DVA-C02 Dumps

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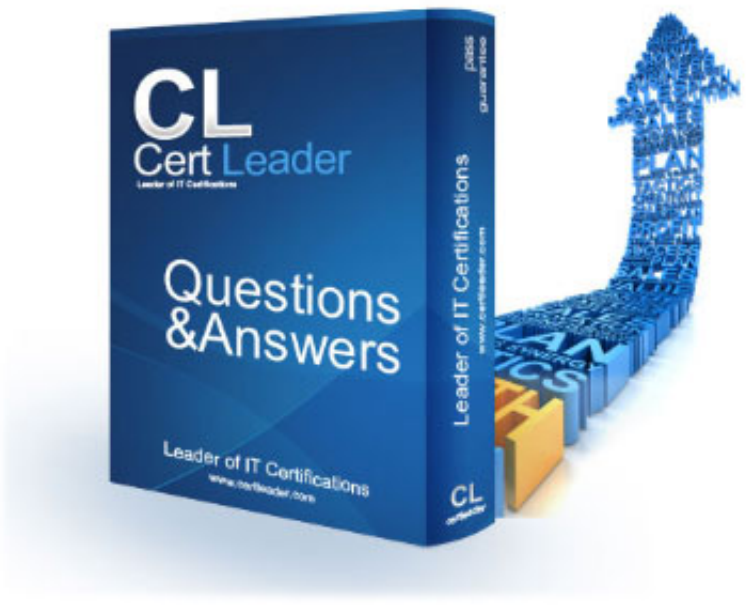

NEW QUESTION 1
A developer is storing sensitive data generated by an application in Amazon S3. The developer wants to encrypt the data at rest. A company policy requires an audit trail of when the AWS Key Management Service (AWS KMS) key was used and by whom.
Which encryption option will meet these requirements?

A. Server-side encryption with Amazon S3 managed keys (SSE-S3)
Server-side encryption with AWS KMS managed keys (SSE-KMS}
B.
C. 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 2
A developer wants to add request validation to a production environment Amazon API Gateway API. The developer needs to test the changes before the API is deployed to the production environment. For the test, the developer will send test requests to the API through a testing tool.
Which solution will meet these requirements with the LEAST operational overhead?

A. Export the existing API to an OpenAPI fil
B. Create a new AP
Modify the new API to add request validatio
C. Import the OpenAPI file.
D. Perform the test
E. Modify the existing API to add request validatio
F. Deploy the existing API to production.
G. Modify the existing API to add request validatio
H. Deploy the updated API to a new API Gateway stag
I. Perform the test
J. Deploy the updated API to the API Gateway production stage.
K. Create a new AP
L. Add the necessary resources and methods, including new request validatio
M. Perform the test
N. Modify the existing API to add request validatio
O. Deploy the existing API to production.
P. Clone the existing AP
Q. Modify the new API to add request validatio
R. Perform the test
S. Modify the existing API to add request validatio
T. Deploy the existing API to production.

Answer: B

Explanation:
Amazon API Gateway allows you to create, deploy, and manage a RESTful API to expose backend HTTP endpoints, AWS Lambda functions, or other AWS services1. You can use API Gateway to perform basic validation of an API request before proceeding with the integration request1. When the validation fails, API Gateway immediately fails the request, returns a 400 error response to the caller, and publishes the validation results in CloudWatch Logs1.
To test changes before deploying to a production environment, you can modify the existing API to add request validation and deploy the updated API to a new API Gateway stage1. This allows you to perform tests without affecting the production environment. Once testing is complete and successful, you can then deploy the updated API to the API Gateway production stage1.
This approach has the least operational overhead as it avoids unnecessary creation of new APIs or exporting and importing of APIs. It leverages the existing infrastructure and only requires changes in the configuration of the existing API1.

NEW QUESTION 3
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 4

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 CloudFron
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 Regio
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 5

A developer is deploying a new application to Amazon Elastic Container Service (Amazon ECS). The developer needs to securely store and retrieve different types of variables. These variables include authentication information for a remote API, the URL for the API, and credentials. The authentication information and API URL must be available to all current and future deployed versions of the application across development, testing, and production environments.
How should the developer retrieve the variables with the FEWEST application changes?

A. Update the application to retrieve the variables from AWS Systems Manager Parameter Stor
B. Use unique paths in Parameter Store for each variable in each environmen
C. Store the credentials in AWS Secrets Manager in each environment.
D. Update the application to retrieve the variables from AWS Key Management Service (AWS KMS). Store the API URL and credentials as unique keys for each environment.
E. Update the application to retrieve the variables from an encrypted file that is stored with the applicatio
F. Store the API URL and credentials in unique files for each environment.
G. Update the application to retrieve the variables from each of the deployed environment
H. Define the authentication information and API URL in the ECS task definition as unique names during the deployment process.

Answer: A

Explanation:
AWS Systems Manager Parameter Store is a service that provides secure, hierarchical storage for configuration data management and secrets management. The developer can update the application to retrieve the variables from Parameter Store by using the AWS SDK or the AWS CLI. The developer can use unique paths in Parameter Store for each variable in each environment, such as /dev/api-url, /test/api-url, and /prod/api-url. The developer can also store the credentials in AWS Secrets Manager, which is integrated with Parameter Store and provides additional features such as automatic rotation and encryption.
References:
? [What Is AWS Systems Manager? - AWS Systems Manager]
? [Parameter Store - AWS Systems Manager]
? [What Is AWS Secrets Manager? - AWS Secrets Manager]

NEW QUESTION 6

A company runs an application on AWS The application uses an AWS Lambda function that is configured with an Amazon Simple Queue Service (Amazon SQS) queue called high priority queue as the event source A developer is updating the Lambda function with another SQS queue called low priority queue as the event source The Lambda function must always read up to 10 simultaneous messages from the high priority queue before processing messages from low priority queue. The Lambda function must be limited to 100 simultaneous invocations.
Which solution will meet these requirements'?

A. Set the event source mapping batch size to 10 for the high priority queue and to 90 for the low priority queue
B. Set the delivery delay to 0 seconds for the high priority queue and to 10 seconds for the low priority queue
C. Set the event source mapping maximum concurrency to 10 for the high priority queue and to 90 for the low priority queue
D. Set the event source mapping batch window to 10 for the high priority queue and to 90 for the low priority queue

Answer: C

Explanation:
Setting the event source mapping maximum concurrency is the best way to control how many messages from each queue are processed by the Lambda function at a time. The maximum concurrency setting limits the number of batches that can be processed concurrently from the same event source. By setting it to 10 for the high priority queue and to 90 for the low priority queue, the developer can ensure that the Lambda function always reads up to 10 simultaneous messages from the high priority queue before processing messages from the low priority queue, and that the total number of concurrent invocations does not exceed 100. The other solutions are either not effective or not relevant. The batch size setting controls how many messages are sent to the Lambda

function in a single invocation, not how many invocations are allowed at a time. The delivery delay setting controls how long a message is invisible in the queue after it is sent, not how often it is processed by the Lambda function. The batch window setting controls how long the event source mapping can buffer messages before sending a batch, not how many batches are processed concurrently. References
? Using AWS Lambda with Amazon SQS
? AWS Lambda Event Source Mapping - Examples and best practices | Shisho Dojo
? Lambda event source mappings - AWS Lambda
? aws_lambda_event_source_mapping - Terraform Registry

NEW QUESTION 7
A developer maintains a critical business application that uses Amazon DynamoDB as the primary data store The DynamoDB table contains millions of documents and receives 30- 60 requests each minute The developer needs to perform processing in near-real time on the documents when they are added or updated in the DynamoDB table
How can the developer implement this feature with the LEAST amount of change to the existing application code?

A. Set up a cron job on an Amazon EC2 instance Run a script every hour to query the table for changes and process the documents
B. Enable a DynamoDB stream on the table Invoke an AWS Lambda function to process the documents.
C. Update the application to send a PutEvents request to Amazon EventBridg
D. Create an EventBridge rule to invoke an AWS Lambda function to process the documents.
E. Update the application to synchronously process the documents directly after the DynamoDB write

Answer: B

Explanation:
https://aws.amazon.com/blogs/database/dynamodb-streams-use-cases-and- design-patterns/

NEW QUESTION 8
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 9
A company has an application that runs across multiple AWS Regions. The application is experiencing performance issues at irregular intervals. A developer must to implement distributed tracing for the application to troubleshoot the root cause of the performance issues.
use AWS X-Ray
What should the developer do to meet this requirement?

