

# Amazon

## Exam Questions AWS-Certified-Developer-Associate

Amazon AWS Certified Developer - Associate



**NEW QUESTION 1**

A company has a multi-node Windows legacy application that runs on premises. The application uses a network shared folder as a centralized configuration repository to store configuration files in .xml format. The company is migrating the application to Amazon EC2 instances. As part of the migration to AWS, a developer must identify a solution that provides high availability for the repository.

Which solution will meet this requirement MOST cost-effectively?

- A. Mount an Amazon Elastic Block Store (Amazon EBS) volume onto one of the EC2 instance
- B. Deploy a file system on the EBS volum
- C. Use the host operating system to share a folde
- D. Update the application code to read and write configuration files from the shared folder.
- E. Deploy a micro EC2 instance with an instance store volum
- F. Use the host operating system to share a folde
- G. Update the application code to read and write configuration files from the shared folder.
- H. Create an Amazon S3 bucket to host the repositor
- I. Migrate the existing .xml files to the S3 bucke
- J. Update the application code to use the AWS SDK to read and write configuration files from Amazon S3.
- K. Create an Amazon S3 bucket to host the repositor
- L. Migrate the existing .xml files to the S3 bucke
- M. Mount the S3 bucket to the EC2 instances as a local volum
- N. Update the application code to read and write configuration files from the disk.

**Answer: C**

**Explanation:**

Amazon S3 is a service that provides highly scalable, durable, and secure object storage. The developer can create an S3 bucket to host the repository and migrate the existing .xml files to the S3 bucket. The developer can update the application code to use the AWS SDK to read and write configuration files from S3. This solution will meet the requirement of high availability for the repository in a cost-effective way.

References:

? [Amazon Simple Storage Service (S3)]

? [Using AWS SDKs with Amazon S3]

**NEW QUESTION 2**

A company notices that credentials that the company uses to connect to an external software as a service (SaaS) vendor are stored in a configuration file as plaintext.

The developer needs to secure the API credentials and enforce automatic credentials rotation on a quarterly basis.

Which solution will meet these requirements MOST securely?

- A. Use AWS Key Management Service (AWS KMS) to encrypt the configuration fil
- B. Decrypt the configuration file when users make API calls to the SaaS vendo
- C. Enable rotation.
- D. Retrieve temporary credentials from AWS Security Token Service (AWS STS) every 15 minute
- E. Use the temporary credentials when users make API calls to the SaaS vendor.
- F. Store the credentials in AWS Secrets Manager and enable rotatio
- G. Configure the API to have Secrets Manager access.
- H. Store the credentials in AWS Systems Manager Parameter Store and enable rotatio
- I. Retrieve the credentials when users make API calls to the SaaS vendor.

**Answer: C**

**Explanation:**

Store the credentials in AWS Secrets Manager and enable rotation. Configure the API to have Secrets Manager access. This is correct. This solution will meet the requirements most securely, because it uses a service that is designed to store and manage secrets such as API credentials. AWS Secrets Manager helps you protect access to your applications, services, and IT resources by enabling you to rotate, manage, and retrieve secrets throughout their lifecycle<sup>1</sup>. You can store secrets such as passwords, database strings, API keys, and license codes as encrypted values<sup>2</sup>. You can also configure automatic rotation of your secrets on a schedule that you specify<sup>3</sup>. You can use the AWS SDK or CLI to retrieve secrets from Secrets Manager when you need them<sup>4</sup>. This way, you can avoid storing credentials in plaintext files or hardcoding them in your code.

**NEW QUESTION 3**

A developer is troubleshooting an Amazon API Gateway API Clients are receiving HTTP 400 response errors when the clients try to access an endpoint of the API. How can the developer determine the cause of these errors?

- A. Create an Amazon Kinesis Data Firehose delivery stream to receive API call logs from API Gatewa
- B. Configure Amazon CloudWatch Logs as the delivery stream's destination.
- C. Turn on AWS CloudTrail Insights and create a trail Specify the Amazon Resource Name (ARN) of the trail for the stage of the API.
- D. Turn on AWS X-Ray for the API stage Create an Amazon CtoudWalch Logs log group Specify the Amazon Resource Name (ARN) of the log group for the API stage.
- E. Turn on execution logging and access logging in Amazon CloudWatch Logs for the API stag
- F. Create a CloudWatch Logs log grou
- G. Specify the Amazon Resource Name (ARN) of the log group for the API stage.

**Answer: D**

**Explanation:**

This solution will meet the requirements by using Amazon CloudWatch Logs to capture and analyze the logs from API Gateway. Amazon CloudWatch Logs is a service that monitors, stores, and accesses log files from AWS resources. The developer can turn on execution logging and access logging in Amazon CloudWatch Logs for the API stage, which enables logging information about API execution and client access to the API. The developer can create a CloudWatch Logs log group, which is a collection of log streams that share the same retention, monitoring, and access control settings. The developer can specify the Amazon Resource Name (ARN) of the log group for the API stage, which instructs API Gateway to send the logs to the specified log group. The developer can then examine the logs to determine the cause of the HTTP 400 response errors. Option A is not optimal because it will create an Amazon Kinesis Data Firehose

delivery stream to receive API call logs from API Gateway, which may introduce additional costs and complexity for delivering and processing streaming data. Option B is not optimal because it will turn on AWS CloudTrail Insights and create a trail, which is a feature that helps identify and troubleshoot unusual API activity or operational issues, not HTTP response errors. Option C is not optimal because it will turn on AWS X-Ray for the API stage, which is a service that helps analyze and debug distributed applications, not HTTP response errors. References: [Setting Up CloudWatch Logging for a REST API], [CloudWatch Logs Concepts]

#### NEW QUESTION 4

A developer is creating an AWS Lambda function that needs credentials to connect to an Amazon RDS for MySQL database. An Amazon S3 bucket currently stores the credentials. The developer needs to improve the existing solution by implementing credential rotation and secure storage. The developer also needs to provide integration with the Lambda function.

Which solution should the developer use to store and retrieve the credentials with the LEAST management overhead?

- A. Store the credentials in AWS Systems Manager Parameter Store
- B. Select the database that the parameter will access
- C. Use the default AWS Key Management Service (AWS KMS) key to encrypt the parameter
- D. Enable automatic rotation for the parameter
- E. Use the parameter from Parameter Store on the Lambda function to connect to the database.
- F. Encrypt the credentials with the default AWS Key Management Service (AWS KMS) key
- G. Store the credentials as environment variables for the Lambda function
- H. Create a second Lambda function to generate new credentials and to rotate the credentials by updating the environment variables of the first Lambda function
- I. Invoke the second Lambda function by using an Amazon EventBridge rule that runs on a schedule
- J. Update the database to use the new credential
- K. On the first Lambda function, retrieve the credentials from the environment variable
- L. Decrypt the credentials by using AWS KMS, Connect to the database.
- M. Store the credentials in AWS Secrets Manager
- N. Set the secret type to Credentials for Amazon RDS databases
- O. Select the database that the secret will access
- P. Use the default AWS Key Management Service (AWS KMS) key to encrypt the secret
- Q. Enable automatic rotation for the secret
- R. Use the secret from Secrets Manager on the Lambda function to connect to the database.
- S. Encrypt the credentials by using AWS Key Management Service (AWS KMS). Store the credentials in an Amazon DynamoDB table
- T. Create a second Lambda function to rotate the credential
- . Invoke the second Lambda function by using an Amazon EventBridge rule that runs on a schedule
- . Update the DynamoDB table
- . Update the database to use the generated credential
- . Retrieve the credentials from DynamoDB with the first Lambda function
- . Connect to the database.

**Answer:** C

#### Explanation:

AWS Secrets Manager is a service that helps you protect secrets needed to access your applications, services, and IT resources. Secrets Manager enables you to store, retrieve, and rotate secrets such as database credentials, API keys, and passwords. Secrets Manager supports a secret type for RDS databases, which allows you to select an existing RDS database instance and generate credentials for it. Secrets Manager encrypts the secret using AWS Key Management Service (AWS KMS) keys and enables automatic rotation of the secret at a specified interval. A Lambda function can use the AWS SDK or CLI to retrieve the secret from Secrets Manager and use it to connect to the database. Reference: Rotating your AWS Secrets Manager secrets

#### NEW QUESTION 5

A developer is configuring an applications deployment environment in AWS CodePipeline. The application code is stored in a GitHub repository. The developer wants to ensure that the repository package's unit tests run in the new deployment environment. The deployment has already set the pipeline's source provider to GitHub and has specified the repository and branch to use in the deployment.

When combination of steps should the developer take next to meet these requirements with the least the LEAST overhead' (Select TWO).

- A. Create an AWS CodeCommit project
- B. Add the repository package's build and test commands to the project's buildspec
- C. Create an AWS CodeBuild project
- D. Add the repository package's build and test commands to the project's buildspec
- E. Create an AWS CodeDeploy provider
- F. Add the repository package's build and test commands to the project's buildspec
- G. Add an action to the source stage
- H. Specify the newly created project as the action provider
- I. Specify the build artifact as the action's input artifact.
- J. Add a new stage to the pipeline after the source stage
- K. Add an action to the new stage
- L. Specify the newly created project as the action provider
- M. Specify the source artifact as the action's input artifact.

**Answer:** BE

#### Explanation:

This solution will ensure that the repository package's unit tests run in the new deployment environment with the least overhead because it uses AWS CodeBuild to build and test the code in a fully managed service, and AWS CodePipeline to orchestrate the deployment stages and actions. Option A is not optimal because it will use AWS CodeCommit instead of AWS CodeBuild, which is a source control service, not a build and test service. Option C is not optimal because it will use AWS CodeDeploy instead of AWS CodeBuild, which is a deployment service, not a build and test service. Option D is not optimal because it will add an action to the source stage instead of creating a new stage, which will not follow the best practice of separating different deployment phases. References: AWS CodeBuild, AWS CodePipeline

#### NEW QUESTION 6

A company has an application that is hosted on Amazon EC2 instances. The application stores objects in an Amazon S3 bucket and allows users to download objects from the S3 bucket. A developer turns on S3 Block Public Access for the S3 bucket. After this change, users report errors when they attempt to download

objects. The developer needs to implement a solution so that only users who are signed in to the application can access objects in the S3 bucket.

Which combination of steps will meet these requirements in the MOST secure way? (Select TWO.)

- A. Create an EC2 instance profile and role with an appropriate policy Associate the role with the EC2 instances
- B. Create an IAM user with an appropriate policy
- C. Store the access key ID and secret access key on the EC2 instances
- D. Modify the application to use the S3 GeneratePresignedUrl API call
- E. Modify the application to use the S3 GetObject API call and to return the object handle to the user
- F. Modify the application to delegate requests to the S3 bucket.

**Answer:** AC

**Explanation:**

The most secure way to allow the EC2 instances to access the S3 bucket is to use an EC2 instance profile and role with an appropriate policy that grants the necessary permissions. This way, the EC2 instances can use temporary security credentials that are automatically rotated and do not need to store any access keys on the instances. To allow the users who are signed in to the application to download objects from the S3 bucket, the application can use the S3 GeneratePresignedUrl API call to create a pre-signed URL that grants temporary access to a specific object. The pre-signed URL can be returned to the user, who can then use it to download the object within a specified time period. References

? Use Amazon S3 with Amazon EC2

? How to Access AWS S3 Bucket from EC2 Instance In a Secured Way

? Sharing an Object with Others

**NEW QUESTION 7**

A developer is creating a simple proof-of-concept demo by using AWS CloudFormation and AWS Lambda functions The demo will use a CloudFormation template to deploy an existing Lambda function The Lambda function uses deployment packages and dependencies stored in Amazon S3 The developer defined an AWS Lambda Function resource in a CloudFormation template. The developer needs to add the S3 bucket to the CloudFormation template. What should the developer do to meet these requirements with the LEAST development effort?

