Choose two.)

- A. Use pessimistic concurrency on Amazon DynamoDB
- B. Use Amazon CloudFront with an Auto Scaling group
- C. Use Amazon CloudFront with an AWS Web Application Firewall
- D. Store session state data in an Amazon DynamoDB table
- E. Use an ELB with an Auto Scaling group

Correct Answer: DE

Question #179

A company needs to distribute firmware updates to its customers around the world. Which service will allow easy and secure control of the access to the downloads at the lowest cost?

- A. Use Amazon CloudFront with signed URLs for Amazon S3
- B. Create a dedicated Amazon CloudFront Distribution for each customer
- C. Use Amazon CloudFront with AWS Lambda@Edge
- D. Use Amazon API Gateway and AWS Lambda to control access to an S3 bucket

Correct Answer: A

Question #180

A company is running an application built on AWS Lambda functions. One Lambda function has performance issues when it has to download a 50MB file from the Internet in every execution. This function is called multiple times a second. What solution would give the BEST performance increase?

- A. Cache the file in the /tmp directory
- B. Increase the Lambda maximum execution time
- C. Put an Elastic Load Balancer in front of the Lambda function
- D. Cache the file in Amazon S3

Correct Answer: D

Question #181

An application writes items to an Amazon DynamoDB table. As the application scales to thousands of instances, calls to the DynamoDB API generate occasional ThrottlingException errors. The application is coded in a language incompatible with the AWS SDK.

How should the error be handled?

- A. Add exponential backoff to the application logic
- B. Use Amazon SQS as an API message bus
- C. Pass API calls through Amazon API Gateway
- D. Send the items to DynamoDB through Amazon Kinesis Data Firehose

Correct Answer: A

Reference:

<https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/Programming.Errors.html>

Question #182

An application deployed on AWS Elastic Beanstalk experiences increased error rates during deployments of new application versions, resulting in service degradation for users. The

Development team believes that this is because of the reduction in capacity during the deployment steps. The team would like to change the deployment policy configuration of the environment to an option that maintains full capacity during deployment while using the existing instances.

Which deployment policy will meet these requirements while using the existing instances?

- A. All at once
- B. Rolling
- C. Rolling with additional batch
- D. Immutable

Correct Answer: D

Reference:

<https://aws.amazon.com/blogs/developer/version-2-of-the-aws-elastic-beanstalk-windows-server-platform/>

Question #183

A Developer is working on an application that handles 10MB documents that contain highly-sensitive data. The application will use AWS KMS to perform client- side encryption.

What steps must be followed?

- A. Invoke the Encrypt API passing the plaintext data that must be encrypted, then reference the customer managed key ARN in the KeyId parameter
- B. Invoke the GenerateRandom API to get a data encryption key, then use the data encryption key to encrypt the data
- C. Invoke the GenerateDataKey API to retrieve the encrypted version of the data encryption key to encrypt the data
- D. Invoke the GenerateDataKey API to retrieve the plaintext version of the data encryption key to encrypt the data

Correct Answer: A

Question #184

A Developer is building a web application that uses Amazon API Gateway to expose an AWS Lambda function to process requests from clients. During testing, the Developer notices that the API Gateway times out even though the Lambda function finishes under the set time limit.

Which of the following API Gateway metrics in Amazon CloudWatch can help the Developer troubleshoot the issue? (Choose two.)

- A. CacheHitCount
- B. IntegrationLatency
- C. CacheMissCount

- D. Latency
- E. Count

Correct Answer: AD

Question #185

An AWS Lambda function must access an external site by using a regularly rotated user name and password. These items must be kept securely and cannot be stored in the function code. What combination of AWS services can be used to accomplish this? (Choose two.)

- A. AWS Certificate Manager (ACM)
- B. AWS Systems Manager Parameter Store
- C. AWS Trusted Advisor
- D. AWS KMS
- E. Amazon GuardDuty

Correct Answer: BD

Question #186

A Developer is trying to deploy a serverless application using AWS CodeDeploy. The application was updated and needs to be redeployed. What file does the Developer need to update to push that change through CodeDeploy?

- A. dockerrun.aws.json
- B. buildspec.yml
- C. appspec.yml
- D. ebextensions.config

Correct Answer: C

Question #187

A Developer wants to upload data to Amazon S3 and must encrypt the data in transit. Which of the following solutions will accomplish this task? (Choose two.)

- A. Set up hardware VPN tunnels to a VPC and access S3 through a VPC endpoint
- B. Set up Client-Side Encryption with an AWS KMS-Managed Customer Master Key
- C. Set up Server-Side Encryption with AWS KMS-Managed Keys

- D. Transfer the data over an SSL connection
- E. Set up Server-Side Encryption with S3-Managed Keys

Correct Answer: *BD*

Question #188

A company is running a Docker application on Amazon ECS. The application must scale based on user load in the last 15 seconds.