A. Use the X-Ray console to add annotations for AWS services and user-defined services
B. Use Region annotation that X-Ray adds automatically for AWS services Add Region annotation for user-defined services
C. Use the X-Ray daemon to add annotations for AWS services and user-defined services
D. Use Region annotation that X-Ray adds automatically for user-defined services Configure X-Ray to add Region annotation for AWS services

Answer: B

Explanation:
AWS X-Ray automatically adds Region annotation for AWS services that are integrated with X-Ray. This annotation indicates the AWS Region where the service is running. The developer can use this annotation to filter and group traces by Region and identify any performance issues related to cross-Region calls. The developer can also add Region annotation for user-defined services by using the X-Ray SDK. This option enables the developer to implement distributed tracing for the application that runs across multiple AWS Regions. References
? AWS X-Ray Annotations
? AWS X-Ray Concepts

NEW QUESTION 10
A developer is designing a serverless application for a game in which users register and log in through a web browser The application makes requests on behalf of users to a set of AWS Lambda functions that run behind an Amazon API Gateway HTTP API
The developer needs to implement a solution to register and log in users on the application's sign-in page. The solution must minimize operational overhead and must minimize ongoing management of user identities.
Which solution will meet these requirements'?

A. Create Amazon Cognito user pools for external social identity providers Configure 1AM roles for the identity pools.
B. Program the sign-in page to create users' 1AM groups with the 1AM roles attached to the groups
C. Create an Amazon RDS for SQL Server DB instance to store the users and manage the permissions to the backend resources in AWS
D. Configure the sign-in page to register and store the users and their passwords in an Amazon DynamoDB table with an attached IAM policy.

Answer: A

Explanation:
https://docs.aws.amazon.com/cognito/latest/developerguide/signing-up-users-in-your-app.html

NEW QUESTION 10
A developer needs to build an AWS CloudFormation template that self-populates the AWS Region variable that deploys the CloudFormation template
What is the MOST operationally efficient way to determine the Region in which the template is being deployed?

A. Use the AWS:.Region pseudo parameter
B. Require the Region as a CloudFormation parameter
C. Find the Region from the AWS::StackId pseudo parameter by using the Fn::Split intrinsic function
D. Dynamically import the Region by referencing the relevant parameter in AWS Systems Manager Parameter Store

Answer: A

Explanation:
https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/mappings-section- structure.html
https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/pseudo-parameter- reference.html
https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/pseudo-parameter- reference.html

NEW QUESTION 11
A company is building an application for stock trading. The application needs sub- millisecond latency for processing trade requests. The company uses Amazon DynamoDB to store all the trading data that is used to process each trading request A development team performs load testing on the application and finds that the data retrieval time is higher than expected. The development team needs a solution that reduces the data retrieval time with the least possible effort.
Which solution meets these requirements'?

A. Add local secondary indexes (LSis) for the trading data.
B. Store the trading data m Amazon S3 and use S3 Transfer Acceleration.
C. Add retries with exponential back off for DynamoDB queries.
D. Use DynamoDB Accelerator (DAX) to cache the trading data.

Answer: D

Explanation:
This solution will meet the requirements by using DynamoDB Accelerator (DAX), which is a fully managed, highly available, in-memory cache for DynamoDB that delivers up to a 10 times performance improvement - from milliseconds to microseconds - even at millions of requests per second. The developer can use DAX to cache the trading data that is used to process each trading request, which will reduce the data retrieval time with the least possible effort. Option A is not optimal because it will add local secondary indexes (LSIs) for the trading data, which may not improve the performance or reduce the latency of data retrieval, as LSIs are stored on the same partition as the base table and share the same provisioned throughput. Option B is not optimal because it will store the trading data in Amazon S3 and use S3 Transfer Acceleration, which is a feature that enables fast, easy, and secure transfers of files over long distances between S3 buckets and clients, not between DynamoDB and clients. Option C is not optimal because it will add retries with exponential backoff for DynamoDB queries, which is a strategy to handle transient errors by retrying failed requests with increasing delays, not by reducing data retrieval time.
References: [DynamoDB Accelerator (DAX)], [Local Secondary Indexes]

NEW QUESTION 13
A developer needs to migrate an online retail application to AWS to handle an anticipated increase in traffic. The application currently runs on two servers: one server for the web application and another server for the database. The web server renders webpages and manages session state in memory. The database server hosts a MySQL database that contains order details. When traffic to the application is heavy, the memory usage for the web server approaches 100% and the application slows down considerably.
The developer has found that most of the memory increase and performance decrease is related to the load of managing additional user sessions. For the web server migration, the developer will use Amazon EC2 instances with an Auto Scaling group behind an Application Load Balancer.
Which additional set of changes should the developer make to the application to improve the application's performance?

A. Use an EC2 instance to host the MySQL databas
B. Store the session data and the application data in the MySQL database.
C. Use Amazon ElastiCache for Memcached to store and manage the session dat
D. Use an Amazon RDS for MySQL DB instance to store the application data.
E. Use Amazon ElastiCache for Memcached to store and manage the session data and the application data.
F. Use the EC2 instance store to manage the session dat
G. Use an Amazon RDS for MySQL DB instance to store the application data.

Answer: B

Explanation:
Using Amazon ElastiCache for Memcached to store and manage the session data will reduce the memory load and improve the performance of the web server. Using Amazon RDS for MySQL DB instance to store the application data will provide a scalable, reliable, and managed database service. Option A is not optimal because it does not address the memory issue of the web server. Option C is not optimal because it does not provide a persistent storage for the application data. Option D is not optimal because it does not provide a high availability and durability for the session data.
References: Amazon ElastiCache, Amazon RDS

NEW QUESTION 16
An Amazon Simple Queue Service (Amazon SQS) queue serves as an event source for an AWS Lambda function In the SQS queue, each item corresponds to a video file that the Lambda function must convert to a smaller resolution The Lambda function is timing out on longer video files, but the Lambda function's timeout is already configured to its maximum value
What should a developer do to avoid the timeouts without additional code changes'?

A. Increase the memory configuration of the Lambda function
B. Increase the visibility timeout on the SQS queue
C. Increase the instance size of the host that runs the Lambda function.
D. Use multi-threading for the conversion.

Answer: A

Explanation:
Increasing the memory configuration of the Lambda function will also increase the CPU and network throughput available to the function. This can improve the performance of the video conversion process and reduce the execution time of the function. This solution does not require any code changes or additional resources. It is also recommended to follow the best practices for preventing Lambda function timeouts1. References
? Troubleshoot Lambda function invocation timeout errors | AWS re:Post

NEW QUESTION 20
A developer has been asked to create an AWS Lambda function that is invoked any time updates are made to items in an Amazon DynamoDB table. The function has been created and appropriate permissions have been added to the Lambda execution role Amazon DynamoDB streams have been enabled for the table, but the function 15 still not being invoked.
Which option would enable DynamoDB table updates to invoke the Lambda function?

A. Change the StreamViewType parameter value to NEW_AND_OLOJMAGES for the DynamoDB table.
B. Configure event source mapping for the Lambda function.
C. Map an Amazon Simple Notification Service (Amazon SNS) topic to the DynamoDB streams.
D. Increase the maximum runtime (timeout) setting of the Lambda function.

Answer: B

Explanation:
This solution allows the Lambda function to be invoked by the DynamoDB stream whenever updates are made to items in the DynamoDB table. Event source mapping is a feature of Lambda that enables a function to be triggered by an event source, such as a DynamoDB stream, an Amazon Kinesis stream, or an Amazon Simple Queue Service (SQS) queue. The developer can configure event source mapping for the Lambda function using the AWS Management Console, the AWS CLI, or the AWS SDKs. Changing the StreamViewType parameter value to NEW_AND_OLD_IMAGES for the DynamoDB table will not affect the invocation of the Lambda function, but only change the information that is written to the stream record. Mapping an Amazon Simple Notification Service (Amazon SNS) topic to the DynamoDB stream will not invoke the Lambda function directly, but require an additional subscription from the Lambda function to the SNS topic. Increasing the maximum runtime (timeout) setting of the Lambda function will not affect the invocation of the Lambda function, but only change how long the function can run before it is terminated.
Reference: [Using AWS Lambda with Amazon DynamoDB], [Using AWS Lambda with Amazon SNS]

NEW QUESTION 23
An application that runs on AWS receives messages from an Amazon Simple Queue Service (Amazon SQS) queue and processes the messages in batches. The application sends the data to another SQS queue to be consumed by another legacy application. The legacy system can take up to 5 minutes to process some transaction data.
A developer wants to ensure that there are no out-of-order updates in the legacy system. The developer cannot alter the behavior of the legacy system.
Which solution will meet these requirements?

