

DVA-C02 Dumps

DVA-C02

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NEW QUESTION 1

A data visualization company wants to strengthen the security of its core applications. The applications are deployed on AWS across its development, staging, pre-production, and production environments. The company needs to encrypt all of its stored sensitive credentials. The sensitive credentials need to be automatically rotated. A version of the sensitive credentials need to be stored for each environment. Which solution will meet these requirements in the MOST operationally efficient way?

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

Answer: D

Explanation:

AWS Secrets Manager is the best option for managing sensitive credentials across multiple environments, as it provides automatic secret rotation, auditing, and monitoring features. It also allows storing environment-specific credentials in separate secrets, which can be accessed by the applications using the SDK or CLI. AWS Systems Manager Parameter Store does not have built-in secret rotation capability, and it requires creating individual parameters or storing the entire credential set as a JSON object. Configuring the environment variables in the application code is not a secure or scalable solution, as it exposes the credentials to anyone who can access the code. References

? AWS Secrets Manager vs. Systems Manager Parameter Store

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

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

NEW QUESTION 2

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 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 3

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

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

Which command will meet these requirements?

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

Answer: D

Explanation:

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

Reference: AWS SAM Accelerate

NEW QUESTION 4

A developer is 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 Store
- B. Use unique paths in Parameter Store for each variable in each environment
- 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 application
- 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 5

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

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

Answer: C

Explanation:

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

- ? Using AWS Lambda with Amazon SQS
- ? AWS Lambda Event Source Mapping - Examples and best practices | Shisho Dojo
- ? Lambda event source mappings - AWS Lambda
- ? aws_lambda_event_source_mapping - Terraform Registry

NEW QUESTION 6

A developer maintains a critical business application that uses Amazon DynamoDB as the primary data store. The DynamoDB table contains millions of documents and receives 30-60 requests each minute. The developer needs to perform processing in near-real time on the documents when they are added or updated in the DynamoDB table.

How can the developer implement this feature with the LEAST amount of change to the existing application code?

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

Answer: B

Explanation:

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

NEW QUESTION 7

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 8

A company is offering APIs as a service over the internet to provide unauthenticated read access to statistical information that is updated daily. The company uses Amazon API Gateway and AWS Lambda to develop the APIs. The service has become popular, and the company wants to enhance the responsiveness of the APIs.

Which action can help the company achieve this goal?

- A. Enable API caching in API Gateway.
- B. Configure API Gateway to use an interface VPC endpoint.
- C. Enable cross-origin resource sharing (CORS) for the APIs.
- D. Configure usage plans and API keys in API Gateway.

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 enable API caching in API Gateway to cache responses from the backend integration point for a specified time-to-live (TTL) period. This can improve the responsiveness of the APIs by reducing the number

of calls made to the backend service. References:

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

? [Enable API Caching to Enhance Responsiveness - Amazon API Gateway]

NEW QUESTION 9

A company is building a serverless application on AWS. The application uses an AWS Lambda function to process customer orders 24 hours a day, 7 days a week. The Lambda function calls an external vendor's HTTP API to process payments.

During load tests, a developer discovers that the external vendor payment processing API occasionally times out and returns errors. The company expects that some payment processing API calls will return errors.

The company wants the support team to receive notifications in near real time only when

the payment processing external API error rate exceed 5% of the total number of transactions in an hour. Developers need to use an existing Amazon Simple Notification Service (Amazon SNS) topic that is configured to notify the support team.

Which solution will meet these requirements?

- A. Write the results of payment processing API calls to Amazon CloudWatch
- B. Use Amazon CloudWatch Logs Insights to query the CloudWatch log
- C. Schedule the Lambda function to check the CloudWatch logs and notify the existing SNS topic.
- D. Publish custom metrics to CloudWatch that record the failures of the external payment processing API call
- E. Configure a CloudWatch alarm to notify the existing SNS topic when error rate exceeds the specified rate.
- F. Publish the results of the external payment processing API calls to a new Amazon SNS topic
- G. Subscribe the support team members to the new SNS topic.
- H. Write the results of the external payment processing API calls to Amazon S3. Schedule an Amazon Athena query to run at regular interval
- I. Configure Athena to send notifications to the existing SNS topic when the error rate exceeds the specified rate.

