



Amazon

Exam Questions AWS-Certified-Developer-Associate

Amazon AWS Certified Developer - Associate

NEW QUESTION 1

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 2

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

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

Answer: D

Explanation:

This solution will meet the requirements by using Amazon CloudWatch Logs to capture and analyze the logs from API Gateway. Amazon CloudWatch Logs is a service that monitors, stores, and accesses log files from AWS resources. The developer can turn on execution logging and access logging in Amazon CloudWatch Logs for the API stage, which enables logging information about API execution and client access to the API. The developer can create a CloudWatch Logs log group, which is a collection of log streams that share the same retention, monitoring, and access control settings. The developer can specify the Amazon Resource Name (ARN) of the log group for the API stage, which instructs API Gateway to send the logs to the specified log group. The developer can then examine the logs to determine the cause of the HTTP 400 response errors. Option A is not optimal because it will create an Amazon Kinesis Data Firehose delivery stream to receive API call logs from API Gateway, which may introduce additional costs and complexity for delivering and processing streaming data. Option B is not optimal because it will turn on AWS CloudTrail Insights and create a trail, which is a feature that helps identify and troubleshoot unusual API activity or operational issues, not HTTP response errors. Option C is not optimal because it will turn on AWS X-Ray for the API stage, which is a service that helps analyze and debug distributed applications, not HTTP response errors. References: [Setting Up CloudWatch Logging for a REST API], [CloudWatch Logs Concepts]

NEW QUESTION 3

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 is 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_OLD_IMAGES 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 4

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 response Document the test scripts for the other developers on the team Update the CI/CD pipeline to run the test scripts.
- D. Install a unit testing framework that reproduces the Lambda execution environmen
- E. Create sample events based on the Lambda Documentation Invoke the handler function by using a unit testing framewor
framework for the other developers on the tea
- F. Check the response Document how to run the unit testing.
- G. Update the CI/CD pipeline to run the unit testing framework.
- H. Install the AWS Serverless Application Model (AWS SAW) CLI tool Use the Sam local generate-event command to generate sample events for me automated test
- I. Create automated test scripts that use the Sam local invoke command to invoke the Lambda function
- J. Check the response Document the test scripts for the other developers on the team Update the CI/CD pipeline to run the test scripts.
- K. Create sample events based on the Lambda documentatio
- L. Create a Docker container from the Node is base image to invoke the Lambda function
- M. Check the response Document how to run the Docker container for the more developers on the team update the CI/CD pipeline to run the Docker container.

Answer: C

Explanation:

This solution will meet the requirements by using AWS SAM CLI tool, which is a command line tool that lets developers locally build, test, debug, and deploy serverless applications defined by AWS SAM templates. The developer can use sam local generate- event command to generate sample events for different event sources such as API Gateway or S3. The developer can create automated test scripts that use sam local invoke command to invoke Lambda functions locally in an environment that closely simulates Lambda environment. The developer can check the response from Lambda functions and document how to run the test scripts for other developers on the team. The developer can also update CI/CD pipeline to run these test scripts before deploying with AWS CDK. Option A is not optimal because it will use cdk local invoke command, which does not exist in AWS CDK CLI tool. Option B is not optimal because it will use a unit testing framework that reproduces Lambda execution environment, which may not be accurate or consistent with Lambda environment. Option D is not optimal because it will create a Docker container from Node.js base image to invoke Lambda functions, which may introduce additional overhead and complexity for creating and running Docker containers.

References: [AWS Serverless Application Model (AWS SAM)], [AWS Cloud Development Kit (AWS CDK)]

NEW QUESTION 5

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

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

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

Answer: AC

Explanation:

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

? Use Amazon S3 with Amazon EC2

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

? Sharing an Object with Others

NEW QUESTION 6

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

Which solution will meet these requirements?

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

Answer: D

Explanation:

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

? Create Metric Filters - Amazon CloudWatch Logs

? Creating Amazon CloudWatch Alarms - Amazon CloudWatch

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

NEW QUESTION 7

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

- A. Add a global secondary index (GSI) to the DynamoDB table with customer_type input, as the partition key and email_address as the sort key.
- B. Perform a query operation on the GSI by using the begins_with key condition expression with the email_address property.
Add a global secondary index (GSI) to the DynamoDB table with email_address as the partition key and customer_type as the sort key.
- C. Perform a query operation on the GSI by using the begins_with key condition expression with the email_address property.
- D. Perform a query operation on the GSI by using the begins_with key condition expression with the email_address property.
- E. Address property.
- F. Add a local secondary index (LSI) to the DynamoDB table with customer_type as the partition Key and email_address as the sort Key.
- G. Perform a query operation on the LSI by using the begins_with Key condition expression with the email-address property.
- H. Add a local secondary index (LSI) to the DynamoDB table with job-title as the partition key and email_address as the sort key.
- I. Perform a query operation on the LSI by using the begins_with key condition expression with the email_address property.

Answer: A

Explanation:

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

Reference: Using Global Secondary Indexes in DynamoDB

NEW QUESTION 8

An application that is hosted on an Amazon EC2 instance needs access to files that are stored in an Amazon S3 bucket. The application lists the objects that are stored in the S3 bucket and displays a table to the user. During testing, a developer discovers that the application does not show any objects in the list. What is the MOST secure way to resolve this issue?

- A. Update the IAM instance profile that is attached to the EC2 instance to include the S3:* permission for the S3 bucket.
- B. Update the IAM instance profile that is attached to the EC2 instance to include the S3:ListBucket permission for the S3 bucket.
- C. Update the developer's user permissions to include the S3:ListBucket permission for the S3 bucket.
- D. Update the S3 bucket policy by including the S3:ListBucket permission and by setting the Principal element to specify the account number of the EC2 instance.