A. Use an SQS FIFO queu
B. Configure the visibility timeout value.
C. Use an SQS standard queue with a SendMessageBatchRequestEntry data typ
D. Configure the DelaySeconds values.
E. Use an SQS standard queue with a SendMessageBatchRequestEntry data typ
F. Configure the visibility timeout value.
G. Use an SQS FIFO queu
H. Configure the DelaySeconds value.

Answer: A

Explanation:
? An SQS FIFO queue is a type of queue that preserves the order of messages and ensures that each message is delivered and processed only once1. This is suitable for the scenario where the developer wants to ensure that there are no out-of-order updates in the legacy system.
? The visibility timeout value is the amount of time that a message is invisible in the queue after a consumer receives it2. This prevents other consumers from processing the same message simultaneously. If the consumer does not delete the message before the visibility timeout expires, the message becomes visible again and another consumer can receive it2.
? In this scenario, the developer needs to configure the visibility timeout value to be longer than the maximum processing time of the legacy system, which is 5 minutes. This will ensure that the message remains invisible in the queue until the legacy system finishes processing it and deletes it. This will prevent duplicate or out-of-order processing of messages by the legacy system.

NEW QUESTION 25
A developer is configuring an applications deployment environment in AWS CodePipeine. 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 CodeCommt projec
B. Add the repository package's build and test commands to the protects buildspec
C. Create an AWS CodeBuid projec
D. Add the repository package's build and test commands to the projects buildspec
E. Create an AWS CodeDeploy protec
F. Add the repository package's build and test commands to the project's buildspec
G. Add an action to the source stag
H. Specify the newly created project as the action provide

I. Specify the build attract as the actions input artifact.
J. Add a new stage to the pipeline alter the source stag
K. Add an action to the new stag
L. Speedy the newly created protect as the action provide
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 30
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 anAWS 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 32
A developer wants to expand an application to run in multiple AWS Regions. The developer wants to copy Amazon Machine Images (AMIs) with the latest changes and create a new application stack in the destination Region. According to company requirements, all AMIs must be encrypted in all Regions. However, not all the AMIs that the company uses are encrypted.
How can the developer expand the application to run in the destination Region while meeting the encryption requirement?

A. Mastered
B. Not Mastered

Answer: A

Explanation:
Amazon Machine Images (AMIs) are encrypted snapshots of EC2 instances that can be used to launch new instances. The developer can create new AMIs from the existing instances and specify encryption parameters. The developer can copy the encrypted AMIs to the destination Region and use them to create a new application stack. The developer can delete the unencrypted AMIs after the encryption process is complete. This solution will meet the encryption requirement and allow the developer to expand the application to run in the destination Region.
References:
? [Amazon Machine Images (AMI) - Amazon Elastic Compute Cloud]
? [Encrypting an Amazon EBS Snapshot - Amazon Elastic Compute Cloud]
? [Copying an AMI - Amazon Elastic Compute Cloud]

NEW QUESTION 37
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 39
A developer is working on a Python application that runs on Amazon EC2 instances. The developer wants to enable tracing of application requests to debug performance issues in the code.
Which combination of actions should the developer take to achieve this goal? (Select TWO)

A. Install the Amazon CloudWatch agent on the EC2 instances.
B. Install the AWS X-Ray daemon on the EC2 instances.
C. Configure the application to write JSON-formatted togs to /var/log/cloudwatch.
D. Configure the application to write trace data to /Var/log-/xray.
E. Install and configure the AWS X-Ray SDK for Python in the application.

Answer: BE

Explanation:
This solution will meet the requirements by using AWS X-Ray to enable tracing of application requests to debug performance issues in the code. 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 install the AWS X-Ray daemon on the EC2 instances, which is a software that listens for traffic on UDP port 2000, gathers raw segment data, and relays it to the X-Ray API. The developer can also install and configure the AWS X-Ray SDK for Python in the application, which is a library that enables instrumenting Python code to generate and send trace data to the X-Ray daemon. Option A is not optimal because it will install the Amazon CloudWatch agent on the EC2 instances, which is a software that collects metrics and logs from EC2 instances and on- premises servers, not application performance data. Option C is not optimal because it will configure the application to write JSON-formatted logs to /var/log/cloudwatch, which is not a valid path or destination for CloudWatch logs. Option D is not optimal because it will configure the application to write trace data to /var/log/xray, which is also not a valid path or destination for X-Ray trace data.
References: [AWS X-Ray], [Running the X-Ray Daemon on Amazon EC2]

NEW QUESTION 40
A company uses a custom root certificate authority certificate chain (Root CA Cert) that is 10 KB in size generate SSL certificates for its on-premises HTTPS endpoints. One of the company's cloud based applications has hundreds of AWS Lambda functions that pull date from these endpoints. A developer updated the trust store of the Lambda execution environment to use the Root CA Cert when the Lambda execution environment is initialized. The developer bundled the Root CA Cert as a text file in the Lambdas deployment bundle.
After 3 months of development the root CA Cert is no longer valid and must be updated. The developer needs a more efficient solution to update the Root CA Cert for all deployed Lambda functions. The solution must not include rebuilding or updating all Lambda functions that use the Root CA Cert. The solution must also work for all development, testing and production environment. Each environment is managed in a separate AWS account.
When combination of steps Would the developer take to meet these environments MOST cost-effectively? (Select TWO)

A. Mastered
B. Not Mastered

Answer: A

Explanation:
This solution will meet the requirements by storing the Root CA Cert as a Secure String parameter in AWS Systems Manager Parameter Store, which is a secure and scalable service for storing and managing configuration data and secrets. The resource-based policy will allow IAM users in different AWS accounts and environments to access the parameter without requiring cross-account roles or permissions. The Lambda code will be refactored to load the Root CA Cert from the parameter store and modify the runtime trust store outside the Lambda function handler, which will improve performance and reduce latency by avoiding repeated calls to Parameter Store and trust store modifications for each invocation of the Lambda function. Option A is not optimal because it will use AWS Secrets Manager instead of AWS Systems Manager Parameter Store, which will incur additional costs and complexity for storing and managing a non-secret configuration data such as Root CA Cert. Option C is not optimal because it will deactivate the application secrets and monitor the application error logs temporarily, which will cause application downtime and potential data loss. Option D is not optimal because it will modify the runtime trust store inside the Lambda function handler, which will degrade performance and increase latency by repeating unnecessary operations for each invocation of the Lambda function.
References: AWS Systems Manager Parameter Store, [Using SSL/TLS to Encrypt a Connection to a DB Instance]

NEW QUESTION 45
A developer is using AWS Step Functions to automate a workflow The workflow defines each step as an AWS Lambda function task The developer notices that runs of the Step Functions state machine fail in the GetResource task with either an UlegalArgumentException error or a TooManyRequestsException error
The developer wants the state machine to stop running when the state machine encounters an UlegalArgumentException error. The state machine needs to retry the GetResource task one additional time after 10 seconds if the state machine encounters a TooManyRequestsException error. If the second attempt fails, the developer wants the state machine to stop running.
How can the developer implement the Lambda retry functionality without adding unnecessary complexity to the state machine'?

A. Add a Delay task after the GetResource tas
B. Add a catcher to the GetResource tas
C. Configure the catcher with an error type of TooManyRequestsExceptio
D. Configure the next step to be the Delay task Configure the Delay task to wait for an interval of 10 seconds Configure the next step to be the GetResource task.
E. Add a catcher to the GetResource task Configure the catcher with an error type of TooManyRequestsExceptio
F. an interval of 10 seconds, and a maximum attempts value of 1. Configure the next step to be the GetResource task.
G. Add a retrier to the GetResource task Configure the retrier with an error type of TooManyRequestsException, an interval of 10 seconds, and a maximum attempts value of 1.
H. Duplicate the GetResource task Rename the new GetResource task to TryAgain Add a catcher to the original GetResource task Configure the catcher with an error type of TooManyRequestsExceptio
I. Configure the next step to be TryAgain.

