Exam DVA-C01

AWS Certified Developer Associate Exam

Version: 24.0

[Total Questions: 608]

Topic 1, Exam Pool A

1. - (Exam Topic 1)

Your application is trying to upload a 6 GB file to Simple Storage Service and receive a "Your proposed upload exceeds the maximum allowed object size." error message.

What is a possible solution for this?

A. None, Simple Storage Service objects are limited to 5 GB

B. Use the multi-part upload API for this object

C. Use the large object upload API for this object

D. Contact support to increase your object size limit

E. Upload to a different region

Answer: B

Explanation:

https://docs.aws.amazon.com/AmazonS3/latest/dev/mpuoverview.html

2. - (Exam Topic 1)

A Developer needs temporary access to resources in a second account. What is the MOST secure way to achieve this?

A. Use the Amazon Cognito user pools to get short-lived credentials for the second account.

B. Create a dedicated IAM access key for the second account, and send it by mail.

C. Create a cross-account access role, and use sts:AssumeRole API to get short-lived credentials.

D. Establish trust, and add an SSH key for the second account to the IAM user.

Answer: C

3. - (Exam Topic 1)

A Developer has been asked to make changes to the source code of an AWS Lambda function. The function is managed using an AWS CloudFormation template. The template is configured to load the source code from an Amazon S3 bucket. The Developer manually created a .ZIP file deployment package containing the changes and put the file into the correct location on Amazon S3. When the function is invoked, the code changes have not been applied.

What step is required to update the function with the changes?
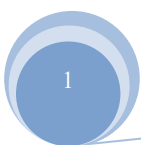
A. Delete the .ZIP file on S3, and re-upload by using a different object key name.

B. Update the CloudFormation stack with the correct values for the function code properties S3Bucket, S3Key, or S3ObjectVersion.

C. Ensure that the function source code is base64-encoded before uploading the deployment package to S3.

D. Modify the execution role of the Lambda function to allow S3 access permission to the deployment package .ZIP file.

Answer: B

Explanation:

Changes to a deployment package in Amazon S3 are not detected automatically during stack updates. To update the function code, change the object key or version in the template.

https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/aws-properties-lambda-function-code.htm

4. - (Exam Topic 1)
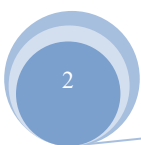
For a deployment using AWS CodeDeploy, what is the run order of the hooks for in-place deployments?

A. Before Install -> Application Stop -> Application Start -> After Install

B. Application Stop -> Before Install -> After Install -> Application Start

C. Before Install -> Application Stop -> Validate Service -> Application Start

D. Application Stop -> Before Install -> Validate Service -> Application Start

Answer: B

5. - (Exam Topic 1)

An e-commerce site allows returning users to log in to display customized web pages. The workflow is shown in the image below:

1 User logs in

display user login page
authenticate and authorize user access

→ user login data

2 Database queried for user

create query for user table
query user table for account & preferences

→ user account data

3 Display customized entry page

modify greeting with user name
display new items recomended for user

An application is running on EC2 instances. Amazon RDS is used for the database that stores user

accounts and preferences. The website freezes or is slow to load while waiting for the login step to

complete. The remaining components of the site are well-optimized.

Which of the following techniques will resolve this issue? (Select Two.)

A. Implement the user login page as an asynchronous Lambda function.

B. Use Amazon ElastiCache for MemCached to cache user data.

C. Use Amazon Application Load Balancer to load balance the traffic to the website.

D. Call the database asynchronously so the code can continue executing.

E. Batch login requests from hundreds of users together as a single read request to the database.

Answer: B D

Explanation:

https://docs.aws.amazon.com/sdk-for-javascript/v2/developer-guide/making-asynchronous-calls.html

6. - (Exam Topic 1)

You attempt to store an object in the US-STANDARD region in Amazon S3, and receive a confirmation that

it has been successfully stored. You then immediately make another API call and attempt to read this object.

S3 tells you that the object does not exist

What could explain this behavior?

A. US-STANDARD uses eventual consistency and it can take time for an object to be readable in a bucket

B. Objects in Amazon S3 do not become visible until they are replicated to a second region.

C. US-STANDARD imposes a 1 second delay before new objects are readable.

D. You exceeded the bucket object limit, and once this limit is raised the object will be visible.

Answer: A

Explanation:

https://acloud.guru/forums/aws-certified-developer-associate/discussion/-KGngHzVQ03OpeAA9jSP/i-cant-

ans

https://acloud.guru/forums/aws-certified-developer-associate/discussion/-K5WKXRAIJdOu58GREF_/s3-qu

estio

7. - (Exam Topic 1)

A Developer is writing a serverless application that requires that an AWS Lambda function be invoked

every 10 minutes.

What is an automated and serverless way to trigger the function?

A. Deploy an Amazon EC2 instance based on Linux, and edit its /etc/crontab file by adding a command to

periodically invoke the Lambda function.

B. Configure an environment variable named PERIOD for the Lambda function. Set the value to 600.

C. Create an Amazon CloudWatch Events rule that triggers on a regular schedule to invoke the Lambda

function.

D. Create an Amazon SNS topic that has a subscription to the Lambda function with a 600-second timer.

Answer: C

Explanation:

Reference:

https://aws.amazon.com/blogs/architecture/a-serverless-solution-for-invoking-aws-lambda-at-asub-minute-

frequ

8. - (Exam Topic 1)

An application stops working with the following error: The specified bucket does not exist. Where is the

BEST place to start the root cause analysis?

A. Check the Elastic Load Balancer logs for DeleteBucket requests.

B. Check the application logs in Amazon CloudWatch Logs for Amazon S3 DeleteBucket errors.

C. Check AWS X-Ray for Amazon S3 DeleteBucket alarms.

D. Check AWS CloudTrail for a DeleteBucket event.

Answer: D

9. - (Exam Topic 1)

A Developer must re-implement the business logic for an order fulfilment system. The business logic has to make requests to multiple vendors to decide where to purchase an item. The whole process can take up to a week to complete.

What is the MOST efficient and SIMPLEST way to implement a system that meets these requirements?

A. Use AWS Step Functions to execute parallel Lambda functions, and join the results.

B. Create an AWS SQS for each vendor, poll the queue from a worker instance, and joint the results.

C. Use AWS Lambda to asynchronously call a Lambda function for each vendor, and join the results.

D. Use Amazon CloudWatch Events to orchestrate the Lambda functions.

Answer: A

Explanation:

https://aws.amazon.com/step-functions/

10. - (Exam Topic 1)

A company has three different environments: Development, QA, and Production. The company wants to deploy its code first in the Development environment, then QA, and then Production.

Which AWS service can be used to meet this requirement?

A. Use AWS CodeCommit to create multiple repositories to deploy the application.

B. Use AWS CodeBuild to create, configure, and deploy multiple build application projects.

C. Use AWS Data Pipeline to create multiple data pipeline provisions to deploy the application.

D. Use AWS CodeDeploy to create multiple deployment groups.

Answer: D

Explanation:

https://docs.aws.amazon.com/codedeploy/latest/userguide/deployment-groups.html

"You can associate more than one deployment group with an application in CodeDeploy. This makes it

possible to deploy an application revision to different sets of instances at different times. For example, you might use one deployment group to deploy an application revision to a set of instances tagged Test where you ensure the quality of the code. Next, you deploy the same application revision to a deployment group with instances tagged Staging for additional verification. Finally, when you are ready to release the latest application to customers, you deploy to a deployment group that includes instances tagged Production. "

11. - (Exam Topic 1)

A Developer must deploy a new AWS Lambda function using an AWS CloudFormation template. Which procedures will deploy a Lambda function? (Select TWO.)

A. Upload the code to an AWS CodeCommit repository, then add a reference to it in an

AWS::Lambda::Function resource in the template.

B. Create an AWS::Lambda::Function resource in the template, then write the code directly inside the

CloudFormation template.

C. Upload a .ZIP file containing the function code to Amazon S3, then add a reference to it in an

AWS::Lambda::Function resource in the template.

D. Upload a .ZIP file to AWS CloudFormation containing the function code, then add a reference to it in an

AWS::Lambda::Function resource in the template.

E. Upload the function code to a private Git repository, then add a reference to it in an

AWS::Lambda::Function resource in the template.

Answer: B C

Explanation:

https://aws.amazon.com/blogs/infrastructure-and-automation/deploying-aws-lambda-functions-using-aws-c

loudf

12. - (Exam Topic 1)

A startup s photo-sharing site is deployed in a VPC. An ELB distributes web traffic across two subnets. ELB session stickiness is configured to use the AWS-generated session cookie, with a session TTL of 5 minutes. The webserver Auto Scaling Group is configured as: min-size=4, max-size=4.

The startups preparing for a public launch, by running load-testing software installed on a single EC2 instance running in us-west-2a. After 60 minutes of load-testing, the webserver logs show:
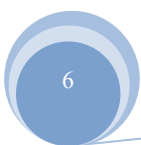
Which recommendations can help ensure load-testing HTTP requests are evenly distributed across the four

webservers? Choose 2 answers

A. Launch and run the load-tester EC2 instance from us-east-1 instead.

B. Re-configure the load-testing software to re-resolve DNS for each web request.

C. Use a 3rd-party load-testing service which offers globally-distributed test clients.

D. Configure ELB and Auto Scaling to distribute across us-west-2a and us-west-2c.

E. Configure ELB session stickiness to use the app-specific session cookie.

Answer: C E

13. - (Exam Topic 1)

An application reads data from an Amazon DynamoDB table. Several times a day, for a period of 15

seconds, the application receives multiple ProvisionedThroughputExceeded errors.

How should this exception be handled?

A. Create a new global secondary index for the table to help with the additional requests.

B. Retry the failed read requests with exponential backoff.

C. Immediately retry the failed read requests.

D. Use the DynamoDB "UpdateItem" API to increase the provisioned throughput capacity of the table.

Answer: B

Explanation:

https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/Programming.Errors.html

14. - (Exam Topic 1)

How can software determine the public and private IP addresses of the Amazon EC2 instance that it is

running on?

A. Query the appropriate Amazon CloudWatch metric.

B. Use ipconfig or ifconfig command.

C. Query the local instance userdata.

D. Query the local instance metadata.

Answer: D

Explanation:

https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/instancedata-data-categories.html

Data: local-hostname Descriptions: The private IPv4 DNS hostname of the instance. In cases where multiple network interfaces are present, this refers to the eth0 device (the device for which the device number is 0). Data: public-ipv4 Descriptions: The public IPv4 address. If an Elastic IP address is associated with the instance, the value returned is the Elastic IP address.

15. - (Exam Topic 1)

A company is using Amazon API Gateway to manage access to a set of microservices implemented as AWS Lambda functions. Following a bug report, the company makes a minor breaking change to one of the APIs. In order to avoid impacting existing clients when the new API is deployed, the company wants to allow clients six months to migrate from v1 to v2.

Which approach should the Developer use to handle this change?

A. Update the underlying Lambda function and provide clients with the new Lambda invocation URL.

B. Use API Gateway to automatically propagate the change to clients, specifying 180 days in the phased deployment parameter.

C. Use API Gateway to deploy a new stage named v2 to the API and provide users with its URL.

D. Update the underlying Lambda function, create an Amazon CloudFront distribution with the updated Lambda function as its origin.

Answer: C

16. - (Exam Topic 1)

Which of the following statements about SWF are true? Choose 3 answers

A. SWF tasks are assigned once and never duplicated

B. SWF requires an S3 bucket for workflow storage

C. SWF workflow executions can last up to a year

D. SWF triggers SNS notifications on task assignment

E. SWF uses deciders and workers to complete tasks

F. SWF requires at least 1 EC2 instance per domain

Answer: A C E

17. - (Exam Topic 1)

A Developer is writing a Linux-based application to run on AWS Elastic Beanstalk. Application requirements

state that the application must maintain full capacity during updates while minimizing cost.

Which type of Elastic Beanstalk deployment policy should the Developer specify for the environment?

A. Immutable

B. Rolling

C. All at Once

D. Rolling with additional batch

Answer: D

Explanation:

https://docs.aws.amazon.com/elasticbeanstalk/latest/dg/using-features.rolling-version-deploy.html

18. - (Exam Topic 1)

What is the maximum number of S3 Buckets available per AWS account?

A. 100 per region

B. there is no limit

C. 100 per account

D. 500 per account

E. 100 per IAM user

Answer: C

Explanation:

https://docs.aws.amazon.com/AmazonS3/latest/dev/BucketRestrictions.html

19. - (Exam Topic 1)

How can you secure data at rest on an EBS volume?

A. Attach the volume to an instance using EC2's SSL interface.

B. Write the data randomly instead of sequentially.

C. Use an encrypted file system on top of the BBS volume.

D. Encrypt the volume using the S3 server-side encryption service.

E. Create an IAM policy that restricts read and write access to the volume.

Answer: C

20. - (Exam Topic 1)

A Developer is writing a mobile application that allows users to view images from an S3 bucket. The users

must be able to log in with their Amazon login, as well as Facebook® and/or Google® accounts.

How can the Developer provide this authentication functionality?

A. Use Amazon Cognito with web identity federation.

B. Use Amazon Cognito with SAML-based identity federation.

C. Use AWS IAM Access/Secret keys in the application code to allow Get* on the S3 bucket.

D. Use AWS STS AssumeRole in the application code and assume a role with Get* permissions on the S3

bucket.

Answer: A

Explanation:

Reference:

http://jayendrapatil.com/tag/iam-role/

https://docs.aws.amazon.com/sdk-for-javascript/v2/developer-guide/loading-browser-credentials-federated

-id.ht

21. - (Exam Topic 1)

After launching an instance that you intend to serve as a NAT (Network Address Translation) device in a

public subnet you modify your route tables to have the NAT device be the target of internet bound traffic of

your private subnet. When you try and make an outbound connection to the Internet from an instance in the

private subnet, you are not successful.

Which of the following steps could resolve the issue?

A. Attaching a second Elastic Network interface (ENI) to the NAT instance, and placing it in the private

subnet

B. Attaching a second Elastic Network Interface (ENI) to the instance in the private subnet, and placing it in

the public subnet

C. Disabling the Source/Destination Check attribute on the NAT instance

D. Attaching an Elastic IP address to the instance in the private subnet

Answer: C

Explanation:

https://docs.aws.amazon.com/vpc/latest/userguide/VPC_NAT_Instance.html#NATInstance

22. - (Exam Topic 1)

If a message is retrieved from a queue in Amazon SQS, how long is the message inaccessible to other users by default?

A. 0 seconds

B. 1 hour

C. 1 day

D. forever

E. 30 seconds

Answer: E

Explanation:

https://docs.aws.amazon.com/AWSSimpleQueueService/latest/SQSDeveloperGuide/sqs-visibility-timeout.

html Visibility timeout:

default value = 30 seconds, minimum = 0 seconds, maximum = 12 hours

23. - (Exam Topic 1)

Which of the following platforms are supported by Elastic Beanstalk? Choose 2 answers

A. Apache Tomcat

B. .NET

C. IBM Websphere

D. Oracle JBoss

E. Jetty

Answer: A B

Explanation:

https://docs.aws.amazon.com/elasticbeanstalk/latest/platforms/platforms-supported.html

24. - (Exam Topic 1)

company needs a fully-managed source control service that will work in AWS. The service must ensure that

revision control synchronizes multiple distributed repositories by exchanging sets of changes peer-to-peer.

All users need to work productively even when not connected to a network.

Which source control service should be used?

A. Subversion

B. AWS CodeBuild

C. AWS CodeCommit

D. AWS CodeStar

Answer: C

25. - (Exam Topic 1)

A Developer has published an update to an application that is served to a global user base using Amazon

CloudFront. After deploying the application, users are not able to see the updated changes.

How can the Developer resolve this issue?

A. Remove the origin from the CloudFront configuration and add it again.

B. Disable forwarding of query strings and request headers from the CloudFront distribution configuration.

C. Invalidate all the application objects from the edge caches.

D. Disable the CloudFront distribution and enable it again to update all the edge locations.

Answer: C

Explanation:

https://docs.aws.amazon.com/AmazonCloudFront/latest/DeveloperGuide/Invalidation.html

26. - (Exam Topic 1)

A Developer has created a Lambda function and is finding that the function is taking longer to complete

than expected. After some debugging, the Developer has discovered that increasing compute capacity

would improve performance.

How can the Developer increase the Lambda compute resources?

A. Run on a larger instance size with more compute capacity.

B. Increase the maximum execution time.

C. Specify a larger compute capacity when calling the Lambda function.

D. Increase the allocated memory for the Lambda function.

Answer: D

27. - (Exam Topic 1) Company

C is currently hosting their corporate site in an Amazon S3 bucket with Static Website Hosting enabled.

Currently, when visitors go to http://www.companyc.com the index.html page is returned. Company C now

would like a new page welcome.html to be returned when a visitor enters http://www.companyc.com in the

browser.

Which of the following steps will allow Company C to meet this requirement? Choose 2 answers

A. Upload an html page named welcome.html to their S3 bucket

B. Create a welcome subfolder in their S3 bucket

C. Set the Index Document property to welcome.html

D. Move the index.html page to a welcome subfolder

E. Set the Error Document property to welcome.html

Answer: A C

Explanation:

https://docs.aws.amazon.com/AmazonS3/latest/dev/WebsiteHosting.html

https://docs.aws.amazon.com/AmazonS3/latest/dev/HostingWebsiteOnS3Setup.html

28. - (Exam Topic 1)

A company wants to implement a continuous integration for its workloads on AWS. The company wants to

trigger unit test in its pipeline for commits-on its code repository, and wants to be notified of failure events in

the pipeline.

How can these requirements be met?

A. Store the source code in AWS CodeCommit. Create a CodePipeline to automate unit testing. Use

Amazon SNS to trigger notifications of failure events.

B. Store the source code in GitHub. Create a CodePipeline to automate unit testing. Use Amazon SES to

trigger notifications of failure events.

C. Store the source code on GitHub. Create a CodePipeline to automate unit testing. Use Amazon

CloudWatch to trigger notifications of failure events.

D. Store the source code in AWS CodeCommit. Create a CodePipeline to automate unit testing. Use Amazon CloudWatch to trigger notification of failure events.

Answer: D

29. - (Exam Topic 1)

During non-peak hours, a Developer wants to minimize the execution time of a full Amazon DynamoDB table scan without affecting normal workloads. The workloads average half of the strongly consistent read capacity units during non-peak hours.

How would the Developer optimize this scan?

A. Use parallel scans while limiting the rate

B. Use sequential scans

C. Increase read capacity units during the scan operation

D. Change consistency to eventually consistent during the scan operation

Answer: A

Explanation:

https://aws.amazon.com/blogs/developer/rate-limited-scans-in-amazon-dynamodb/

30. - (Exam Topic 1)

A Developer must repeatedly and consistently deploy a serverless RESTful API on AWS. Which techniques will work? (Choose two.)

A. Define a Swagger file. Use AWS Elastic Beanstalk to deploy the Swagger file.

B. Define a Swagger file. Use AWS CodeDeploy to deploy the Swagger file.

C. Deploy a SAM template with an inline Swagger definition.

D. Define a Swagger file. Deploy a SAM template that references the Swagger file.

E. Define an inline Swagger definition in a Lambda function. Invoke the Lambda function.

Answer: C D

Explanation:

https://aws.amazon.com/about-aws/whats-new/2017/02/aws-serverless-application-model-aws-sam-supports-inl

https://aws.amazon.com/about-aws/whats-new/2017/02/aws-serverless-application-model-aws-sam-suppo

rts-inl

31. - (Exam Topic 1)

A Developer is creating an application that needs to locate the public IPv4 address of the Amazon EC2

instance on which it runs. How can the application locate this information?

A. Get the instance metadata by retrieving http://169.254.169.254/latest/metadata/.

B. Get the instance user data by retrieving http://169.254.169.254/latest/userdata/.

C. Get the application to run IFCONFIG to get the public IP address.

D. Get the application to run IPCONFIG to get the public IP address.

Answer: A

32. - (Exam Topic 1)

Company D is running their corporate website on Amazon S3 accessed from http//www.companyd.com.

Their marketing team has published new web fonts to a separate S3 bucket accessed by the S3 endpoint

https://s3-us-west-1.amazonaws.com/cdfonts. While testing the new web fonts, Company D recognized the

web fonts are being blocked by the browser.

What should Company D do to prevent the web fonts from being blocked by the browser?

A. Enable versioning on the cdfonts bucket for each web font

B. Create a policy on the cdfonts bucket to enable access to everyone

C. Add the Content-MD5 header to the request for webfonts in the cdfonts bucket from the website

D. Configure the cdfonts bucket to allow cross-origin requests by creating a CORS configuration

Answer: D

Explanation:

https://docs.aws.amazon.com/AmazonS3/latest/dev/cors.html

33. - (Exam Topic 1)

A legacy service has an XML-based SOAP interface. The Developer wants to expose the functionality of

the service to external clients with the Amazon API Gateway. Which technique will accomplish this?

A. Create a RESTful API with the API Gateway; transform the incoming JSON into a valid XML message for

the SOAP interface using mapping templates.
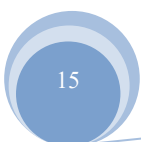
B. Create a RESTful API with the API Gateway; pass the incoming JSON to the SOAP interface through an Application Load Balancer.

C. Create a RESTful API with the API Gateway; pass the incoming XML to the SOAP interface through an Application Load Balancer.

D. Create a RESTful API with the API Gateway; transform the incoming XML into a valid message for the SOAP interface using mapping templates.

Answer: A

Explanation:

https://blog.codecentric.de/en/2016/12/serverless-soap-legacy-api-integration-java-aws-lambda-aws-api-gateway

34. - (Exam Topic 1)

An AWS Elastic Beanstalk application needs to be deployed in multiple regions and requires a different Amazon Machine Image (AMI) in each region.

Which AWS CloudFormation template key can be used to specify the correct AMI for each region?

A. Parameters

B. Outputs

C. Mappings

D. Resources

Answer: C

Explanation:

Reference: https://docs.aws.amazon.com/marketplace/latest/userguide/cloudformation.html

35. - (Exam Topic 1)

An application running on Amazon EC2 instances must access objects within an Amaon S3 busket that are encrypted using server-side encryption using AWS KMS encryption keys (SSE-KMS). The application must have access to the customer master key (CMK) to decrypt the objects.

Which combination of steps will grant the application access? (Select TWO.)

A. Write an S3 bucket policy that grants the bucket access to the key.

B. Grant access to the key in the IAM EC2 role attached to the application's EC2 instances.

C. Write a key policy that enables IAM policies to grant access to the key.

D. Grant access to the key in the S3 bucket's ACL

E. Create a Systems Manager parameter that exposes the KMS key to the EC2 instances.

Answer: B C

Explanation:

https://aws.amazon.com/premiumsupport/knowledge-center/decrypt-kms-encrypted-objects-s3/ IAM role needs access to the keys to decrypt the object and key policies must allow role access to the key. Key policies are the primary way to control access to customer master keys (CMKs) in AWS KMS. You need the permission to decrypt the AWS KMS key. When a user sends a GET request, Amazon S3 checks if the AWS Identity and Access Management (IAM) user or role that sent the request is authorized to decrypt the key associated with the object. If the IAM user or role belongs to the same AWS account as the key, then the permission to decrypt must be granted on the AWS KMS key's policy.

36. - (Exam Topic 1)

When writing a Lambda function, what is the benefit of instantiating AWS clients outside the scope of the handler?

A. Legibility and stylistic convention

B. Taking advantage of connection re-use

C. Better error handling

D. Creating a new instance per invocation

Answer: B

37. - (Exam Topic 1)

Which features can be used to restrict access to data in S3? Choose 2 answers

A. Use S3 Virtual Hosting

B. Set an S3 Bucket policy.

C. Enable IAM Identity Federation.

D. Set an S3 ACL on the bucket or the object.

E. Create a CloudFront distribution for the bucket

Answer: B D

Explanation:

https://aws.amazon.com/premiumsupport/knowledge-center/secure-s3-resources/

38. - (Exam Topic 1)

When using a large Scan operation in DynamoDB, what technique can be used to minimize the impact of a

scan on a table's provisioned throughput?

A. Set a smaller page size for the scan

B. Use parallel scans

C. Define a range index on the table

D. Prewarm the table by updating all items

Answer: A

Explanation:

https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/bp-query-scan.html

Because a Scan operation reads an entire page (by default, 1 MB), you can reduce the impact of the scan

operation by setting a smaller page size. The Scan operation provides a Limit parameter that you can use

to set the page size for your request. Each Scan or Query request that has a smaller page size uses fewer

read operations and creates a "pause" between each request. For example, if each item is 4 KB and you

set the page size to 40 items, then a Query request would consume only 40 strongly consistent read

operations or 20 eventually consistent read operations. A larger number of smaller Scan or Query

operations would allow your other critical requests to succeed without throttling.

39. - (Exam Topic 1)

A Developer is developing an application that manages financial transactions. To improve security,

multi-factor authentication (MFA) will be required as part of the login protocol.

What services can the Developer use to meet these requirements?

A. Amazon DynamoDB to store MFA session data, and Amazon SNS to send MFA codes

B. Amazon Cognito with MFA

C. AWS Directory Service

D. AWS IAM with MFA enabled

Answer: B
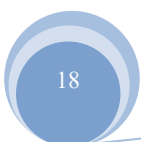
Explanation:

AWS documentation - Cognito MFA Managing Security

You can add multi-factor authentication (MFA) to a user pool to protect the identity of your users. MFA adds a second authentication method that doesn't rely solely on user name and password. You can choose to use SMS text messages, or time-based one-time (TOTP) passwords as second factors in signing in your users. You can also use adaptive authentication with its risk-based model to predict when you might need another authentication factor. It's part of the user pool advanced security features, which also include protections against compromised credentials.

40. - (Exam Topic 1)

A company uses Amazon DynamoDB for managing and tracking orders. The DynamoDB table is partitioned based on the order date. The company receives a huge increase in orders during a sales event, causing DynamoDB writes to throttle, and the consumed throughput is far below the provisioned throughput.

According to AWS best practices, how can this issue be resolved with MINIMAL costs?

A. Create a new DynamoDB table for every order date.

B. Increase the read and write capacity units of the DynamoDB table.

C. Add a random number suffix to the partition key values.

D. Add a global secondary index to the DynamoDB table.

Answer: C

Explanation:

https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/bp-partition-key-uniform-load.html

41. - (Exam Topic 1)

A Developer needs to design an application running on AWS that will be used to consume Amazon SQS messages that range from 1 KB up to 1GB in size.

How should the Amazon SQS messages be managed?

A. Use Amazon S3 and the Amazon SQS CLI.

B. Use Amazon S3 and the Amazon SQS Extended Client Library for Java.

C. Use Amazon EBS and the Amazon SQS CLI.

D. Use Amazon EFS and the Amazon SQS CLI.

Answer: B

Explanation:

Reference:

https://docs.aws.amazon.com/AWSSimpleQueueService/latest/SQSDeveloperGuide/sqslimits.html

42. - (Exam Topic 1)

A Developer wants to enable AWS X-Ray for a secure application that runs in an Amazon ECS

environment. What combination of steps will enable X-Ray? (Select THREE.)

A. Create a Docker image that runs the X-Ray daemon.

B. Add instrumentation to the application code for X-Ray.

C. Install the X-Ray daemon on the underlying EC2 instance.

D. Configure and use an IAM EC2 instance role.

E. Register the application with X-Ray.

F. Configure and use an IAM role for tasks.

Answer: A B F

Explanation:

https://docs.aws.amazon.com/xray/latest/devguide/xray-daemon-ecs.html

https://docs.aws.amazon.com/xray/latest/devguide/scorekeep-ecs.html

43. - (Exam Topic 1)

You have written an application that uses the Elastic Load Balancing service to spread traffic to several web

servers. Your users complain that they are sometimes forced to login again in the middle of using your

application, after they have already logged in. This is not behavior you have designed.

What is a possible solution to prevent this happening?

A. Use instance memory to save session state.

B. Use instance storage to save session state.

C. Use EBS to save session state

D. Use ElastiCache to save session state.

E. Use Glacier to save session slate.

Answer: D

Explanation:

https://aws.amazon.com/caching/session-management/

44. - (Exam Topic 1)

A Developer is designing a fault-tolerant environment where client sessions will be saved. How can the

Developer ensure that no sessions are lost if an Amazon EC2 instance fails?

A. Use sticky sessions with an Elastic Load Balancer target group.

B. Use Amazon SQS to save session data.

C. Use Amazon DynamoDB to perform scalable session hadling.

D. Use Elastic Load Balancer connection draining to stop sending requests to failing instances.

Answer: C

45. - (Exam Topic 1)

A corporate web application is deployed within an Amazon VPC, and is connected to the corporate data

center via IPSec VPN. The application must authenticate against the on-premise LDAP server. Once

authenticated, logged-in users can only access an S3 keyspace specific to the user.

Which two approaches can satisfy the objectives? Choose 2 answers

A. The application authenticates against LDAP. The application then calls the IAM Security Service to login

to IAM using the LDAP credentials. The application can use the IAM temporary credentials to access the

appropriate S3 bucket.

B. The application authenticates against LDAP, and retrieves the name of an IAM role associated with the

user. The application then calls the IAM Security Token Service to assume that IAM Role. The application

can use the temporary credentials to access the appropriate S3 bucket.

C. The application authenticates against IAM Security Token Service using the LDAP credentials. The

application uses those temporary AWS security credentials to access the appropriate S3 bucket.

D. Develop an identity broker which authenticates against LDAP, and then calls IAM Security Token

Service to get IAM federated user credentials. The application calls the identity broker to get IAM federated

user credentials with access to the appropriate S3 bucket.

E. Develop an identity broker which authenticates against IAM Security Token Service to assume an IAM

Role to get temporary AWS security credentials. The application calls the identity broker to get AWS

temporary security credentials with access to the appropriate S3 bucket.

Answer: B D

Explanation:

https://docs.aws.amazon.com/IAM/latest/UserGuide/id_credentials_temp_request.html

46. - (Exam Topic 1)

EC2 instances are launched from Amazon Machine images (AMIs). A given public AMI can:

A. be used to launch EC2 Instances in any AWS region.

B. only be used to launch EC2 instances in the same country as the AMI is stored.

C. only be used to launch EC2 instances in the same AWS region as the AMI is stored.

D. only be used to launch EC2 instances in the same AWS availability zone as the AMI is stored

Answer: C

Explanation:

https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/usingsharedamis-finding.html

47. - (Exam Topic 1)

An application is real-time processing millions of events that are received through an API.

What service could be used to allow multiple consumers to process the data concurrently and MOST

cost-effectively?

A. Amazon SNS with fanout to an SQS queue for each application

B. Amazon SNS with fanout to an SQS FIFO (first-in, firtst-out) queue for each application

C. Amazon Kinesis Firehouse

D. Amazon Kinesis Streams

Answer: D

48. - (Exam Topic 1)

A Developer uses AWS CodeDeploy to automate application deployment that connects to an external

MySQL database. The Developer wants to securely access the encrypted secrets, such as API keys and

database passwords.

Which of the following solutions would involve the LEAST administrative effort?

A. Save the secrets in Amazon S3 with AWS KMS server-side encryption, and use a signed URL to access them by using the IAM role from Amazon EC2 instances.

B. Use the instance metadata to store the secrets and to programmatically access the secrets from EC2 instances.

C. Use the Amazon DynamoDB client-side encryption library to save the secrets in DynamoDB and to programmatically access the secrets from EC2 instances.

D. Use AWS SSM Parameter Store to store the secrets and to programmatically access them by using the IAM role from EC2 instances.

Answer: D

Explanation:

https://docs.aws.amazon.com/systems-manager/latest/userguide/systems-manager-parameter-store.html

49. - (Exam Topic 1)

An Amazon S3 bucket, "myawsbucket" is configured with website hosting in Tokyo region, what is the region-specific website endpoint?

A. www.myawsbucket.ap-northeast-1.amazonaws.com

B. myawsbucket.s3-website-ap-northeast-1.amazonawscom

C. myawsbucket.amazonaws.com

D. myawsbucket.tokyo.amazonaws.com

Answer: B

Explanation:

Depending on your Region, your Amazon S3 website endpoint follows one of these two formats. s3-website dash (-) Region   http://bucket-name.s3-website-Region.amazonaws.com

s3-website dot (.) Region

http://bucket-name.s3-website.Region.amazonaws.com

https://docs.aws.amazon.com/AmazonS3/latest/dev/WebsiteEndpoints.html

50. - (Exam Topic 1)

Which of the following items are required to allow an application deployed on an EC2 instance to write data
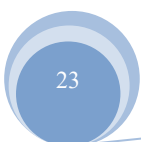
to a DynamoDB table?

Assume that no security Keys are allowed to be stored on the EC2 instance. Choose 2 answers

A. Create an IAM User that allows write access to the DynamoDB table.

B. Add an IAM Role to a running EC2 instance.

C. Add an IAM User to a running EC2 Instance.

D. Launch an EC2 Instance with the IAM Role included in the launch configuration.

E. Create an IAM Role that allows write access to the DynamoDB table.

F. Launch an EC2 Instance with the IAM User included in the launch configuration.

Answer: B E

Explanation:

https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/iam-roles-for-amazon-ec2.html#attach-iam-role

51. - (Exam Topic 1)

A game stores user game data in an Amazon DynamoDB table. Individual users should not have access to other users' game data. How can this be accomplished?

A. Encrypt the game data with individual user keys.

B. Restrict access to specific items based on certain primary key values.

C. Stage data in SQS queues to inject metadata before accessing DynamoDB.

D. Read records from DynamoDB and discard irrelevant data client-side.
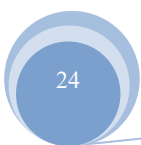
Answer: B

52. - (Exam Topic 1)

A Developer wants to use AWS X-Ray to trace a user request end-to-end throughput the software stack. The Developer made the necessary changes in the application tested it, and found that the application is able to send the traces to AWS X-Ray. However, when the application is deployed to an EC2 instance, the traces are not available.

Which of the following could create this situation? (Select two.)

A. The traces are reaching X-Ray, but the Developer does not have access to view the records.

B. The X-Ray daemon is not installed on the EC2 instance.

C. The X-Ray endpoint specified in the application configuration is incorrect.

D. The instance role does not have "xray:BatchGetTraces" and "xray:GetTraceGraph" permissions.

E. The instance role does not have "xray:PutTraceSegments" and "xray:PutTelemetryRecords"

permissions.

Answer: B E

53. - (Exam Topic 1)

A Developer must build an application that uses Amazon DynamoDB. The requirements state that items

being stored in the DynamoDB table will be 7KB in size and that reads must be strongly consistent. The

maximum read rate is 3 items per second, and the maximum write rate is 10 items per second.

How should the Developer size the DynamoDB table to meet these requirements?

A. Read: 3 read capacity units Write: 70 write capacity units

B. Read: 6 read capacity units Write: 70 write capacity units

C. Read: 6 read capacity units Write: 10 write capacity units

D. Read: 3 read capacity units Write: 10 write capacity units

Answer: B

Explanation:

https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/Limits.html

54. - (Exam Topic 1)

An application will ingest data at a very high throughput from many sources and must store the data in an

Amazon S3 bucket. Which service would BEST accomplish this task?

A. Amazon Kinesis Firehose

B. Amazon S3 Acceleration Transfer

C. Amazon SQS

D. Amazon SNS

Answer: A

55. - (Exam Topic 1)

A Developer has created a large Lambda function, and deployment is failing with the following error:

ClientError: An error occurred (InvalidParameterValueException) when calling the CreateFunction
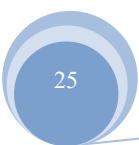
operation: Unzipped size must be smaller than XXXXXXXXX bytes', where XXXXXXXXX is the current

Lambda limit

What can the Developer do to fix this problem?

A. Submit a limit increase request to AWS Support to increase the function to the size needed.

B. Use a compression algorithm that is more efficient than ZIP.

C. Break the function into multiple smaller Lambda functions.

D. ZIP the ZIP file twice to compress it further.

Answer: C

56. - (Exam Topic 1)

A Developer wants to find a list of items in a global secondary index from an Amazon DynamoDB table.

Which DynamoDB API call can the Developer use in order to consume the LEAST number of read capacity

units?

A. Scan operation using eventually-consistent reads

B. Query operation using strongly-consistent reads

C. Query operation using eventually-consistent reads

D. Scan operation using strongly-consistent reads

Answer: C

Explanation:

https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/bp-query-scan.html

57. - (Exam Topic 1)

A Development team has pushed out 10 applications running on several Amazon EC2 instances. The

Operations team is asking for a graphical representation of one key performance metric for each application.

These metrics should be available on one screen for easy monitoring.

Which steps should the Developer take to accomplish this using Amazon CloudWatch?

A. Create a custom namespace with a unique metric name for each application.

B. Create a custom dimension with a unique metric name for each application.

C. Create a custom event with a unique metric name for each application.

D. Create a custom alarm with a unique metric name for each application.

Answer: A

Explanation:

https://aws.amazon.com/premiumsupport/knowledge-center/cloudwatch-custom-metrics/

58. - (Exam Topic 1)

A Developer is writing transactions into a DynamoDB table called "SystemUpdates" that has 5 write

capacity units.

Which option has the highest read throughput?

A. Eventually consistent reads of 5 read capacity units reading items that are 4 KB in size

B. Strongly consistent reads of 5 read capacity units reading items that are 4 KB in size

C. Eventually consistent reads of 15 read capacity units reading items that are 1 KB in size

D. Strongly consistent reads of 15 read capacity units reading items that are 1 KB in size

Answer: B

59. - (Exam Topic 1)

A company recently migrated its web, application and NoSQL database tiers to AWS. The company is

using Auto Scaling to scale the web and application tiers. More than 95 percent of the Amazon DynamoDB

requests are repeated read-requests.

How can the DynamoDB NoSQL tier be scaled up to cache these repeated requests?

A. Amazon EMR

B. Amazon DynamoDB Accelerator

C. Amazon SQS

D. Amazon CloudFront

Answer: B

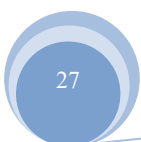Explanation:

Reference: https://aws.amazon.com/dynamodb/dax/

60. - (Exam Topic 1)

Where should the appspec.yml file be placed in order for AWS CodeDeploy to work?

A. In the root of the application source code directory structure

B. In the bin folder along with all the complied code

C. In an S3 bucket

D. In the same folder as the application configuration files

Answer: A

61. - (Exam Topic 1)

A Developer is creating a serverless website with content that includes HTML files, images, videos, and JavaScript (client-side scripts).

Which combination of services should the Developer use to create the website?

A. Amazon S3 and Amazon CloudFront

B. Amazon EC2 and Amazon ElastiCache

C. Amazon ECS and Redis

D. AWS Lambda and Amazon API Gateway

Answer: A

Explanation:

Reference: https://d1.awsstatic.com/whitepapers/Building%20Static%20Websites%20on%20AWS.pdf

62. - (Exam Topic 1)

A Developer is using AWS CLI, but when running list commands on a large number of resources, it is timing out.
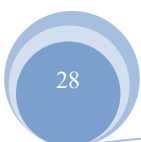
What can be done to avoid this time-out?

A. Use pagination

B. Use shorthand syntax

C. Use parameter values

D. Use quoting strings

Answer: A

Explanation:

Reference: https://docs.aws.amazon.com/cli/latest/userguide/cli-usage-pagination.html

63. - (Exam Topic 1)

A customer wants to deploy its source code on an AWS Elastic Beanstalk environment. The customer needs to perform deployment with minimal outage and should only use existing instances to retain application access log.

What deployment policy would satisfy these requirements?

A. Rolling

B. All at once

C. Rolling with an additional batch

D. Immutable

Answer: A

64. - (Exam Topic 1)

A company maintains a REST service using Amazon API Gateway and the API Gateway native API key validation. The company recently launched a new registration page, which allows users to sign up for the service. The registration page creates a new API key using CreateApiKey and sends the new key to the user. When the user attempts to call the API using this key, the user receives a 403 Forbidden error. Existing users are unaffected and can still call the API.

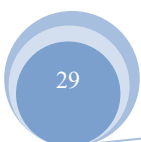What code updates will grant these new users access to the API?

A. The createDeployment method must be called so the API can be redeployed to include the newly created API key.

B. The updateAuthorizer method must be called to update the API's authorizer to include the newly created API key.

C. The importApiKeys method must be called to import all newly created API keys into the current stage of the API.

D. The createUsagePlanKey method must be called to associate the newly created API key with the correct usage plan.

Answer: D

Explanation:

https://stackoverflow.com/questions/39061041/using-an-api-key-in-amazon-api-gateway

65. - (Exam Topic 1)

Where should an Elastic Beanstalk configuration file named healthcheckur1.config be placed in the application source bundle?

A. In the root of the application

B. In the bin folder

C. In healthcheckur1.config.ebextension under root

D. In the .ebextensions folder

Answer: D

66. - (Exam Topic 1)

What is one key difference between an Amazon EBS-backed and an instance-store backed instance?

A. Virtual Private Cloud requires EBS backed instances

B. Amazon EBS-backed instances can be stopped and restarted

C. Auto scaling requires using Amazon EBS-backed instances.

D. Instance-store backed instances can be stopped and restarted.

Answer: B

Explanation:

https://aws.amazon.com/premiumsupport/knowledge-center/instance-store-vs-ebs/

67. - (Exam Topic 1)

When a Simple Queue Service message triggers a task that takes 5 minutes to complete, which process below will result in successful processing of the message and remove it from the queue while minimizing the chances of duplicate processing?

A. Retrieve the message with an increased visibility timeout, process the message, delete the message from the queue

B. Retrieve the message with an increased visibility timeout, delete the message from the queue, process the message

C. Retrieve the message with increased DelaySeconds, process the message, delete the message from the queue

D. Retrieve the message with increased DelaySeconds, delete the message from the queue, process the message

Answer: A

Explanation:

https://docs.aws.amazon.com/AWSSimpleQueueService/latest/SQSDeveloperGuide/sqs-visibility-timeout.html

68. - (Exam Topic 1)

Which of the following is an example of a good DynamoDB hash key schema for provisioned throughput efficiency?

A. User ID, where the application has many different users.

B. Status Code where most status codes are the same

C. Device ID, where one is by far more popular than all the others.

D. Game Type, where there are three possible game types

Answer: A

69. - (Exam Topic 1)

What AWS products and features can be deployed by Elastic Beanstalk? Choose 3 answers

A. Auto scaling groups

B. Route 53 hosted zones

C. Elastic Load Balancers

D. RDS Instances

E. Elastic IP addresses

F. SQS Queues

Answer: A C D

Explanation:

https://aws.amazon.com/elasticbeanstalk/faqs/

Q: What are the Cloud resources powering my AWS Elastic Beanstalk application? AWS Elastic Beanstalk uses proven AWS features and services, such as Amazon EC2, Amazon RDS, Elastic Load Balancing, Auto Scaling, Amazon S3, and Amazon SNS, to create an environment that runs your application. The current version of AWS Elastic Beanstalk uses the Amazon Linux AMI or the Windows Server 2012 R2 AMI.
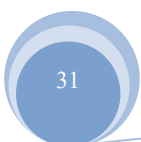
70. - (Exam Topic 1)

The release process workflow of an application requires a manual approval before the code is deployed

into the production environment.

What is the BEST way to achieve this using AWS CodePipeline?

A. Use multiple pipelines to allow approval

B. Use an approval action in a stage

C. Disable the stage transition to allow manual approval

D. Disable a stage just prior the deployment stage

Answer: B

71. - (Exam Topic 1)

What type of block cipher does Amazon S3 offer for server side encryption?