Answer: B

Explanation:

IAM instance profiles are containers for IAM roles that can be associated with EC2 instances. An IAM role is a set of permissions that grant access to AWS resources. An IAM role can be used to allow an EC2 instance to access an S3 bucket by including the appropriate permissions in the role's policy. The S3:ListBucket permission allows listing the objects in an S3 bucket. By updating the IAM instance profile with this permission, the application on the EC2 instance can retrieve the objects from the S3 bucket and display them to the user. Reference: Using an IAM role to grant permissions to applications running on Amazon EC2 instances

NEW QUESTION 9

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

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

Answer: A

Explanation:

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

NEW QUESTION 10

A developer is creating a mobile application that will not require users to log in. What is the MOST efficient method to grant users access to AWS resources?

- A. Use an identity provider to securely authenticate with the application.
- B. Create an AWS Lambda function to create an IAM user when a user accesses the application.
- C. Create credentials using AWS KMS and apply these credentials to users when using the application.
- D. Use Amazon Cognito to associate unauthenticated users with an IAM role that has limited access to resources.

Answer: D

Explanation:

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

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

NEW QUESTION 10

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

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

Answer: BC

Explanation:

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

way, the EC2 instance has the permissions to read and eventually write the specified S3 bucket.

NEW QUESTION 11

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 16

A developer is creating an AWS CloudFormation template to deploy Amazon EC2 instances across multiple AWS accounts. The developer must choose the EC2 instances from a list of approved instance types.

How can the developer incorporate the list of approved instance types in the CloudFormation template?

- A. Create a separate CloudFormation template for each EC2 instance type in the list.
- B. In the Resources section of the CloudFormation template, create resources for each EC2 instance type in the list.
- C. In the CloudFormation template, create a separate parameter for each EC2 instance type in the list.
- D. In the CloudFormation template, create a parameter with the list of EC2 instance types as AllowedValues.

Answer: D

Explanation:

In the CloudFormation template, the developer should create a parameter with the list of approved EC2 instance types as AllowedValues. This way, users can select the instance type they want to use when launching the CloudFormation stack, but only from the approved list.

NEW QUESTION 20

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 a `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 25

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

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

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

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

Answer: C

Explanation:

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

References:

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

NEW QUESTION 26

A company has an existing application that has hardcoded database credentials A developer needs to modify the existing application The application is deployed in two AWS Regions with an active-passive failover configuration to meet company's disaster recovery strategy

The developer needs a solution to store the credentials outside the code. The solution must comply With the company's disaster recovery strategy

Which solution Will meet these requirements in the MOST secure way?

- A. Store the credentials in AWS Secrets Manager in the primary Regio
- B. Enable secret replication to the secondary Region Update the application to use the Amazon Resource Name (ARN) based on the Region.
- C. Store credentials in AWS Systems Manager Parameter Store in the primary Regio
- D. Enable parameter replication to the secondary Region
- E. Update the application to use the Amazon Resource Name (ARN) based on the Region.
- F. Store credentials in a config fil
- G. Upload the config file to an S3 bucket in me primary Regio
- H. Enable Cross-Region Replication (CRR) to an S3 bucket in the secondary regio
- I. Update the application to access the config file from the S3 bucket based on the Region.
- J. Store credentials in a config fil
- K. Upload the config file to an Amazon Elastic File System (Amazon EFS) file syste
- L. Update the application to use the Amazon EFS file system Regional endpoints to access the config file in the primary and secondary Regions.

Answer: A

Explanation:

AWS Secrets Manager is a service that allows you to store and manage secrets, such as database credentials, API keys, and passwords, in a secure and centralized way. It also provides features such as automatic secret rotation, auditing, and monitoring¹. By using AWS Secrets Manager, you can avoid hardcoding credentials in your code, which is a bad security practice and makes it difficult to update them. You can also replicate your secrets to another Region, which is useful for disaster recovery purposes². To access your secrets from your application, you can use the ARN of the secret, which is a unique identifier that includes the Region name. This way, your application can use the appropriate secret based on the Region where it is deployed³.

References:

- ? AWS Secrets Manager
- ? Replicating and sharing secrets
- ? Using your own encryption keys

NEW QUESTION 29

A developer is working on an ecommerce platform that communicates with several third- party payment processing APIs The third-party payment services do not provide a test environment.

The developer needs to validate the ecommerce platform's integration with the third-party payment processing APIs. The developer must test the API integration code without invoking the third-party payment processing APIs.

Which solution will meet these requirements'?

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

Answer: D

Explanation:

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

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

NEW QUESTION 31

A company is building a web application on AWS. When a customer sends a request, the application will generate reports and then make the reports available to the customer within one hour. Reports should be accessible to the customer for 8 hours. Some reports are larger than 1 MB. Each report is unique to the customer. The application should delete all reports that are older than 2 days.

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

- A. Generate the reports and then store the reports as Amazon DynamoDB items that have a specified TT
- B. Generate a URL that retrieves the reports from DynamoD
- C. Provide the URL to customers through the web application.
- D. Generate the reports and then store the reports in an Amazon S3 bucket that uses server-side encryptio
- E. Attach the reports to an Amazon Simple Notification Service (Amazon SNS) messag
- F. Subscribe the customer to email notifications from Amazon SNS.
- G. Generate the reports and then store the reports in an Amazon S3 bucket that uses server-side encryptio
- H. Generate a presigned URL that contains an expiration date Provide the URL to customers through the web applicatio
- I. Add S3 Lifecycle configuration rules to the S3 bucket to delete old reports.
- J. Generate the reports and then store the reports in an Amazon RDS database with a date stam
- K. Generate an URL that retrieves the reports from the RDS databas
- L. Provide the URL to customers through the web applicatio
- M. Schedule an hourly AWS Lambda function to delete database records that have expired date stamps.