Answer: C

Explanation:
The best way to implement the Lambda retry functionality is to use the Retry field in the state definition of the GetResource task. The Retry field allows the developer to specify an array of retriers, each with an error type, an interval, and a maximum number of attempts. By setting the error type to

TooManyRequestsException, the interval to 10 seconds, and the maximum attempts to 1, the developer can achieve the desired behavior of retrying the GetResource task once after 10 seconds if it encounters
a TooManyRequestsException error. If the retry fails, the state machine will stop running. If the GetResource task encounters an UlegalArgumentException error, the state machine will also stop running without retrying, as this error type is not specified in the Retry field. References
? Error handling in Step Functions
? Handling Errors, Retries, and adding Alerting to Step Function State Machine Executions
? The Jitter Strategy for Step Functions Error Retries on the New Workflow Studio

NEW QUESTION 49
A developer is creating an application that will be deployed on IoT devices. The application will send data to a RESTful API that is deployed as an AWS Lambda function. The application will assign each API request a unique identifier. The volume of API requests from the application can randomly increase at any given time of day.
During periods of request throttling, the application might need to retry requests. The API must be able to handle duplicate requests without inconsistencies or data loss.
Which solution will meet these requirements?

A. Create an Amazon RDS for MySQL DB instanc
B. Store the unique identifier for each request in a database tabl
C. Modify the Lambda function to check the table for the identifier before processing the request.
D. Create an Amazon DynamoDB tabl
E. Store the unique identifier for each request in the tabl
F. Modify the Lambda function to check the table for the identifier before processing the request.
G. Create an Amazon DynamoDB tabl
H. Store the unique identifier for each request in the tabl
I. Modify the Lambda function to return a client error response when the function receives a duplicate request.
J. Create an Amazon ElastiCache for Memcached instanc
K. Store the unique identifier for each request in the cach
L. Modify the Lambda function to check the cache for the identifier before processing the request.

Answer: B

Explanation:
Amazon DynamoDB is a fully managed NoSQL database service that can store and retrieve any amount of data with high availability and performance. DynamoDB can handle concurrent requests from multiple IoT devices without throttling or data loss. To prevent duplicate requests from causing inconsistencies or data loss, the Lambda function can use DynamoDB conditional writes to check if the unique identifier for each request already exists in the table before processing the request. If the identifier exists, the function can skip or abort the request; otherwise, it can process the request and store the identifier in the table. Reference: Using conditional writes

NEW QUESTION 54
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 ail 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 55
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 57
A developer has observed an increase in bugs in the AWS Lambda functions that a development team has deployed in its Node.js application.
To minimize these bugs, the developer wants to implement automated testing of Lambda functions in an environment that closely simulates the Lambda environment.
The developer needs to give other developers the ability to run the tests locally. The developer also needs to integrate the tests into the team's continuous integration and continuous delivery (CI/CD) pipeline before the AWS Cloud Development Kit (AWS CDK) deployment.
Which solution will meet these requirements?

A. Create sample events based on the Lambda documentatio
B. Create automated test scripts that use the cdk local invoke command to invoke the Lambda function
C. Check the respons
D. Document the test scripts for the other developers on the tea
E. Update the CI/CD pipeline to run the test scripts.
F. Install a unit testing framework that reproduces the Lambda execution environment.
G. Invoke the handler function by using a unit testing framewor
H. Check the respons
I. Document how to run the unit testing framework for the other developers on the tea
J. Update the CI/CD pipeline to run the unit testing framework.
K. Install the AWS Serverless Application Model (AWS SAM) CLI too
L. Use the sam local generate-event command to generate sample events for the automated test
M. Create automated test scripts that use the sam local invoke command to invoke the Lambda function
N. Check the respons
O. Document the test scripts for the other developers on the tea
P. Update the CI/CD pipeline to run the test scripts.
Q. Create sample events based on the Lambda documentatio
R. Create a Docker container from the Node.js base image to invoke the Lambda function
S. Check the respons
T. Document how to run the Docker container for the other developers on the tea
. Update the CllCD pipeline to run the Docker container.

Create sample events based on the Lambda documentatio

Answer: C

Explanation:
The AWS Serverless Application Model Command Line Interface (AWS SAM CLI) is a command-line tool for local development and testing of Serverless applications3. The sam local generate-event command of AWS SAM CLI generates sample events for automated tests3. The sam local invoke command is used to invoke Lambda functions3. Therefore, option C is correct.

NEW QUESTION 62
A company is migrating an on-premises database to Amazon RDS for MySQL. The company has read-heavy workloads. The company wants to refactor the code to achieve optimum read performance for queries.
Which solution will meet this requirement with LEAST current and future effort?

A. Use a multi-AZ Amazon RDS deploymen
B. Increase the number of connections that the code makes to the database or increase the connection pool size if a connection pool is in use.
C. Use a multi-AZ Amazon RDS deploymen
D. Modify the code so that queries access the secondary RDS instance.
E. Deploy Amazon RDS with one or more read replica
F. Modify the application code so that queries use the URL for the read replicas.
G. Use open source replication software to create a copy of the MySQL database on an Amazon EC2 instanc
H. Modify the application code so that queries use the IP address of the EC2 instance.

Answer: C

Explanation:
Amazon RDS for MySQL supports read replicas, which are copies of the primary database instance that can handle read-only queries. Read replicas can improve the read performance of the database by offloading the read workload from the primary instance and distributing it across multiple replicas. To use read replicas, the application code needs to be modified to direct read queries to the URL of the read replicas, while write queries still go to the URL of the primary instance. This solution requires less current and future effort than using a multi-AZ deployment, which does not provide read scaling benefits, or using open source replication software, which requires additional configuration and maintenance. Reference: Working with read replicas

NEW QUESTION 64
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 66
A developer is creating a new REST API by using Amazon API Gateway and AWS Lambda. The development team tests the API and validates responses for the known use cases before deploying the API to the production environment.
The developer wants to make the REST API available for testing by using API Gateway locally.
Which AWS Serverless Application Model Command Line Interface (AWS SAM CLI) subcommand will meet these requirements?

A. Sam local invoke
B. Sam local generate-event
C. Sam local start-lambda
D. Sam local start-api

Answer: D

Explanation:
The AWS Serverless Application Model Command Line Interface (AWS SAM CLI) is a command-line tool for local development and testing of Serverless applications2. The sam local start-api subcommand of AWS SAM CLI is used to simulate a REST API by starting a new local endpoint3. Therefore, option D is correct.

NEW QUESTION 68
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 72
A developer has an application that stores data in an Amazon S3 bucket. The application uses an HTTP API to store and retrieve objects. When the PutObject API operation adds objects to the S3 bucket the developer must encrypt these objects at rest by using server- side encryption with Amazon S3 managed keys (SSE-S3).
Which solution will meet this requirement?

A. Create an AWS Key Management Service (AWS KMS) ke
B. Assign the KMS key to the S3 bucket.
C. Set the x-amz-server-side-encryption header when invoking the PutObject API operation.
D. Provide the encryption key in the HTTP header of every request.
E. Apply TLS to encrypt the traffic to the S3 bucket.

Answer: B

Explanation:
Amazon S3 supports server-side encryption, which encrypts data at rest on the server that stores the data. One of the encryption options is SSE-S3, which uses keys managed by S3. To use SSE-S3, the x-amz-server-side-encryption header must be set to AES256 when invoking the PutObject API operation. This instructs S3 to encrypt the object data with SSE-S3 before saving it on disks in its data centers and decrypt it when it is downloaded. Reference: Protecting data using server-side encryption with Amazon S3-managed encryption keys (SSE-S3)

NEW QUESTION 77
A developer is working on a serverless application that needs to process any changes to an Amazon DynamoDB table with an AWS Lambda function.
How should the developer configure the Lambda function to detect changes to the DynamoDB table?

A. Create an Amazon Kinesis data stream, and attach it to the DynamoDB tabl
B. Create a trigger to connect the data stream to the Lambda function.
C. Create an Amazon EventBridge rule to invoke the Lambda function on a regular schedul
D. Connect to the DynamoDB table from the Lambda function to detect changes.
E. Enable DynamoDB Streams on the tabl
F. Create a trigger to connect the DynamoDB stream to the Lambda function.
G. Create an Amazon Kinesis Data Firehose delivery stream, and attach it to the DynamoDB tabl
H. Configure the delivery stream destination as the Lambda function.