- A. Add the function code in the CloudFormation template inline as the code property
- B. Add the function code in the CloudFormation template as the ZipFile property.
- C. Find the S3 key for the Lambda function Add the S3 key as the ZipFile property in the CloudFormation template.
- D. Add the relevant key and bucket to the S3Bucket and S3Key properties in the CloudFormation template

**Answer:** D

**Explanation:**

The easiest way to add the S3 bucket to the CloudFormation template is to use the S3Bucket and S3Key properties of the AWS::Lambda::Function resource. These properties specify the name of the S3 bucket and the location of the .zip file that contains the function code and dependencies. This way, the developer does not need to modify the function code or upload it to a different location. The other options are either not feasible or not efficient.

The code property can only be used for inline code, not for code stored in S3. The ZipFile property can only be used for code that is less than 4096 bytes, not for code that has dependencies. Finding the S3 key for the Lambda function and adding it as the ZipFile property would not work, as the ZipFile property expects a base64-encoded .zip file, not an S3 location. References

? AWS::Lambda::Function - AWS CloudFormation

? Deploying Lambda functions as .zip file archives

? AWS Lambda Function Code - AWS CloudFormation

**NEW QUESTION 8**

A company has a web application that is hosted on Amazon EC2 instances The EC2 instances are configured to stream logs to Amazon CloudWatch Logs The company needs to receive an Amazon Simple Notification Service (Amazon SNS) notification when the number of application error messages exceeds a defined threshold within a 5-minute period Which solution will meet these requirements?

- A. Rewrite the application code to stream application logs to Amazon SNS Configure an SNS topic to send a notification when the number of errors exceeds the defined threshold within a 5-minute period
- B. Configure a subscription filter on the CloudWatch Logs log group
- C. Configure the filter to send an SNS notification when the number of errors exceeds the defined threshold within a 5-minute period.
- D. Install and configure the Amazon Inspector agent on the EC2 instances to monitor for errors Configure Amazon Inspector to send an SNS notification when the number of errors exceeds the defined threshold within a 5-minute period
- E. Create a CloudWatch metric filter to match the application error pattern in the log data. Set up a CloudWatch alarm based on the new custom metric
- F. Configure the alarm to send an SNS notification when the number of errors exceeds the defined threshold within a 5-minute period.

**Answer:** D

**Explanation:**

The best solution is to create a CloudWatch metric filter to match the application error pattern in the log data. This will allow you to create a custom metric that tracks the number of errors in your application. You can then set up a CloudWatch alarm based on this metric and configure it to send an SNS notification when the number of errors exceeds a defined threshold within a 5-minute period. This solution does not require any changes to your application code or installing any additional agents on your EC2 instances. It also leverages the existing integration between CloudWatch and SNS for sending notifications. References

? Create Metric Filters - Amazon CloudWatch Logs

? Creating Amazon CloudWatch Alarms - Amazon CloudWatch

? How to send alert based on log message on CloudWatch - Stack Overflow

**NEW QUESTION 9**

A developer is creating an AWS Lambda function that searches for Items from an Amazon DynamoDB table that contains customer contact information. The DynamoDB table items have the customers as the partition and additional properties such as customer\_type, name, and job\_title. The Lambda function runs whenever a user types a new character into the customer\_type text Input. The developer wants to search to return partial matches of all the email\_address property of a particular customer type. The developer does not want to recreate the DynamoDB table. What should the developer do to meet these requirements?



- A. Add a global secondary index (GSI) to the DynamoDB table with customer-type input, as the partition key and email\_address as the sort key
- B. Perform a query operation on the GSI by using the begins\_with key condition expression with the email\_address property.
- C. Add a global secondary index (GSI) to the DynamoDB table with email\_address as the partition key and customer\_type as the sort key
- D. Perform a query operation on the GSI by using the begins\_with key condition expression with the email\_address property.
- E. Address property.
- F. Add a local secondary index (LSI) to the DynamoDB table with customer\_type as the partition key and email\_address as the sort key
- G. Perform a query operation on the LSI by using the begins\_with key condition expression with the email\_address property.
- H. Add a local secondary index (LSI) to the DynamoDB table with job-title as the partition key and email\_address as the sort key
- I. Perform a query operation on the LSI by using the begins\_with key condition expression with the email\_address property.

**Answer:** A

**Explanation:**

The solution that will meet the requirements is to add a global secondary index (GSI) to the DynamoDB table with customer\_type as the partition key and email\_address as the sort key. Perform a query operation on the GSI by using the begins\_with key condition expression with the email\_address property. This way, the developer can search for partial matches of the email\_address property of a particular customer type without recreating the DynamoDB table. The other options either involve using a local secondary index (LSI), which requires recreating the table, or using a different partition key, which does not allow filtering by customer\_type.

Reference: Using Global Secondary Indexes in DynamoDB

**NEW QUESTION 10**

An online sales company is developing a serverless application that runs on AWS. The application uses an AWS Lambda function that calculates order success rates and stores the data in an Amazon DynamoDB table. A developer wants an efficient way to invoke the Lambda function every 15 minutes. Which solution will meet this requirement with the LEAST development effort?

- A. Create an Amazon EventBridge rule that has a rate expression that will run the rule every 15 minutes
- B. Add the Lambda function as the target of the EventBridge rule.
- C. Create an AWS Systems Manager document that has a script that will invoke the Lambda function on Amazon EC2. Use a Systems Manager Run Command task to run the shell script every 15 minutes.
- D. Create an AWS Step Functions state machine
- E. Configure the state machine to invoke the Lambda function execution role at a specified interval by using a Wait state
- F. Set the interval to 15 minutes.
- G. Provision a small Amazon EC2 instance
- H. Set up a cron job that invokes the Lambda function every 15 minutes.

**Answer:** A

**Explanation:**

The best solution for this requirement is option A. Creating an Amazon EventBridge rule that has a rate expression that will run the rule every 15 minutes and adding the Lambda function as the target of the EventBridge rule is the most efficient way to invoke the Lambda function periodically. This solution does not require any additional resources or development effort, and it leverages the built-in scheduling capabilities of EventBridge.

**NEW QUESTION 10**

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.

**Answer:** D

**Explanation:**

This solution is the most efficient method to grant users access to AWS resources without requiring them to log in. Amazon Cognito is a service that provides user sign-up, sign-in, and access control for web and mobile applications. Amazon Cognito identity pools support both authenticated and unauthenticated users. Unauthenticated users receive access to your AWS resources even if they aren't logged in with any of your identity providers (IdPs). You can use Amazon Cognito to associate unauthenticated users with an IAM role that has limited access to resources, such as Amazon S3 buckets or DynamoDB tables. This degree of access is useful to display content to users before they log in or to allow them to perform certain actions without signing up. Using an identity provider to securely authenticate with the application will require users to log in, which does not meet the requirement. Creating an AWS Lambda function to create an IAM user when a user accesses the application will incur unnecessary costs and complexity, and may pose security risks if not implemented properly. Creating credentials using AWS KMS and applying them to users when using the application will also incur unnecessary costs and complexity, and may not provide fine-grained access control for resources.

Reference: Switching unauthenticated users to authenticated users (identity pools), Allow user access to your API without authentication (Anonymous user access)

**NEW QUESTION 13**

A developer designed an application on an Amazon EC2 instance. The application makes API requests to objects in an Amazon S3 bucket. Which combination of steps will ensure that the application makes the API requests in the MOST secure manner? (Select TWO.)

- A. Create an IAM user that has permissions to the S3 bucket
- B. Add the user to an IAM group
- C. Create an IAM role that has permissions to the S3 bucket
- D. Add the IAM role to an instance profile
- E. Attach the instance profile to the EC2 instance.
- F. Create an IAM role that has permissions to the S3 bucket. Assign the role to an IAM group
- G. Store the credentials of the IAM user in the environment variables on the EC2 instance

**Answer:** BC

**Explanation:**

- Create an IAM role that has permissions to the S3 bucket. - Add the IAM role to an instance profile. Attach the instance profile to the EC2 instance. We first need to create an IAM Role with permissions to read and eventually write a specific S3 bucket. Then, we need to attach the role to the EC2 instance through an instance profile. In this way, the EC2 instance has the permissions to read and eventually write the specified S3 bucket

**NEW QUESTION 17**

A company is using an AWS Lambda function to process records from an Amazon Kinesis data stream. The company recently observed slow processing of the records. A developer notices that the iterator age metric for the function is increasing and that the Lambda run duration is constantly above normal. Which actions should the developer take to increase the processing speed? (Choose two.)

- ☐ A. Increase the number of shards of the Kinesis data stream.
- ☐ B. Decrease the timeout of the Lambda function.
- ☐ C. Increase the memory that is allocated to the Lambda function.
- ☐ D. Decrease the number of shards of the Kinesis data stream.
- ☐ E. Increase the timeout of the Lambda function.

**Answer:** AC

**Explanation:**

Increasing the number of shards of the Kinesis data stream will increase the throughput and parallelism of the data processing. Increasing the memory that is allocated to the Lambda function will also increase the CPU and network performance of the function, which will reduce the run duration and improve the processing speed. Option B is not correct because decreasing the timeout of the Lambda function will not affect the processing speed, but may cause some records to fail if they exceed the timeout limit. Option D is not correct because decreasing the number of shards of the Kinesis data stream will decrease the throughput and parallelism of the data processing, which will slow down the processing speed. Option E is not correct because increasing the timeout of the Lambda function will not affect the processing speed, but may increase the cost of running the function.

References: [Amazon Kinesis Data Streams Scaling], [AWS Lambda Performance Tuning]

**NEW QUESTION 22**

A developer is creating an AWS Lambda function that consumes messages from an Amazon Simple Queue Service (Amazon SQS) standard queue. The developer notices that the Lambda function processes some messages multiple times. How should the developer resolve this issue MOST cost-effectively?

- ☐ A. Change the Amazon SQS standard queue to an Amazon SQS FIFO queue by using the Amazon SQS message deduplication ID.
- ☐ B. Set up a dead-letter queue.
- ☐ C. Set the maximum concurrency limit of the AWS Lambda function to 1
- ☐ D. Change the message processing to use Amazon Kinesis Data Streams instead of Amazon SQS.

**Answer:** A

**Explanation:**

Amazon Simple Queue Service (Amazon SQS) is a fully managed queue service that allows you to de-couple and scale for applications<sup>1</sup>. Amazon SQS offers two types of queues: Standard and FIFO (First In First Out) queues<sup>1</sup>. The FIFO queue uses the messageDeduplicationId property to treat messages with the same value as duplicate<sup>2</sup>.

Therefore, changing the Amazon SQS standard queue to an Amazon SQS FIFO queue using the Amazon SQS message deduplication ID can help resolve the issue of the Lambda function processing some messages multiple times. Therefore, option A is correct.

**NEW QUESTION 24**

A company receives food orders from multiple partners. The company has a microservices application that uses Amazon API Gateway APIs with AWS Lambda integration. Each partner sends orders by calling a customized API that is exposed through API Gateway. The API call invokes a shared Lambda function to process the orders.

Partners need to be notified after the Lambda function processes the orders. Each partner must receive updates for only the partner's own orders. The company wants to add new partners in the future with the fewest code changes possible.

Which solution will meet these requirements in the MOST scalable way?

- ☐ A. Create a different Amazon Simple Notification Service (Amazon SNS) topic for each partner
- ☐ B. Configure the Lambda function to publish messages for each partner to the partner's SNS topic.
- ☐ C. Create a different Lambda function for each partner
- ☐ D. Configure the Lambda function to notify each partner's service endpoint directly.
- ☐ E. Create an Amazon Simple Notification Service (Amazon SNS) topic
- ☐ F. Configure the Lambda function to publish messages with specific attributes to the SNS topic
- ☐ G. Subscribe each partner to the SNS topic
- ☐ H. Apply the appropriate filter policy to the topic subscriptions.
- ☐ I. Create one Amazon Simple Notification Service (Amazon SNS) topic
- ☐ J. Subscribe all partners to the SNS topic.