Answer: B

Explanation:

Amazon CloudWatch is a service that monitors AWS resources and applications. The developer can publish custom metrics to CloudWatch that record the failures of the external payment processing API calls. The developer can configure a CloudWatch alarm to notify the existing SNS topic when the error rate exceeds 5% of the total number of transactions in an hour. This solution will meet the requirements in a near real-time and scalable way.

References:

? [What Is Amazon CloudWatch? - Amazon CloudWatch]

? [Publishing Custom Metrics - Amazon CloudWatch]

? [Creating Amazon CloudWatch Alarms - Amazon CloudWatch]

NEW QUESTION 10

An Amazon Kinesis Data Firehose delivery stream is receiving customer data that contains personally identifiable information. A developer needs to remove pattern-based customer identifiers from the data and store the modified data in an Amazon S3 bucket.

What should the developer do to meet these requirements?

- A. Implement Kinesis Data Firehose data transformation as an AWS Lambda function
- B. Configure the function to remove the customer identifier
- C. Set an Amazon S3 bucket as the destination of the delivery stream.
- D. Launch an Amazon EC2 instance
- E. Set the EC2 instance as the destination of the delivery stream
- F. Run an application on the EC2 instance to remove the customer identifier
- G. Store the transformed data in an Amazon S3 bucket.
- H. Create an Amazon OpenSearch Service instance
- I. Set the OpenSearch Service instance as the destination of the delivery stream
- J. Use search and replace to remove the customer identifier
- K. Export the data to an Amazon S3 bucket.
- L. Create an AWS Step Functions workflow to remove the customer identifier
- M. As the last step in the workflow, store the transformed data in an Amazon S3 bucket
- N. Set the workflow as the destination of the delivery stream.

Answer: A

Explanation:

Amazon Kinesis Data Firehose is a service that delivers real-time streaming data to destinations such as Amazon S3, Amazon Redshift, Amazon OpenSearch Service, and Amazon Kinesis Data Analytics. The developer can implement Kinesis Data Firehose data transformation as an AWS Lambda function. The function can remove pattern-based customer identifiers from the data and return the modified data to Kinesis Data Firehose. The developer can set an Amazon S3 bucket as the destination of the delivery stream. References:

- ? [What Is Amazon Kinesis Data Firehose? - Amazon Kinesis Data Firehose]
- ? [Data Transformation - Amazon Kinesis Data Firehose]

NEW QUESTION 10

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

Which solution will meet this requirement MOST cost-effectively?

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

Answer: C

Explanation:

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

References:

- ? [Amazon Simple Storage Service (S3)]
- ? [Using AWS SDKs with Amazon S3]

NEW QUESTION 14

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

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

Answer: D

Explanation:

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

NEW QUESTION 17

A company needs to deploy all its cloud resources by using AWS CloudFormation templates A developer must create an Amazon Simple Notification Service (Amazon SNS) automatic notification to help enforce this rule. The developer creates an SNS topic and subscribes the email address of the company's security team to the SNS topic.

The security team must receive a notification immediately if an IAM role is created without the use of CloudFormation.

Which solution will meet this requirement?

- A. Create an AWS Lambda function to filter events from CloudTrail if a role was created without CloudFormation Configure the Lambda function to publish to the SNS topi
- B. Create an Amazon EventBridge schedule to invoke the Lambda function every 15 minutes
- C. Create an AWS Fargate task in Amazon Elastic Container Service (Amazon ECS) to filter events from CloudTrail if a role was created without CloudFormation Configure the Fargate task to publish to the SNS topic Create an Amazon EventBridge schedule to run the Fargate task every 15 minutes

- D. Launch an Amazon EC2 instance that includes a script to filter events from CloudTrail if a role was created without CloudFormation
- E. Configure the script to publish to the SNS topic
- F. Create a cron job to run the script on the EC2 instance every 15 minutes.
- G. Create an Amazon EventBridge rule to filter events from CloudTrail if a role was created without CloudFormation Specify the SNS topic as the target of the EventBridge rule.

