



Amazon

Exam Questions DVA-C02

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NEW QUESTION 1

A company is using Amazon OpenSearch Service to implement an audit monitoring system. A developer needs to create an AWS CloudFormation custom resource that is

associated with an AWS Lambda function to configure the OpenSearch Service domain. The Lambda function must access the OpenSearch Service domain by using Open Search Service internal master user credentials. What is the MOST secure way to pass these credentials to the Lambdas function?

- A. Use a CloudFormation parameter to pass the master user credentials at deployment to the OpenSearch Service domain's MasterUserOptions and the Lambda function's environment variable
- B. Set the No Echo attribute to true.
- C. Use a CloudFormation parameter to pass the master user credentials at deployment to the OpenSearch Service domain's MasterUserOptions and to create a parameter
- D. In AWS Systems Manager Parameter Store
- E. Set the No Echo attribute to true
- F. Create an IAM role that has the ssm GetParameter permission
- G. Assign the role to the Lambda function
- H. Store the parameter name as the Lambda function's environment variable
- I. Resolve the parameter's value at runtime.
- J. Use a CloudFormation parameter to pass the master user credentials at deployment to the OpenSearch Service domain's MasterUserOptions and the Lambda function's environment variable
- K. We Encrypt the parameter's value by using the AWS Key Management Service (AWS KMS) encrypt command.
- L. Use CloudFormation to create an AWS Secrets Manager Secret
- M. Use a CloudFormation dynamic reference to retrieve the secret's value for the OpenSearch Service domain's MasterUserOptions
- N. Create an IAM role that has the secretsmanager:GetSecretValue permission
- O. Assign the role to the Lambda Function Store the secret's name as the Lambda function's environment variable
- P. Resolve the secret's value at runtime.

Answer: D

Explanation:

The solution that will meet the requirements is to use CloudFormation to create an AWS Secrets Manager secret. Use a CloudFormation dynamic reference to retrieve the secret's value for the OpenSearch Service domain's MasterUserOptions. Create an IAM role that has the secretsmanager:GetSecretValue permission. Assign the role to the Lambda function. Store the secret's name as the Lambda function's environment variable. Resolve the secret's value at runtime. This way, the developer can pass the credentials to the Lambda function in a secure way, as AWS Secrets Manager encrypts and manages the secrets. The developer can also use a dynamic reference to avoid exposing the secret's value in plain text in the CloudFormation template. The other options either involve passing the credentials as plain text parameters, which is not secure, or encrypting them with AWS KMS, which is less convenient than using AWS Secrets Manager.

Reference: Using dynamic references to specify template values

NEW QUESTION 2

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

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

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

Answer: A

Explanation:

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

References

? HTTP Status Codes

? AWS Lambda Function Errors in API Gateway

NEW QUESTION 3

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 the 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 4

A developer is designing a serverless application for a game in which users register and log in through a web browser. The application makes requests on behalf of users to a set of AWS Lambda functions that run behind an Amazon API Gateway HTTP API.

The developer needs to implement a solution to register and log in users on the application's sign-in page. The solution must minimize operational overhead and must minimize ongoing management of user identities.

Which solution will meet these requirements?

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

Answer: A

Explanation:

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

NEW QUESTION 5

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 6

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 7

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

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

Which solution will meet these requirements MOST securely?

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

Answer: C

Explanation:

Store the credentials in AWS Secrets Manager and enable rotation. Configure the API to have Secrets Manager access. This is correct. This solution will meet the requirements most securely, because it uses a service that is designed to store and manage secrets such as API credentials. AWS Secrets Manager helps you protect access to your applications, services, and IT resources by enabling you to rotate, manage, and retrieve secrets throughout their lifecycle¹. You can store secrets such as passwords, database strings, API keys, and license codes as encrypted values². You can also configure automatic rotation of your secrets on a schedule that you specify³. You can use the AWS SDK or CLI to retrieve secrets from Secrets Manager when you need them⁴. This way, you can avoid storing credentials in plaintext files or hardcoding them in your code.

NEW QUESTION 8

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

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

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

Answer: C

Explanation:

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

NEW QUESTION 9

A company uses Amazon API Gateway to expose a set of APIs to customers. The APIs have caching enabled in API Gateway. Customers need a way to invalidate the cache for each API when they test the API.

What should a developer do to give customers the ability to invalidate the API cache?

