Practice Exam Questions

amazon web services

DVA-C02

Certified Developer Associate

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Amazon Web Services

Exam DVA-C02

AWS Certified Developer - Associate

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[Total Questions: 65]

Question No : 1

A developer is migrating some features from a legacy monolithic application to use AWS Lambda functions instead. The application currently stores data in an Amazon Aurora DB cluster that runs in private subnets in a VPC. The AWS account has one VPC deployed. The Lambda functions and the DB cluster are deployed in the same AWS Region in the same AWS account.

The developer needs to ensure that the Lambda functions can securely access the DB cluster without crossing the public internet.

Which solution will meet these requirements?

A. Configure the DB cluster's public access setting to Yes.
B. Configure an Amazon RDS database proxy for he Lambda functions.
C. Configure a NAT gateway and a security group for the Lambda functions.
D. Configure the VPC, subnets, and a security group for the Lambda functions.

Answer: D

Question No : 2

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. 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.
B. Use a multi-AZ Amazon RDS deployment. Modify the code so that queries access the secondary RDS instance.
C. Deploy Amazon RDS with one or more read replicas. Modify the application code so that queries use the URL for the read replicas.
D. Use open source replication software to create a copy of the MySQL database on an Amazon EC2 instance. Modify the application code so that queries use the IP address of the EC2 instance.

Answer: B

Question No : 3

A developer is working on a serverless application that needs to process any changes to an Amazon DynamoDB table with an AWS Lambda function.

How should the developer configure the Lambda function to detect changes to the DynamoDB table?

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

Answer: C

Question No : 4

A developer wants to expand an application to run in multiple AWS Regions. The developer wants to copy Amazon Machine Images (AMIs) with the latest changes and create a new application stack in the destination Region. According to company requirements, all AMIs must be encrypted in all Regions. However, not all the AMIs that the company uses are encrypted.

How can the developer expand the application to run in the destination Region while meeting the encryption requirement?

A. Create new AMIs, and specify encryption parameters. Copy the encrypted AMIs to the destination Region. Delete the unencrypted AMIs.
B. Use AWS Key Management Service (AWS KMS) to enable encryption on the unencrypted AMIs. Copy the encrypted AMIs to the destination Region.
C. Use AWS Certificate Manager (ACM) to enable encryption on the unencrypted AMIs. Copy the encrypted AMIs to the destination Region.
D. Copy the unencrypted AMIs to the destination Region. Enable encryption by default in the destination Region.

Answer: B

Question No : 5

A financial company must store original customer records for 10 years for legal reasons. A complete record contains personally identifiable information (PII). According to local regulations, PII is available to only certain people in the company and must not be shared with third parties. The company needs to make the records available to third-party organizations for statistical analysis without sharing the PII.

A developer wants to store the original immutable record in Amazon S3. Depending on who accesses the S3 document, the document should be returned as is or with all the PII removed. The developer has written an AWS Lambda function to remove the PII from the document. The function is named removePii.

What should the developer do so that the company can meet the PII requirements while maintaining only one copy of the document?

A. Set up an S3 event notification that invokes the removePii function when an S3 GET request is made. Call Amazon S3 by using a GET request to access the object without PII.
B. Set up an S3 event notification that invokes the removePii function when an S3 PUT request is made. Call Amazon S3 by using a PUT request to access the object without PII.
C. Create an S3 Object Lambda access point from the S3 console. Select the removePii function. Use S3 Access Points to access the object without PII.
D. Create an S3 access point from the S3 console. Use the access point name to call the GetObjectLegalHold S3 API function. Pass in the removePii function name to access the object without PII.

Answer: C

Question No : 6

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. Use unique paths in Parameter Store for each variable in each environment. Store the credentials in AWS Secrets Manager in each environment.
B. 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.
C. Update the application to retrieve the variables from an encrypted file that is stored with the application. Store the API URL and credentials in unique files for each environment.
D. Update the application to retrieve the variables from each of the deployed environments.

Define the authentication information and API URL in the ECS task definition as unique names during the deployment process.

Answer: B

Question No : 7

A developer is creating an application that will store personal health information (PHI). The PHI needs to be encrypted at all times. An encrypted Amazon RDS for MySQL DB instance is storing the data. The developer wants to increase the performance of the application by caching frequently accessed data while adding the ability to sort or rank the cached datasets.

Which solution will meet these requirements?