How should a Developer instrument the code so that the requirement can be met?

- A. Create a high-resolution custom Amazon CloudWatch metric for user activity data, then publish data every 30 seconds
- B. Create a high-resolution custom Amazon CloudWatch metric for user activity data, then publish data every 5 seconds
- C. Create a standard-resolution custom Amazon CloudWatch metric for user activity data, then publish data every 30 seconds
- D. Create a standard-resolution custom Amazon CloudWatch metric for user activity data, then publish data every 5 seconds

Correct Answer: *B*

Question #189

A company needs to ingest terabytes of data each hour from thousands of sources that are delivered almost continually throughout the day. The volume of messages generated varies over the course of the day. Messages must be delivered in real time for fraud detection and live operational dashboards.

Which approach will meet these requirements?

- A. Send the messages to an Amazon SQS queue, then process the messages by using a fleet of Amazon EC2 instances
- B. Use the Amazon S3 API to write messages to an S3 bucket, then process the messages by using Amazon Redshift
- C. Use AWS Data Pipeline to automate the movement and transformation of data
- D. Use Amazon Kinesis Data Streams with Kinesis Client Library to ingest and deliver messages

Correct Answer: *D*

Reference:

<https://noise.getoto.net/tag/amazon-kinesis-analytics/>

Question #190

A Developer accesses AWS CodeCommit over SSH. The SSH keys configured to access AWS CodeCommit are tied to a user with the following permissions:

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": [
        "codecommit:BatchGetRepositories",
        "codecommit:Get*",
        "codecommit:List*",
        "codecommit:GitPull"
      ],
      "Resource": "*"
    }
  ]
}
```

The Developer needs to create/delete branches.

Which specific IAM permissions need to be added, based on the principle of least privilege?

- A. "codecommit:CreateBranch" "codecommit>DeleteBranch"
- B. "codecommit:Put"
- C. "codecommit:Update"
- D. "codecommit:"

Correct Answer: C

Question #191

A Developer has been asked to create an AWS Lambda function that is triggered any time updates are made to items in an Amazon DynamoDB table. The function has been created, and appropriate permissions have been added to the Lambda execution role. Amazon DynamoDB streams have been enabled for the table, but the function is still not being triggered.

Which option would enable DynamoDB table updates to trigger the Lambda function?

- A. Change the StreamViewType parameter value to NEW_AND_OLD_IMAGES for the DynamoDB table
- B. Configure event source mapping for the Lambda function
- C. Map an Amazon SNS topic to the DynamoDB streams
- D. Increase the maximum execution time (timeout) setting of the Lambda function

Correct Answer: A

Reference:

<https://docs.aws.amazon.com/lambda/latest/dg/with-ddb.html>

Question #192

An application is being developed to audit several AWS accounts. The application will run in Account A and must access AWS services in Accounts B and C.

What is the MOST secure way to allow the application to call AWS services in each audited account?

- A. Configure cross-account roles in each audited account. Write code in Account a that assumes those roles
- B. Use S3 cross-region replication to communicate among accounts, with Amazon S3 event notifications to trigger Lambda functions
- C. Deploy an application in each audited account with its own role. Have Account A authenticate with the application
- D. Create an IAM user with an access key in each audited account. Write code in Account A that uses those access keys

Correct Answer: D

Question #193

A Developer is building a three-tier web application that should be able to handle a minimum of 5000 requests per minute. Requirements state that the web tier should be completely stateless while the application maintains session state for the users.

How can session data be externalized, keeping latency at the LOWEST possible value?

- A. Create an Amazon RDS instance, then implement session handling at the application level to leverage a database inside the RDS database instance for session data storage
- B. Implement a shared file system solution across the underlying Amazon EC2 instances, then implement session handling at the application level to leverage the shared file system for session data storage
- C. Create an Amazon ElastiCache Memcached cluster, then implement session handling at the application level to leverage the cluster for session data storage
- D. Create an Amazon DynamoDB table, then implement session handling at the application level to leverage the table for session data storage

Correct Answer: A

Question #194

An Amazon DynamoDB table uses a Global Secondary Index (GSI) to support read queries. The primary table is write-heavy, whereas the GSI is used for read operations. Looking at Amazon CloudWatch metrics, the Developer notices that write operations to the primary table are throttled frequently under heavy write activity. However, write capacity units to the primary table are available and not fully consumed. Why is the table being throttled?

- A. The GSI write capacity units are underprovisioned
- B. There are not enough read capacity units on the primary table
- C. Amazon DynamoDB Streams is not enabled on the table
- D. A large write operation is being performed against another table

Correct Answer: D

Question #195

A company runs an e-commerce website that uses Amazon DynamoDB where pricing for items is dynamically updated in real time. At any given time, multiple updates may occur simultaneously for pricing information on a particular product. This is causing the original editor's changes to be overwritten without a proper review process. Which DynamoDB write option should be selected to prevent this overwriting?

- A. Concurrent writes
- B. Conditional writes
- C. Atomic writes
- D. Batch writes

Correct Answer: B

Question #196

A company needs a version control system for collaborative software development. Features of the system must include the following:

- ☞ Support for batches of changes across multiple files
- ☞ Parallel branching
- ☞ Version tracking

Which AWS service will meet these requirements?

- A. AWS CodePipeline

- B. Amazon S3
- C. AWS Code Build
- D. AWS CodeCommit

Correct Answer: D

Reference:

<https://docs.aws.amazon.com/codecommit/latest/userguide/welcome.html>

Question #197

A company is using continuous integration and continuous delivery systems. A Developer now needs to automate a software package deployment to both Amazon EC2 instances and virtual servers running on-premises. Which AWS service should be used to accomplish this?

- A. AWS CodePipeline
- B. AWS CodeBuild
- C. AWS Elastic Beanstalk
- D. AWS CodeDeploy

Correct Answer: D

Question #198

A Developer created a new AWS account and must create a scalable AWS Lambda function that meets the following requirements for concurrent execution:

- ⇒ Average execution time of 100 seconds
- ⇒ 50 requests per second

Which step must be taken prior to deployment to prevent errors?

- A. Implement dead-letter queues to capture invocation errors
- B. Add an event source from Amazon API Gateway to the Lambda function
- C. Implement error handling within the application code
- D. Contact AWS Support to increase the concurrent execution limits

Correct Answer: B

Question #199

A Development team wants to instrument their code to provide more detailed information to AWS X-Ray than simple outgoing and incoming requests. This will generate large amounts of data, so the Development team wants to implement indexing so they can filter the data. What should the Development team do to achieve this?