Answer: D

Explanation:

Creating an Amazon EventBridge rule is the most efficient and scalable way to monitor and react to events from CloudTrail, such as the creation of an IAM role without CloudFormation. EventBridge allows you to specify a filter pattern to match the events you are interested in, and then specify an SNS topic as the target to send notifications. This solution does not require any additional resources or code, and it can trigger notifications in near real-time. The other solutions involve creating and managing additional resources, such as Lambda functions, Fargate tasks, or EC2 instances, and they rely on polling CloudTrail events every 15 minutes, which can introduce delays and increase costs. References

- ? Using Amazon EventBridge rules to process AWS CloudTrail events
- ? Using AWS CloudFormation to create and manage AWS Batch resources
- ? How to use AWS CloudFormation to configure auto scaling for Amazon Cognito and AWS AppSync
- ? Using AWS CloudFormation to automate the creation of AWS WAF web ACLs, rules, and conditions

NEW QUESTION 20

A developer has been asked to create an AWS Lambda function that is invoked any time updates are made to items in an Amazon DynamoDB table. The function has been created and appropriate permissions have been added to the Lambda execution role Amazon DynamoDB streams have been enabled for the table, but the function 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 23

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 database
- 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 24

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 documentation
- 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 environment
- E. Create sample events based on the Lambda Documentation Invoke the handler function by using a unit testing framework for the other developers on the team
- F. Check the response Document how to run the unit testing framework
- G. Update the CI/CD pipeline to run the unit testing framework
- H. Install the AWS Serverless Application Model (AWS SAM) CLI tool Use the `Sam local generate-event` command to generate sample events for 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 documentation
- L. Create a Docker container from the Node.js 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 28

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 32

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

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

Answer: D

Explanation:

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

- ? Create Metric Filters - Amazon CloudWatch Logs
- ? Creating Amazon CloudWatch Alarms - Amazon CloudWatch
- ? How to send alert based on log message on CloudWatch - Stack Overflow

NEW QUESTION 34

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

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

Answer: A

Explanation:

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

Reference: Using Global Secondary Indexes in DynamoDB

NEW QUESTION 39

A developer has an application that makes batch requests directly to Amazon DynamoDB by using the BatchGetItem low-level API operation. The responses frequently return values in the UnprocessedKeys element. Which actions should the developer take to increase the resiliency of the application when the batch response includes values in UnprocessedKeys? (Choose two.)

- A. Retry the batch operation immediately.
- B. Retry the batch operation with exponential backoff and randomized delay.
- C. Update the application to use an AWS software development kit (AWS SDK) to make the requests.
- D. Increase the provisioned read capacity of the DynamoDB tables that the operation accesses.
- E. Increase the provisioned write capacity of the DynamoDB tables that the operation accesses.

Answer: BC

Explanation:

The UnprocessedKeys element indicates that the BatchGetItem operation did not process all of the requested items in the current response. This can happen if the

response size limit is exceeded or if the table's provisioned throughput is exceeded. To handle this situation, the developer should retry the batch operation with exponential backoff and randomized delay to avoid throttling errors and reduce the load on the table. The developer should also use an AWS SDK to make the requests, as the SDKs automatically retry requests that return UnprocessedKeys.

References:

- ? [BatchGetItem - Amazon DynamoDB]
- ? [Working with Queries and Scans - Amazon DynamoDB]
- ? [Best Practices for Handling DynamoDB Throttling Errors]

NEW QUESTION 42

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 45

A developer is creating an application that will give users the ability to store photos from their cellphones in the cloud. The application needs to support tens of thousands of users. The application uses an Amazon API Gateway REST API that is integrated with AWS Lambda functions to process the photos. The application stores details about the photos in Amazon DynamoDB.

Users need to create an account to access the application. In the application, users must be able to upload photos and retrieve previously uploaded photos. The photos will range in size from 300 KB to 5 MB.

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

- A. Use Amazon Cognito user pools to manage user account
- B. Create an Amazon Cognito user pool authorizer in API Gateway to control access to the AP
- C. Use the Lambda function to store the photos and details in the DynamoDB tabl
- D. Retrieve previously uploaded photos directly from the DynamoDB table.
- E. Use Amazon Cognito user pools to manage user account
- F. Create an Amazon Cognito user pool authorizer in API Gateway to control access to the AP
- G. Use the Lambda function to store the photos in Amazon S3. Store the object's S3 key as part of the photo details in the DynamoDB tabl
- H. Retrieve previously uploaded photos by querying DynamoDB for the S3 key.
- I. Create an IAM user for each user of the application during the sign-up proces
- J. Use IAM authentication to access the API Gateway AP

K. Use the Lambda function to store the photos in Amazon S3. Store the object's S3 key as part of the photo details in the

DynamoDB

- L. Retrieve previously uploaded photos by querying DynamoDB for the S3 key.
- M. Create a users table in DynamoD
- N. Use the table to manage user account
- O. Create a Lambda authorizer that validates user credentials against the users tabl
- P. Integrate the Lambda authorizer with API Gateway to control access to the AP
- Q. Use the Lambda function to store the photos in Amazon S3. Store the object's S3 key as par of the photo details in the DynamoDB tabl
- R. Retrieve previously uploaded photos by querying DynamoDB for the S3 key.