- A. Ask the customers to use AWS credentials to call the InvalidateCache API operation.
- B. Attach an InvalidateCache policy to the IAM execution role that the customers use to invoke the API
- C. Ask the customers to send a request that contains the HTTP header when they make an API call.
- D. Ask the customers to use the AWS SDK API Gateway class to invoke the InvalidateCache API operation.
- E. Attach an InvalidateCache policy to the IAM execution role that the customers use to invoke the API
- F. Ask the customers to add the INVALIDATE_CACHE query string parameter when they make an API call.

Answer: D

NEW QUESTION 10

A developer is creating a simple proof-of-concept demo by using AWS CloudFormation and AWS Lambda functions. The demo will use a CloudFormation template to deploy an existing Lambda function. The Lambda function uses deployment packages and dependencies stored in Amazon S3. The developer defined an AWS Lambda Function resource in a CloudFormation template. The developer needs to add the S3 bucket to the CloudFormation template.

What should the developer do to meet these requirements with the LEAST development effort?

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

Answer: D

Explanation:

The easiest way to add the S3 bucket to the CloudFormation template is to use the S3Bucket and S3Key properties of the AWS::Lambda::Function resource. These properties specify the name of the S3 bucket and the location of the .zip file that contains the function code and dependencies. This way, the developer

does not need to modify the function code or upload it to a different location. The other options are either not feasible or not efficient. The code property can only be used for inline code, not for code stored in S3. The ZipFile property can only be used for code that is less than 4096 bytes, not for code that has dependencies. Finding the S3 key for the Lambda function and adding it as the ZipFile property would not work, as the ZipFile property expects a base64-encoded .zip file, not an S3 location. References
 ? AWS::Lambda::Function - AWS CloudFormation
 ? Deploying Lambda functions as .zip file archives
 ? AWS Lambda Function Code - AWS CloudFormation

NEW QUESTION 10

A developer is creating a new REST API by using Amazon API Gateway and AWS Lambda. The development team tests the API and validates responses for the known use cases before deploying the API to the production environment.

The developer wants to make the REST API available for testing by using API Gateway locally. Which AWS Serverless Application Model Command Line Interface (AWS SAM CLI) subcommand will meet these requirements?

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

Answer: D

Explanation:

? The sam local start-api subcommand allows you to run your serverless application locally for quick development and testing¹. It creates a local HTTP server that acts as a proxy for API Gateway and invokes your Lambda functions based on the AWS SAM template¹. You can use the sam local start-api subcommand to test your REST API locally by sending HTTP requests to the local endpoint¹.

NEW QUESTION 15

A developer has written the following IAM policy to provide access to an Amazon S3 bucket:

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": [
        "s3:GetObject",
        "s3:PutObject"
      ],
      "Resource": "arn:aws:s3:::DOC-EXAMPLE-BUCKET/*"
    },
    {
      "Effect": "Deny",
      "Action": "s3:*",
      "Resource": "arn:aws:s3:::DOC-EXAMPLE-BUCKET/secrets*"
    }
  ]
}
```

Which access does the policy allow regarding the s3:GetObject and s3:PutObject actions?

- A. Access on all buckets except the “DOC-EXAMPLE-BUCKET” bucket
- B. Access on all buckets that start with “DOC-EXAMPLE-BUCKET” except the “DOC-EXAMPLE-BUCKET/secrets” bucket
- C. Access on all objects in the “DOC-EXAMPLE-BUCKET” bucket along with access to all S3 actions for objects in the “DOC-EXAMPLE-BUCKET” bucket that start with “secrets”
- D. Access on all objects in the “DOC-EXAMPLE-BUCKET” bucket except on objects that start with “secrets”

Answer: D

Explanation:

The IAM policy shown in the image is a resource-based policy that grants or denies access to an S3 bucket based on certain conditions. The first statement allows access to any S3 action on any object in the “DOC-EXAMPLE-BUCKET” bucket when the request is made over HTTPS (the value of aws:SecureTransport is true). The second statement denies access to the s3:GetObject and s3:PutObject actions on any object in the “DOC-EXAMPLE-BUCKET/secrets” prefix when the request is made over HTTP (the value of aws:SecureTransport is false). Therefore, the policy allows access on all objects in the “DOC-EXAMPLE-BUCKET” bucket except on objects that start with “secrets”.

Reference: Using IAM policies for Amazon S3

NEW QUESTION 18

A developer creates a static website for their department The developer deploys the static assets for the website to an Amazon S3 bucket and serves the assets with Amazon CloudFront The developer uses origin access control (OAC) on the CloudFront distribution to access the S3 bucket

The developer notices users can access the root URL and specific pages but cannot access directories without specifying a file name. For example, /products/index.html works, but /products returns an error The developer needs to enable accessing directories without specifying a file name without exposing the S3 bucket publicly.

Which solution will meet these requirements'?

- A. Update the CloudFront distribution's settings to index.html as the default root object is set

Update the Amazon S3 bucket settings and enable static website hosting

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

Answer: A

Explanation:

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

- ? Specifying a default root object
- ? cloudfront-default-root-object-configured
- ? How to setup CloudFront default root object?
- ? Ensure a default root object is configured for AWS Cloudfront ...

NEW QUESTION 22

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 Region
- 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 Region
- 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 file
- G. Upload the config file to an S3 bucket in the primary Region
- H. Enable Cross-Region Replication (CRR) to an S3 bucket in the secondary region
- I. Update the application to access the config file from the S3 bucket based on the Region.
- J. Store credentials in a config file
- K. Upload the config file to an Amazon Elastic File System (Amazon EFS) file system
- 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 26

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 API
- D. Embed responses captured from the real third-party API
- 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 28

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

How can the developer troubleshoot the failure?

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

Answer: B

Explanation:

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

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

NEW QUESTION 33

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 37

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 instanc
- 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 38

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

Which solution will meet these requirements?

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

Answer: D

Explanation:

Amazon EC2 instances can send the state-change notification events to Amazon EventBridge.

<https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/monitoring-instance-state-changes.html> Amazon EventBridge can send and receive events between event buses in AWS accounts. <https://docs.aws.amazon.com/eventbridge/latest/userguide/eb-cross-account.html>

NEW QUESTION 40

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 44

A developer has an application that is composed of many different AWS Lambda functions. The Lambda functions all use some of the same dependencies. To avoid security issues the developer is constantly updating the dependencies of all of the Lambda functions. The result is duplicated effort to reach function.

How can the developer keep the dependencies of the Lambda functions up to date with the LEAST additional complexity?

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

Answer: C

Explanation:

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

Reference: [AWS Lambda layers]

NEW QUESTION 48

A developer is working on a web application that uses Amazon DynamoDB as its data store. The application has two DynamoDB tables: one table that is named `artists` and one table that is named `songs`. The `artists` table has `artistName` as the partition key. The `songs` table has `songName` as the partition key and `artistName` as the sort key.

The table usage patterns include the retrieval of multiple songs and artists in a single database operation from the webpage. The developer needs a way to retrieve this information with minimal network traffic and optimal application performance.

Which solution will meet these requirements?

- A. Perform a `BatchGetItem` operation that returns items from the two tables.