- A. Add annotations to the segment document and the code
- B. Add metadata to the segment document and the code
- C. Configure the necessary X-Ray environment variables
- D. Install required plugins for the appropriate AWS SDK

Correct Answer: A

Reference:

<https://docs.aws.amazon.com/xray/latest/devguide/xray-concepts.html>

Question #200

A team of Developers must migrate an application running inside an AWS Elastic Beanstalk environment from a Classic Load Balancer to an Application Load Balancer.

Which steps should be taken to accomplish the task using the AWS Management Console?

- A. 1. Update the application code in the existing deployment. 2. Select a new load balancer type before running the deployment. 3. Deploy the new version of the application code to the environment.
- B. 1. Create a new environment with the same configurations except for the load balancer type. 2. Deploy the same application version as used in the original environment. 3. Run the swap-environment-cnames action.
- C. 1. Clone the existing environment, changing the associated load balancer type. 2. Deploy the same application version as used in the original environment. 3. Run the swap-environment-cnames action.
- D. 1. Edit the environment definitions in the existing deployment. 2. Change the associated load balancer type according to the requirements. 3. Rebuild the environment with the new load balancer type.

Correct Answer: A

Question #201

A Developer must encrypt a 100-GB object using AWS KMS.
What is the BEST approach?

- A. Make an Encrypt API call to encrypt the plaintext data as ciphertext using a customer master key (CMK)
- B. Make an Encrypt API call to encrypt the plaintext data as ciphertext using a customer master key (CMK) with imported key material
- C. Make an GenerateDataKey API call that returns a plaintext key and an encrypted copy of a data key. Use a plaintext key to encrypt the data
- D. Make an GenerateDataKeyWithoutPlaintext API call that returns an encrypted copy of a data key. Use an encrypted key to encrypt the data

Correct Answer: D

Question #202

A Development team would like to migrate their existing application code from a GitHub repository to AWS CodeCommit.

What needs to be created before they can migrate a cloned repository to CodeCommit over HTTPS?

- A. A GitHub secure authentication token
- B. A public and private SSH key file
- C. A set of Git credentials generated from IAM
- D. An Amazon EC2 IAM role with CodeCommit permissions

Correct Answer: C

Reference:

<https://docs.aws.amazon.com/codecommit/latest/userguide/how-to-migrate-repository-existing.html>

Question #203

A Developer is writing a REST service that will add items to a shopping list. The service is built on Amazon API Gateway with AWS Lambda integrations. The shopping list items are sent as query string parameters in the method request.

How should the Developer convert the query string parameters to arguments for the Lambda function?

- A. Enable request validation
- B. Include the Amazon Resource Name (ARN) of the Lambda function
- C. Change the integration type
- D. Create a mapping template

Correct Answer: C

Reference:

<https://docs.aws.amazon.com/apigateway/latest/developerguide/api-gateway-create-api-step-by-step.html>

Question #204

When developing an AWS Lambda function that processes Amazon Kinesis Data Streams, Administrators within the company must receive a notice that includes the processed data.

How should the Developer write the function to send processed data to the Administrators?

- A. Separate the Lambda handler from the core logic

- B. Use Amazon CloudWatch Events to send the processed data
- C. Publish the processed data to an Amazon SNS topic
- D. Push the processed data to Amazon SQS

Correct Answer: B

Question #205

A Developer is storing documents in Amazon S3 that will require encryption at rest. The encryption keys must be rotated annually, at least. What is the easiest way to achieve this?

- A. Encrypt the data before sending it to Amazon S3
- B. Import a custom key into AWS KMS with annual rotation enabled
- C. Use AWS KMS with automatic key rotation
- D. Export a key from AWS KMS to encrypt the data

Correct Answer: B

Question #206

A company is creating a REST service using an Amazon API Gateway with AWS Lambda integration. The service run different versions for testing purposes. What would be the BEST way to accomplish this?

- A. Use an x-Version header to denote which version is being called and pass that header to the Lambda function(s)
- B. Create an API Gateway Lambda authorizer to route API clients to the correct API version
- C. Create an API Gateway resource policy to isolate versions and provide context to the Lambda function(s)
- D. Deploy the API versions as unique stages with unique endpoints and use stage variables to provide further context

Correct Answer: C

Question #207

A company wants to implement authentication for its new REST service using Amazon API Gateway. To authenticate the calls, each request must include HTTP headers with a client ID and user ID. These credentials must be compared to authentication data in an Amazon DynamoDB table.

What MUST the company do to implement this authentication in API Gateway?

- A. Implement an AWS Lambda authorizer that references the DynamoDB authentication table
- B. Create a model that requires the credentials, then grant API Gateway access to the authentication table
- C. Modify the integration requests to require the credentials, then grant API Gateway access to the authentication table
- D. Implement an Amazon Cognito authorizer that references the DynamoDB authentication table

Correct Answer: D

Question #208

An Amazon RDS database instance is used by many applications to look up historical data. The query rate is relatively constant. When the historical data is updated each day, the resulting write traffic slows the read query performance and affects all application users. What can be done to eliminate the performance impact on application users?

- A. Make sure Amazon RDS is Multi-AZ so it can better absorb increased traffic.
- B. Create an RDS Read Replica and direct all read traffic to the replica.