A. Create an Amazon ElastiCache for Redis instance. Enable encryption of data in transit and at rest. Store frequently accessed data in the cache.
B. Create an Amazon ElastiCache for Memcached instance. Enable encryption of data in transit and at rest. Store frequently accessed data in the cache.
C. Create an Amazon RDS for MySQL read replica. Connect to the read replica by using SSL. Configure the read replica to store frequently accessed data.
D. Create an Amazon DynamoDB table and a DynamoDB Accelerator (DAX) cluster for the table. Store frequently accessed data in the DynamoDB table.

Answer: A

Question No : 8

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

Question No : 9

A developer wants to insert a record into an Amazon DynamoDB table as soon as a new file is added to an Amazon S3 bucket.

Which set of steps would be necessary to achieve this?

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

Answer: B

Question No : 10

A developer is creating an application that will be deployed on IoT devices. The application will send data to a RESTful API that is deployed as an AWS Lambda function. The application will assign each API request a unique identifier. The volume of API requests from the application can randomly increase at any given time of day.

During periods of request throttling, the application might need to retry requests. The API must be able to handle duplicate requests without inconsistencies or data loss.

Which solution will meet these requirements?

A. Create an Amazon RDS for MySQL DB instance. Store the unique identifier for each request in a database table. Modify the Lambda function to check the table for the identifier before processing the request.
B. Create an Amazon DynamoDB table. Store the unique identifier for each request in the table. Modify the Lambda function to check the table for the identifier before processing the request.
C. Create an Amazon DynamoDB table. Store the unique identifier for each request in the table. Modify the Lambda function to return a client error response when the function receives a duplicate request.
D. Create an Amazon ElastiCache for Memcached instance. Store the unique identifier for each request in the cache. Modify the Lambda function to check the cache for the identifier before processing the request.

Answer: B

Question No : 11

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

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

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

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

Answer: C

Question No : 12

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

Question No : 13

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. Configure the function to remove the customer identifiers. Set an Amazon S3 bucket as the destination of the delivery stream.
B. Launch an Amazon EC2 instance. Set the EC2 instance as the destination of the delivery stream. Run an application on the EC2 instance to remove the customer identifiers. Store the transformed data in an Amazon S3 bucket.
C. Create an Amazon OpenSearch Service instance. Set the OpenSearch Service instance as the destination of the delivery stream. Use search and replace to remove the customer identifiers. Export the data to an Amazon S3 bucket.
D. Create an AWS Step Functions workflow to remove the customer identifiers. As the last step in the workflow, store the transformed data in an Amazon S3 bucket. Set the workflow as the destination of the delivery stream.

Answer: A

Question No : 14

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

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

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

A. Create a different Amazon Simple Notification Service (Amazon SNS) topic for each partner. Configure the Lambda function to publish messages for each partner to the partner's SNS topic.
B. Create a different Lambda function for each partner. Configure the Lambda function to notify each partner's service endpoint directly.
C. Create an Amazon Simple Notification Service (Amazon SNS) topic. Configure the Lambda function to publish messages with specific attributes to the SNS topic. Subscribe each partner to the SNS topic. Apply the appropriate filter policy to the topic subscriptions.

D. Create one Amazon Simple Notification Service (Amazon SNS) topic. Subscribe all partners to the SNS topic.

Answer: C

Question No : 15

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 instances. Deploy a file system on the EBS volume. Use the host operating system to share a folder. Update the application code to read and write configuration files from the shared folder.
B. Deploy a micro EC2 instance with an instance store volume. Use the host operating system to share a folder. Update the application code to read and write configuration files from the shared folder.
C. Create an Amazon S3 bucket to host the repository. Migrate the existing .xml files to the S3 bucket. Update the application code to use the AWS SDK to read and write configuration files from Amazon S3.
D. Create an Amazon S3 bucket to host the repository. Migrate the existing .xml files to the S3 bucket. Mount the S3 bucket to the EC2 instances as a local volume. Update the application code to read and write configuration files from the disk.

Answer: C

Question No : 16

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

The company needs a way to manage the API key by using code. The integration of the API key with the application code cannot affect application performance.

Which solution will meet these requirements MOST securely?

A. Store the API credentials in AWS Secrets Manager. Retrieve the API credentials at runtime by using the AWS SDK. Use the credentials to make the API call.
B. Store the API credentials in a local code variable. Push the code to a secure Git repository. Use the local code variable at runtime to make the API call.
C. Store the API credentials as an object in a private Amazon S3 bucket. Restrict access to the S3 object by using IAM policies. Retrieve the API credentials at runtime by using the AWS SDK. Use the credentials to make the API call.
D. Store the API credentials in an Amazon DynamoDB table. Restrict access to the table by using resource-based policies. Retrieve the API credentials at runtime by using the AWS SDK. Use the credentials to make the API call.