Answer: B

Explanation:

Amazon Cognito user pools is a service that provides a secure user directory that scales to hundreds of millions of users. The developer can use Amazon Cognito user pools to manage user accounts and create an Amazon Cognito user pool authorizer in API Gateway to control access to the API. The developer can use the Lambda function to store the photos in Amazon S3, which is a highly scalable, durable, and secure object storage service. The developer can store the object's S3 key as part of the photo details in the DynamoDB table, which is a fast and flexible NoSQL database service. The developer can retrieve previously uploaded photos by querying DynamoDB for the S3 key and fetching the photos from S3. This solution will meet the requirements with the least operational overhead.

References:

? [Amazon Cognito User Pools]

? [Use Amazon Cognito User Pools - Amazon API Gateway]

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

NEW QUESTION 46

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

Which solution will meet these requirements'?

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

Answer: A

Explanation:

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

NEW QUESTION 49

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 TTL
- B. Generate a URL that retrieves the reports from DynamoDB
- 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 encryption
- E. Attach the reports to an Amazon Simple Notification Service (Amazon SNS) message
- 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 encryption
- H. Generate a presigned URL that contains an expiration date. Provide the URL to customers through the web application
- 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 stamp
- K. Generate a URL that retrieves the reports from the RDS database
- L. Provide the URL to customers through the web application
- 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 53

A company is migrating an on-premises database to Amazon RDS for MySQL. The company has read-heavy workloads. The company wants to refactor the code to achieve optimum read performance for queries.

Which solution will meet this requirement with LEAST current and future effort?

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

Answer: C

Explanation:

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

NEW QUESTION 54

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 58

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 DynamoDB
- 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 59

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 60

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 62

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

The company wants to implement phased releases by using development, staging, user acceptance testing, and production environments in the AWS Cloud.

Deployments to each environment must be started by code merges on the relevant Git branch. The company wants to use HTTPS for all data exchange. The company needs a solution that does not require servers to run continuously.

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

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

Answer: A

Explanation:

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

NEW QUESTION 66

A company is running a custom application on a set of on-premises Linux servers that are accessed using Amazon API Gateway. AWS X-Ray tracing has been enabled on the API test stage.

How can a developer enable X-Ray tracing on the on-premises servers with the LEAST amount of configuration?

- A. Install and run the X-Ray SDK on the on-premises servers to capture and relay the data to the X-Ray service.
- B. Install and run the X-Ray daemon on the on-premises servers to capture and relay the data to the X-Ray service.
- C. Capture incoming requests on-premises and configure an AWS Lambda function to pull, process, and relay relevant data to X-Ray using the PutTraceSegments API call.
- D. Capture incoming requests on-premises and configure an AWS Lambda function to pull, process, and relay relevant data to X-Ray using the PutTelemetryRecords API call.

Answer: B

Explanation:

The X-Ray daemon is a software that collects trace data from the X-Ray SDK and relays it to the X-Ray service. The X-Ray daemon can run on any platform that supports Go, including Linux, Windows, and macOS. The developer can install and run the X-Ray daemon on the on-premises servers to capture and relay the data to the X-Ray service with minimal configuration. The X-Ray SDK is used to instrument the application code, not to capture and relay data. The Lambda function solutions are more complex and require additional configuration.

References:

? [AWS X-Ray concepts - AWS X-Ray]

? [Setting up AWS X-Ray - AWS X-Ray]

NEW QUESTION 71

A developer deployed an application to an Amazon EC2 instance. The application needs to know the public IPv4 address of the instance. How can the application find this information?

Query the instance metadata from `http://169.254.169.254/latest/meta-data/`.