Answer: C

Explanation:
Amazon DynamoDB is a fully managed NoSQL database service that provides fast and consistent performance with seamless scalability. DynamoDB Streams is a feature that captures data modification events in DynamoDB tables. The developer can enable DynamoDB Streams on the table and create a trigger to connect the DynamoDB stream to the Lambda function. This solution will enable the Lambda function to detect changes to the DynamoDB table in near real time.
References:
? [Amazon DynamoDB]
? [DynamoDB Streams - Amazon DynamoDB]
? [Using AWS Lambda with Amazon DynamoDB - AWS Lambda]

NEW QUESTION 78
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 demcman-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 DynamoOB cannot be accessed from the AWS CLI and needs to 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 83
A developer is writing an application that will retrieve sensitive data from a third-party system. The application will format the data into a PDF file. The PDF file could be more than 1 MB. The application will encrypt the data to disk by using AWS Key Management Service (AWS KMS). The application will decrypt the file when a user requests to download it. The retrieval and formatting portions of the application are complete.
The developer needs to use the GenerateDataKey API to encrypt the PDF file so that the PDF file can be decrypted later. The developer needs to use an AWS KMS symmetric customer managed key for encryption.
Which solutions will meet these requirements?

A. Write the encrypted key from the GenerateDataKey API to disk for later us
plaintext key from the GenerateDataKey API and a symmetric encryption algorithm to encrypt the file.
B. Use the
C. Write the plain text key from the GenerateDataKey API to disk for later us
D. Use the encrypted key from the GenerateDataKey API and a symmetric encryption algorithm to encrypt the file.
E. Write the encrypted key from the GenerateDataKey API to disk for later us
F. Use the plaintext key from the GenerateDataKey API to encrypt the file by using the KMS Encrypt API
G. Write the plain text key from the GenerateDataKey API to disk for later us
H. Use the encrypted key from the GenerateDataKey API to encrypt the file by using the KMS Encrypt API

Answer: A

Explanation:
? The GenerateDataKey API returns a data key that is encrypted under a symmetric encryption KMS key that you specify, and a plaintext copy of the same data key1. The data key is a random byte string that can be used with any standard encryption algorithm, such as AES or SM42. The plaintext data key can be used to encrypt or decrypt data outside of AWS KMS, while the encrypted data key can be stored with the encrypted data and later decrypted by AWS KMS1.
? In this scenario, the developer needs to use the GenerateDataKey API to encrypt
the PDF file so that it can be decrypted later. The developer also needs to use an AWS KMS symmetric customer managed key for encryption. To achieve this, the developer can follow these steps:

NEW QUESTION 87
A company is running Amazon EC2 instances in multiple AWS accounts. A developer needs to implement an application that collects all the lifecycle events of the EC2 instances. The application needs to store the lifecycle events in a single Amazon Simple Queue Service (Amazon SQS) queue in the company's main AWS account for further processing.
Which solution will meet these requirements?

A. Configure Amazon EC2 to deliver the EC2 instance lifecycle events from all accounts to the Amazon EventBridge event bus of the main accoun
B. Add an EventBridge rule to the event bus of the main account that matches all EC2 instance lifecycle event
C. Add the SQS queue as a target of the rule.
D. Use the resource policies of the SQS queue in the main account to give each account permissions to write to that SQS queu
E. Add to the Amazon EventBridge event bus of each account an EventBridge rule that matches all EC2 instance lifecycle event
F. Add the SQS queue in the main account as a target of the rule.
G. Write an AWS Lambda function that scans through all EC2 instances in the company accounts to detect EC2 instance lifecycle change
H. Configure the Lambda function to write a notification message to the SQS queue in the main account if the function detects an EC2 instance lifecycle chang
I. Add an Amazon EventBridge scheduled rule that invokes the Lambda function every minute.
J. Configure the permissions on the main account event bus to receive events from all account
K. Create an Amazon EventBridge rule in each account to send all the EC2 instance lifecycle events to the main account event bu
L. Add an EventBridge rule to the main account event bus that matches all EC2 instance lifecycle event
M. Set the SQS queue as a target for the rule.

Answer: D

Explanation:
Amazon EC2 instances can send the state-change notification events to Amazon EventBridge. https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/monitoring-instance-state- changes.html Amazon EventBridge can send and receive events between event buses in AWS accounts. https://docs.aws.amazon.com/eventbridge/latest/userguide/eb-cross- account.html

NEW QUESTION 88
A developer has created an AWS Lambda function that makes queries to an Amazon Aurora MySQL DB instance. When the developer performs a test the OB instance shows an error for too many connections.
Which solution will meet these requirements with the LEAST operational effort?

A. Create a read replica for the DB instance Query the replica DB instance instead of the primary DB instance.
B. Migrate the data lo an Amazon DynamoDB database.
C. Configure the Amazon Aurora MySQL DB instance tor Multi-AZ deployment.
D. Create a proxy in Amazon RDS Proxy Query the proxy instead of the DB instance.

Answer: D

Explanation:
This solution will meet the requirements by using Amazon RDS Proxy, which is a fully managed, highly available database proxy for Amazon RDS that makes applications more scalable, more resilient to database failures, and more secure. The developer can create a proxy in Amazon RDS Proxy, which sits between the application
and the DB instance and handles connection management, pooling, and routing. The developer can query the proxy instead of the DB instance, which reduces the number of open connections to the DB instance and avoids errors for too many connections. Option A is not optimal because it will create a read replica for the DB instance, which may not solve the problem of too many connections as read replicas also have connection limits and may incur additional costs. Option B is not optimal because it will migrate the data to an Amazon DynamoDB database, which may introduce additional complexity and overhead for migrating and accessing data from a different database service. Option C is not optimal because it will configure the Amazon Aurora MySQL DB instance for Multi-AZ deployment, which may improve availability and durability of the DB instance but not reduce the number of connections.
References: [Amazon RDS Proxy], [Working with Amazon RDS Proxy]

NEW QUESTION 91
A developer has an application that is composed of many different AWS Lambda functions. The Lambda functions all use some of the same dependencies. To avoid security issues the developer is constantly updating the dependencies of all of the Lambda functions. The result is duplicated effort to reach function.
How can the developer keep the dependencies of the Lambda functions up to date with the LEAST additional complexity?

A. Define a maintenance window for the Lambda functions to ensure that the functions get updated copies of the dependencies.
B. Upgrade the Lambda functions to the most recent runtime version.
C. Define a Lambda layer that contains all of the shared dependencies.
D. Use an AWS CodeCommit repository to host the dependencies in a centralized location.

Answer: C

Explanation:
This solution allows the developer to keep the dependencies of the Lambda functions up to date with the least additional complexity because it eliminates the need to update each function individually. A Lambda layer is a ZIP archive that contains libraries, custom runtimes, or other dependencies. The developer can create a layer that contains all of the shared dependencies and attach it to multiple Lambda functions. When the developer updates the layer, all of the functions that use the layer will have access to the latest version of the dependencies.
Reference: [AWS Lambda layers]

NEW QUESTION 92
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 93
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-digrt 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 (GSl) with Product ID as the partition key and Product Rating as the sort key
B. A global secondary index (GSl) 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 96
A developer uses AWS CloudFormation to deploy an Amazon API Gateway API and an AWS Step Functions state machine The state machine must reference the API Gateway API after the CloudFormation template is deployed The developer needs a solution that uses the state machine to reference the API Gateway endpoint.
Which solution will meet these requirements MOST cost-effectively?

A. Configure the CloudFormation template to reference the API endpoint in the DefinitionSubstitutions property for the AWS StepFunctions StateMachme resource.
B. Configure the CloudFormation template to store the API endpoint in an environment variable for the AWS::StepFunctions::StateMachine resourc Configure the state machine to reference the environment variable
C. Configure the CloudFormation template to store the API endpoint in a standard AWS: SecretsManager Secret resource Configure the state machine to reference the resource
D. Configure the CloudFormation template to store the API endpoint in a standard AWS::AppConfig;:ConfigurationProfile resource Configure the state machine to reference the resource.

Answer: A

Explanation:
The most cost-effective solution is to use the DefinitionSubstitutions property of the AWS::StepFunctions::StateMachine resource to inject the API endpoint as a variable in the state machine definition. This way, the developer can use the intrinsic function
Fn::GetAtt to get the API endpoint from the AWS::ApiGateway::RestApi resource, and pass it to the state machine without creating any additional resources or environment variables. The other solutions involve creating and managing extra resources, such as Secrets Manager secrets or AppConfig configuration profiles, which incur additional costs and complexity. References
? AWS::StepFunctions::StateMachine - AWS CloudFormation
? Call API Gateway with Step Functions - AWS Step Functions
? amazon-web-services aws-api-gateway terraform aws-step-functions

NEW QUESTION 97
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 serve
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 102
A company's website runs on an Amazon EC2 instance and uses Auto Scaling to scale the environment during peak times. Website users across the world ate experiencing high latency flue lo sialic content on theEC2 instance. even during non-peak hours.
When companion of steps mill resolves the latency issue? (Select TWO)

A. Double the Auto Scaling group's maximum number of servers
B. Host the application code on AWS lambda
C. Scale vertically by resizing the EC2 instances
D. Create an Amazon Cloudfront distribution to cache the static content
E. Store the application's sialic content in Amazon S3

Answer: DE

Explanation:
The combination of steps that will resolve the latency issue is to create an Amazon CloudFront distribution to cache the static content and store the application's static content in Amazon S3. This way, the company can use CloudFront to deliver the static content from edge locations that are closer to the website users, reducing latency and improving performance. The company can also use S3 to store the static content reliably and cost-effectively, and integrate it with CloudFront easily. The other options either do not address the latency issue, or are not necessary or feasible for the given scenario.
Reference: Using Amazon S3 Origins and Custom Origins for Web Distributions

NEW QUESTION 103
A company runs a batch processing application by using AWS Lambda functions and Amazon API Gateway APIs with deployment stages for development, user acceptance testing and production A development team needs to configure the APIs in the deployment stages to connect to third-party service endpoints.
Which solution will meet this requirement?