**Answer:** C

**Explanation:**

Amazon Simple Notification Service (Amazon SNS) is a fully managed messaging service that enables pub/sub communication between distributed systems. The developer can create an SNS topic and configure the Lambda function to publish messages with specific attributes to the topic. The developer can subscribe each partner to the SNS topic and apply the appropriate filter policy to the topic subscriptions. This way, each partner will receive updates for only their own orders based on the message attributes. This solution will meet the requirements in the most scalable way and allow adding new partners in the future with minimal code changes.

References:

? [Amazon Simple Notification Service (SNS)]

? [Filtering Messages with Attributes - Amazon Simple Notification Service]

**NEW QUESTION 25**

A developer creates a static website for their department. The developer deploys the static assets for the website to an Amazon S3 bucket and serves the assets with Amazon CloudFront. The developer uses origin access control (OAC) on the CloudFront distribution to access the S3 bucket. The developer notices users can access the root URL and specific pages but cannot access directories without specifying a file name. For example, `/products/index.html` works, but `/products` returns an error. The developer needs to enable accessing directories without specifying a file name without exposing the S3 bucket publicly. Which solution will meet these requirements?

- A. Update the CloudFront distribution's settings to `index.html` as the default root object is set.  
Update the Amazon S3 bucket settings and enable static website hosting.
- B. Specify `index.html` as the Index document. Update the S3 bucket policy to enable access.
- D. Update the CloudFront distribution's origin to use the S3 website endpoint.
- E. Create a CloudFront function that examines the request URL and appends `index.html` when directories are being accessed. Add the function as a viewer request CloudFront function to the CloudFront distribution's behavior.
- F. Create a custom error response on the CloudFront distribution with the HTTP error code set to the HTTP 404 Not Found response code and the response page path to `/index.html`. Set the HTTP response code to the HTTP 200 OK response code.

**Answer:** A

**Explanation:**

The simplest and most efficient way to enable accessing directories without specifying a file name is to update the CloudFront distribution's settings to `index.html` as the default root object. This will instruct CloudFront to return the `index.html` object when a user requests the root URL or a directory URL for the distribution. This solution does not require enabling static website hosting on the S3 bucket, creating a CloudFront function, or creating a custom error response. References:  
? Specifying a default root object  
? cloudfront-default-root-object-configured  
? How to setup CloudFront default root object?  
? Ensure a default root object is configured for AWS Cloudfront ...

**NEW QUESTION 27**

A company has an application that runs as a series of AWS Lambda functions. Each Lambda function receives data from an Amazon Simple Notification Service (Amazon SNS) topic and writes the data to an Amazon Aurora DB instance. To comply with an information security policy, the company must ensure that the Lambda functions all use a single securely encrypted database connection string to access Aurora. Which solution will meet these requirements?

- A. Use IAM database authentication for Aurora to enable secure database connections for all the Lambda functions.
- B. Store the credentials and read the credentials from an encrypted Amazon RDS DB instance.
- C. Store the credentials in AWS Systems Manager Parameter Store as a secure string parameter.
- D. Use Lambda environment variables with a shared AWS Key Management Service (AWS KMS) key for encryption.

**Answer:** A

**Explanation:**

This solution will meet the requirements by using IAM database authentication for Aurora, which enables using IAM roles or users to authenticate with Aurora databases instead of using passwords or other secrets. The developer can use IAM database authentication for Aurora to enable secure database connections for all the Lambda functions that access Aurora DB instance. The developer can create an IAM role with permission to connect to Aurora DB instance and attach it to each Lambda function. The developer can also configure Aurora DB instance to use IAM database authentication and enable encryption in transit using SSL certificates. This way, the Lambda functions can use a single securely encrypted database connection string to access Aurora without needing any secrets or passwords. Option B is not optimal because it will store the credentials and read them from an encrypted Amazon RDS DB instance, which may introduce additional costs and complexity for managing and accessing another RDS DB instance. Option C is not optimal because it will store the credentials in AWS Systems Manager Parameter Store as a secure string parameter, which may require additional steps or permissions to retrieve and decrypt the credentials from Parameter Store. Option D is not optimal because it will use Lambda environment variables with a shared AWS Key Management Service (AWS KMS) key for encryption, which may not be secure or scalable as environment variables are stored as plain text unless encrypted with AWS KMS. References: [IAM Database Authentication for MySQL and PostgreSQL], [Using SSL/TLS to Encrypt a Connection to a DB Instance]

**NEW QUESTION 32**

A developer must use multi-factor authentication (MFA) to access data in an Amazon S3 bucket that is in another AWS account. Which AWS Security Token Service (AWS STS) API operation should the developer use with the MFA information to meet this requirement?

- A. `AssumeRoleWithWebIdentity`
- B. `GetFederationToken`
- C. `AssumeRoleWithSAML`
- D. `AssumeRole`

**Answer:** D

**Explanation:**

The `AssumeRole` API operation returns a set of temporary security credentials that can be used to access resources in another AWS account. The developer can specify the MFA device serial number and the MFA token code in the request parameters. This option enables the developer to use MFA to access data in an S3 bucket that is in another AWS account. The other options are not relevant or effective for this scenario. References:  
? `AssumeRole`  
? Requesting Temporary Security Credentials

**NEW QUESTION 34**

A developer is working on an ecommerce platform that communicates with several third-party payment processing APIs. The third-party payment services do not provide a test environment. The developer needs to validate the ecommerce platform's integration with the third-party payment processing APIs. The developer must test the API integration code without invoking the third-party payment processing APIs. Which solution will meet these requirements?



- A. Set up an Amazon API Gateway REST API with a gateway response configured for status code 200 Add response templates that contain sample responses captured from the real third-party API.
- B. Set up an AWS AppSync GraphQL API with a data source configured for each third- party API Specify an integration type of Mock Configure integration responses by using sample responses captured from the real third-party API.
- C. Create an AWS Lambda function for each third-party AP
- D. Embed responses captured from the real third-party AP
- E. Configure Amazon Route 53 Resolver with an inbound endpoint for each Lambda function's Amazon Resource Name (ARN).
- F. Set up an Amazon API Gateway REST API for each third-party API Specify an integration request type of Mock Configure integration responses by using sample responses captured from the real third-party API

**Answer: D**

**Explanation:**

Amazon API Gateway can mock responses for testing purposes without requiring any integration backend. This allows the developer to test the API integration code without invoking the third-party payment processing APIs. The developer can configure integration responses by using sample responses captured from the real third- party API. References:

- ? Mocking Integration Responses in API Gateway
- ? Set up Mock Integrations for an API in API Gateway

**NEW QUESTION 35**

A company runs an application on AWS The application stores data in an Amazon DynamoDB table Some queries are taking a long time to run These slow queries involve an attribute that is not the table's partition key or sort key

The amount of data that the application stores in the DynamoDB table is expected to increase significantly. A developer must increase the performance of the queries.

Which solution will meet these requirements'?

- A. Increase the page size for each request by setting the Limit parameter to be higher than the default value Configure the application to retry any request that exceeds the provisioned throughput.
- B. Create a global secondary index (GSI). Set query attribute to be the partition key of the index
- C. Perform a parallel scan operation by issuing individual scan requests in the parameters specify the segment for the scan requests and the total number of segments for the parallel scan.
- D. Turn on read capacity auto scaling for the DynamoDB tabl
- E. Increase the maximum read capacity units (RCUs).

**Answer: B**

**Explanation:**

Creating a global secondary index (GSI) is the best solution to improve the performance of the queries that involve an attribute that is not the table's partition key or sort key. A GSI allows you to define an alternate key for your table and query the data using that key. This way, you can avoid scanning the entire table and reduce the latency and cost of your queries. You should also follow the best practices for designing and using GSIs in DynamoDB<sup>12</sup>. References

- ? Working with Global Secondary Indexes - Amazon DynamoDB
- ? DynamoDB Performance & Latency - Everything You Need To Know

**NEW QUESTION 39**

An developer is building a serverless application by using the AWS Serverless Application Model (AWS SAM). The developer is currently testing the application in a development environment. When the application is nearly finished, the developer will need to set up

additional testing and staging environments for a quality assurance team.

The developer wants to use a feature of the AWS SAM to set up deployments to multiple environments.

Which solution will meet these requirements with the LEAST development effort?

- A. Add a configuration file in TOML format to group configuration entries to every environmen
- B. Add a table for each testing and staging environmen
- C. Deploy updates to the environments by using the sam deploy command and the --config-env flag that corresponds to the each environment.
- D. Create additional AWS SAM templates for each testing and staging environmen
- E. Write a custom shell script that uses the sam deploy command and the --template-file flag to deploy updates to the environments.
- F. Create one AWS SAM configuration file that has default parameter
- G. Perform updates to the testing and staging environments by using the —parameter-overrides flag in the AWS SAM CLI and the parameters that the updates will override.
- H. Use the existing AWS SAM templat
- I. Add additional parameters to configure specific attributes for the serverless function and database table resources that are in each environmen
- J. Deploy updates to the testing and staging environments by using the sam deploy command.

**Answer: A**

**Explanation:**

The correct answer is A. Add a configuration file in TOML format to group configuration entries to every environment. Add a table for each testing and staging environment. Deploy updates to the environments by using the sam deploy command and the --config-env flag that corresponds to the each environment.

\* A. Add a configuration file in TOML format to group configuration entries to every environment. Add a table for each testing and staging environment. Deploy updates to the environments by using the sam deploy command and the --config-env flag that corresponds to the each environment. This is correct. This solution will meet the requirements with the least development effort, because it uses a feature of the AWS SAM CLI that supports a project-level configuration file that can be used to configure AWS SAM CLI command parameter values<sup>1</sup>. The configuration file can have multiple environments, each with its own set of parameter values, such as stack name, region, capabilities, and more<sup>2</sup>. The developer can use the --config-env option to specify which environment to use when deploying the application<sup>3</sup>. This way, the developer can avoid creating multiple templates or scripts, or manually overriding parameters for each environment.

\* B. Create additional AWS SAM templates for each testing and staging environment. Write a custom shell script that uses the sam deploy command and the --template-file flag to

deploy updates to the environments. This is incorrect. This solution will not meet the requirements with the least development effort, because it requires creating and maintaining multiple templates and scripts for each environment. This can introduce duplication, inconsistency, and complexity in the deployment process.

\* C. Create one AWS SAM configuration file that has default parameters. Perform updates to the testing and staging environments by using the —parameter-overrides flag in the AWS SAM CLI and the parameters that the updates will override. This is incorrect. This solution will not meet the requirements with the least development effort, because it requires manually specifying and overriding parameters for each environment every time the developer deploys the application. This



can be error-prone, tedious, and inefficient.

\* D. Use the existing AWS SAM template. Add additional parameters to configure specific attributes for the serverless function and database table resources that are in each environment. Deploy updates to the testing and staging environments by using the sam deploy command. This is incorrect. This solution will not meet the requirements with the least development effort, because it requires modifying the existing template and adding complexity to the resource definitions for each environment. This can also make it difficult to manage and track changes across different environments.

References:

? 1: AWS SAM CLI configuration file - AWS Serverless Application Model

? 2: Configuration file basics - AWS Serverless Application Model

? 3: Specify a configuration file - AWS Serverless Application Model

#### NEW QUESTION 41

A developer is testing an application that invokes an AWS Lambda function asynchronously. During the testing phase the Lambda function fails to process after two retries.

How can the developer troubleshoot the failure?

- A. Configure AWS CloudTrail logging to investigate the invocation failures.
- B. Configure Dead Letter Queues by sending events to Amazon SQS for investigation.
- C. Configure Amazon Simple Workflow Service to process any direct unprocessed events.
- D. Configure AWS Config to process any direct unprocessed events.