- A. Query the instance user data from `http://169.254.169.254/latest/user-data/`
- B. Query the Amazon Machine Image (AMI) information from `http://169.254.169.254/latest/meta-data/ami/`.
- C. Check the hosts file of the operating system

Answer: A

Explanation:

The instance metadata service provides information about the EC2 instance, including the public IPv4 address, which can be obtained by querying the endpoint `http://169.254.169.254/latest/meta-data/public-ipv4`. References

- ? Instance metadata and user data
- ? Get Public IP Address on current EC2 Instance
- ? Get the public ip address of your EC2 instance quickly

NEW QUESTION 76

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

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

Answer: B

Explanation:

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

- ? Using Amazon API Gateway stage variables
- ? Setting up stage variables for a REST API deployment
- ? Setting stage variables using the Amazon API Gateway console

NEW QUESTION 78

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 file.
- E. Validate each request in the Lambda function before performing the requested operation.
- F. Use an IAM policy within the Amazon Cognito identity prefix to restrict users to use their own folders in Amazon S3.

Answer: D

Explanation:

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

NEW QUESTION 79

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 source. When multiple SQS event sources are configured to a function, customers can control the maximum concurrent invokes of individual SQS event source.

? 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 80

A company is planning to use AWS CodeDeploy to deploy an application to Amazon Elastic Container Service (Amazon ECS) During the deployment of a new version of the application, the company initially must expose only 10% of live traffic to the new version of the deployed application. Then, after 15 minutes elapse, the company must route all the remaining live traffic to the new version of the deployed application.

Which CodeDeploy predefined configuration will meet these requirements?

- A. CodeDeployDefault ECSCanary10Percent15Minutes
- B. CodeDeployDefault LambdaCanary10Percent5Minutes
- C. CodeDeployDefault LambdaCanary10Percent15Minutes
- D. CodeDeployDefault ECSLinear10PercentEvery1 Minutes

Answer: A

Explanation:

The predefined configuration "CodeDeployDefault.ECSCanary10Percent15Minutes" is designed for Amazon Elastic Container Service (Amazon ECS) deployments and meets the specified requirements. It will perform a canary deployment, which means it will initially route 10% of live traffic to the new version of the application, and then after 15 minutes elapse, it will automatically route all the remaining live traffic to the new version. This gradual deployment approach allows

the company to verify the health and performance of the new version with a small portion of traffic before fully deploying it to all users.

NEW QUESTION 85

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 88

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

Which reasons could explain the duplicate email messages? (Select TWO.)

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

Answer: AD

Explanation:

Standard SQS queues support at-least-once message delivery, which means that a message can be delivered more than once to the same or different consumers. This can happen if the message is not deleted from the queue before the visibility timeout expires, or if there is a network issue or a system failure. The SQS queue's visibility timeout is the period of time that a message is invisible to other consumers after it is received by one consumer. If the visibility timeout is lower than or the same as the Lambda function's timeout, the Lambda function might not be able to process and delete the message before it becomes visible again, leading to duplicate processing and email messages. To avoid this, the visibility timeout should be set to at least 6 times the length of the Lambda function's timeout. The other options are not related to the issue of duplicate email messages. References

? Using the Amazon SQS message deduplication ID

? Exactly-once processing - Amazon Simple Queue Service

? Amazon SQS duplicated messages in queue - Stack Overflow

? amazon web services - How long can duplicate SQS messages persist ...

? Standard SQS - Duplicate message | AWS re:Post - Amazon Web Services, Inc.

NEW QUESTION 93

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

Which solution will meet these requirements'?

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

Answer: A

Explanation:

This solution will meet the requirements by using Amazon CloudFront, which is a content delivery network (CDN) service that speeds up the delivery of web content and APIs to end users. The developer can configure the CloudFront cache, which is a set of edge locations that store copies of popular or recently

accessed content close to the viewers. The developer can also update the application to return cached content based upon the default request headers, which are a set of HTTP headers that CloudFront automatically forwards to the origin server and uses to determine whether an object in an edge location is still valid. By caching the POST requests, the developer can optimize the API resources and reduce the latency for repeated queries. Option B is not optimal because it will override the cache method in the selected stage of API Gateway, which is not possible or effective as API Gateway does not support caching for POST methods by default. Option C is not optimal because it will save the latest request response in Lambda /tmp directory, which is a local storage space that is available for each Lambda function invocation, not a cache that can be shared across multiple invocations or requests. Option D is not optimal because it will save the latest request in AWS Systems Manager Parameter Store, which is a service that provides secure and scalable storage for configuration data and secrets, not a cache for API responses.