- C. Implement Amazon ElastiCache in front of Amazon RDS to buffer the write traffic.
- D. Use Amazon DynamoDB instead of Amazon RDS to buffer the read traffic.

Correct Answer: B

EXAM C

Question #1

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 two.)

- 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

Correct Answer: AC

Question #2

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

- A. Triple DES
- B. Advanced Encryption Standard
- C. Blowfish
- D. RC5

Correct Answer: B

Question #3

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. instanceID_log-HH-DD-MM-YYYY
- C. instanceID_log-YYYY-MM-DD-HH
- D. HH-DD-MM-YYYY-log_instanceID
- E. YYYY-MM-DD-HH-log_instanceID

Correct Answer: D

Question #4

Which of the following statements about SQS is true?

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

Correct Answer: D

Question #5

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 two.)

- 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.
- E. 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

Correct Answer: BD

Question #6

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

How can Company B reduce the number of empty responses?

- A. Set the imaging queue visibility Timeout attribute to 20 seconds
- B. Set the Imaging queue ReceiveMessageWaitTimeSeconds attribute to 20 seconds
- C. Set the imaging queue MessageRetentionPeriod attribute to 20 seconds
- D. Set the DelaySeconds parameter of a message to 20 seconds

Correct Answer: B

Question #7

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-1.amazonaws.com
- C. myawsbucket.amazonaws.com
- D. myawsbucket.tokyo.amazonaws.com

Correct Answer: B

Question #8

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

Correct Answer: C

Question #9

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 logged 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.

Correct Answer: D

Question #10

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.

Correct Answer: B

Question #11

Which statements about DynamoDB are true? (Choose two.)

- 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

Correct Answer: BC

Question #12

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. Bulk upload the device tokens contained in a CSV file via the AWS Management Console.
- B. Let the push notification service (e.g. Amazon Device Messaging) handle the registration.
- C. Implement a token vending service to handle the registration.
- D. Call the CreatePlatformEndPoint API function to register multiple device tokens.

Correct Answer: D

Question #13

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

Correct Answer: C

Question #14

Which of the following services are included at no additional cost with the use of the AWS platform? (Choose two.)

- A. Simple Storage Service
- B. Elastic Compute Cloud
- C. Auto Scaling
- D. Elastic Load Balancing
- E. CloudFormation
- F. Simple Workflow Service

Correct Answer: CE

Question #15

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

Correct Answer: B

Question #16

What AWS products and features can be deployed by Elastic Beanstalk? (Choose three.)

- A. Auto scaling groups
- B. Route 53 hosted zones
- C. Elastic Load Balancers
- D. RDS Instances
- E. Elastic IP addresses
- F. SQS Queues

Correct Answer: ACD

Question #17

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

Correct Answer: C

Question #18

Which of the following programming languages have an officially supported AWS SDK? (Choose two.)

- A. Perl
- B. PHP
- C. Pascal
- D. Java
- E. SQL

Correct Answer: BD

Question #19

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. 1 write capacity unit
- B. 10 write capacity units
- C. 60 write capacity units
- D. 600 write capacity units
- E. 3600 write capacity units

Correct Answer: B

Question #20

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

Correct Answer: D

Question #21

Company C has recently launched an online commerce site for bicycles on AWS. They have a "Product"

DynamoDB table that stores details for each bicycle, such as, manufacturer, color, price, quantity and size to display in the online store. Due to customer demand, they want to include an image for each bicycle along with the existing details.

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

- A. Serialize the image and store it in multiple DynamoDB tables
- B. Create an "Images" DynamoDB table to store the Image with a foreign key constraint to the "Product" table

- C. Add an image data type to the "Product" table to store the images in binary format
- D. Store the images in Amazon S3 and add an S3 URL pointer to the "Product" table item for each image

Correct Answer: D

Question #22

Which DynamoDB limits can be raised by contacting AWS support? (Choose two.)

- 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

Correct Answer: CE

Question #23

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, process the message, delete the message from the queue
- B. Retrieve the message with an increased visibility timeout, delete the message from the queue, process the message
- C. Retrieve the message with increased DelaySeconds, process the message, delete the message from the queue
- D. Retrieve the message with increased DelaySeconds, delete the message from the queue, process the

Correct Answer: A

Question #24

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

Correct Answer: B

Question #25

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

Correct Answer: A

Question #26

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 hash index on the name attribute, and a range index on the office identifier
- B. Configure the table to have a range index on the name attribute, and a hash index on the office identifier
- C. Configure a hash index on the name attribute and no range index
- D. Configure a hash index on the office Identifier attribute and no range index

Correct Answer: B

Question #27

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.

Correct Answer: B

Question #28

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

- A. Attach the volume to an instance using EC2's SSL interface.
- B. Write the data randomly instead of sequentially.