**Answer: B**

#### Explanation:

This solution allows the developer to troubleshoot the failure by capturing unprocessed events in a queue for further analysis. Dead Letter Queues (DLQs) are queues that store messages that could not be processed by a service, such as Lambda, for various reasons, such as configuration errors, throttling limits, or permissions issues. The developer can configure DLQs for Lambda functions by sending events to either an Amazon Simple Queue Service (SQS) queue or an Amazon Simple Notification Service (SNS) topic. The developer can then inspect the messages in the queue or topic to identify and fix the root cause of the failure. Configuring AWS CloudTrail logging will not capture invocation failures for asynchronous Lambda invocations, but only record API calls made by or on behalf of Lambda. Configuring Amazon Simple Workflow Service (SWF) or AWS Config will not process any direct unprocessed events, but require additional integration and configuration.

Reference: [Using AWS Lambda with DLQs], [Asynchronous invocation]

#### NEW QUESTION 46

A developer is building a serverless application by using AWS Serverless Application Model (AWS SAM) on multiple AWS Lambda functions. When the application is deployed, the developer wants to shift 10% of the traffic to the new deployment of the application for the first 10 minutes after deployment. If there are no issues, all traffic must switch over to the new version.

Which change to the AWS SAM template will meet these requirements?

- A. Set the Deployment Preference Type to Canaryl OPercent10Minute
- B. Set the AutoPublishAlias property to the Lambda alias.
- C. Set the Deployment Preference Type to Linearl OPercentEverylOMinute
- D. Set AutoPublishAlias property to the Lambda alias.
- E. Set the Deployment Preference Type to Canaryl OPercentlOMinute
- F. Set the PreTraffic and PostTraffic properties to the Lambda alias.
- G. Set the Deployment Preference Type to Linearl OPercentEvery10Minute
- H. Set PreTraffic and PostTraffic properties to the Lambda alias.

**Answer: A**

#### Explanation:

? The Deployment Preference Type property specifies how traffic should be shifted between versions of a Lambda function<sup>1</sup>. The Canary10Percent10Minutes option means that 10% of the traffic is immediately shifted to the new version, and after 10 minutes, the remaining 90% of the traffic is shifted<sup>1</sup>. This matches the requirement of shifting 10% of the traffic for the first 10 minutes, and then switching all traffic to the new version.

? The AutoPublishAlias property enables AWS SAM to automatically create and update a Lambda alias that points to the latest version of the function<sup>1</sup>. This is required to use the Deployment Preference Type property<sup>1</sup>. The alias name can be specified by the developer, and it can be used to invoke the function with the latest code.

#### NEW QUESTION 47

A developer at a company needs to create a small application that makes the same API call once each day at a designated time. The company does not have infrastructure in the AWS Cloud yet, but the company wants to implement this functionality on AWS.

Which solution meets these requirements in the MOST operationally efficient manner?

Use a Kubernetes cron job that runs on Amazon Elastic Kubernetes Service (Amazon EKS).

- A**: Use an Amazon Linux crontab scheduled job that runs on Amazon EC2.
- C. Use an AWS Lambda function that is invoked by an Amazon EventBridge scheduled event.
- D. Use an AWS Batch job that is submitted to an AWS Batch job queue.

**Answer: C**

#### Explanation:

The correct answer is C. Use an AWS Lambda function that is invoked by an Amazon EventBridge scheduled event.

\* C. Use an AWS Lambda function that is invoked by an Amazon EventBridge scheduled event. This is correct. AWS Lambda is a serverless compute service that lets you run code without provisioning or managing servers. Lambda runs your code on a high-availability compute infrastructure and performs all of the administration of the compute resources, including server and operating system maintenance, capacity provisioning and automatic scaling, and logging<sup>1</sup>. Amazon EventBridge is a serverless event bus service that enables you to connect your applications with data from a variety of sources<sup>2</sup>. EventBridge can create rules that run on a schedule, either at regular intervals or at specific times and dates, and invoke targets such as Lambda functions<sup>3</sup>. This solution meets the requirements of creating a small application that makes the same API call once each day at a designated time, without requiring any infrastructure in the AWS Cloud or any operational overhead.

\* A. Use a Kubernetes cron job that runs on Amazon Elastic Kubernetes Service (Amazon EKS). This is incorrect. Amazon EKS is a fully managed Kubernetes service that allows you to run containerized applications on AWS<sup>4</sup>. Kubernetes cron jobs are tasks that run periodically on a given schedule<sup>5</sup>. This solution could

meet the functional requirements of creating a small application that makes the same API call once each day at a designated time, but it would not be the most operationally efficient manner. The company would need to provision and manage an EKS cluster, which would incur additional costs and complexity.

\* B. Use an Amazon Linux crontab scheduled job that runs on Amazon EC2. This is incorrect. Amazon EC2 is a web service that provides secure, resizable compute capacity in the cloud<sup>6</sup>. Crontab is a Linux utility that allows you to schedule commands or scripts to run automatically at a specified time or date<sup>7</sup>. This solution could meet the functional requirements of creating a small application that makes the same API call once each day at a designated time, but it would not be the most operationally efficient manner. The company would need to provision and manage an EC2 instance, which would incur additional costs and complexity.

\* D. Use an AWS Batch job that is submitted to an AWS Batch job queue. This is incorrect. AWS Batch enables you to run batch computing workloads on the AWS Cloud<sup>8</sup>. Batch jobs are units of work that can be submitted to job queues, where they are executed in parallel or sequentially on compute environments<sup>9</sup>. This solution could meet the functional requirements of creating a small application that makes the same API call once each day at a designated time, but it would not be the most operationally efficient manner. The company would need to configure and manage an AWS Batch environment, which would incur additional costs and complexity.

References:

- ? 1: What is AWS Lambda? - AWS Lambda
- ? 2: What is Amazon EventBridge? - Amazon EventBridge
- ? 3: Creating an Amazon EventBridge rule that runs on a schedule - Amazon EventBridge
- ? 4: What is Amazon EKS? - Amazon EKS
- ? 5: CronJob - Kubernetes
- ? 6: What is Amazon EC2? - Amazon EC2
- ? 7: Crontab in Linux with 20 Useful Examples to Schedule Jobs - Tecmint
- ? 8: What is AWS Batch? - AWS Batch
- ? 9: Jobs - AWS Batch

#### NEW QUESTION 48

A developer is migrating some features from a legacy monolithic application to use AWS Lambda functions instead. The application currently stores data in an Amazon Aurora DB cluster that runs in private subnets in a VPC. The AWS account has one VPC deployed. The Lambda functions and the DB cluster are deployed in the same AWS Region in the same AWS account.

The developer needs to ensure that the Lambda functions can securely access the DB cluster without crossing the public internet.

Which solution will meet these requirements?

- A. Configure the DB cluster's public access setting to Yes.
- B. Configure an Amazon RDS database proxy for the Lambda functions.
- C. Configure a NAT gateway and a security group for the Lambda functions.
- D. Configure the VPC, subnets, and a security group for the Lambda functions.

**Answer:** D

#### Explanation:

This solution will meet the requirements by allowing the Lambda functions to access the DB cluster securely within the same VPC without crossing the public internet. The developer can configure a VPC endpoint for RDS in a private subnet and assign it to the Lambda functions. The developer can also configure a security group for the Lambda functions that allows inbound traffic from the DB cluster on port 3306 (MySQL). Option A is not optimal because it will expose the DB cluster to public access, which may compromise its security and data integrity. Option B is not optimal because it will introduce additional latency and complexity to use an RDS database proxy for accessing the DB cluster from Lambda functions within the same VPC. Option C is not optimal because it will require additional costs and configuration to use a NAT gateway for accessing resources in private subnets from Lambda functions.

References: [Configuring a Lambda Function to Access Resources in a VPC]

#### NEW QUESTION 49

A developer is building a new application on AWS. The application uses an AWS Lambda function that retrieves information from an Amazon DynamoDB table. The developer hard coded the DynamoDB table name into the Lambda function code. The table name might change over time. The developer does not want to modify the Lambda code if the table name changes.

Which solution will meet these requirements MOST efficiently?

- A. Create a Lambda environment variable to store the table name
- B. Use the standard method for the programming language to retrieve the variable.
- C. Store the table name in a file
- D. Store the file in the /tmp folder
- E. Use the SDK for the programming language to retrieve the table name.
- F. Create a file to store the table name
- G. Zip the file and upload the file to the Lambda layer
- H. Use the SDK for the programming language to retrieve the table name.
- I. Create a global variable that is outside the handler in the Lambda function to store the table name.

**Answer:** A

#### Explanation:

The solution that will meet the requirements most efficiently is to create a Lambda environment variable to store the table name. Use the standard method for the programming language to retrieve the variable. This way, the developer can avoid hard-coding the table name in the Lambda function code and easily change the table name by updating the environment variable. The other options either involve storing the table name in a file, which is less efficient and secure than using an environment variable, or creating a global variable, which is not recommended as it can cause concurrency issues.

Reference: Using AWS Lambda environment variables

#### NEW QUESTION 51

An AWS Lambda function requires read access to an Amazon S3 bucket and requires read/write access to an Amazon DynamoDB table. The correct IAM policy already exists.

What is the MOST secure way to grant the Lambda function access to the S3 bucket and the DynamoDB table?

- A. Attach the existing IAM policy to the Lambda function.
- B. Create an IAM role for the Lambda function. Attach the existing IAM policy to the role. Attach the role to the Lambda function.
- C. Create an IAM user with programmatic access. Attach the existing IAM policy to the user.

- D. Add the user access key ID and secret access key as environment variables in the Lambda function.
- E. Add the AWS account root user access key ID and secret access key as encrypted environment variables in the Lambda function

**Answer:** B

**Explanation:**

The most secure way to grant the Lambda function access to the S3 bucket and the DynamoDB table is to create an IAM role for the Lambda function and attach the existing IAM policy to the role. This way, you can use the principle of least privilege and avoid exposing any credentials in your function code or environment variables. You can also leverage the temporary security credentials that AWS provides to the Lambda function when it assumes the role. This solution follows the best practices for working with AWS Lambda functions<sup>1</sup> and designing and architecting with DynamoDB<sup>2</sup>. References

? Best practices for working with AWS Lambda functions

? Best practices for designing and architecting with DynamoDB

**NEW QUESTION 56**

A company is planning to securely manage one-time fixed license keys in AWS. The company's development team needs to access the license keys in automation scripts that run in Amazon EC2 instances and in AWS CloudFormation stacks.

Which solution will meet these requirements MOST cost-effectively?

- A. Amazon S3 with encrypted files prefixed with "config"
- B. AWS Secrets Manager secrets with a tag that is named SecretString
- C. AWS Systems Manager Parameter Store SecureString parameters
- D. CloudFormation NoEcho parameters

**Answer:** C

**Explanation:**

AWS Systems Manager Parameter Store is a service that provides secure, hierarchical storage for configuration data and secrets. Parameter Store supports SecureString parameters, which are encrypted using AWS Key Management Service (AWS KMS) keys. SecureString parameters can be used to store license keys in AWS and retrieve them securely from automation scripts that run in EC2 instances or CloudFormation stacks. Parameter Store is a cost-effective solution because it does not charge for storing parameters or API calls. Reference: Working with Systems Manager parameters

**NEW QUESTION 57**

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

**Answer:** A

**Explanation:**

The solution that will meet the requirements is to write data to Amazon ElastiCache. This way, the application can write session data to a fast, scalable, and reliable in-memory data store that can be served reliably across multiple requests. The other options either involve writing data to persistent storage, which is slower and more expensive than in-memory storage, or writing data to the root filesystem, which is not shared among multiple EC2 instances.

Reference: Using ElastiCache for session management

**NEW QUESTION 62**

A company hosts a client-side web application for one of its subsidiaries on Amazon S3. The web application can be accessed through Amazon CloudFront from <https://www.example.com>. After a successful rollout, the company wants to host three more client-side web applications for its remaining subsidiaries on three separate S3 buckets.

To achieve this goal, a developer moves all the common JavaScript files and web fonts to a central S3 bucket that serves the web applications. However, during testing, the developer notices that the browser blocks the JavaScript files and web fonts.

