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Question 1

Question Type: MultipleChoice

A developer supports an application that accesses data in an Amazon DynamoDB table. One of the item attributes is expirationDate in the timestamp format. The application uses this attribute to find items, archive them, and remove them from the table based on the timestamp value

The application will be decommissioned soon, and the developer must find another way to implement this functionality. The developer needs a solution that will require the least amount of code to write.

Which solution will meet these requirements?

Options:

A- Enable TTL on the expirationDate attribute in the table. Create a DynamoDB stream. Create an AWS Lambda function to process the deleted items. Create a DynamoDB trigger for the Lambda function.

B- Create two AWS Lambda functions one to delete the items and one to process the items Create a DynamoDB stream Use the DeleteItem API operation to delete the items based on the expirationDate attribute Use the GetRecords API operation to get the items from the DynamoDB stream and process them

C- Create two AWS Lambda functions, one to delete the items and one to process the items. Create an Amazon EventBndge scheduled rule to invoke the Lambda Functions Use the DeleteItem API operation to delete the items based on the expirationDate attribute. Use the GetRecords API operation to get the items from the DynamoDB table and process them.

D- Enable TTL on the expirationDate attribute in the table Specify an Amazon Simple Queue Service (Amazon SQS> dead-letter queue as the target to delete the items Create an AWS Lambda function to process the items

Answer:

A

Explanation:

TTL for Automatic Deletion:DynamoDB's Time-to-Live effortlessly deletes expired items without manual intervention.

DynamoDB Stream:Captures changes to the table, including deletions of expired items, triggering downstream actions.

Lambda for Processing:A Lambda function connected to the stream provides custom logic for handling the deleted items.

Code Efficiency:This solution leverages native DynamoDB features and stream-based processing, minimizing the need for custom code.

DynamoDB TTL Documentation:https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/TTL.html

DynamoDB Streams Documentation:https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/Streams.html

Question 2

Question Type: **MultipleChoice**

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

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

Which solution will meet these requirements'?

Options:

A- Create Amazon Cognito user pools for external social identity providers Configure 1AM roles for the identity pools.

B- Program the sign-in page to create users' 1AM groups with the 1AM roles attached to the groups

C- Create an Amazon RDS for SQL Server DB instance to store the users and manage the permissions to the backend resources in AWS

D- Configure the sign-in page to register and store the users and their passwords in an Amazon DynamoDB table with an attached IAM policy.

Answer:

A

Explanation:

Amazon Cognito User Pools:A managed user directory service, simplifying user registration and login.

Social Identity Providers:Cognito supports integration with external providers (e.g., Google, Facebook), reducing development effort.

IAM Roles for Authorization:Cognito-managed IAM roles grant fine-grained access to AWS resources (like Lambda functions).

Operational Overhead:Cognito minimizes the need to manage user identities and credentials independently.

Amazon Cognito Documentationhttps://docs.aws.amazon.com/cognito/

Cognito User Pools for Web Applications:https://docs.aws.amazon.com/cognito/latest/developerguide/cognito-user-pools-app-integration.html

Question 3

Question Type: **MultipleChoice**

An AWS Lambda function requires read access to an Amazon S3 bucket and requires read/write access to an Amazon DynamoDB table The correct 1AM policy already exists

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

Options:

A- Attach the existing 1AM policy to the Lambda function.

B- Create an 1AM role for the Lambda function Attach the existing 1AM policy to the role Attach the role to the Lambda function

C- Create an 1AM user with programmatic access Attach the existing 1AM policy to the user. Add the user access key ID and secret access key as environment variables in the Lambda function.

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

Answer:

B

Explanation:

Principle of Least Privilege:Granting specific permissions through an IAM role is more secure than directly attaching policies to a function or using root user credentials.

IAM Roles for Lambda:Designed to provide temporary credentials to Lambda functions, enhancing security.

Reusability:The existing IAM policy ensures the correct S3 and DynamoDB access is granted.