References: [Amazon CloudFront], [Caching Content Based on Request Headers]

NEW QUESTION 94

A company has an Amazon S3 bucket that contains sensitive data. The data must be encrypted in transit and at rest. The company encrypts the data in the S3 bucket by using an AWS Key Management Service (AWS KMS) key. A developer needs to grant several other AWS accounts the permission to use the S3 GetObject operation to retrieve the data from the S3 bucket.

How can the developer enforce that all requests to retrieve the data provide encryption in transit?

- A. Define a resource-based policy on the S3 bucket to deny access when a request meets the condition "aws:SecureTransport": "false".
- B. Define a resource-based policy on the S3 bucket to allow access when a request meets the condition "aws:SecureTransport": "false".
- C. Define a role-based policy on the other accounts' roles to deny access when a request meets the condition of "aws:SecureTransport": "false".
- D. Define a resource-based policy on the KMS key to deny access when a request meets the condition of "aws:SecureTransport": "false".

Answer: A

Explanation:

Amazon S3 supports resource-based policies, which are JSON documents that specify the permissions for accessing S3 resources. A resource-based policy can be used to enforce encryption in transit by denying access to requests that do not use HTTPS. The condition key `aws:SecureTransport` can be used to check if the request was sent using SSL. If the value of this key is false, the request is denied; otherwise, the request is allowed. Reference: How do I use an S3 bucket policy to require requests to use Secure Socket Layer (SSL)?

NEW QUESTION 96

Users are reporting errors in an application. The application consists of several micro services that are deployed on Amazon Elastic Container Services (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 97

When using the AWS Encryption SDK how does the developer keep track of the data encryption keys used to encrypt data?

- A. The developer must manually keep track of the data encryption keys used for each data object.
- B. The SDK encrypts the data encryption key and stores it (encrypted) as part of the returned ciphertext.
- C. The SDK stores the data encryption keys automatically in Amazon S3.
- D. The data encryption key is stored in the user data for the EC2 instance.

Answer: B

Explanation:

This solution will meet the requirements by using AWS Encryption SDK, which is a client-side encryption library that enables developers to encrypt and decrypt data using data encryption keys that are protected by AWS Key Management Service (AWS KMS). The SDK encrypts the data encryption key with a customer master key (CMK) that is managed by AWS KMS, and stores it (encrypted) as part of the returned ciphertext. The developer does not need to keep track of the data encryption keys used to encrypt data, as they are stored with the encrypted data and can be retrieved and decrypted by using AWS KMS when needed. Option A is not optimal because it will require manual tracking of the data encryption keys used for each data object, which is error-prone and inefficient. Option C is not optimal because it will store the data encryption keys automatically in Amazon S3, which is unnecessary and insecure as Amazon S3 is not designed for storing encryption keys. Option D is not optimal because it will store the data encryption key in the user data for the EC2 instance, which is also unnecessary and insecure as user data is not encrypted by default.

References: [AWS Encryption SDK], [AWS Key Management Service]

NEW QUESTION 100

A company is building a scalable data management solution by using AWS services to improve the speed and agility of development. The solution will ingest large volumes of data from various sources and will process this data through multiple business rules and transformations.

The solution requires business rules to run in sequence and to handle reprocessing of data if errors occur when the business rules run. The company needs the solution to be scalable and to require the least possible maintenance.

Which AWS service should the company use to manage and automate the orchestration of the data flows to meet these requirements?

- A. AWS Batch
- B. AWS Step Functions
- C.

AWS Glue

- D. AWS Lambda

Answer: B

Explanation:

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

NEW QUESTION 101

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

Where should the temporary files be stored?

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

Answer: A

Explanation:

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

References:

? [What Is AWS Lambda? - AWS Lambda]

? [AWS Lambda Execution Environment - AWS Lambda]

NEW QUESTION 103

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 107

A company wants to automate part of its deployment process. A developer needs to automate the process of checking for and deleting unused resources that supported previously deployed stacks but that are no longer used.

The company has a central application that uses the AWS Cloud Development Kit (AWS CDK) to manage all deployment stacks. The stacks are spread out across multiple accounts. The developer's solution must integrate as seamlessly as possible within the current deployment process.

Which solution will meet these requirements with the LEAST amount of configuration?

In the central AWS CDK application, write a handler function in the code that uses AWS SDK calls to check for and delete unused

resource

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

Answer: B

Explanation:

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

Reference: [AWS Cloud Development Kit (CDK)], [Custom Resources]

NEW QUESTION 110

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

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

- A. Use a Kubernetes cron job that runs on Amazon Elastic Kubernetes Service (Amazon EKS)
- B. Use an Amazon Linux crontab scheduled job that runs on Amazon EC2
- C. Use an AWS Lambda function that is invoked by an Amazon EventBridge scheduled event.
- D. Use an AWS Batch job that is submitted to an AWS Batch job queue.