Answer: C

Explanation:

This solution will meet the requirements with the least operational overhead because it uses Amazon S3 as a scalable, secure, and durable storage service for the reports. The presigned URL will allow customers to access their reports for a limited time (8 hours) without requiring additional authentication. The S3 Lifecycle configuration rules will automatically delete the reports that are older than 2 days, reducing storage costs and complying with the data retention policy. Option A is not optimal because it will incur additional costs and complexity to store the reports as DynamoDB items, which have a size limit of 400 KB. Option B is not optimal because it will not provide customers with access to their reports within one hour, as Amazon SNS email delivery is not guaranteed. Option D is not optimal because it will require more operational overhead to manage an RDS database and a Lambda function for storing and deleting the reports.

References: Amazon S3 Presigned URLs, Amazon S3 Lifecycle

NEW QUESTION 36

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

- A. BeforeInstall -> ApplicationStop -> ApplicationStart -> AfterInstall
- B. ApplicationStop -> BeforeInstall -> AfterInstall -> ApplicationStart
- C. BeforeInstall -> ApplicationStop -> ValidateService -> ApplicationStart
- D. ApplicationStop -> BeforeInstall -> ValidateService -> ApplicationStart

Answer: B

Explanation:

For in-place deployments, AWS CodeDeploy uses a set of predefined hooks that run in a specific order during each deployment lifecycle event. The hooks are ApplicationStop, BeforeInstall, AfterInstall, ApplicationStart, and ValidateService. The run order of the hooks for in-place deployments is as follows:

? ApplicationStop: This hook runs first on all instances and stops the current application that is running on the instances.

? BeforeInstall: This hook runs after ApplicationStop on all instances and performs any tasks required before installing the new application revision.

? AfterInstall: This hook runs after BeforeInstall on all instances and performs any tasks required after installing the new application revision.

? ApplicationStart: This hook runs after AfterInstall on all instances and starts the new application that has been installed on the instances.

? ValidateService: This hook runs last on all instances and verifies that the new application is running properly on the instances.

Reference: [AWS CodeDeploy lifecycle event hooks reference]

NEW QUESTION 38

A company wants to share information with a third party. The third party has an HTTP API endpoint that the company can use to share the information. The company has the required API key to access the HTTP API.

The company needs a way to manage the API key by using code. The integration of the API key with the application code cannot affect application performance. Which solution will meet these requirements MOST securely?

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

AWS Secrets Manager is a service that helps securely store, rotate, and manage secrets such as API keys, passwords, and tokens. The developer can store the API credentials in AWS Secrets Manager and retrieve them at runtime by using the AWS SDK. This solution will meet the requirements of security, code management, and performance. Storing the API credentials in a local code variable or an S3 object is not secure, as it exposes the credentials to unauthorized access or leakage. Storing the API credentials in a DynamoDB table is also not secure, as it requires additional encryption and access control measures. Moreover, retrieving the credentials from S3 or DynamoDB may affect application performance due to network latency.

References:

? [What Is AWS Secrets Manager? - AWS Secrets Manager]

? [Retrieving a Secret - AWS Secrets Manager]

NEW QUESTION 40

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

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

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

Answer: A

Explanation:

? The Deployment Preference Type property specifies how traffic should be shifted between versions of a Lambda function¹. The Canary10Percent10Minutes option means that 10% of the traffic is immediately shifted to the new version, and after 10 minutes, the remaining 90% of the traffic is shifted¹. This matches the requirement of shifting 10% of the traffic for the first 10 minutes, and then switching all traffic to the new version.

? The AutoPublishAlias property enables AWS SAM to automatically create and update a Lambda alias that points to the latest version of the function¹. This is required to use the Deployment Preference Type property¹. The alias name can be specified by the developer, and it can be used to invoke the function with the latest code.

NEW QUESTION 41

A company needs to distribute firmware updates to its customers around the world.

Which service will allow easy and secure control of the access to the downloads at the lowest cost?

- A. Use Amazon CloudFront with signed URLs for Amazon S3.
- B. Create a dedicated Amazon CloudFront Distribution for each customer.
- C. Use Amazon CloudFront with AWS Lambda@Edge.
- D. Use Amazon API Gateway and AWS Lambda to control access to an S3 bucket.

Answer: A

Explanation:

This solution allows easy and secure control of access to the downloads at the lowest cost because it uses a content delivery network (CDN) that can cache and distribute firmware updates to customers around the world, and uses a mechanism that can restrict access to specific files or versions. Amazon CloudFront is a CDN that can improve performance, availability, and security of web applications by delivering content from edge locations closer to customers. Amazon S3 is a storage service that can store firmware updates in buckets and objects. Signed URLs are URLs that include additional information, such as an expiration date and time, that give users temporary access to specific objects in S3 buckets. The developer can use CloudFront to serve firmware updates from S3 buckets and use signed URLs to control who can download them and for how long. Creating a dedicated CloudFront distribution for each customer will incur unnecessary costs and complexity. Using Amazon CloudFront with AWS Lambda@Edge will require additional programming overhead to implement custom logic at the edge locations. Using Amazon API Gateway and AWS Lambda to control access to an S3 bucket will also require additional programming overhead and may not provide optimal performance or availability.

Reference: [Serving Private Content through CloudFront], [Using CloudFront with Amazon S3]

NEW QUESTION 46

An application uses Lambda functions to extract metadata from files uploaded to an S3 bucket; the metadata is stored in Amazon DynamoDB. The application starts behaving unexpectedly, and the developer wants to examine the logs of the Lambda function code for errors. Based on this system configuration, where would the developer find the logs?