IAM Roles for Lambda Documentation:https://docs.aws.amazon.com/lambda/latest/dg/lambda-intro-execution-role.html

IAM Best Practices:https://docs.aws.amazon.com/IAM/latest/UserGuide/best-practices.html

Question 4

Question Type: MultipleChoice

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

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

Options:

A- Create an EC2 instance profile and role with an appropriate policy Associate the role with the EC2 instances

B- Create an 1AM user with an appropriate policy. Store the access key ID and secret access key on the EC2 instances

C- Modify the application to use the S3 GeneratePresignedUrl API call

D- Modify the application to use the S3 GetObject API call and to return the object handle to the user

E- Modify the application to delegate requests to the S3 bucket.

Answer:

A, C

Explanation:

IAM Roles for EC2 (A):The most secure way to provide AWS permissions from EC2.

Create a role with a policy allowings3:GetObjecton the specific bucket.

Attach the role to an instance profile and associate that profile with your instances.

Pre-signed URLs (C):Temporary, authenticated URLs for specific S3 actions.

Modify the app to use the AWS SDK to callGeneratePresignedUrl.

Embed these URLs when a user is properly logged in, allowing download access.

IAM Roles for EC2:https://docs.aws.amazon.com/IAM/latest/UserGuide/id_roles_use_switch-role-ec2.html

Generating Presigned URLs:https://docs.aws.amazon.com/AmazonS3/latest/userguide/ShareObjectPreSignedURL.htm

Question 5

Question Type: MultipleChoice

A company is building a new application that runs on AWS and uses Amazon API Gateway to expose APIs Teams of developers are working on separate components of the application in parallel The company wants to publish an API without an integrated backend so that teams that depend on the application backend can continue the development work before the API backend development is complete.

Which solution will meet these requirements?

Options:

A- Create API Gateway resources and set the integration type value to MOCK Configure the method integration request and integration response to associate a response with an HTTP status code Create an API Gateway stage and deploy the API.

B- Create an AWS Lambda function that returns mocked responses and various HTTP status codes. Create API Gateway resources and set the integration type value to AWS_PROXY Deploy the API.

C- Create an EC2 application that returns mocked HTTP responses Create API Gateway resources and set the integration type value to AWS Create an API Gateway stage and deploy the API.

D- Create API Gateway resources and set the integration type value set to HTTP_PROXY. Add mapping templates and deploy the API. Create an AWS Lambda layer that returns various HTTP status codes Associate the Lambda layer with the API deployment

Answer:

A

Explanation:

API Gateway Mocking:This feature is built for decoupling development dependencies. Here's the process:

Create resources and methods in your API Gateway.

Set the integration type to 'MOCK'.

Define Integration Responses, mapping HTTP status codes to desired mocked responses (JSON, etc.).

Deployment and Use:

Create a deployment stage for the API.

Frontend teams can call this API and get the mocked responses without a real backend.

Mocking API Gateway APIs:https://docs.aws.amazon.com/apigateway/latest/developerguide/how-to-mock-integration.html

Question 6

Question Type: MultipleChoice

A company has an application that runs across multiple AWS Regions. The application is experiencing performance issues at irregular intervals. A developer must use AWS X-Ray to implement distributed tracing for the application to troubleshoot the root cause of the

performance issues.

What should the developer do to meet this requirement?

Options:

A- Use the X-Ray console to add annotations for AWS services and user-defined services

B- Use Region annotation that X-Ray adds automatically for AWS services Add Region annotation for user-defined services

C- Use the X-Ray daemon to add annotations for AWS services and user-defined services

D- Use Region annotation that X-Ray adds automatically for user-defined services Configure X-Ray to add Region annotation for AWS services

Answer:

B

Explanation:

Distributed Tracing with X-Ray:X-Ray helps visualize request paths and identify bottlenecks in applications distributed across Regions.

Region Annotations (Automatic for AWS Services):X-Ray automatically adds a Region annotation to segments representing calls to AWS services. This aids in tracing cross-Region traffic.

Region Annotations (Manual for User-Defined):For segments representing calls to user-defined services in different Regions, the developer needs to add the Region annotation manually to enable comprehensive tracing.

AWS X-Ray:https://aws.amazon.com/xray/