Answer: C

Explanation:

This solution meets the requirements in the most operationally efficient manner because it does not require any infrastructure provisioning or management. The developer can create a Lambda function that makes the API call and configure an EventBridge rule that triggers the function once a day at a designated time. This is a serverless solution that scales automatically and only charges for the execution time of the function.

Reference: [Using AWS Lambda with Amazon EventBridge], [Schedule Expressions for Rules]

NEW QUESTION 112

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

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

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

Reference: [What Is Amazon Aurora?], [What Is AWS Secrets Manager?]

NEW QUESTION 114

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 customer's email_address as the partition key 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 the 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 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
- B. Add a global secondary index (GSI) to the DynamoDB table With email_address as the partition key and customer_type as the sort key Perform a query operation on the GSI by using the begins_with key condition expression With the email_address property.
- C. Add a local secondary index (LSI) to the DynamoDB table With customer_type as the partition key and email_address as the sort key Perform a query operation on the LSI by using the begins_with key condition expression With the email_address property
- D. Add a local secondary Index (LSI) to the DynamoDB table With job_title as the partition key and email_address as the sort key Perform a query operation on the LSI by using the begins_with key condition expression With the email_address property

Answer: A

Explanation:

By adding a global secondary index (GSI) to the DynamoDB table with customer_type as the partition key and email_address as the sort key, the developer can perform a query operation on the GSI using the Begins_with key condition expression with the email_address property. This will return partial matches of all email_address properties of a specific customer_type.

NEW QUESTION 115

A developer is writing an AWS Lambda function. The developer wants to log key events that occur while the Lambda function runs. The developer wants to include a unique identifier to associate the events with a specific function invocation. The developer adds the following code to the Lambda function:

```
function handler(event, context) {  
  
}
```

Which solution will meet this requirement?

- A. Obtain the request identifier from the AWS request ID field in the context object
- B. Configure the application to write logs to standard output.
- C. Obtain the request identifier from the AWS request ID field in the event object
- D. Configure the application to write logs to a file.
- E. Obtain the request identifier from the AWS request ID field in the event object
- F. Configure the application to write logs to standard output.
- G. Obtain the request identifier from the AWS request ID field in the context object
- H. Configure the application to write logs to a file.

Answer: A

Explanation:

<https://docs.aws.amazon.com/lambda/latest/dg/nodejs-context.html> <https://docs.aws.amazon.com/lambda/latest/dg/nodejs-logging.html>

There is no explicit information for the runtime, the code is written in Node.js.

AWS Lambda is a service that lets developers run code without provisioning or managing servers. The developer can use the AWS request ID field in the context

object to obtain a unique identifier for each function invocation. The developer can configure the application to write logs to standard output, which will be captured by Amazon CloudWatch Logs. This solution will meet the requirement of logging key events with a unique identifier.

References:

- ? [What Is AWS Lambda? - AWS Lambda]
- ? [AWS Lambda Function Handler in Node.js - AWS Lambda]
- ? [Using Amazon CloudWatch - AWS Lambda]

NEW QUESTION 120

A company has installed smart meters in all its customer locations. The smart meter's measure power usage at 1-minute intervals and send the usage readings to a remote endpoint for collection. The company needs to create an endpoint that will receive the smart meter readings and store the readings in a database. The company wants to store the location ID and timestamp information.

The company wants to give its customers low-latency access to their current usage and historical usage on demand. The company expects demand to increase significantly. The solution must not impact performance or include downtime write seeing.

When solution will meet these requirements MOST cost-effectively?

- A. Store the smart meter readings in an Amazon RDS database.
- B. Create an index on the location ID and timestamp columns. Use the columns to filter on the customers' data.
- C. Store the smart meter readings in an Amazon DynamoDB table. Create a composite key by using the location ID and timestamp column.
- D. Use the columns to filter on the customers' data.
- E. Store the smart meter readings in Amazon ElastiCache for Redis. Create a Sorted Set key by using the location ID and timestamp column.
- F. Use the columns to filter on the customers' data.
- G. Store the smart meter readings in Amazon S3. Partition the data by using the location ID and timestamp column.
- H. Use Amazon Athena to filter on the customers' data.