- C. Use an encrypted file system on top of the EBS volume.
- D. Encrypt the volume using the S3 server-side encryption service.
- E. Create an IAM policy that restricts read and write access to the volume.

Correct Answer: D

Question #29

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

Correct Answer: C

Question #30

Which of the following statements about SWF are true? (Choose three.)

- A. SWF tasks are assigned once and never duplicated
- B. SWF requires an S3 bucket for workflow storage
- C. SWF workflow executions can last up to a year
- D. SWF triggers SNS notifications on task assignment
- E. SWF uses deciders and workers to complete tasks
- F. SWF requires at least 1 EC2 instance per domain

Correct Answer: ACE

Question #31

Which of the following are valid SNS delivery transports? (Choose two.)

- A. HTTP
- B. UDP
- C. SMS
- D. DynamoDB
- E. Named Pipes

Correct Answer: AC

Question #32

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 more throughput than eventually consistent reads.
- C. Strongly consistent reads use less throughput than eventually consistent reads
- D. Strongly consistent reads use variable throughput depending on read activity

Correct Answer: B

Question #33

Which of the following are valid arguments for an SNS Publish request? (Choose three.)

- A. TopicArn
- B. Subject
- C. Destination
- D. Format
- E. Message
- F. Language

Correct Answer: BCE

Question #34

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.

Correct Answer: D

Question #35

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

Correct Answer: C

Question #36

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

- A. DescnbeInstances
- B. DescribeAMIs
- C. Describelmages
- D. GetAMIs
- E. You cannot retrieve a list of AMIs as there are over 10,000 AMIs

Correct Answer: C

Question #37

In AWS, which security aspects are the customer's responsibility? (Choose four.)

- A. Life-cycle management of IAM credentials
- B. Decommissioning storage devices
- C. Security Group and ACL (Access Control List) settings
- D. Encryption of EBS (Elastic Block Storage) volumes
- E. Controlling physical access to compute resources
- F. Patch management on the EC2 instance's operating system

Correct Answer: ABCF

Question #38

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. Use parallel scans
- C. Define a range index on the table
- D. Prewarm the table by updating all items

Correct Answer: C

Question #39

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-west-1.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. Enable versioning on the cdfonts bucket for each web font
- B. Create a policy on the cdfonts bucket to enable access to everyone
- C. Add the Content-MD5 header to the request for webfonts in the cdfonts bucket from the website
- D. Configure the cdfonts bucket to allow cross-origin requests by creating a CORS configuration

Correct Answer: *D*

Question #40

Which of the following platforms are supported by Elastic Beanstalk? (Choose two.)

- A. Apache Tomcat
- B. .NET
- C. IBM Websphere
- D. Oracle JBoss
- E. Jetty

Correct Answer: *AB*

Question #41

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://", { "Fn::GetAtr" : ["ElasticLoadBalancer", "Url"] }]]]
- C. "Fn::Join" : ["", ["http://", { "Ref" : "ElasticLoadBalancerUrl" }]]]
- D. "Fn::Join" : [".", ["http://", { "Ref" : "ElasticLoadBalancerDNSName" }]]]

Correct Answer: *A*

Question #42

Which features can be used to restrict access to data in S3? (Choose two.)

- A. Use S3 Virtual Hosting
- B. Set an S3 Bucket policy.
- C. Enable IAM Identity Federation.

- D. Set an S3 ACL on the bucket or the object.
- E. Create a CloudFront distribution for the bucket

Correct Answer: *BD*

Question #43

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

- A. Previously-created resources are kept but the stack creation terminates.
- B. Previously-created resources are deleted and the stack creation terminates.
- C. The stack creation continues, and the final results indicate which steps failed.
- D. CloudFormation templates are parsed in advance so stack creation is guaranteed to succeed.

Correct Answer: *B*

Question #44

Which of the following are correct statements with policy evaluation logic in AWS Identity and Access Management? (Choose two.)

- A. By default, all requests are denied
- B. An explicit allow overrides an explicit deny
- C. An explicit allow overrides default deny.
- D. An explicit deny does not override an explicit allow
- E. By default, all request are allowed

Correct Answer: *AC*

Question #45

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.

Correct Answer: D

Question #46

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

- A. 0 seconds
- B. 1 hour
- C. 1 day
- D. forever
- E. 30 seconds

Correct Answer: E

Question #47

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

Correct Answer: D

Question #48

Which of the following services are key/value stores? (Choose three.)

- A. Amazon ElastiCache
- B. Simple Notification Service
- C. DynamoDB
- D. Simple Workflow Service

- E. Simple Storage Service

Correct Answer: *BCE*

Question #49

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

Correct Answer: *D*

Question #50

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

Correct Answer: *B*

Question #51

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

- C. Disabling the Source/Destination Check attribute on the NAT instance
- D. Attaching an Elastic IP address to the instance in the private subnet

Correct Answer: C

Question #52

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.

Correct Answer: A

Question #53

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

- A. 100 per region
- B. there is no limit
- C. 100 per account
- D. 500 per account
- E. 100 per IAM user

Correct Answer: A

Question #54

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 two.)

- A. Create an IAM User that allows write access to the DynamoDB table.
- B. Add an IAM Role to a running EC2 instance.

- C. Add an IAM User to a running EC2 Instance.
- D. Launch an EC2 Instance with the IAM Role included in the launch configuration.
- E. Create an IAM Role that allows write access to the DynamoDB table.