What should the developer do to prevent the browser from blocking the JavaScript files and web fonts?

- A. Create four access points that allow access to the central S3 bucket
- B. Assign an access point to each web application bucket.
- C. Create a bucket policy that allows access to the central S3 bucket
- D. Attach the bucket policy to the central S3 bucket.
- E. Create a cross-origin resource sharing (CORS) configuration that allows access to the central S3 bucket
- F. Add the CORS configuration to the central S3 bucket.
- G. Create a Content-MD5 header that provides a message integrity check for the central S3 bucket
- H. Insert the Content-MD5 header for each web application request.

**Answer:** C

**Explanation:**

This is a frequent trouble. Web applications cannot access the resources in other domains by default, except some exceptions. You must configure CORS on the resources to be accessed. <https://docs.aws.amazon.com/AmazonS3/latest/userguide/cors.html>

**NEW QUESTION 65**

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 function



- B. then use Amazon CloudWatch to view the logs.
- C. Use AWS CloudTrail and then examine the logs.
- D. Use AWS X-Ray
- E. then examine the segments and errors.
- F. Run Amazon inspector agents and then analyze performance.

**Answer: C**

**Explanation:**

This solution will meet the requirements by using AWS X-Ray to analyze and debug the performance issues with the distributed Lambda applications. AWS X-Ray is a service that collects data about requests that the applications serve, and provides tools to view, filter, and gain insights into that data. The developer can use AWS X-Ray to identify the root cause of the performance issues by examining the segments and errors that show the details of each request and the components that make up the applications. Option A is not optimal because it will use logging statements and Amazon CloudWatch, which may not provide enough information or visibility into the distributed applications. Option B is not optimal because it will use AWS CloudTrail, which is a service that records API calls and events for AWS services, not application performance data. Option D is not optimal because it will use Amazon Inspector, which is a service that helps improve the security and compliance of applications on Amazon EC2 instances, not Lambda functions. References: AWS X-Ray, Using AWS X-Ray with AWS Lambda

**NEW QUESTION 67**

A company is implementing an application on Amazon EC2 instances. The application needs to process incoming transactions. When the application detects a transaction that is not valid, the application must send a chat message to the company's support team. To send the message, the application needs to retrieve the access token to authenticate by using the chat API.

A developer needs to implement a solution to store the access token. The access token must be encrypted at rest and in transit. The access token must also be accessible from other AWS accounts.

Which solution will meet these requirements with the LEAST management overhead?

- A. Use an AWS Systems Manager Parameter Store SecureString parameter that uses an AWS Key Management Service (AWS KMS) AWS managed key to store the access token
- B. Add a resource-based policy to the parameter to allow access from other account
- C. Update the IAM role of the EC2 instances with permissions to access Parameter Store and retrieve the token from Parameter Store with the decrypt flag enable
- D. Retrieve the decrypted access token to send the message to the chat.
- E. Use the decrypted access token to send the message to the chat.
- F. Encrypt the access token by using an AWS Key Management Service (AWS KMS) customer managed key
- G. Store the access token in an Amazon DynamoDB table
- H. Update the IAM role of the EC2 instances with permissions to access DynamoDB and AWS KMS
- I. Retrieve the token from DynamoDB
- J. Decrypt the token by using AWS KMS on the EC2 instance
- K. Use the decrypted access token to send the message to the chat.
- L. Use AWS Secrets Manager with an AWS Key Management Service (AWS KMS) customer managed key to store the access token
- M. Add a resource-based policy to the secret to allow access from other account
- N. Update the IAM role of the EC2 instances with permissions to access Secrets Manager
- O. Retrieve the token from Secrets Manager
- P. Use the decrypted access token to send the message to the chat.
- Q. Encrypt the access token by using an AWS Key Management Service (AWS KMS) AWS managed key
- R. Store the access token in an Amazon S3 bucket
- S. Add a bucket policy to the S3 bucket to allow access from other account
- T. Update the IAM role of the EC2 instances with permissions to access Amazon S3 and AWS KMS
- U. Retrieve the token from the S3 bucket
- V. Decrypt the token by using AWS KMS on the EC2 instance
- W. Use the decrypted access token to send the message to the chat.

**Answer: C**

**Explanation:**

<https://aws.amazon.com/premiumsupport/knowledge-center/secrets-manager-share-between-accounts/>  
[https://docs.aws.amazon.com/secretsmanager/latest/userguide/auth-and-access\\_examples\\_cross.html](https://docs.aws.amazon.com/secretsmanager/latest/userguide/auth-and-access_examples_cross.html)

**NEW QUESTION 69**

A developer is migrating an application to Amazon Elastic Kubernetes Service (Amazon EKS). The developer migrates the application to Amazon Elastic Container Registry (Amazon ECR) with an EKS cluster.

As part of the application migration to a new backend, the developer creates a new AWS account. The developer makes configuration changes to the application to point the application to the new AWS account and to use new backend resources. The developer successfully tests the changes within the application by deploying the pipeline.

The Docker image build and the pipeline deployment are successful, but the application is still connecting to the old backend. The developer finds that the application's configuration is still referencing the original EKS cluster and not referencing the new backend resources.

Which reason can explain why the application is not connecting to the new resources?

- A. The developer did not successfully create the new AWS account.
- B. The developer added a new tag to the Docker image.
- C. The developer did not update the Docker image tag to a new version.
- D. The developer pushed the changes to a new Docker image tag.

**Answer: C**

**Explanation:**

The correct answer is C. The developer did not update the Docker image tag to a new version.

\* C. The developer did not update the Docker image tag to a new version. This is correct. When deploying an application to Amazon EKS, the developer needs to specify the Docker image tag that contains the application code and configuration. If the developer does not update the Docker image tag to a new version after making changes to the application, the EKS cluster will continue to use the old Docker image tag that references the original backend resources. To fix this issue, the developer should update the Docker image tag to a new version and redeploy the application to the EKS cluster.

\* A. The developer did not successfully create the new AWS account. This is incorrect. The creation of a new AWS account is not related to the application's

connection to the

backend resources. The developer can use any AWS account to host the EKS cluster and the backend resources, as long as they have the proper permissions and configurations.

\* B. The developer added a new tag to the Docker image. This is incorrect. Adding a new tag to the Docker image is not enough to deploy the changes to the application. The developer also needs to update the Docker image tag in the EKS cluster configuration, so that the EKS cluster can pull and run the new Docker image.

\* D. The developer pushed the changes to a new Docker image tag. This is incorrect. Pushing the changes to a new Docker image tag is not enough to deploy the changes to the application. The developer also needs to update the Docker image tag in the EKS cluster configuration, so that the EKS cluster can pull and run the new Docker image. References:

? 1: Amazon EKS User Guide, "Deploying applications to your Amazon EKS cluster", <https://docs.aws.amazon.com/eks/latest/userguide/deploying-applications.html>

? 2: Amazon ECR User Guide, "Pushing an image", <https://docs.aws.amazon.com/AmazonECR/latest/userguide/docker-push-ecr-image.html>

? 3: Amazon EKS User Guide, "Updating an Amazon EKS cluster", <https://docs.aws.amazon.com/eks/latest/userguide/update-cluster.html>

### NEW QUESTION 73

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:\*"

- A. Option A
- B. Option B
- C. Option C
- D. Option D

**Answer:** A

#### Explanation:

This solution allows the developer to create and delete branches in AWS CodeCommit by granting the codecommit:CreateBranch and codecommit>DeleteBranch permissions. These are the minimum permissions required for this task, following the principle of least privilege. Option B grants too many permissions, such as codecommit:Put\*, which allows the developer to create, update, or delete any resource in CodeCommit. Option C grants too few as

permissions, such as `codecommit:Update*`, which does not allow the developer to create or delete branches. Option D grants all permissions, such as `codecommit:*`, which is not secure or recommended.

Reference: [AWS CodeCommit Permissions Reference], [Create a Branch (AWS CLI)]

#### NEW QUESTION 76

A company is creating an application that processes csv files from Amazon S3. A developer has created an S3 bucket. The developer has also created an AWS Lambda function to process the csv files from the S3 bucket.

Which combination of steps will invoke the Lambda function when a csv file is uploaded to Amazon S3? (Select TWO.)

- A. Create an Amazon EventBridge rule. Configure the rule with a pattern to match the S3 object created event.
- B. Schedule an Amazon EventBridge rule to run a new Lambda function to scan the S3 bucket.
- C. Add a trigger to the existing Lambda function.
- D. Set the trigger type to EventBridge. Select the Amazon EventBridge rule.
- E. Create a new Lambda function to scan the S3 bucket for recently added S3 objects.
- F. Add S3 Lifecycle rules to invoke the existing Lambda function.

**Answer:** AC

#### Explanation:

To invoke a Lambda function when a csv file is uploaded to Amazon S3, you can use Amazon EventBridge to create a rule that matches the S3 object created event. Then, you can add a trigger to the existing Lambda function and set the trigger type to EventBridge. This way, the Lambda function will be invoked whenever a new csv file is added to the S3 bucket. References

? Tutorial: Using an Amazon S3 trigger to invoke a Lambda function

? How to trigger my Lambda Function once the file is uploaded to s3 bucket

? Lambda Function to be invoked or triggered by S3(csv file upload ...

#### NEW QUESTION 77

A developer has code that is stored in an Amazon S3 bucket. The code must be deployed as an AWS Lambda function across multiple accounts in the same AWS Region as the S3 bucket. An AWS CloudFormation template that runs for each account will deploy the Lambda function.

What is the MOST secure way to allow CloudFormation to access the Lambda Code in the S3 bucket?

- A. Mastered
- B. Not Mastered

**Answer:** A

#### Explanation:

This solution allows the CloudFormation service role to access the S3 bucket from any account, as long as it has the S3 `GetObject` permission. The bucket policy grants access to any principal with the `GetObject` permission, which is the least privilege needed to deploy the Lambda code. This is more secure than granting `ListBucket` permission, which is not required for deploying Lambda code, or using a service-based link, which is not supported for Lambda functions.

Reference: AWS CloudFormation Service Role, Using AWS Lambda with Amazon S3

#### NEW QUESTION 82

A developer is troubleshooting an application that uses Amazon DynamoDB in the us-west-2 Region. The application is deployed to an Amazon EC2 instance. The application requires read-only permissions to a table that is named `Cars`. The EC2 instance has an attached IAM role that contains the following IAM policy.