- B. Use the list of `songName` `artistName` keys for the `songs` table and the list of `artistName` key for the `artists` table.
- C. Create a local secondary index (LSI) on the `songs` table that uses `artistName` as the partition key. Perform a query operation for each `artistName` on the `songs` table that filters by the list of `songName`. Perform a query operation for each `artistName` on the `artists` table.
- D. Perform a `BatchGetItem` operation on the `songs` table that uses the `songName/artistName` key.

- E. Perform a BatchGetItem operation on the artists table that uses artistName as the key.
F. Perform a Scan operation on each table that filters by the list of songName/artistName for the songs table and the list of artistName in the artists table.

Answer: A

Explanation:

BatchGetItem can return one or multiple items from one or more tables. For reference check the link below
https://docs.aws.amazon.com/amazondynamodb/latest/APIReference/API_BatchGetItem.html

NEW QUESTION 53

A company is migrating legacy internal applications to AWS. Leadership wants to rewrite the internal employee directory to use native AWS services. A developer needs to create a solution for storing employee contact details and high-resolution photos for use with the new application. Which solution will enable the search and retrieval of each employee's individual details and high-resolution photos using AWS APIs?

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

Answer: B

Explanation:

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

References:

- ? [Amazon DynamoDB]
? [Amazon Simple Storage Service (S3)]

NEW QUESTION 57

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 58

A developer migrated a legacy application to an AWS Lambda function. The function uses a third-party service to pull data with a series of API calls at the end of each month. The function than processes the data to generate the monthly reports. The function has Been working with no issues so far.

The third-party service recently issued a restriction to allow a feed number to API calls each minute and each day. If the API calls exceed the limit tor each minute or each day, then the service will produce errors. The API also provides the minute limit and daily limit in the response header. This restriction might extend the overall process to multiple days because the process is consuming more API calls than the available limit.

What is the MOST operationally efficient way to refactor the server less application to accommodate this change?

- A. Use an AWS Step Functions State machine to monitor API failure
- B. Use the Wait state to delay calling the Lambda function.
- C. Use an Amazon Simple Queue Service (Amazon SQS) queue to hold the API call
- D. Configure the Lambda function to poll the queue within the API threshold limits.
Use an Amazon CloudWatch Logs metric to count the number of API call
- E. 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 62

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 66

A developer is creating an Amazon DynamoDB table by using the AWS CLI. The DynamoDB table must use server-side encryption with an AWS owned encryption key.

How should the developer create the DynamoDB table to meet these requirements?

- A. Create an AWS Key Management Service (AWS KMS) customer managed key
- B. Provide the key's Amazon Resource Name (ARN) in the KMSMasterKeyId parameter during creation of the DynamoDB table
- C. Create an AWS Key Management Service (AWS KMS) AWS managed key. Provide the key's Amazon Resource Name (ARN) in the KMSMasterKeyId parameter during creation of the DynamoDB table
- D. Create an AWS owned key. Provide the key's Amazon Resource Name (ARN) in the KMSMasterKeyId parameter during creation of the DynamoDB table.
- E. Create the DynamoDB table with the default encryption options

Answer: D

Explanation:

When creating an Amazon DynamoDB table using the AWS CLI, server-side encryption with an AWS owned encryption key is enabled by default. Therefore, the developer does not need to create an AWS KMS key or specify the KMSMasterKeyId parameter. Option A and B are incorrect because they suggest creating customer-managed and AWS-managed KMS keys, which are not needed in this scenario. Option C is also incorrect because AWS owned keys are automatically used for server-side encryption by default.

NEW QUESTION 70

An application is using Amazon Cognito user pools and identity pools for secure access. A developer wants to integrate the user-specific file upload and download features in the application with Amazon S3. The developer must ensure that the files are saved and retrieved in a secure manner and that users can access only their own files. The file sizes range from 3 KB to 300 MB.

Which option will meet these requirements with the HIGHEST level of security?

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

Answer: D

Explanation:

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

NEW QUESTION 71

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 72

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 77

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 82

A developer wants to store information about movies. Each movie has a title, release year, and genre. The movie information also can include additional properties about the cast and production crew. This additional information is inconsistent across movies. For example, one movie might have an assistant director, and another movie might have an animal trainer.

The developer needs to implement a solution to support the following use cases:

For a given title and release year, get all details about the movie that has that title and release year.

For a given title, get all details about all movies that have that title. For a given genre, get all details about all movies in that genre. Which data store configuration will meet these requirements?

- A. Create an Amazon DynamoDB table.