A. Triple DES

B. Advanced Encryption Standard

C. Blowfish

D. RC5

Answer: B

Explanation:

https://docs.aws.amazon.com/AmazonS3/latest/dev/serv-side-encryption.html

72. - (Exam Topic 1)

A Developer is working on an application that tracks hundreds of millions of product reviews in an Amazon

DynamoDB table. The records include the data elements shown in the table:

Name	Type	Description
reviewID	Number	16 digit UUID
starRating	Number	Integer 1-5 of user rating
comment	String	User comment string
productID	Number	Product ID being reviewed

Which field, when used as the partition key, would result in the MOST consistent performance using

DynamoDB?
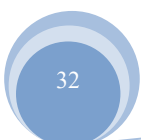
A. starRating

B. reviewID

C. comment

D. productID

Answer: B

73. - (Exam Topic 1)

Which of the following are valid SNS delivery transports? Choose 2 answers

A. HTTP

B. UDP

C. SMS

D. DynamoDB

E. Named Pipes

Answer: A C

Explanation:

https://aws.amazon.com/sns/faqs/

Q: What are the different delivery formats/transports for receiving notifications?

In order for customers to have broad flexibility of delivery mechanisms, Amazon SNS supports notifications

over multiple transport protocols. Customers can select one the following transports as part of the

subscription requests:

"HTTP", "HTTPS" – Subscribers specify a URL as part of the subscription registration; notifications will be

delivered through an HTTP POST to the specified URL.

"Email", "Email-JSON" – Messages are sent to registered addresses as email. Email-JSON sends

notifications as a JSON object, while Email sends text-based email.

"SQS" – Users can specify an SQS standard queue as the endpoint; Amazon SNS will enqueue a

notification message to the specified queue (which subscribers can then process using SQS APIs such as

ReceiveMessage, DeleteMessage, etc.). Note that FIFO queues are not currently supported.

"SMS" – Messages are sent to registered phone numbers as SMS text messages.

74. - (Exam Topic 1)

If an application is storing hourly log files from thousands of instances from a high traffic web site, which naming scheme would give optimal performance on S3?

A. Sequential

B. instanceID_log-HH-DD-MM-YYYY

C. instanceID_log-YYYY-MM-DD-HH

D. HH-DD-MM-YYYY-log_instanceID

E. YYYY-MM-DD-HH-log_instanceID

Answer: B

Explanation:

Reference:

https://acloud.guru/forums/aws-certified-developer-associate/discussion/-KU2dEtJb-LI5lSbH_S4/if-an-appli cati

75. - (Exam Topic 1)

Which statements about DynamoDB are true? Choose 2 answers

A. DynamoDB uses a pessimistic locking model

B. DynamoDB uses optimistic concurrency control

C. DynamoDB uses conditional writes for consistency

D. DynamoDB restricts item access during reads

E. DynamoDB restricts item access during writes

Answer: B C

76. - (Exam Topic 1)

Company B provides an online image recognition service and utilizes SQS to decouple system components for scalability The SQS consumers poll the imaging queue as often as possible to keep end-to-end throughput as high as possible. However, Company B is realizing that polling in tight loops is burning CPU cycles and increasing costs with empty responses.

How can Company B reduce the number of empty responses?

A. Set the imaging queue visibility Timeout attribute to 20 seconds

B. Set the Imaging queue ReceiveMessageWaitTimeSeconds attribute to 20 seconds

C. Set the imaging queue MessageRetentionPeriod attribute to 20 seconds

D. Set the DelaySeconds parameter of a message to 20 seconds

Answer: B

Explanation:

https://docs.aws.amazon.com/AWSSimpleQueueService/latest/SQSDeveloperGuide/sqs-short-and-long-p

olling.

77. - (Exam Topic 1)

Amazon S3 has the following structure: S3://BUCKET/FOLDERNAME/FILENAME.zip

Which S3 best practice would optimize performance with thousands of PUT request each second to a

single bucket?

A. Prefix folder names with user id; for example, s3://BUCKET/2013-FOLDERNAME/FILENAME.zip

B. Prefix file names with timestamps; for example, s3://BUCKET/FOLDERNAME/2013-26-05-15-00-00-

FILENAME.zip

C. Prefix file names with random hex hashes; for example, s3://BUCKET/FOLDERNAME/23a6-

FILENAME.zip

D. Prefix folder names with random hex hashes; for example, s3://BUCKET/23a6-FOLDERNAME/

FILENAME.zip

Answer: D
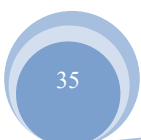
78. - (Exam Topic 1)

A current architecture uses many Lambda functions invoking one another as a large state machine. The

coordination of this state machine is legacy custom code that breaks easily.

Which AWS Service can help refactor and manage the state machine?

A. AWS Data Pipeline

B. AWS SNS with AWS SQS

C. Amazon Elastic MapReduce

D. AWS Step Functions

Answer: D

Explanation:

https://aws.amazon.com/step-functions/

79. - (Exam Topic 1)

A static website is hosted in an Amazon S3 bucket. Several HTML pages on the site use JavaScript to download images from another Amazon S3 bucket. These images are not displayed when users browse the site.

What is the possible cause for the issue?

A. The referenced Amazon S3 bucket is in another region.

B. The images must be stored in the same Amazon S3 bucket.

C. Port 80 must be opened on the security group in which the Amazon S3 bucket is located.

D. Cross Origin Resource Sharing must be enabled on the Amazon S3 bucket.

Answer: D

80. - (Exam Topic 1)

The Developer for a retail company must integrate a fraud detection solution into the order processing solution. The fraud detection solution takes between ten and thirty minutes to verify an order. At peak, the web site can receive one hundred orders per minute.

What is the most scalable method to add the fraud detection solution to the order processing pipeline?

A. Add all new orders to an Amazon SQS queue. Configure a fleet of 10 EC2 instances spanning multiple AZs with the fraud detection solution installed on them to pull orders from this queue. Update the order with a pass or fails status.

B. Add all new orders to an SQS queue. Configure an Auto Scaling group that uses the queue depth metric as its unit of scale to launch a dynamically-sized fleet of EC2 instances spanning multiple AZs with the fraud detection solution installed on them to pull orders from this queue. Update the order with a pass or fails status.

C. Add all new orders to an Amazon Kinesis Stream. Subscribe a Lambda function to automatically read batches of records from the Kinesis Stream. The Lambda function includes the fraud detection software and will update the order with a pass or fail status.

D. Write all new orders to Amazon DynamoDB. Configure DynamoDB Streams to include all new orders. Subscribe a Lambda function to automatically read batches of records from the Kinesis Stream. The

Lambda function includes the fraud detection software and will update the order with a pass or fail status.

Answer: B

81. - (Exam Topic 1)

Games-R-Us is launching a new game app for mobile devices. Users will log into the game using their

existing Facebook account and the game will record player data and scoring information directly to a

DynamoDB table.

What is the most secure approach for signing requests to the DynamoDB API?

A. Create an IAM user with access credentials that are distributed with the mobile app to sign the requests

B. Distribute the AWS root account access credentials with the mobile app to sign the requests

C. Request temporary security credentials using web identity federation to sign the requests

D. Establish cross account access between the mobile app and the DynamoDB table to sign the requests

Answer: C

82. - (Exam Topic 1)

A company needs to encrypt data at rest, but it wants to leverage an AWS managed service using its own

master key.

Which of the following AWS service can be used to meet these requirements?

A. SSE with Amazon S3

B. SSE with AWS KMS

C. Client-side encryption

D. AWS IAM roles and policies

Answer: B

83. - (Exam Topic 1)

How should custom libraries be utilized in AWS Lambda?

A. Host the library on Amazon S3 and reference to it from the Lambda function.

B. Install the library locally and upload a ZIP file of the Lambda function.

C. Import the necessary Lambda blueprint when creating the function.

D. Modify the function runtime to include the necessary library.

Answer: D

Explanation:

Reference: https://docs.aws.amazon.com/lambda/latest/dg/env_variables.html

84. - (Exam Topic 1)

A Developer has created an S3 bucket s3://mycoolapp and has enabled server across logging that points to the folder s3://mycoolapp/logs. The Developer moved 100 KB of Cascading Style Sheets (CSS) documents to the folder s3://mycoolapp/css, and then stopped work. When the developer came back a few days later, the bucket was 50 GB.

What is the MOST likely cause of this situation?

A. The CSS files were not compressed and S3 versioning was enabled.

B. S3 replication was enabled on the bucket.

C. Logging into the same bucket caused exponential log growth.

D. An S3 lifecycle policy has moved the entire CSS file to S3 Infrequent Access.

Answer: C

Explanation:

Refer AWS documentation - S3 Server logs

To turn on log delivery, you provide the following logging configuration information:

➢ The name of the target bucket where you want Amazon S3 to save the access logs as objects. You can have logs delivered to any bucket that you own that is in the same Region as the source bucket, including the source bucket itself.We recommend that you save access logs in a different bucket so that you can easily manage the logs. If you choose to save access logs in the source bucket, we recommend that you specify a prefix for all log object keys so that the object names begin with a common string and the log objects are easier to identify.When your source bucket and target bucket are the same bucket, additional logs are created for the logs that are written to the bucket. This behavior might not be ideal for your use case because it could result in a small increase in your storage billing. In addition, the extra logs about logs might make it harder to find the log that you're looking for.

85. - (Exam Topic 1)

A company needs to secure its existing website running behind an Elastic Load Balancer. The website's

Amazon EC2 instances are CPU-constrained.

What should be done to secure the website while not increasing the CPU load on the EC2 web servers? (Select TWO.)

A. Configure an Elastic Load Balancer with SSL pass-through.

B. Configure SSL certificates on an Elastic Load Balancer.

C. Configure an Elastic Load Balancer with a Loadable Storage System.

D. Install SSL certificates on the EC2 instances.

E. Configure an Elastic Load Balancer with SSL termination.

Answer: B E

86. - (Exam Topic 1)

When uploading an object, what request header can be explicitly specified in a request to Amazon S3 to encrypt object data when saved on the server side?

A. x-amz-storage-class

B. Content-MD5

C. x-amz-security-token

D. x-amz-server-side-encryption

Answer: D

Explanation:

https://docs.aws.amazon.com/AmazonS3/latest/dev/UsingServerSideEncryption.html#APISupportforServe r-Sid

87. - (Exam Topic 1)

A Developer has setup an Amazon Kinesis Stream with 4 shards to ingest a maximum of 2500 records per second. A Lambda function has been configured to process these records.

In which order will these records be processed?

A. Lambda will receive each record in the reverse order it was placed into the stream following a LIFO (last-in, first-out) method

B. Lambda will receive each record in the exact order it was placed into the stream following a FIFO (first-in, first-out) method.

C. Lambda will receive each record in the exact order it was placed into the shard following a FIFO (first-in, first-out) method. There is no guarantee of order across shards.

D. The Developer can select FIFO, (first-in, first-out), LIFO (last-in, last-out), random, or request specific record using the getRecords API.

Answer: C

88. - (Exam Topic 1)

What does an Amazon SQS delay queue accomplish?

A. Messages are hidden for a configurable amount of time when they are first added to the queue.

B. Messages are hidden for a configurable amount of time after they are consumed from the queue.

C. The consumer can poll the queue for a configurable amount of time before retrieving a message.

D. Message cannot be deleted for a configurable amount of time after they are consumed from the queue.

Answer: A

Explanation:

Reference:

https://docs.aws.amazon.com/AWSSimpleQueueService/latest/SQSDeveloperGuide/sqs-delayqueues.html

89. - (Exam Topic 1)

Which of the following statements about SQS is true?

A. Messages will be delivered exactly once and messages will be delivered in First in, First out order

B. Messages will be delivered exactly once and message delivery order is indeterminate

C. Messages will be delivered one or more times and messages will be delivered in First in, First out order

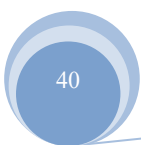D. Messages will be delivered one or more times and message delivery order is indeterminate

Answer: D

Explanation:

https://aws.amazon.com/sqs/features/

90. - (Exam Topic 1)

Which of the following are valid arguments for an SNS Publish request? Choose 3 answers

A. TopicAm

B. Subject

C. Destination

D. Format

E. Message

F. Language

Answer: A B E

Explanation: https://docs.aws.amazon.com/sns/latest/api/API_Publish.html Message

MessageAttributes MessageStructure PhoneNumber Subject

TargetArn TopicArn

91. - (Exam Topic 1)

A Developer is writing an imaging micro service on AWS Lambda. The service is dependent on several

libraries that are not available in the Lambda runtime environment.

Which strategy should the Developer follow to create the Lambda deployment package?

A. Create a ZIP file with the source code and all dependent libraries.

B. Create a ZIP file with the source code and a script that installs the dependent libraries at runtime.

C. Create a ZIP file with the source code. Stage the dependent libraries on an Amazon S3 bucket indicated

by the Lambda environment variable LD_LIBRARY_PATH

D. Create a ZIP file with the source code and a buildspec.yaml file that installs the dependent libraries on

AWS Lambda.

Answer: B

92. - (Exam Topic 1)

A Developer has written a serverless application using multiple AWS services. The business logic is written

as a Lambda function which has dependencies on third-party libraries. The Lambda function endpoints will

be exposed using Amazon API Gateway. The Lambda function will write the information to Amazon

DynamoDB.

The Developer is ready to deploy the application but must have the ability to rollback. How can this

deployment be automated, based on these requirements?
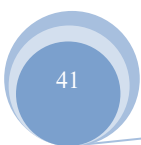
A. Deploy using Amazon Lambda API operations to create the Lambda function by providing a deployment package.

B. Use an AWS CloudFormation template and use CloudFormation syntax to define the Lambda function resource in the template.

C. Use syntax conforming to the Serverless Application Model in the AWS CloudFormation template to define the Lambda function resource.

D. Create a bash script which uses AWS CLI to package and deploy the application.

Answer: C

Explanation:

Refer AWS documentation - SAM Gradual Code Deployment

If you use AWS SAM to create your serverless application, it comes built-in with AWS CodeDeploy to help ensure safe Lambda deployments. With just a few lines of configuration, AWS SAM does the following for you:

> Deploys new versions of your Lambda function, and automatically creates aliases that point to the new version.

> Gradually shifts customer traffic to the new version until you're satisfied that it's working as expected, or you roll back the update.

> Defines pre-traffic and post-traffic test functions to verify that the newly deployed code is configured correctly and your application operates as expected.

> Rolls back the deployment if CloudWatch alarms are triggered.

93. - (Exam Topic 1)

A Developer has been asked to build a real-time dashboard web application to visualize the key prefixes and storage size of objects in Amazon S3 buckets. Amazon DynamoDB will be used to store the Amazon S3 metadata.

What is the optimal and MOST cost-effective design to ensure that the real-time dashboard is kept up to date with the state of the objects in the Amazon S3 buckets?

A. Use an Amazon CloudWatch event backed by an AWS Lambda function. Issue an Amazon S3 API call to get a list of all Amazon S3 objects and persist the metadata within DynamoDB. Have the web application poll the DynamoDB table to reflect this change.

B. Use Amazon S3 Event Notification backed by a Lambda function to persist the metadata into DynamoDB. Have the web application poll the DynamoDB table to reflect this change.

C. Run a cron job within an Amazon EC2 instance to list all objects within Amazon S3 and persist the metadata into DynamoDB. Have the web application poll the DynamoDB table to reflect this change.

D. Create a new Amazon EMR cluster to get all the metadata about Amazon S3 objects; persist the metadata into DynamoDB. Have the web application poll the DynamoDB table to reflect this change.

Answer: A

94. - (Exam Topic 1)

A Developer is testing a Docker-based application that uses the AWS SDK to interact with Amazon DynamoDB. In the local development environment, the application has used IAM access keys. The application is now ready for deployment onto an ECS cluster.

How should the application authenticate with AWS services in production?

A. Configure an ECS task IAM role for the application to use

B. Refactor the application to call AWS STS AssumeRole based on an instance role

C. Configure AWS access key/secret access key environment variables with new credentials

D. Configure the credentials file with a new access key/secret access key

Answer: A

Explanation:

https://docs.aws.amazon.com/AmazonECS/latest/developerguide/task_IAM_role.html#:~:targetText=Amazon%

95. - (Exam Topic 1)

Which of the following services are included at no additional cost with the use of the AWS platform?

Choose 2 answers

A. Simple Storage Service

B. Elastic Compute Cloud

C. Auto Scaling

D. Elastic Load Balancing

E. CloudFormation

F. Simple Workflow Service

Answer: C E

96. - (Exam Topic 1)

A web application is using Amazon Kinesis Streams for clickstream data that may not be consumed for up to 12 hours.

How can the Developer implement encryption at rest for data within the Kinesis Streams?

A. Enable SSL connections to Kinesis

B. Use Amazon Kinesis Consumer Library

C. Encrypt the data once it is at rest with a Lambda function

D. Enable server-side encryption in Kinesis Streams

Answer: D

Explanation:

https://docs.aws.amazon.com/streams/latest/dev/what-is-sse.html

https://aws.amazon.com/about-aws/whats-new/2017/07/amazon-kinesis-streams-introduces-server-side-e

ncrypti

97. - (Exam Topic 1)

A Development team currently supports an application that uses an in-memory store to save accumulated game results. Individual results are stored in a database. As part of migrating to AWS, the team needs to use automatic scaling. The team knows this will yield inconsistent results.

Where should the team store these accumulated game results to BEST allow for consistent results without impacting performance?

A. Amazon S3

B. Amazon RDS

C. Amazon ElastiCache

D. Amazon Kinesis

Answer: C

98. - (Exam Topic 1)

A Developer is building a mobile application and needs any update to user profile data to be pushed to all devices accessing the specific identity. The Developer does not want to manage a back end to maintain the user profile data.

What is the MOST efficient way for the Developer to achieve these requirements using Amazon Cognito?

A. Use Cognito federated identities.

B. Use a Cognito user pool.

C. Use Cognito Sync.

D. Use Cognito events.

Answer: C

Explanation:

Amazon Cognito Sync is an AWS service and client library that enables cross-device syncing of application-related user data. You can use it to synchronize user profile data across mobile devices and the web without requiring your own backend.

https://docs.aws.amazon.com/cognito/latest/developerguide/cognito-sync.html

99. - (Exam Topic 1)

You are providing AWS consulting services for a company developing a new mobile application that will be leveraging Amazon SNS Mobile Push for push notifications. In order to send direct notification messages to individual devices each device registration identifier or token needs to be registered with SNS; however the developers are not sure of the best way to do this.

You advise them to:

A. Bulk upload the device tokens contained in a CSV file via the AWS Management Console.

B. Let the push notification service (e.g. Amazon Device Messaging) handle the registration.

C. Implement a token vending service to handle the registration.

D. Call the CreatePlatformEndPoint API function to register multiple device tokens.

Answer: D

Explanation:

https://docs.aws.amazon.com/sns/latest/dg/mobile-push-send-devicetoken.html

100. - (Exam Topic 1)

What are the steps to using the AWS CLI to launch a templatized serverless application?

A. Use AWS CloudFormation get-template then CloudFormation execute-change-set.

B. Use AWS CloudFormation validate-template then CloudFormation create-change-set.

C. Use AWS CloudFormation package then CloudFormation deploy.

D. Use AWS CloudFormation create-stack then CloudFormation update-stack.

Answer: C

Explanation:

https://docs.aws.amazon.com/cli/latest/reference/cloudformation/package.html

101. - (Exam Topic 1)

A Developer has an application that can upload tens of thousands of objects per second to Amazon S3 in

parallel within a single AWS account. As part of new requirements, data stored in S3 must use server side

encryption with AWS KMS (SSE-KMS). After creating this change, performance of the application is slower.

Which of the following is MOST likely the cause of the application latency?

A. Amazon S3 throttles the rate at which uploaded objects can be encrypted using Customer Master Keys.

B. The AWS KMS API calls limit is less than needed to achieve the desired performance.

C. The client encryption of the objects is using a poor algorithm.

D. KMS requires that an alias be used to create an independent display name that can be mapped to a

CMK.

Answer: B

Explanation:

https://aws.amazon.com/about-aws/whats-new/2018/08/aws-key-management-service-increases-api-requ

ests-pe KMS API access limit is 10k/sec in us-east and some others and 5.5k/sec for the rest of the regions.

Client can request this limit to be changed.

102. - (Exam Topic 1)

An application is designed to use Amazon SQS to manage messages from many independent senders.

Each sender's messages must be processed in the order they are received.

Which SQS feature should be implemented by the Developer?

A. Configure each sender with a unique MessageGroupId
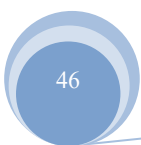
B. Enable MessageDeduplicationIds on the SQS queue

C. Configure each message with unique MessageGroupIds.

D. Enable ContentBasedDeduplication on the SQS queue

Answer: A

103. - (Exam Topic 1)

A Developer writes an AWS Lambda function and uploads the code in a .ZIP file to Amazon S3. The

Developer makes changes to the code and uploads a new .ZIP file to Amazon S3. However, Lambda

executes the earlier code.

How can the Developer fix this in the LEAST disruptive way?

A. Create another Lambda function and specify the new .ZIP file.

B. Call the update-function-code API.

C. Remove the earlier .ZIP file first, then add the new .ZIP file.

D. Call the create-alias API.

Answer: B

Explanation:

https://docs.aws.amazon.com/cli/latest/reference/lambda/update-function-code.html

104. - (Exam Topic 1)

An application on AWS is using third-party APIs. The Developer needs to monitor API errors in the code,

and wants to receive notifications if failures go above a set threshold value.

How can the Developer achieve these requirements?

A. Publish a custom metric on Amazon CloudWatch and use Amazon SES for notification.

B. Use an Amazon CloudWatch API-error metric and use Amazon SNS for notification.

C. Use an Amazon CloudWatch API-error metric and use Amazon SES for notification.

D. Publish a custom metric on Amazon CloudWatch and use Amazon SNS for notification.

Answer: D

105. - (Exam Topic 1)

You are inserting 1000 new items every second in a DynamoDB table. Once an hour these items are
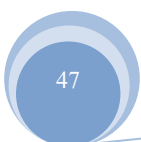
analyzed and then are no longer needed. You need to minimize provisioned throughput, storage, and API

calls.

Given these requirements, what is the most efficient way to manage these Items after the analysis?

A. Retain the items in a single table

B. Delete items individually over a 24 hour period

C. Delete the table and create a new table per hour

D. Create a new table per hour

Answer: C

106. - (Exam Topic 1)

A company has a website that is developed in PHP and WordPress and is launched using AWS Elastic

Beanstalk. There is a new version of the website that needs to be deployed in the Elastic Beanstalk

environment. The company cannot tolerate having the website offline if an update fails. Deployments must

have minimal impact and rollback as soon as possible. What deployment method should be used?

A. All at once

B. Rolling

C. Snapshots

D. Immutable

Answer: D

Explanation:

https://docs.aws.amazon.com/elasticbeanstalk/latest/dg/environmentmgmt-updates-immutable.html

107. - (Exam Topic 1)

An application stores images in an S3 bucket. Amazon S3 event notifications are used to trigger a Lambda

function that resizes the images. Processing each image takes less than a second.

How will AWS Lambda handle the additional traffic?

A. Lambda will scale out to execute the requests concurrently.

B. Lambda will handle the requests sequentially in the order received.

C. Lambda will process multiple images in a single execution.

D. Lambda will add more compute to each execution to reduce processing time.

Answer: A

108. - (Exam Topic 1)

A company is using AWS CodeBuild to compile a website from source code stored in AWS CodeCommit. A

recent change to the source code has resulted in the CodeBuild project being unable to successfully

compile the website.

How should the Developer identify the cause of the failures?

A. Modify the buildspec.yml file to include steps to send the output of build commands to Amazon

CloudWatch.

B. Use a custom Docker image that includes the AWS X-Ray agent in the AWS CodeBuild project

configuration.

C. Check the build logs of the failed phase in the last build attempt in the AWS CodeBuild project build

history.

D. Manually re-run the build process on a local machine so that the output can be visualized.

Answer: A

109. - (Exam Topic 1)

Given the source code for an AWS Lambda function in the local store.py containing a handler function

called get_store and the following AWS CloudFormation template:

```
Transform: AWS::Serverless-2016-10-31
Resources:
    StoreFunc:
        Type: AWS::Serverless::Function
        Properties:
            Handler: store.get_store
            Runtime: python3.6
```

What should be done to prepare the template so that it can be deployed using the AWS CLI command aws

cloudformation deploy?

A. Use aws cloudformation compile to base64 encode and embed the source file into a modified

CloudFormation template.

B. Use aws cloudformation package to upload the source code to an Amazon S3 bucket and produce a

modified CloudFormation template.

C. Use aws lambda zip to package the source file together with the CloudFormation template and deploy the resulting zip archive.

D. Use aws serverless create-package to embed the source file directly into the existing CloudFormation template.

Answer: B

Explanation:

https://docs.aws.amazon.com/cli/latest/reference/cloudformation/package.html

110. - (Exam Topic 1)

Company C has recently launched an online commerce site for bicycles on AWS. They have a "Product" DynamoDB table that stores details for each bicycle, such as, manufacturer, color, price, quantity and size to display in the online store. Due to customer demand, they want to include an image for each bicycle along with the existing details.

Which approach below provides the least impact to provisioned throughput on the "Product" table?

A. Serialize the image and store it in multiple DynamoDB tables

B. Create an "Images" DynamoDB table to store the Image with a foreign key constraint to the "Product" table

C. Add an image data type to the "Product" table to store the images in binary format

D. Store the images in Amazon S3 and add an S3 URL pointer to the "Product" table item for each image

Answer: D

Explanation:

https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/bp-use-s3-too.html#bp-use-s3-too-large-v For example, consider the ProductCatalog table in the Creating Tables and Loading Data for Code Examples in DynamoDB section. Items in this table store information about item price, description, book authors, and dimensions for other products. If you wanted to store an image of each product that was too large to fit in an item, you could store the images in Amazon S3 instead of in DynamoDB.

111. - (Exam Topic 1)

A company is developing a new online game that will run on top of Amazon ECS. Four distinct Amazon
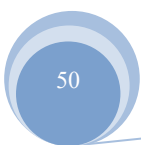
ECS services will be part of the architecture, each requiring specific permissions to various AWS services. The company wants to optimize the use of the underlying Amazon EC2 instances by bin packing the containers based on memory reservation.

Which configuration would allow the Development team to meet these requirements MOST securely?

A. Create a new Identity and Access Management (IAM) instance profile containing the required permissions for the various ECS services, then associate that instance role with the underlying EC2 instances.

B. Create four distinct IAM roles, each containing the required permissions for the associated ECS service, then configure each ECS service to reference the associated IAM role.

C. Create four distinct IAM roles, each containing the required permissions for the associated ECS service, then, create an IAM group and configure the ECS cluster to reference that group.

D. Create four distinct IAM roles, each containing the required permissions for the associated ECS service, then configure each ECS task definition to referene the associated IAM role.

Answer: D

Explanation:

https://docs.aws.amazon.com/AmazonECS/latest/developerguide/task-placement-strategies.html.

112. - (Exam Topic 1)

An application has hundreds of users. Each user may use multiple devices to access the application. The Developer wants to assign unique identifiers to these users regardless of the device they use.

Which of the following methods should be used to obtain unique identifiers?

A. Create a user table in Amazon DynamoDB as key-value pairs of users and their devices. Use these keys as unique identifiers.

B. Use IAM-generated access key IDs for the users as the unique identifier, but do not store secret keys.

C. Implement developer-authenticated identities by using Amazon Cognito, and get credentials for these identities.

D. Assign IAM users and roles to the users. Use the unique IAM resource ID as the unique identifier.

Answer: C

113. - (Exam Topic 1)

A company is creating an application that will require users to access AWS services and allow them to reset their own passwords.

Which of the following would allow the company to manage users and authorization while allowing users to reset their own passwords?

A. Amazon Cognito identify pools and AWS STS

B. Amazon Cognito identity pools and AWS IAM

C. Amazon Cognito user pools and AWS KMS

D. Amazon Cognito user pools and identity pools

Answer: D

Explanation:

https://serverless-stack.com/chapters/cognito-user-pool-vs-identity-pool.html

114. - (Exam Topic 1)

An application under development is required to store hundreds of video files. The data must be encrypted within the application prior to storage, with a unique key for each video file.

How should the Developer code the application?

A. Use the KMS Encrypt API to encrypt the data. Store the encrypted data key and data.

B. Use a cryptography library to generate an encryption key for the application. Use the encryption key to encrypt the data. Store the encrypted data.

C. Use the KMS GenerateDataKey API to get a data key. Encrypt the data with the data key. Store the encrypted data key and data.

D. Upload the data to an S3 bucket using server side-encryption with an AWS KMS key.

Answer: C

Explanation:

https://docs.aws.amazon.com/kms/latest/APIReference/API_GenerateDataKey.html

115. - (Exam Topic 1)

A Developer is creating a mobile application with a limited budget. The solution requires a scalable service that will enable customers to sign up and authenticate into the mobile application while using the organization's current SAML 2.0 identity provider.
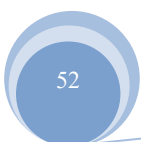
Which AWS service should be used to meet these requirements?

A. AWS Lambda

B. Amazon Cognito

C. AWS IAM

D. Amazon EC2

Answer: B

116. - (Exam Topic 1)

Which of the following programming languages have an officially supported AWS SDK? Choose 2 answers

A. Perl

B. PHP

C. Pascal

D. Java

E. SQL

Answer: B D

117. - (Exam Topic 1)

Which of the following are correct statements with policy evaluation logic in AWS Identity and Access

Management? Choose 2 answers

A. By default, all requests are denied

B. An explicit allow overrides an explicit deny

C. An explicit allow overrides default deny.

D. An explicit deny does not override an explicit allow

E. By default, all request are allowed

Answer: A C

Explanation:

https://docs.aws.amazon.com/IAM/latest/UserGuide/reference_policies_evaluation-logic.html

By default, all requests are implicitly denied. (Alternatively, by default, the AWS account root user has full

access.) An explicit allow in an identity-based or resource-based policy overrides this default. If a

permissions boundary, Organizations SCP, or session policy is present, it might override the allow with an
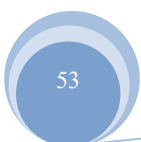
implicit deny. An explicit deny in any policy overrides any allows.

118. - (Exam Topic 1)

A Developer is asked to implement a caching layer in front of Amazon RDS. Cached content is expensive to regenerate in case of service failure. Which implementation below would work while maintaining maximum uptime?

A. Implement Amazon ElastiCache Redis in Cluster Mode

B. Install Redis on an Amazon EC2 instance.

C. Implement Amazon ElastiCache Memcached.

D. Migrate the database to Amazon Redshift.

Answer: A

Explanation:

https://docs.aws.amazon.com/AmazonElastiCache/latest/mem-ug/SelectEngine.html

119. - (Exam Topic 1)

In AWS, which security aspects are the customer's responsibility? Choose 4 answers

A. Life-cycle management of IAM credentials

B. Decommissioning storage devices

C. Security Group and ACL (Access Control List) settings

D. Encryption of EBS (Elastic Block Storage) volumes

E. Controlling physical access to compute resources

F. Patch management on the EC2 instance's operating system

Answer: A C D F

Explanation:

Physical and Environmental Security

AWS's data centers are state of the art, utilizing innovative architectural and engineering approaches. Amazon has many years of experience in designing, constructing, and operating large-scale data centers. This experience has been applied to the AWS platform and infrastructure. AWS data centers are housed in nondescript facilities. Physical access is strictly controlled both at the perimeter and at building ingress points by professional security staff utilizing video surveillance, intrusion detection systems, and other
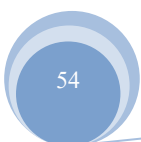
electronic means. Authorized staff must pass two-factor authentication a minimum of two times to access data center floors. All visitors and contractors are required to present identification and are signed in and continually escorted by authorized staff.

Storage Decommissioning

> When a storage device has reached the end of its useful life, AWS procedures include a decommissioning process that is designed to prevent customer data from being exposed to unauthorized individuals.

> AWS uses the techniques detailed in DoD 5220.22-M (National Industrial Security Program Operating Manual) or NIST 800-88 (Guidelines for Media Sanitization) to destroy data as part of the decommissioning process.

> All decommissioned magnetic storage devices are degaussed and physically destroyed in accordance with industry-standard practices.

120. - (Exam Topic 1)

A company has multiple Developers located across the globe who are updating code incrementally for a development project. When Developers upload code concurrently, internet connectivity is slow, and it is taking a long time to upload code for deployment in AWS Elastic Beanstalk.

Which step will result in minimized upload and deployment time with the LEAST amount of administrative effort?

A. Allow the Developers to upload the code to an Amazon S3 bucket, and deploy it directly to Elastic Beanstalk.

B. Allow the Developers to upload the code to a central FTP server to deploy the application to Elastic Beanstalk.

C. Create an AWS CodeCommit repository, allow the Developers to commit code to it, and then directly deploy the code to Elastic Beanstalk.

D. Create a code repository on an Amazon EC2 instance so that all Developers can update the code, and deploy the application from the instance to Elastic Beanstalk.

Answer: B

Explanation:

https://aws.amazon.com/premiumsupport/knowledge-center/deploy-codecommit-elastic-beanstalk/

121. - (Exam Topic 1)

A Lambda function is packaged for deployment to multiple environments, including development, test, production, etc. Each environment has unique set of resources such as databases, etc.

How can the Lambda function use the resources for the current environment?

A. Apply tags to the Lambda functions.

B. Hardcore resources in the source code.

C. Use environment variables for the Lambda functions.

D. Use separate function for development and production.

Answer: C

122. - (Exam Topic 1)

A Developer created configuration specifications for an AWS Elastic Beanstalk application in a file named healthcheckurl.yaml in the .ebextensions/directory of their application source bundle. The file contains the following:

```
option_settings:
  - namespace: aws:elasticbeanstalk:application
    option_name: Application Healthcheck URL
    value: /health_check
```

After the application launches, the health check is not being run on the correct path, event though it is valid.

What can be done to correct this configuration file?

A. Convert the file to JSON format.

B. Rename the file to a .config extension.

C. Change the configuration section from options_settings to resources.

D. Change the namespace of the option settings to a cusom namespace.

Answer: B

Explanation:

Reference: https://docs.aws.amazon.com/elasticbeanstalk/latest/dg/ebextensions.html

You can add AWS Elastic Beanstalk configuration files (.ebextensions) to your web application's source code to configure your environment and customize the AWS resources that it contains. Configuration files

are YAML- or JSON-formatted documents with a .config file extension that you place in a folder named

.e bextensions and deploy in your application source bundle.

https://docs.aws.amazon.com/elasticbeanstalk/latest/dg/ebextensions.html

123. - (Exam Topic 1)

A Developer is receiving HTTP 400: ThrottlingException errors intermittently when calling the Amazon

CloudWatch API. When a call fails, no data is retrieved.

What best practice should first be applied to address this issue?

A. Contact AWS Support for a limit increase.

B. Use the AWS CLI to get the metrics

C. Analyze the applications and remove the API call

D. Retry the call with exponential backoff

Answer: D

Explanation:

https://docs.aws.amazon.com/AmazonCloudWatch/latest/monitoring/cloudwatch_limits.html

124. - (Exam Topic 1)

What is the format of structured notification messages sent by Amazon SNS?

A. An XML object containing MessageId, UnsubscribeURL, Subject, Message and other values

B. An JSON object containing MessageId, DuplicateFlag, Message and other values

C. An XML object containing MessageId, DuplicateFlag, Message and other values

D. An JSON object containing MessageId, unsubscribeURL, Subject, Message and other values
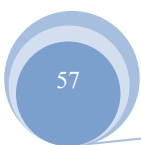
Answer: D

Explanation:

https://docs.aws.amazon.com/sns/latest/dg/sns-message-and-json-formats.html#http-notification-json

125. - (Exam Topic 1)

An AWS Lambda function generates a 3MB JSON file and then uploads it to an Amazon S3 bucket daily.

The file contains sensitive information, so the Developer must ensure that it is encrypted before uploading

to the bucket.

Which of the following modifications should the Developer make to ensure that the data is encrypted before

uploading it to the bucket?

A. Use the default AWS KMS customer master key for S3 in the Lambda function code.

B. Use the S3 managed key and call the GenerateDataKey API to encrypt the file.

C. Use the GenerateDateKey API, then use that data key to encrypt the file in the Lambda function code.

D. Use a custom KMS customer master key created for S3 in the Lambda function code.

Answer: C

126. - (Exam Topic 1)

A Developer is creating a mobile application that will not require users to log in. What is the MOST efficient

method to grant users access to AWS resources?

A. Use an identity provider to securely authenticate with the application.

B. Create an AWS Lambda function to create an IAM user when a user accesses the application.

C. Create credentials using AWS KMS and apply these credentials to users when using the application.

D. Use Amazon Cognito to associate unauthenticated users with an IAM role that has limited access to

resources.

Answer: D

Explanation:

https://docs.aws.amazon.com/cognito/latest/developerguide/iam-roles.html

127. - (Exam Topic 1)

A company has a multi-tiered web application on AWS. During a recent spike in traffic, one of the primary

relational databases on Amazon RDS could not serve all the traffic. Some read queries for repeatedly

accessed items failed, so users received error messages.

What can be done to minimize the impact on database read queries MOST efficiently during future traffic

spikes?

A. Use Amazon S3 to cache database query results.

B. Use Amazon RDS as a custom origin for Amazon CloudFront.

C. Use local storage and memory on Amazon EC2 instances to cache data.

D. Use Amazon ElastiCache in front of the primary database to cache data.

Answer: D

128. - (Exam Topic 1)

A Developer needs to use AWS X-Ray to monitor an application that is deployed on EC2 instances. What steps have to be executed to perform the monitoring?

A. Deploy the X-Ray SDK with the application and use X-Ray annotation.

B. Install the X-Ray daemon and instrument the application code.

C. Install the X-Ray daemon and configure it to forward data to Amazon CloudWatch Events.

D. Deploy the X-Ray SDK with the application and instrument the application code.

Answer: C

129. - (Exam Topic 1)

What item operation allows the retrieval of multiple items from a DynamoDB table in a single API call?

A. GetItem

B. BatchGetItem

C. GetMultipleItems

D. GetItemRange

Answer: B

Explanation:

https://docs.aws.amazon.com/amazondynamodb/latest/APIReference/API_BatchGetItem.html

130. - (Exam Topic 1)

A nightly batch job loads 1 million new records into a DynamoDB table. The records are only needed for one hour, and the table needs to be empty by the next night's batch job.

Which is the MOST efficient and cost-effective method to provide an empty table?

A. Use DeleteItem using a ConditionExpression.

B. Use BatchWriteItem to empty all of the rows.

C. With a recursive function that scans and calls out DeleteItem.

D. Create and then delete the table after the task has completed.

Answer: D
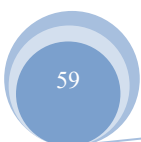
Explanation:

"Deleting an entire table is significantly more efficient than removing items one-by-one, which essentially doubles the write throughput as you do as many delete operations as put operations"

131. - (Exam Topic 1)

In a move toward using microservices, a company's Management team has asked all Development teams to build their services so that API requests depend only on that service's data store. One team is building a Payments service which has its own database; the service needs data that originates in the Accounts database. Both are using Amazon DynamoDB.

What approach will result in the simplest, decoupled, and reliable method to get near-real time updates from the Accounts database?

A. Use Amazon Glue to perform frequent ETL updates from the Accounts database to the Payments database.

B. Use Amazon ElastiCache in Payments, with the cache updated by triggers in the Accounts database.

C. Use Amazon Kinesis Data Firehouse to deliver all changes from the Accounts database to the Payments database.

D. Use Amazon DynamoDB Streams to deliver all changes from the Accounts database to the Payments database.

Answer: D

Explanation:

Reference:

https://aws.amazon.com/blogs/database/how-to-perform-ordered-data-replication-betweenapplications-by-using
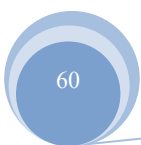
132. - (Exam Topic 1)

You are writing to a DynamoDB table and receive the following exception:"

ProvisionedThroughputExceededException". though according to your Cloudwatch metrics for the table, you are not exceeding your provisioned throughput.

What could be an explanation for this?

A. You haven't provisioned enough DynamoDB storage instances

B. You're exceeding your capacity on a particular Range Key

C. You're exceeding your capacity on a particular Hash Key

D. You're exceeding your capacity on a particular Sort Key

E. You haven't configured DynamoDB Auto Scaling triggers

Answer: C

Explanation:

https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/HowItWorks.CoreComponents.ht

ml#Ho https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/HowItWorks.Partitions.html

https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/bp-partition-key-design.html

133. - (Exam Topic 1)

An application takes 40 seconds to process instructions received in an Amazon SQS message.

Assuming the SQS queue is configured with the default VisibilityTimeout value, what is the BEST way,

upon receiving a message, to ensure that no other instances can retrieve a message that has already been

processed or is currently being processed?

A. Use the ChangeMessageVisibility API to increase the VisibilityTimeout, then use the DeleteMessage API

to delete the message.

B. Use the DeleteMessage API call to delete the message from the queue, then call DeleteQueue API to

remove the queue.

C. Use the ChangeMessageVisibility API to decrease the timeout value, then use the DeleteMessage API

to delete the message.

D. Use the DeleteMessageVisibility API to cancel the VisibilityTimeout, then use the DeleteMessage API to

delete the message.

Answer: A

Explanation:

https://docs.aws.amazon.com/AWSSimpleQueueService/latest/SQSDeveloperGuide/sqs-visibility-timeout.

html In SQS, messages remain there. It is the consumer's responsibility to delete it, once consumed and

processed.

134. - (Exam Topic 1)
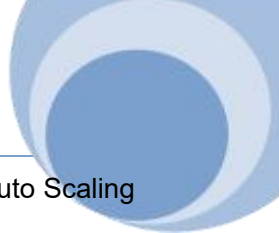
A company is developing an application that will run on several Amazon EC2 instances in an Auto Scaling group and can access a database running on Amazon EC2. The application needs to store secrets required to connect to the database. The application must allow for periodic secret rotation, and there should be no changes to the application when a secret changes.

What is the SAFEST way to meet these requirements?

A. Associate an IAM role to the EC2 instance where the application is running with permission to access the database.

B. Use AWS Systems Manager Parameter Store with the SecureString data type to store secrets.

C. Configure the application to store secrets in Amazon S3 object metadata.

D. Hard code the database secrets in the application code itself.

Answer: B

135. - (Exam Topic 1)

A Developer has created a software package to be deployed on multiple EC2 instances using IAM roles.

What actions could be performed to verify IAM access to get records from Amazon Kinesis Streams?

(Select TWO.)

A. Use the AWS CLI to retrieve the IAM group.

B. Query Amazon EC2 metadata for in-line IAM policies.

C. Request a token from AWS STS, and perform a describe action.

D. Perform a get action using the –-dry-run argument.

E. Validate the IAM role policy with the IAM policy simulator.

Answer: A E

136. - (Exam Topic 1)

The Lambda function below is being called through an API using Amazon API Gateway. The average execution time for the Lambda function is about 1 second. The pseudocode for the Lambda function is as shown in the exhibit.

```
include "3rd party encryption module"

include "match module"

lambda_ handler(event, context)

    rds_host = "rds-instance-endpoint"

    name = db_udername

    password = db_password

    db_name = db_name

# Connect to the RDS Database

Conn = RDSConnection(rds_host, user=name, passwd=password,
db=db_name, connect_timeout=5)

#Perform some Processing reading data from the RDS database

#Code Block

#Code Block

#Code Block
```

What two actions can be taken to improve the performance of this Lambda function without increasing the cost of the solution? (Select two.)