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

Answer: C

Explanation:

Amazon CloudWatch is the service that collects and stores logs from AWS Lambda functions. The developer can use CloudWatch Logs Insights to query and analyze the logs for errors and metrics. Option A is not correct because Amazon S3 is a storage service that does not store Lambda function logs. Option B is not correct because AWS CloudTrail is a service that records API calls and events for AWS services, not Lambda function logs. Option D is not correct because Amazon DynamoDB is a database service that does not store Lambda function logs.
References: AWS Lambda Monitoring, [CloudWatch Logs Insights]

NEW QUESTION 49

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 51

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

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

Answer: A

Explanation:

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

NEW QUESTION 54

A company is planning to securely manage one-time fixed license keys in AWS. The company's development team needs to access the license keys in automation scripts that run in Amazon EC2 instances and in AWS CloudFormation stacks. Which solution will meet these requirements MOST cost-effectively?

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

Answer: C

Explanation:

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

NEW QUESTION 56

An application runs on multiple EC2 instances behind an ELB.

Where is the session data best written so that it can be served reliably across multiple requests?

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

Answer: A

Explanation:

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

Reference: Using ElastiCache for session management

NEW QUESTION 60

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

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

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

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

Answer: C

Explanation:

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

NEW QUESTION 61

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 policies 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:SourceVpce value and in the StringNotEquals condition to use VPC ID.
- C. Create a single S3 bucket policy that the multiple aws:SourceVpce value and in the StringNotEquals condition to use vpce.
- D. Create a single S3 bucket policy that has multiple aws:sourceVpce value in the StringNotEquals condition
- 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

allowed.

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:SourceVpce 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 64

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

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

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

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

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

Answer: C

Explanation:

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

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

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

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

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

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

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

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

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

NEW QUESTION 65

A developer accesses AWS CodeCommit over SSH. The SSH keys configured to access AWS CodeCommit are tied to a user with the following permissions:

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": [
        "codecommit:BatchGetRepositories",
        "codecommit:Get*",
        "codecommit:List*",
        "codecommit:GitPull"
      ],
      "Resource": "*"
    }
  ]
}
```

The developer needs to create/delete branches

Which specific IAM permissions need to be added based on the principle of least privilege?

- A. "codecommit:CreateBranch"
"codecommit>DeleteBranch"
- B. "codecommit:Put*"
- C. "codecommit:Update*"
- D. "codecommit:*"

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

Answer: A

Explanation:

This solution allows the developer to create and delete branches in AWS CodeCommit by granting the codecommit:CreateBranch and codecommit>DeleteBranch permissions. These are the minimum permissions required for this task, following the principle of least privilege. Option B grants too many permissions, such as codecommit:Put*, which allows the developer to create, update, or delete any resource in CodeCommit. Option C grants too few permissions, such as codecommit:Update*, which does not allow the developer to create or delete branches. Option D grants all permissions, such as codecommit:*, which is not secure or recommended.

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

NEW QUESTION 67

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. Bluegreen
- D. Immutable

Answer: B

Explanation:

This solution will meet the requirements by using a rolling with additional batch deployment method, which deploys the new version of the application to a separate group of instances and then shifts traffic to those instances in batches. This way, the application maintains full capacity and avoids service interruption during deployment, as well as minimizes the cost of additional resources that support the deployment. Option A is not optimal because it will use an all at once deployment method, which deploys the new version of the application to all instances simultaneously, which may cause service interruption or downtime during deployment. Option C is not optimal because it will use a blue/green deployment method, which deploys the new version of the application to a separate environment and then swaps URLs with the original environment, which may incur more costs for additional resources that support the deployment. Option D is not optimal because it will use an immutable deployment method, which deploys the new version of the application to a fresh group of instances and then redirects traffic to those instances, which may also incur more costs for additional resources that support the deployment.

References: AWS Elastic Beanstalk Deployment Policies

NEW QUESTION 72

A developer is creating a service that uses an Amazon S3 bucket for image uploads. The service will use an AWS Lambda function to create a thumbnail of each image. Each time an image is uploaded the service needs to send an email notification and create the thumbnail. The developer needs to configure the image processing and email notifications setup.

Which solution will meet these requirements?

- A. Create an Amazon Simple Notification Service (Amazon SNS) topic. Configure S3 event notifications with a destination of the SNS topic. Subscribe the Lambda function to the SNS topic. Create an email notification subscription to the SNS topic.
- B. Create an Amazon Simple Notification Service (Amazon SNS) topic. Configure S3 event notifications with a destination of the SNS topic. Subscribe the Lambda function to the SNS topic.
- C. Configure S3 event notifications with a destination of the SNS topic. Subscribe the Lambda function to the SNS topic.
- D. Subscribe the Lambda function to the SNS topic. Create an email notification subscription to the SNS topic.
- E. Create an Amazon Simple Queue Service (Amazon SQS) queue. Subscribe the SQS queue to the SNS topic. Create an email notification subscription to the SQS queue.
- F. Create an Amazon Simple Queue Service (Amazon SQS) queue. Configure S3 event notifications with a destination of the SQS queue. Subscribe the Lambda function to the SQS queue. Create an email notification subscription to the SQS queue.
- G. Create an Amazon Simple Queue Service (Amazon SQS) queue. Subscribe the SQS queue to the SNS topic. Create an email notification subscription to the SQS queue.
- H. Send S3 event notifications to Amazon EventBridge. Create an EventBridge rule that runs the Lambda function when images are uploaded to the S3 bucket. Create an EventBridge rule that sends notifications to the SQS queue. Create an email notification subscription to the SQS queue.
- I. Create an EventBridge rule that runs the Lambda function when images are uploaded to the S3 bucket. Create an EventBridge rule that sends notifications to the SQS queue. Create an email notification subscription to the SQS queue.

Answer: A

Explanation:

This solution will allow the developer to receive notifications for each image uploaded to the S3 bucket, and also create a thumbnail using the Lambda function. The SNS topic will serve as a trigger for both the Lambda function and the email notification subscription. When an image is uploaded, S3 will send a notification to the SNS topic, which will trigger the Lambda function to create the thumbnail and also send an email notification to the specified email address.

NEW QUESTION 76

A company has an application that stores data in Amazon RDS instances. The application periodically experiences surges of high traffic that cause performance problems.

During periods of peak traffic, a developer notices a reduction in query speed in all database queries.

The team's technical lead determines that a multi-threaded and scalable caching solution should be used to offload the heavy read traffic. The solution needs to improve performance.

Which solution will meet these requirements with the LEAST complexity?

- A. Use Amazon ElastiCache for Memcached to offload read requests from the main database.
- B. Replicate the data to Amazon DynamoD
- C. Set up a DynamoDB Accelerator (DAX) cluster.
- D. Configure the Amazon RDS instances to use Multi-AZ deployment with one standby instance.
- E. Offload read requests from the main database to the standby instance.
- F. Use Amazon ElastiCache for Redis to offload read requests from the main database.

Answer: A

Explanation:

? Amazon ElastiCache for Memcached is a fully managed, multithreaded, and scalable in-memory key-value store that can be used to cache frequently accessed data and improve application performance¹. By using Amazon ElastiCache for Memcached, the developer can reduce the load on the main database and handle high traffic surges more efficiently.

? To use Amazon ElastiCache for Memcached, the developer needs to create a cache cluster with one or more nodes, and configure the application to store and retrieve data from the cache cluster². The developer can use any of the supported Memcached clients to interact with the cache cluster³. The developer can also use Auto Discovery to dynamically discover and connect to all cache nodes in a cluster⁴.

? Amazon ElastiCache for Memcached is compatible with the Memcached protocol, which means that the developer can use existing tools and libraries that work with

Memcached¹. Amazon ElastiCache for Memcached also supports data partitioning, which allows the developer to distribute data among multiple nodes and scale out the cache cluster as needed.

? Using Amazon ElastiCache for Memcached is a simple and effective solution that meets the requirements with the least complexity. The developer does not need to change the database schema, migrate data to a different service, or use a different caching model. The developer can leverage the existing Memcached ecosystem and easily integrate it with the application.

NEW QUESTION 77

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 user's credentials and ran the following command.

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

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

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

Answer: D

Explanation:

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

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

NEW QUESTION 81

A company built an online event platform. For each event, the company organizes quizzes and generates leaderboards that are based on the quiz scores. The company stores the leaderboard data in Amazon DynamoDB and retains the data for 30 days after an event is complete. The company then uses a scheduled job to delete the old leaderboard data.

The DynamoDB table is configured with a fixed write capacity. During the months when many events occur, the DynamoDB write API requests are throttled when the scheduled delete job runs.

A developer must create a long-term solution that deletes the old leaderboard data and optimizes write throughput.