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Sid": "ReadOnlyAPIActions",
      "Effect": "Allow",
      "Action": [
        "dynamodb:GetItem",
        "dynamodb:BatchGetItem",
        "dynamodb:Scan",
        "dynamodb:Query",
        "dynamodb:ConditionCheckItem"
      ],
      "Resource": "arn:aws:dynamodb:us-west-2:account-id:table/Cars"
    }
  ]
}
```

When the application tries to read from the `Cars` table, an Access Denied error occurs. How can the developer resolve this error?

- A. Modify the IAM policy resource to be `arn:aws:dynamodb:us-west-2:account-id:table/*`
- B. Modify the IAM policy to include the `dynamodb:*` action
- C. Create a trust policy that specifies the EC2 service principal
- D. Associate the role with the policy.
- E. Create a trust relationship between the role and `dynamodb.amazonaws.com`.

**Answer:** C

#### Explanation:

<https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/access-control-overview.html#access-control-resource-ownership>

#### NEW QUESTION 83

A development team maintains a web application by using a single AWS CloudFormation template. The template defines web servers and an Amazon RDS database. The team uses the CloudFormation template to deploy the CloudFormation stack to different environments.

During a recent application deployment, a developer caused the primary development database to be dropped and recreated. The result of this incident was a loss of data. The team needs to avoid accidental database deletion in the future.

Which solutions will meet these requirements? (Choose two.)



- A. Add a CloudFormation Deletion Policy attribute with the Retain value to the database resource.
- B. Update the CloudFormation stack policy to prevent updates to the database.  
    Modify the database to use a Multi-AZ deployment.
- B**: Create a CloudFormation stack set for the web application and database deployments.
- E. Add a Cloud Formation DeletionPolicy attribute with the Retain value to the stack.

**Answer:** AB

**Explanation:**

AWS CloudFormation is a service that enables developers to model and provision AWS resources using templates. The developer can add a CloudFormation Deletion Policy attribute with the Retain value to the database resource. This will prevent the database from being deleted when the stack is deleted or updated. The developer can also update the CloudFormation stack policy to prevent updates to the database. This will prevent accidental changes to the database configuration or properties.

References:

? [What Is AWS CloudFormation? - AWS CloudFormation]

? [DeletionPolicy Attribute - AWS CloudFormation]

? [Protecting Resources During Stack Updates - AWS CloudFormation]

**NEW QUESTION 84**

A company has a web application that runs on Amazon EC2 instances with a custom Amazon Machine Image (AMI) The company uses AWS CloudFormation to provision the application The application runs in the us-east-1 Region, and the company needs to deploy the application to the us-west-1 Region An attempt to create the AWS CloudFormation stack in us-west-1 fails. An error message states that the AMI ID does not exist. A developer must resolve this error with a solution that uses the least amount of operational overhead Which solution meets these requirements?

- A. Change the AWS CloudFormation templates for us-east-1 and us-west-1 to use an AWS AM
- B. Relaunch the stack for both Regions.
- C. Copy the custom AMI from us-east-1 to us-west-1. Update the AWS CloudFormation template for us-west-1 to refer to AMI ID for the copied AMI Relaunch the stack
- D. Build the custom AMI in us-west-1 Create a new AWS CloudFormation template to launch the stack in us-west-1 with the new AMI ID
- E. Manually deploy the application outside AWS CloudFormation in us-west-1.

**Answer:** B

**Explanation:**

<https://aws.amazon.com/blogs/aws/ec2-ami-copy-between-regions/>

**NEW QUESTION 87**

A developer is trying get data from an Amazon DynamoDB table called demoman-table. The developer configured the AWS CLI to use a specific IAM use's credentials and ran the following command.