A. Store the third-party service endpoints in Lambda layers that correspond to the stage
B. Store the third-party service endpoints in API Gateway stage variables that correspond to the stage
C. Encode the third-party service endpoints as query parameters in the API Gateway request URL.
D. Store the third-party service endpoint for each environment in AWS AppConfig

Answer: B

Explanation:
API Gateway stage variables are name-value pairs that can be defined as configuration attributes associated with a deployment stage of a REST API. They act like environment variables and can be used in the API setup and mapping templates. For example, the development team can define a stage variable named endpoint and assign it different values for each stage, such as dev.example.com for development, uat.example.com for user acceptance testing, and prod.example.com for production. Then, the team can use the stage variable value in the integration request URL, such as http://$ { stageVariables.endpoint}/api. This way, the team can use the same API setup with different endpoints at each stage by resetting the stage variable value. The other solutions are either not feasible or not cost-effective. Lambda layers are used to package and load dependencies for Lambda functions, not for storing endpoints. Encoding the endpoints as query parameters would expose them to the public and make the request URL unnecessarily long. Storing the endpoints in AWS AppConfig would incur and complexity, and would require additional logic to retrieve the values from the configuration store. References additional costs.
? Using Amazon API Gateway stage variables
? Setting up stage variables for a REST API deployment
? Setting stage variables using the Amazon API Gateway console

NEW QUESTION 104
A developer warns to add request validation to a production environment Amazon API Gateway API. The developer needs to test the changes before the API is deployed to the production environment. For the lest the developer will send test requests to the API through a testing tool.
Which solution will meet these requirements with the LEAST operational overhead?

A. Export the existing API to an OpenAPI fil
B. Create a new API Import the OpenAPI file Modify the new API to add request validatio
C. Perform the tests Modify the existing API to add request validatio
D. Deploy the existing API to production.
E. Modify the existing API to add request validatio
F. Deploy the updated API to a new API Gateway stage Perform the tests Deploy the updated API to the API Gateway production stage.
G. Create a new API Add the necessary resources and methods including new request validatio
H. Perform the tests Modify the existing API to add request validatio
I. Deploy the existing API to production.
J. Clone the exiting API Modify the new API lo add request validatio
Modify the existing API to add request validation Deploy the existing API to production.
K. Perform the tests

Answer: D

Explanation:
This solution allows the developer to test the changes without affecting the production environment. Cloning an API creates a copy of the API definition that can be modified independently. The developer can then add request validation to the new API and test it using a testing tool. After verifying that the changes work as expected, the developer can apply the same changes to the existing API and deploy it to production.
Reference: Clone an API, [Enable Request Validation for an API in API Gateway]

NEW QUESTION 108
A company is expanding the compatibility of its photo-snaring mobile app to hundreds of additional devices with unique screen dimensions and resolutions. Photos are stored in Amazon S3 in their original format and resolution. The company uses an Amazon CloudFront distribution to serve the photos The app includes the dimension and resolution of the display as GET parameters with every request.
A developer needs to implement a solution that optimizes the photos that are served to each device to reduce load time and increase photo quality.
Which solution will meet these requirements MOST cost-effective?

A. Use S3 Batch Operations to invoke an AWS Lambda function to create new variants of the photos with the required dimensions and resolution
B. Create a dynamic CloudFront origin that automatically maps the request of each device to the corresponding photo variant.

C. Use S3 Batch Operations to invoke an AWS Lambda function to create new variants of the photos with the required dimensions and resolution
D. Create a Lambda@Edge function to route requests to the corresponding photo vacant by using request headers.
E. Create a Lambda@Edge function that optimizes the photos upon request and returns the photos as a respons
F. Change the CloudFront TTL cache policy to the maximum value possible.
G. Create a Lambda@Edge function that optimizes the photos upon request and returns the photos as a respons
H. In the same function store a copy of the processed photos on Amazon S3 for subsequent requests.

Answer: D

Explanation:
This solution meets the requirements most cost-effectively because it optimizes the photos on demand and caches them for future requests. Lambda@Edge allows the developer to run Lambda functions at AWS locations closer to viewers, which can reduce latency and improve photo quality. The developer can create a Lambda@Edge function that uses the GET parameters from each request to optimize the photos with the required dimensions and resolutions and returns them as a response. The function can also store a copy of the processed photos on Amazon S3 for subsequent requests, which can reduce processing time and costs. Using S3 Batch Operations to create new variants of the photos will incur additional storage costs and may not cover all possible dimensions and resolutions. Creating a dynamic CloudFront origin or a Lambda@Edge function to route requests to corresponding photo variants will require maintaining a mapping of device types and photo variants, which can be complex and error-prone.
Reference: [Lambda@Edge Overview], [Resizing Images with Amazon CloudFront & Lambda@Edge]

NEW QUESTION 110
A developer migrated a legacy application to an AWS Lambda function. The function uses a third-party service to pull data with a series of API calls at the end of each month. The function than processes the data to generate the monthly reports. The function has Been working with no issues so far.
The third-party service recently issued a restriction to allow a feed number to API calls each minute and each day. If the API calls exceed the limit tor each minute or each day, then the service will produce errors. The API also provides the minute limit and daily limit in the response header. This restriction might extend the overall process to multiple days because the process is consuming more API calls than the available limit.
What is the MOST operationally efficient way to refactor the server less application to accommodate this change?

A. Use an AWS Step Functions State machine to monitor API failure
B. Use the Wait state to delay calling the Lambda function.
C. Use an Amazon Simple Queue Service (Amazon SQS) queue to hold the API call
D. Configure the Lambda function to poll the queue within the API threshold limits.
E. Use an Amazon CloudWatch Logs metric to count the number of API call
F. Configure an Amazon CloudWatch alarm flat slops the currently running instance of the Lambda function when the metric exceeds the API threshold limits.
G. Use Amazon Kinesis Data Firehose to batch me API calls and deliver them to an Amazon S3 bucket win an event notification to invoke the Lambda function.

Answer: A

Explanation:
The solution that will meet the requirements is to use an AWS Step Functions state machine to monitor API failures. Use the Wait state to delay calling the Lambda function. This way, the developer can refactor the serverless application to accommodate the change in a way that is automated and scalable. The developer can use Step Functions to orchestrate the Lambda function and handle any errors or retries. The developer can also use the Wait state to pause the execution for a specified duration or until a specified timestamp, which can help avoid exceeding the API limits. The other options either involve using additional services that are not necessary or appropriate for this scenario, or do not address the issue of API failures.
Reference: AWS Step Functions Wait state

NEW QUESTION 112
A developer is planning to migrate on-premises company data to Amazon S3. The data must be encrypted, and the encryption Keys must support automate annual rotation. The company must use AWS Key Management Service (AWS KMS) to encrypt the data.
When type of keys should the developer use to meet these requirements?

A. Amazon S3 managed keys
B. Symmetric customer managed keys with key material that is generated by AWS
C. Asymmetric customer managed keys with key material that generated by AWS
D. Symmetric customer managed keys with imported key material

Answer: B

Explanation:
The type of keys that the developer should use to meet the requirements is symmetric customer managed keys with key material that is generated by AWS. This way, the developer can use AWS Key Management Service (AWS KMS) to encrypt the data with a symmetric key that is managed by the developer. The developer can also enable automatic annual rotation for the key, which creates new key material for the key every year. The other options either involve using Amazon S3 managed keys, which do not support automatic annual rotation, or using asymmetric keys or imported key material, which are not supported by S3 encryption.
Reference: Using AWS KMS keys to encrypt S3 objects

NEW QUESTION 113
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 syste
B. Mount the EFS file system in Lambd
C. Store the result files and log file in the mount poin
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 function
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 director
H. Store the result files and log file by using the directory referenc
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 114
A company is developing an ecommerce application that uses Amazon API Gateway APIs. The application uses AWS Lambda as a backend. The company needs to test the code in a dedicated, monitored test environment before the company releases the code to the production environment.
When solution will meet these requirements?