Which solution meets these requirements?

- A. Configure a TTL attribute for the leaderboard data.
- B. Use DynamoDB Streams to schedule and delete the leaderboard data.
- C. Use AWS Step Functions to schedule and delete the leaderboard data.
- D. Set a higher write capacity when the scheduled delete job runs.

Answer: A

Explanation:

"Deletes the item from your table without consuming any write throughput" <https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/TTL.html>

NEW QUESTION 83

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

- A. Set the Deployment Preference Type to Canary10Percent10Minute
AutoPublishAlias property to the Lambda alias.
- B. Set the Deployment Preference Type to Linear10PercentEvery10Minute
- C. Set the Deployment Preference Type to Canary10Percent10Minute
- D. Set AutoPublishAlias property to the Lambda alias.
- E. Set the Deployment Preference Type to Canary10Percent10Minute
- F. Set the PreTraffic and PostTraffic properties to the Lambda alias.
- G. Set the Deployment Preference Type to Linear10PercentEvery10Minute
- H. Set PreTraffic and Post Traffic properties to the Lambda alias.

Answer: A

Explanation:

The AWS Serverless Application Model (AWS SAM) comes built-in with CodeDeploy to provide gradual AWS Lambda deployments¹. The DeploymentPreference property in AWS SAM allows you to specify the type of deployment that you want. The Canary10Percent10Minutes option means that 10 percent of your customer traffic is immediately shifted to your new version. After 10 minutes, all traffic is shifted to the new version¹. The AutoPublishAlias property in AWS SAM allows AWS SAM to automatically create an alias that points to the updated version of the Lambda function¹. Therefore, option A is correct.

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 DB 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 to an Amazon DynamoDB database.
- C. Configure the Amazon Aurora MySQL DB instance for 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 93

A company has an analytics application that uses an AWS Lambda function to process transaction data asynchronously. A developer notices that asynchronous invocations of the Lambda function sometimes fail. When failed Lambda function invocations occur, the developer wants to invoke a second Lambda function to handle errors and log details. Which solution will meet these requirements?

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Configuring a Lambda function destination with a failure condition is the best solution for invoking a second Lambda function to handle errors and log details. A Lambda function destination is a resource that Lambda sends events to after a function is invoked. The developer can specify the destination type as Lambda function and the ARN of the error-handling Lambda function as the resource. The developer can also specify the failure condition, which means that the destination is invoked only when the initial Lambda function fails. The destination event will include the response from the initial function, the request ID, and the timestamp. The other solutions are either not feasible or not efficient. Enabling AWS X-Ray active tracing on the initial Lambda function will help to monitor and troubleshoot the function performance, but it will not automatically invoke the error-handling Lambda function. Configuring a Lambda function trigger with a failure condition is not a valid option, as triggers are used to invoke Lambda functions, not to send events from Lambda functions. Creating a status check alarm on the initial Lambda function will incur additional costs and complexity, and it will not capture the details of the failed

invocations. References

- ? Using AWS Lambda destinations
- ? Asynchronous invocation - AWS Lambda
- ? AWS Lambda Destinations: What They Are and Why to Use Them
- ? AWS Lambda Destinations: A Complete Guide | Dashbird

NEW QUESTION 95

A company's developer has deployed an application in AWS by using AWS CloudFormation. The CloudFormation stack includes parameters in AWS Systems Manager Parameter Store that the application uses as configuration settings. The application can modify the parameter values. When the developer updated the stack to create additional resources with tags, the developer noted that the parameter values were reset and that the values ignored the latest changes made by the application. The developer needs to change the way the company deploys the CloudFormation stack. The developer also needs to avoid resetting the parameter values outside the stack. Which solution will meet these requirements with the LEAST development effort?

- A. Modify the CloudFormation stack to set the deletion policy to Retain for the Parameter Store parameters.
- B. Create an Amazon DynamoDB table as a resource in the CloudFormation stack to hold configuration data for the application. Migrate the parameters that the application is modifying from Parameter Store to the DynamoDB table.
- C. Create an Amazon RDS DB instance as a resource in the CloudFormation stack.
- D. Create a table in the database for parameter configuration.
- E. Migrate the parameters that the application is modifying from Parameter Store to the configuration table.
- F. Modify the CloudFormation stack policy to deny updates on Parameter Store parameters.

Answer: D

Explanation:

<https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/protect-stack-resources.html#stack-policy-samples>

NEW QUESTION 98

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

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

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

? Monitoring and troubleshooting Lambda functions - AWS Lambda

? Using AWS Lambda with AWS X-Ray

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

NEW QUESTION 100

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 StateMachine resource.
- B. Configure the CloudFormation template to store the API endpoint in an environment variable for the AWS::StepFunctions::StateMachine resource. 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 105

A developer has a legacy application that is hosted on-premises. Other applications hosted on AWS depend on the on-premises application for proper functioning. In case of any application errors, the developer wants to be able to use Amazon CloudWatch to monitor and troubleshoot all applications from one place. How can the developer accomplish this?

- A. Install an AWS SDK on the on-premises server to automatically send logs to CloudWatch.
- B. Download the CloudWatch agent to the on-premises server.
- 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 107

A team of developed is using an AWS CodePipeline pipeline as a continuous integration and continuous delivery (CI/CD) mechanism for a web application. A developer has written unit tests to programmatically test the functionality of the application code. The unit tests produce a test report that shows the results of each individual check. The developer now

wants to run these tests automatically during the CI/CD process.

- A. Write a Git pre-commit hook that runs the test before every commi
- B. Ensure that each developer who is working on the project has the pre-commit hook instated locall
- C. Review the test report and resolve any issues before pushing changes to AWS CodeCommit.
- D. Add a new stage to the pipelin
- E. Use AWS CodeBuild as the provide
- F. Add the new stage after the stage that deploys code revisions to the test environmen
- G. Write a buildspec that fails the CodeBuild stage if any test does not pas
- H. Use the test reports feature of Codebuild to integrate the report with the CodoBuild consol
- I. View the test results in CodeBuild Resolve any issues.
- J. Add a new stage to the pipelin
- K. Use AWS CodeBuild at the provide
- L. Add the new stage before the stage that deploys code revisions to the test environmen
- M. Write a buildspec that fails the CodeBuild stage it any test does not pas
- N. Use the test reports feature of CodeBuild to integrate the report with the CodeBuild consol
- O. View the test results in codeBuild Resolve any issues.
- P. Add a new stage to the pipelin
- Q. Use Jenkins as the provide
- R. Configure CodePipeline to use Jenkins to run the unit test
- S. Write a Jenkinsfile that fails the stage if any test does not pas
- T. Use the test report plugin for Jenkins to integrate the repot with the Jenkins dashboar
- . View the test results in Jenkin
- . Resolve any issues.

Answer: C

Explanation:

The solution that will meet the requirements is to add a new stage to the pipeline. Use AWS CodeBuild as the provider. Add the new stage before the stage that deploys code revisions to the test environment. Write a buildspec that fails the CodeBuild stage if any test does not pass. Use the test reports feature of CodeBuild to integrate the report with the CodeBuild console. View the test results in CodeBuild. Resolve any issues. This way, the developer can run the unit tests automatically during the CI/CD process and catch any bugs before deploying to the test environment. The developer can also use the test reports feature of CodeBuild to view and analyze the test results in a graphical interface. The other options either involve running the tests manually, running them after deployment, or using a different provider that requires additional configuration and integration.

Reference: Test reports for CodeBuild

NEW QUESTION 109

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 112

A company is expanding the compatibility of its photo-sharing 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.

Create a Lambda@Edge function that optimizes the photos upon request and returns the photos as a respons

G: 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 117

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 then 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 for 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 serverless 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.

Use an Amazon CloudWatch Logs metric to count the number of API call

F: Configure an Amazon CloudWatch alarm that stops the currently running instance of the Lambda function when the metric exceeds the API threshold limits.

G. Use Amazon Kinesis Data Firehose to batch the API calls and deliver them to an Amazon S3 bucket with 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 118

A developer is planning to migrate on-premises company data to Amazon S3. The data must be encrypted, and the encryption keys must support automatic 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 is 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 123

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

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

Which solution will meet these requirements?

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

Answer: C

Explanation:

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

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

NEW QUESTION 128

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 131

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 135

A developer is troubleshooting an application in an integration environment. In the application, an Amazon Simple Queue Service (Amazon SQS) queue consumes messages and then an AWS Lambda function processes the messages. The Lambda function transforms the messages and makes an API call to a third-party service.

There has been an increase in application usage. The third-party API frequently returns an HTTP 429 Too Many Requests error message. The error message prevents a significant number of messages from being processed successfully.

How can the developer resolve this issue?

- A. Increase the SQS event source's batch size setting.
- B. Configure provisioned concurrency for the Lambda function based on the third-party API's documented rate limits.
- C. Increase the retry attempts and maximum event age in the Lambda function's asynchronous configuration.
- D. Configure maximum concurrency on the SQS event source based on the third-party service's documented rate limits.

Answer: D

Explanation:

? Maximum concurrency for SQS as an event source allows customers to control the maximum concurrent invokes by the SQS event source¹. When multiple SQS event sources are configured to a function, customers can control the maximum concurrent invokes of individual SQS event source¹.

? In this scenario, the developer needs to resolve the issue of the third-party API frequently returning an HTTP 429 Too Many Requests error message, which prevents a significant number of messages from being processed successfully. To achieve this, the developer can follow these steps:

? By using this solution, the developer can reduce the frequency of HTTP 429 errors and improve the message processing success rate. The developer can also avoid throttling or blocking by the third-party API.

NEW QUESTION 139

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

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

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

Answer: B

Explanation:

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

Reference: Asynchronous invocation

NEW QUESTION 143

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 148

A developer is creating a mobile app that calls a backend service by using an Amazon API Gateway REST API. For integration testing during the development phase, the developer wants to simulate different backend responses without invoking the backend service.

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

- A. Create an AWS Lambda function
- B. Use API Gateway proxy integration to return constant HTTP responses.
- C. Create an Amazon EC2 instance that serves the backend REST API by using an AWS CloudFormation template.
- D. Customize the API Gateway stage to select a response type based on the request.
- E. Use a request mapping template to select the mock integration response.

Answer: D

Explanation:

Amazon API Gateway supports mock integration responses, which are predefined responses that can be returned without sending requests to a backend service. Mock integration responses can be used for testing or prototyping purposes, or for simulating different backend responses based on certain conditions. A request mapping template can be used to select a mock integration response based on an expression that evaluates some aspects of the request, such as headers, query strings, or body content. This solution does not require any additional resources or code changes and has the least operational overhead. Reference: Set up mock integrations for an API Gateway REST API

<https://docs.aws.amazon.com/apigateway/latest/developerguide/how-to-mock-integration.html>

NEW QUESTION 150

A developer is deploying a company's application to Amazon EC2 instances. The application generates gigabytes of data files each day. The files are rarely accessed but the files must be available to the application's users within minutes of a request during the first year of storage. The company must retain the files for 7 years.

How can the developer implement the application to meet these requirements MOST cost-effectively?

- A. Store the files in an Amazon S3 bucket. Use the S3 Glacier Instant Retrieval storage class. Create an S3 Lifecycle policy to transition the files to the S3 Glacier Deep Archive storage class after 1 year.
- B. Store the files in an Amazon S3 bucket.
- C. Use the S3 Standard storage class.
- D. Create an S3 Lifecycle policy to transition the files to the S3 Glacier Flexible Retrieval storage class after 1 year.
- E. Store the files on an Amazon Elastic Block Store (Amazon EBS) volume. Use Amazon Data Lifecycle Manager (Amazon DLM) to create snapshots of the EBS volumes and to store those snapshots in Amazon S3.
- F. Store the files on an Amazon Elastic File System (Amazon EFS) mount.
- G. Configure EFS lifecycle management to transition the files to the EFS Standard-Infrequent Access (Standard-IA) storage class after 1 year.

Answer: A

Explanation:

Amazon S3 Glacier Instant Retrieval is an archive storage class that delivers the lowest-cost storage for long-lived data that is rarely accessed and requires retrieval in

milliseconds. With S3 Glacier Instant Retrieval, you can save up to 68% on storage costs compared to using the S3 Standard-Infrequent Access (S3 Standard-IA) storage class, when your data is accessed once per quarter. <https://aws.amazon.com/s3/storage-classes/glacier/instant-retrieval/>

NEW QUESTION 152

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

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

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

Answer: B

Explanation:

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

NEW QUESTION 155

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

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

Answer: C

Explanation:

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

References:

? [What Is AWS CodeCommit? - AWS CodeCommit]

? [AWS CodePipeline - AWS CodeCommit]

NEW QUESTION 160

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

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

Answer: D

Explanation:

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

References:

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

? [What Is Amazon CloudFront? - Amazon CloudFront]

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

NEW QUESTION 161

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 164