Answer: B

Question No : 17

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 backend. Conned the repository branches that correspond to each of the desired environments. Start deployments by merging code changes to a desired branch.
B. Host each website in AWS Elastic Beanstalk with multiple environments. Use the EB CLI to link each repository branch. Integrate AWS CodePipeline to automate deployments from version control code merges.
C. Host each website in different Amazon S3 buckets for each environment. Configure AWS CodePipeline to pull source code from version control. Add an AWS CodeBuild stage to copy source code to Amazon S3.
D. Host each website on its own Amazon EC2 instance. Write a custom deployment script to bundle each website's static assets. Copy the assets to Amazon EC2. Set up a workflow to run the script when code is merged.

Answer: A

Question No : 18

A company is migrating legacy internal applications to AWS. Leadership wants to rewrite the internal employee directory to use native AWS services. A developer needs to create a solution for storing employee contact details and high-resolution photos for use with the new application.

Which solution will enable the search and retrieval of each employee's individual details and high-resolution photos using AWS APIs?

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

Answer: B

Question No : 19

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. Select the database that the parameter will access. Use the default AWS Key Management Service (AWS KMS) key to encrypt the parameter. Enable automatic rotation for the parameter. Use the parameter from Parameter Store on the Lambda function to connect to the database.
B. Encrypt the credentials with the default AWS Key Management Service (AWS KMS) key. Store the credentials as environment variables for the Lambda function. Create a second Lambda function to generate new credentials and to rotate the credentials by updating the environment variables of the first Lambda function. Invoke the second Lambda function by using an Amazon EventBridge rule that runs on a schedule. Update the database to use the new credentials. On the first Lambda function, retrieve the credentials from the environment variables. Decrypt the credentials by using AWS KMS, Connect to the database.

C. Store the credentials in AWS Secrets Manager. Set the secret type to Credentials for Amazon RDS database. Select the database that the secret will access. Use the default AWS Key Management Service (AWS KMS) key to encrypt the secret. Enable automatic rotation for the secret. Use the secret from Secrets Manager on the Lambda function to connect to the database.
D. Encrypt the credentials by using AWS Key Management Service (AWS KMS). Store the credentials in an Amazon DynamoDB table. Create a second Lambda function to rotate the credentials. 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 credentials. Retrieve the credentials from DynamoDB with the first Lambda function. Connect to the database.

Answer: C

Question No : 20

A developer has written an AWS Lambda function. The function is CPU-bound. The developer wants to ensure that the function returns responses quickly.

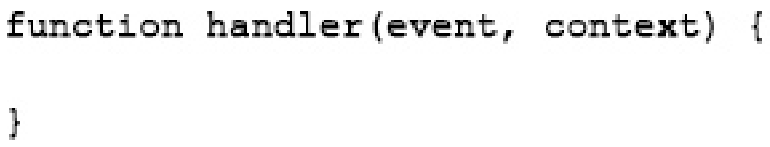
How can the developer improve the function's performance?

A. Increase the function's CPU core count.
B. Increase the function's memory.
C. Increase the function's reserved concurrency.
D. Increase the function's timeout.

Answer: B

Question No : 21

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

Answer: D

Question No : 22

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

Which solution will meet these requirements MOST efficiently?

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

Answer: C

Question No : 23

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

Which AWS service should the team use to store the program code?

A. AWS CodeDeploy
B. AWS CodeArtifact

C. AWS CodeCommit
D. Amazon CodeGuru

Answer: C

Question No : 24

An ecommerce company is using an AWS Lambda function behind Amazon API Gateway as its application tier. To process orders during checkout, the application calls a POST API from the frontend. The POST API invokes the Lambda function asynchronously. In rare situations, the application has not processed orders. The Lambda application logs show no errors or failures.

What should a developer do to solve this problem?

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

Answer: B

Question No : 25

A company is implementing an application on Amazon EC2 instances. The application needs to process incoming transactions. When the application detects a transaction that is not valid, the application must send a chat message to the company's support team. To send the message, the application needs to retrieve the access token to authenticate by using the chat API.

A developer needs to implement a solution to store the access token. The access token must be encrypted at rest and in transit. The access token must also be accessible from other AWS accounts.

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

A. Use an AWS Systems Manager Parameter Store SecureString parameter that uses an AWS Key Management Service (AWS KMS) AWS managed key to store the access token. Add a resource-based policy to the parameter to allow access from other accounts. Update the IAM role of the EC2 instances with permissions to access Parameter Store. Retrieve