A. Use a single stage in API Gatewa
B. Create a Lambda function for each environmen
C. Configure API clients to send a query parameter that indicates the endowment and the specific lambda function.
D. Use multiple stages in API Gatewa
E. Create a single Lambda function for all environment
F. Add different code blocks for different environments in the Lambda function based on Lambda environments variables.
G. Use multiple stages in API Gatewa
H. Create a Lambda function for each environmen
I. Configure API Gateway stage variables to route traffic to the Lambda function in different environments.
J. Use a single stage in API Gatewa
K. Configure a API client to send a query parameter that indicated the environmen
L. Add different code blocks tor afferent environments in the Lambda Junction to match the value of the query parameter.

Answer: C

Explanation:
The solution that will meet the requirements is to use multiple stages in API Gateway. Create a Lambda function for each environment. Configure API Gateway stage variables to route traffic to the Lambda function in different environments. This way, the company can test the code in a dedicated, monitored test environment before releasing it to the production environment. The company can also use stage variables to specify the Lambda function version or alias for each stage, and avoid hard-coding the Lambda function name in the API Gateway integration. The other options either involve using a single stage in API Gateway, which does not allow testing in different environments, or adding different code blocks for different environments in the Lambda function, which increases complexity and maintenance.
Reference: Set up stage variables for a REST API in API Gateway

NEW QUESTION 118
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 123
An application is using Amazon Cognito user pools and identity pools for secure access. A developer wants to integrate the user-specific file upload and download features in the application with Amazon S3. The developer must ensure that the files are saved and retrieved in a secure manner and that users can access only their own files. The file sizes range from 3 KB to 300 MB.
Which option will meet these requirements with the HIGHEST level of security?

A. Use S3 Event Notifications to validate the file upload and download requests and update the user interface (UI).
B. Save the details of the uploaded files in a separate Amazon DynamoDB tabl
C. Filter the list of files in the user interface (UI) by comparing the current user ID with the user ID associated with the file in the table.
D. Use Amazon API Gateway and an AWS Lambda function to upload and download file
E. Validate each request in the Lambda function before performing the requested operation.
F. Use an IAM policy within the Amazon Cognito identity prefix to restrict users to use their own folders in Amazon S3.

Answer: D

Explanation:
https://docs.aws.amazon.com/cognito/latest/developerguide/amazon-cognito-integrating-user-pools-with-identity-pools.html

NEW QUESTION 125
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 130

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 131
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 132
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 queu
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 134
A developer is investigating an issue in part of a company's application. In the application messages are sent to an Amazon Simple Queue Service (Amazon SQS) queue The AWS Lambda function polls messages from the SQS queue and sends email messages by using Amazon Simple Email Service (Amazon SES) Users have been receiving duplicate email messages during periods of high traffic.
Which reasons could explain the duplicate email messages? (Select TWO.)

A. Standard SQS queues support at-least-once message delivery
B. Standard SQS queues support exactly-once processing, so the duplicate email messages are because of user error.
C. Amazon SES has the DomainKeys Identified Mail (DKIM) authentication incorrectly configured
D. The SQS queue's visibility timeout is lower than or the same as the Lambda function's timeout.
E. The Amazon SES bounce rate metric is too high.

Answer: AD

Explanation:
Standard SQS queues support at-least-once message delivery, which means that a message can be delivered more than once to the same or different consumers. This can happen if the message is not deleted from the queue before the visibility timeout expires, or if there is a network issue or a system failure. The SQS queue's visibility timeout is the period of time that a message is invisible to other consumers after it is received by one consumer. If the visibility timeout is lower than or the same as the Lambda function's timeout, the Lambda function might not be able to process and delete the message before it becomes visible again, leading to duplicate processing and email messages. To avoid this, the visibility timeout should be set to at least 6 times the length of the Lambda function's timeout. The other options are not related to the issue of duplicate email messages. References
? Using the Amazon SQS message deduplication ID
? Exactly-once processing - Amazon Simple Queue Service
? Amazon SQS duplicated messages in queue - Stack Overflow
? amazon web services - How long can duplicate SQS messages persist …
? Standard SQS - Duplicate message | AWS re:Post - Amazon Web Services, Inc.

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 cache Update the application to return cached content based upon the default request headers.
B. Override the cache method in me selected stage of API Gateway Select the POST method.

C. Save the latest request response in Lambda /tmp directory Update the Lambda function to check the /tmp directory
D. Save the latest request m AWS Systems Manager Parameter Store Modify the Lambda function to take the latest request response from Parameter Store

Answer: A

Explanation:
This solution will meet the requirements by using Amazon CloudFront, which is a content delivery network (CDN) service that speeds up the delivery of web content and APIs to end users. The developer can configure the CloudFront cache, which is a set of edge locations that store copies of popular or recently accessed content close to the viewers. The developer can also update the application to return cached content based upon the default request headers, which are a set of HTTP headers that CloudFront automatically forwards to the origin server and uses to determine whether an object in an edge location is still valid. By caching the POST requests, the developer can optimize the API resources and reduce the latency for repeated queries. Option B is not optimal because it will override the cache method in the selected stage of API Gateway, which is not possible or effective as API Gateway does not support caching for POST methods by default. Option C is not optimal because it will save the latest request response in Lambda /tmp directory, which is a local storage space that is available for each Lambda function invocation, not a cache that can be shared across multiple invocations or requests. Option D is not optimal because it will save the latest request in AWS Systems Manager Parameter Store, which is a service that provides secure and scalable storage for configuration data and secrets, not a cache for API responses.
References: [Amazon CloudFront], [Caching Content Based on Request Headers]

NEW QUESTION 139
A developer wants to insert a record into an Amazon DynamoDB table as soon as a new file is added to an Amazon S3 bucket.
Which set of steps would be necessary to achieve this?

A. Create an event with Amazon EventBridge that will monitor the S3 bucket and then insert the records into DynamoDB.
B. Configure an S3 event to invoke an AWS Lambda function that inserts records into DynamoDB.
C. Create an AWS Lambda function that will poll the S3 bucket and then insert the records into DynamoDB.
D. Create a cron job that will run at a scheduled time and insert the records into DynamoDB.

Answer: B

Explanation:
Amazon S3 is a service that provides highly scalable, durable, and secure object storage. Amazon DynamoDB is a fully managed NoSQL database service that provides fast and consistent performance with seamless scalability. AWS Lambda is a service that lets developers run code without

provisioning or managing servers. The developer can configure an S3 event to invoke a Lambda function that inserts records into DynamoDB whenever a new file is added to the S3 bucket. This solution will meet the requirement of inserting a record into DynamoDB as soon as a new file is added to S3. References:
? [Amazon Simple Storage Service (S3)]
? [Amazon DynamoDB]
? [What Is AWS Lambda? - AWS Lambda]
? [Using AWS Lambda with Amazon S3 - AWS Lambda]

NEW QUESTION 143
A company has a social media application that receives large amounts of traffic User posts and interactions are continuously updated in an Amazon RDS database The data changes frequently, and the data types can be complex The application must serve read requests with minimal latency
The application's current architecture struggles to deliver these rapid data updates efficiently The company needs a solution to improve the application's performance.
Which solution will meet these requirements'?

A. Mastered
B. Not Mastered

Answer: A

Explanation:
Creating an Amazon ElastiCache for Redis cluster is the best solution for improving the application’s performance. Redis is an in-memory data store that can serve read requests with minimal latency and handle complex data types, such as lists, sets, hashes, and streams. By using a write-through caching strategy, the application can ensure that the data in Redis is always consistent with the data in RDS. The application can read the data from Redis instead of RDS, reducing the load on the database and improving the response time. The other solutions are either not feasible or not effective. Amazon DynamoDB Accelerator (DAX) is a caching service that works only with DynamoDB, not RDS. Amazon S3 Transfer Acceleration is a feature that speeds up data transfers between S3 and clients across the internet, not between RDS and the application. Amazon CloudFront is a content delivery network that can cache static content, such as images, videos, or HTML files, but not dynamic content, such as user posts and
interactions. References
? Amazon ElastiCache for Redis
? Caching Strategies and Best Practices - Amazon ElastiCache for Redis
? Using Amazon ElastiCache for Redis with Amazon RDS
? Amazon DynamoDB Accelerator (DAX)
? Amazon S3 Transfer Acceleration
? Amazon CloudFront

NEW QUESTION 144

When a developer tries to run an AWS Code Build project, it raises an error because the length of all environment variables exceeds the limit for the combined maximum of characters.
What is the recommended solution?