A developer maintains an Amazon API Gateway REST API. Customers use the API through a frontend UI and Amazon Cognito authentication.

The developer has a new version of the API that contains new endpoints and backward-incompatible interface changes. The developer needs to provide beta access to other developers on the team without affecting customers.

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

- A. Define a development stage on the API Gateway AP
- B. Instruct the other developers to point the endpoints to the development stage.
- C. Define a new API Gateway API that points to the new API application cod
- D. Instruct the other developers to point the endpoints to the new API.
- E. Implement a query parameter in the API application code that determines which code version to call.
- F. Specify new API Gateway endpoints for the API endpoints that the developer wants to add.

Answer: A

Explanation:

Amazon API Gateway is a service that enables developers to create, publish, maintain, monitor, and secure APIs at any scale. The developer can define a development stage on the API Gateway API and instruct the other developers to point the endpoints to the development stage. This way, the developer can provide beta access to the new version of the API without affecting customers who use the production stage. This solution will meet the requirements with the least operational overhead.

References:

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

? [Set up a Stage in API Gateway - Amazon API Gateway]

NEW QUESTION 167

A developer at a company recently created a serverless application to process and show data from business reports. The application's user interface (UI) allows users to select and start processing the files. The UI displays a message when the result is available to view. The application uses AWS Step Functions with AWS Lambda functions to process the files. The developer used Amazon API Gateway and Lambda functions to create an API to support the UI.

The company's UI team reports that the request to process a file is often returning timeout errors because of the size or complexity of the files. The UI team wants the API to provide an immediate response so that the UI can display a message while the files are being processed. The backend process that is invoked by the API needs to send an email message when the report processing is complete.

What should the developer do to configure the API to meet these requirements?

- A. Change the API Gateway route to add an X-Amz-Invocation-Type header with a static value of 'Event' in the integration request. Deploy the API Gateway stage to apply the changes.
- B. Change the configuration of the Lambda function that implements the request to process a file.
- C. Configure the maximum age of the event so that the Lambda function will run asynchronously.
- D. Change the API Gateway timeout value to match the Lambda function timeout value.
- E. Deploy the API Gateway stage to apply the changes.
- F. Change the API Gateway route to add an X-Amz-Target header with a static value of 'AWS::Lambda::Invoke' in the integration request. Deploy the API Gateway stage to apply the changes.

Answer: A

Explanation:

This solution allows the API to invoke the Lambda function asynchronously, which means that the API will return an immediate response without waiting for the function to complete. The X-Amz-Invocation-Type header specifies the invocation type of the Lambda function, and setting it to 'Event' means that the function will be invoked asynchronously. The function can then use Amazon Simple Email Service (SES) to send an email message when the report processing is complete.

Reference: [Asynchronous invocation], [Set up Lambda proxy integrations in API Gateway]

NEW QUESTION 169

A developer is optimizing an AWS Lambda function and wants to test the changes in

production on a small percentage of all traffic. The Lambda function serves requests to a REST API in Amazon API Gateway. The developer needs to deploy their changes and perform a test in production without changing the API Gateway URL.

Which solution will meet these requirements?

- A. Define a function version for the currently deployed production Lambda function.
- B. Update the API Gateway endpoint to reference the new Lambda function version.
- C. Upload and publish the optimized Lambda function code.
- D. On the production API Gateway stage, define a canary release and set the percentage of traffic to direct to the canary release.
- E. Update the API Gateway endpoint to use the \$LATEST version of the Lambda function.
- F. Publish the API to the canary stage.
- G. Define a function version for the currently deployed production Lambda function.
- H. Update the API Gateway endpoint to reference the new Lambda function version.
- I. Upload and publish the optimized Lambda function code.

- J. Update the API Gateway endpoint to use the \$LATEST version of the Lambda function
- K. Deploy a new API Gateway stage.
- L. Define an alias on the \$LATEST version of the Lambda function
- M. Update the API Gateway endpoint to reference the new Lambda function alias
- N. Upload and publish the optimized Lambda function code
- O. On the production API Gateway stage, define a canary release and set the percentage of traffic to direct to the canary release
- P. Update the API Gateway endpoint to use the \$LATEST version of the Lambda function
- Q. Publish to the canary stage.
- R. Define a function version for the currently deployed production Lambda function
- S. Update the API Gateway endpoint to reference the new Lambda function version
- T. Upload and publish the optimized Lambda function code
- . Update the API Gateway endpoint to use the \$LATEST version of the Lambda function
- . Deploy the API to the production API Gateway stage.

Answer: C

Explanation:

? A Lambda alias is a pointer to a specific Lambda function version or another alias¹. A Lambda alias allows you to invoke different versions of a function using the same name¹. You can also split traffic between two aliases by assigning weights to them¹.

? In this scenario, the developer needs to test their changes in production on a small percentage of all traffic without changing the API Gateway URL. To achieve this, the developer can follow these steps:

? By using this solution, the developer can test their changes in production on a small percentage of all traffic without changing the API Gateway URL. The developer can also monitor and compare metrics between the canary and production releases, and promote or disable the canary as needed².

NEW QUESTION 172

A company is using AWS CloudFormation to deploy a two-tier application. The application will use Amazon RDS as its backend database. The company wants a solution that will randomly generate the database password during deployment. The solution also must automatically rotate the database password without requiring changes to the application.

What is the MOST operationally efficient solution that meets these requirements?

- A. Use an AWS Lambda function as a CloudFormation custom resource to generate and rotate the password.
- B. Use an AWS Systems Manager Parameter Store resource with the SecureString data type to generate and rotate the password.
- C. Use a cron daemon on the application's host to generate and rotate the password.
- D. Use an AWS Secrets Manager resource to generate and rotate the password.

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 use an AWS Secrets Manager resource in an AWS CloudFormation template, which enables creating and managing secrets as part of a CloudFormation stack. The developer can use an `AWS::SecretsManager::Secret` resource type to generate and rotate the password for accessing RDS database during deployment. The developer can also specify a `RotationSchedule` property for the secret resource, which defines how often to rotate the secret and which Lambda function to use for rotation logic. Option A is not optimal because it will use an AWS Lambda function as a CloudFormation custom resource, which may introduce additional complexity and overhead for creating and managing a custom resource and implementing rotation logic. Option B is not optimal because it will use an AWS Systems Manager Parameter Store resource with the SecureString data type, which does not support automatic rotation of secrets. Option C is not optimal because it will use a cron daemon on the application's host to generate and rotate the password, which may incur more costs and require more maintenance for running and securing a host.

References: [AWS Secrets Manager], [AWS::SecretsManager::Secret]

NEW QUESTION 173

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 177

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