A. Package only the modules the Lambda function requires

B. Use Amazon DynamoDB instead of Amazon RDS

C. Move the initialization of the variable Amazon RDS connection outside of the handler function

D. Implement custom database connection pooling with the Lambda function

E. Implement local caching of Amazon RDS data so Lambda can re-use the cache

Answer: A C

137. - (Exam Topic 1)

A Developer will be using the AWS CLI on a local development server to manage AWS services.

What can be done to ensure that the CLI uses the Developer's IAM permissions when making commands?

A. Specify the Developer's IAM access key ID and secret access key as parameters for each CLI command.

B. Run the aws configure CLI command, and provide the Developer's IAM access key ID and secret access key.

C. Specify the Developer's IAM user name and password as parameters for each CLI command.

D. Use the Developer's IAM role when making the CLI command.

Answer: B

Explanation:

https://medium.com/faun/setting-up-a-production-environment-using-our-local-development-server-and-aws-f5e

138. - (Exam Topic 1)

A Developer created a dashboard for an application using Amazon API Gateway, Amazon S3, AWS Lambda, and Amazon RDS. The Developer needs an authentication mechanism allowing a user to sign in and view the dashboard. It must be accessible from mobile applications, desktops, and tablets, and must remember user preferences across platforms.

Which AWS service should the Developer use to support this authentication scenario?

A. AWS KMS

B. Amazon Cognito

C. AWS Directory Service

D. Amazon IAM

Answer: B

Explanation:

Congito user pool provides sign up and sign in functionality along with identity pool which provides temp credentials for using aws services.

139. - (Exam Topic 1)

A company has an internet-facing application that uses Web Identity Federation to obtain a temporary credential from AWS Security Token Service (AWS STS). The app then uses the token to access AWS services.

Review the following response:

```
<AssumeRoleWithWebIdentityResponse xmlns="https://sts.amazonaws.com/doc/2011-06
  <AssumeRoleWithWebIdentityResult>
    <SubjectFromWebIdentityToken>amzn1.account.AF6RHO7KZU5XRVQJGXK6HB56KR2A</Su
yToken>
    <Audience>client.5499941531868486423.1548@apps.example.com</Audience>
    <AssumedRoleUser>
      <Arn>arn:aws:sts::123456789012:assumed-role/FederatedWebIdentityRole/app1
      <AssumedRoleId>AROACLKWSDQRAOEXAMPLE:app1</AssumedRoleId>
    </AssumedRoleUser>
    <Credentials>
      <SessionToken>AQoDYXdzEE0a8ANXXXXXXXXXNOlewxE5TijQyp+IEXAMPLE</SessionToke
      <SecretAccessKey>wJalrXUtnFEMI/K7MDENG/bPxRfiCYzEXAMPLEKEY</SecretAccessK
      <Expiration>2014-10-24T23:00:23Z</Expiration>
      <AccessKeyId>ASgeIAIOSFODNN7EXAMPLE</AccessKeyId>
    </Credentials>
    <Provider>www.amazon.com</Provider>
  </AssumeRoleWithWebIdentityResult>
  <ResponseMetadata>
    <RequestId>ad4156e9-bcel-11e2-82e6-6b6efEXAMPLE</RequestId>
  </ResponseMetadata>
</AssumeRoleWithWebIdentityResponse>
```

Based on the response displayed what permissions are associated with the call from the application?

A. Permissions associated with the role AROACLKWSDQRAOEXAMPLE:app1

B. Permissions associated with the default role used when the AWS service was built

C. Permission associated with the IAM principal that owns the AccessKeyID

ASgeIAIOSFODNN7EXAMPLE

D. Permissions associated with the account that owns the AWS service

Answer: C

140. - (Exam Topic 1)

A company wants to migrate its web application to AWS and leverage Auto Scaling to handle pear

workloads. The Solutions Architect determined that the best metric for an Auto Scaling event is the number

of concurrent users.

Based on this information, what should the Developer use to autoscale based on concurrent users?

A. An Amazon SNS topic to be triggered when a concurrent user threshold is met

B. An Amazon Cloudwatch Networkin metric

C. Amazon CloudFront to leverage AWS Edge Locations

D. A Custom Amazon CloudWatch metric for concurrent users.

Answer: D

141. - (Exam Topic 1)

Which of the following is chosen as the default region when making an API call with an AWS SDK?

A. ap-northeast-1

B. us-west-2

C. us-east-1

D. eu-west-1

E. us-central-1

Answer: C

Explanation:

https://docs.aws.amazon.com/sdk-for-java/v1/developer-guide/java-dg-region-selection.html. This section applies only when using a client builder to access AWS services. AWS clients created by using the client constructor will not automatically determine region from the environment and will, instead, use the default SDK region (USEast1).

142. - (Exam Topic 1)

A company maintains an application responsible for processing several thousand external callbacks each day. The company's System administrators want to know how many callbacks are being received on a rolling basis, and they want this data available for 10 days. The company also wants the ability to issue automated alerts if the number of callbacks exceeds the defined thresholds.

What is the MOST cost-effective way to address the need to track and alert on these statistics?

A. Push callback data to an Amazon RDS database that can be queried to show historical data and to alert on exceeded thresholds.

B. Push callback data to AWS X-Ray and use AWS Lambda to query, display, and alert on exceeded thresholds.

C. Push callback data to Amazon Kinesis Data Streams and invoke an AWS Lambda function that stores data in Amazon DynamoDB and sends the required alerts.

D. Push callback data to Amazon CloudWatch as a custom metric and use the CloudWatch alerting mechanisms to alert System Administrators.

Answer: D

143. - (Exam Topic 1)

A company is building a stock trading application that requires sub-millisecond latency in processing trading requests. Amazon DynamoDB is used to store all the trading data that is used to process each request. After load testing the application, the development team found that due to data retrieval times, the latency requirement is not satisfied. Because of sudden high spikes in the number of requests, DynamoDB read capacity has to be significantly over-provisioned to avoid throttling.

What steps should be taken to meet latency requirements and reduce the cost of running the application?

A. Add Global Secondary Indexes for trading data.

B. Store trading data in Amazon S3 and use Transfer Acceleration.

C. Add retries with exponential back-off for DynamoDB queries

D. Use DynamoDB Accelerator to cache trading data.

Answer: D

Explanation:

Refer AWS documentation - DynamoDB Accelerator

Amazon DynamoDB Accelerator (DAX) is a fully managed, highly available, in-memory cache foDr ynamoDB that delivers up to a 10x performance improevment – from milliseconds to microseconds – even at millions of requests per second. DAX does all the heavy lifting required to add in-memory acceleration to your DynamoDB tables, without requiring developers to manage cache invalidation, data population, or cluster management. Now you can focus on building great applications for your customers without worrying about performance at scale.

144. - (Exam Topic 1)

Which DynamoDB limits can be raised by contacting AWS support? Choose 2 answers

A. The number of hash keys per account

B. The maximum storage used per account

C. The number of tables per account

D. The number of local secondary indexes per account

E. The number of provisioned throughput units per account

Answer: C E

Explanation:

https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/Limits.html
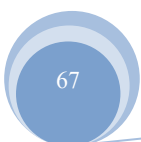
145. - (Exam Topic 1)

A Developer wants access to make the log data of an application running on an EC2 instance available to systems administrators.

Which of the following enables monitoring of this metric in Amazon CloudWatch?

A. Retrieve the log data from CloudWatch using the GetMetricData API call

B. Retrieve the log data from AWS CloudTrail using the LookupEvents API call.

C. Launch a new EC2 instance, configure Amazon CloudWatch Events, and then install the application.

D. Install the Amazon CloudWatch Logs agent on the EC2 instance that the application is running on.

Answer: D

146. - (Exam Topic 1)

Which EC2 API call would you use to retrieve a list of Amazon Machine Images (AMIs)?

A. DescnbeInstances

B. DescribeAMIs

C. DescribeImages

D. GetAMIs

E. You cannot retrieve a list of AMIs as there are over 10,000 AMIs

Answer: C

Explanation:

https://docs.aws.amazon.com/AWSEC2/latest/APIReference/API_DescribeImages.html

Describes the specified images (AMIs, AKIs, and ARIs) available to you or all of the images available to you.

147. - (Exam Topic 1)

A company has an application that logs all information to Amazon S3. Whenever there is a new log file, an AWS Lambda function is invoked to process the log files. The code works, gathering all of the necessary information. However, when checking the Lambda function logs, duplicate entries with the same request ID are found.

What is causing the duplicate entries?
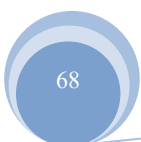
A. The S3 bucket name was specified incorrectly.

B. The Lambda function failed, and the Lambda service retired the invocation with a delay.

C. There was an S3 outage, which caused duplicate entries of the sale log file.

D. The application stopped intermittently and then resumed.

Answer: B

Explanation:

https://docs.aws.amazon.com/lambda/latest/dg/API_Invoke.html

148. - (Exam Topic 1)

A Developer executed a AWS CLI command and received the error shown below:

A client error (UnauthorizedOperation) occurred when calling the RunInstances operation:
You are not authorized to perform this operation. Encoded authorization failure message:
oGsbAaIV7wlfj8zUqebHUANHzFbmkzILlxyj__y9xwhIHk99U_cUq1FIeZnskWDjQlwSHStVfdCEyZILGoccGpCiC
IhORceWF9rRwFTnEcRJ3N9iTrPAE1WHveC5Z54ALPaWlEjHlLg8CaB8d8lCKmxQuylCm0r1Bf2fHJRUjAYopMVmga
8olFmKAl9yn_Z5rI120Q9p5ZIMX28zYM4dTu1cJQUQjosgrEejfiIMYDda8l7Ooko9H6VmGJX62KfkRa5l7yE6hhh
2bIwA6tpyCJy2LWFRTe4bafqAyoqkarhPA4mGiZyWn4gSqbO8o-
uqSIvWYPweaKGkampa0arcFR4gBD7Ph097WYBkzX9hVjGppLMy4jpXRv

What action should the Developer perform to make this error human-readable?

A. Make a call to AWS KMS to decode the message.

B. Use the AWS STS decode-authorization-message API to decode the message.

C. Use an open source decoding library to decode the message.

D. Use the AWS IAM decode-authorization-message API to decode this message.

Answer: B

Explanation:

https://docs.aws.amazon.com/cli/latest/reference/sts/decode-authorization-message.html

The message is encoded because the details of the authorization status can constitute privileged

information that the user who requested the operation should not see. To decode an authorization status

message, a user must be granted permissions via an IAM policy to request the

DecodeAuthorizationMessage (sts:DecodeAuthorizationMessage) action.

149. - (Exam Topic 1)

An organization must store thousands of sensitive audio and video files in an Amazon S3 bucket.

Organizational security policies require that all data written to this bucket be encrypted.
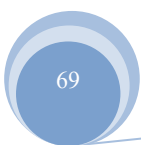
How can compliance with this policy be ensured?

A. Use AWS Lambda to send notifications to the security team if unencrypted objects are pun in the bucket.

B. Configure an Amazon S3 bucket policy to prevent the upload of objects that do not contain the

x-amzserver-side-encryption header.

C. Create an Amazon CloudWatch event rule to verify that all objects stored in the Amazon S3 bucket are

encrypted.

D. Configure an Amazon S3 bucket policy to prevent the upload of objects that contain the

x-amz-server-sideencryption header.

Answer: B

150. - (Exam Topic 1)

A company has written a Java AWS Lambda function to be triggered whenever a user uploads an image to

an Amazon S3 bucket. The function converts the original image to several different formats and then copies

the resulting images to another Amazon S3 bucket.

The Developers find that no images are being copied to the second Amazon S3 bucket. They have tested

the code on an Amazon EC2 instance with 1GB of RAM, and it takes an average of 500 seconds to

complete.

What is the MOST likely cause of the problem?

A. The Lambda function has insufficient memory and needs to be increased to 1 GB to match the Amazon

EC2 instance

B. Files need to be copied to the same Amazon S3 bucket for processing, so the second bucket needs to

be deleted.

C. Lambda functions have a maximum execution limit of 300 seconds, therefore the function is not

completing.

D. There is a problem with the Java runtime for Lambda, and the function needs to be converted to node.js.

Answer: C

151. - (Exam Topic 1)

Which of the following services are key/value stores? Choose 3 answers

A. Amazon ElastiCache
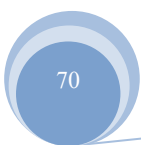
B. Simple Notification Service

C. DynamoDB

D. Simple Workflow Service

E. Simple Storage Service

Answer: A C E

152. - (Exam Topic 1)

An application stores payroll information nightly in DynamoDB for a large number of employees across

hundreds of offices. Item attributes consist of individual name, office identifier, and cumulative daily hours.

Managers run reports for ranges of names working in their office. One query is. "Return all Items in this

office for names starting with A through E".

Which table configuration will result in the lowest impact on provisioned throughput for this query?

A. Configure the table to have a hash index on the name attribute, and a range index on the office identifier

B. Configure the table to have a range index on the name attribute, and a hash index on the office identifier

C. Configure a hash index on the name attribute and no range index

D. Configure a hash index on the office Identifier attribute and no range index

Answer: B

Explanation:

https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/HowItWorks.CoreComponents.ht

ml

Partition key and sort key – Referred to as a composite primary key, this type of key is composed of two

attributes. The first attribute is the partition key, and the second attribute is the sort key. DynamoDB uses

the partition key value as input to an internal hash function. The output from the hash function determines

the partition (physical storage internal to DynamoDB) in which the item will be stored. All items with the

same partition key value are stored together, in sorted order by sort key value.

153. - (Exam Topic 1)

An existing serverless application processes uploaded image files. The process currently uses a single

Lambda function that takes an image file, performs the processing, and stores the file in Amazon S3. Users

of the application now require thumbnail generation of the images. Users want to avoid any impact to the
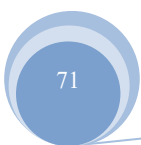
time it takes to perform the image uploads.

How can thumbnail generation be added to the application, meeting user requirements while minimizing changes to existing code?

A. Change the existing Lambda function handling the uploads to create thumbnails at the time of upload. Have the function store both the image and thumbnail in Amazon S3.

B. Create a second Lambda function that handles thumbnail generation and storage. Change the existing Lambda function to invoke it asynchronously.

C. Create an S3 event notification with a Lambda function destination. Create a new Lambda function to generate and store thumbnails.

D. Create an S3 event notification to an SQS Queue. Create a scheduled Lambda function that processes the queue, and generates and stores thumbnails.

Answer: C

Explanation:

https://docs.aws.amazon.com/lambda/latest/dg/with-s3-example.html

154. - (Exam Topic 1)

A company developed a set of APIs that are being served through the Amazon API Gateway. The API calls need to be authenticated based on OpenID identity providers such as Amazon or Facebook. The APIs should allow access based on a custom authorization model.

Which is the simplest and MOST secure design to use to build an authentication and authorization model for the APIs?

A. Use Amazon Cognito user pools and a custom authorizer to authenticate and authorize users based on JSON Web Tokens.

B. Build a OpenID token broker with Amazon and Facebook. Users will authenticate with these identify providers and pass the JSON Web Token to the API to authenticate each API call.

C. Store user credentials in Amazon DynamoDB and have the application retrieve temporary credentials from AWS STS. Make API calls by passing user credentials to the APIs for authentication and authorization.

D. Use Amazon RDS to store user credentials and pass them to the APIs for authentications and authorization.

Answer: A

155. - (Exam Topic 1)

An application overwrites an object in Amazon S3, and then immediately reads the same object. Why would the application sometimes retrieve the old version of the object?

A. S3 overwrite PUTS are eventually consistent, so the application may read the old object.

B. The application needs to add extra metadata to label the latest version when uploading to Amazon S3.

C. All S3 PUTS are eventually consistent, so the application may read the old object.

D. The application needs to explicitly specify latest version when retrieving the object.

Answer: A

156. - (Exam Topic 1)

A company is providing services to many downstream consumers. Each consumer may connect to one or more services. This has resulted in a complex architecture that is difficult to manage and does not scale well. The company needs a single interface to manage these services to consumers.

Which AWS service should be used to refactor this architecture?

A. AWS Lambda

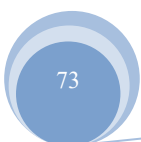B. AWS X-Ray

C. Amazon SQS

D. Amazon API Gateway

Answer: D

157. - (Exam Topic 1)

In a multi-container Docker environment in AWS Elastic Beanstalk, what is required to configure container instances in the environment?

A. An Amazon ECS task definition

B. An Amazon ECS cluster

C. A Docker in an application package

D. A CLI for Elastic Beanstalk

Answer: A

Explanation:

Reference: https://docs.aws.amazon.com/elasticbeanstalk/latest/dg/create_deploy_docker_ecs.html

158. - (Exam Topic 1)

You run an ad-supported photo sharing website using S3 to serve photos to visitors of your site. At some

point you find out that other sites have been linking to the photos on your site, causing loss to your

business.

What is an effective method to mitigate this?

A. Store photos on an EBS volume of the web server

B. Remove public read access and use signed URLs with expiry dates.

C. Use CloudFront distributions for static content.

D. Block the IPs of the offending websites in Security Groups.

Answer: B

Explanation:

https://aws.amazon.com/getting-started/projects/building-fast-session-caching-with-amazon-elasticache-fo

r-redi

159. - (Exam Topic 1)

A set of APIs are exposed to customers using the Amazon API Gateway. These APIs have caching

enabled on the API Gateway. Customers have asked for an option to invalidate this cache for each of the

APIs.

What action can be taken to allow API customers to invalidate the API Cache?

A. Ask customers to use AWS credentials to call the InvalidateCache API.

B. Ask customers to invoke an AWS API endpoint which invalidates the cache.

C. Ask customers to pass an HTTP header called Cache-Control:max-age=0.

D. Ask customers to add a query string parameter called "INVALIDATE_CACHE" when making an API call.

Answer: C

Explanation:

https://developer.mozilla.org/en-US/docs/Web/HTTP/Headers/Cache-Control

https://docs.aws.amazon.com/apigateway/latest/developerguide/api-gateway-caching.html
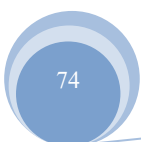
Invalidate an API Gateway Cache Entry A client of your API can invalidate an existing cache entry and reload it from the integration endpoint for individual requests. The client must send a request that contains the Cache-Control: max-age=0 header. The client receives the response directly from the integration endpoint instead of the cache, provided that the client is authorized to do so. This replaces the existing cache entry with the new response, which is fetched from the integration endpoint.

160. - (Exam Topic 1)

A company is migrating its on-premises database to Amazon RDS for MySQL. The company has read-heavy workloads, and wants to make sure it re-factors its code to achieve optimum read performance for its queries.

How can this objective be met?

A. Add database retries to effectively use RDS with vertical scaling

B. Use RDS with multi-AZ deployment

C. Add a connection string to use an RDS read replica for read queries

D. Add a connection string to use a read replica on an EC2 instance.

Answer: C

161. - (Exam Topic 1)

A Developer is creating an Auto Scaling group whose instances need to publish a custom metric to Amazon CloudWatch.

Which method would be the MOST secure way to authenticate a CloudWatch PUT request?

A. Create an IAM user with PutMetricData permission and put the user credentials in a private repository; have applications pull the credentials as needed.

B. Create an IAM user with PutMetricData permission, and modify the Auto Scaling launch configuration to inject the user credentials into the instance user data.

C. Modify the CloudWatch metric policies to allow the PutMetricData permission to instances from the Auto Scaling group.

D. Create an IAM role with PutMetricData permission and modify the Auto Scaling launching configuration to launch instances using that role.

Answer: D
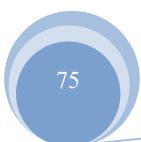
162. - (Exam Topic 1)

A development team consists of 10 team members. Similar to a home directory for each team member the manager wants to grant access to user-specific folders in an Amazon S3 bucket. For the team member with the username "TeamMemberX", the snippet of the IAM policy looks like this:

```
{"Sid": "AllowS3ActionToFolders","Effect": "Allow", "Action":
["s3:*"], "Resource":
["arn:aws:s3:::companyname/home/TeamMemberX/*] }
```

Instead of creating distinct policies for each team member, what approach can be used to make this policy snippet generic for all team members?

A. Use IAM policy condition

B. Use IAM policy principal

C. Use IAM policy variables

D. Use IAM policy resource

Answer: C

Explanation:

> https://docs.aws.amazon.com/IAM/latest/UserGuide/reference_policies_variables.html > Use AWS Identity and Access Management (IAM) policy variables as placeholders when you don't know the exact value of a resource or condition key when you write the policy.

163. - (Exam Topic 1)

A serverless application uses an API Gateway and AWS Lambda.

Where should the Lambda function store its session information across function calls?

A. In an Amazon DynamoDB table

B. In an Amazon SQS queue

C. In the local filesystem

D. In an SQLite session table using –DSQLITE_ENABLE_SESSION

Answer: A

164. - (Exam Topic 1)

A Developer is creating a web application that requires authentication, but also needs to support guest

access to provide users limited access without having to authenticate. What service can provide support for

the application to allow guest access?

A. IAM temporary credentials using AWS STS.

B. Amazon Directory Service

C. Amazon Cognito with unauthenticated access enabled

D. IAM with SAML integration

Answer: C

Explanation:

https://docs.aws.amazon.com/serverless-application-model/latest/developerguide/serverless-getting-starte

d-hello

https://docs.aws.amazon.com/serverless-application-model/latest/developerguide/sam-cli-command-refere

nce-sa

https://docs.aws.amazon.com/serverless-application-model/latest/developerguide/sam-cli-command-refere

nce-sa

165. - (Exam Topic 1)

A company is migrating a single-server, on-premises web application to AWS. The company intends to use

multiple servers behind an Elastic Load Balancer (ELB) to balance the load, and will also store session data

in memory on the web server. The company does not want to lose that session data if a server fails or goes

offline, and it wants to minimize user's downtime.

Where should the company move session data to MOST effectively reduce downtime and make users'

session data more fault tolerant?

A. An Amazon ElastiCache for Redis cluster

B. A second Amazon EBS volume

C. The web server's primary disk

D. An Amazon EC2 instance dedicated to session data

Answer: A

166. - (Exam Topic 1)

A Developer created a Lambda function for a web application backend. When testing the Lambda function
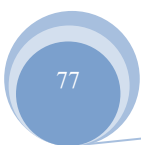
from the AWS Lambda console, the Developer can see that the function is being executed, but there is no log data being generated in Amazon CloudWatch Logs, even after several minutes.

What could cause this situation?

A. The Lambda function does not have any explicit log statements for the log data to send it to CloudWatch Logs.

B. The Lambda function is missing CloudWatch Logs as a source trigger to send log data.

C. The execution role for the Lambda function is missing permissions to write log data to the CloudWatch Logs.

D. The Lambda function is missing a target CloudWatch Log group.

Answer: C

Explanation:

https://docs.aws.amazon.com/lambda/latest/dg/lambda-monitoring.html

167. - (Exam Topic 1)

An AWS Lambda function must read data from an Amazon RDS MySQL database in a VPC and also reach a public endpoint over the internet to get additional data.

Which steps must be taken to allow the function to access both the RDS resource and the public endpoint? (Select TWO.)

A. Modify the default configuration for the Lambda function to associate it with an Amazon VPC private subnet.

B. Modify the default network access control list to allow outbound traffic.

C. Add a NAT Gateway to the VPC.

D. Modify the default configuration of the Lambda function to associate it with a VPC public subnet.

E. Add an environmental variable to the Lambda function to allow outbound internet access.

Answer: A C

Explanation:

Reference: https://docs.aws.amazon.com/lambda/latest/dg/vpc.html

168. - (Exam Topic 1)

A Developer has implemented a Lambda function that needs to add new customers to an RDS database

that is expected to run hundreds of times per hour. The Lambda function is configured to use 512MB of

RAM and is based on the following pseudo code:

```
def lambda_handler(event, context):

db = database.connect()

db.statement('INSERT INTO Customers (CustomerName) VALUES
(context.name)')

db.close()
```

After testing the Lambda function, the Developer notices that the Lambda execution time is much longer

than expected. What should the Developer do to improve performance?

A. Increase the amount of RAM allocated to the Lambda function, which will increase the number of threads

the Lambda can use.

B. Increase the size of the RDS database to allow for an increased number of database connections each

hour.

C. Move the database connection and close statement out of the handler. Place the connection in the

global space.

D. Replace RDS wit Amazon DynamoDB to implement control over the number of writes per second.

Answer: C

Explanation:

Refer AWS documentation - Lambda Best Practices

Take advantage of Execution Context reuse to improve the performance of your function. Make sure any

externalized configuration or dependencies that your code retrieves are stored and referenced locally after

initial execution. Limit the re-initialization of variables/objects on every invocation. Instead use static

initialization/constructor, global/static variables and singletons. Keep alive and reuse connections (HTTP,

database, etc.) that were established during a previous invocation.

169. - (Exam Topic 1)

An application running on EC2 instances is storing data in an S3 bucket. Security policy mandates that all

data must be encrypted in transit.

How can the Developer ensure that all traffic to the S3 bucket is encrypted?

A. Install certificates on the EC2 instances.

B. Create a bucket policy that allows traffic where SecureTransport is true.

C. Create an HTTPS redirect on the EC2 instances.

D. Create a bucket policy that denies traffic where SecureTransport is false.

Answer: D

Explanation:

https://aws.amazon.com/blogs/security/how-to-use-bucket-policies-and-apply-defense-in-depth-to-help-se

cure-y

170. - (Exam Topic 1)

A supplier is writing a new RESTful API for customers to query the status of orders. The customers

requested the following API endpoint.

http://www.supplierdomain.com/status/customerID

Which of the following application designs meet the requirements? (Select two.)

A. Amazon SQS; Amazon SNS

B. Elastic Load Balancing; Amazon EC2

C. Amazon ElastiCache; Amazon Elacticsearch Service

D. Amazon API Gateway; AWS Lambda

E. Amazon S3; Amazon CloudFront

Answer: D E

171. - (Exam Topic 1)

A large e-commerce site is being designed to deliver static objects from Amazon S3. The Amazon S3

bucket wills server more than 300 GET requests per second. What should be done to optimize performance?

(Select TWO.)

A. Integrate Amazon CloudFront with Amazon S3.

B. Enable Amazon S3 cross-region replication.

C. Delete expired Amazon S3 server log files.

D. Configure Amazon S3 lifecycle rules.

E. Randomize Amazon S3 key name prefixes.

Answer: A E

Explanation:

CloudWatch definitely. Random key prefixes is still a valid method of improving performance by using parallel reads. It doesn't mention prefix hashing. For instance prefixes 1/,2/,3/,4,5/ could provide 5 x parallel streams for S3 as opposed to all objects being in a single folder/prefix e.g. dev/

https://docs.aws.amazon.com/AmazonS3/latest/dev/optimizing-performance.html

"There are no limits to the number of prefixes in a bucket. You can increase your read or write performance by parallelizing reads. For example, if you create 10 prefixes in an Amazon S3 bucket to parallelize reads, you could scale your read performance to 55,000 read requests per second." The assumption that prefixes don't matter is incorrect, as described by "Amazon S3 performance guidelines recommended randomizing prefix naming with **hashed characters** to optimize performance for frequent data retrievals. You no longer have to randomize prefix naming for performance, and can use sequential date-based naming for your prefixes"

172. - (Exam Topic 1)

In DynamoDB, what type of HTTP response codes indicate that a problem was found with the client request sent to the service?

A. 5xx HTTP response code

B. 200 HTTP response code

C. 306 HTTP response code

D. 4xx HTTP response code

Answer: D

Explanation:

https://docs.aws.amazon.com/AmazonS3/latest/API/ErrorResponses.html#ErrorCodeList

173. - (Exam Topic 1)

A company is building an application to track athlete performance using an Amazon DynamoDB table. Each item in the table is identified by a partition key (user_id) and a sort key (sport_name). The table design is shown below: (Note: Not all table attributes are shown)

A Developer is asked to write a leaderboard application to display the top performers (user_id) based on the score for each sport_name.
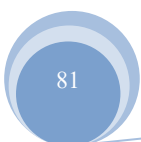
What process will allow the Developer to extract results MOST efficiently from the DynamoDB table?

A. Use a DynamoDB query operation with the key attributes of user_id and sport_name and order the results based on the score attribute.

B. Create a global secondary index with a partition key of sport_name and a sort key of score, and get the results

C. Use a DynamoDB scan operation to retrieve scores and user_id based on sport_name, and order the results based on the score attribute.

D. Create a local secondary index with a primary key of sport_name and a sort key of score and get the results based on the score attribute.

Answer: B

Explanation:

https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/SecondaryIndexes.html

https://docs.aws.amazon.com/zh_cn/amazondynamodb/latest/developerguide/GSI.html

174. - (Exam Topic 1)

An application that runs on an Amazon EC2 instance needs to access and make API calls to multiple AWS services.

What is the MOST secure way to provide access to the AWS services with MINIMAL management overhead?

A. Use AWS KMS to store and retrieve credentials.

B. Use EC2 instance profiles.

C. Use AWS root user to make requests to the application.

D. Store and retrieve credentials from AWS CodeCommit.

Answer: B

Explanation:

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

175. - (Exam Topic 1)

A meteorological system monitors 600 temperature gauges, obtaining temperature samples every minute and saving each sample to a DynamoDB table. Each sample involves writing 1K of data and the writes are
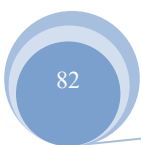
evenly distributed over time.

How much write throughput is required for the target table?

A. 1 write capacity unit

B. 10 write capacity units

C. 60 write capacity units

D. 600 write capacity units

E. 3600 write capacity units

Answer: B

Explanation:

https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/HowItWorks.ReadWriteCapacityM

ode.h

176. - (Exam Topic 1)

Which code snippet below returns the URL of a load balanced web site created in CloudFormation with an

AWS::ElasticLoadBalancing::LoadBalancer resource name "ElasticLoad Balancer"?

A. "Fn::Join" : ["". ["http://", {"Fn::GetAtr" : ["ElasticLoadBalancer","DNSName"]}]]

B. "Fn::Join" : ["". ["http://", {"Fn::GetAtr" : ["ElasticLoadBalancer","Url"]}]]

C. "Fn::Join" : ["". ["http://", {"Ref" : "ElasticLoadBalancerUrl"}]]

D. "Fn::Join" : [".", ["http://", {"Ref" : "ElasticLoadBalancerDNSName"}]]

Answer: A

Explanation:

https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/intrinsic-function-reference-getatt.ht

ml

177. - (Exam Topic 1)

A deployment package uses the AWS CLI to copy files into any S3 bucket in the account, using access

keys stored in environment variables. The package is running on EC2 instances, and the instances have

been modified to run with an assumed IAM role and a more restrictive policy that allows access to only one

bucket.

After the change, the Developer logs into the host and still has the ability to write into all of the S3 buckets in
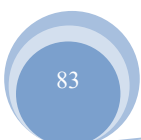
that account.

What is the MOST likely cause of this situation?

A. An IAM inline policy is being used on the IAM role

B. An IAM managed policy is being used on the IAM role

C. The AWS CLI is corrupt and needs to be reinstalled

D. The AWS credential provider looks for instance profile credentials last

Answer: B

Explanation:

https://docs.aws.amazon.com/sdk-for-java/v1/developer-guide/credentials.html

178. - (Exam Topic 1)

When a Developer tries to run an AWS CodeBuild project, it raises an error because the length of all

environment variables exceeds the limit for the combined maximum of characters.

What is the recommended solution?

A. Add the export LC_ALL="en_US.utf8" command to the pre_build section to ensure POSIX localization.

B. Use Amazon Cognito to store key-value pairs for large numbers of environment variables.

C. Update the settings for the build project to use an Amazon S3 bucket for large numbers of environment

variables.

D. Use AWS Systems Manager Parameter Store to store large numbers of environment variables.

Answer: D

179. - (Exam Topic 1)

How is provisioned throughput affected by the chosen consistency model when reading data from a

DynamoDB table?

A. Strongly consistent reads use the same amount of throughput as eventually consistent reads

B. Strongly consistent reads use more throughput than eventually consistent reads.

C. Strongly consistent reads use less throughput than eventually consistent reads

D. Strongly consistent reads use variable throughput depending on read activity

Answer: B
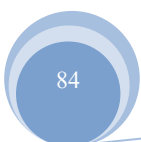
180. - (Exam Topic 1)

You have an environment that consists of a public subnet using Amazon VPC and 3 instances that are

running in this subnet. These three instances can successfully communicate with other hosts on the

Internet. You launch a fourth instance in the same subnet, using the same AMI and security group

configuration you used for the others, but find that this instance cannot be accessed from the Internet.

What should you do to enable internet access?

A. Deploy a NAT instance into the public subnet.

B. Modify the routing table for the public subnet

C. Configure a publically routable IP Address In the host OS of the fourth instance.

D. Assign an Elastic IP address to the fourth instance.

Answer: C

181. - (Exam Topic 1)

A Developer is designing a new application that uses Amazon S3. To satisfy compliance requirements, the

Developer must encrypt the data at rest.

How can the Developer accomplish this?

A. Use s3:x-amz-acl as a condition in the S3 bucket policy.

B. Use Amazon RDS with default encryption.

C. Use aws:SecureTransport as a condition in the S3 bucket policy.

D. Turn on S3 default encryption for the S3 bucket.

Answer: D

182. - (Exam Topic 1)

A Developer is creating a Lambda function and will be using external libraries that are not included in the

standard Lambda libraries.

What action would minimize the Lambda compute time consumed?

A. Install the dependencies and external libraries at the beginning of the Lambda function.

B. Create a Lambda deployment package that includes the external libraries.

C. Copy the external libraries to Amazon S3, and reference the external libraries to the S3 location.

D. Install the external libraries in Lambda to be available to all Lambda functions.

Answer: D

183. - (Exam Topic 1)

What happens, by default, when one of the resources in a CloudFormation stack cannot be created?

A. Previously-created resources are kept but the stack creation terminates.

B. Previously-created resources are deleted and the stack creation terminates.

C. The stack creation continues, and the final results indicate which steps failed.

D. CloudFormation templates are parsed in advance so stack creation is guaranteed to succeed.

Answer: B

Explanation:

https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/stacks.html

AWS CloudFormation ensures all stack resources are created or deleted as appropriate. Because AWS CloudFormation treats the stack resources as a single unit, they must all be created or deleted successfully for the stack to be created or deleted. If a resource cannot be created, AWS CloudFormation rolls the stack back and automatically deletes any resources that were created. If a resource cannot be deleted, any remaining resources are retained until the stack can be successfully deleted.

184. - (Exam Topic 1)

Company A has an S3 bucket containing premier content that they intend to make available to only paid subscribers of their website. The S3 bucket currently has default permissions of all objects being private to prevent inadvertent exposure of the premier content to non-paying website visitors.

How can Company A provide only paid subscribers the ability to download a premier content file in the S3 bucket?

A. Apply a bucket policy that grants anonymous users to download the content from the S3 bucket

B. Generate a pre-signed object URL for the premier content file when a paid subscriber requests a download

C. Add a bucket policy that requires Multi-Factor Authentication for requests to access the S3 bucket objects

D. Enable server-side encryption on the S3 bucket for data protection against the non-paying website visitors

Answer: B

185. - (Exam Topic 1)

Developer is creating an AWS Lambda function to process a stream of data from an Amazon Kinesis Data Stream. When the Lambda function parses the data and encounters a missing field, it exits the function with an error. The function is generating duplicate records from the Kinesis stream. When the Developer looks at the stream output without the Lambda function, there are no duplicate records.

What is the reason for the duplicates?

A. The Lambda function did not advance the Kinesis stream pointer to the next record after the error.

B. The Lambda event source used asynchronous invocation, resulting in duplicate records.

C. The Lambda function did not handle the error, and the Lambda service attempted to reprocess the data.

D. The Lambda function is not keeping up with the amount of data coming from the stream.

Answer: C

Explanation:

https://docs.aws.amazon.com/lambda/latest/dg/with-kinesis.html

Topic 2, Exam Pool B

1. - (Exam Topic 2)

A Developer is writing an application that runs on Amazon EC2 instances in an Auto scaling group. The application data is stored in an Amazon DynamoDB table and records are constantly updated by all instances. An instance sometimes retrieves old data. The Developer wants to correct this by making sure the reads are strongly consistent.

How can the developer accomplish this?

A. Set consistentRead to true when calling Getitem.

B. Create a new DynamoDB Accelerator (DAX) table.

C. Set consistency to strong when calling Update Table.

D. Use the Getshardlterator command.

Answer: B

Explanation:

Reference: https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/
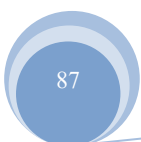
HowItWorks.ReadConsistency.html

2. - (Exam Topic 2)

A social media company is using Amazon Cognito in order to synchronize profiles across different mobile

devices, to enable end users to have a seamless experience.

Which of the following configurations can be used to silently notify users whenever an update is available

on all other devices?

A. Modify the user pool to include all the devices which keep them in sync.

B. Use the SyncCallback interface to receive notifications on the application.

C. Use an Amazon Cognito stream to analyze the data and push the notifications.

D. Use the push synchronization feature with the appropriate IAM role.

Answer: D

Explanation:

https://docs.aws.amazon.com/cognito/latest/developerguide/push-sync.html

3. - (Exam Topic 2)

A company wants to containerize an existing three-tier web application and deploy it to Amazon ECS

Fargate. The application is using session data to keep track of user activities.

Which approach would provide the BEST user experience?

A. Provision a Redic cluster in Amazon ElasticCache and save the session data in the cluster

B. Create a session table in Amazon Redshift and save the session data in the database table.

C. Enable session stickness in the existing Network Load Balancer and manage the session data in the

container.

D. Use an Amazon S3 bucket as data store and save the session data in the bucket.

Answer: C

4. - (Exam Topic 2)

A company is developing a report executed by AWS Step Functions Amazon CloudWatch shows errors in

the Step Functions task state machine To troubleshoot each task, the state input needs to be included

along with the error message in the state output.
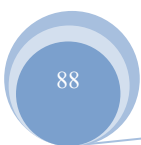
Which coding practice can preserve both the original input and the error for the state?

A. Use ResultPath in a Catch statement to include the error with the original input

B. Use inputPath in a Catch statement and set the value to null.

C. Use ErrorEquals in a Retry statement to include the error with the original input

D. Use OutputPath in a Retry statement and set the value to $.

Answer: A

Explanation:

Use ResultPath in a Catch to include the error with the original input.

Reference: https://docs.aws.amazon.com/step-functions/latest/dg/input-output-resultpath.html

5. - (Exam Topic 2)

A company is using Amazon RDS MySQL instances for its application database tier and Apache Tomcat

servers for its web tier. Most of the database queries from web applications are repeated read requests.

Use of which AWS service would increase in performance by adding in-memory store for repeated read

queries?

A. Amazon RDS Multi-AZ

B. Amazon SQS

C. Amazon ElastiCache

D. Amazon RDS read replica

Answer: C

6. - (Exam Topic 2)

A development team is designing a mobile app that requires multi-factor authentication Which steps should

be taken to achieve this? (Select TWO)

A. Use Amazon Cognito to create a user pool and create users in the user pool

B. Send multi-factor authentication text codes to users with the Amazon SNS Publish API call in the app

code

C. Enable multi-factor authentication for the Amazon Cognito user pool

D. Use AWS IAM to create IAM users

E. Enable multi-factor authentication for the users created in AWS IAM.

Answer: A C

7. - (Exam Topic 2)

A developer has written a serverless application and wants to deploy it to AWS Lambda to leverage the function's multi-threaded execution to improve performance. Which action should the developer take to achieve these requirements?

A. increase the Lambda function execution timeout

B. Use unreserved account concurrency.

C. Increase the memory allocation of the Lambda function

D. Set the reserved concurrency of the Lambda function to a higher number

Answer: C

8. - (Exam Topic 2)

A developer added a new feature to an application running on an Amazon EC2 instance that uses Amazon SQS After deployment, the developer noticed a significant increase in Amazon SQS costs. When monitoring the Amazon SQS metrics on Amazon CloudWatch. the developer found that on average one message per minute is posted on this queue.

What can be done to reduce Amazon SQS costs for this application?

A. Increase the Amazon SQS queue polling timeout

B. Scale down the Amazon SQS queue to the appropriate size for low traffic demand.

C. Configure push delivery via Amazon SNS instead of polling the Amazon SQS queue

D. Use an Amazon SQS first-in, first-out (FIFO) queue instead of a standard queue.

Answer: A

9. - (Exam Topic 2)

A company has an application where reading objects from Amazon S3 is based on the type of user The user types are registered user and guest user The company has 25.000 users and is growing Information is pulled from an S3 bucket depending on the user type.

Which approaches are recommended to provide access to both user types? (Select TWO.)

A. Provide a different access key and secret access key in the application code for registered users and
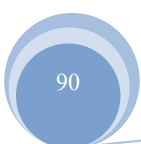
guest users to provide read access to the objects

B. Use S3 bucket policies to restrict read access to specific IAM users

C. Use Amazon Cognito to provide access using authenticated and unauthenticated roles

D. Create a new IAM user for each user and grant read access.

E. Use the AWS IAM service and let the application assume the different roles using the AWS Security

Token Service (AWS STS) AssumeRole action depending on the type of user and provide read access to

Amazon S3 using the assumed role

Answer: B C

10. - (Exam Topic 2)

A company is managing a NoSQL database on-premises to host a critical component of an application,

which is starting to have scaling issues. The company wants to migrate the application to Amazon

DynamoDB with the following considerations:

• Optimize frequent queries

• Reduce read latencies

• Plan for frequent queries on certain key attributes of the table Which solution would help achieve these

objectives?

A. Create global secondary indexes on keys that are frequently queried Add the necessary attributes into

the indexes.

B. Create local secondary indexes on keys that are frequently queried DynamoDB will fetch needed

attributes from the table .

C. Create DynamoDB global tables to speed up query responses Use a scan to fetch data from the table.

D. Create an AWS Auto Scaling policy for the DynamoDB table

Answer: A

Explanation:

"Global secondary index—An index with a partition key and a sort key that can be different from those on

the base table. A global secondary index is considered "global" because queries on the index can span all

of the data in the base table, across all partitions.

Local secondary index—An index that has the same partition key as the base table, but a different sort key.

A local secondary index is "local" in the sense that every partition of a local secondary index is scoped to a
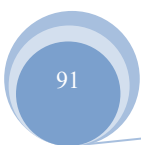
base table partition that has the same partition key value. "

https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/bp-indexes-general.html

11. - (Exam Topic 2)

A Developer is building a three-tier web application that should be able to handle a minimum of 5000

requests per minute. Requirements state that the web tier should be completely stateless while the

application maintains session state for the users.

How can session data be externalized, keeping latency at the LOWEST possible value?