A. Add the export LC-_ALL" on _ US, tuft" command to the pre _ build section to ensure POSIX Localization.
B. Use Amazon Cognate to store key-value pairs for large numbers of environment variables
C. Update the settings for the build project to use an Amazon S3 bucket for large numbers of environment variables
D. Use AWS Systems Manager Parameter Store to store large numbers ot environment variables

Answer: D

Explanation:
This solution allows the developer to overcome the limit for the combined maximum of characters for environment variables in AWS CodeBuild. AWS Systems Manager Parameter Store provides secure, hierarchical storage for configuration data management and secrets management. The developer can store large numbers of environment variables as parameters in Parameter Store and reference them in the buildspec file using parameter references. Adding export LC_ALL=“en_US.utf8” command to the pre_build section will not affect the environment variables limit. Using Amazon Cognito or an Amazon S3 bucket to store key-value pairs for environment variables will require additional configuration and integration.
Reference: [Build Specification Reference for AWS CodeBuild], [What Is AWS Systems
Manager Parameter Store?]

NEW QUESTION 147
A company is building a scalable data management solution by using AWS services to improve the speed and agility of development. The solution will ingest large volumes of data from various sources and will process this data through multiple business rules and transformations.
The solution requires business rules to run in sequence and to handle reprocessing of data if errors occur when the business rules run. The company needs the solution to be scalable and to require the least possible maintenance.
Which AWS service should the company use to manage and automate the orchestration of the data flows to meet these requirements?

A. AWS Batch
B. AWS Step Functions
C. AWS Glue
D. AWS Lambda

Answer: B

Explanation:
https://docs.aws.amazon.com/step-functions/latest/dg/welcome.html

NEW QUESTION 149
A developer is designing an AWS Lambda function that creates temporary files that are less than 10 MB during invocation. The temporary files will be accessed and modified multiple times during invocation. The developer has no need to save or retrieve these files in the future.
Where should the temporary files be stored?

A. the /tmp directory
B. Amazon Elastic File System (Amazon EFS)
C. Amazon Elastic Block Store (Amazon EBS)
D. Amazon S3

Answer: A

Explanation:
AWS Lambda is a service that lets developers run code without provisioning or managing servers. Lambda provides a local file system that can be used to store temporary files during invocation. The local file system is mounted under the /tmp directory and has a limit of 512 MB. The temporary files are accessible only by the Lambda function that created them and are deleted after the function execution ends. The developer can store temporary files that are less than 10 MB in the /tmp directory and access and modify them multiple times during invocation.
References:
? [What Is AWS Lambda? - AWS Lambda]
? [AWS Lambda Execution Environment - AWS Lambda]

NEW QUESTION 150
A company wants to automate part of its deployment process. A developer needs to automate the process of checking for and deleting unused resources that supported previously deployed stacks but that are no longer used.
The company has a central application that uses the AWS Cloud Development Kit (AWS CDK) to manage all deployment stacks. The stacks are spread out across multiple accounts. The developer's solution must integrate as seamlessly as possible within the current deployment process.
Which solution will meet these requirements with the LEAST amount of configuration?

A. In the central AWS CDK application, write a handler function in the code that uses AWS SDK calls to check for and delete unused resource
B. Create an AWS CloudPormation template from a JSON fil
C. Use the template to attach the function code to an AWS Lambda function and lo invoke the Lambda function when the deployment slack runs.
D. In the central AWS CDK applicatio
E. write a handler function in the code that uses AWS SDK calls to check for and delete unused resource
F. Create an AWS CDK custom resource Use the custom resource to attach the function code to an AWS Lambda function and to invoke the Lambda function when the deployment stack runs.
G. In the central AWS CDK, write a handler function m the code that uses AWS SDK calls to check for and delete unused resource
H. Create an API in AWS Amplify Use the API to attach the function code to an AWS Lambda function and to invoke the Lambda function when the deployment stack runs.
I. In the AWS Lambda console write a handler function in the code that uses AWS SDK calls to check for and delete unused resource

J. Create an AWS CDK custom resourc
K. Use the custom resource to import the Lambda function into the stack and to Invoke the Lambda function when the deployment stack runs.

Answer: B

Explanation:
This solution meets the requirements with the least amount of configuration because it uses a feature of AWS CDK that allows custom logic to be executed during stack deployment or deletion. The AWS Cloud Development Kit (AWS CDK) is a software development framework that allows you to define cloud infrastructure as code and provision it through CloudFormation. An AWS CDK custom resource is a construct that enables you to create resources that are not natively supported by CloudFormation or perform tasks that are not supported by CloudFormation during stack deployment or deletion. The developer can write a handler function in the code that uses AWS SDK calls to check for and delete unused resources, and create an AWS CDK custom resource that attaches the function code to a Lambda function and invokes it when the deployment stack runs. This way, the developer can automate the cleanup process without requiring additional configuration or integration. Creating a CloudFormation template from a JSON file will require additional configuration and integration with the central AWS CDK application. Creating an API in AWS Amplify will require additional configuration and integration with the central AWS CDK application and may not provide optimal performance or availability. Writing a handler function in the AWS Lambda console will require additional configuration and integration with the central AWS CDK application.
Reference: [AWS Cloud Development Kit (CDK)], [Custom Resources]

NEW QUESTION 155
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 158
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 automaton 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 160
A company has multiple Amazon VPC endpoints in the same VPC. A developer needs configure an Amazon S3 bucket policy so users can access an S3 bucket only by using these VPC endpoints.
Which solution will meet these requirements?

A. Create multiple S3 bucket polices by using each VPC endpoint ID that have the aws SourceVpce value in the StringNotEquals condition.
B. Create a single S3 bucket policy that has the aws SourceVpc value and in the StingNotEquals condition to use VPC ID.
C. Create a single S3 bucket policy that the multiple aws SourceVpce value and in the SringNotEquals condton to use vpce.
D. Create a single S3 bucket policy that has multiple aws sourceVpce value in the StingNotEquale conditio
E. Repeat for all the VPC endpoint IDs.

Answer: D

Explanation:
This solution will meet the requirements by creating a single S3 bucket policy that denies access to the S3 bucket unless the request comes from one of the specified VPC endpoints. The aws:SourceVpce condition key is used to match the ID of the VPC endpoint that is used to access the S3 bucket. The StringNotEquals condition operator is used to negate the condition, so that only requests from the listed VPC endpoints are allowed.
Option A is not optimal because it will create multiple S3 bucket policies, which is not possible as only one bucket policy can be attached to an S3 bucket. Option B is not optimal because it will use the aws:SourceVpc condition key, which matches the ID of the VPC that is used to access the S3 bucket, not the VPC endpoint.

Option C is not optimal because it will use the StringNotEquals condition operator with a single value, which will deny access to the S3 bucket from all VPC endpoints except one.
References: Using Amazon S3 Bucket Policies and User Policies, AWS Global Condition Context Keys

NEW QUESTION 161
A company is migrating its PostgreSQL database into the AWS Cloud. The company wants to use a database that will secure and regularly rotate database credentials. The company wants a solution that does not require additional programming overhead.
Which solution will meet these requirements?

A. Mastered
B. Not Mastered

Answer: A

Explanation:
This solution meets the requirements because it uses a PostgreSQL- compatible database that can secure and regularly rotate database credentials without requiring additional programming overhead. Amazon Aurora PostgreSQL is a relational database service that is compatible with PostgreSQL and offers high performance, availability, and scalability. AWS Secrets Manager is a service that helps you protect secrets needed to access your applications, services, and IT resources. You can store database credentials in AWS Secrets Manager and use them to access your Aurora PostgreSQL database. You can also enable automatic rotation of your secrets according to a schedule or an event. AWS Secrets Manager handles the complexity of rotating secrets for you, such as generating new passwords and updating your database with the new credentials. Using Amazon DynamoDB for the database will not meet the requirements because it is a NoSQL database that is not compatible with PostgreSQL. Using AWS Systems Manager Parameter Store for storing and rotating database credentials will require additional programming overhead to integrate with your database.
Reference: [What Is Amazon Aurora?], [What Is AWS Secrets Manager?]

NEW QUESTION 165
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