Answer: B

Explanation:

The solution that will meet the requirements most cost-effectively is to store the smart meter readings in an Amazon DynamoDB table. Create a composite key by using the location ID and timestamp columns. Use the columns to filter on the customers' data. This way, the company can leverage the scalability, performance, and low latency of DynamoDB to store and retrieve the smart meter readings. The company can also use the composite key to query the data by location ID and timestamp efficiently. The other options either involve more expensive or less scalable services, or do not provide low-latency access to the current usage.

Reference: Working with Queries in DynamoDB

NEW QUESTION 123

A developer needs to store configuration variables for an application. The developer needs to set an expiration date and time for the configuration. The developer wants to receive notifications. Before the configuration expires. Which solution will meet these requirements with the LEAST operational overhead?

- A. Create a standard parameter in AWS Systems Manager Parameter Store. Set Expiration and Expiration Notification policy types.
- B. Create a standard parameter in AWS Systems Manager Parameter Store. Create an AWS Lambda function to expire the configuration and to send Amazon Simple Notification Service (Amazon SNS) notifications.
- C. Create an advanced parameter in AWS Systems Manager Parameter Store. Set Expiration and Expiration Notification policy types.
- D. Create an advanced parameter in AWS Systems Manager Parameter Store. Create an Amazon EC2 instance with a cron job to expire the configuration and to send notifications.

Answer: C

Explanation:

This solution will meet the requirements by creating an advanced parameter in AWS Systems Manager Parameter Store, which is a secure and scalable service for storing and managing configuration data and secrets. The advanced parameter allows setting expiration and expiration notification policy types, which enable specifying an expiration date and time for the configuration and receiving notifications before the configuration expires. The Lambda code will be refactored to load the Root CA Cert from the parameter store and modify the runtime trust store outside the Lambda function handler, which will improve performance and reduce latency by avoiding repeated calls to Parameter Store and trust store modifications for each invocation of the Lambda function. Option A is not optimal because it will create a standard parameter in AWS Systems Manager Parameter Store, which does not support expiration and expiration notification policy types. Option B is not optimal because it will create a secret access key and access key ID with permission to access the S3 bucket, which will introduce additional security risks and complexity for storing and managing credentials. Option D is not optimal because it will create a Docker container from Node.js base image to invoke Lambda functions, which will incur additional costs and overhead for creating and running Docker containers. References: AWS Systems Manager Parameter Store, [Using SSL/TLS to Encrypt a Connection to a DB Instance]

NEW QUESTION 124

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: 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 125

A company is building a micro services application that consists of many AWS Lambda functions. The development team wants to use AWS Serverless Application Model (AWS SAM) templates to automatically test the Lambda functions. The development team plans to test a small percentage of traffic that is directed to new updates before the team commits to a full deployment of the application.
Which combination of steps will meet these requirements in the MOST operationally efficient way? (Select TWO.)

- A. Use AWS SAM CLI commands in AWS CodeDeploy to invoke the Lambda functions to test the deployment
- B. Declare the EventInvokeConfig on the Lambda functions in the AWS SAM templates with OnSuccess and OnFailure configurations. Enable gradual deployments through AWS SAM templates.
- C. Set the deployment preference type to Canary10Percent30Minutes Use hooks to test the deployment.**
- E. Set the deployment preference type to Linear10PercentEvery10Minutes Use hooks to test the deployment.

Answer: CD

Explanation:

This solution will meet the requirements by using AWS Serverless Application Model (AWS SAM) templates and gradual deployments to automatically test the Lambda functions. AWS SAM templates are configuration files that define serverless applications and resources such as Lambda functions. Gradual deployments are a feature of AWS SAM that enable deploying new versions of Lambda functions incrementally, shifting traffic gradually, and performing validation tests during deployment. The developer can enable gradual deployments through AWS SAM templates by adding a DeploymentPreference property to each Lambda function resource in the template. The developer can set the deployment preference type to Canary10Percent30Minutes, which means that 10 percent of traffic will be shifted to the new version of the Lambda function for 30 minutes before shifting 100 percent of traffic. The developer can also use hooks to test the deployment, which are custom Lambda functions that run before or after traffic shifting and perform validation tests or rollback actions.
References: [AWS Serverless Application Model (AWS SAM)], [Gradual Code Deployment]

NEW QUESTION 130

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 135

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