- F. Launch an EC2 Instance with the IAM User included in the launch configuration.

Correct Answer: *DE*

Question #55

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](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](http://www.companyc.com) in the browser.

Which of the following steps will allow Company C to meet this requirement? (Choose two.)

- 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`

Correct Answer: *AC*

Question #56

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

- A. Triple DES
- B. Advanced Encryption Standard
- C. Blowfish
- D. RC5

Correct Answer: *B*

Question #57

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. instanceID_log-HH-DD-MM-YYYY
- C. instanceID_log-YYYY-MM-DD-HH
- D. HH-DD-MM-YYYY-log_instanceID
- E. YYYY-MM-DD-HH-log_instanceID

Correct Answer: D

Question #58

Which of the following statements about SQS is true?

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

Correct Answer: D

Question #59

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 two.)

- 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.

- E. 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.

Correct Answer: *BD*

Question #60

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

- A. Set the imaging queue visibility Timeout attribute to 20 seconds
- B. Set the Imaging queue ReceiveMessageWaitTimeSeconds attribute to 20 seconds
- C. Set the imaging queue MessageRetentionPeriod attribute to 20 seconds
- D. Set the DelaySeconds parameter of a message to 20 seconds

Correct Answer: *B*

Question #61

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-1.amazonaws.com
- C. myawsbucket.amazonaws.com
- D. myawsbucket.tokyo.amazonaws.com

Correct Answer: *B*

Question #62

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

Correct Answer: C

Question #63

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 logged 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.

Correct Answer: D

Question #64

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.

Correct Answer: B

Question #65

Which statements about DynamoDB are true? (Choose two.)

- 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

Correct Answer: BC

Question #66

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. Bulk upload the device tokens contained in a CSV file via the AWS Management Console.
- B. Let the push notification service (e.g. Amazon Device Messaging) handle the registration.
- C. Implement a token vending service to handle the registration.
- D. Call the CreatePlatformEndPoint API function to register multiple device tokens.

Correct Answer: D

Question #67

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

Correct Answer: C

Question #68

Which of the following services are included at no additional cost with the use of the AWS platform? (Choose two.)

- A. Simple Storage Service

- B. Elastic Compute Cloud
- C. Auto Scaling
- D. Elastic Load Balancing
- E. CloudFormation
- F. Simple Workflow Service

Correct Answer: CE

Question #69

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

Correct Answer: B

Question #70

What AWS products and features can be deployed by Elastic Beanstalk? (Choose three.)

- A. Auto scaling groups
- B. Route 53 hosted zones
- C. Elastic Load Balancers
- D. RDS Instances
- E. Elastic IP addresses
- F. SQS Queues

Correct Answer: ACD

Question #71

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

Correct Answer: C

Question #72

Which of the following programming languages have an officially supported AWS SDK?
(Choose two.)

- A. Perl
- B. PHP
- C. Pascal
- D. Java
- E. SQL

Correct Answer: BD

Question #73

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. 1 write capacity unit
- B. 10 write capacity units
- C. 60 write capacity units
- D. 600 write capacity units
- E. 3600 write capacity units

Correct Answer: B

Question #74

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

Correct Answer: D

Question #75

Company C has recently launched an online commerce site for bicycles on AWS. They have a "Product" DynamoDB table that stores details for each bicycle, such as, manufacturer, color, price, quantity and size to display in the online store. Due to customer demand, they want to include an image for each bicycle along with the existing details. Which approach below provides the least impact to provisioned throughput on the "Product" table?

- A. Serialize the image and store it in multiple DynamoDB tables
- B. Create an "Images" DynamoDB table to store the Image with a foreign key constraint to the "Product" table
- C. Add an image data type to the "Product" table to store the images in binary format
- D. Store the images in Amazon S3 and add an S3 URL pointer to the "Product" table item for each image

Correct Answer: D

Question #76

Which DynamoDB limits can be raised by contacting AWS support? (Choose two.)

- 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

Correct Answer: CE

Question #77

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

Correct Answer: A

Question #78

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

Correct Answer: B

Question #79

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

Correct Answer: A

Question #80

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 hash index on the name attribute, and a range index on the office identifier
- B. Configure the table to have a range index on the name attribute, and a hash index on the office identifier
- C. Configure a hash index on the name attribute and no range index
- D. Configure a hash index on the office Identifier attribute and no range index

Correct Answer: B

Question #81

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.

Correct Answer: B

Question #82

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

- A. Attach the volume to an instance using EC2's SSL interface.
- B. Write the data randomly instead of sequentially.
- C. Use an encrypted file system on top of the EBS volume.

- D. Encrypt the volume using the S3 server-side encryption service.
- E. Create an IAM policy that restricts read and write access to the volume.

Correct Answer: D

Question #83