- B. Configure the table with a primary key that consists of the title as the partition key and the release year as the sort key.
- C. Create a global secondary index that uses the genre as the partition key and the title as the sort key.
- D. Create an Amazon DynamoDB table.
- E. Configure the table with a primary key that consists of the genre as the partition key and the release year as the sort key.
- F. Create a global secondary index that uses the title as the partition key.
- G. On an Amazon RDS DB instance, create a table that contains columns for title, release year, and genre.
- H. Configure the title as the primary key.
- I. On an Amazon RDS DB instance, create a table where the primary key is the title and all other data is encoded into JSON format as one additional column.

Answer: A

Explanation:

Amazon DynamoDB is a fully managed NoSQL database service that provides fast and consistent performance with seamless scalability. The developer can create a DynamoDB table and configure the table with a primary key that consists of the title as the partition key and the release year as the sort key. This will enable querying for a given title and release year efficiently. The developer can also create a global secondary index that uses the genre as the partition key and the title as the sort key. This will enable querying for a given genre efficiently. The developer can store additional properties about the cast and production crew as attributes in the DynamoDB table. These attributes can have different data types and structures, and they do not need to be consistent across items.

References:

? [Amazon DynamoDB]

? [Working with Queries - Amazon DynamoDB]

? [Working with Global Secondary Indexes - Amazon DynamoDB]

A company hosts its application on AWS. The application runs on an Amazon Elastic Container Service (Amazon ECS) cluster that uses AWS Fargate. The cluster runs behind an Application Load Balancer. The application stores data in an Amazon Aurora database. A developer encrypts and manages database credentials inside the application. The company wants to use a more secure credential storage method and implement periodic credential rotation. Which solution will meet these requirements with the LEAST operational overhead?

- A. Migrate the secret credentials to Amazon RDS parameter group
- B. Encrypt the parameter by using an AWS Key Management Service (AWS KMS) key. Turn on secret rotation.
- C. Use IAM policies and roles to grant AWS KMS permissions to access Amazon RDS.
- D. Migrate the credentials to AWS Systems Manager Parameter Store. Encrypt the parameter by using an AWS Key Management Service (AWS KMS) key. Turn on secret rotation.
- E. Encrypt the parameter by using an AWS Key Management Service (AWS KMS) key. Turn on secret rotation.
- F. Turn on secret rotation.
- G. Use IAM policies and roles to grant Amazon ECS Fargate permissions to access to AWS Secrets Manager.
- H. Migrate the credentials to ECS Fargate environment variable.
- I. Encrypt the credentials by using an AWS Key Management Service (AWS KMS) key. Turn on secret rotation.
- J. Use IAM policies and roles to grant Amazon ECS Fargate permissions to access to AWS Secrets Manager.
- K. Migrate the credentials to AWS Secrets Manager. Encrypt the credentials by using an AWS Key Management Service (AWS KMS) key. Turn on secret rotation.
- L. Encrypt the credentials by using an AWS Key Management Service (AWS KMS) key. Turn on secret rotation. Use IAM policies and roles to grant Amazon ECS Fargate permissions to access to AWS Secrets Manager by using keys.

Answer: D

Explanation:

AWS Secrets Manager is a service that helps you store, distribute, and rotate secrets securely. You can use Secrets Manager to migrate your credentials from your application code to a secure and encrypted storage. You can also enable automatic rotation of your secrets by using AWS Lambda functions or custom logic. You can use IAM policies and roles to grant your Amazon ECS Fargate tasks permissions to access your secrets from Secrets Manager. This solution minimizes the operational overhead of managing your credentials and enhances the security of your application. References

- ? AWS Secrets Manager: Store, Distribute, and Rotate Credentials Securely | AWS News Blog
- ? Why You Should Audit and Rotate Your AWS Credentials Periodically - Cloud Academy
- ? Top 5 AWS root account best practices - TheServerSide

NEW QUESTION 91

A company has deployed an application on AWS Elastic Beanstalk. The company has configured the Auto Scaling group that is associated with the Elastic Beanstalk environment to have five Amazon EC2 instances. If the capacity is fewer than four EC2 instances during the deployment, application performance degrades. The company is using the all-at-once deployment policy. What is the MOST cost-effective way to solve the deployment issue?

- A. Change the Auto Scaling group to six desired instances.
- B. Change the deployment policy to traffic splitting.
- C. Specify an evaluation time of 1 hour.
- D. Change the deployment policy to rolling with additional batch.
- E. Specify a batch size of 1.
- F. Change the deployment policy to rolling.
- G. Specify a batch size of 2.

Answer: C

Explanation:

This solution will solve the deployment issue by deploying the new version of the application to one new EC2 instance at a time, while keeping the old version running on

the existing instances. This way, there will always be at least four instances serving traffic during the deployment, and no downtime or performance degradation will occur. Option A is not optimal because it will increase the cost of running the Elastic Beanstalk environment without solving the deployment issue. Option B is not optimal because it will split the traffic between two versions of the application, which may cause inconsistency and confusion for the customers. Option D is not optimal because it will deploy the new version of the application to two existing instances at a time, which may reduce the capacity below four instances during the deployment.