A. Create an Amazon RDS instance, then implement session handling at the application level to leverage a

database inside the RDS database instance for session data storage

B. Implement a shared file system solution across the underlying Amazon EC2 instances, then implement

session handling at the application level to leverage the shared file system for session data storage

C. Create an Amazon ElastiCache Memcached cluster, then implement session handling at the application

level to leverage the cluster for session data storage

D. Create an Amazon DynamoDB table, then implement session handling at the application level to

leverage the table for session data storage

Answer: A

Explanation:

https://aws.amazon.com/caching/session-management/

12. - (Exam Topic 2)

A developer is preparing a deployment package using AWS Cloud Formation. The package consists of two

separate templates: one for the infrastructure and one for the application. The application has to be inside

the VPC that is created from the infrastructure template

How can the application stack refer to the VPC created from the infrastructure template?

A. Use the Ret function to import the VPC into the application stack from the infrastructure template

B. Use the export flag in the infrastructure template, and then use the Fn::ImportValue function in the

application template

C. Use the DependsOn attribute to specify that the application instance depends on the VPC in the

application template
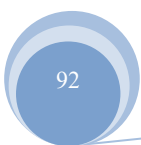
D. Use the Fn::GetAtt function to include the attribute of the VPC in the application template.

Answer: A

13. - (Exam Topic 2)

A Developer created a new AWS account and must create a scalable AWS Lambda function that meets the following requirements for concurrent execution:

⟩ Average execution time of 100 seconds

⟩ 50 requests per second

Which step must be taken prior to deployment to prevent errors?

A. Implement dead-letter queues to capture invocation errors

B. Add an event source from Amazon API Gateway to the Lambda function

C. Implement error handling within the application code

D. Contact AWS Support to increase the concurrent execution limits

Answer: D

Explanation:

https://aws.amazon.com/about-aws/whats-new/2017/05/aws-lambda-raises-default-concurrent-execution-limit/

14. - (Exam Topic 2)

A Developer accesses AWS CodeCommit over SSH. The SSH keys configured to access AWS

CodeCommit are tied to a user with the following permissions:
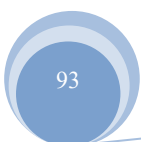
```
{
"Version": "2012-10-17",
"Statement": [
   {
    "Effect": "Allow",
    "Action": [
      "codecommit:BatchGetRepositories",
      "codecommit:Get*",
      "codecommit:List*",
      "codecommit:GitPull"
    ],
    "Resource": "*"
   }
]
}
```

The Developer needs to create/delete branches.

Which specific IAM permissions need to be added, based on the principle of least privilege?

A. "codecommit:CreateBranch""codecommit:DeleteBranch"

B. "codecommit:Put*"

C. "codecommit:Update*"

D. "codecommit:*"

Answer: A

Explanation:

https://docs.aws.amazon.com/codecommit/latest/userguide/auth-and-access-control-permissions-referenc

e.html#

https://docs.aws.amazon.com/codecommit/latest/userguide/auth-and-access-control-iam-identity-based-ac

cess-c

15. - (Exam Topic 2)

A Developer is going to deploy an AWS Lambda function that requires significant CPU utilization. Which

approach will MINIMIZE the average runtime of the function?

A. Deploy the function into multiple AWS Regions

B. Deploy the function into multiple Availability Zones

C. Deploy the function using Lambda layers

D. Deploy the function with its memory allocation set to the maximum amount

Answer: D

16. - (Exam Topic 2)

An application needs to encrypt data that is written to Amazon S3 where the keys are managed in an

on-premises data center and the encryption is handled by S3. Which type of encryption should be used?

A. Use server-side encryption with Amazon S3-managed keys

B. Use server-side encryption with AWS KMS-managed keys.

C. Use client-side encryption with customer master keys

D. Use server-side encryption with customer-provided keys

Answer: A

17. - (Exam Topic 2)

An e-commerce web application that shares session state on-premises is being migrated to AWS. The

application must be fault tolerant, natively highly scalable, and any service interruption should not affect the

user experience.

What is the best option to store the session state?

A. Store the session state in Amazon ElastiCache

B. Store the session state in Amazon CloudFront

C. Store the session state in Amazon S3

D. Enable session stickiness using elastic load balancers

Answer: A

Explanation:

https://aws.amazon.com/caching/session-management/

18. - (Exam Topic 2)

An application is running on a cluster of Amazon EC2 instance. While trying to read objects stored within a

single Amazon S3 bucket that are encrypted with server-side encryption with AWS KMS managed keys

(SSE-KMS), the application receives the following error:

Service : AWSKMS: Status Code: 400: Code : ThrottlingException

Which combination of steps should be taken to prevent this failure? (Select TWO.)
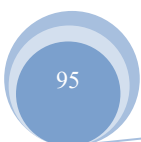
A. Contact AWS Support to request an AWS KMS rate limit increase.

B. Perform error retries with exponential backoff in the application code.

C. Contact AWS Support to request a S3 rate limit increase.

D. Import a customer master key (CMK) with a larger key size.

E. Use more than one customer master key (CMK) to encrypt S3 data

Answer: A D

19. - (Exam Topic 2)

A Developer wants to encrypt new objects that are being uploaded to an Amazon S3 bucket by an application. There must be an audit trail of who has used the key during this process. There should be no change to the performance of the application.

Which type of encryption meets these requirements?

A. Server-side encryption using S3-managed keys

B. Server-side encryption with AWS KMS-managed keys

C. Client-side encryption with a client-side symmetric master key

D. Client-side encryption with AWS KMS-managed keys

Answer: B

20. - (Exam Topic 2)

A development team is using AWS Elastic Beanstalk to deploy a two-tier application that consists of a load-balanced web tier and an Amazon RDS database tier in production. The team would like to separate the RDS instance from the Elastic Beanstalk.

How can this be accomplished?

A. Use the Elastic Beanstalk CLI to disassociate the database.

B. Use the AWS CLI to disassociate the database.

C. Change the deployment policy to disassociate the database.

D. Recreate a new Elastic Beanstalk environment without Amazon RDS.

Answer: D

Explanation:

https://aws.amazon.com/premiumsupport/knowledge-center/decouple-rds-from-beanstalk/
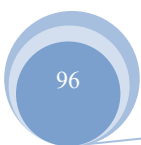
21. - (Exam Topic 2)

An application running on Amazon EC2 opens connections to an Amazon RDS SQL Server database The developer does not want to store the user name and password for the database in the code. The developer would also like to automatically rotate the credentials.

What is the MOST secure way to store and access the database credentials?

A. Create an IAM role that has permissions to access the database Attach the role to the EC2 instance

B. Use AWS Secrets Manager to store the credentials. Retrieve the credentials from Secrets Manager as needed

C. Store the credentials in an encrypted text file in an Amazon S3 bucket Configure the EC2 instance's user data to download the credentials from Amazon S3 as the instance boots

D. Store the user name and password credentials directly in the source code. No further action is needed because the source code is stored in a private repository.

Answer: B

22. - (Exam Topic 2)

An application writes items to an Amazon DynamoDB table. As the application scales to thousands of instances, calls to the DynamoDB API generate occasional ThrottlingException errors. The application is coded in a language incompatible with the AWS SDK.

How should the error be handled?

A. Add exponential backoff to the application logic

B. Use Amazon SQS as an API message bus

C. Pass API calls through Amazon API Gateway

D. Send the items to DynamoDB through Amazon Kinesis Data Firehose

Answer: A

Explanation:

https://aws.amazon.com/premiumsupport/knowledge-center/throttled-ddb/

SDKs automatically add exponential backoff. If not using the AWS SDKs, add your own backoff logic to the application code.

https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/Programming.Errors.html#Progra
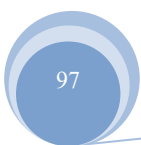
mming.

23. - (Exam Topic 2)

A company is creating a REST service using an Amazon API Gateway with AWS Lambda integration. The service must run different versions for testing purposes.

What would be the BEST way to accomplish this?

A. Use an X-Version header to denote which version is being called and pass that header to the Lambda function(s)

B. Create an API Gateway Lambda authorizer to route API clients to the correct API version

C. Create an API Gateway resource policy to isolate versions and provide context to the Lambda function(s)

D. Deploy the API versions as unique stages with unique endpoints and use stage variables to provide further context

Answer: A

Explanation:

The service run different versions for testing purposes. means different stages, stage variable is the way to go.

24. - (Exam Topic 2)

A company is adding stored value for gift card) capability to its highly popular casual gaming website. Users need to be able to trade this value for other users' items on the platform. This would require both users' records be updated as a single transaction, or both users' records to be completely rolled back.

Which AWS database options can provide the transactional capability required for this new feature? (Select TWO)

A. Amazon DynamoDB with operations made with the ConsistentRead parameter set to true

B. Amazon ElastiCache for Memcached with operations made within a transaction block

C. Amazon Aurora MySQL with operations made within a transaction block

D. Amazon DynamoDB with reads and writes made using Transact" operations

E. Amazon Redshift with operations made within a transaction block

Answer: C D

25. - (Exam Topic 2)

A company runs an e-commerce website that uses Amazon DynamoDB where pricing for items is dynamically updated in real time. At any given time, multiple updates may occur simultaneously for pricing information on a particular product. This is causing the original editor's changes to be overwritten without a proper review process.

Which DynamoDB write option should be selected to prevent this overwriting?

A. Concurrent writes

B. Conditional writes

C. Atomic writes

D. Batch writes

Answer: B

Explanation:

https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/WorkingWithItems.html#Working WithIt

26. - (Exam Topic 2)

According to best practice, how should access keys be managed in AWS? (Choose two.)

A. Use the same access key in all applications for consistency.

B. Delete all access keys for the account root user.

C. Leave unused access keys in the account for tracking purposes.

D. Embed and encrypt access keys in code for continuous deployment.

E. Use Amazon IAM roles instead of access keys where possible.

Answer: B E

27. - (Exam Topic 2)

An on-premises application is implemented using a Linux, Apache, MySQL and PHP (LAMP) stack. The Developer wants to run this application in AWS.

Which of the following sets of AWS services can be used to run this stack?

A. Amazon API Gateway, Amazon S3

B. AWS Lambda, Amazon DynamoDB

C. Amazon EC2, Amazon Aurora

D. Amazon Cognito, Amazon RDS

E. Amazon ECS, Amazon EBS

Answer: C

28. - (Exam Topic 2)

A web application is designed to allow new users to create accounts using their email addresses. The

application will store attributes for each user, and is expecting millions of user to sign up.

What should the Developer implement to achieve the design goals?

A. Amazon Cognito user pools

B. AWS Mobile Hub user data storage

C. Amazon Cognito Sync

D. AWS Mobile Hub cloud logic

Answer: A

29. - (Exam Topic 2)

An Amazon RDS database instance is used by many applications to look up historical data. The query rate

is relatively constant. When the historical data is updated each day, the resulting write traffic slows the read

query performance and affects all application users.

What can be done to eliminate the performance impact on application users?

A. Make sure Amazon RDS is Multi-AZ so it can better absorb increased traffic.

B. Create an RDS Read Replica and direct all read traffic to the replica.

C. Implement Amazon ElastiCache in front of Amazon RDS to buffer the write traffic.

D. Use Amazon DynamoDB instead of Amazon RDS to buffer the read traffic.

Answer: B

Explanation:

https://aws.amazon.com/rds/details/read-replicas/

30. - (Exam Topic 2)
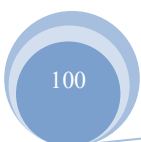
An AWS Lambda function must access an external site by using a regularly rotated user name and

password. These items must be kept securely and cannot be stored in the function code.

What combination of AWS services can be used to accomplish this? (Choose two.)

A. AWS Certificate Manager (ACM)

B. AWS Systems Manager Parameter Store

C. AWS Trusted Advisor

D. AWS KMS

E. Amazon GuardDuty

Answer: B D

Explanation:

https://docs.aws.amazon.com/kms/latest/developerguide/services-parameter-store.html

31. - (Exam Topic 2)

A developer is provided with an HTTPS clone URL for an AWS CodeCommit repository. What needs to be

configured before cloning this repository?

A. Use AWS KMS to set up public and private keys for use with CodeCommit.

B. Set up the Git credential helper to use an AWS credential profile, and enable the helper to send the path

to the repositories.

C. Generate encryption keys using AWS CloudHSM, then export the key for use with AWS CodeCommit.

D. Use AWS certificate manager to provision public and private SSL/TLS certificates.

Answer: B

Explanation:

AWS credential profile, and enabling the Git credential helper to send the path to repositories: Reference:

https://docs.aws.amazon.com/codecommit/latest/userguide/setting-up-https-unixes.html

32. - (Exam Topic 2)

A front-end web application is using Amazon Cognito user pools to handle the user authentication flow. A

developer is integrating Amazon DynamoDB into the application using the AWS SDK for JavaScript

How would the developer securely call the API without exposing the access or secret keys?

A. Configure Amazon Cognito identity pools and exchange the JSON Web Token (JWT) for temporary
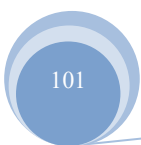
credentials

B. Run the web application in an Amazon EC2 instance with the instance profile configured

C. Hardcode the credentials use Amazon S3 to host the web application, and enable server-side encryption

D. Use Amazon Cognito user pool JSON Web Tokens (JWTs) to access the DynamoDB APIs.

Answer: C

33. - (Exam Topic 2)

A company stores all personally identifiable information (PII) in an Amazon DynamoDB table named PII in

Account A. An application running on Amazon EC2 instances in Account B requires access to the PII table.

An administrators in Account A created an IAM role named AccessPII with privileges to access the PII table,

and made account B a trusted entity.

Which combination of actional steps should Developers take to access the table? (Select TWO)

A. Ask an Administrator in Account B to allow the EC2 IAM role permission to assume the AccessPII role

B. Ask an Administrator in Account B to allow the EC2 IAM role permission to assume the AccessPII role

with predefined service control policies

C. Ask an Administrator in Account A to allow the EG2 IAM role permission to assume the AccessPII role

with predefined service control policies.

D. Include the AssumeRole API in the application code logic to obtain credentials to access the PII table

E. Include the GetSession token API in the application code logic to obtain credentials to access the PII

table

Answer: B E

34. - (Exam Topic 2)

A Development team wants to instrument their code to provide more detailed information to AWS X-Ray

than simple outgoing and incoming requests. This will generate large amounts of data, so the Development

team wants to implement indexing so they can filter the data.

What should the Development team do to achieve this?

A. Add annotations to the segment document and the code

B. Add metadata to the segment document and the code

C. Configure the necessary X-Ray environment variables

D. Install required plugins for the appropriate AWS SDK

Answer: A

Explanation:

https://docs.aws.amazon.com/xray/latest/devguide/xray-sdk-python-segment.html

https://docs.aws.amazon.com/xray/latest/devguide/xray-concepts.html#xray-concepts-annotations

35. - (Exam Topic 2)

A Developer is working on an application that handles 10MB documents that contain highly-sensitive data.

The application will use AWS KMS to perform client-side encryption.

What steps must be followed?

A. Invoke the Encrypt API passing the plaintext data that must be encrypted, then reference the customer managed key ARN in the KeyId parameter

B. Invoke the GenerateRandom API to get a data encryption key, then use the data encryption key to encrypt the data

C. Invoke the GenerateDataKey API to retrieve the encrypted version of the data encryption key to encrypt the data

D. Invoke the GenerateDataKey API to retrieve the plaintext version of the data encryption key to encrypt the data

Answer: D

Explanation:

https://docs.aws.amazon.com/AmazonS3/latest/dev/UsingClientSideEncryption.html

GenerateDataKey API: Generates a unique data key. This operation returns a plaintext copy of the data key and a copy that is encrypted under a customer master key (CMK) that you specify. You can use the plaintext key to encrypt your data outside of KMS and store the encrypted data key with the encrypted data.

36. - (Exam Topic 2)

An organization is storing large files in Amazon S3, and is writing a web application to display meta-data about the files to end-users. Based on the metadata a user selects an object to download. The organization needs a mechanism to index the files and provide single-digit millisecond latency retrieval for the metadata. What AWS service should be used to accomplish this?

A. Amazon DynamoDB

B. Amazon EC2

C. AWS Lambda

D. Amazon RDS

Answer: A

Explanation:

Amazon DynamoDB is a fast and flexible NoSQL database service for all applications that need consistent, single-digit millisecond latency at any scale. It is a fully managed database and supports both document and key-value data models. Its flexible data model and reliable performance make it a great fit for mobile, web, gaming, ad-tech, Internet of Things (IoT), and many other applications.

References:

37. - (Exam Topic 2)

A developer is setting up Amazon API Gateway for their company's products The API will be used by registered developers to query and update their environments. The company wants to limit the amount of requests end users can send for both cost and security reasons Management wants to offer registered developers the option of buying larger packages that allow for more requests.

How can the developer accomplish this with the LEAST amount of overhead management?

A. Enable throttling for the API Gateway stage. Set a value for both the rate and burst capacity. If a registered user chooses a larger package, create a stage for them, adjust the values, and share the new URL with them.

B. Set up Amazon CloudWatch API logging in API Gateway Create a filter based on the user and requestTime fields and create an alarm on this filter Write an AWS Lambda function to analyze the values and requester information, and respond accordingly Set up the function as the target for the alarm If a registered user chooses a larger package, update the Lambda code with the values.

C. Enable Amazon CloudWatch metrics for the API Gateway stage Set up CloudWatch alarms based off the Count metric and the ApiName, Method, Resource, and Stage dimensions to alerts when request rates pass the threshold Set the alarm action to Deny If a registered user chooses a larger package create a user-specific alarm and adjust the values

D. Set up a default usage plan, specify values for the rate and burst capacity, and associate it with a stage,

if a registered user chooses a larger package, create a custom plan with the appropriate values and

associate the plan with the user

Answer: D

38. - (Exam Topic 2)

A Developer has developed a web application and wants to deploy it quickly on a Tomcat server on AWS.

The Developer wants to avoid having to manage the underlying infrastructure.

What is the easiest way to deploy the application, based on these requirements?

A. AWS CloudFormation

B. AWS Elastic Beanstalk

C. Amazon S3

D. AWS CodePipeline

Answer: B

39. - (Exam Topic 2)

A Developer is trying to deploy a serverless application using AWS CodeDeploy. The application was

updated and needs to be redeployed.

What file does the Developer need to update to push that change through CodeDeploy?

A. dockerrun.aws.json

B. buildspec.yml

C. appspec.yml

D. ebextensions.config

Answer: C

Explanation:

https://docs.aws.amazon.com/codedeploy/latest/userguide/application-revisions-push.html

40. - (Exam Topic 2)

A Developer is making changes to a custom application that is currently using AWS Elastic Beanstalk.

After the Developer completes the changes, what solutions will update the Elastic Beanstalk environment

with the new application version? (Choose two.)
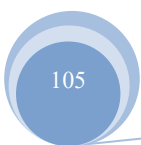
A. Package the application code into a .zip file, and upload, then deploy the packaged application from the

AWS Management Console

B. Package the application code into a .tar file, create a new application version from the AWS

Management Console, then update the environment by using AWS CLI

C. Package the application code into a .tar file, and upload and deploy the packaged application from the

AWS Management Console

D. Package the application code into a .zip file, create a new application version from the packaged

application by using AWS CLI, then update the environment by using AWS CLI

E. Package the application code into a .zip file, create a new application version from the AWS

Management Console, then rebuild the environment by using AWS CLI

Answer: C D

41. - (Exam Topic 2)

A company is developing a web application that allows its employees to upload a profile picture to a private

Amazon S3 bucket There is no size limit for the profile pictures, which should be displayed every time an

employee logs in. For security reasons, the pictures cannot be publicly accessible.

What is a viable long-term solution for this scenario"

A. Generate a presigned URL when a picture is uploaded Save the URL in an Amazon DynamoDB table

Return the URL to the browser when the employee logs in

B. Save the picture's S3 key in an Amazon DynamoDB table Create an Amazon S3 VPC endpoint to allow

the employees to download pictures once they log in.

C. Encode a picture using base64 Save the base64 string in an Amazon DynamoDB table Allow the

browser to retrieve the string and convert it to a picture

D. Save the picture's S3 key in an Amazon DynamoDB table. Use a function to generate a presigned URL

every time an employee logs in. Return the URL to the browser.

Answer: B

Explanation:

Reference:

https://aws.amazon.com/premiumsupport/knowledge-center/s3-private-connection-noauthentication/

42. - (Exam Topic 2)

A Development team is working on a case management solution that allows medical claims to be processed and reviewed. Users log in to provide information related to their medical and financial situations.

As part of the application, sensitive documents such as medical records, medical imaging, bank statements, and receipts are uploaded to Amazon S3. All documents must be securely transmitted and stored. All access to the documents must be recorded for auditing.

What is the MOST secure approach?

A. Use S3 default encryption using Advanced Encryption Standard-256 (AES-256) on the destination bucket.

B. Use Amazon Cognito for authorization and authentication to ensure the security of the application and documents.

C. Use AWS Lambda to encrypt and decrypt objects as they are placed into the S3 bucket.

D. Use client-side encryption/decryption with Amazon S3 and AWS KMS.

Answer: A

Explanation:

https://aws.amazon.com/s3/faqs/?nc1=h_ls.

43. - (Exam Topic 2)

An application is running on an EC2 instance. The Developer wants to store an application metric in Amazon CloudWatch.

What is the best practice for implementing this requirement?

A. Use the PUT Object API call to send data to an S3 bucket. Use an event notification to invoke a Lambda function to publish data to CloudWatch.

B. Publish the metric data to an Amazon Kinesis Stream using a PutRecord API call. Subscribe a Lambda function that publishes data to CloudWatch.

C. Use the CloudWatch PutMetricData API call to submit a custom metric to CloudWatch. Provide the required credentials to enable the API call.

D. Use the CloudWatch PutMetricData API call to submit a custom metric to CloudWatch. Launch the EC2 instance with the required IAM role to enable the API call.

Answer: D

Explanation:

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

44. - (Exam Topic 2)

A website's page load times are gradually increasing as more users access the system at the same time.

Analysis indicates that a user profile is being loaded from a database in all the web pages being visited by

each user and this is increasing the database load and the page load latency. To address this issue the

Developer decides to cache the user profile data.

Which caching strategy will address this situation MOST efficiently?

A. Create a new Amazon EC2 Instance and run a NoSQL database on it. Cache the profile data within this

database using the write-through caching strategy.

B. Create an Amazon ElastiCache cluster to cache the user profile data. Use a cache-aside caching

strategy.

C. Use a dedicated Amazon RDS instance for caching profile data. Use a write-through caching strategy.

D. Create an ElastiCache cluster to cache the user profile data. Use a write-through caching strategy.

Answer: B

Explanation:

https://docs.aws.amazon.com/AmazonElastiCache/latest/mem-ug/Strategies.html

45. - (Exam Topic 2)

A developer registered an AWS Lambda function as a target for an Application Load Balancer (ALB) using

a CLI command. However, the Lambda function is not being invoked when the client sends requests

through the ALB.

Why is the Lambda function not being invoked?

A. A Lambda function cannot be registered as a target for an ALB

B. A Lambda function can be registered with an ALB using AWS Management Console only

C. The permissions to invoke the Lambda function are missing

D. Cross-zone is not enabled on the ALB

Answer: C

Explanation:

Reference: https://docs.aws.amazon.com/elasticloadbalancing/latest/application/lambda-functions.html

46. - (Exam Topic 2)

A company provides APIs as a service and commits to a service level agreement (SLA) with all its users. To comply with each SLA, what should the company do?

A. Enable throttling limits for each method in Amazon API Getaway.

B. Create a usage plan for each user and request API keys to access the APIs.

C. Enable API rate limiting in Amazon cognito for each user.

D. Enable default throttling limits for each stage after deploying the APIs.

Answer: D

47. - (Exam Topic 2)

An Amazon DynamoDB table uses a Global Secondary Index (GSI) to support read queries. The primary table is write-heavy, whereas the GSI is used for read operations. Looking at Amazon CloudWatch metrics, the Developer notices that write operations to the primary table are throttled frequently under heavy write activity. However, write capacity units to the primary table are available and not fully consumed.

Why is the table being throttled?

A. The GSI write capacity units are underprovisioned

B. There are not enough read capacity units on the primary table

C. Amazon DynamoDB Streams is not enabled on the table

D. A large write operation is being performed against another table

Answer: A

Explanation:

https://stackoverflow.com/questions/39582752/do-global-secondary-index-gsi-in-dynamodb-impact-tables-provi

https://medium.com/@synchrophoto/amazon-dynamodb-provisioning-write-capacity-for-global-secondary-inde

48. - (Exam Topic 2)
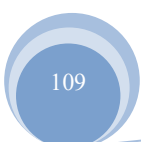
A software engineer developed an AWS Lambda function in Node.js to do some CPU-intensive data processing. With the default settings, the Lambda function takes about 5 minutes to complete. Which approach should a developer take to increase the speed of completion"

A. Instead of using Node js. rewrite the Lambda function using Python

B. Instead of packaging the libraries in the ZIP file with the function move them to a Lambda layer and use the layer with the function.

C. Allocate the maximum available CPU units lo the function

D. Increase the available memory to the function.

Answer: D

49. - (Exam Topic 2)

An application deployed on AWS Elastic Beanstalk experiences increased error rates during deployments of new application versions, resulting in service degradation for users. The Development team believes that this is because of the reduction in capacity during the deployment steps. The team would like to change the deployment policy configuration of the environment to an option that maintains full capacity during deployment while using the existing instances.

Which deployment policy will meet these requirements while using the existing instances?

A. All at once

B. Rolling

C. Rolling with additional batch

D. Immutable

Answer: D

Explanation:

https://docs.aws.amazon.com/elasticbeanstalk/latest/dg/using-features.rolling-version-deploy.html

50. - (Exam Topic 2)

A developer is testing a Docker-based application that uses the AWS SDK to interact with Amazon DynamoDB In the local development environment, the application has used IAM access keys The application is now ready for deployment onto an ECS duster.

How should the application authenticate with AWS services in production?
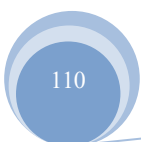
A. Configure an ECS task IAM role for the application to use

B. Refactor the application to call AWS STS AssumeRole based on an instance role

C. Configure AWS access key/secret access key environment variables with new credentials

D. Configure the credentials file with a new access key/secret access key

Answer: A

51. - (Exam Topic 2)

A developer wants to build an application that will allow new users to register and create new user accounts.

The application must also allow users with social media accounts to log in using their social media

credentials.

Which AWS service or feature can be used to meet these requirements?

A. AWS IAM

B. Amazon Cognito identity pools

C. Amazon Cognito user pools

D. AWS Directory Service

Answer: C

Explanation:

Reference:

https://aws.amazon.com/blogs/apn/how-to-authenticate-users-into-your-apps-using-applicationload-balanc

er-and

52. - (Exam Topic 2)

A developer has written an Amazon Kinesis Data Streams application. As usage grows and traffic

increases over time, the application is regularly receiving ProvisionedThroughputExceededException error

messages

Which steps should the developer take to resolve the error? (Select TWO.)

A. Use Auto Scaling to scale the stream for better performance

B. Increase the delay between the GetRecords call and the PutRecords call.

C. Increase the number of shards in the data stream

D. Specify a shard iterator using the ShardIterator parameter.

E. Implement exponential backoff on the GetRecords call and the PutRecords call.

Answer: B C

Explanation:

Reference: https://docs.aws.amazon.com/streams/latest/dev/troubleshooting-consumers.html

53. - (Exam Topic 2)

A development team is working on a mobile app that allows users to upload pictures to Amazon S3 The team expects the app will be used by hundreds of thousands of users during a single event simultaneously Once the pictures are uploaded, the backend service will scan and parse the pictures for inappropriate content.

Which approach is the MOST resilient way to achieve this goal which also smooths out temporary volume spikes for the backend service?

A. Develop an AWS Lambda function to check the upload folder in the S3 bucket. If new uploaded pictures are detected, the Lambda function will scan and parse them

B. Once a picture is uploaded to Amazon S3: publish the event to an Amazon SQS queue. Use the queue as an event source to trigger an AWS Lambda function In the Lambda function scan and parse the picture.

C. When the user uploads a picture, invoke an API hosted in Amazon API Gateway. The API will invoke an AWS Lambda function to scan and parse the picture

D. Create a state machine in AWS Step Functions to check the upload folder in the S3 bucket. If a new picture is detected, invoke an AWS Lambda function to scan and parse it.

Answer: B

54. - (Exam Topic 2)

A developer needs to create an application that supports Security Assertion Markup Language (SAML) and Facebook authentication It must also allow access to AWS services, such as Amazon DynamoDB.

Which AWS service or feature will meet these requirements with the LEAST amount of additional coding?

A. AWSAppSync

B. Amazon Cognito identity pools

C. Amazon Cognito user pools

D. Amazon Lambda@Edge

Answer: B

Explanation:

Reference:

https://aws.amazon.com/blogs/mobile/amazon-cognito-user-pools-supports-federation-with-saml/

55. - (Exam Topic 2)

An application needs to use the IP address of the client in its processing. The application has been moved

into AWS and has been placed behind an Application Load Balancer (ALB). However, all the client IP

addresses now appear to be the same. The application must maintain the ability to scale horizontally.

Based on this scenario, what is the MOST cost-effective solution to this problem?

A. Remove the application from the ALB. Delete the ALB and change Amazon Route 53 to direct traffic to

the instance running the application.

B. Remove the application from the ALB. Create a Classic Load Balancer in its place. Direct traffic to the

application using the HTTP protocol.

C. Alter the application code to inspect the X-Forwarded-For header. Ensure that the code can work

properly if a list of IP addresses is passed in the header.

D. Alter the application code to inspect a custom header. Alter the client code to pass the IP address in the

custom header.

Answer: C

56. - (Exam Topic 2)

A Developer is writing a REST service that will add items to a shopping list. The service is built on Amazon

API Gateway with AWS Lambda integrations. The shopping list items are send as query string parameters

in the method request.

How should the Developer convert the query string parameters to arguments for the Lambda function?

A. Enable request validation

B. Include the Amazon Resource Name (ARN) of the Lambda function

C. Change the integration type

D. Create a mapping template

Answer: D

Explanation:

https://docs.aws.amazon.com/apigateway/latest/developerguide/integrating-api-with-aws-services-lambda.

html#

57. - (Exam Topic 2)

An application runs on multiple EC2 instances behind an ELB.

Where is the session data best written so that it can be served reliably across multiple requests?

A. Write data to Amazon ElastiCache

B. Write data to Amazon Elastic Block Store.

C. Write data to Amazon EC2 Instance Store.

D. Write data to the root filesystem.

Answer: C

Explanation:

Reference:https://docs.aws.amazon.com/aws-technical-content/latest/microservices-on-aws/microservices

-on-aw

58. - (Exam Topic 2)

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: A

59. - (Exam Topic 2)

A developer is writing an application that will process data delivered into an Amazon S3 bucket. The data is

delivered approximately 10 times a day, and the developer expects the data will be processed in less than 1

minute, on average.

How can the developer deploy and invoke the application with the lowest cost and lowest latency?

A. Deploy the application as an AWS Lambda function and invoke it with an Amazon CloudWatch alarm triggered by an S3 object upload

B. Deploy the application as an AWS Lambda function and invoke it with an S3 event notification

C. Deploy the application as an AWS Lambda function and invoke it with an Amazon CloudWatch scheduled event

D. Deploy the application onto an Amazon EC2 instance and have it poll the S3 bucket for new objects.

Answer: A

Explanation:

Reference: https://docs.aws.amazon.com/lambda/latest/dg/with-s3.html

60. - (Exam Topic 2)

A developer is implementing authentication and authorization for an application. The developer needs to ensure that the user credentials are never exposed. Which approach should the developer take to meet this requirement?

A. Store the user credentials In Amazon DynamoDB Build an AWS Lambda function to validate the credentials and authorize users

B. Deploy a custom authentication and authorization API on an Amazon EC2 instance. Store the user credentials in Amazon S3 and encrypt the credentials using Amazon S3 server-side encryption.

C. Use Amazon Cognito to configure a user pool, and use the Cognito API to authenticate and authorize the users.

D. Store the user credentials In Amazon RDS Enable the encryption option for the Amazon RDS D8 instances Build an API using AWS Lambda to validate the credentials and authorize users

Answer: C

61. - (Exam Topic 2)

A company s website runs on an Amazon EC2 instance and uses Auto Scale the environment during peak times Website users across the world are experiencing high to sea latency due to static content on the EC2 instance, even during non-peak hours.

Which combination of steps will resolve the latency issue? (Select TWO)

A. Double the Auto Scaling group's maximum number of servers.

B. Host the application code on AWS Lambda

C. Scale vertically by resizing the EC2 instances

D. Create an Amazon CloudFront distribution to cache the static content

E. Store the application's static content in Amazon S3

Answer: C D

Explanation:

Reference: https://aws.amazon.com/getting-started/tutorials/deliver-content-faster/

62. - (Exam Topic 2)

An application ingests a large number of small messages and stores them in a database. The application uses AWS Lambda. A development team is making changes to the application's processing logic. In testing, it is taking more than 15 minutes to process each message. The team is concerned the current backend may time out.

Which changes should be made to the backend system to ensure each message is processed in the MOST scalable way1?

A. Add the messages to an Amazon SQS queue Set up an Amazon EC2 instance to poll the queue and process messages as they arrive.

B. Add the messages to an Amazon SQS queue. Set up Amazon EC2 instances in an Auto Scaling group to poll the queue and process the messages as they arrive.

C. Create a support ticket to increase the Lambda timeout to 60 minutes to allow for increased processing time

D. Change the application to directly insert the body of the message into an Amazon RDS database.

Answer: A

63. - (Exam Topic 2)

A company has implemented AWS CodeDeploy as part of its cloud native CI/CD stack The company enables automatic rollbacks while deploying a new version of a popular web application from in place to Amazon EC2.

What occurs it the deployment of the new version fails due to code regression?
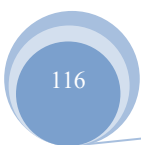
A. The last known good deployment is automatically restored using the snapshot stored in Amazon S3

B. CodeDeploy switches the Amazon Route 53 alias records back to the known good green deployment and terminates the failed blue deployment

C. A new deployment of the last known good version of the application is deployed with a new deployment ID

D. AWS CodePipeline promotes the most recent deployment with a SUCCEEDED status to production

Answer: B

64. - (Exam Topic 2)

An application is expected to process many files. Each file takes four minutes to process each AWS Lambda invocation. The Lambda function does not return any important data.

What is the fastest way to process all the files?

A. First split the files to make them smaller, then process with synchronous RequestResponse Lambda invocations.

B. Make synchronous RequestResponse Lambda invocations and process the files one by one.

C. Make asynchronous Event Lambda invocations and process the files in parallel.

D. First join all the files, then process it all at once with an asynchronous Event Lambda invocation.

Answer: C

65. - (Exam Topic 2)

A developer uses Amazon S3 buckets for static website hosting. The developer creates one S3 bucket for the code and another S3 bucket for the assets, such as image and video files. Access is denied when a user attempts to access the assets bucket from the code bucket, with the website application showing a 403 error

How should the developer solve this issue?

A. Create an IAM role and apply it to the assets bucket for the code bucket to be granted access

B. Edit the bucket policy of the assets bucket to open access to all principals

C. Edit the cross-origin resource sharing (CORS) configuration of the assets bucket to allow any origin to access the assets

D. Change the code bucket to use AWS Lambda functions instead of static website hosting.

Answer: C

66. - (Exam Topic 2)

A team of Developers must migrate an application running inside an AWS Elastic Beanstalk environment

from a Classic Load Balancer to an Application Load Balancer.

Which steps should be taken to accomplish the task using the AWS Management Console?

A. *1. Update the application code in the existing deployment.

   * 2. Select a new load balancer type before running the deployment.

   * 3. Deploy the new version of the application code to the environment.

B. *1. Create a new environment with the same configurations except for the load balancer type.

   * 2. Deploy the same application version as used in the original environment.

   * 3. Run the swap-environment-cnames action.

C. *1. Clone the existing environment, changing the associated load balancer type.

   *2. Deploy the same application version as used in the original environment.

   *3. Run the swap-environment-cnames action.

D. *1. Edit the environment definitions in the existing deployment.

   *2. Change the associated load balancer type according to the requirements.

   *3. Rebuild the environment with the new load balancer type.

Answer: B

Explanation:

https://docs.aws.amazon.com/elasticbeanstalk/latest/dg/using-features.managing.elb.html

By default, Elastic Beanstalk creates an Application Load Balancer for your environment when you enable

load balancing with the Elastic Beanstalk console or the EB CLI. It configures the load balancer to listen for

HTTP traffic on port 80 and forward this traffic to instances on the same port. You can choose the type of

load balancer that your environment uses only during environment creation. Later, you can change settings

to manage the behavior of your running environment's load balancer, but you can't change its type.

67. - (Exam Topic 2)

A Developer has been asked to create an AWS Lambda function that is triggered 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 triggered.

Which option would enable DynamoDB table updates to trigger 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 SNS topic to the DynamoDB streams

D. increase the maximum execution time (timeout) setting of the Lambda function

Answer: B

Explanation:

https://docs.aws.amazon.com/en_us/amazondynamodb/latest/developerguide/Streams.Lambda.Tutorial.html Create an event source mapping to tell Lambda to send records from your stream to a Lambda function. You can create multiple event source mappings to process the same data with multiple Lambda functions, or process items from multiple streams with a single function.

68. - (Exam Topic 2)

A developer has a legacy application that is hosted on-premises Other applications hosted on AWS depend on the on-premises application for proper functioning In case of any application errors, the developer wants to be able to use Amazon CloudWatch to monitor and troubleshoot all applications from one place.

How can the developer accomplish this?

A. Install an AWS SDK on the on-premises server to automatically send logs to CloudWatch .

B. Download the CloudWatch agent to the on-premises server Configure the agent to use IAM user credentials with permissions for CloudWatch

C. Upload log files from the on-premises server to Amazon S3 and have CloudWatch read the files

D. Upload log files from the on-premises server to an Amazon EC2 instance and have the instance forward the logs to CloudWatch.

Answer: B

Explanation:

Reference:

https://docs.aws.amazon.com/AmazonCloudWatch/latest/monitoring/install-CloudWatch-Agent-onpremise. Htm

69. - (Exam Topic 2)

A company runs continuous integration/continuous delivery (CI/CD) pipeline for its application on AWS

CodePipeline. A developer must write unit tests and run them as part of the pipelines before staging the

artifacts for testing.

How should the Developer incorporate unit tests as part of CI/CD pipeline?

A. Create a separate codePipline pipline to run unit tests.

B. Update the AWS codeBuild build specification to include a phase for running unit tests.

C. Install the AWS CodeDeploy agent on an Amazon EC2 instance to run unit tests.

D. Create a testing branch in AWS CodeCommit to run unit tests.

Answer: B

70. - (Exam Topic 2)

A company needs to ingest terabytes of data each hour from thousands of sources that are delivered

almost continually throughout the day. The volume of messages generated varies over the course of the

day. Messages must be delivered in real time for fraud detection and live operational dashboards.

Which approach will meet these requirements?

A. Send the messages to an Amazon SQS queue, then process the messages by using a fleet of Amazon

EC2 instances

B. Use the Amazon S3 API to write messages to an S3 bucket, then process the messages by using

Amazon Redshift

C. Use AWS Data Pipeline to automate the movement and transformation of data

D. Use Amazon Kinesis Data Streams with Kinesis Client Library to ingest and deliver messages

Answer: D

Explanation:

https://aws.amazon.com/streaming-data/

71. - (Exam Topic 2)

A company has 25:000 employees and is growing The company is creating an application that will be

accessible to its employees only A developer is using Amazon S3 to store images and Amazon RDS to
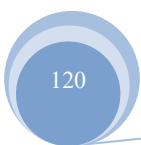
store application data. The company requires that all employee information remain in the legacy Security

Assertion Markup Language (SAML) employee directory only and is not interested in mirroring any

employee information on AWS.

How can the developer provide authorized access for the employees who will be using this application so

each employee can access their own application data only?

A. Use Amazon VPC and keep all resources inside the VPC. and use a VPC link for the S3 bucket with the

bucket policy.

B. Use Amazon Cognito user pools, federate with the SAML provider and use user pool groups with an IAM

policy

C. Use an Amazon Cognito identity pool, federate with the SAML provider, and use an IAM condition key

with a value for the cognito-identity.amazonaws com sub variable to grant access to the employees.

D. Create a unique IAM role for each employee and have each employee assume the role to access the

application so they can access their personal data only.

Answer: B

72. - (Exam Topic 2)

A company caches session information for a web application in an Amazon DynamoDB table. The

company wants an automated way to delete old items from the table.

What is the simplest way to do this?

A. Write a script that deletes old records; schedule the scripts as a cron job on an Amazon EC2 instance.

B. Add an attribute with the expiration time; enable the Time To Live feature based on that attribute.

C. Each day, create a new table to hold session data; delete the previous day's table.

D. Add an attribute with the expiration time; name the attribute ItemExpiration.

Answer: B

Explanation:

https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/time-to-live-ttl-how-to.html

73. - (Exam Topic 2)

An advertising company has a dynamic website with heavy traffic. The company wants to migrate the

website infrastructure to AWS to handle everything except website development.

Which solution BEST meets these requirements?

A. Use AWS VM Import to migrate a web server image to AWS Launch the image on a compute-optimized

Amazon EC2 instanceLaunch.

B. Launch multiple Amazon Lighsall instance behind a load balancer. Set up the website on those

instances.

C. Deploy the website code in an AWS Elastic Beanstalk environment. Use Auto Scaling to scale the

numbers of instance

D. Use Amazon S3 to host the website. Use Amazon CloudFornt to deliver the content at scale.

Answer: C

74. - (Exam Topic 2)

A developer needs temporary access to resources in a second account What is the MOST secure way to

achieve this?

A. Use the Amazon Cognito user pools to get short-lived credentials for the second account

B. Create a dedicated IAM access key for the second account, and send it by mail.

C. Create a cross-account access role, and use sts:AssumeRcie API to get short-lived credentials

D. Establish trust, and add an SSH key for the second account to the IAM user

Answer: C

Explanation:

Reference: https://docs.aws.amazon.com/IAM/latest/UserGuide/tutorial_cross-account-with-roles.html

75. - (Exam Topic 2)

A developer is updating an application deployed on AWS Elastic Beanstalk The new version is incompatible

with the old version To successfully deploy the update, a full cutover to the new updated version must be

performed on all instances at one time, with the ability to roll back changes in case of a deployment failure

in the new version

How can this be performed with the LEAST amount of downtime?

A. Use the Elastic Beanstalk All at once deployment policy to update all instances simultaneously

B. Perform an Elastic Beanstalk Rolling with additional batch deployment

C. Deploy the new version in a new Elastic Beanstalk environment and swap environment URLs

D. Perform an Elastic Beanstalk Rolling deployment

Answer: C

76. - (Exam Topic 2)

n application running on an Amazon Linux EC2 instance needs to manage the AWS infrastructure. How

can the EC2 instance be configured to make AWS API calls securely?

A. Sign the AWS CLI command using the signature version 4 process.

B. Run the aws configure AWS CLI command and specify the access key id and secret access key.

C. Specify a role for the EC2 instance with the necessary privileges.

D. Pass the access key id and secret access key as parameters for each AWS CLI command.

Answer: C

77. - (Exam Topic 2)

Where can PortMapping be defined when launching containers in Amazon ECS?

A. Security groups

B. Amazon Elastic Container Registry (Amzon ECR)

C. Container agent

D. Task definition

Answer: D

78. - (Exam Topic 2)

A developer is refactoring a monolithic application. The application takes a POST request and performs

several operations. Some of the operations are in parallel while others run sequentially. These operations

have been refactored into individual AWS Lambda functions. The POST request will be processed by

Amazon API Gateway.

