



**Amazon**

**Exam Questions DVA-C02**

DVA-C02

#### NEW QUESTION 1

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**

#### NEW QUESTION 2

A developer is incorporating AWS X-Ray into an application that handles personal identifiable information (PII). The application is hosted on Amazon EC2 instances. The application trace messages include encrypted PII and go to Amazon CloudWatch. The developer needs to ensure that no PII goes outside of the EC2 instances.

Which solution will meet these requirements?

- A. Manually instrument the X-Ray SDK in the application code.
- B. Use the X-Ray auto-instrumentation agent.
- C. Use Amazon Macie to detect and hide PII.
- D. Call the X-Ray API from AWS Lambda.
- E. Use AWS Distro for Open Telemetry.

**Answer: B**

#### NEW QUESTION 3

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 accounts.
- 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**

#### NEW QUESTION 4

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 API.
- C. Use the Lambda function to store the photos and details in the DynamoDB table.
- 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 API.
- 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 table.
- 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 process.
- J. Use IAM authentication to access the API Gateway API.
- 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 table.
- L. Retrieve previously uploaded photos by querying DynamoDB for the S3 key.
- M. Create a users table in DynamoDB.
- N. Use the table to manage user account.
- O. Create a Lambda authorizer that validates user credentials against the users table.
- P. Integrate the Lambda authorizer with API Gateway to control access to the API.
- Q. 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 table.
- R. Retrieve previously uploaded photos by querying DynamoDB for the S3 key.

**Answer: B**

#### NEW QUESTION 5

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

What should a developer do to solve this problem?

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

**Answer: B**

#### NEW QUESTION 6

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

Which solution will meet these requirements MOST efficiently?

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

**Answer: C**

#### NEW QUESTION 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
- B. Enable encryption of data in transit and at rest
- C. Store frequently accessed data in the cache.
- D. Create an Amazon ElastiCache for Memcached instance
- E. Enable encryption of data in transit and at rest. Store frequently accessed data in the cache.
- F. Create an Amazon RDS for MySQL read replica
- G. Connect to the read replica by using SSL
- H. Configure the read replica to store frequently accessed data.
- I. Create an Amazon DynamoDB table and a DynamoDB Accelerator (DAX) cluster for the table
- J. Store frequently accessed data in the DynamoDB table.

**Answer: A**

#### NEW QUESTION 8

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**

#### NEW QUESTION 9

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: BD

#### NEW QUESTION 10

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

#### NEW QUESTION 10

An application is processing clickstream data using Amazon Kinesis. The clickstream data feed into Kinesis experiences periodic spikes. The PutRecords API call occasionally fails and the logs show that the failed call returns the response shown below:

```
{
  "FailedRecordCount": 1,
  "Records": [
    {
      "SequenceNumber": "21269319989900637946712965403778482371",
      "ShardId": "shardId-000000000001"
    },
    {
      "ErrorCode": "ProvisionedThroughputExceededException",
      "ErrorMessage": "Rate exceeded for shard shardId-000000000001 in
        stream exampleStreamName under account 123456789."
    },
    {
      "SequenceNumber": "21269319989999637946712965403778482985",
      "ShardId": "shardId-000000000002"
    }
  ]
}
```

Which techniques will help mitigate this exception? (Choose two.)

- A. Which techniques will help mitigate this exception? (Choose two.)
- B. Use a PutRecord API instead of PutRecords.
- C. Reduce the frequency and/or size of the requests.
- D. Use Amazon SNS instead of Kinesis.
- E. Reduce the number of KCL consumers.

Answer: AC

#### NEW QUESTION 12

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 parameter
- B. Copy the encrypted AMIs to the destination Region

- C. Delete the unencrypted AMIs.
- D. Use AWS Key Management Service (AWS KMS) to enable encryption on the unencrypted AMI
- E. Copy the encrypted AMIs to the destination Region.
- F. Use AWS Certificate Manager (ACM) to enable encryption on the unencrypted AMI
- G. Copy the encrypted AMIs to the destination Region.
- H. Copy the unencrypted AMIs to the destination Region.
- I. Enable encryption by default in the destination Region.

**Answer: B**

#### NEW QUESTION 14

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**

#### NEW QUESTION 16

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: B**

#### NEW QUESTION 21

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

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

**Answer: A**

#### NEW QUESTION 24

A developer is designing a serverless application with two AWS Lambda functions to process photos. One Lambda function stores objects in an Amazon S3 bucket and stores the associated metadata in an Amazon DynamoDB table. The other Lambda function fetches the objects from the S3 bucket by using the metadata from the DynamoDB table. Both Lambda functions use the same Python library to perform complex computations and are approaching the quota for the maximum size of zipped deployment packages.