```
aws dynamodb get-item --table-name demoman-table --key '{"id": {"N": "1993"}}'
```

The command returned errors and no rows were returned. What is the MOST likely cause of these issues?

- A. The command is incorrect; it should be rewritten to use put-item with a string argument
- B. The developer needs to log a ticket with AWS Support to enable access to the demoman-table
- C. Amazon DynamoDB cannot be accessed from the AWS CLI and needs to be called via the REST API
- D. The IAM user needs an associated policy with read access to demoman-table

**Answer:** D

**Explanation:**

This solution will most likely solve the issues because it will grant the IAM user the necessary permission to access the DynamoDB table using the AWS CLI command. The error message indicates that the IAM user does not have sufficient access rights to perform the scan operation on the table. Option A is not optimal because it will change the command to use put-item instead of scan, which will not achieve the desired result of getting data from the table. Option B is not optimal because it will involve contacting AWS Support, which may not be necessary or efficient for this issue. Option C is not optimal because it will state that DynamoDB cannot be accessed from the AWS CLI, which is incorrect as DynamoDB supports AWS CLI commands.

References: AWS CLI for DynamoDB, [IAM Policies for DynamoDB]

**NEW QUESTION 88**

A developer is deploying an AWS Lambda function The developer wants the ability to return to older versions of the function quickly and seamlessly. How can the developer achieve this goal with the LEAST operational overhead?

- A. Use AWS OpsWorks to perform blue/green deployments.
- B. Use a function alias with different versions.
- C. Maintain deployment packages for older versions in Amazon S3.
- D. Use AWS CodePipeline for deployments and rollbacks.

**Answer:** B

**Explanation:**

A function alias is a pointer to a specific Lambda function version. You can use aliases to create different environments for your function, such as development, testing, and production. You can also use aliases to perform blue/green deployments by shifting traffic between two versions of your function gradually. This way, you can easily roll back to a previous version if something goes wrong, without having to redeploy your code or change your configuration. Reference: AWS Lambda function aliases

**NEW QUESTION 93**

A company wants to deploy and maintain static websites on AWS. Each website's source code is hosted in one of several version control systems, including AWS CodeCommit, Bitbucket, and GitHub.

The company wants to implement phased releases by using development, staging, user acceptance testing, and production environments in the AWS Cloud. Deployments to each environment must be started by code merges on the relevant Git branch. The company wants to use HTTPS for all data exchange. The company needs a solution that does not require servers to run continuously.

Which solution will meet these requirements with the LEAST operational overhead?

- A. Host each website by using AWS Amplify with a serverless backen
- B. Conned the repository branches that correspond to each of the desired environment
- C. Start deployments by merging code changes to a desired branch.
- D. Host each website in AWS Elastic Beanstalk with multiple environment
- E. Use the EB CLI to link each repository branc
- F. Integrate AWS CodePipeline to automate deployments from version control code merges.
- G. Host each website in different Amazon S3 buckets for each environmen
- H. Configure AWS CodePipeline to pull source code from version contro
- I. Add an AWS CodeBuild stage to copy source code to Amazon S3.
- J. Host each website on its own Amazon EC2 instanc
- K. Write a custom deployment script to bundle each website's static asset
- L. Copy the assets to Amazon EC2. Set up a workflow to run the script when code is merged.

**Answer:** A

**Explanation:**

AWS Amplify is a set of tools and services that enables developers to build and deploy full-stack web and mobile applications that are powered by AWS. AWS Amplify supports hosting static websites on Amazon S3 and Amazon CloudFront, with HTTPS enabled by default. AWS Amplify also integrates with various version control systems, such as AWS CodeCommit, Bitbucket, and GitHub, and allows developers to connect different branches to different environments. AWS Amplify automatically builds and deploys the website whenever code changes are merged to a connected branch, enabling phased releases with minimal operational overhead. Reference: AWS Amplify Console

**NEW QUESTION 98**

A developer created an AWS Lambda function that performs a series of operations that involve multiple AWS services. The function's duration time is higher than normal. To determine the cause of the issue, the developer must investigate traffic between the services without changing the function code

Which solution will meet these requirements?

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

AWS X-Ray is a service that helps you analyze and debug your applications. You can use X-Ray to trace requests made to your Lambda function and other AWS services, and identify performance bottlenecks and errors. Enabling active tracing in your Lambda function allows X-Ray to collect data from the function invocation and the downstream services that it calls. You can then review the logs and service maps in X-Ray to diagnose the issue. References

? Monitoring and troubleshooting Lambda functions - AWS Lambda

? Using AWS Lambda with AWS X-Ray

? Troubleshoot Lambda function cold start issues | AWS re:Post

**NEW QUESTION 103**

A company needs to set up secure database credentials for all its AWS Cloud resources. The company's resources include Amazon RDS DB instances Amazon DocumentDB clusters and Amazon Aurora DB instances. The company's security policy mandates that database credentials be encrypted at rest and rotated at a regular interval.

Which solution will meet these requirements MOST securely?

- A. Set up IAM database authentication for token-based acces
- B. Generate user tokens to provide centralized access to RDS DB instance
- C. Amazon DocumentDB clusters and Aurora DB instances.
- D. Create parameters for the database credentials in AWS Systems Manager Parameter Store Set the Type parameter to Secure Stin
- E. Set up automatic rotation on the parameters.
- F. Store the database access credentials as an encrypted Amazon S3 object in an S3 bucket Block all public access on the S3 bucke  
automatic rotation on the encryption key.
- G. Use S3 server-side encryption to set up
- H. Create an AWS Lambda function by using the SecretsManagerRotationTemplate template in the AWS Secrets Manager consol
- I. Create secrets for the database credentials in Secrets Manager Set up secrets rotation on a schedule.

**Answer:** D

**Explanation:**

This solution will meet the requirements by using AWS Secrets Manager, which is a service that helps protect secrets such as database credentials by encrypting them with AWS Key Management Service (AWS KMS) and enabling automatic rotation of secrets. The developer can create an AWS Lambda function by using the SecretsManagerRotationTemplate template in the AWS Secrets Manager console, which provides a sample code for rotating secrets for RDS DB instances, Amazon DocumentDB clusters, and Amazon Aurora DB instances. The developer can also create secrets for the database credentials in Secrets Manager, which encrypts them at rest and provides secure access to them. The developer can set up secrets rotation on a schedule, which changes the database credentials periodically according to a specified interval or event. Option A is not optimal because it will set up IAM database authentication for token-based access, which may not be compatible with all database engines and may require additional configuration and management of IAM roles or users. Option B is not optimal because it will create parameters for the database credentials in AWS Systems Manager Parameter Store, which does not support automatic rotation of secrets. Option C is not optimal because it will store the database access credentials as an encrypted Amazon S3 object in an S3 bucket, which may introduce additional costs and complexity for accessing and securing the data.

References: [AWS Secrets Manager], [Rotating Your AWS Secrets Manager Secrets]

**NEW QUESTION 106**

A company has an ecommerce application. To track product reviews, the company's development team uses an Amazon DynamoDB table.

Every record includes the following

- A Review ID a 16-digit universally unique identifier (UUID)
- A Product ID and User ID 16 digit UUIDs that reference other tables
- A Product Rating on a scale of 1-5
- An optional comment from the user

The table partition key is the Review ID. The most performed query against the table is to find the 10 reviews with the highest rating for a given product.

Which index will provide the FASTEST response for this query"?

- A. A global secondary index (GSI) with Product ID as the partition key and Product Rating as the sort key
- B. A global secondary index (GSI) with Product ID as the partition key and Review ID as the sort key
- C. A local secondary index (LSI) with Product ID as the partition key and Product Rating as the sort key
- D. A local secondary index (LSI) with Review ID as the partition key and Product ID as the sort key

**Answer:** A

**Explanation:**

This solution allows the fastest response for the query because it enables the query to use a single partition key value (the Product ID) and a range of sort key values (the Product Rating) to find the matching items. A global secondary index (GSI) is an index that has a partition key and an optional sort key that are different from those on the base table. A GSI can be created at any time and can be queried or scanned independently of the base table. A local secondary index (LSI) is an index that has the same partition key as the base table, but a different sort key. An LSI can only be created when the base table is created and must be queried together with the base table partition key. Using a GSI with Product ID as the partition key and Review ID as the sort key will not allow the query to use a range of sort key values to find the highest ratings. Using an LSI with Product ID as the partition key and Product Rating as the sort key will not work because Product ID is not the partition key of the base table. Using an LSI with Review ID as the partition key and Product ID as the sort key will not allow the query to use a single partition key value to find the matching items.

Reference: [Global Secondary Indexes], [Querying]

**NEW QUESTION 110**

A company is migrating legacy internal applications to AWS. Leadership wants to rewrite the internal employee directory to use native AWS services. A developer needs to create a solution for storing employee contact details and high-resolution photos for use with the new application.

Which solution will enable the search and retrieval of each employee's individual details and high-resolution photos using AWS APIs?

- A. Encode each employee's contact information and photos using Base64. Store the information in an Amazon DynamoDB table using a sort key.
- B. Store each employee's contact information in an Amazon DynamoDB table along with the object keys for the photos stored in Amazon S3.
- C. Use Amazon Cognito userpools to implement the employee directory in a fully managed software-as-a-service (SaaS) method.
- D. Store employee contact information in an Amazon RDS DB instance with the photos stored in Amazon Elastic File System (Amazon EFS).

**Answer:** B

**Explanation:**

Amazon DynamoDB is a fully managed NoSQL database service that provides fast and consistent performance with seamless scalability. The developer can store each employee's contact information in a DynamoDB table along with the object keys for the photos stored in Amazon S3. Amazon S3 is an object storage service that offers industry-leading scalability, data availability, security, and performance. The developer can use AWS APIs to search and retrieve the employee details and photos from DynamoDB and S3.

References:

? [Amazon DynamoDB]

? [Amazon Simple Storage Service (S3)]

**NEW QUESTION 113**

A company has deployed infrastructure on AWS. A development team wants to create an AWS Lambda function that will retrieve data from an Amazon Aurora database. The Amazon Aurora database is in a private subnet in company's VPC. The VPC is named VPC1. The data is relational in nature. The Lambda function needs to access the data

securely.

Which solution will meet these requirements?

- A. Create the Lambda function
- B. Configure VPC1 access for the function
- C. Attach a security group named SG1 to both the Lambda function and the database
- D. Configure the security group inbound and outbound rules to allow TCP traffic on Port 3306.
- E. Create and launch a Lambda function in a new public subnet that is in a new VPC named VPC2. Create a peering connection between VPC1 and VPC2.
- F. Create the Lambda function
- G. Configure VPC1 access for the function
- H. Assign a security group named SG1 to the Lambda function
- I. Assign a second security group named SG2 to the database
- J. Add an inbound rule to SG1 to allow TCP traffic from Port 3306.
- K. Export the data from the Aurora database to Amazon S3. Create and launch a Lambda function in VPC1. Configure the Lambda function query the data from Amazon S3.

**Answer:** A

**Explanation:**

AWS Lambda is a service that lets you run code without provisioning or managing servers. Lambda functions can be configured to access resources in a VPC, such as an Aurora database, by specifying one or more subnets and security groups in the VPC settings of the function. A security group acts as a virtual firewall that controls inbound and outbound traffic for the resources in a VPC. To allow a Lambda function to communicate with an Aurora database, both resources need to be associated with the same security group, and the security group rules need to allow TCP traffic on Port 3306, which is the default port for MySQL databases.

Reference: [Configuring a Lambda function to access resources in a VPC]

**NEW QUESTION 117**

A developer has a legacy application that is hosted on-premises. Other applications hosted on AWS depend on the on-premises application for proper functioning.



In case of any application errors, the developer wants to be able to use Amazon CloudWatch to monitor and troubleshoot all applications from one place. How can the developer accomplish this?

- A. Install an AWS SDK on the on-premises server to automatically send logs to CloudWatch.
- B. Download the CloudWatch agent to the on-premises server and configure the agent to use IAM user credentials with permissions for CloudWatch.
- C. Configure the agent to use IAM user credentials with permissions for CloudWatch.
- D. Upload log files from the on-premises server to Amazon S3 and have CloudWatch read the files.
- E. Upload log files from the on-premises server to an Amazon EC2 instance and have the instance forward the logs to CloudWatch.

**Answer: B**

**Explanation:**

Amazon CloudWatch is a service that monitors AWS resources and applications. The developer can use CloudWatch to monitor and troubleshoot all applications from one place. To do so, the developer needs to download the CloudWatch agent to the on-premises server and configure the agent to use IAM user credentials with permissions for CloudWatch. The agent will collect logs and metrics from the on-premises server and send them to CloudWatch.

References:

? [What Is Amazon CloudWatch? - Amazon CloudWatch]

? [Installing and Configuring the CloudWatch Agent - Amazon CloudWatch]

**NEW QUESTION 120**

A company is using Amazon RDS as the Backend database for its application. After a recent marketing campaign, a surge of read requests to the database increased the latency of data retrieval from the database.

The company has decided to implement a caching layer in front of the database. The cached content must be encrypted and must be highly available.

Which solution will meet these requirements?

- A. Amazon Cloudfront
- B. Amazon ElastiCache to Memcached
- C. Amazon ElastiCache for Redis in cluster mode
- D. Amazon DynamoDB Accelerate (DAX)

**Answer: C**

**Explanation:**

This solution meets the requirements because it provides a caching layer that can store and retrieve encrypted data from multiple nodes. Amazon ElastiCache for Redis supports encryption at rest and in transit, and can scale horizontally to increase the cache capacity and availability. Amazon ElastiCache for Memcached does not support encryption, Amazon CloudFront is a content delivery network that is not suitable for caching database queries, and Amazon DynamoDB Accelerator (DAX) is a caching service that only works with DynamoDB tables.

Reference: [Amazon ElastiCache for Redis Features], [Choosing a Cluster Engine]

**NEW QUESTION 123**

A developer is creating an AWS Lambda function in VPC mode. An Amazon S3 event will invoke the Lambda function when an object is uploaded into an S3 bucket. The Lambda function will process the object and produce some analytic results that will be recorded into a file. Each processed object will also generate a log entry that will be recorded into a file.

Other Lambda functions, AWS services, and on-premises resources must have access to the result files and log file. Each log entry must also be appended to the same shared log file. The developer needs a solution that can share files and append results into an existing file.

Which solution should the developer use to meet these requirements?

- A. Create an Amazon Elastic File System (Amazon EFS) file system.
- B. Mount the EFS file system in Lambda.
- C. Store the result files and log file in the mount point.
- D. Append the log entries to the log file.
- E. Create an Amazon Elastic Block Store (Amazon EBS) Multi-Attach enabled volume. Attach the EBS volume to all Lambda functions. download the log file, append the log entries, and upload the modified log file to Amazon EBS.
- F. Update the Lambda function code to download the log file, append the log entries, and upload the modified log file to Amazon EBS.
- G. Create a reference to the /tmp local directory.
- H. Store the result files and log file by using the directory reference.
- I. Append the log entry to the log file.
- J. Create a reference to the /opt storage directory. Store the result files and log file by using the directory reference. Append the log entry to the log file.

**Answer: A**

**Explanation:**

<https://aws.amazon.com/blogs/compute/using-amazon-efs-for-aws-lambda-in-your-serverless-applications/>

**NEW QUESTION 127**

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

**Answer: BD**

**Explanation:**

Amazon API Gateway is a service that enables developers to create, publish, maintain, monitor, and secure APIs at any scale. Amazon CloudWatch is a service that monitors AWS resources and applications. API Gateway provides several CloudWatch metrics to help developers troubleshoot issues with their APIs. Two of

the metrics that can help the developer troubleshoot the issue of API Gateway timing out are:

? IntegrationLatency: This metric measures the time between when API Gateway relays a request to the backend and when it receives a response from the backend. A high value for this metric indicates that the backend is taking too long to respond and may cause API Gateway to time out.

? Latency: This metric measures the time between when API Gateway receives a request from a client and when it returns a response to the client. A high value for this metric indicates that either the integration latency is high or API Gateway is taking too long to process the request or response.

References:

? [What Is Amazon API Gateway? - Amazon API Gateway]

? [Amazon API Gateway Metrics and Dimensions - Amazon CloudWatch]

? [Troubleshooting API Errors - Amazon API Gateway]

### NEW QUESTION 132

A developer wants to deploy a new version of an AWS Elastic Beanstalk application. During deployment, the application must maintain full capacity and avoid service interruption. Additionally, the developer must minimize the cost of additional resources that support the deployment.

Which deployment method should the developer use to meet these requirements?

A.

All at once

B. Rolling with additional batch