How should the developer invoke the Lambda functions in the same sequence using API Gateway*?

A. Use Amazon SQS to invoke the Lambda functions

B. Use an AWS Step Functions activity to run the Lambda functions

C. Use Amazon SNS to trigger the Lambda functions

D. Use an AWS Step Functions state machine to orchestrate the Lambda functions.

Answer: A

79. - (Exam Topic 2)

A global company has an application running on Amazon EC2 instances that serves image files from

Amazon S3. User requests from the browser are causing high traffic, which results in degraded

performance.

Which optimization solution should a Developer implement to increase application performance?

A. Create multiple prefix in the S3 bucket to increase the request rate

B. Create an Amazon ElastiCache cluster to cache and serve frequently accessed items.

C. Use Amazon CloudFront to serve the content of images stored in Amazon S3.

D. Submit a ticket to AWS support to request a rate limit increase for the S3 bucket.

Answer: B

80. - (Exam Topic 2)

A Developer wants to debug an application by searching and filtering log data. The application logs are

stored in Amazon CloudWatch Logs. The Developer creates a new metric filter to count exceptions in the

application logs. However, no results are returned from the logs.

What is the reason that no filtered results are being returned?

A. A setup of the Amazon CloudWatch interface VPC endpoint is required for filtering the CloudWatch Logs

in the VPC

B. CloudWatch Logs only publishes metric data for events that happen after the filter is created

C. The log group for CloudWatch Logs should be first streamed to Amazon Elasticsearch Service before

metric filtering returns the results

D. Metric data points for logs groups can be filtered only after they are exported to an Amazon S3 bucket

Answer: B

Explanation:

https://docs.aws.amazon.com/AmazonCloudWatch/latest/logs/MonitoringLogData.html

81. - (Exam Topic 2)

A company is developing an application that will be accessed through the Amazon API Gateway REST API
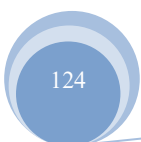
Registered users should be the only ones who can access certain resources of this API. The token being used should expire automatically and needs to be refreshed periodically.

How can a developer meet these requirements'?

A. Create an Amazon Cognito identity pool, configure the Amazon Cognito Authorizer in API Gateway, and use the temporary credentials generated by the identity pool

B. Create and maintain a database record for each user with a corresponding token and use an AWS Lambda authorizer m API Gateway

C. Create an Amazon Cognito user pool, configure the Cognito Authorizer in API Gateway, and use the identity or access token

D. Create an IAM user for each API user, attach an invoke permissions policy to the API. and use an IAM authorizer in API Gateway.

Answer: C

Explanation:

Reference:

https://aws.amazon.com/premiumsupport/knowledge-center/cognito-custom-scopes-api-gateway/

82. - (Exam Topic 2)

An organization is using Amazon CloudFront to ensure that its users experience low-latency access to its web application. The organization has identified a need to encrypt all traffic between users and CloudFront, and all traffic between CloudFront and the web application.

How can these requirements be met? (Choose two.)

A. Use AWS KMS to encrypt traffic between CloudFront and the web application.

B. Set the Origin Protocol Policy to "HTTPS Only".

C. Set the Origin's HTTP Port to 443.

D. Set the Viewer Protocol Policy to "HTTPS Only" or "Redirect HTTP to HTTPS".

E. Enable the CloudFront option Restrict Viewer Access.

Answer: A B

Explanation:

https://docs.aws.amazon.com/AmazonCloudFront/latest/DeveloperGuide/using-https-viewers-to-cloudfront.htm

https://docs.aws.amazon.com/AmazonCloudFront/latest/DeveloperGuide/using-https-cloudfront-to-custom
-origi

83. - (Exam Topic 2)

A developer has written an Amazon kinesis Data streams application. As usage grows and traffic over time,

the application is regularly receiving provisionedThroughputExceededException error messages.

Which steps should the Developer take to resolve the error? (Select Two.)

A. Use Auto scaling to scale the stream for better performance.

B. Increase the delay between the GetRecords call and the PutRecords call.

C. Increase the number of shards in the data stream.

D. Specify a shard iterator using the shardIterator parameter.

E. Implement exponential backoff on the GetRecords call and the PutRecords call.

Answer: B D

Explanation:

Reference: https://docs.aws.amazon.com/streams/latest/dev/troubleshooting-consumers.html

84. - (Exam Topic 2)

A developer has discovered that an application responsible for processing messages in an Amazon SQS

queue is routinely falling behind. The application is capable of processing multiple messages in one

execution, but is only receiving one message at a time

What should the developer do to increase the number of messages the application receives?

A. Call the ChangeMessageVisibility API for the queue and set MaxNumberOfMessages to a value greater

than the default of 1.

B. Call the AddPermission API to set MaxNumberOfMessages for the ReceiveMessage action to a value

greater than the default of 1.

C. Call the ReceiveMessage API to set MaxNumberOfMessages to a value greater than the default of 1

D. Call the SetQueueAttributes API for the queue and set MaxNumberOfMessages to a value greater than

the default of 1.

Answer: A
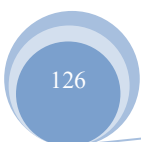
85. - (Exam Topic 2)

A company is launching an ecommerce website and will host the static data in Amazon S3. The company expects approximately 1 000 transactions per second (TPS) for GET and PUT requests in total. Logging must be enabled to track all requests and must be retained for auditing purposes.

What is the MOST cost-effective solution?

A. Enable AWS CloudTrail logging for the S3 bucket-level action and create a lifecycle policy to move the data from the log bucket to Amazon S3 Glacier in 90 days

B. Enable S3 server access logging and create a lifecycle policy to expire the data in 90 days

C. Enable AWS CloudTrail logging for the S3 bucket-level action and create a lifecycle policy to expire the data in 90 days

D. Enable S3 server access logging and create a lifecycle policy to move the data to Amazon S3 Glacier in 90 days.

Answer: C

Explanation:

Reference: https://docs.aws.amazon.com/AmazonS3/latest/dev/cloudtrail-request-identification.html

86. - (Exam Topic 2)

When developing an AWS Lambda function that processes Amazon Kinesis Data Streams, Administrators within the company must receive a notice that includes the processed data.

How should the Developer write the function to send processed data to the Administrators?

A. Separate the Lambda handler from the core logic

B. Use Amazon CloudWatch Events to send the processed data

C. Publish the processed data to an Amazon SNS topic

D. Push the processed data to Amazon SQS

Answer: C

Explanation:

https://stackoverflow.com/questions/13681213/what-is-the-difference-between-amazon-sns-and-amazon-sqs

https://stackoverflow.com/questions/31484868/can-you-publish-a-message-to-an-sns-topic-using-an-aws-lambd
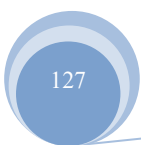
87. - (Exam Topic 2)

A Developer needs to deploy an application running on AWS Fargate using Amazon ECS. The application

has environment variables that must be passed to a container tor the application to initialize

How should the environment variables be passed to the container?

A. Define an array that includes the environment variables under the environment parameter within the

service definition

B. Define an array that includes the environment variables under the environment parameter within the task

definition

C. Define an array that includes the environment variables under the entrypoint parameter within the task

definition

D. Define in array that includes the environment variables under the entryPoint parameter within the service

definition

Answer: B

88. - (Exam Topic 2)

A Developer is trying to make API calls using SDK. The IAM user credentials used by the application

require multi-factor authentication for all API calls.

Which method the Developer use to access the multi-factor authentication protected API?

A. GetFederationToken

B. GetCallerIdentity

C. GetSessionToken

D. DecodeAutherizationMessage

Answer: B

89. - (Exam Topic 2)

A software company needs to make sure user-uploaded documents are securely stored in Amazon S3. The

documents must be encrypted at rest in Amazon S3. The company does not want to manage the security

infrastructure in-house, but the company still needs extra protection to ensure it has control over its

encryption keys due to industry regulations
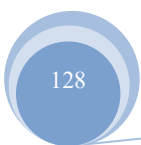
Which encryption strategy should a developer use to meet these requirements?

A. Server-side encryption with Amazon S3 managed keys (SSE-S3)

B. Server-side encryption with customer-provided encryption keys (SSE-C)

C. Server-side encryption with AWS KMS managed keys (SSE-KMS)

D. Client-side encryption

Answer: D

90. - (Exam Topic 2)

The development team is working on an API that will be served from Amazon API gateway. The API will be served from three environments: development, test, and production. The API Gateway is configured to use 237 GB of cache in all three stages.

Which is the MOST cost-efficient deployment strategy?

A. Create a single API Gateway with all three stages.

B. Create three API Gateways, one for each stage in a single AWS account.

C. Create an API Gateway in three separate AWS accounts.

D. Enable the cache for development and test environments only when needed.

Answer: D

91. - (Exam Topic 2)

A developer is migrating code to an AWS Lambda function that will access an Amazon Aurora MySQL database.

What is the MOST secure way to authenticate the function to the database?

A. Store the database credentials as encrypted parameters in AWS Systems Manager Parameter Store

Obtain the credentials from Systems Manager when the Lambda function needs to connect to the database

B. Store the database credentials in AWS Secrets Manager Let Secrets Manager handle the rotation of the

credentials, as required

C. Store the database credentials in an Amazon S3 bucket that has a restrictive bucket policy for the

Lambda role only when accessing the credentials Use AWS KMS to encrypt the data

D. Create a policy with rds-db connect access to the database and attach it to the role assigned to the

Lambda function

Answer: B

92. - (Exam Topic 2)

A developer implemented a static website hosted in amazon s3 that makes web service requests in

amazon api gateway and aws lambda. The site is showing an error that reads.

"No 'access control-allow-origin'header' header is present on the requested resource. Origin 'null is

therefore not allowed access "

What should the developer do to resolve this issue?

A. Enable cross-origin resource sharing (cors) on the s3 bucket

B. Enable cross-origin resource sharing (cors) for the method in api gateway

C. Add the access control-request-method header to the request

D. Add the access-control inquest headers header to the request

Answer: A

Explanation:

Reference: https://forums.aws.amazon.com/thread.jspa?threadid=252972

93. - (Exam Topic 2)

A developer is creating a new application that will be accessed by users through an API created using

Amazon API Gateway The users need to be authenticated by a third-party Security Assertion Markup

Language (SAML) identity provider Once authenticated, users will need access to other AWS services such

as Amazon S3 and Amazon DynamoDB

How can these requirements be met?

A. Use an Amazon Cognito user pool with SAML as the resource server

B. Use Amazon Cognito Identity pools with a SAML identity provider as one of the authentication providers

C. Use the AWS IAM service to provide the sign-up and sign-in functionality.

D. Use Amazon CloudFront signed URLs to connect with the SAML identity provider

Answer: B

94. - (Exam Topic 2)

A developer is setting up Amazon API gateway for their company's products. The API will be registered
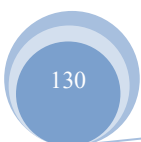
developers to query and update their environments. The company wants to limit the amount of requests end users send for.bot cost and security reason management wants to offer registered the option of buying larger packages that allow for more requests.

A. Enable throttling for the API Gateway stage Set a value tor both the rate and burst capacity If a registered larger package, create a stage for them, adjust the values, and share the new URL with them.

B. Set up Amazon CloudWatch API logging in API Gateway Create a filter based on the user and requestTime fields and create an alarm on this filter Write an AWS Lambda function to analyze the values and requester information, and respond accordingly Set up the function as the target tor the alarm If a registered user chooses a larger package, update the Lambda code with the values

C. Enable Amazon CloudWatch metrics for the API Gateway stage Set up CloudWatch alarms based oft the Count metric and the ApiName, Method, Resource, and Stage dimensions to alerts when request rates pass the threshold Set the alarm action to Deny If a registered user chooses a larger package, create a user-specific alarm and adjust the values

D. Set up a default usage plan specify values for the rate and burst capacity, and associate it with a stage If a registered user chooses a larger package, create a custom plan with the appropriate values and associate the plan with the user

Answer: A

95. - (Exam Topic 2)

An on-premises legacy application is caching data files locally and writing shared images to local disks.

What is necessary to allow for horizontal scaling when migrating the application to AWS?

A. Modify the application to have both shared images and caching data written to Amazon EBS.

B. Modify the application to read and write cache data on Amazon S3, and also store shared images on S3.

C. Modify the application to use Amazon S3 for serving shared images; cache data can then be written to local disks.

D. Modify the application to read and write cache data on Amazon S3, while continuing to write shared images to local disks.

Answer: C

96. - (Exam Topic 2)

A development team wants to immediately build and deploy an application whenever there is a change to the source code. Which approaches could be used to trigger the deployment? (Select TWO.)

A. Store the source code in an Amazon S3 bucket Configure AWS CodePipeline to start whenever a file in the bucket changes

B. Store the source code in an encrypted Amazon EBS volume Configure AWS CodePipeline to start whenever a file in the volume changes

C. Store the source code in an AWS CodeCommit repository Configure AWS CodePipeline to start whenever a change is committed to the repository.

D. Store the source code in an Amazon S3 bucket Configure AWS CodePipeline to start every 15 minutes

E. Store the source code in an Amazon EC2 instance's ephemeral storage. Configure the instance to start AWS CodePipeline whenever there are changes to the source code

Answer: B C

Explanation:

Reference: https://docs.aws.amazon.com/codepipeline/latest/userguide/tutorials-ecs-ecr-codedeploy.html

97. - (Exam Topic 2)

A Developer wants to upload data to Amazon S3 and must encrypt the data in transit. Which of the following solutions will accomplish this task? (Choose two.)

A. Set up hardware VPN tunnels to a VPC and access S3 through a VPC endpoint

B. Set up Client-Side Encryption with an AWS KMS-Managed Customer Master Key

C. Set up Server-Side Encryption with AWS KMS-Managed Keys

D. Transfer the data over an SSL connection

E. Set up Server-Side Encryption with S3-Managed Keys

Answer: B D

Explanation:

https://docs.aws.amazon.com/AmazonS3/latest/dev/UsingEncryption.html

98. - (Exam Topic 2)

A company is running an application built on AWS Lambda functions. One Lambda function has performance issues when it has to download a 50MB file from the Internet in every execution. This function

is called multiple times a second.

What solution would give the BEST performance increase?

A. Cache the file in the /tmp directory

B. Increase the Lambda maximum execution time

C. Put an Elastic Load Balancer in front of the Lambda function

D. Cache the file in Amazon S3

Answer: A

Explanation:

https://docs.aws.amazon.com/lambda/latest/dg/runtimes-context.html

99. - (Exam Topic 2)

A company is using AWS CodePipeline to deliver one of its applications. The delivery pipeline is triggered by changes to the master branch of an AWS CodeCommit repository and uses AWS CodeBuild to implement the test and build stages of the process and AWS CodeDeploy to deploy the application. The pipeline has been operating successfully for several months and there have been no modifications. Following a recent change to the application's source code, AWS CodeDeploy has not deployed the updates application as expected.

What are the possible causes? (Choose two.)

A. The change was not made in the master branch of the AWS CodeCommit repository.

B. One of the earlier stages in the pipeline failed and the pipeline has terminated.

C. One of the Amazon EC2 instances in the company's AWS CodePipeline cluster is inactive.

D. The AWS CodePipeline is incorrectly configured and is not executing AWS CodeDeploy.

E. AWS CodePipeline does not have permissions to access AWS CodeCommit.

Answer: A B

100. - (Exam Topic 2)

A company is using continuous integration and continuous delivery systems. A Developer now needs to automate a software package deployment to both Amazon EC2 instances and virtual servers running on-premises.

Which AWS service should be used to accomplish this?
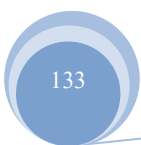
A. AWS CodePipeline

B. AWS CodeBuild

C. AWS Elastic Beanstalk

D. AWS CodeDeploy

Answer: D

101. - (Exam Topic 2)

A company has implemented AWS CodePipeline to automate its release pipelines The development team

is writing an AWS Lambda function that will send notifications for state changes of each of the actions in the

stages.

Which steps must be taken to associate the Lambda function with the event source?

A. Create a trigger that invokes the Lambda function from the Lambda console by selecting CodePipeline

as the event source

B. Create an event trigger and specify the Lambda function from the CodePipeline console.

C. Create an Amazon CloudWatch alarm that monitors status changes in CodePipeline and triggers the

Lambda function

D. Create an Amazon CloudWatch Events rule that uses CodePipeline as an event source.

Answer: B

102. - (Exam Topic 2)

A developer wants to send multi-value headers to an AWS Lambda function that is registered as a target

with an Application Load Balancer (ALB).

What should the developer do to achieve this?

A. Place the Lambda function and target group in the same account

B. Send the request body to the Lambda function with a size less than 1 MB 0

C. Include the Base64 encoding status status code, status description, and headers in the Lambda function

D. Enable the multi-value headers on the ALB

Answer: D

103. - (Exam Topic 2)

A company wants to implement authentication for its new REST service using Amazon API Gateway. To authenticate the calls, each request must include HTTP headers with a client ID and user ID. These credentials must be compared to authentication data in an Amazon DynamoDB table.

What MUST the company do to implement this authentication in API Gateway?

A. Implement an AWS Lambda authorizer that references the DynamoDB authentication table

B. Create a model that requires the credentials, then grant API Gateway access to the authentication table

C. Modify the integration requests to require the credentials, then grant API Gateway access to the authentication table

D. Implement an Amazon Cognito authorizer that references the DynamoDB authentication table

Answer: A

Explanation:

https://docs.aws.amazon.com/apigateway/latest/developerguide/apigateway-use-lambda-authorizer.html

104. - (Exam Topic 2)

A developer is writing a web application that must share secure documents with end users The documents are stored in a private Amazon S3 bucket The application must allow only authenticated users to download specific documents when requested, and only for a duration of 15 minutes

How can the developer meet these requirements?

A. Copy the documents to a separate S3 bucket that has a lifecycle policy for deletion after 15 minutes

B. Create a presigned S3 URL using the AWS SDK with an expiration time of 15 minutes

C. Use server-side encryption with AWS KMS managed keys (SSE-KMS) and download the documents using HTTPS

D. Modify the S3 bucket policy to only allow specific users to download the documents Revert the change after 15 minutes.

Answer: B

105. - (Exam Topic 2)

A company has a REST application comprised of an Amazon API Gateway and several AWS Lambda functions. A developer is responding to an alert that the API Gateway's HTTP response error rate has unexpectedly increased. The developer must determine must which Lambda function is malfunctioning.
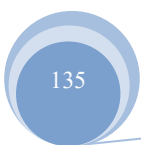
Which method would help the developer make this determination while minimizing delays?

A. Execute an Amazon Athena query against the API Gateway and Lambda execution logs.

B. Execute an Amazon CloudWatch Logs Insights query against the API Gateway and Lambda execution

logs.

C. Download the API Gateway and Lambda execution logs from Amazon S3, and perform a line-by-line

search against them.

D. Download the API Gateway and Lambda execution logs from Amazon CloudWatch Events, and perform

line-by-line search against them.

Answer: D

106. - (Exam Topic 2)

An application is using Amazon DynamoDB as its data store, and should be able to read 100 items per

second as strongly consistent reads. Each item is 5 KB in size.

To what value should the table's provisioned read throughput be set?

A. 50 read capacity units

B. 100 read capacity units

C. 200 read capacity units

D. 500 read capacity unitsc

Answer: C

107. - (Exam Topic 2)

A Developer has a stateful web server on-premises that is being migrated to AWS. The Developer must

have greater elasticity in the new design.

How should the Developer re-factor the application to make it more elastic? (Choose two.)

A. Use pessimistic concurrency on Amazon DynamoDB

B. Use Amazon CloudFront with an Auto Scaling group

C. Use Amazon CloudFront with an AWS Web Application Firewall

D. Store session state data in an Amazon DynamoDB table

E. Use an ELB with an Auto Scaling group

Answer: D E

108. - (Exam Topic 2)

An application is using single -node Amazon ElastiCache for Redis instance to improve read performance.

Over time, demand for the application has increased exponentially, which has increased the load on the

ElastiCache instance. It is critical that this cache layer handles the load and is resilient in case of node

failures.

What can the Developer do to address the load and resiliency requirements?

A. Add a read replica instance.

B. Migrate to a Memcached cluster.

C. Migrate to an Amazon ElastiCache service cluster.

D. Vertically scale the ElastiCache instance.

Answer: A

Explanation:

Reference:

https://docs.aws.amazon.com/AmazonElastiCache/latest/red-ug/Replication.Redis.Groups.html

109. - (Exam Topic 2)

A developer has created a new AWS IAM user that has s3 putobject permission to write to a specific

Amazon bucket. This S3 bucket uses server-side encryption with AWS KMS managed keys (SEE-KMS) as

the encryption. Using the access key and secret key of the IAM user, the application received an access

denied error when calling the PutObject API.

How can this issue be resolved?

A. Update the policy of the IAM user to allow the s3 Encrypt action.

B. Update the bucket policy of the S3 bucket to allow the IAM user to upload objects

C. Update the policy of the IAM user to allow the kms GenerateDatakey action

D. Update the ACL of the bucket to allow the IAM user to upload objects

Answer: C

110. - (Exam Topic 2)

An application displays a status dashboard. The status is updated by 1 KB messages from an SQS queue.
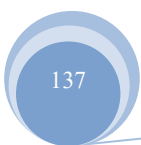
Although the status changes infrequently, the Developer must minimize the time between the message

arrival in the queue and the dashboard update.

What technique provides the shortest delay in updating the dashboard?

A. Retrieve the messages from the queue using long polling every 20 seconds.

B. Reduce the size of the messages by compressing them before sending.

C. Retrieve the messages from the queue using short polling every 10 seconds.

D. Reduce the size of each message payload by sending it in two parts.

Answer: A

Explanation:

https://docs.aws.amazon.com/ko_kr/AWSSimpleQueueService/latest/SQSDeveloperGuide/sqs-short-and-l

ong-p

111. - (Exam Topic 2)

A Developer decides lo store highly secure data in Amazon S3 and wants to implement server-side

encryption (SSF) with granular control of who can access the master key Company policy requires that the

master key be created, rotated, and disabled easily when needed, all for security reasons.

Which solution should be used to moot these requirements?

A. SSE with Amazon S3 managed keys (SSE-S3)

B. SSFE with AWS KMS managed keys (SSE KMS)

C. SSE with AWS Secrets Manager

D. SSE with customer provided encryption keys

Answer: B

112. - (Exam Topic 2)

A company has a legacy application that was migrated to a fleet of Amazon EC2 instances. The application

stores data in a MySQL database that is currently installed on a single EC2 instance The company has

decided to migrate the database from the EC2 instance to MySQL on Amazon RDS.

What should the developer do to update the application to support data storage in Amazon RDS?

A. Update the database connection parameters in the application to point to the new RDS instance

B. Add a script to the EC2 instance that implements an AWS SDK for requesting database credentials.

C. Create a new EC2 instance with an IAM role that allows access to the new RDS database

D. Create an AWS Lambda function that will route traffic from the EC2 instance to the RDS database.

Answer: A

113. - (Exam Topic 2)

After installing the AWS CLI, a Developer tries to run the command aws configure but receives the following

error:

Error: aws: command not found

What is the most likely cause of this error?

A. The aws executable is not in the PATH environment variable.

B. Access to the aws executable has been denied to the installer.

C. Incorrect AWS credentials were provided.

D. The aws script does not have an executable file mode.

Answer: A

Explanation:

https://docs.aws.amazon.com/cli/latest/userguide/cli-chap-troubleshooting.html

114. - (Exam Topic 2)

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:

https://aws.amazon.com/blogs/networking-and-content-delivery/amazon-s3-amazon-cloudfront-a-match-m

ade-i

115. - (Exam Topic 2)
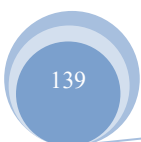
A company has developed a new serverless application using AWS Lambda functions that will be deployed using the AWS Serverless Application Model (AWS SAM) CLI Which step should the developer complete prior to deploying the application?

A. Compress the application to a .zip file and upload it into AWS Lambda

B. Test the new AWS Lambda function by first tracing it in AWS X-Ray.

C. Bundle the serverless application using a SAM package

D. Create the application environment using the eb create my-env command.

Answer: B

116. - (Exam Topic 2)

A Developer is creating a Lambda function that will generate and export a file. The function requires 100 MB of temporary storage for temporary files while executing. These files will not be needed after the function is complete.

How can the Developer MOST efficiently handle the temporary files?

A. Store the files in EBS and delete the files at the end of the Lambda function.

B. Copy the files to EFS and delete the files at the end of the Lambda function.

C. Store the files in the /tmp directory and delete the files at the end of the Lambda function.

D. Copy the files to an S3 bucket with a lifecycle policy to delete the files.

Answer: C

117. - (Exam Topic 2)

An ecommerce startup is preparing for an annual sales event As the traffic to the company's application increases, the development team wants to be notified when the Amazon EC2 instance's CPU utilization exceeds 80%.

Which solution will meet this requirement?

A. Create a custom Amazon CloudWatch alarm that sends a notification to an Amazon SNS topic when the CPU utilization exceeds 80%.

B. Create a custom AWS CloudTrail alarm that sends a notification to an Amazon SNS topic when the CPU utilization exceeds 80%

C. Create a cron job on the EC2 instance that executes the --describe-instance-information command on

the host instance every 15 minutes and sends the results to an Amazon SNS topic

D. Create an AWS Lambda function that queries the AWS CloudTrail logs for the CPUUtihzation metric

every 15 minutes and sends a notification to an Amazon SNS topic when the CPU utilization exceeds 80%

Answer: C

118. - (Exam Topic 2)

The upload of a 15 GB object to Amazon S3 fails. The error message reads: "Your proposed upload

exceeds the maximum allowed object size."

What technique will allow the Developer to upload this object?

A. Upload the object using the multi-part upload API.

B. Upload the object over an AWS Direct Connect connection.

C. Contact AWS Support to increase the object size limit.

D. Upload the object to another AWS region.

Answer: A

Explanation:

https://docs.aws.amazon.com/AmazonS3/latest/dev/UploadingObjects.html

119. - (Exam Topic 2)

A Developer must trigger an AWS Lambda function based on the item lifecycle activity in an Amazon

DynamoDB table.

How can the Developer create the solution?

A. Enable a DynamoDB stream that publishes an Amazon SNS message. Trigger the Lambda function

synchronously from the SNS message.

B. Enable a DynamoDB stream that publishes an SNS message. Trigger the Lambda function

asynchronously from the SNS message.

C. Enable a DynamoDB stream, and trigger the Lambda function synchronously from the stream.

D. Enable a DynamoDB stream, and trigger the Lambda function asynchronously from the stream.

Answer: C

Explanation:

https://docs.aws.amazon.com/lambda/latest/dg/with-ddb.html

120. - (Exam Topic 2)

A Developer must analyze performance issues with production-distributed applications written as AWS Lambda functions. These distributed Lambda applications invoke other components that make up the applications.

How should the Developer identify and troubleshoot the root cause of the performance issues in production?

A. Add logging statements to the Lambda functions, then use Amazon CloudWatch to view the logs.

B. Use AWS Cloud Trail and then examine the logs

C. Use AWS X-Ray, then examine the segments and errors

D. Run Amazon Inspector agents and then analyze performance

Answer: C

Explanation:

https://aws.amazon.com/blogs/developer/new-analyze-and-debug-distributed-applications-interactively-using-aw

ng-aw

121. - (Exam Topic 2)

A developer is building an application that needs to store date in Amazon S3. Management requires that the data be encrypted before is it sent to Amazon S3 for storage. The encryption keys need to be managed by the security team.

Which approach should the developer take to meet these requirements?

A. Implement server-side encryption using customer-provided encryption keys (SSE-C).

B. Implement server-side encryption by using client-side master key.

C. Implement client-side encryption using an AWS KMS managed customer master key (CMK).

D. Implement Client-side encryption using Amazon S3 managed keys.

Answer: C

Explanation:

Reference: https://aws.amazon.com/s3/faqs/

122. - (Exam Topic 2)
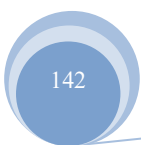
An application uses Amazon Kinesis Data Streams to ingest and process large streams of data records in real time. Amazon EC2 instances consume and process the data from the shards of the Kinesis data stream by using Amazon Kinesis Client Library (KCL). The application handles the failure scenarios and does not require standby workers. The application reports that a specific shard is receiving more data than expected. To adapt to the chnages in the rate of data flow, the "hot" shard is resharded.

Assuming that the initial number of shards in the Kinesis data stream is 4, and after resharding the number of shards increased to 6, what is the maximum number of EC2 instances that can be deployed to process data from all the shards?

A. 12

B. 6

C. 4

D. 1

Answer: B

Explanation:

Typically, when you use the KCL, you should ensure that the number of instances does not exceed the number of shards (except for failure standby purposes). Each shard is processed by exactly one KCL worker and has exactly one corresponding record processor, so you never need multiple instances to process one shard. However, one worker can process any number of shards, so it's fine if the number of shards exceeds the number of instances.

https://docs.aws.amazon.com/streams/latest/dev/kinesis-record-processor-scaling.html

123. - (Exam Topic 2)

A developer wants to ensure the Amazon EC2 instances in AWS Elastic Beanstalk execute a certain set of commands before the application is ready to use Which Elastic Beanstalk feature will allow the developer to accomplish this?

A. Rolling update

B. Immutable update

C. User data

D. ebextensions

Answer: D

124. - (Exam Topic 2)

To include objects defined by the AWS Serverless Application Model (SAM) in an AWS CloudFormation

template, in addition to Resources, what section MUST be included in the document root?

A. Conditions

B. Globals

C. Transform

D. Properties

Answer: C

Explanation:

https://github.com/awslabs/serverless-application-model/blob/master/versions/2016-10-31.md

https://docs.aws.amazon.com/serverless-application-model/latest/developerguide/sam-specification-templ

ate-an

125. - (Exam Topic 2)

A company requires that AWS Lambda functions written by developers log errors so system administrators

can more effectively troubleshoot issues What should the developers implement to meet this need?

A. Publish errors to a dedicated Amazon SQS queue

B. Create an Amazon CloudWatch Events event to trigger based on certain Lambda events.

C. Report errors through logging statements in Lambda function code.

D. Set up an Amazon SNS topic that sends logging statements upon failure

Answer: B

126. - (Exam Topic 2)

A Developer is migrating existing applications to AWS. These applications use MongoDB as their primary

data store, and they will be deployed to Amazon EC2 instances. Management requires that the Developer

minimize changes to applications while using AWS services

Which solution should the Developer use to host MongoDB in AWS?

A. Install MongoDB on the same instance where the application is running

B. Deploy Amazon DocumentDB in MongoDB compatibility mode

C. Use Amazon API Gateway to translate API calls from MongoDB to Amazon DynamoDB.

D. Replicate the existing MongoDB workload to Amazon DynamoDB

Answer: D

127. - (Exam Topic 2)

A Developer is investigating an issue whereby certain requests are passing through an Amazon API Gateway endpoint /MyAPI, but the requests do not reach the AWS Lambda function backing /MyAPI. The Developer found that a second Lambda function sometimes runs at maximum concurrency allowed for the given AWS account.

How can the Developer address this issue?

A. Manually reduce the concurrent execution limit at the account level

B. Add another API Gateway stage for /MyAPI, and shard the requests

C. Configure the second Lambda function's concurrency execution limit

D. Reduce the throttling limits in the API Gateway /MyAPI endpoint

Answer: C

Explanation:

https://aws.amazon.com/about-aws/whats-new/2017/11/set-concurrency-limits-on-individual-aws-lambda-functi You can now set a concurrency limit on individual AWS Lambda functions. The concurrency limit you set will reserve a portion of your account level concurrency limit for a given function. This feature allows you to throttle a given function if it reaches a maximum number of concurrent executions allowed, which you can choose to set.

128. - (Exam Topic 2)

A development team wants to run their container workloads on Amazon ECS Each application container needs to share data with another container to collect logs and metrics.

What should the development team do to meet these requirements?

A. Create two pod specifications Make one to include the application container and the other to include the other container Link the two pods together

B. Create two task definitions Make one to include the application container and the other to include the other container. Mount a shared volume between the two tasks

C. Create one task definition Specify both containers in the definition Mount a shared volume between those two containers

D. Create a single pod specification Include both containers in the specification Mount a persistent volume to both containers

Answer: C

129. - (Exam Topic 2)

A company needs a version control system for collaborative software development. Features of the system must include the following:

≫ Support for batches of changes across multiple files

≫ Parallel branching

≫ Version tracking

Which AWS service will meet these requirements?

A. AWS CodePipeline

B. Amazon S3

C. AWS Code Build

D. AWS CodeCommit

Answer: D

Explanation:

https://docs.aws.amazon.com/codecommit/latest/userguide/welcome.html

130. - (Exam Topic 2)

A company needs a new REST API that can return information about the contents of an Amazon S3 bucket, such as a count of the objects stored in it. The company has decided that the new API should be written as a microservice using AWS Lambda and Amazon API Gateway.

How should the Developer ensure that the microservice has the necessary access to the Amazon S3 bucket, while adhering to security best practices?

A. Create an IAM user that has permissions to access the Amazon S3 bucket, and store the IAM user credentials in the Lambda function source code.

B. Create an IAM role that has permissions to access the Amazon S3 bucket and assign it to the Lambda

function as its execution role.

C. Create an Amazon S3 bucket policy that specifies the Lambda service as its principal and assign it to the Amazon S3 bucket.

D. Create an IAM role, attach the AmazonS3FullAccess managed policy to it, and assign the role to the Lambda function as its execution role.

Answer: B

Explanation:

https://aws.amazon.com/premiumsupport/knowledge-center/lambda-execution-role-s3-bucket/

131. - (Exam Topic 2)

An application is being developed to audit several AWS accounts. The application will run in Account A and must access AWS services in Accounts B and C.

What is the MOST secure way to allow the application to call AWS services in each audited account?

A. Configure cross-account roles in each audited account. Write code in Account A that assumes those roles

B. Use S3 cross-region replication to communicate among accounts, with Amazon S3 event notifications to trigger Lambda functions

C. Deploy an application in each audited account with its own role. Have Account A authenticate with the application

D. Create an IAM user with an access key in each audited account. Write code in Account A that uses those access keys

Answer: A

Explanation:

https://docs.aws.amazon.com/IAM/latest/UserGuide/tutorial_cross-account-with-roles.html

132. - (Exam Topic 2)

A developer is working on an AWS Lambda function that accesses Amazon DynamoDB The Lambda function must retrieve an item and update some of its attributes. or create the item if it does not exist The Lambda function has access to the primary key.

Which IAM permissions should the developer request for the Lambda function to achieve this functionality?
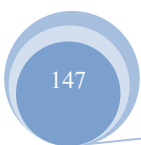
A. dynaracdb:DeleteItem dynamodb:GetItem dynamcdb:PutItem

B. dynamodb:UpdateItem dynamcdb:GetItem dynamodb:DescribeTable

C. dynamcdb:GetRecords dynamcdb:PutItem dynamodb:updateTable

D. dynamodb:UpdateItem dynamodb:GetItem dynamodb:PutItem

Answer: C

Explanation:

Reference: https://docs.aws.amazon.com/AWSJavaScriptSDK/latest/AWS/DynamoDB.html

133. - (Exam Topic 2)

An application uses Lambda functions to extract metadata from files uploaded to an S3 bucket; the

metadata is stored in Amazon DynamoDB. The application starts behaving unexpectedly, and the

Developer wants to

examine the logs of the Lambda function code for errors.

Based on this system configuration, where would the Developer find the logs?

A. Amazon S3

B. AWS CloudTrail

C. Amazon CloudWatch

D. Amazon DynamoDB

Answer: C

134. - (Exam Topic 2)

A stock market monitoring application uses Amazon Kinesis for data ingestion. During simulated tests of

peak data rates, the Kinesis stream cannot keep up with the incoming data.

What step will allow Kinesis to accommodate the traffic during peak hours?

A. Install the Kinesis Producer Library (KPL) for ingesting data into the stream.

B. Reduce the data retention period to allow for more data ingestion using

DecreaseStreamRetentionPeriod.

C. Increase the shard count of the stream using UpdateShardCount.

D. Ingest multiple records into the stream in a single call using PutRecords.

Answer: C

Explanation:

https://docs.aws.amazon.com/streams/latest/dev/developing-producers-with-kpl.html
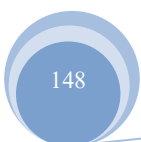
135. - (Exam Topic 2)

A company is running a Docker application on Amazon ECS. The application must scale based on user

load in the last 15 seconds.

How should a Developer instrument the code so that the requirement can be met?

A. Create a high-resolution custom Amazon CloudWatch metric for user activity data, then publish data

every 30 seconds

B. Create a high-resolution custom Amazon CloudWatch metric for user activity data, then publish data

every 5 seconds

C. Create a standard-resolution custom Amazon CloudWatch metric for user activity data, then publish data

every 30 seconds

D. Create a standard-resolution custom Amazon CloudWatch metric for user activity data, then publish data

every 5 seconds

Answer: B

Explanation:

https://docs.aws.amazon.com/AmazonCloudWatch/latest/monitoring/publishingMetrics.html#high-resolutio

n-m

136. - (Exam Topic 2)

A company is migrating from a monolithic architecture to a microservices-based architecture. The

Developers need to refactor the application so that the many microservices can asynchronously

communicate with each other without impacting performance.

Use of which managed AWS services will enable asynchronous message passing? (Choose two.)

A. Amazon SQS

B. Amazon Cognito

C. Amazon Kinesis

D. Amazon SNS

E. Amazon ElastiCache

Answer: A D

137. - (Exam Topic 2)

A developer is writing an application in AWS Lambda To simplify testing and deployments, the developer

needs the database connection string to be easily changed without modifying the Lambda code.

How can this requirement be met?

A. Store the connection string as a secret in AWS Secrets Manager

B. Store the connection string in an IAM user account.

C. Store the connection string in AWS KMS

D. Store the connection string as a Lambda layer.

Answer: A

138. - (Exam Topic 2)

n on-premises application makes repeated calls to store files to Amazon S3. As usage of the application

has increased, "LimitExceeded" errors are being logged.

What should be changed to fix this error?

A. Implement exponential backoffs in the application.

B. Load balance the application to multiple servers.

C. Move the application to Amazon EC2.

D. Add a one second delay to each API call.

Answer: A

139. - (Exam Topic 2)

A developer is creating as AWS lambda function that generates a new file each time it runs. Each new file

must be checked into an AWS CodeCommit repository hosted in the same AWS account.

How should the developer accomplish this?

A. When the Lambda function starts, use the Git CLI to Clone the repository. Check the new file into the

cloned repository and push the change.

B. After the new file is created in Lambda, use cURL to invoke the CodeCommit API. Send the file to the

repository.

C. Use an AWS SDK to instantiate a CodeCommit Client. Invoke the put _ file method to add the file to the repository.

D. Upload the new file to an Amazon S3 bucket. Create an AWS step Function to accept S3 events. In the step Function, add the new file to the repository.

Answer: D

140. - (Exam Topic 2)

A development team is creating a new application designed to run on AWS. While the test and production environments will run on Amazon EC2 instances, developers will each run their own environment on their laptops.

Which of the following is the simplest and MOST secure way to access AWS services from the local development machines?

A. Use an IAM role to assume a role and execute API calls using the role.

B. Create an IAM user to be shared with the entire development team, provide the development team with the access key.

C. Create an IAM user for each developer on the team: provide each developer with a unique access key

D. Set up a federation through an Amazon Cognito user pool.

Answer: A

141. - (Exam Topic 2)

A developer wants the ability to roll back to a previous version of an AWS Lambda function in the event of errors caused by a new deployment.

How can the developer achieve this with MINIMAL impact on users?

A. Change the application to use an alias that points to the current version Deploy the new version of the code Update the alias to use the newly deployed version. If too many errors are encountered, point the alias back to the previous version

B. Change the application to use an alias that points to the current version Deploy the new version of the code. Update the alias to direct 10% of users to the newly deployed version. If too many errors are encountered, send 100% of traffic to the previous version

C. Do not make any changes to the application Deploy the new version of the code. If too many errors are

encountered, point the application back to the previous version using the version number in the Amazon

Resource Name (ARN)

D. Create three aliases: new, existing, and router Point the existing alias to the current version Have the

router alias direct 100% of users to the existing alias Update the application to use the router alias Deploy

the new version of the code Point the new alias to this version Update the router alias to direct 10% of users

to the new alias If too many errors are encountered, send 100% of traffic to the existing alias

Answer: A

142. - (Exam Topic 2)

A developer has built an application running on AWS Lambda using AWS Serverless Application Model

(AWS SAM). What is the correct order of execution to successfully deploy the application?

A. * 1 Build the SAM template in Amazon EC2

   * 2 Package the SAM template to Amazon EBS storage

   * 3. Deploy the SAM template from Amazon EBS.

B. * 1 Build the SAM template locally

   * 2 Package the SAM template onto Amazon S3

   * 3. Deploy the SAM template from Amazon S3.

C. * 1 Build the SAM template locally

   * 2. Deploy the SAM template from Amazon S3.

   * 3 Package the SAM template for use

D. * 1 Build the SAM template locally

   * 2 Package the SAM template from AWS CodeCommit.

   * 3 Deploy the SAM template to CodeCommit

Answer: B

Explanation:

Reference:

https://docs.aws.amazon.com/serverless-application-model/latest/developerguide/serverlessdeploying.htm

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143. - (Exam Topic 2)
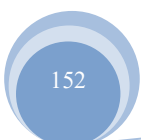
A company wants to migrate an imaging service to Amazon EC2 while following security best practices. The images are sourced and read from a non-public Amazon S3 bucket.

What should a developer do to meet these requirements?

A. Create an IAM user with read-only permissions for the S3 bucket Temporarily store the user credentials in the Amazon EBS volume of the EC2 instance

B. Create an IAM user with read-only permissions for the S3 bucket. Temporarily store the user credentials in the user data of the EC2 instance.

C. Create an EC2 service role with read-only permissions for the S3 bucket Attach the role to the EC2 instance

D. Create an S3 service role with read-only permissions for the S3 bucket Attach the role to the EC2 instance

Answer: A

144. - (Exam Topic 2)

A developer is storing sensitive data generated by an application in Amazon S3. The developer wants to encrypt the data at rest. A company policy requires an audit trail of when the master key was used and by whom.

Which encryption option will meet these requirements?

A. Server-side encryption with Amazon S3 managed keys (SSE-S3)

B. Server-side encryption with AWS KMS managed keys (SSE-KMS)

C. Server-side encryption with customer-provided keys (SSE-C)

D. Server-side encryption with self-managed keys

Answer: B

145. - (Exam Topic 2)

Queries to an Amazon DynamoDB table are consuming a large amount of read capacity. The table has a significant number of large attributes. The application does not need all of the attribute data.

How can DynamoDB costs be minimized while maximizing application performance?

A. Batch all the writes, and perform the write operations when no or few reads are being performed.

B. Create a global secondary index with a minimum set of projected attributes.

C. Implement exponential backoffs in the application.

D. Load balance the reads to the table using an Application Load Balancer.

Answer: C

Explanation:

https://docs.aws.amazon.com/AWSEC2/latest/APIReference/query-api-troubleshooting.html

146. - (Exam Topic 2)

A company stores all personally identifiable information (PII) in an Amazon DynamoDB table named PII in

Account A. An application running on Amazon EC2 instances in Account B requires access to the PII table.