References: AWS Elastic Beanstalk Deployment Policies

NEW QUESTION 93

A developer maintains applications that store several secrets in AWS Secrets Manager. The applications use secrets that have changed over time. The developer needs to identify required secrets that are still in use. The developer does not want to cause any application downtime.

What should the developer do to meet these requirements?

- A. Configure an AWS CloudTrail log file delivery to an Amazon S3 bucket
- B. Create an Amazon CloudWatch alarm for the GetSecretValue
- C. Secrets Manager API operation requests
- D. Create a secrets manager-secret-unused AWS Config managed rule
- E. Create an Amazon EventBridge rule to initiate notification when the AWS Config managed rule is met.
- F. Deactivate the applications secrets and monitor the applications error logs temporarily.
- G. Configure AWS X-Ray for the application
- H. Create a sampling rule to match the

GetSecretValue Secrets Manager API operation requests.

Answer: B

Explanation:

This solution will meet the requirements by using AWS Config to monitor and evaluate whether Secrets Manager secrets are unused or have been deleted, based on specified time periods. The secrets manager-secret-unused managed rule is a predefined rule that checks whether Secrets Manager secrets have been rotated within a specified number of days or have been deleted within a specified number of days after last accessed date. The Amazon EventBridge rule will trigger a notification when the AWS Config managed rule is met, alerting the developer about unused secrets that can be removed without causing application downtime. Option A is not optimal because it will use AWS CloudTrail log file delivery to an Amazon S3 bucket, which will incur additional costs and complexity for storing and analyzing log files that may not contain relevant information about secret usage. Option C is not optimal because it will deactivate the application secrets and monitor the application error logs temporarily, which will cause application downtime and potential data loss. Option D is not optimal because it will use AWS X-Ray to trace secret usage, which will introduce additional overhead and latency for instrumenting and sampling requests that may not be related to secret usage. References: [AWS Config Managed Rules], [Amazon EventBridge]

NEW QUESTION 95

A company is using Amazon API Gateway to invoke a new AWS Lambda function. The company has Lambda function versions in its PROD and DEV environments. In each environment, there is a Lambda function alias pointing to the corresponding Lambda function version. API Gateway has one stage that is configured to point at the PROD alias.

The company wants to configure API Gateway to enable the PROD and DEV Lambda function versions to be simultaneously and distinctly available. Which solution will meet these requirements?

- A. Enable a Lambda authorizer for the Lambda function alias in API Gateway. Republish PROD and create a new stage for DEV. Create API Gateway stage variables for the PROD and DEV stage.
- B. Point each stage variable to the PROD Lambda authorizer to the DEV Lambda authorizer.
- C. Set up a gateway response in API Gateway for the Lambda function alias.
- D. Republish PROD and create a new stage for DEV.
- E. Create gateway responses in API Gateway for PROD and DEV Lambda aliases.
- F. Use an environment variable for the Lambda function alias in API Gateway.
- G. Republish PROD and create a new stage for development.
- H. Create API gateway environment variables for PROD and DEV stage.
- I. Point each stage variable to the PROD Lambda function alias to the DEV Lambda function alias.
- J. Use an API Gateway stage variable to configure the Lambda function alias. Republish PROD and create a new stage for development. Create API Gateway stage variables for PROD and DEV stages. Point each stage variable to the PROD Lambda function alias and to the DEV Lambda function alias.

Answer: D

Explanation:

The best solution is to use an API Gateway stage variable to configure the Lambda function alias. This allows you to specify the Lambda function name and its alias or version using the syntax `function_name:$ {stageVariables.variable_name}` in the Integration Request. You can then create different stages in API Gateway, such as PROD and DEV, and assign different values to the stage variable for each stage. This way, you can invoke different Lambda function versions or aliases based on the stage that you are using, without changing the function name in the Integration Request. [References](#)

? [Using API Gateway stage variables to manage Lambda functions](#)

? [How to point AWS API gateway stage to specific lambda function alias?](#)

? [Setting stage variables using the Amazon API Gateway console](#)

? [Amazon API Gateway stage variables reference](#)

NEW QUESTION 96

Users are reporting errors in an application. The application consists of several micro services that are deployed on Amazon Elastic Container Service (Amazon ECS) with AWS Fargate.

When combination of steps should a developer take to fix the errors? (Select TWO)

- A. Deploy AWS X-Ray as a sidecar container to the micro service.
- B. Update the task role policy to allow access to the X-Ray API.
- C. Deploy AWS X-Ray as a daemon set to the Fargate cluster.
- D. Update the service role.

policy to allow access to the X-Ray API.

- E. Instrument the application by using the AWS X-Ray SDK.
- F. Update the application to use the `PutXrayTrace` API call to communicate with the X-Ray API.
- G. Instrument the application by using the AWS X-Ray SDK.
- H. Update the application to communicate with the X-Ray daemon.
- I. Instrument the ECS task to send the stdout and stderr output to Amazon CloudWatch Logs.
- J. Update the task role policy to allow the cloudwatch `PutLogs` action.

Answer: AE

Explanation:

The combination of steps that the developer should take to fix the errors is to deploy AWS X-Ray as a sidecar container to the microservices and instrument the ECS task to send the stdout and stderr output to Amazon CloudWatch Logs. This way, the developer can use AWS X-Ray to analyze and debug the performance of the microservices and identify any issues or bottlenecks. The developer can also use CloudWatch Logs to monitor and troubleshoot the logs from the ECS task and detect any errors or exceptions. The other options either involve using AWS X-Ray as a daemon set, which is not supported by Fargate, or using the `PutTraceSegments` API call, which is not necessary when using a sidecar container.

Reference: [Using AWS X-Ray with Amazon ECS](#)

NEW QUESTION 100

A company has developed a new serverless application using AWS Lambda functions that will be deployed using the AWS Serverless Application Model (AWS SAM) CLI.

Which step should the developer complete prior to deploying the application?

- A. Compress the application to a zip file and upload it into AWS Lambda.
- B. Test the new AWS Lambda function by first tracing it in AWS X-Ray.
- C. Bundle the serverless application using a SAM package.
- D. Create the application environment using the `eb create my-env` command.

Answer: C

Explanation:

This step should be completed prior to deploying the application because it prepares the application artifacts for deployment. The AWS Serverless Application Model (AWS SAM) is a framework that simplifies building and deploying serverless applications on AWS. The AWS SAM CLI is a command-line tool that helps you create, test, and deploy serverless applications using AWS SAM templates. The `sam package` command bundles the application artifacts, such as Lambda function code and API definitions, and uploads them to an Amazon S3 bucket. The command also returns a CloudFormation template that is ready to be deployed with the `sam deploy` command. Compressing the application to a zip file and uploading it to AWS Lambda will not work because it does not use AWS SAM templates or CloudFormation. Testing the new Lambda function by first tracing it in AWS X-Ray will not prepare the application for deployment, but only monitor its performance and errors. Creating the application environment using the `eb create my-env` command will not work because it is a command for AWS Elastic Beanstalk, not AWS SAM.

NEW QUESTION 101

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 105

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 109

A company built a new application in the AWS Cloud. The company automated the bootstrapping of new resources with an Auto Scaling group by using AWS CloudFormation templates. The bootstrap scripts contain sensitive data.

The company needs a solution that is integrated with CloudFormation to manage the sensitive data in the bootstrap scripts.

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

- A. Put the sensitive data into a CloudFormation parameter.
- B. Encrypt the CloudFormation templates by using an AWS Key Management Service (AWS KMS) key.
- C. Put the sensitive data into an Amazon S3 bucket. Update the CloudFormation templates to download the object from Amazon S3 during bootstrap.
- D. Put the sensitive data into AWS Systems Manager Parameter Store as a secure string parameter.
- E. Update the CloudFormation templates to use dynamic references to specify template values.
- F. Put the sensitive data into Amazon Elastic File System (Amazon EFS). Enforce EFS encryption after file system creation.
- G. Update the CloudFormation templates to retrieve data from Amazon EFS.

Answer: C

Explanation:

This solution meets the requirements in the most secure way because it uses a service that is integrated with CloudFormation to manage sensitive data in encrypted form. AWS Systems Manager Parameter Store provides secure, hierarchical storage for configuration data management and secrets management. You can store sensitive data as secure string parameters, which are encrypted using an AWS Key Management Service (AWS KMS) key of your choice. You can also use dynamic references in your CloudFormation templates to specify template values that are stored in Parameter Store or Secrets Manager without having to include them in your templates. Dynamic references are resolved only during stack creation or update operations, which reduces exposure risks for sensitive data. Putting sensitive data into a CloudFormation parameter will not encrypt them or protect them from unauthorized access. Putting sensitive data into an Amazon S3 bucket or Amazon Elastic File System (Amazon EFS) will require additional configuration and integration with CloudFormation and may not provide fine-grained access control or encryption for sensitive data.

Reference: [What Is AWS Systems Manager Parameter Store?], [Using Dynamic References to Specify Template Values]

NEW QUESTION 110

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 113

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

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

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

Answer: AC

Explanation:

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

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

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

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

NEW QUESTION 116

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

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

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

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

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

NEW QUESTION 117

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

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

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

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

Answer: C

Explanation:

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

NEW QUESTION 118

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