C. Blue/green

D. Immutable

**Answer: D**

### Explanation:

The immutable deployment method is the best option for this scenario, because it meets the requirements of maintaining full capacity, avoiding service interruption, and minimizing the cost of additional resources.

The immutable deployment method creates a new set of instances in a separate Auto Scaling group and deploys the new version of the application to them. Then, it swaps the new instances with the old ones and terminates the old instances. This way, the application maintains full capacity during the deployment and avoids any downtime. The cost of additional resources is also minimized, because the new instances are only created for a short time and then replaced by the old ones.

The other deployment methods do not meet all the requirements:

? The all at once method deploys the new version to all instances simultaneously, which causes a short period of downtime and reduced capacity.

? The rolling with additional batch method deploys the new version in batches, but for the first batch it creates new instances instead of using the existing ones.

This increases the cost of additional resources and reduces the capacity of the original environment.

? The blue/green method creates a new environment with a new set of instances and deploys the new version to them. Then, it swaps the URLs between the old and new environments. This method maintains full capacity and avoids service interruption, but it also increases the cost of additional resources significantly, because it duplicates the entire environment.

### NEW QUESTION 135

A company developed an API application on AWS by using Amazon CloudFront, Amazon API Gateway, and AWS Lambda. The API has a minimum of four requests every second. A developer notices that many API users run the same query by using the POST method. The developer wants to cache the POST request to optimize the API resources. Which solution will meet these requirements?

A.

Configure the CloudFront cach

- B. Update the application to return cached content based upon the default request headers.
- C. Override the cache method in the selected stage of API Gatewa
- D. Select the POST method.
- E. Save the latest request response in Lambda /tmp director
- F. Update the Lambda function to check the /tmp directory.
- G. Save the latest request in AWS Systems Manager Parameter Stor
- H. Modify the Lambda function to take the latest request response from Parameter Store.

**Answer:** B

**Explanation:**

Amazon API Gateway provides tools for creating and documenting web APIs that route HTTP requests to Lambda functions<sup>2</sup>. You can secure access to your API with authentication and authorization controls. Your APIs can serve traffic over the internet or can be accessible only within your VPC<sup>2</sup>. You can override the cache method in the selected stage of API Gateway<sup>2</sup>. Therefore, option B is correct.

**NEW QUESTION 140**

A developer is creating a serverless application that uses an AWS Lambda function The developer will use AWS CloudFormation to deploy the application The application will write logs to Amazon CloudWatch Logs The developer has created a log group in a CloudFormation template for the application to use The developer needs to modify the CloudFormation template to make the name of the log group available to the application at runtime Which solution will meet this requirement?

- A. Use the AWS:Include transform in CloudFormation to provide the log group's name to the application
- B. Pass the log group's name to the application in the user data section of the CloudFormation template.
- C. Use the CloudFormation template's Mappings section to specify the log group's name for the application.
- D. Pass the log group's Amazon Resource Name (ARN) as an environment variable to the Lambda function

**Answer:** D

**Explanation:**

FunctionName: MyLambdaFunction Code:  
S3Bucket: your-lambda-code-bucket S3Key: lambda-code.zip  
Runtime: nodejs14.x # Specify the desired runtime for your Lambda function Environment:  
Variables:



LOG\_GROUP\_NAME: !Ref MyLogGroup <https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/aws-resource-logs-loggroup.html>

**NEW QUESTION 145**

A developer is building an application that gives users the ability to view bank account from multiple sources in a single dashboard. The developer has automated the process to retrieve API credentials for these sources. The process invokes an AWS Lambda function that is associated with an AWS CloudFormation cotton resource.

The developer wants a solution that will store the API credentials with minimal operational overhead.

When solution will meet these requirements?

- A. Add an AWS Secrets Manager GenerateSecretString resource to the CloudFormation templat
- B. Set the value to reference new credentials to the Cloudformation resource.
- C. Use the AWS SDK ssm PutParameter operation in the Lambda function from the existing, custom resource to store the credentials as a paramete
- D. Set the parameter value to reference the new credential
- E. Set ma parameter type to SecureString.
- F. Add an AWS Systems Manager Parameter Store resource to the CloudFormation templat
- G. Set the CloudFormation resource value to reference the new credentials Set the resource NoEcho attribute to true.
- H. Use the AWS SDK ssm PutParameter operation in the Lambda function from the existing custom resources to store the credentials as a paramete
- I. Set the parameter value to reference the new credential
- J. Set the parameter NoEcho attribute to true.

**Answer:** B

**Explanation:**

The solution that will meet the requirements is to use the AWS SDK ssm PutParameter operation in the Lambda function from the existing custom resource to store the credentials as a parameter. Set the parameter value to reference the new credentials. Set the parameter type to SecureString. This way, the developer can store the API credentials with minimal operational overhead, as AWS Systems Manager Parameter Store provides secure and scalable storage for configuration data. The SecureString parameter type encrypts the parameter value with AWS Key Management Service (AWS KMS). The other options either involve adding additional resources to the CloudFormation template, which increases complexity and cost, or do not encrypt the parameter value, which reduces security.

Reference: Creating Systems Manager parameters

**NEW QUESTION 149**

An ecommerce application is running behind an Application Load Balancer. A developer observes some unexpected load on the application during non-peak hours. The developer wants to analyze patterns for the client IP addresses that use the application. Which HTTP header should the developer use for this analysis?

- A. The X-Forwarded-Proto header
- B. The X-F Forwarded-Host header
- C. The X-Forwarded-For header
- D. The X-Forwarded-Port header

**Answer:** C

**Explanation:**

The HTTP header that the developer should use for this analysis is the X- Forwarded-For header. This header contains the IP address of the client that made the request to the Application Load Balancer. The developer can use this header to analyze patterns for the client IP addresses that use the application. The other headers either contain information about the protocol, host, or port of the request, which are not relevant for the analysis.

Reference: How Application Load Balancer works with your applications

**NEW QUESTION 151**

An ecommerce company is using an AWS Lambda function behind Amazon API Gateway

as its application tier. To process orders during checkout, the application calls a POST API from the frontend. The POST API invokes the Lambda function asynchronously. In rare situations, the application has not processed orders. The Lambda application logs show no errors or failures. What should a developer do to solve this problem?

- A. Inspect the frontend logs for API failure

- B. Call the POST API manually by using the requests from the log file.
- C. Create and inspect the Lambda dead-letter queue
- D. Troubleshoot the failed function
- E. Reprocess the events.
- F. Inspect the Lambda logs in Amazon CloudWatch for possible error
- G. Fix the errors.
- H. Make sure that caching is disabled for the POST API in API Gateway.

**Answer: B**

**Explanation:**

The solution that will solve this problem is to create and inspect the Lambda dead-letter queue. Troubleshoot the failed functions. Reprocess the events. This way, the developer can identify and fix any issues that caused the Lambda function to fail when invoked asynchronously by API Gateway. The developer can also reprocess any orders that were not processed due to failures. The other options either do not address the root cause of the problem, or do not help recover from failures.

Reference: Asynchronous invocation

**NEW QUESTION 152**

A developer is creating a template that uses AWS CloudFormation to deploy an application. The application is serverless and uses Amazon API Gateway, Amazon DynamoDB, and AWS Lambda.

Which AWS service or tool should the developer use to define serverless resources in YAML?

- A. CloudFormation serverless intrinsic functions
- B. AWS Elastic Beanstalk
- C. AWS Serverless Application Model (AWS SAM)
- D. AWS Cloud Development Kit (AWS CDK)

**Answer: C**

**Explanation:**

AWS Serverless Application Model (AWS SAM) is an open-source framework that enables developers to build and deploy serverless applications on AWS. AWS SAM uses a template specification that extends AWS CloudFormation to simplify the

definition of serverless resources such as API Gateway, DynamoDB, and Lambda. The developer can use AWS SAM to define serverless resources in YAML and deploy them using the AWS SAM CLI.

References:

? [What Is the AWS Serverless Application Model (AWS SAM)? - AWS Serverless Application Model]

? [AWS SAM Template Specification - AWS Serverless Application Model]

**NEW QUESTION 157**

A data visualization company wants to strengthen the security of its core applications. The applications are deployed on AWS across its development staging, pre-production, and production environments. The company needs to encrypt all of its stored sensitive credentials. The sensitive credentials need to be automatically rotated. A version of the sensitive credentials need to be stored for each environment.

Which solution will meet these requirements in the MOST operationally efficient way?

- A. Configure AWS Secrets Manager versions to store different copies of the same credentials across multiple environments
- B. Create a new parameter version in AWS Systems Manager Parameter Store for each environment. Store the environment-specific credentials in the parameter version.
- C. Configure the environment variables in the application code. Use different names for each environment type. Store the environment-specific credentials in the secret.
- D. Configure AWS Secrets Manager to create a new secret for each environment type.

**Answer: D**

**Explanation:**

AWS Secrets Manager is the best option for managing sensitive credentials across multiple environments, as it provides automatic secret rotation, auditing, and monitoring features. It also allows storing environment-specific credentials in separate secrets, which can be accessed by the applications using the SDK or CLI. AWS Systems Manager Parameter Store does not have built-in secret rotation capability, and it requires creating individual parameters or storing the entire

credential set as JSON object. Configuring the environment variables in the application code is not a secure or scalable solution, as it exposes the credentials to anyone who can access the code. References

? AWS Secrets Manager vs. Systems Manager Parameter Store

? AWS System Manager Parameter Store vs Secrets Manager vs Environment Variation in Lambda, when to use which

? AWS Secrets Manager vs. Parameter Store: Features, Cost & More

#### NEW QUESTION 162

A developer is storing sensitive data generated by an application in Amazon S3. The developer wants to encrypt the data at rest. A company policy requires an audit trail of when the AWS Key Management Service (AWS KMS) key was used and by whom.

Which encryption option will meet these requirements?

- A. Server-side encryption with Amazon S3 managed keys (SSE-S3)  
Server-side encryption with AWS KMS managed keys (SSE-KMS}
- B. Server-side encryption with customer-provided keys (SSE-C)**
- D. Server-side encryption with self-managed keys

**Answer: B**

#### Explanation:

This solution meets the requirements because it encrypts data at rest using AWS KMS keys and provides an audit trail of when and by whom they were used. Server- side encryption with AWS KMS managed keys (SSE-KMS) is a feature of Amazon S3 that encrypts data using keys that are managed by AWS KMS. When SSE-KMS is enabled for an S3 bucket or object, S3 requests AWS KMS to generate data keys and encrypts data using these keys. AWS KMS logs every use of its keys in AWS CloudTrail, which records all API calls to AWS KMS as events. These events include information such as who made the request, when it was made, and which key was used. The company policy can use CloudTrail logs to audit critical events related to their data encryption and access. Server- side encryption with Amazon S3 managed keys (SSE-S3) also encrypts data at rest using keys that are managed by S3, but does not provide an audit trail of key usage. Server-side encryption with customer-provided keys (SSE-C) and server-side encryption with self- managed keys also encrypt data at rest using keys that are provided or managed by customers, but do not provide an audit trail of key usage and require additional overhead for key management.

Reference: [Protecting Data Using Server-Side Encryption with AWS KMS–Managed Encryption Keys (SSE-KMS)], [Logging AWS KMS API calls with AWS CloudTrail]

#### NEW QUESTION 163

A developer needs to perform geographic load testing of an API. The developer must deploy resources to multiple AWS Regions to support the load testing of the API.

How can the developer meet these requirements without additional application code?

- A. Create and deploy an AWS Lambda function in each desired Regio
- B. Configure the Lambda function to create a stack from an AWS CloudFormation template in that Region when the function is invoked.  
Create an AWS CloudFormation template that defines the load test resource
- B. Use the AWS CLI create-stack-set command to create a stack set in the desired Regions.**
- E. Create an AWS Systems Manager document that defines the resource
- F. Use the document to create the resources in the desired Regions.
- G. Create an AWS CloudFormation template that defines the load test resource
- H. Use the AWS CLI deploy command to create a stack from the template in each Region.

**Answer: B**

#### Explanation:

AWS CloudFormation is a service that allows developers to model and provision AWS resources using templates. A CloudFormation template can define the load test resources, such as EC2 instances, load balancers, and Auto Scaling groups. A CloudFormation stack set is a collection of stacks that can be created and managed from a single template in multiple Regions and accounts. The AWS CLI create-stack-set command can be used to create a stack set from a template and specify the Regions where the stacks should be created. Reference: Working with AWS CloudFormation stack sets

#### NEW QUESTION 164

A developer is building an application that uses AWS API Gateway APIs. AWS Lambda function, and AWS Dynamic DB tables. The developer uses the AWS Serverless Application Model (AWS SAM) to build and run serverless applications on AWS. Each time the developer pushes of changes for only to the Lambda functions, all the artifacts in the application are rebuilt.

The developer wants to implement AWS SAM Accelerate by running a command to only redeploy the Lambda functions that have changed.

Which command will meet these requirements?

- A. sam deploy -force-upload
- B. sam deploy -no-execute-changeset
- C. sam package
- D. sam sync -watch**

**Answer: D**

#### Explanation:

The command that will meet the requirements is sam sync -watch. This command enables AWS SAM Accelerate mode, which allows the developer to only redeploy the Lambda functions that have changed. The -watch flag enables file watching, which automatically detects changes in the source code and triggers a redeployment. The other commands either do not enable AWS SAM Accelerate mode, or do not redeploy the Lambda functions automatically.

Reference: AWS SAM Accelerate

#### NEW QUESTION 168

A development team wants to build a continuous integration/continuous delivery (CI/CD) pipeline. The team is using AWS CodePipeline to automate the code build and deployment. The team wants to store the program code to prepare for the CI/CD pipeline.

Which AWS service should the team use to store the program code?



- A. AWS CodeDeploy
- B. AWS CodeArtifact
- C. AWS CodeCommit
- D. Amazon CodeGuru

**Answer: C**

**Explanation:**

AWS CodeCommit is a service that provides fully managed source control for hosting secure and scalable private Git repositories. The development team can use CodeCommit to store the program code and prepare for the CI/CD pipeline. CodeCommit integrates with other AWS services such as CodePipeline, CodeBuild, and CodeDeploy to automate the code build and deployment process.

References:

? [What Is AWS CodeCommit? - AWS CodeCommit]

? [AWS CodePipeline - AWS CodeCommit]

**NEW QUESTION 170**

A developer is creating an application that includes an Amazon API Gateway REST API in the us-east-2 Region. The developer wants to use Amazon CloudFront and a custom domain name for the API. The developer has acquired an SSL/TLS certificate for the domain from a third-party provider. How should the developer configure the custom domain for the application?

- A. Import the SSL/TLS certificate into AWS Certificate Manager (ACM) in the same Region as the AP
- B. Create a DNS A record for the custom domain.
- C. Import the SSL/TLS certificate into CloudFront
- D. Create a DNS CNAME record for the custom domain.
- E. Import the SSL/TLS certificate into AWS Certificate Manager (ACM) in the same Region as the AP
- F. Create a DNS CNAME record for the custom domain.
- G. Import the SSL/TLS certificate into AWS Certificate Manager (ACM) in the us-east-1 Region
- H. Create a DNS CNAME record for the custom domain.

**Answer: D**

**Explanation:**

Amazon API Gateway is a service that enables developers to create, publish, maintain, monitor, and secure APIs at any scale. Amazon CloudFront is a content delivery network (CDN) service that can improve the performance and security of web applications. The developer can use CloudFront and a custom domain name for the API Gateway REST API. To do so, the developer needs to import the SSL/TLS certificate into AWS Certificate Manager (ACM) in the us-east-1 Region. This is because CloudFront requires certificates from ACM to be in this Region. The developer also needs to create a DNS CNAME record for the custom domain that points to the CloudFront distribution.

References:

? [What Is Amazon API Gateway? - Amazon API Gateway]

? [What Is Amazon CloudFront? - Amazon CloudFront]

? [Custom Domain Names for APIs - Amazon API Gateway]

**NEW QUESTION 172**

A developer is testing a RESTful application that is deployed by using Amazon API Gateway and AWS Lambda. When the developer tests the user login by using credentials that are not valid, the developer receives an HTTP 405 METHOD\_NOT\_ALLOWED error. The developer has verified that the test is sending the correct request for the resource.

Which HTTP error should the application return in response to the request?

- A. HTTP 401
- B. HTTP 404
- C. HTTP 503
- D. HTTP 505

**Answer: A**

**Explanation:**

The HTTP 401 error indicates that the request has not been applied because it lacks valid authentication credentials for the target resource. This is the appropriate error code to return when the user login fails due to invalid credentials. The HTTP 405 error means that the method specified in the request is not allowed for the resource identified by the request URI, which is not the case here. The other error codes are not relevant to the authentication failure scenario.

References:

? HTTP Status Codes

? AWS Lambda Function Errors in API Gateway

**NEW QUESTION 176**

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