An administrator in Account A created an IAM role named AccessPII with privileges to access the PII table

and made Account B a trusted entity.

Which combination of additional steps should developers take to access the table1? (Select TWO)

A. Ask an administrator in Account B to allow the EC2 IAM role permission to assume the AccessPII role

B. Ask an administrator in Account B to allow the EC2 IAM role permission to assume the AccessPII role

with predefined service control policies

C. Ask an administrator in Account A to allow the EC2 IAM role permission to assume the AccessPII role

with predefined service control policies

D. Include the AssumeRole API in the application code logic to obtain credentials to access the PII table.

E. Include the Gets ess ionToken API in the application code logic to obtain credentials to access the PII

table

Answer: A D

147. - (Exam Topic 2)

A company experienced partial downtime during the last deployment of a new application AWS Elastic

Beanstalk split the environment's Amazon EC2 instances into batches and deployed a new version one

batch at a time after taking them out of service. Therefore, full capacity was not maintained during

deployment.

The developer plans to release a new version of the application, and is looking for a policy that will maintain

full capacity and minimize the impact of the failed deployment

Which deployment policy should the developer use?
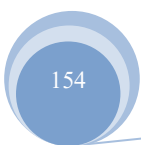
A. Immutable

B. All at Once

C. Rolling

D. Rolling with an Additional Batch

Answer: A

Explanation:

Immutable infrastructure has become a new norm in IT operations. Immutable Deployment is one of those approaches, and it simply means: Immutable: the "staging" environment, once ready to become production, doesn't change. If we need to change something, we then deploy new code on completely new infrastructure. The benefits of an immutable infrastructure include more consistency and reliability in your infrastructure and a simpler, more predictable deployment process

148. - (Exam Topic 2)

A Developer is publishing critical log data to a log group in Amazon CloudWatch Lops, which was created 2 months ago. The Developer must encrypt the log data using an AWS KMS customer master key (CMK) so future data can be encrypted to comply with me company's security policy

How can the Developer meet this requirement?

A. Use the Cloud Watch Logs console and enable the encrypt feature on the log group.

B. Use the AWS CLI create-log-group command and specify the key Amazon Resource Name (ARN)

C. Use the KMs console and associate the CMK with the log group

D. Use the AWS CLI associate-Kms-key command and specify the key Amazon Resource Name (ARN)

Answer: C

149. - (Exam Topic 2)

While developing an application that runs on Amazon EC2 in an Amazon VPC, a Developer identifies the need for centralized storage of application-level logs.

Which AWS service can be used to securely store these logs?

A. Amazon EC2 VPC Flow Logs

B. Amazon CloudWatch Logs

C. Amazon CloudSearch

D. AWS CloudTrail

Answer: B

150. - (Exam Topic 2)

A Developer is storing sensitive documents in Amazon S3 that will require encryption at rest. The

encryption keys must be rotated annually, at least.

What is the easiest way to achieve this?

A. Encrypt the data before sending it to Amazon S3

B. Import a custom key into AWS KMS with annual rotation enabled

C. Use AWS KMS with automatic key rotation

D. Export a key from AWS KMS to encrypt the data

Answer: C

Explanation:

https://docs.aws.amazon.com/kms/latest/developerguide/rotate-keys.html

https://docs.aws.amazon.com/kms/latest/developerguide/custom-key-store-overview.html

You can use the same techniques to view and manage the CMKs in your custom key store that you use for

CMKs in the AWS KMS key store. You can control access with IAM and key policies, create tags and

aliases, enable and disable the CMKs, and schedule key deletion. You can use the CMKs for cryptographic

operations and use them with AWS services that integrate with AWS KMS. However, you cannot enable

automatic key rotation and you cannot import key material into a CMK in a custom key store.

Q: Can I rotate my keys? Yes. You can choose to have AWS KMS automatically rotate CMKs every year,

provided that those keys were generated within AWS KMS HSMs. Automatic key rotation is not supported

for imported keys, asymmetric keys, or keys generated in an AWS CloudHSM cluster using the AWS KMS

custom key store feature. If you choose to import keys to AWS KMS or asymmetric keys or use a custom

key store, you can manually rotate them by creating a new CMK and mapping an existing key alias from the

old CMK to the new CMK. https://aws.amazon.com/kms/faqs/

151. - (Exam Topic 2)

A Developer is building a web application that uses Amazon API Gateway to expose an AWS Lambda

function to process requests from clients. During testing, the Developer notices that the API Gateway times

out even though the Lambda function finishes under the set time limit.

Which of the following API Gateway metrics in Amazon CloudWatch can help the Developer troubleshoot

the issue? (Choose two.)

A. CacheHitCount

B. IntegrationLatency

C. CacheMissCount

D. Latency

E. Count

Answer: B C

Explanation:

https://docs.aws.amazon.com/apigateway/latest/developerguide/api-gateway-metrics-and-dimensions.html

152. - (Exam Topic 2)

A Developer is creating a template that uses AWS CloudFormation to deploy an application. This

application is serverless and uses Amazon API Gateway, Amazon DynamoDB, and AWS Lambda.

Which tool should the Developer use to define simplified syntax for expressing serverless resources?

A. CloudFormation serverless intrinsic functions

B. AWS serverless express

C. An AWS serverless application model

D. A CloudFormation serverless plugin

Answer: A

153. - (Exam Topic 2)

A developer has written an application that runs on Amazon EC2 instances and generates a value every

minute. The Developer wants to monitor and graph the values generated over time without logging in to the

instance each time.

Which approach should the Developer use to achieve this goal?

A. Use the Amazon CloudWatch metrics reported by default for all EC2 instances View each value from the

CloudWatch console.

B. Develop the application to store each value in a file on Amazon S3 every minute with the Umestamp as

the name

C. Publish each generated value as a custom metric to Amazon CloudWatch using available AWS SDKs

D. Store each value as a variable and add the variable to the list of EC2 metrics that should be reported to

the Amazon CloudWatch console

Answer: C

154. - (Exam Topic 2)

A Developer must encrypt a 100-GB object using AWS KMS. What is the BEST approach?

A. Make an Encrypt API call to encrypt the plaintext data as ciphertext using a customer master key (CMK)

B. Make an Encrypt API call to encrypt the plaintext data as ciphertext using a customer master key (CMK)

with imported key material

C. Make a GenerateDataKey API call that returns a plaintext key and an encrypted copy of a data key. Use

a plaintext key to encrypt the data

D. Make a GenerateDataKeyWithoutPlaintext API call that returns an encrypted copy of a data key. Use an

encrypted key to encrypt the data

Answer: D

Explanation:

https://docs.aws.amazon.com/kms/latest/APIReference/API_GenerateDataKey.html

155. - (Exam Topic 2)

AWS CodeBuild builds code for an application, creates the Docker image, pushes the image to Amazon

Elastic Container Registry (Amazon ECR), and tags the image with a unique identifier.

If the Developers already have AWS CLI configured on their workstations, how can the Docker images be

pulled to the workstations?

A. Run the following:docker pull REPOSITORY URI : TAG

B. Run the output of the following:aws ecr get-loginand then run:docker pull REPOSITORY URI : TAG

C. Run the following:aws ecr get-loginand then run:docker pull REPOSITORY URI : TAG

D. Run the output of the following:aws ecr get-download-url-for-layerand then run:docker pull

REPOSITORY URI : TAG

Answer: B

Explanation:

https://docs.aws.amazon.com/cli/latest/reference/ecr/get-login.html
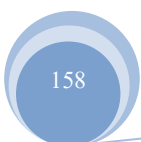
156. - (Exam Topic 2)

A Development team would like to migrate their existing application code from a GitHub repository to AWS

CodeCommit.

What needs to be created before they can migrate a cloned repository to CodeCommit over HTTPS?

A. A GitHub secure authentication token

B. A public and private SSH key file

C. A set of Git credentials generated from IAM

D. An Amazon EC2 IAM role with CodeCommit permissions

Answer: C

Explanation:

https://docs.aws.amazon.com/codecommit/latest/userguide/how-to-migrate-repository-existing.html

157. - (Exam Topic 2)

A company has an AWS CloudFormation template that is stored as a single file. The template is able to

launch and create a full infrastructure stack.

Which best practice would increase the maintainability of the template?

A. Use nested stacks for common template patterns.

B. Embed credentials to prevent typos.

C. Remove mappings to decrease the number of variables.

D. Use AWS::Include to reference publicly-hosted template files.

Answer: A

158. - (Exam Topic 2)

A gaming company is developing a mobile game application for iOS® and Android® platforms. This mobile

game securely stores user data locally on the device. The company wants to allow users to use multiple

device for the game, which requires user data synchronization across device.

Which service should be used to synchronize user data across devices without the need to create a
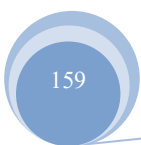
backend application?

A. AWS Lambda

B. Amazon S3

C. Amazon DynamoDB

D. Amazon Cognito

Answer: D

159. - (Exam Topic 2)

A Developer is migrating an on-premises application to AWS. The application currently takes user uploads and saves them to a local directory on the server. All uploads must be saved and made immediately available to all instances in an Auto scaling group.

Which approach will meet these requirements?

A. Use Amazon EBS and configure the application AMI to use a snapshot of the same EBS instance on boot.

B. Use Amazon S3 and rearchitect the application so all uploads are placed in S3.

C. Use instance storage and share it between instances launched from the same Amazon machine image (AMI).

D. Use Amazon EBS and file synchronization software to achieve eventual consistency among the auto scaling group.

Answer: B

Explanation:

Use Amazon S3 and rearchitect the application so all uploads are placed in S3. Even though you could do EBS attachment to ASG launch config userdata for ec2 instances going to serve , But you need to select the ASG in single AZ where your EBS is located otherwise it will not work since EBS is AZ locked.

160. - (Exam Topic 2)

A company has a two-tier application running on an Amazon EC2 server that handles all of its AWS based e-c ommerce activity During peak times, the backend servers that process orders are overloaded with requests. This results in some orders failing to process. A developer needs to create a solution that will re-factor the application.

Which steps will allow for more flexibility during peak times, while still remaining cost-effective? (Select TWO.)

A. Increase the backend T2 EC2 instance sees to xl to handle the largest possible load throughout the year

B. implement an Amazon SQS queue to decouple the front-end and backend servers

C. Use an Amazon SNS queue to decouple the front-end and backend servers.

D. Migrate the backend servers to on-premises and pull from an Amazon SNS queue

E. Modify the backend servers to pull from an Amazon SQS queue.

Answer: C D

161. - (Exam Topic 2)

A developer must ensure that the IAM credentials used by an application in Amazon EC2 are not misused or compromised What should the developer use to keep user credentials secure?

A. Environment variables

B. AWS credentials file

C. Instance profile credentials

D. Command line options

Answer: C

Topic 3, Exam Pool C

1. - (Exam Topic 3)

A developer is working on a serverless project based in Java. Initial testing shows a cold start takes about 8 seconds on average for AWS Lambda functions.

What should the developer do to reduce the cold start time" (Select TWO)

A. Add the Spring Framework to the project and enable dependency injection

B. Reduce the deployment package by including only the needed modules from the AWS SDK for Java.

C. Increase the memory allocation setting for the Lambda function.

D. Increase the timeout setting for the Lambda function.

E. Change the Lambda invocation mode from synchronous to asynchronous.

Answer: B C

2. - (Exam Topic 3)

When using the AWS Encryption SDK now 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 m Amazon S3

D. The data encryption key is stored in the userdata for the EC2 instance

Answer: B

3. - (Exam Topic 3)

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

4. - (Exam Topic 3)

A developer has written the following 1AM policy to provide access to an Amazon S3 bucket:
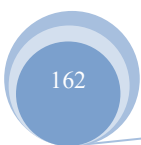
```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Allow",
            "Action": [
                "s3:GetObject",
                "s3:PutObject"
            ],
            "Resource": "arn:aws:s3:::DOC-EXAMPLE-BUCKET/*"
        },
        {
            "Effect": "Deny",
            "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:

Meaning:

DOC-EXAMPLE-BUCKET ==> bucket

DOC-EXAMPLE-BUCKET/* ==> contents in the bucket In this example,

ALLOW all "Objects" ==> DOC-EXAMPLE-BUCKET/*

DENY objects starting with secrets ==> DOC-EXAMPLE-BUCKET/secrets*

https://aws.amazon.com/blogs/security/iam-policies-and-bucket-policies-and-acls-oh-my-controlling-acces

s-to-s

5. - (Exam Topic 3)

A Lambda function processes data before sending it to a downstream service Each piece of data is

approximately 1 MB in size After a security audit, the function t]is now required to encrypt the data before

sending it downstream Which API call is required to perform the encryption?

A. Pass the data to the KMS ReEncrypi API for encryption

B. Use the KMS GenerateDataKey API to get an encryption key

C. Use the KMS GenerateDataKeyWithoutPlain.Text API to get an encryption key

D. Pass the data to KMS as part of the Encrypt API for encryption

Answer: D

6. - (Exam Topic 3)

A developer has designed a customer, facing application that is running on an Amazon EC2 instance. The

application logs every request made to it. The application usually runs seamlessly, but a spike in traffic

generates several logs that cause the disk to fill up and eventually run out of memory Company policy

requires old to be centralized for analysis.

Which long-term solution should the developer employ to prevent the issue from reoccurring?

A. Install the Amazon CloudWatch agent on the instance to send the logs to CloudWatch. Delete the logs

from the instance once they are sent to CloudWatch.

B. Enable AWS Auto Scaling on Amazon Elastic Block Store (Amazon EBS) to automatically add volumes

to the instance when it reaches a specified threshold.

C. Enable AWS Auto Scaling on Amazon Elastic Block Store (Amazon EBS) a automatically add volume

to the instance when it reaches a specified threshold.

D. Create an Amazon EventBridge (Amazon CloudWatch Events) rule to pull the logs from the instance.

Configure the rule to delete the logs they have been pulled.

Answer: D

7. - (Exam Topic 3)

A developer is building an application that processes a stream of user-supplied data The data stream must

be consumed by multiple Amazon EC2 based processing applications in parallel and in real time. Each

processor must be able to resume without losing data if there is a service interruption. The Application

Architect plans to add other processors in the near future, and wants to minimize the amount of data

duplication involved.

Which solution will satisfy these requirements?

A. Publish the data to Amazon SQS

B. Publish the data to Amazon Kinesis Data Firehose

C. Publish the data to Amazon CloudWatch Events.

D. Publish the data to Amazon Kinesis Data Streams.

Answer: A

8. - (Exam Topic 3)

A development team uses AWS Elastic Beanstalk for application deployment. The team has configured the

application version lifecycle policy to limit the number of application versions to 25 However even with the

lifecycle policy the source bundle is deleted from the Amazon S3 source bucket

What should a developer do in the Elastic Beanstalk application version lifecycle settings to retain the

source code in the S3 bucket?

A. Change the Set the application versions limit by total count setting to zero.

B. Disable the Lifecycle policy setting

C. Change the Set the application version limit by age setting to zero.

D. Set Retention to Retain source bundle in S3.

Answer: C

9. - (Exam Topic 3)

A developer is automating a new application deployment with AWS Serverless Application Model (AWS

SAM) The new application has one AWS Lambda function and one Amazon S3 bucket The Lambda

function must access the S3 bucket to only read objects

How should the developer configure AWS SAM to grant the necessary read privilege to the S3 bucket?

A. Reference a second Lambda authorizer function

B. Add a custom S3 bucket policy to the Lambda function

C. Create an Amazon Simple Queue Service (SQS) topic for only S3 object reads Reference the topic in

the template

D. Add the S3ReadPolicy template to the Lambda function's execution role

Answer: D

10. - (Exam Topic 3)

Which of the following are good use cases for how Amazon ElastiCache can help an application? (Select
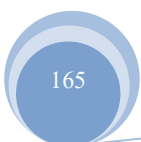
TWO.)

A. Improve the performance of S3 PUT operations

B. Improve the latency of deployments performed by AWS CodeDeploy

C. Improve latency and throughput for read-heavy application workloads.

D. Reduce the time required to merge AWS CodeCommit branches

E. Improve performance of compute-intensive applications.

Answer: C E

11. - (Exam Topic 3)

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

12. - (Exam Topic 3)

A developer is changing the configuration for a CPU-intensive AWS Lambda function that runs once an hour. The function usually takes 45 seconds to run, but sometimes the run time is up to 1 minute. The

timeout parameter is set to 3 minutes, and all other parameters are set to default.

The developer needs to optimize the run time of this function. Which solution will meet this requirement?

A. Redeploy the function within the default VPC

B. Increase the function's memory.

C. Redeploy the function by using Lambda layers

D. Increase the function's reserved concurrency

Answer: B

13. - (Exam Topic 3)

A developer converted an existing program to an AWS Lambda function in the console. The program runs properly on a local laptop, but shows an "Unable to import module" error when tested in the Lambda console

Which of the following can fix the error?

A. Install the missing module and specify the current directory as the target Create a ZIP file to include all files under the current directory, and upload the ZIP file.

B. Install the missing module in a lib directory Create a ZIP file to include all files under the lib directory, and upload the ZIP file as a dependency file

C. In the Lambda code invoke a Linux command to install the missing modules under the /usr/lib directory

D. In the Lambda console, create a LD_LIBRARY_PATH environment and specify the value for the system library path.

Answer: C

14. - (Exam Topic 3)

A company is developing a serverless ecommerce web application The application needs to make coordinated, all-or-nothing changes to multiple items in the company's inventory table in Amazon DynamoDB.

Which solution will meet these requirements?

A. Enable transactions for the DynamoDB table Use the BatchWriteItem operation to update the items.

B. Use the TransactWriteitem operation to group the changes Update the items in the table

C. Set up a FIFO queue using Amazon SQS. Group the changes in the queue. Update the table based on

the grouped changes

D. Create a transaction table in an Amazon Aurora DB cluster to manage the transactions Write a backend

process to sync the Aurora DB table and the DynamoDB table

Answer: B

Explanation:

TransactWriteItems is a synchronous write operation that groups up to 25 action requests. The

BatchWriteItem operation puts or deletes multiple items in one or more tables.

https://docs.aws.amazon.com/AWSJavaScriptSDK/latest/AWS/DynamoDB.html

15. - (Exam Topic 3)

A three-tier application hosted on AWS uses Amazon RDS for MYSQL as its database. A developer must

ensure the database credentials are stored and accessed securely.

What is the MOST secure way for the developer to achieve this?

A. Store the credentials in a configuration file and commit it to the GIT repository.

B. Store the credentials in AWS Secrets Manager and enable automatic secret rotation.

C. Store the credentials using Amazon RDS and enable automatic rotation

D. Store the credentials in code and handle credentials rotation within the application.

Answer: A

16. - (Exam Topic 3)

An AWS Lambda function accesses two Amazon DynamoDB tables. A developer wants to improve the

performance of the Lambda function by identifying bottlenecks in the function. How can the developer

inspect the timing of the DynamoDB API calls?

A. Add DynamoDB as an event source to the Lambda function. View the performance with Amazon

CloudWatch metrics

B. Place an Application Load Balancer (ALB) in front of the two DynamoDB tables. Inspect the ALB logs

C. Limit Lambda to no more than five concurrent invocations Monitor from the Lambda console

D. Enable AWS X-Ray tracing for the function. View the traces from the X-Ray service.

Answer: D

17. - (Exam Topic 3)

A developer Is working with a Docker application that needs to be quickly deployed using AWS without

changing the infrastructure or configuring health checks. The application should be configured so that

changes and updates can be made automatically without any downtime

Which solution will meet these requirements?

A. Use AWS Elastic Beanstalk for application deployment and select an all-at-once update policy.

B. Use AWS Elastic Beanstalk for application deployment and select a rolling deployment policy.

C. Deploy the Docker container on an Amazon EC2 instance in an Auto Scaling group and configure a

health check on the EC2 instance

D. Deploy the Docker container using AWS Lambda and enable Amazon CloudWatch monitoring

Answer: A

18. - (Exam Topic 3)

A company is adding items to an Amazon DynamoDB table from an AWS Lambda function that is written in

Python A developer needs to implement a solution that inserts records in the DynamoDB table and

performs automatic retry when the insert fails

Which solution meets these requirements with MINIMUM code changes?

A. Configure the Python code to run the AWS CLI through shell to call the PutItem operation

B. Call the PutItem operation from Python by using the DynamoDB HTTP API

C. Queue the items in AWS Glue: which will put them into the DynamoDB table

D. Use the AWS software development kit (SDK) for Python (boto3) to call the PutItem operation

Answer: D

19. - (Exam Topic 3)

A developer wants to use React to build a web and mobile application. The application will be hosted on

AWS The application must authenticate users and then allow users to store and retrieve files that they own

The developer wants to use Facebook for authentication

Which CLI will MOST accelerate the development and deployment of this application on AWS?

A. AWS CLI

B. AWS Amplify CLI

C. AWS Serverless Application Model (AWS SAM) CLI

D. Amazon Elastic Container Service (Amazon ECS) CLI

Answer: B

20. - (Exam Topic 3)

A developer creates an Amazon S3 bucket to store project status files that are uploaded hourly. The

developer also creates an AWS Lambda function that will be used to process the project status files

What should the developer do to invoke the function with the LEAST amount of AWS infrastructure'?

A. Create an Amazon EventBridge (Amazon CloudWatch Events) rule to invoke the function every 5

minutes and scan for new objects

B. Create an S3 event notification to invoke the function when a new object is created in the S3 bucket

C. Create an S3 event notification that publishes a message to an Amazon Simple Notification Service

(Amazon SNS) topic Subscribe the function to the SNS topic.

D. Create an S3 event notification that adds a message to an Amazon Simple Queue Service (Amazon

SQS) queue Configure the function to poll the queue

Answer: B

21. - (Exam Topic 3)

A developer is working on a serverless application lhat needs lo 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 tabled

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 (Amazon CloudWatch Events) rule to invoke the Lambda function on a

regular schedule Connect 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
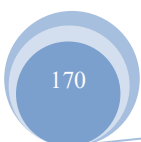
Answer: C

22. - (Exam Topic 3)

A developer has written an application that uses Amazon API Gateway and AWS Lambda The developer

needs to configure the application so that the developer can visualize the application's components and

Identify performance bottlenecks

What should the developer do to meet these requirements?

A. Enable AWS X-Ray tracing on the API Gateway stage

B. Enable AWS X-Ray tracing on the API Gateway methods

C. Enable Amazon CloudWatch Logs for API Gateway

D. Enable Amazon CloudWatch Logs for Lambda

Answer: A

23. - (Exam Topic 3)

A developer is trying to get data from an Amazon DynamoDB table called demoman-table The developer

configured the AWS CLI to use a specific 1AM user's credentials and executed the following command:

aws dynamodb get-item table-name demoman-table --key '("id": <"N"; "1993"}} ' The command returned

errors and no rows were returned

What is the MOST likely cause of these issues?

A. The command is incorrect; it should be rewritten to use : ut-i t am with a string argument.

B. The developer needs to log a ticket with AWS Support to enable access to the demoman-table.

C. Amazon DynamoDB cannot be accessed from the AWS CLI and needs to be called via the REST API

D. The 1AM user needs an associated policy with read access to demoman-table.

Answer: D

24. - (Exam Topic 3)

A company is using Amazon API Gateway to manage its public-facing API. The CISO requires that the

APIs be used by test account users only. What is the MOST secure way to restrict API access to users of

this particular AWS account?

A. Client-side SSL certificates for authentication

B. API Gateway resource policies
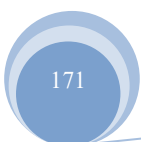
C. Cross-origin resource sharing (CORS)

D. Usage plans

Answer: D

25. - (Exam Topic 3)

A company is providing read access to objects in an Amazon S3 bucket for different customers The

company uses 1AM permissions to restnd access to the S3 bucket The customers can access only their

own files

Due to a regulation requirement the company needs to enforce encryption in transit for interactions with

Amazon S3

Which solution will meet these requirements'?

A. Add a bucket policy to the S3 bucket to deny S3 actions when the aws SecureTransport condition is

equal to false

B. Add a bucket policy to the S3 bucket to deny S3 actions when the s3 x-amz-aci condition is equal to

public-read

C. Add an IAM policy to the IAM users to enforce the usage of the AWS SDK

D. Add an IAM policy to the IAM users that allows S3 actions when the s3 x-arnz-acl condition is equal to

bucket-owner-read

Answer: C

26. - (Exam Topic 3)

A developer is trying to monitor an application's status by running a cron job that returns 1 if the service is

up and 0 if the service is down. The developer created code that uses an AWS CLI put-metric-alarm

command to publish the custom metrics to Amazon CloudWatch and create an alarm However the

developer is unable to create an alarm as the custom metrics do not appear m the CloudWatch console.

What is causing this issue?

A. Sending custom metrics using the CLI is not supported

B. The developer needs to use the put-metric-data command.

C. The developer must use a unified CloudWatch agent to publish custom metrics

D. The code is not running on an Amazon EC2 instance

Answer: B

27. - (Exam Topic 3)

A developer must allow guest users without logins to access an Amazon Cognito-enabled site to view files

stored within an Amazon S3 bucket

How should the developer meet these requirements'?

A. Create a blank user ID in a user pool, add to the user group, and grant access to AWS resources

B. Create a new identity pool, enable access to unauthenticated identities and grant access to AWS

resources

C. Create a new user pool, enable access to unauthenticated identities, and grant access to AWS

resources.

D. Create a new user pool disable authentication access, and grant access to AWS resources

Answer: C

28. - (Exam Topic 3)

A developer is deploying an application in the AWS Cloud by using AWS Cloud Formation The application

will connect to an existing Amazon RDS database The hostname of the RDS database is stored in AWS

Systems Manager Parameter Store as a plaintext value The developer needs to incorporate the database

hostname into the Cloud Formation template to initialize the application when the stack is created

How should the developer reference the parameter that contains the database hostname?

A. Use the ssm dynamic reference

B. Use the Ref intrinsic function

C. Use the Fn: ImportVatue intrinsic function

D. Use the ssm-secure dynamic reference.

Answer: C

29. - (Exam Topic 3)

A developer is troubleshooting a three-tier application, which is deployed on Amazon EC2 instances. There

is a connectivity problem between the application servers and the database servers.

Which AWS services or tools should be used to identify the faulty component? (Select TWO.)
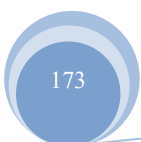
A. AWS CloudTrail.

B. AWS Trusted Advisor

C. Amazon VPC Flow Logs

D. Network access control lists

E. AWS Config rules

Answer: C D

30. - (Exam Topic 3)

A developer must extend an existing application that is based on the AWS Services Application Model

(AWS SAM). The developer has used the AWS SAM CLI to create the project. The project contains

different AWS Lambda functions.

Which combination of commands must the developer use to redeploy the AWS SAM application (Select

TWO.)

A. Sam init

B. Sam validate

C. Sam build

D. Sam deploy

E. Sam publish

Answer: A D

31. - (Exam Topic 3)

A developer is building an application integrating an Amazon API Gateway with an AWS Lambda function.

When calling the API, the developer receives the following error. Wed Nov 03 01:13:00 UTC 2017 : Method

completed with status: 502 What should the developer do to resolve the error?

A. Change the HTTP endpoint of the API to an HTTPS endpoint.

B. Change the format of the payload sent to the API Gateway.

C. Change the format of the Lambda function response to the API call.

D. Change the authorization header in the API call to access the Lambda function.

Answer: C

32. - (Exam Topic 3)

A physician's office management application requires that all data in transit between an EC2 instance and

an Amazon EBS volume be encrypted

Which of the following techniques fulfills this requirement? (Select TWO)

A. Create encrypted snapshots into Amazon S3

B. Use Amazon RDS with encryption

C. Use 1AM roles to limit access to the Amazon EBS volume

D. Enable EBS encryption

E. Leverage OS-level encryption

Answer: A D

33. - (Exam Topic 3)

A developer at a company writes an AWS ClojdForination template. The template refers to subnets that

were created by a separate AWS Cloud Formation template that the company's network team wrote. When

the developer attempts to launch the stack for the first time, the launch fails.

Which template coding mistakes could have caused this failure? (Select TWO.)

A. The developer's template does not use the Ref intrinsic function to refer to the subnets

B. The developer's template does not use the ImportValue intrinsic function to refer to the subnets

C. The Mappings section of the developer's template does not refer to the subnets.

D. The network team's template does not export the subnets in the Outputs section

E. The network team's template does not export the subnets in the Mappings section

Answer: B D

34. - (Exam Topic 3)

A developer has written a multi-threaded application that is running on a fleet of Amazon EC2 instances.

The operations team has requested a graphical method to monitor the number of running threads over

time.

What is the MOST efficient way to fulfill this request?

A. Periodically send the thread count to AWS X-Ray segments, then generate a service graph on demand

B. Create a custom Amazon CloudWatch metric and periodically perform a PutMetricData call with the

current thread count.

C. Periodically log thread count data to Amazon S3. Use Amazon Kinesis to process the data into a graph.

D. Periodically write the current thread count to a table using Amazon DynarnoDB and use Amazon

CloudFront to create a graph

Answer: D

35. - (Exam Topic 3)

A company process incoming documents from an Amazon S3 bucket. Users upload documents to an S3

bucket using a web user interface. Upon receiving files in S3, and AWS Lambda function is invoked to

process the files, but the Lambda function times out intermittently.

If the Lambda function is configured with the default settings, what will happen to the S3 event when there

is a timeout exception?

A. Notification of a failed S3 event is sent as an email through Amazon SNS.

B. The S3 event is sent to the default Deed Letter Queue.

C. The S3 event is processed unit it is successful.

D. The S3 event is discarded after the event is retried twice.

Answer: D

36. - (Exam Topic 3)

A developer is building a serverless application using AWS Lambda and must create a REST API using an

HTTP GET method What needs to be defined to meet this requirement? (Select TWO)

A. A Lambda@Edge function

B. An Amazon API Gateway with a Lambda function

C. An exposed GET method in an Amazon API Gateway ID.

D. An exposed GET method in the Lambda function

E. An exposed GET method in Amazon Route 53

Answer: B E

37. - (Exam Topic 3)

A developer is attempting to use the Amazon S3 PutObject API operation to upload an object to an S3
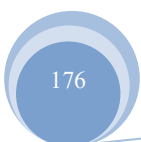
bucket that has default encryption enabled. The developer receives a 400 Bad Request error.

What is the MOST likely cause of this error?

A. The API operation cannot access the encryption key

B. The HTTP Content-Length header is missing.

C. The object exceeds the maximum object size that is allowed.

D. The S3 bucket exceeds the maximum storage capacity that is allowed

Answer: D

38. - (Exam Topic 3)

A company's ecommerce website is experiencing massive traffic spikes, which are causing performance

problems in the company database. Users are reporting that accessing the website takes a long time

A developer wants to implement a caching layer using Amazon ElastiCache. The website is required to be

responsive no matter which product a user views, and the updates to product information and prices must

be strongly consistent

A. Which cache writing policy will satisfy these requirements?

B. Write to the cache directly and sync the backend at a later time.

C. Write to the backend first and wait for the cache to expire.

D. Write to the cache and the backend at the same time

E. Write to the backend first and invalidate the cache

Answer: E

39. - (Exam Topic 3)

A company is using continuous integration/continuous deliver (CI/CD) system. A developer must automate

the deployment of an application software package to Amazon EC2 instances and virtual servers that run

on premises.

Which AWS services should the developer use to meet these requirements?

A. AWS Cloud9

B. AWS CodeBuild

C. AWS Elastic Beanstalk

D. AWS CodeDeploy

Answer: D

40. - (Exam Topic 3)

A developer is building a WebSocket API using Amazon API Gateway. The payload sent to this API is

JSON that includes an action key This key can have three different values create, update, and remove The

developer must integrate with different routes based on the value of the action key of the incoming JSON

payload.

How can the developer accomplish this task with the LEAST amount of configuration?

A. Deploy the WebSocket API to three stages for the respective routes create, update, and remove

B. Create a new route key and set the name as action

C. Set the value of the route selection expression to action

D. Set the value of the route selection expression to $request.body action

Answer: D

41. - (Exam Topic 3)

A company has three AWS Lambda functions that are written in Node js The Lambda functions include a

mix of custom code and open-source modules When bugs are occasionally detected in the open-source

modules, all three Lambda functions must be patched.

What is the MOST operationally efficient solution to deploy a patched open-source library for all three

Lambda functions?

A. Create a custom AWS CloudFormation public registry extension Reference a GitHub repository that

hosts the open-source modules m the extension Configure Formation to scan the repository once each day

Write an AWS Serverless Application Model (AWS SAM) template to redeploy the three Lambda functions

upon a scan notification change.

B. Create an Amazon CloudFront distribution with an Amazon S3 bucket as the origin Upload the patched

modules to Amazon S3 when needed Modify each Lambda function to download the patched modules from

the CloudFront distribution during the cold start.

C. Launch an Amazon EC2 instance Host a private open-source module registry on the EC2 instance

Upload the modified open-source modules to the private registry when needed. Modify each Lambda

function deployment script to download the modules from the private registry Redeploy the three new

Lambda functions.

D. Create a Lambda layer with the open-source modules Modify all three Lambda functions to depend on the layer Remove the open-source modules from each Lambda function Patch the Lambda layer with the modified open-source modules when needed Update the Lambda functions to reference the new layer version

Answer: D

42. - (Exam Topic 3)

A developer is building a highly secure healthcare application using .. application requires writing temporary data to /tmp storage on an AWS Lambda function.

How should the developer encrypt this data?

A. Enable Amazon EBS volume encryption with an AWS KMS .. configuration so that all storage attached to the Lambda function is encrypted.

B. Set up the Lambda function with a role and key policy to access an AWS KMS CMK Use the CMK to generate a data key used to encrypt all data prior to writing to /tmp storage

C. Use OpenSSL to generate a symmetric encryption key on Lambda startup Use this key to encrypt the data prior to writing to /tmp

D. Use an on-premises hardware security module (HSM) to generate keys where the Lambda function requests a data key from the HSM and uses that to encrypt data on all requests to the function

Answer: D

43. - (Exam Topic 3)

A developer is creating an application that is based on an AWS Lambda function. The function uses the AWS SDK to read product price data from an Amazon S3 bucket and to write user information to an Amazon Aurora DB instance The Lambda function runs often, up to a few times each minute To meet performance requirements, the developer must minimize the run duration of the Lambda function

Which actions can help the developer increase the performance? (Select TWO)

A. Initialize SDK clients and database connections outside of the function handler

B. Read the S3 product price data initially and cache it locally in the /imp directory

C. Use environment variables to pass operational parameters to the function.

D. Use most-restrictive permissions when setting the 1AM policies for the Lambda 1AM role

E. Split the code into different Lambda functions to keep the functions smaller

Answer: A C

44. - (Exam Topic 3)

A developer needs to manage AWS infrastructure as code and must be able to deploy multiple identical copies of the infrastructure, stage changes, and revert to previous versions.

Which approach addresses these requirements?

A. Use cost allocation reports and AWS OpsWorks to deploy and manage the infrastructure.

B. Use Amazon CloudWatch metrics and alerts along with resource tagging to deploy and manage the infrastructure.

C. Use AWS Elastic Beanstalk and AWS CodeCommit to deploy and manage the infrastructure.

D. Use AWS CloudFormation and AWS CodeCommit to deploy and manage the infrastructure.

Answer: D

45. - (Exam Topic 3)

A video-hosting website has two types of members: those who pay a fee. and those who do not Each video upload places a message in Amazon SQS A fleet of Amazon EC2 instances polls Amazon SQS and processes each video

The developer needs to ensure that the videos uploaded by the paying members are processed first How can the developer meet this requirement?

A. Create two SQS queues: one for paying members, and one for non-paying members Poll the paying member queue first and then poll the non-paying member queue

B. Use SQS to set priorities on individual items within a single queue: give the paying members' videos the highest priority.

C. Use SQS to set priorities on individual items within a single queue and use Amazon SNS to encode the videos

D. Create two Amazon SNS topics: one for paying members and one for non-paying members Use SNS topic subscription priorities to differentiate between the two types of members.

Answer: B
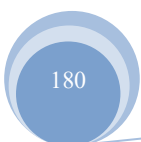
46. - (Exam Topic 3)

A developer has built an application using Amazon Cognito for authentication and authorization. After a

user is successfully logged in to the application, the application creates a user record in an Amazon

DynamoDB table.

What is the correct flow to authenticate the user and create a record in the DynamoDB table?

A. Authenticate and get a token from an Amazon Cognito user pool. Use the token to access DynamoDB.

B. Authenticate and get a token from an Amazon Cognito identity pool. Use the token to access

DynamoDB.

C. Authenticate and get a token from an Amazon Cognito user pool Exchange the token for AWS

credentials with an Amazon Cognito identity pool. Use the credential to access DynamoDB.

D. Authenticate and get a token from an Amazon Cognito identity pool. Exchange the token for AWS

credentials with an Amazon Cognito user pool. Use the credentials to access DynamoDB

Answer: B

47. - (Exam Topic 3)

A developer is writing an AWS Lambda function. The developer wants to log key events that occur during

the Lambda function and include a unique identifier to associate the events with a specific function

invocation.

Which of the following will help the developer accomplish this objective?

A. Obtain the request identifier from the Lambda context object Architect the application to write logs to the

console.

B. Obtain the request identifier from the Lambda event object Architect the application to write logs to a file

C. Obtain the request identifier from the Lambda event object Architect the application to write logs to the

console

D. Obtain the request identifier from the Lambda context object Architect the application to write logs to a

file.

Answer: A

48. - (Exam Topic 3)
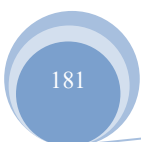
A developer is writing a new AWS Serverless Application Model (AWS SAM) template with a new AWS Lambda function The Lambda function runs complex code. The developer wants to test the Lambda function with more CPU power.

What should the developer do to meet this requirement?

A. Increase the runtime engine version

B. Increase the timeout

C. Increase the number of Lambda layers.

D. Increase the memory

Answer: D

49. - (Exam Topic 3)

A developer needs to modify an application architecture to meet new functional requirements. Application data is stored in Amazon DynamoDB and processed for analysis in a rightly batch. The system analysts do not want to wait unit the next day to view the processed data and have asked to have it available in near-real time.

Which application architect pattern would enables the data to be processed as it is received?

A. Evert driven

B. Client served driven

C. Fan-out driven

D. Schedule driven

Answer: A

50. - (Exam Topic 3)

A developer needs to deploy a new version to an AWS Elastic Beanstalk application How can the developer accomplish this task?

A. Upload and deploy the new application version in the Elastic Beanstalk console

B. Use the eb init CLI command to deploy a new version '

C. Terminate the current Elastic Beanstalk environment and create a new one

D. Modify the ebextensions folder to add a source option to services

Answer: A

51. - (Exam Topic 3)

A developer has created a REST API using Amazon API Gateway. The developer wants to log who and how each caller accesses the API. The developer also wants to control how long the logs are kept What should the developer do to meet these requirements?

A. Enable API Gateway execution logging Delete old logs using API Gateway retention settings

B. Enable API Gateway access logs Use Amazon CloudWatch retention settings to delete old logs

C. Enable detailed Amazon CloudWatch metrics Delete old logs with a recurring AWS Lambda function

D. Create and use API Gateway usage plans. Delete old logs with a recurring AWS Lambda function.

Answer: A

52. - (Exam Topic 3)

A company has a three-tier application that is deployed in Amazon Elastic Container Service (Amazon ECS). The application is using an Amazon RDS for MySQL DB Instance The application performs more database reads than writes.

During times of peak usage. the application's performance degrades. When this performance degradation occurs, the DB instance's ReadLatency metric in Amazon CloudWatch increases suddenly

How should a developer modify the application to improve performance?

A. Use Amazon ElastiCache to cache query results

B. Scale the ECS cluster to contain more ECS instances

C. Add read capacity units (RCUs) to the DB instance.

D. Modify the ECS task definition to increase the task memory

Answer: A

53. - (Exam Topic 3)

A developer is designing a distributed application built using a microservices architect spanning multiple AWS accounts. The company's operations team wants to analyze and debug application issues from a centralized account.

How can the developer meet these requirements?

A. Use an Amazon X-Ray agent with role assumption on to publish data into the centralized account.

B. Use Amazon X-Ray and create a new IAM user to publish the access keys into the centralized account.

C. Use VPC Flow Logs to collect application logs across different accounts.

D. Enable AWS CloudTrail to publish the trails in an Amazon S3 bucket in the centralized account.

Answer: A

54. - (Exam Topic 3)

A developer is working on a web application that runs on Amazon Elastic Container Service (Amazon ECS)

and uses an Amazon DynamoDB table to store data. The application performs a large number of read

requests against a small set of the table data.

How can the developer improve the performance of these requests'? (Select TWO)

A. Create an Amazon ElastiCache cluster Configure the application to cache data in the cluster.

B. Create a DynamoDB Accelerator (DAX) cluster Configure the application to use the DAX cluster for

DynamoDB requests

C. Configure the application to make strongly consistent read requests against the DynamoDB table

D. Increase the read capacity of the DynamoDB table

E. Enable DynamoDB adaptive capacity

Answer: A D

55. - (Exam Topic 3)

A team deployed an AWS CloudFormaiion template to update a stack that already included an Amazon

RDS DB instance However, before the deployment of the update the team changed the name of the DB

instance on the template by mistake The DeletionPolicy attribute for all resources was not changed from

the default values

What will be the result of this mistake?

A. AWS CloudFormation will create a new database and delete the old one

B. AWS CloudFormation will create a new database and keep the old one

C. AWS CloudFormation will overwrite the existing database and rename it

D. AWS CloudFormation will leave the existing database and will not create a new one

Answer: A

56. - (Exam Topic 3)

A company has a web application that uses an Amazon Cognito user pool for authentication. The company wants to create a login page with the company logo. What should a developer do to meet these requirements?

A. Create a hosted user interface in Amazon Cognito and customize it with the company logo

B. Create a login page with the company logo and upload it to Amazon Cognito

C. Create a login page in Amazon API Gateway with the logo and save the link in Amazon Cognito.

D. Upload the logo to the Amazon Cognito app settings and point to the logo on a custom login page

Answer: A

57. - (Exam Topic 3)

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 CloudWatch Events that will monitor the S3 bucket and then insert the records into DynamoDB

B. Configure an S3 event to invoke a Lambda function that inserts records into DynamoDB

C. Create a 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

58. - (Exam Topic 3)

A developer has created an AWS Lambda function that is written in Python The Lambda function reads data from objects in Amazon S3 and writes data to an Amazon DynamoDB table

The function is successfully invoked from an S3 event notification when an object is created However, the function fails when if attempts to write to the DynamoDB table

What is the MOST likely cause of this issue?

A. The Lambda function's concurrency limit has been exceeded

B. The DynamoDB table requires a global secondary index (GSI) to support writes.

C. The Lambda function does not have 1AM permissions to write to DynamoDB ID.

D. The DynamoDB table is not running in the same Availability Zone as the Lambda function.

Answer: C

59. - (Exam Topic 3)

A company has an application that is based on Amazon EC2 The company provides API access to the application through Amazon API Gateway and uses Amazon DynamoDB to store the application's data A developer is investigating performance issues that are affecting the application. During peak usage, the application is overwhelmed by a large number of identical data read requests that come through APIs What is the MOST operationally efficient way for the developer to improve the application's performance''

A. Use DynamoDB Accelerator (DAX) to cache database responses

B. Configure Amazon EC2 Auto Scaling policies to meet fluctuating demand

C. Enable API Gateway caching to cache API responses

D. Use Amazon ElastiCache to cache application responses.

Answer: D

60. - (Exam Topic 3)

What is required to trace Lambda-based applications with AWS X-Ray?

A. Send logs from the Lambda application to an S3 bucket trigger a Lambda function from that bucket to send data to AWS X-Ray.

B. Trigger a Lambda function from the application logs in Amazon CloudWatch to submit tracing data to AWS X-Ray

C. Use an IAM execution role to give the Lambda function permissions and enabled tracing.

D. Update and add AWS X-ray daemon code to relevant parts of the Lambda function to set up the trace.

Answer: D

61. - (Exam Topic 3)

A developer is planning to use an Amazon API Gateway and AWS Lambda to provide a REST API The developer will have three distinct environments to manage development, test, and production. How should the application be deployed while minimizing the number of resources to manage?

A. Create a separate API Gateway and separate Lambda function for each environment in the same

Region

B. Assign a Region for each environment and deploy API Gateway and Lambda to each Region

C. Create one API Gateway with multiple stages with one Lambda function with multiple aliases.

D. Create one API Gateway and one Lambda function, and use a REST parameter to identify tne

environment.

Answer: C

62. - (Exam Topic 3)

A developer is creating AWS CloudFormation templates to manage an application's deployment in Amazon

Elastic Container Service (Amazon ECS) through AWS CodeDeploy. The developer wants to automatically

deploy new versions of the application to a percentage of users before the new version becomes available

for all users.

How should the developer manage the deployment of the new version?

A. Modify the CloudFormation template to include a Transform section and the AWS

"CodeDeploy::BlueGreen hook.

B. Deploy the new version in a new CloudFormation stack After testing is complete, update the application's

DNS records for the new stack.

C. Run CloudFormation stack updates on the application stack to deploy new application versions when

they are available.

D. Create a nested stack for the new version. Include a Transform section and the AWS: CodeDeploy

BlueGreen hook.

Answer: B

63. - (Exam Topic 3)

A development team uses AWS Elastic Beanstalk to deploy a Java-based web application. The team wants

to ensure that the changes to the source code and the configuration are always deployed on new instances

The team configures the Elastic Beanstalk environment to use immutable updates. However an error

occurs the first time a change is deployed with the new update policy

What is the MOST likely cause of this issue?

A. Immutable updates are not supported for Java-based applications

B. The account has reached its on-demand instance limit

C. Immutable updates are only supported for m4 large and larger instance types.

D. The developer must also modify the ebextensions/immutable-updates config file to enable immutable

updates

Answer: A

64. - (Exam Topic 3)

A developer is designing a web application in which new users will use their email addresses to create

accounts Millions of users are expected to sign up. The application will store attributes for each user

Which AWS service or feature should the developer implement to meet these requirements?

A. Amazon Cognito user pools

B. AWS Mobile Hub User File Storage

C. AWS AppSync

D. AWS Mobile Hub Cloud Logic

Answer: A

65. - (Exam Topic 3)

A developer has launched an application that calls an API by way of Amazon API Gateway. It offers

information that changes several times a day, but is not updated in real time. The application has become

so popular that the API endpoint is overloaded and that traffic to the endpoint must be reduced.

What can the developer do to address the performance issues?

A. Enable API caching in Amazon ElastiCache.

B. Enable an Auto Scaling group on the endpoint service and database.

C. Create an additional API Gateway and use an Application Load Balancer

Answer: A

66. - (Exam Topic 3)

An application is using a custom library to make HTTP calls directly to AWS service endpoints. The

application is experiencing transient errors that are causing processes to stop when each error is first

encountered A request has been made to make the application more resilient by adding error retries and

exponential backoff.

How should a developer implement the changes with MINIMAL custom code?

A. Add a Retry-After HTTP header to API requests.

B. Use the AWS CLI to configure the retry settings in a named profile

C. Change the custom library to retry on 5xx errors only

D. Use an AWS SDK and set retry-specific configurations.

Answer: D

67. - (Exam Topic 3)

A company is developing a new web application in Python A developer must deploy the application using

AWS Elastic Beanstalk from the AWS Management Console The developer creates an Elastic Beanstalk

source bundle to upload using the console

Which of the following are requirements when creating the source bundle? (Select TWO.)

A. The source bundle must include the ebextensions.yaml file.

B. The source bundle must not include a top-level directory.

C. The source bundle must be compressed with any required dependencies in a top-level parent folder

D. The source bundle must be created as a single zip or war file

E. The source bundle must be uploaded into Amazon EFS.

Answer: B D

68. - (Exam Topic 3)

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?

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 EventBridge (Amazon CloudWatch Events) 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: C

69. - (Exam Topic 3)

A developer is using AWS CodeDeploy to deploy an application running on Amazon EC2. The developer wants to change the file permissions for a specific deployment file. Which lifecycle event should a developer use to meet this requirement?

A. AfterInstall

B. DownloadBundle

C. BeforeInstall

D. ValtdateService

Answer: A

70. - (Exam Topic 3)

A developer wants to modify the following AWS Cloud Formation template to embed another CloudFormation stack:

```
{
  "AWSTemplateFormatVersion" : "2010-09-09",
    "Resources" : {
      "cfStack" : {
          "Properties" : {
          "TemplateURL" : "https://s3.amazonaws.com/cloudformation-templates/cf.template",
          "Parameters" : {
            "InstanceType" : "t3.small"
          }
        }
      }
    }
}
```

Which syntax should the developer add to the blank line of the CloudFormation template to meet this requirement?

A. "Mapping" : "AWS::CloudFormation::Stack",

B. "Type" : "AWS;:CloudFcrmation::NestedStack",

C. "Typ©" : "AWS::CloudFormation::Stack",

D. "Mapping" : "AWS::CloudFormation::NestedStack",

Answer: A

71. - (Exam Topic 3)

A development team decides to adopt a continuous integration/continuous delivery (CI/CD) process using AWS CodePipehne and AWS CodeCommit for a new application. However, management wants a person to review and approve the code before it is deployed to production

How can the development team add a manual approver to the CI/CD pipeline?

A. Use AWS SES to send an email to approvers when their action is required Develop a simple application that allows approvers to accept or reject a build Invoke an AWS Lambda function to advance the pipeline when a build is accepted

B. If approved, add an approved tag when pushing changes to the CodeCommit repository. CodePipeiine will proceed to build and deploy approved commits without interruption

C. Add an approval step to CodeCommit Commits will not be saved until approved.

D. Add an approval action to the pipeline. Configure the approval action to publish to an Amazon SNS topic when approval is required. The pipeline execution will stop and wait for an approval

Answer: D

72. - (Exam Topic 3)

A company is launching a new web application in the AWS Cloud. The company's development team is using AWS Elastic Beanstalk for deployment and maintenance. According to the company's change management process, the development team must evaluate changes for a specific time period before completing the rollout.

Which deployment policy meets this requirement?

A. Immutable

B. Rolling

C. Rolling with additional batch

D. Traffic splitting

Answer: A

73. - (Exam Topic 3)

A gaming application stores scores for players in an Amazon DynamoDB table that has four attributes user_id, user_name, user_score, and user_rank. The users are allowed to update their names only A user is authenticated by web identity federation.

Which set of conditions should be added in the policy attached to the role for the dynamodb PutItem API call?

A)

```
    "Condition": {
     "ForAllValues:StringEquals": {
      "dynamodb:LeadingKeys": [
       "${www.amazon.com:user_id}"
      ],
      "dynamodb:Attributes": [
       "user_name"
      ]
     }
    }
```

B)

```
  "Condition": {
    "ForAllValues:StringEquals": {
      "dynamodb:LeadingKeys": [
        "${www.amazon.com:user_name}"
      ],
      "dynamodb:Attributes": [
        "user_id"
      ]
    }
  }
```

C)

```
  "Condition": {
    "ForAllValues:StringEquals": {
      "dynamodb:LeadingKeys": [
        "${www.amazon.com:user_id}"
      ],
      "dynamodb:Attributes": [
        "user_name", "user_id"
      ]
    }
  }
```

D)

```
  "Condition": {
    "ForAllValues:StringEquals": {
      "dynamodb:LeadingKeys": [
        "${www.amazon.com:user_name}"
      ],
      "dynamodb:Attributes": [
        "user_name", "user_id"
      ]
    }
  }
```

A. Option A

B. Option B

C. Option C

D. Option D

Answer: A

74. - (Exam Topic 3)

A company wants to migrate an existing web application to AWS. The application consists of two web

servers and a MySQL database

The company wants the application to automatically scale in response to demand The company also wants to reduce its operational overhead for database backups and maintenance The company needs the ability to deploy multiple versions of the application concurrently

What is the MOST operationally efficient solution that meets these requirements?

A. Deploy the application to AWS Elastic Beanstalk. Migrate the database to an Amazon RDS Multi-AZ DB instance

B. Create an Amazon Machine Image (AMI) that contains the application code. Create an Auto Scaling group that is based on the AMI Integrate the Auto Scaling group with an Application Load Balancer for the web servers. Migrate the database to a MySQL instance that runs on an Amazon EC2 instance.

C. Deploy the application to AWS Elastic Beanstalk. Migrate the database to a MySQL instance that runs on an Amazon EC2 instance.

D. Create an Amazon Machine Image (AMI) that contains the application code. Create an Auto Scaling group that is based on the AMI. Integrate the Auto Scaling group with an Application Load Balancer for the web servers. Migrate the database to an Amazon RDS Multi-AZ DB Instance

Answer: B

75. - (Exam Topic 3)

How does Envelope Encryption work in AWS KMS?

A. The Customer Master Key is used to encrypidecrypt a data key The Plaintext Data Key is used to encrypt customer data.

B. Two encryption keys are used The Customer Master Key encrypts customer data. The Data Key is used to re-encrypt the encrypted data.

C. Two encryption keys are used The Data Key encrypts customer data The Customer Master Key is used to re-encrypt the encrypted data

D. The Customer Master Key is used to encrypt'decrypt a data key. The Encrypted Data Key is used to encrypt customer data.

Answer: A

76. - (Exam Topic 3)

A developer is creating an application to process a large number of requests Requests must be processed in order, and each request should be processed only once How should Amazon SQS be deployed to achieve this?

A. Configure First in First out (FIFO) delivery in a standard Amazon SQS queue to process requests.

B. Use an SQS FIFO queue to process requests

C. Use the SetOrder attribute to ensure sequential request processing

D. Convert the standard queue to a FIFO queue by renaming the queue to use the fifo suffix.

Answer: B

77. - (Exam Topic 3)

A company has a web application In an Amazon Elastic Container Service (Amazon ECS) cluster running hundreds of secure services in AWS Fargate containers. The services are in target groups routed by an Application Load Balancer (ALB) Application users log in to the website anonymously, but they must be authenticated using any OpenID Connect protocol-compatible identity provider (IdP) to access the secure services

Which authentication approach would meet these requirements with the LEAST amount of effort?

A. Configure the services to use Amazon Cognito.

B. Configure the ALB to use Amazon Cognito

C. Configure the services to use AWS Security Token Service (AWS STS) with the OpenID Connect IdP.

D. Configure the Amazon ECS cluster to use AWS Security Token Service (AWS STS) with the OpenID Connect IdP

Answer: A

78. - (Exam Topic 3)

An application uploads photos to an Amazon S3 bucket. Each photo that is uploaded to the S3 bucket must be resized to a thumbnail image by the application Each thumbnail image is uploaded with a new name in the same S3 bucket.

Which AWS service can a developer configure to directly process each single S3 event (or each S3 object upload?

A. Amazon EC2

B. Amazon Elastic Container Service (Amazon ECS)

C. AWS Elastic Beanstalk

D. AWS Lambda

Answer: D

79. - (Exam Topic 3)

A developer must cache dependent artifacts from Maven Central, a public package repository, as part of an application's build pipeline. The build pipeline has an AWS CodeArtifact repository where artifacts of the build are published. The developer needs a solution that requires minimum changes to the build pipeline Which solution meets these requirements?

A. Modify the existing CodeArtifact repository to associate an upstream repository with the public package repository

B. Create a new CodeArtifact repository that has an external connection to the public package repository

C. Create a new CodeArtifact domain that contains a new repository that has an external connection to the public package repository

D. Modify the CodeArtifact repository resource policy to allow artifacts to be fetched from the public package repository

Answer: D

80. - (Exam Topic 3)

A developer has written an application that writes data to Amazon DynamoDB- The DynamoDB table has been configured to use conditional writes During peak usage times, writes are failing due to a CondittonatCheckFailedException error How can the developer increase the application's reliability when multiple clients are attempting to write to the same record?

A. Write the data to an Amazon SNS topic.

B. Increase the amount of write capacity for the table to anticipate short-term spikes or bursts m write operations

C. Implement a caching solution, such as DynamoDB Accelerator or Amazon ElastiCache.

D. Implement error retries and exponential backoff with jitter.

Answer: C
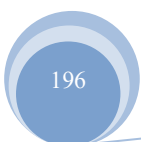
81. - (Exam Topic 3)

A developer is building an application. The application's front end is developed in JavaScript, and the data is stored in an Amazon DynamoDB table During testing, the application returns an HTTP 5xx error from the strongly consistent reads to the DynamoDB table; "Internal server error (Service: AmazonDynamoDBv2.

Status Code: 500; Error Code; InternalServerError)."

Which actions should the developer take to mitigate this error? (Select TWO)

A. Avoid strongly consistent reads

B. Use DynamoDB Accelerator (DAX)

C. Increase read/write capacity of DynamoDB to meet the peak load.

D. Retry the failed read requests with exponential backoff

E. Configure DynamoDB auto scaling

Answer: A D

82. - (Exam Topic 3)

A developer is working on an ecommerce website. The developer wants to review server logs without logging in to each of the application servers individually. The website runs on multiple Amazon EC2 instances, is written in Python, and needs to be highly available.

How can the developer update the application to meet these requirements with MINIMUM changes?

A. Rewrite the application to be cloud native and to run on AWS Lambda where the logs can be reviewed in Amazon CloudWatch.

B. Set up centralized logging by using Amazon Elasticsearch Service (Amazon ES), Logstash, and Kibana

C. Scale down the application to one larger EC2 instance where only one instance is recording logs.

D. Install the unified Amazon CloudWatch agent on the EC2 instances. Configure the agent to push the application logs to CloudWatch.

Answer: D

83. - (Exam Topic 3)

A company is launching a poling application. The application will store the results of each pool an Amazon DynamoDB table. Management wants to remove pool data after a few data and store an archive of those

records in Amazon S3.

Which approach would allow the application to archive each poll's data while keeping complexity to a

MINIMUM?

A. Enable Time to Live (TTL) on the DynamoDB table. Enable DynamoDB Streams on the table and store

the records removed from the stream in Amazon S3.

B. Schedule an AWS Lambda function to periodically scan the DynamoDB table. Use the BatchWritten

operation to delete the results of a scan Enable DynamoDB Stream on the table and store the records

removed from the stream in Amazon S3.

C. Enable DynamoDB Streams on the table. Configure the steam as trigger for AWS Lambda. Save

records to Amazon S3 when records on the stream are modified.

D. Enable cross-Region replication on the S3 bucket to achieve the poll data.

Answer: C

84. - (Exam Topic 3)

A company's fleet of Amazon EC2 instances receives data from millions of users through an API. The

servers batch the data, add an object for each user, and upload the objects to an S3 bucket to ensure high

access rates The object attributes are Customer ID, Server ID, TS-Server (TimeStamp and Server ID) the

size of the object, and a timestamp A developer wants to find all the objects for a given user collected

during a specified time range

After creating an S3 object created event, how can the developer achieve this requirement^

A. Execute an AWS Lambda function in response to the S3 object creation events that creates an Amazon

DynamoDB record for every object with the Customer ID as the partition key and the Server ID as the sort

key Retrieve all the records using the Customer ID and Server ID attributes

B. Execute an AWS Lambda function in response to the S3 object creation events that creates an Amazon

Redshift record for every object with the Customer ID as the partition key and TS-Server as the sort key

Retrieve all the records using the Customer ID and TS-Server attributes

C. Execute an AWS Lambda function in response to the S3 object creation events that creates an Amazon

DynamoDB record for every object with the Customer ID as the partition key and TS-Server as the sort key

Retrieve all the records using the Customer ID and TS-Server attributes

D. Execute an AWS Lambda function in response to the S3 object creation events that creates an Amazon

Redshift record for every object with the Customer ID as the partition key and the Server ID as the sort key.

Retrieve all the records using the Customer ID and Server ID attributes.

Answer: C

85. - (Exam Topic 3)

A company hosts a microservices application that uses Amazon API Gateway, AWS Lambda, Amazon Simple Queue Service (Amazon SOS), and Amazon DynamoDB, One of the Lambda functions adds messages to an SOS FIFO queue.

When a developer checks the application logs, the developer finds a few duplicated items in a DynamoDB table. The items were inserted by another polling function that processes messages from the queue.

What is the MOST likely cause of this issue?

A. Write operations on the DynamoDB table are being throttled

B. The SOS queue delivered the message to the function more than once

C. API Gateway duplicated the message in the SOS queue

D. The polling function timeout is greater than the queue visibility timeout

Answer: B

86. - (Exam Topic 3)

A developer is building an application that runs behind an application Load Balancer (ALB). The application is configured as the origin for an Amazon CloudFront distribution. Users will log in to the application using their social media accounts.

How can the developer authenticate and authorize users?

A. Validate the user by inspecting the tokens using AWS Lambda authorizers on the ALB

B. Configure the ALB to use Amazon Cognito as one of the authentication providers

C. Configure Cloudfront to use Amazon Cognito as one of the authentication providers

D. Authorize the users by calling the Amazon Cognito API in the AWS Lambda authorizer on the ALB

Answer: C

87. - (Exam Topic 3)

A developer is working on a serverless application. The application uses Amazon API Gateway. AWS

Lambda functions that are written in Python, and Amazon DynamoDB.

Which combination of steps should the developer take so that the Lambda functions can be debugged in the event of application failures? (Select TWO)

A. Configure an AWS CloudTrail trail to deliver log files to an Amazon S3 bucket

B. Ensure that the Lambda functions write log messages to stdout and stderr

C. Enable an AWS CloudTrail trail for the Lambda function

D. Ensure that the execution role for the Lambda function has access to write to Amazon CloudWatch Logs.

E. Use the Amazon CloudWatch metric for Lambda errors to create a CloudWatch alarm.

Answer: D E

88. - (Exam Topic 3)

A developer has written an application hosted on Amazon EC2 instances. The application generates and uploads thousands of new objects to an Amazon S3 bucket located in the same AWS region. The size of each object is less than 1 MB. The application is taking too long to run.

How can the performance of the application be improved?

A. Use the S3 Multipart Upload API

B. Use S3 Transfer Acceleration

C. Upload the objects in parallel to Amazon S3

D. Add a random prefix to the object keys

Answer: D

89. - (Exam Topic 3)

A developer is developing an application that uses signed requests (Signature Version 4) to call other AWS services The developer has created a canonical request, has created the string to sign, and has calculated signing information

Which methods could the developer use to complete a signed request? (Select TWO)

A. Add the signature to an HTTP header that is named Authorization

B. Add the signature to a session cookie

C. Add the signature to an HTTP header that 15 named Authentication

D. Add the signature to a query string parameter that is named X-Amz-Signature

E. Add the signature to an HTTP header that is named WWW-Authenticate

Answer: D E

90. - (Exam Topic 3)

A company has an internal website that gives users the ability to access contract Idata that is stored in an

Amazon RDS DB instance The number of contracts has increased and several users have reported slow

retrieval of the contract data

The company wants to set up a cache to improve the latency A developer must create a solution that

ensures data resiliency The data must be encrypted and must be partitioned by department

Which solution will meet these requirements?

A. Amazon ElastiCache for Memcached with cluster mode enabled

B. Amazon ElastiCache for Redis with cluster mode enabled

C. Amazon ElastiCache for Redis with cluster mode disabled

D. Amazon ElastiCache for Memcached with cluster mode disabled

Answer: C

91. - (Exam Topic 3)

A developer used the BalehWnteltern API operation to insert items in an Amazon DynamoDB table

OynamoDB returned a few items as unprocessed due to throttling The developer decides to retry the

records on the unprocessed items

What should the developer do to reprocess the records with the LEAST number of API calls'?

A. Retry the BatchWriteItem operation immediately

B. Perform the PutItem operation on the unprocessed items individually instead of using the BatchWriteItem

operation

C. Delay the BatchWriteItem operation by using progressively longer wait times between retries, or

exponential backoff

D. Delete the items that were successfully processed, and reissue a new BatchWriteItem operation

Answer: D

92. - (Exam Topic 3)
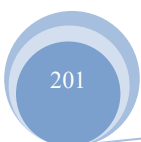
A development team is migrating a monolithic application to Amazon API Gateway with AWS Lambda integrations using the AWS CD The zip deployment package exceeds the Lambda direct upload deployment package size limit. How should the Lambda function be deployed?

A. Use the zip tile to create a Lambda layer and reference it using the -code CLI parameter

B. Create a Docker image and reference the image using the --docker-image CLI parameter

C. Upload a deployment package using the --zp-file CLI parameter

D. Upload a deployment package to Amazon S3 and reference Amazon S3 using the --code CLI parameter

Answer: D

93. - (Exam Topic 3)

A developer is using Amazon DynamoDB to store application data . The developer wants to further improve application performance by reducing response limes for read and write operations.

Which DynamoDB feature should be used to meet these requirement?

A. Amazon DynamoDB Streams

B. Amazon DynamoDB Accelerator

C. Amazon DynamoDB global tables

D. Amazon DynamoDB transactions

Answer: B

Explanation:

https://aws.amazon.com/ko/blogs/database/amazon-dynamodb-accelerator-dax-a-read-throughwrite-throu gh-cac

94. - (Exam Topic 3)

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

Where should the temporary file be stored?

A. the /tmp directory

B. Amazon EFS

C. Amazon EBS

D. Amazon S3

Answer: A

95. - (Exam Topic 3)

A developer is writing an application to analyze the traffic to a fleet of Amazon EC2 instances The EC2 instances run behind a public Application Load Balancer (ALB). An HTTP server runs on each of the EC2 instances, logging all requests to a log file.

The developer wants to capture the client public IP addresses. The developer analyzes the log files and notices only the IP address of the ALB

What must the developer do to capture the client public IP addresses in the log file?

A. Add a Host header to the HTTP server log configuration file

B. Install the Amazon CloudWatch Logs agent on each EC2 instance. Configure the agent to write to the log file.

C. Install the AWS X-Ray daemon on each EC2 instance Configure the daemon to write to the log file.

D. Add an X-Forwarded-For header to the HTTP server log configuration file.

Answer: C

96. - (Exam Topic 3)

An organization is using Amazon API Gateway to provide a public API called "Survey" for collecting user feedback posts about its products The survey API has "DEV" and "PROD" stages and consists of one resource "/feedback" which allows users to retrieve/create/update single feedback posts.

Aversion-controlled Swagger file is used to define a new API that retrieves multiple feedback posts To add the new API resource "/listFeedbackForProduct" the developer makes changes to the Swagger file defining an API uploads the fie to the organization's version control system, and uses the API Gateway Import API feature to apply the changes to the Survey API After successful import the developer runs the tests against the DEV stage and finds that resource VlistFeedbackForProduct" is not available.

What is MOST likely the reason for resource not being available?

A. Even though the Swagger import was successful, resource creation failed afterwards

B. There is a propagation delay of several minutes in creating API Gateway resources after import

C. The developer needs to restart the API Gateway stage after import in order to apply the changes.

D. The developer needs to create a new deployment after import in order to deploy the changes

Answer: A

97. - (Exam Topic 3)

A development team is building a new application that will run on Amazon EC2 and use Amazon DynamoDB as a storage layer The developers all have assigned IAM user accounts in the same IAM group The developers currently can launch EC2 instances and they need to be able to launch EC2 instances with an instance role allowing access to Amazon DynamoDB.

Which AWS I AM changes are needed when creating an instance role to provide this functionality^

A. Create an IAM permission policy attached to the role that allows access to DynamoDB Add a trust policy to the role that allows DynamoDB to assume the role Attach a permissions policy to the development group in AWS IAM that allows developers to use the IAM GetRole and IAM PassRole permissions for the role

B. Create an IAM permissions policy attached to the role that allows access to DynamoDB Add a trust policy to the role that allows Amazon EC2 to assume the role Attach a permissions policy to the development group in AWS IAM that allows developers to use the IAM PassRole permission for the role

C. Create an IAM permission policy attached to the role that allows access to Amazon EC2 Add a trust policy to the role that allows DynamoDB to assume the role Attach a permissions policy to the development group in AWS IAM that allows developers to use the IAM PassRole permission for the role

D. Create an IAM permissions policy attached to the role that allows access to DynamoDB Add a trust policy to the role that allows Amazon EC2 to assume the role Attach a permissions policy to the development group in AWS IAM that allows developers to use the iam GetRole permission for the role.

Answer: C

98. - (Exam Topic 3)

A developer tested an application locally and then deployed it to AWS Lambda While testing the application remotely the Lambda function fails with an access denied message. How can this issue be addresksed?

A. Update the Lambda function's execution role to include the missing permissions

B. Update the Lambda function's resource policy to include the missing permissions

C. Include an 1AM policy document at the root of the deployment package and redeploy the Lambda function.

D. Redeploy the Lambda function using an account with access to the AdministratorAccess policy

Answer: A

99. - (Exam Topic 3)

A developer is building an application that reads 90 Items of data each second from an Amazon DynamoDB

table. Each item Is 3 KB m size. The table is configured to use eventually consistent reads

How many read capacity units should the developer provision for the table?

A. 25

B. 35

C. 45

D. 85

Answer: C

100. - (Exam Topic 3)

An application is processing clickslream 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": "21269319889900063794467129654037794823 71",
        "ShardId": "shardId-000000000001"

        },
        {
        "ErrorCode":"ProvisionedThroughputExceededException",
        "ErrorMessage": "Rate exceeded for shard shardId-000000000001 in

                stream exampleStreamName under account 123456789."

        },
        {
        "SequenceNumber": "21269319889999963794467129654037794829 85",
        "ShardId": "shardId-000000000002"
        }
    ]
}
```

Which techniques will help mitigate this exception? (Select TWO.)

A. Implement retries with exponential backoff

B. Use a PutRecord API instead of PutRecords
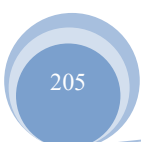
C. Reduce the frequency and/or size of the requests

D. Use Amazon SNS instead of Kinesis.

E. Reduce the number of KCL consumers.

Answer: A C

101. - (Exam Topic 3)

An application uses Amazon DynamoDB as its backend database The application experiences sudden spikes in traffic over the weekend and variable but predictable spikes during weekdays The capacity needs to be set to avoid throttling errors at all times

How can this be accomplished cost-effectively?

A. Use provisioned capacity with AWS Auto Scaling throughout the week.

B. Use on-demand capacity for the weekend and provisioned capacity with AWS Auto Scaling during the weekdays

C. Use on-demand capacity throughout the week

D. Use provisioned capacity with AWS Auto Scaling enabled during the weekend and reserved capacity enabled during the weekdays

Answer: A

102. - (Exam Topic 3)

A developer is building an application using an Amazon API Gateway REST API backed by an AWS Lambda function that interacts with an Amazon DynamoDB table During testing, the developer observes high latency when making requests to the API

How can the developer evaluate the end-to-end latency and identify performance bottlenecks?

A. Enable AWS CloudTrail logging and use the logs to map each latency and bottleneck

B. Enable and configure AWS X-Ray tracing on API Gateway and the Lambda function Use X-Ray to trace and analyze user requests

C. Enable Amazon CloudWatch Logs for the Lambda function Enable execution logs for API Gateway to view and analyze user request logs.

D. Enable VPC Flow Logs to capture and analyze network traffic within the VPC

Answer: B

103. - (Exam Topic 3)

An application contains two components one component to handle HI IP requests, and another component to handle background processing tasks Bach component must scale independently The developer wants to deploy this application using AWS Elastic Beanstalk.

How should this application be deployed, based on these requirements?

A. Deploy the application in a single Elastic Beanstalk environment

B. Deploy each component in a separate Elastic Beanstalk environment

C. Use multiple Elastic Beanstalk environments for the HTTP component but one environment for the background task component

D. Use multiple Elastic Beanstalk environments for the background task component but one environment tor the HTTP component

Answer: A

104. - (Exam Topic 3)

A developer implemented a static website hosted in Amazon S3 that makes web service requests hosted in Amazon API Gateway AWS Lambda. The site is showing an error that reads

"No ' Access-Control-Allow Origin' header is present on the requested resource Origin 'null' is therefore not allowed access " What should the developer do to resolve this issue?

A. Enable cross-origin resource sharing (CORS) on the S3 bucket

B. Enable cross-origin resource sharing (CORS) for the method in API Gateway

C. Add the Access-Control-Request-Method header to the request

D. Add the Access-Control-Request-Headers header to the request

Answer: B

Explanation:

https://docs.aws.amazon.com/apigateway/latest/developerguide/how-to-cors-console.html

105. - (Exam Topic 3)

Given the following AWS CloudFormation template:

What is the MOST efficient way to reference the new Amazon S3 bucket from another AWS

CloudFormation template?

A. Add an Export declaration to the outputs section of the original template and use ImportValue in other templates.

B. Add Exported: True to the ContentBucket in the original template and use ImportResource in other templates.

C. Create a custom AWS CloudFormation resource that gets the bucket name from the ContentBucket resource of the first stack.

D. Use Fn: : Include to include the existing template in other template and use the ContentBucket resource directly

Answer: D

106. - (Exam Topic 3)

A company is migrating the content delivery network for its dynamic PHP website to AWS An Amazon CloudFront web distribution is part of the new infrastructure The distnbution has the following cache behavior settings

• Allowed HTTP Methods is set to GET, HEAD

• Viewer Protocol Policy is set to HTTP and HTTPS

Developers test the solution and can reach the company's website over HTTP and HTTPS However the developers are unable to tog in lo the previously working administration panel of the website

Which action will resolve this login issue1?

A. Set Allowed HTTP Methods to GET. HEAD; OPTIONS

B. Set Viewer Protocol Policy to HTTPS Only

C. Set Allowed HTTP Methods to GET, HEAD: OPTIONS, PUT, POST PATCH, DELETE

D. Set Viewer Protocol Policy to Redirect HTTP to HTTPS

Answer: A

107. - (Exam Topic 3)

A developer receives the following error message when trying to launch or terminate an Amazon EC2 instance using a boto3 script.
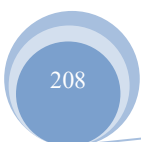
boto.exception.BotoServerError: BotoServerError: 503 Service Unavailable
<?xml version="1.0" encoding="UTF-8"?>
<Response><Errors><Error><Code>RequestLimitExceeded</Code>
<Message>Request limit exceeded.</Message></Error></Errors><RequestID>bfddec94-53b3-4701-b728-dceefb696ced</RequestID>
</Response>

What should the developer do to correct this error message?

A. Assign an IAM role to the EC2 instance to allow necessary API calls on behalf of the client.

B. Implement an exponential backoff algorithm for optimizing the number of API requests made to Amazon EC2.

C. Increase the overall network bandwidth to handle higher API request rates.

D. Upgrade to the latest AWS CLI version so that boto3 can handle higher request rates

Answer: D

108. - (Exam Topic 3)

A developer is creating an event handling system. To handle messages asynchronously, the developer created a standard Amazon SQS queue Quality assurance testing reveals that some events were processed multiple times.

What is the recommended way to ensure the events are not processed more than once?

A. Change long polling to short polling.

B. Use a FIFO queue and configure deduplication

C. Convert the standard SQS queue into a FIFO queue

D. Send the messages with message timers

Answer: C

109. - (Exam Topic 3)

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

What is the MOST secure approach to allow access to the Lambda code in the S3 bucket?

A. Grant the CloudFormation execution role S3 list and get permissions Add a bucket policy to Amazon S3 with the Pnncipal of "AWS": [account numbers].

B. Grant the CloudFormation execution role S3 get permissions Add a bucket policy to Amazon S3 with the

Principal of "".

C. Use a service-based link to grant the Lambda function S3 list and get permissions by explicitly adding the S3 bucket's account number in the resource

D. Use a service-based link to grant the Lambda function S3 get permissions and add a Resource of "*" to allow access to the S3 bucket.

Answer: A

110. - (Exam Topic 3)

A company has an AWS Lambda function that runs hourly, reads log files that are stored in Amazon S3, and forwards alerts to Amazon Simple Notification Service (Amazon SNS) topics based on content A developer wants to add a custom metric to the Lambda function to track the number of alerts of each type for each run The developer needs to log this information in Amazon CloudWatch in a metnc that is named Lambda/AlertCounts

How should the developer modify the Lambda function to meet this requirement with the LEAST operational overhead1?

A. Add a print statement to standard out for each alert and the number of occurrences

B. Add a call to the PutMetncData API operation Pass an array for alerts and the number of occurrences in the Values and Counts fields with a namespace of "Lambda/AlertCounts"

C. Add a call to the PutMetncAlarm API operation Pass an array of alerts in the metrics member with the namespace of "Lambda/AlertCounts"

D. Add a call to the PutDashboard API operation Pass an array of alerts in the metrics member with the namespace of "Lambda/AlertCounts"

Answer: B

111. - (Exam Topic 3)

A company uses a third-party tool to build, bundle, and package rts applications on-premises. and store them locally The company uses Amazon EC2 instances to run its front-end applications How can an application be deployed from the source control system onto the EC2 instances?

A. Use AWS CodeDeploy and point it to the local storage to directly deploy a bundle m a zip. tar. or tar.gz format

B. Upload the bundle to an Amazon S3 bucket and specify the S3 location when doing a deployment using

AWS CodeDeploy

C. Create a repository using AWS CodeCommit to automatically trigger a deployment to the EC2 instances

D. Use AWS CodeBuild to automatically deploy the latest build to the latest EC2 instances

Answer: B

112. - (Exam Topic 3)

A company has a web application that uses an Amazon Cogmto user pool for authentication. The company

wants to create a login page that includes the-company logo

What should a developer do to meet these requirements?

A. Create a hosted user interface (UI) in Amazon Cognito Customize the hosted Ui with the company logo

B. Create a login page that includes the company logo. Upload the login page to Amazon Cognito

C. Create a login page that includes the company logo in Amazon API Gateway Save the link in Amazon

Cognito

D. Upload the company logo to an Amazon S3 bucket Specify the S3 object path in app client settings in

Amazon Cognito

Answer: B

113. - (Exam Topic 3)

A developer is leveraging a Border Gateway Protocol (BGP)-based AWS VPN connection to connect from

on-premises to Amazon EC2 instances in the developer's account The developer is able to access an EC2

instance in subnet A, but is unable to access an EC2 instance in subnet B in the same VPC

Which logs can the developer use to verify whether the traffic is reaching subnet B?

A. VPN logs

B. BGP logs

C. VPC Flow Logs

D. AWS CloudTrail logs

Answer: C

114. - (Exam Topic 3)

A company has deployed an application on AWS Elastic Beanstalk The company has configured the Auto

Scaling group that is associated with the Elastic Beanstalk environment to have five Amazon EC2 instances

If the capacity is fewer than four EC2 instances during the deployment, application performance degrades

The company is using the all-at-once deployment policy

What is the MOST cost-effective way to solve the deployment issue1?

A. Change the Auto Scaling group to six desired instances

B. Change the deployment policy to traffic splitting Specify an evaluation time of 1 hour.

C. Change the deployment policy to rolling with additional batch Specify a batch size of 1

D. Change the deployment policy to rolling Specify a batch size of 2.

Answer: C

115. - (Exam Topic 3)

An ecommerce application is using Amazon Simple Notification Service (Amazon SNS) with an AWS

Lambda subscription to save all new orders into an Amazon DynamoDB table The company wants to

record all the orders that are more than a certain amount of money in a separate table The company wants

to avoid changes to the processes that post orders to Amazon SNS or the current Lambda function that

saves the orders to the DynamoDB table

How can a developer implement this feature with the LEAST change to the existing application?

A. Create another Lambda subscription with the SNS message attribute value matching a filter option to

save the appropriate orders to a separate table

B. Create another SNS topic, and also send orders in that topic Create a Lambda subscription with a

numeric value filter option to save the appropriate orders to a separate table

C. Create anotherftambda subscnption with the SNS message numeric value matching a filter option to

save the appropriate orders to a separate table

D. Modify the Lambda code to filter the orders and save the appropriate orders to a separate table

Answer: D

116. - (Exam Topic 3)

A developer is building an AWS Lambda function that will dynamically generate and send a weekly

newsletter to 100.000 users This newsletter contains both static text and images The developer needs a

fast and highly scalable place to store the images that will be hyperlinked in the newsletter

Where should the developer store these images?

A. Use an Amazon DynamoDB table with DynamoDB Streams and read capacity auto scaling enabled

B. Use an Amazon S3 bucket and S3 Transfer Acceleration to speed up the image download

C. Use an Amazon Aurora database with a public DNS endpoint and auto scaling enabled

D. Use an Amazon S3 backed Amazon CloudFront distribution with a high Time-to-Live (TTL) to maximize caching

Answer: D

117. - (Exam Topic 3)

A developer is creating a script to automate the deployment process for a serverless application. The developer wants to use an existing AWS Serverless Application Model (AWS SAM) template for the application

What should the developer use for the project? (Select TWO)

A. Callaws cloudformation package to create the deployment package Call aws cloudformation deploy to deploy the package afterward.

B. Call sam package to create the deployment package Call sam deploy to deploy the package afterward

C. Callaws s3 cp to upload the AWS SAM template to Amazon S3 Call aws lambda update-function-code to create the application.

D. Create a ZIP package locally and call aws serverlessrepo create-applicarion to create the application.

E. Create a ZIP package and upload it to Amazon S3 Callaws cloudfonnation create-stack to create the application

Answer: B C

118. - (Exam Topic 3)

A developer is building a static, client-side rendered website that is powered by ReactJS The code has no server-side generated components and does not need to run any programming languages on the server However the code serves static HTML, CSS, and JavaScript to the client on each request The developer's solution to host the website must maximize performance and cost-effectiveness

Which combination of AWS services or resources should the developer use to meet these requirements?
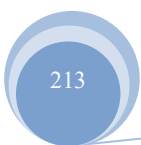
A. Application Load Balancer and Amazon EC2

B. Amazon API Gateway and AWS Lambda

C. Amazon CloudFront and Amazon S3

D. Amazon CloudFront and AWS Elastic Beanstalk

Answer: C

119. - (Exam Topic 3)

Multiple development teams are working on a project to migrate a monolithic application to a

microservices-based application running on AWS Lambda The teams need a way to centrally manage code

that is shared across multiple functions

Which approach requires the LEAST maintenance?

A. Each team maintains the code for the common components in their own code repository. They build and

deploy the components with their Lambda functions together.

B. One team builds a Lambda layer to include the common components and shares the layer with the other

teams

C. Each team builds and publishes the component they want to share to an Amazon S3 bucket The

Lambda functions will download the components from the bucket

D. One team builds a Docker container for the common components and shares the container with the

other teams

Answer: C

120. - (Exam Topic 3)

A large company has its application components distributed across.. company needs to collect and

visualize trace data across these accounts.

What should be used to meet these requirements?

A. AWS X-Ray

B. Amazon CloudWatch

C. Amazon VPC flow logs

D. Amazon Elasticsearch Service

Answer: A

121. - (Exam Topic 3)

An application running on multiple Amazon EC2 instances pulls messages ...SQS queue. A requirement for the application is that all messages must be encrypted at rest.

Developers are instructed to use methods that allow for centralized .. possible support requirements whenever possible.

Which of the following solution supports these requirements?

A. Encrypt individual messages by using client-side encryption with customer managed keys, then write to the SQS queue.

B. Encrypt individual messages by using SQS Extended Client and the Amazon S3 encryption client.

C. Create an SQS queue, and encrypt the queue by using server-side encryption with AWS KMS

D. Create an SQS queue and encrypt the queue by using client-side encryption

Answer: C

122. - (Exam Topic 3)

A developer has built a market application that stores pricing data in Amazon DynamoDB with Amazon ElastiCache in front. The prices of items in the market change frequently Sellers have begun complaining that, after they update the price of an item, the price does not actually change in the product listing

What could be causing this issue?

A. The cache is not being invalidated when the price of the item is changed

B. The price of the item is being retrieved using a write-through ElastiCache cluster

C. The DynamoDB table was provisioned with insufficient read capacity

D. The DynamoDB table was provisioned with insufficient write capacity.

Answer: A

123. - (Exam Topic 3)

A developer is building a new application that uses an Amazon DynamoDB table. The specification states that all items that are older than 48 hours must be removed

Which solution will meet this requirement?

A. Create a new attribute that has the Number data type Add a local secondary index (LSI) for this attribute
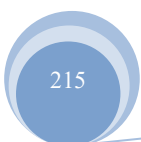
and enable TTL with an expiration of 48 hours In the application code, set the value of this attribute to the current timestamp for each new item that is being inserted.

B. Create a new attribute that has the String data type Add a local secondary index (LSI) for this attribute and enable TTL with an expiration of 48 hours In the application code, set the value of this attribute to the current timestamp for each new item that is being inserted.

C. Create a new attribute that has the Number data type Enable TTL on the DynamoDB table for this attribute in the application code set the value of this attribute to the current timestamp plus 48 hours for each new item that is being inserted

D. Create a new attribute that has the String data type Enable TTL on the DynamoDB table for this attribute In the application code set the value of this attribute to the current timestamp plus 48 hours for each new item that is being inserted

Answer: C

124. - (Exam Topic 3)

A photo sharing website gets millions of new images every week The images are stored in Amazon S3 under a formatted date prefix A developer wants to move images to a few S3 buckets for analysis and further processing Images are not required to be moved in real time

What is the MOST efficient method for performing this task?

A. Use S3 PutObject events to Invoke AWS Lambda Then Lambda will copy the files to the other objects

B. Create an AWS Lambda function that will pull a day of Images from the origin bucket and copy them to the other buckets.

C. Use S3 Batch Operations to create jobs for images to be copied to each Individual bucket.

D. Use Amazon EC2 to batch pull images from multiple days and copy them to the other buckets

Answer: D

125. - (Exam Topic 3)

A company has a large number of documents that are stored securely in Amazon S3 The company is creating an application that occasionally will read these documents The application will be deployed on Amazon EC2 instances.

The company's security requirements mandate that no long-term credentials can be stored on the EC2

instances and that only the needed documents can be accessed Only authorized users and applications

can access the documents access must be logged by Amazon S3, and each document must follow S3

Lifecycle policies for archival and destruction

What should a developer do to meet these requirements?

A. Create an event to invoke an AWS Lambda function when a document is uploaded Configure the

function to write the

documents to an Amazon Elastic File System (Amazon EFS) file system Configure the EC2 instances to

mount the EFS file system Configure the application to access the documents that are stored m the file

system as needed

B. Create a user that has programmatic credentials, and attach a policy that allows read access to the S3

bucket Use the AWS CLI to configure those credentials for the EC2 instances to use Create an Amazon

Machine Image (AMI), and add the access key and secret access key to the user data section to create

environment variables Use the AMI to launch each EC2 instance that runs the application Add application

code to use the keys that are stored in the environment variables to access the S3 bucket objects as

needed.

C. Modify the S3 bucket, make the bucket public, and make each object public Add application code to

make REST calls to access the objects in the S3 bucket as needed

D. Create an IAM role with permissions to read objects from Amazon S3 Attach the role to the EC2

instances as an instance profile Add application code to access the objects in the S3 bucket as needed.