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

Correct Answer: C

Question #84

Which of the following statements about SWF are true? (Choose three.)

- A. SWF tasks are assigned once and never duplicated
- B. SWF requires an S3 bucket for workflow storage
- C. SWF workflow executions can last up to a year
- D. SWF triggers SNS notifications on task assignment
- E. SWF uses deciders and workers to complete tasks
- F. SWF requires at least 1 EC2 instance per domain

Correct Answer: ACE

Question #85

Which of the following are valid SNS delivery transports? (Choose two.)

- A. HTTP
- B. UDP

- C. SMS
- D. DynamoDB
- E. Named Pipes

Correct Answer: AC

Question #86

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 more throughput than eventually consistent reads.
- C. Strongly consistent reads use less throughput than eventually consistent reads
- D. Strongly consistent reads use variable throughput depending on read activity

Correct Answer: B

Question #87

Which of the following are valid arguments for an SNS Publish request? (Choose three.)

- A. TopicArn
- B. Subject
- C. Destination
- D. Format
- E. Message
- F. Language

Correct Answer: BCE

Question #88

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.

Correct Answer: D

Question #89

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

Correct Answer: C

Question #90

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

- A. DescnbeInstances
- B. DescribeAMIs
- C. DescribeImages
- D. GetAMIs
- E. You cannot retrieve a list of AMIs as there are over 10,000 AMIs

Correct Answer: C

Question #91

In AWS, which security aspects are the customer's responsibility? (Choose four.)

- A. Life-cycle management of IAM credentials
- B. Decommissioning storage devices
- C. Security Group and ACL (Access Control List) settings
- D. Encryption of EBS (Elastic Block Storage) volumes
- E. Controlling physical access to compute resources
- F. Patch management on the EC2 instance's operating system

Correct Answer: ABCF

Question #92

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. Use parallel scans
- C. Define a range index on the table
- D. Prewarm the table by updating all items

Correct Answer: C

Question #93

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-west-1.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. Enable versioning on the cdfonts bucket for each web font
- B. Create a policy on the cdfonts bucket to enable access to everyone
- C. Add the Content-MD5 header to the request for webfonts in the cdfonts bucket from the website
- D. Configure the cdfonts bucket to allow cross-origin requests by creating a CORS configuration

Correct Answer: D

Question #94

Which of the following platforms are supported by Elastic Beanstalk? (Choose two.)

- A. Apache Tomcat
- B. .NET
- C. IBM Websphere
- D. Oracle JBoss
- E. Jetty

Correct Answer: AB

Question #95

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://", {"Fn::GetAtr" : ["ElasticLoadBalancer", "Url"] }]]
- C. "Fn::Join" : ["", ["http://", {"Ref" : "ElasticLoadBalancerUrl" }]]
- D. "Fn::Join" : [".", ["http://", {"Ref" : "ElasticLoadBalancerDNSName" }]]

Correct Answer: A

Question #96

Which features can be used to restrict access to data in S3? (Choose two.)

- A. Use S3 Virtual Hosting
- B. Set an S3 Bucket policy.
- C. Enable IAM Identity Federation.
- D. Set an S3 ACL on the bucket or the object.
- E. Create a CloudFront distribution for the bucket

Correct Answer: BD

Question #97

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

- A. Previously-created resources are kept but the stack creation terminates.
- B. Previously-created resources are deleted and the stack creation terminates.
- C. The stack creation continues, and the final results indicate which steps failed.
- D. CloudFormation templates are parsed in advance so stack creation is guaranteed to succeed.

Correct Answer: B

Question #98

Which of the following are correct statements with policy evaluation logic in AWS Identity and Access Management? (Choose two.)

- A. By default, all requests are denied
- B. An explicit allow overrides an explicit deny
- C. An explicit allow overrides default deny.
- D. An explicit deny does not override an explicit allow
- E. By default, all request are allowed

Correct Answer: AC

Question #99

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.

Correct Answer: D

Question #100

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

- A. 0 seconds
- B. 1 hour
- C. 1 day
- D. forever
- E. 30 seconds

Correct Answer: E

Question #101

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

Correct Answer: D

Question #102

Which of the following services are key/value stores? (Choose three.)

- A. Amazon ElastiCache
- B. Simple Notification Service
- C. DynamoDB
- D. Simple Workflow Service
- E. Simple Storage Service

Correct Answer: BCE

Question #103

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

Correct Answer: D

Question #104

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

Correct Answer: B

Question #105

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 a second Elastic Network Interface (ENI) to the instance in the private subnet, and placing it in the public subnet
- C. Disabling the Source/Destination Check attribute on the NAT instance
- D. Attaching an Elastic IP address to the instance in the private subnet

Correct Answer: C

Question #106

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.

Correct Answer: A

Question #107

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

- A. 100 per region
- B. there is no limit
- C. 100 per account
- D. 500 per account
- E. 100 per IAM user

Correct Answer: A

Question #108

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 two.)

- A. Create an IAM User that allows write access to the DynamoDB table.
- B. Add an IAM Role to a running EC2 instance.
- C. Add an IAM User to a running EC2 Instance.
- D. Launch an EC2 Instance with the IAM Role included in the launch configuration.
- E. Create an IAM Role that allows write access to the DynamoDB table.
- F. Launch an EC2 Instance with the IAM User included in the launch configuration.

Correct Answer: DE

End of Document