What should the developer do to reduce the size of the Lambda deployment packages with the LEAST operational overhead?

- A. Package each Python library in its own .zip file archive
- B. Deploy each Lambda function with its own copy of the library.
- C. Create a Lambda layer with the required Python libraries
- D. Use the Lambda layer in both Lambda functions.
- E. Combine the two Lambda functions into one Lambda function
- F. Deploy the Lambda function as a single.zip file archive.
- G. Download the Python library to an Amazon S3 bucket
- H. Program the Lambda functions to reference the object URLs.

**Answer: B**

#### NEW QUESTION 29

A developer is creating a mobile app that calls a backend service by using an Amazon API Gateway REST API. For integration testing during the development

phase, the developer wants to simulate different backend responses without invoking the backend service. Which solution will meet these requirements with the LEAST operational overhead?

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

**Answer: B**

#### NEW QUESTION 30

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: D**

#### NEW QUESTION 33

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
- D. Select the `removePii` function
- E. Use S3 Access Points to access the object without PII.
- F. Create an S3 access point from the S3 console
- G. Use the access point name to call the `GetObjectLegalHold` S3 API function
- H. Pass in the `removePii` function name to access the object without PII.

**Answer: C**

#### NEW QUESTION 34

A developer is using AWS Amplify Hosting to build and deploy an application. The developer is receiving an increased number of bug reports from users. The developer wants to add end-to-end testing to the application to eliminate as many bugs as possible before the bugs reach production. Which solution should the developer implement to meet these requirements?

- A. Run the `amplify add test` command in the Amplify CLI.
- B. Create unit tests in the application
- C. Deploy the unit tests by using the `amplify push` command in the Amplify CLI.
- D. Add a test phase to the `amplify.yml` build settings for the application.
- E. Add a test phase to the `aws-exports.js` file for the application.

**Answer: C**

#### NEW QUESTION 36

A developer is migrating some features from a legacy monolithic application to use AWS Lambda functions instead. The application currently stores data in an Amazon Aurora DB cluster that runs in private subnets in a VPC. The AWS account has one VPC deployed. The Lambda functions and the DB cluster are deployed in the same AWS Region in the same AWS account. The developer needs to ensure that the Lambda functions can securely access the DB cluster without crossing the public internet. Which solution will meet these requirements?

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

**Answer: D**

#### NEW QUESTION 38

A company has deployed infrastructure on AWS. A development team wants to create an AWS Lambda function that will retrieve data from an Amazon Aurora database. The Amazon Aurora database is in a private subnet in company's VPC. The VPC is named `VPC1`. The data is relational in nature. The Lambda function needs to access the data securely. Which solution will meet these requirements?

- A. Create the Lambda functio
- B. Configure VPC1 access for the functio
- C. Attach a security group named SG1 to both the Lambda function and the databas
- D. Configure the security group inbound and outbound rules to allow TCP traffic on Port 3306.
- E. Create and launch a Lambda function in a new public subnet that is in a new VPC named VPC2. Create a peering connection between VPC1 and VPC2.
- F. Create the Lambda functio
- G. Configure VPC1 access for the functio
- H. Assign a security group named SG1 to the Lambda functio
- I. Assign a second security group named SG2 to the databas
- J. Add an inbound rule to SG1 to allow TCP traffic from Port 3306.
- K. Export the data from the Aurora database to Amazon S3. Create and launch a Lambda function in VPC1. Configure the Lambda function query the data from Amazon S3.

**Answer: B**

#### NEW QUESTION 42

An application uses an Amazon EC2 Auto Scaling group. A developer notices that EC2 instances are taking a long time to become available during scale-out events. The UserData script is taking a long time to run.

The developer must implement a solution to decrease the time that elapses before an EC2 instance becomes available. The solution must make the most recent version of the application available at all times and must apply all available security updates. The solution also must minimize the number of images that are created. The images must be validated.

Which combination of steps should the developer take to meet these requirements? (Choose two.)

- A. Use EC2 Image Builder to create an Amazon Machine Image (AMI). Install all the patches and agents that are needed to manage and run the applicatio
- B. Update the Auto Scaling group launch configuration to use the AMI.
- C. Use EC2 Image Builder to create an Amazon Machine Image (AMI). Install the latest version of the application and all the patches and agents that are needed to manage and run the applicatio
- D. Update the Auto Scaling group launch configuration to use the AMI.
- E. Set up AWS CodeDeploy to deploy the most recent version of the application at runtime.
- F. Set up AWS CodePipeline to deploy the most recent version of the application at runtime.
- G. Remove any commands that perform operating system patching from the UserData script.

**Answer: AB**

#### NEW QUESTION 45

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