Answer: D

126. - (Exam Topic 3)

An IAM role is attached to an Amazon EC2 instance that explicitly denies access to all Amazon S3 API

actions. The EC2 instance credentials file specifies the IAM access key and secret access key, which allow

full administrative access.

Given that multiple modes of IAM access are present for this EC2 instance, which of the following is

correct?

A. The EC2 instance will only be able to list the S3 buckets

B. The EC2 instance will only be able to list the contents of one S3 bucket at a time

C. The EC2 instance will be able to perform all actions on any S3 bucket

D. The EC2 instance will not be able to perform any S3 action on any S3 bucket.

Answer: C

127. - (Exam Topic 3)

A developer is building an application on Amazon EC2 The developer encountered an "Access Denied"

error on some of the API calls to AWS services while testing The developer needs to modify permissions

that have been already given to the instance

How can these requirements be met with minimal changes and minimum downtime?

A. Make a new 1AM role with the needed permissions Stop the instance. Attach the new 1AM role to the

instance Start the instance.

B. Delete the existing 1AM role Attach a new 1AM role with the needed permissions

C. Stop the instance Update the attached 1AM role adding the needed permissions. Start the instance

D. Update the attached 1AM role adding the needed permissions

Answer: D

128. - (Exam Topic 3)

A developer must build a mobile application that allows users to read and write data from an Amazon

DynamoDB table to store user state for each unique user. The solution needs to limit data access to allow

users access only to their own data

Which solution below is the most secure?

A. Embed AWS access credentials into the application and create DynamoDB queries that limit user

access.

B. Use Amazon Cognito identity pools to assign unique identifiers and provide user access

C. Modify the DynamoDB table to allow public read and writes, then add client-side filtering

D. Create a web portal for users to create an account on AWS Directory Service

Answer: C

129. - (Exam Topic 3)

A company is using AWS CloudFormation templates to deploy AWS resources. The company needs to

update one of its AWS CloudFormation stacks What can the company do to find out how the changes will

impact the resources that are running?

A. Investigate the change sets

B. Investigate the stack policies

C. Investigate the Metadata section.

D. Investigate the Resources section.

Answer: A

130. - (Exam Topic 3)

A developer wants to secure sensitive configuration date such as passwords, database strings, and

application license codes. Access to this sensitive information must be tracked for future audit purposes.

A. In an encrypted file on the source code bundle; grant the application access with Amazon IAM

B. In the Amazon EC2 Systems Manager Parameter Store; grant the application access with IAM

C. On an Amazon EBS encrypted volume attach the volume to an Amazon EC2 instance to access the data

D. As on object in on Amazon S3 bucket, grant on Amazon EC2 instance access with on IAM rob.

Answer: B

131. - (Exam Topic 3)

A developer must modify an Alexa skill backed by an AWS Lambda function to access an Amazon

DynamoDB table in a second account A role in the second account has been created with permissions to

access the table

How should the table be accessed?

A. Modify the Lambda function execution role's permissions to include the new role

B. Change the Lambda function execution role to be the new role

C. Assume the new role in the Lambda function when accessing the table

D. Store the access key and the secret key for the new role and use them when accessing the table

Answer: A

132. - (Exam Topic 3)

A developer must increase read performance from an unencrypted Amazon S3 bucket. The application

requires 100.000 read requests each second Cost-effectiveness is a priority. What would be the SIMPLEST
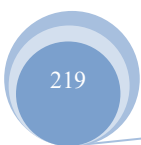
approach to implement these requirements?

A. Create 20 or more prefixes in Amazon S3 Place files by prefixes. Read in parallel by prefixes

B. Create 20 of more AWS accounts Create a bucket in each account Read in parallel by bucket

C. Deploy Memcached on Amazon EC2 Cache the files in memory Retrieve from the Memcached cache

D. Copy all files to Amazon DynamoDB Index the files with S3 metadata Retrieve from DynamoDB

Answer: A

133. - (Exam Topic 3)

An application development team decides to use AWS X Ray to monitor application code to analyze

performance and perform r cause analysis

What does the team need to do to begin using X Ray? (Select TWO)

A. Log instrumentation output into an Amazon SQS queue

B. Use a visualization tool to view application traces

C. Instrument application code using the AWS SDK

D. Install the X-Ray agent on the application servers

E. Create an Amazon DynamoDB table to store the trace logs

Answer: D E

134. - (Exam Topic 3)

A developer has created a Node js web application on a local development machine. The developer wants

to use AWS technology to host the website. The developer needs a solution that requires the least possible

operational overhead and no code changes.

Which AWS service should the developer use to meet these requirements?

A. AWS Elastic Beanstalk

B. Amazon EC2

C. AWS Lambda

D. Amazon Elastic Kubernetes Service (Amazon EKS)

Answer: A

135. - (Exam Topic 3)
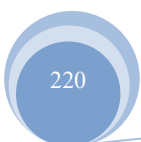
A developer is using Amazon S3 as the event source that invokes a Lambda function when new objects are created in the bucket The event source mapping Information Is stored in the bucket notification configuration The developer is working with different versions of the Lambda function, and has a constant need to update notification configuration so that Amazon S3 invokes the correct version

What is the MOST efficient and effective way to achieve mapping Between the S3 event and Lambda?

A. Use a different Lambda trigger

B. Use Lambda environment variables

C. Use a Lambda alias

D. Use Lambda tags.

Answer: C

136. - (Exam Topic 3)

A company runs its APIs using Amazon API Gateway in front of AWS Lambda functions The company wants to add logging at the API level Each API must have production and development environments The developer wants to enable different logging levels in both environments.

How can these requirements be met?

A. Set up a stage for each environment In each stage, point to different Lambda functions that implement the logging logic m the code Access the logs in Amazon CloudWatch Logs

B. Set up a stage for each environment In each stage, define a different logging level according to the logging requirements Access the logs in Amazon CloudWatch Logs

C. Set up a stage and use the same Lambda functions In Amazon CloudWatch Logs set up a filter based on the log level according to the logging requirements

D. Set up a stage for each environment In each stage, define a variable for the log level Set the value according to the logging requirements.

Answer: A

137. - (Exam Topic 3)

A developer has written an AWS Lambda function using Java as the runtime environment. The developer wants to isolate a performance bottleneck in the code.

Which steps should be taken to reveal the bottleneck?

A. Use the Amazon CloudWatch API to write timestamps to a custom CloudWatch metric Use the

CloudWatch console to analyze the resulting data

B. Use the AWS X-Ray API to write trace data into X-Ray from strategic places within the code Use the

Amazon CloudWatch console to analyze the resulting data

C. Use the AWS X-Ray API to write trace data into X-Ray from strategic places within the code. Use the

X-Ray console to analyze the resulting data

D. Use the Amazon CloudWatch API to write timestamps to a custom CloudWatch metric Use the AWS

X-Ray console to analyze the resulting data

Answer: C

138. - (Exam Topic 3)

A developer has written code for an application and wants to share it with other developers on the team to

receive feedback. The shared application code needs to be stored long-term with multiple versions and

batch change tracking.

Which AWS service should the developer use?

A. AWSCodeBuild

B. Amazon S3

C. AWS CodeCommit

D. AWS Cloud9

Answer: C

139. - (Exam Topic 3)

A developer is building a web and mobile application for two types of users regular users and guest users

Regular users are required to log in, but guest users do not log in Users should see only their data

regardless of whether they authenticate Users need AWS credentials before they can access AWS

resources What is the MOST secure solution that the developer can implement to allow access for guest

users?

A. Use an Amazon Cognito credentials provider to issue temporary credentials that are linked to an

unauthenticated role that has access to the required resources.

B. Set up an IAM user that has permissions to the required resources. Hardcode the 1AM credentials in the

web and mobile application

C. Generate temporary keys that are stored in AWS Key Management Service (AWS KMS) Use the

temporary keys to access the required resources

D. Generate temporary credentials. Store the temporary credentials in AWS Secrets Manager Use the

temporary credentials to access the required resources

Answer: D

140. - (Exam Topic 3)

A developer is building an application using an Amazon API Gateway REST API backed by an AWS

Lambda function that interacts with an Amazon DynamoDB table During testing, the developer observes

high latency when making requests to the API

How can the developer evaluate the end-to-end latency and identify performance bottlenecks?

A. Enable AWS CloudTrail logging and use the logs to map each latency and bottleneck

B. Enable and configure AWS X-Ray tracing on API Gateway and the Lambda function Use X-Ray to trace

and analyze user requests

C. Enable Amazon CloudWatch Logs for the Lambda function Enable execution logs for API Gateway to

view and analyze user request logs.

D. Enable VPC Flow Logs to capture and analyze network traffic within the VPC

Answer: B

141. - (Exam Topic 3)

A company recently experienced some unexpected downtime. After investigating, the company determines

that a developer mistakenly terminated several production Amazon EC2 instances.

What should the company do to BEST protect against accidental terminations in the future.

A. Enable EC2 termination protection on all production instances unless approval has been given through

AWS Resource Access Manager.

B. Modify the developer group's permissions policy to deny them access to delete production instances

unless approved has been given through AWS Resource Access Manager.

C. Modify the developer group's permission policy to require multi-factor authentication (MFA) only

production instances are being delete Enable EC2 termination protection on production instances.

D. Enable EC2 termination protection on production instances. Deny the developer group's permissions policy access to terminate instance. Create a new role that developer can assume when termination is necessary.

Answer: A

142. - (Exam Topic 3)

A company is using an AWS Lambda function to process records from an Amazon Kinesis data stream The company recently observed slow processing of the records. A developer notices that the iterator age metric for the function is Increasing and that the Lambda run duration is constantly above normal.

Which actions should the developer take to increase the processing speed? (Select TWO.)

A. Increase the number of shards of the Kinesis data stream

B. Decrease the timeout of the Lambda function

C. Increase the memory that is allocated to the Lambda function.

D. Decrease the number of shards of the Kinesis data stream

E. Increase the timeout of the Lambda function

Answer: D E

143. - (Exam Topic 3)

A developer is building a backend system for the long-term storage of information from an inventory management system. The information needs to be stored so that other teams can build tools to report and analyze the data

How should the developer implement this solution to achieve the FASTEST running time?

A. Create an AWS Lambda function that writes to Amazon S3 synchronously Increase the function's concurrency to match the highest expected value of concurrent scans and requests.

B. Create an AWS Lambda function that writes to Amazon S3 asynchronously Configure a dead-letter queue to collect unsuccessful invocations

C. Create an AWS Lambda function that writes to Amazon S3 synchronously Set the inventory system to retry failed requests.

D. Create an AWS Lambda function that writes to an Amazon ElastiCache for Redis cluster asynchronously Configure a dead-letter queue to collect unsuccessful invocations.

Answer: A

144. - (Exam Topic 3)

A developer is creating a role to access Amazon S3 buckets To create the role, the developer uses the AWS CLI create-role command. Which policy should be added to allow the Amazon EC2 service to assume the role?

A. Managed policy

B. Trust policy

C. Inline policy

D. Service control policy (SCP)

Answer: B

Explanation:

A JSON policy document in which you define the principals that you trust to assume the role. A role trust policy is a required resource-based policy that is attached to a role in IAM. The principals that you can specify in the trust policy include users, roles, accounts, and services.

https://docs.aws.amazon.com/IAM/latest/UserGuide/id_roles_terms-and-concepts.html

145. - (Exam Topic 3)

A developer is creating a serverless web application and maintains different branches of code The developer wants to avoid updating the Amazon API Gateway target endpoint each time a new code push is performed What solution would allow me developer to perform a code push efficiently, without the need to update the API Gateway?

A. Associate different AWS Lambda functions to an API Gateway target endpoint

B. Create different stages in API Gateway, then associate API Gateway with aws Lambda

C. Create aliases and versions In AWS Lambda.

D. Tag the AWS Lambda functions with different names

Answer: B

146. - (Exam Topic 3)

A developer works in an environment with multiple AWS accounts that have AWS Lambda functions
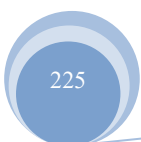
processing the same 100 KB payloads. The developer wants to centralize the point of origin of the payloads to one account and have all the Lambda functions be invoked whenever the initiating event occurs in the parent account.

How can the developer design the workflow in the MOST efficient way, so all the multi-account Lambda functions get invoked when the event occurs?

A. Create a Lambda function in the parent account and use cross-account IAM roles with the AWS Security Token Service (AWS STS) AssumeRole API call to make AWS Lambda invoke the API call to invoke all the cross-account Lambda functions.

B. Subscribe all the multi-account Lambda functions to an Amazon SNS topic and make a SNS Publish API call with the payload to the SNS topic.

C. Set up an Amazon SQS queue with the queue policy permitting the ReceiveMessage action for multi-account Lambda functions. Then send the payload to the SQS queue using the sqs:SendMessage permission and poll the queue using multi-account Lambda functions.

D. Use a worker on an Amazon EC2 instance to poll for the payload event. Invoke all Lambda functions using the Lambda Invoke API after using cross-account IAM roles with the AWS Security Token Service (AWS STS) AssumeRole API call.

Answer: B

Explanation:

https://aws.amazon.com/es/blogs/compute/cross-account-integration-with-amazon-sns/

147. - (Exam Topic 3)

A developer has written an application that runs on Amazon EC2 instances. The developer is adding functionality for the application to write objects to an Amazon S3 bucket Which policy must the developer modify to allow the instances to write these objects?

A. The 1AM policy that is attached to the EC2 instance profile role

B. The session policy that is applied to the EC2 instance role session

C. The AWS Key Management Service (AWS KMS) key policy that is attached to the EC2 instance profile role.

D. The Amazon VPC endpoint policy

Answer: A
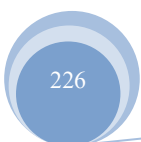
148. - (Exam Topic 3)

A company wants to make sure that only one user from its Admin group has the permanent right to delete an Amazon EC2 resource There should be no changes in the existing policy under the Admin group What should a developer use to meet these requirements?

A. AWS managed policy

B. Inline policy

C. IAM trust relationship

D. AWS Security Token Service (AWS STS)

Answer: B

149. - (Exam Topic 3)

A developer from AnyCompany's AWS account needs access to the Example Corp AWS account

AnyCompany uses an identity provider that is compatible with OpenID Connect.

What is the MOST secure way for Example Corp to allow developer access?

A. Create a cross-account role and call the AssumeRole API operation

B. Create a user in the Example Corp account and provide the access keys

C. Create a user in the Example Corp account and provide the credentials

D. Create a cross-account role and call the AssumeRoleWithWebIdentity API operation

Answer: B

150. - (Exam Topic 3)

An application runs on multiple EC2 instances behind an ELB.

Where is the session data best written so that it can be served reliably across multiple requests?

A. Write data to Amazon ElasticCache.

B. Write data to Amazon Elastic Block Store.

C. Write data to Amazon EC2 instance Block Store.

D. Write data to the root filesystem.

Answer: A

151. - (Exam Topic 3)

An application is experiencing performance issues based on increased demand. This increased demand is on read-only historical records pulled from an Amazon RDS-hosted database with custom views and queries. A developer improve performance without changing the database structure.

Which approach will improve performance and MINIMIZE management overhead?

A. Deploy Amazon DynamoDB, move all the data, and point to DynamoDB.

B. Deploy Amazon ElasticCache for Redis and cache the data for the application.

C. Deploy Memcached on Amazon EC2 and cache the data for the application.

D. Deploy Amazon DynamoDB Accelerator (DAX) on Amazon RDS to improve cache performance

Answer: B

152. - (Exam Topic 3)

A company is building a compute-intensive application that will run on a fleet of Amazon EC2 instances. The application uses attached Amazon EBS disks for storing data. The application will process sensitive information and all the data must be encrypted.

What should a developer do to ensure the data is encrypted on disk without impacting performance?

A. Configure the Amazon EC2 instance fleet to use encrypted EBS volumes for storing data

B. Add logic to write all data to an encrypted Amazon S3 bucket

C. Add a custom encryption algorithm to the application that will encrypt and decrypt all data

D. Create a new Amazon Machine Image (AMI) with an encrypted root volume and store the data to ephemeral disks.

Answer: A

153. - (Exam Topic 3)

A developer has an AWS CodePipelme pipeline that invokes AWS CodeBuild in the build stage The developer wants to pass in a variable from CodePipeline so that the variable can be read in the CodeBuild buiidspec yml file

How can the developer accomplish this goal?

A. Configure a unique CodePipelme vanable namespace and vanables as key-value pairs that define each of the variables required in CodeBuild

B. Configure a CodePipelme environment vanable that contains a JSON document that defines each of the

variables required in CodeBuild

C. Configure an AWS CloudFormation stack set that contains a JSON document that defines each of the

variables required in CodeBuild Reference the stack set from CodePipelme

D. Configure an AWS CodeArtifact repository to store each environment variable Reference CodeArtifact

from CodePipelme and CodeBuild

Answer: B

Topic 4, Exam Pool D

1. - (Exam Topic 4)

A developer wants to migrate a Windows .NET application that is running on IIS with a Microsoft SQL

Server database to AWS. The developer does not want to think about provisioning and managing the

infrastructure.

What should the developer do to migrate the application with the LEAST amount of effort?

A. Launch Amazon EC2 instances for Windows Server. Back up and restore the database to Amazon RDS.

Deploy the web application to the new EC2 instances

B. Back up and restore the database to Amazon RDS. Use the .NET Migration Assistant for AWS Elastic

Beanstalk to migrate the web application to a preconfigured solution stack that Elastic Beanstalk provides.

C. Migrate the database to Amazon DynamoDB Use Amazon API Gateway and AWS Lambda to create a

web application interface that is hosted in an Amazon S3 bucket.

D. Containerize the application on premises. Push the image to Amazon Elastic Container Registry

(Amazon ECR). Create an AWS CloudFormation template to

deploy the application

Answer: B

2. - (Exam Topic 4)

A company has an ecommerce application. To track product reviews, the company's development team

uses an Amazon DynamoDB table.

Every record includes the following:

• A Review ID, a 16-digit universally unique identifier (UUID)

• A Product ID and User ID. 16-digit UUIDs that reference other tables

• A Product Rating on a scale of 1—5 - An optional comment from the user

The table partition key is the Review ID. The most performed query against the table is to find the 10

reviews with the highest rating for a given product.

Which index will provide the FASTEST response tor this query?

A. A global secondary index (GSI) with Product ID as the partition key and Product Rating as the sort key

B. A global secondary index (GSI) with Product ID as the partition key and Review ID as the sort key

C. A local secondary index (LSI) with Product ID as the partition key and Product Rating as the sort key

D. A local secondary index (LSI) with Review ID as the partition key and Product ID as the sort key

Answer: A

3. - (Exam Topic 4)

A developer has an Amazon DynamoDB table that must be in provisioned mode to comply with user

requirements. The application needs to support the following:

• Average item size: 10 KB

• Item reads each second: 10 strongly consistent

• Item writes each second: 2 transactional

Which read and write capacity cost-effectively meets these requirements?

A. Read 10; write 2

B. Read 30; write 40

C. Use on-demand scaling

D. Read 300; write 400

Answer: B

4. - (Exam Topic 4)

A developer is creating a new batch application that will run on an Amazon EC2 instance. The application

requires read access to an Amazon S3 bucket. The developer needs to follow security best practices to

grant S3 read access to the application.

Which solution meets these requirements?

A. Add the permissions to an 1AM policy. Attach the policy to a role Attach the role to the EC2 instance
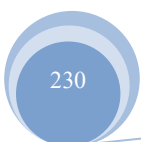
profile.

B. Add the permissions inline to an 1AM group. Attach the group to the EC2 instance profile.

C. Add the permissions to an 1AM policy. Attach the policy to a user Attach the user to the EC2 instance

profile.

D. Add the permissions to an 1AM policy. Use 1AM web identity federation to access the S3 bucket with the

policy

Answer: A

5. - (Exam Topic 4)

A company is concerned that a malicious user could deploy unauthorized changes to the code for an AWS

Lambda function. What can a developer do to ensure that only trusted code is deployed to Lambda?

A. Turn on the trusted code option in AWS CodeDeploy. Add the CodeDeploy digital certificate to the

Lambda package before deploying the package to Lambda

B. Define the code signing configuration in the Lambda console Use AWS Signer to digitally sign the

Lambda package before deploying the package to Lambda

C. Link Lambda to AWS Key Management Service (AWS KMS) in the Lambda console. Use AWS KMS to

digitally sign the Lambda package before deploying the package to Lambda.

D. Set the KmsKeyArn property of the Lambda function to the Amazon Resource Name (ARN) of a trusted

key before deploying the package to Lambda.

Answer: B

6. - (Exam Topic 4)

A security review for a software company's application infrastructure shows that there is no test coverage in

any of the company's deployment pipelines. A developer must fix this issue as soon as possible. The

company has been integrating the AWS Cloud Development Kit (AWS CDK) into the deployment process.

However, much of the pipeline still uses AWS CloudFormation templates. The developer needs to add test

coverage to all the deployment code.

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

A. Write unit tests by using the AWS CDK assertions module. Create CloudFormation template instances

by using the module's Template class for the existing CloudFormation templates and the module's Capture

class for the CDK stacks.

B. Write unit tests by using the AWS CDK assertions module. Create CloudFormation template instances by using the module's Template.fromStringO method for the existing CloudFormation templates and the module's Template fromStackQ method for the CDK stacks.

C. Convert the CloudFormation templates into CDK stacks by using the AWS CDK CfnInclude construct. Write unit tests against the templates by using CloudFormation rule assertions.

D. Convert the CDK stacks into CloudFormation templates by using the AWS CDK CfnInclude construct Write unit tests against the templates by using CloudFormation rule assertions

Answer: A

7. - (Exam Topic 4)

A company has a serverless application that uses AWS Lambda functions and AWS Systems Manager parameters to store configuration data. The company....... the Lambda functions inside the VPC and into private subnets. The Lambda functions are now producing errors in their attempts to access Systems Manager parameters.

Which solution will allow the Lambda functions to access Systems Manager parameters inside the VPC?

A. Configure security groups to allow access to Systems Manager.

B. Create an interface VPC endpoint for Systems Manager.

C. Use an internet gateway from inside the VPC.

D. Create a gateway VPC endpoint for Systems Manager.

Answer: B

Explanation:

https://aws.amazon.com/premiumsupport/knowledge-center/lambda-vpc-parameter-store/

8. - (Exam Topic 4)

A developer is running an application on an Amazon EC2 instance. When the application tries to read an Amazon S3 bucket, the application fails. The developer notices that the associated IAM role is missing the S3 read permission. The developer needs to give the application the ability to read the S3 bucket.

Which solution will meet this requirement with the LEAST application disruption?

A. Add the permission to the role. Terminate the existing EC2 instance. Launch a new EC2 instance.
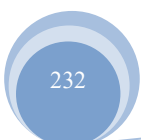
B. Add the permission to the role so that the change will take effect automatically.

C. Add the permission to the role. Hibernate and restart the existing EC2 instance.

D. Add the permission to the S3 bucket. Restart the EC2 instance.

Answer: B

9. - (Exam Topic 4)

A developer is debugging an AWS Lambda function behind an Amazon API Gateway. Whenever the API

Gateway endpoint is called, HTTP status code 200 is returned even though AWS Lambda is recording a

4xx error.

What change needs to be made to return a proper error code through the API Gateway?

A. Enable CORS in the API Gateway method settings.

B. Use a Lambda proxy integration to return HTTP codes and headers.

C. Enable API Gateway error pass-through.

D. Return the value in the header X-Amzn-ErrorType.

Answer: B

10. - (Exam Topic 4)

A developer needs to deploy an application to AWS Elastic Beanstalk for a company. The application

consists of a single Docker image. The company's automated continuous integration and continuous

delivery (CI/CD) process builds the Docker image and pushes the image to a public Docker registry.

How should the developer deploy the application to Elastic Beanstalk?

A. Create a Dockerfile. Configure Elastic Beanstalk to build the application as a Docker image.

B. Create a docker-compose.yml file. Use the Elastic Beanstalk CLI to deploy the application.

C. Create a .zip file that contains the Docker image. Upload the .zip file to Elastic Beanstalk.

D. Create a Dockerfile. Run the Elastic Beanstalk CLI eb local run command in the same directory.

Answer: B

Explanation:

https://docs.aws.amazon.com/elasticbeanstalk/latest/dg/docker.html#single-container-docker.deploy-remot

e Deploy a remote Docker image to Elastic Beanstalk

After testing your container locally, deploy it to an Elastic Beanstalk environment. Elastic Beanstalk uses

the docker-compose.yml file to pull and run your image if you are using Docker Compose. Otherwise,

Elastic Beanstalk uses the Dockerrun.aws.json instead.

Use the EB CLI to create an environment and deploy your image.

~/remote-docker$ eb create environment-name

11. - (Exam Topic 4)

A developer is writing an application that will run on Amazon EC2 instances in an Auto Scaling group. The

developer wants to externalize the session state to support the application. Miich AWS services or

resources can the developer use to meet these requirements? (Select TWO.)

A. Amazon DynamoDB

B. Amazon Cognito

C. Amazon ElastiCache

D. Application Load Balancer

E. Amazon Simple Queue Service (Amazon SQS)

Answer: A C

12. - (Exam Topic 4)

A company has a new application. The company needs to secure sensitive configuration data such as

database connection strings, application license codes, and API keys that the application uses to access

external resources. The company must track access to the configuration data for auditing purposes. The

resources are managed outside the application.

The company is not required to manage rotation of the connection strings, license codes, and API keys in

the application. The company must implement a solution to securely store the configuration data and to

give the application access to the configuration data. The solution must comply with security best practices.

Which solution will meet these requirements MOST cost-effectively?

A. Store the configuration data in an encrypted file on the source code bundle. Grant the application access

by using IAM policies.

B. Store the configuration data in AWS Systems Manager Parameter Store. Grant the application access by

using IAM policies.

C. Store the configuration data on an Amazon Elastic Block Store (Amazon EBS) encrypted volume.

Attach the EBS volume to an Amazon EC2 instance to provide the application with access to the data.

D. Store the configuration data in AWS Secrets Manager. Grant the application access by using IAM

policies.

Answer: B

Explanation:

https://aws.amazon.com/blogs/mt/the-right-way-to-store-secrets-using-parameter-store/

https://docs.aws.amazon.com/managedservices/latest/userguide/sys-man-param-store.html AWS

Systems Manager Parameter Store (AMS SSPS):

AWS Systems Manager Parameter Store provides secure, hierarchical storage for configuration data

management and secrets management. You can store data such as passwords, database strings, and

license codes as parameter values.

13. - (Exam Topic 4)

A developer is writing a web application that allows users to sign in. The application will run on Amazon

EC2 instances behind an Application Load Balancer (ALB). The instances will run in an Auto Scaling group

across multiple Availability Zones.

How can the developer ensure that users stay signed in when the Auto Scaling group is scaled down?

A. Enable sticky sessions on the ALB target group.

B. Create an Amazon DynamoDB table. Configure the application to use the DynamoDB table to store

session state such as login status.

C. Create an Amazon Elastic Block Store (Amazon EBS) volume. Use EBS Multi-Attach to attach the

volume to all instances in the Auto Scaling group. Configure the application to use the volume to store

session state such as login status.

D. Enable deregistration delay on the ALB target group.

Answer: B

14. - (Exam Topic 4)

A developer created a web API that receives requests by using an internet-facing Application Load

Balancer (ALB) with an HTTPS listener. The developer configures an Amazon Cognito user pool and wants

to ensure that every request to the API is authenticated through Amazon Cognito.

What should the developer do to meet this requirement?

A. Add a listener rule to the listener to return a fixed response if the Authorization header is missing. Set the fixed response to 401 Unauthorized.

B. Create an authentication action for the listener rules of the ALB. Set the rule action type to authenticate-cognito Set the OnUnauthenticatedRequest field to "deny."

C. Create an Amazon API Gateway API. Configure all API methods to be forwarded to the ALB endpoint. Create an authorizer of the COGNITO_USER_POOLS type. Configure every API method to use that authorizer.

D. Create a new target group that includes an AWS Lambda function target that validates the Authorization header by using Amazon Cognito. Associate the target group with the listener.

Answer: C

15. - (Exam Topic 4)

A developer has created a Java application that makes HTTP requests directly to AWS services. Application logging shows 5xx HTTP response codes that occ irregular intervals. The errors are affecting users.

How should the developer update the application to improve the application's resiliency?

A. Revise the request content in the application code.

B. Use the AWS SDK for Java to interact with AWS APIs.

C. Scale out the application so that more instances of the application are running.

D. Add additional logging to the application code.

Answer: B

16. - (Exam Topic 4)

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?

A. Attach the existing IAM policy to the Lambda function.

B. Create an IAM role for the Lambda function. Attach the existing IAM policy to the role. Attach the role to the Lambda function.
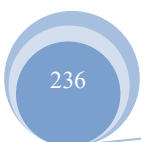
C. Create an IAM user with programmatic access. Attach the existing IAM policy to the user. Add the user

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

17. - (Exam Topic 4)

What are the MINIMUM properties required in the resources section of the AppSpace file for CodeDeploy to

deploy the ECS service successfully?

A. name, alias, currentversion, and targetversion

B. TaskDefinition, ContainerName, and PlartformVersion

C. TaskDefinitionContainerName, ContainerPort

D. name, Currentversion, NetworkConfiguration, and Platform Version

Answer: A

18. - (Exam Topic 4)

A developer is building varKHJS microservices for an application that will run on Amazon EC2 instances.

The developer needs to monitor the end-to-end view of the requests between the microservices and debug

any issues in the various microservices.

What should the developer do to accomplish these tasks?

A. Use Amazon CloudWatch to aggregate the microservices' logs and metrics, and build the monitoring

dashboard

B. Use AWS CloudTrail to aggregate the microservices' logs and metrics, and build the monitoring

dashboard

C. Use the AWS X-Ray SDK to add instrumentation in all the microsen/ices, and monitor using the X-Ray

service map.

D. Use AWS Health to monitor the health of all the microservices

Answer: C

Explanation:

https://docs.aws.amazon.com/whitepapers/latest/microservices-on-aws/distributed-monitoring.html#distrib

uted-t https://aws.amazon.com/xray/

19. - (Exam Topic 4)

A developer deploys an ecommerce application on Amazon EC2 instances behind an Application Load Balancer (ALB). The instances run in an Amazon EC2 Auto Scaling group. The EC2 instances are based on an Amazon Machine Image (AMI) that uses an Amazon Elastic Block Store (Amazon EBS) root volume. After deployment, the developer notices that a third of the instances seem to be idle. These instances are not receiving requests from the load balancer. The developer verifies that all the instances are registered with the load balancer. The developer must implement a solution to allow the EC2 instances to receive requests from the load balancer.

Which action will meet this requirement?

A. Reregister the failed instances with the ALB.

B. Enable all Availability Zones for the ALB.

C. Use the instance refresh feature to redeploy the EC2 Auto Scaling group.

D. Restart the EC2 instances that are not receiving traffic.

Answer: C

Explanation:

https://aws.amazon.com/blogs/compute/introducing-instance-refresh-for-ec2-auto-scaling/

20. - (Exam Topic 4)

A company has an online order website that uses Amazon DynamoDB to store item inventory. A sample of the inventory object is as follows:

```
{
    "Id": { "N": "456"},
    "Price": {"N": "650"},
    "ProductCategory": {"S": "Sporting Goods"}
}
```

A developer needs to reduce all inventory prices by 100 as long as the resulting price would not be less than 500. What should the developer do to make this change with the LEAST number of calls to DynamoDB?

A. Perform a DynamoDB Query operation with the Id. If the price is >= 600, perform an UpdateItem

operation to update the price.

B. Perform a DynamoDB UpdateItem operation with a condition expression of "Price >= 600".

C. Perform a DynamoDB UpdateItem operation with a condition expression of "ProductCategory IN

<{"S": "Sporting Goods"}) and Price = 600".

Answer: C

21. - (Exam Topic 4)

A company is migrating a web application from on premises to AWS. The company needs to move session

storage from the application code to a shared service as part of the migration. The session storage data

must be encrypted at rest.

Which AWS services meet these requirements? (Choose two.)

A. Amazon ElastiCache for Redis

B. Amazon ElastiCache for Memcached

C. Amazon CloudWatch

D. AWS CloudTrail

E. Amazon DynamoDB

Answer: A E

Explanation:

https://aws.amazon.com/blogs/security/amazon-elasticache-now-supports-encryption-for-elasticache-for-r

edis/

A) ElastiCache for Redis is always a good option as a distributed cache for session management -

https://aws.amazon.com/getting-started/hands-on/building-fast-session-caching-with-amazon-elasticache-f

or-red
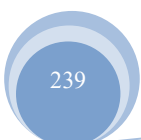
It also supports encrypt at rest -

https://docs.aws.amazon.com/AmazonElastiCache/latest/red-ug/at-rest-encryption.html

E) DynamoDB is also common to store session state with TTL support. And all user data stored in Amazon

DynamoDB is fully encrypted at rest -

https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/EncryptionAtRest.html

22. - (Exam Topic 4)

A data-processing application includes an AWS Lambda function that processes data in several steps.

Recently, the function has been reaching the Lambda tii A developer wants to use AWS X-Ray to find out

how long each step is taking so that the developer can determine which step is causing the timeout.

Which combination of actions should the developer take to accomplish this goal? (Select TWO.)

A. Modify the application to call the PutMetricData API operation after each processing step. Include the

time taken in milliseconds.

B. Use the aws lambda update-function-configuration AWS CLI command to enable active tracing on the

Lambda function.

C. Modify the application to record each processing step in an X-Ray subsegment by using the X-Ray

software development kit (SDK).

D. Add the xray:PutTraceSegments permission and the xray:PutTelemetryRecords permission to the

Lambda function's execution role.

E. Modify the application to put each processing step in a separate Lambda layer. Include all the layers in

the Lambda function.

Answer: B

23. - (Exam Topic 4)

A company has a serverless application that uses Amazon API Gateway backed by AWS Lambda proxy

integration. The company is developing several backend APIs. The company needs a landing page to

arovide an overview ol navigation to the APIs.

\ developer creates a new /LandingPage resource and a new GET method that uses mock integration.

What should the developer do next to meet these requirements?

A. Configure the integration request mapping template with Content-Type of text/html and statusCode of

200. Configure the integration response mapping template with Content-Type of application/json. In the

integration response mapping template, include the LandingPage HTML code that references the APIs.

B. Configure the integration request mapping template with Content-Type of application/json. In the

integration request mapping template, include the LandingPage HMTL code that references the APIs.

Configure the integration response mapping template with Content-Type of text/html and statusCode of

200.

C. Configure the integration request mapping template with Content-Type of application/json and
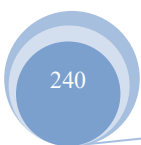
statusCode of 200. Configure the integration response mapping template with Content-Type of text/html. In

the integration response mapping template, include the LandingPage HTML code that references the APIs.

D. Configure the integration request mapping template with Content-Type of text/html. In the integration

request mapping template, include the LandingPage HTML code that references the APIs.

Configure the integration response mapping template with Content-Type of application/json and

statusCode of 200.

Answer: B

24. - (Exam Topic 4)

A company is using continuous integral ion/continuous delivery (CI/CD) systems. A that run on premises.

Which AWS service should the developer use to meet these requirements?

A. AWSCloud9

B. AWS CodeBuild

C. AWS Elastic Beanstalk

D. AWS CodeDeploy

Answer: D

25. - (Exam Topic 4)

A developer is working on an application that is deployed on an Amazon EC2 instance. The application

needs to transfer a file to an Amazon S3 bucket. What should the developer do to authenticate the

application's access to the S3 bucket in the MOST secure way?

A. Create an access key for an IAM user. Store the access key in the application's environment variables.

B. Create an IAM role. Create an access key for the role. Store the access key in the application's

environment variables.

C. Associate an IAM role with the EC2 instance. Use the instance metadata service to retrieve the

credentials.

D. Configure a bucket policy for the S3 bucket. Allow access from the EC2 instance ID in the bucket

policy.

Answer: B

26. - (Exam Topic 4)

A company has an application that provides blog hosting services to its customers. The application includes

an Amazon DynamoDB table with a primary key The primary key consists of the customers' UserName as

a partition key and the NumberOIBlogs as a sort key. The application stores the TotalReactionsOnBlogs as

an attribute on the same DynamoDB table.

A developer needs to implement an operation to retrieve the top 10 customers based on the greatest

number of reactions on their blogs This operation must not consume the DynamoDB table's existing read

capacity.

What should the developer do to meet these requirements in the MOST operationally efficient manner?

A. For the existing DynamoDB table, create a new global secondary index (GSI) that has the UserName as

a partition key and the TotalReactionsOnBlogs as a sort key.

B. For the existing DynamoDB table, create a new local secondary index (LSI) that has the UserName as a

partition key and the TotalReactionsOnBlogs as a sort key

C. Back up and restore the DynamoDB table to a new DynamoDB table Create a new global secondary

index (GSI) that has the UserName as a partition key and the TotalReactionsOnBlogs as a sort key Delete

the old DynamoDB table

D. Back up and restore the DynamoDB table to a new DynamoDB table. Create a new local secondary

index (LSI) that has the UserName as a partition key and the TotalReactionsOnBlogs as a sort key. Delete

the old DynamoDB table.

Answer: B

27. - (Exam Topic 4)

A developer is troubleshooting a new AWS Lambda function. The function should run automatically each

time a new object is uploaded to an Amazon S3 bucket. However, the developer finds that all calls failed

before they reached the application code inside the function.

Which of the following is a possible reason for this failure?

A. The function resource policy does not allow access from Amazon S3.

B. The function execution role does not allow access from Amazon S3.

C. The function execution role does not allow access to Amazon S3.

D. The IAM user does not have access to Amazon S3.

Answer: C

28. - (Exam Topic 4)

A company uses the AWS SDK for JavaScript in the Browser to build a web application and then hosts the application on Amazon S3. The company wants the application to support 10,000 users concurrently. The company selects Amazon DynamoDB to store user preferences in a table. There is a requirement to uniquely identify users at any scale.

Which solution will meet these requirements?

A. Create a user cookie. Attach an 1AM role to the S3 bucket that hosts the application.

B. Deploy an Amazon CloudFront distribution with an origin access identity (OAI) to access the S3 bucket.

C. Configure and use Amazon Cognito. Access DynamoDB with the authenticated users.

D. Create an IAM user for each user. Use fine-grained access control on the DynamoDB table to control access.

Answer: C

Explanation:

This will allow the application to support 10,000 users concurrently and will provide a unique identifier for each user. By using Amazon Cognito, the company can authenticate users and then access DynamoDB with the authenticated users to store their preferences in a table. This approach will allow the company to control access to the DynamoDB table and to scale to any number of users. Creating a user cookie or deploying an Amazon CloudFront distribution with an OAI would not solve the problem because these solutions do not provide a way to uniquely identify users or control access to DynamoDB. Creating an IAM user for each user and using fine-grained access control on the DynamoDB table would not be practical or scalable because it would require the company to manage and maintain a large number of IAM users. When dealing with user profiles in serverless applications we often turn to Cognito for managing their credentials while the app itself will store user entities.

https://www.sorenandersen.com/manage-user-profile-data-between-cognito-and-dynamodb/

29. - (Exam Topic 4)

A company is expanding the compatibility of its photo-sharing mobile app to hundreds of additional devices with unique screen dimensions and resolutions. Ph are stored in Amazon S3 in their original format and
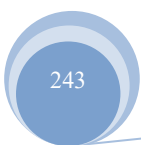
resolution. The company uses an Amazon CloudFront distribution to serve the photos. The app includes th

dimension and resolution of the display as GET parameters with every request.

A developer needs to implement a solution that optimizes the photos that are served to each device to

reduce load time and increase photo quality.

Which solution will meet these requirements MOST cost-effectively?

A. Use S3 Batch Operations to invoke an AWS Lambda function to create new variants of the photos with

the required dimensions and resolutions. Cr........dynamic CloudFront origin that automatically maps the

request of each device to the corresponding photo variant.

B. Use S3 Batch Operations to invoke an AWS Lambda function to create new variants of the photos with

the required dimensions and resolutions. Cre;..... Lambda@Edge function to route requests to the

corresponding photo variant by using request headers.

C. Create a Lambda@Edge function that optimizes the photos upon request and returns the photos as a

response. Change the CloudFront TTL cache policy to the maximum value possible.

D. Create a Lambda@Edge function that optimizes the photos upon request and returns the photos as a

response. In the same function, store a copy to processed photos on Amazon S3 for subsequent requests.

Answer: C

Explanation:

This solution will meet the requirements most cost-effectively because it allows the developer to use a

Lambda@Edge function to optimize the photos on the fly, without the need to pre-generate multiple

variants of the photos for different devices. This approach can reduce the overall storage and compute

costs associated with generating and storing multiple photo variants. Additionally, changing the CloudFront

TTL cache policy to the maximum value possible can help reduce the number of times the Lambda@Edge

function needs to be executed, further reducing the cost.

https://docs.aws.amazon.com/AmazonCloudFront/latest/DeveloperGuide/Expiration.html

30. - (Exam Topic 4)

A company's security policies require all database passwords to be rotated every 30 days The company

uses different database platforms, including Amazon Aurora databases and proprietary NoSQL document

databases, for different applications A developer needs to implement a solution for password rotation

Which solution will meet these requirements?

A. Create an AWS Lambda rotation function that has appropriate IAM permissions Store the password in AWS Secrets Manager Configure Secrets Manager to rotate the password by using the Lambda function

B. Encrypt the existing password with AWS Key Management Service (AWS KMS) Export the existing password Generate a random password with AWS KMS Use the AWS KMS password renewal feature to replace the existing password with the new password.

C. Create an AWS Lambda rotation function that has appropriate IAM permissions Store the password in AWS Systems Manager Parameter Store Configure Parameter Store to rotate the password by using the Lambda function

D. Integrate AWS Systems Manager Parameter Store with a Key Management Interoperability Protocol (KMIP)-compliant third-party secret manager to enable third-party database password rotation on AWS

Answer: C

31. - (Exam Topic 4)

A company is using AWS Elastic Beanstalk to deploy a three-tier application. The application uses an Amazon RDS DB instance as the database tier. The com wants to decouple the DB instance from the Elastic Beanstalk environment.

Which combination of steps should a developer take to meet this requirement? (Select TWO.)

A. Create a new Elastic Beanstalk environment that connects to the DB instance.

B. Create a new DB instance from a snapshot of the previous DB instance.

C. Use the Elastic Beanstalk CLI to decouple the DB instance.

D. Use the AWS CLI to decouple the DB instance.

E. Modify the current Elastic Beanstalk environment to connect to the DB instance.

Answer: B E

32. - (Exam Topic 4)

A developer is exposing an API by using Amazon API Gateway and AWS Lambda as the backend for an application. The developer wants to add validation rules for a POST method to ensure that the data (rom the frontend web form is valid. The validation rules must include mandatory fields, data type, length, and regular expressions.

Which solution will meet these requirements?

A. Create an API Gateway model with schema for data validation.

B. Create API Gateway HTTP request headers for data validation.

C. Create API Gateway URL query string parameters for data validation.

D. Create API Gateway URL path parameters for data validation

Answer: D

Explanation:

https://docs.aws.amazon.com/apigateway/latest/developerguide/api-gateway-method-request-validation.ht

ml

33. - (Exam Topic 4)

A company uses AWS CloudFormation to deploy an application that uses an Amazon API Gateway REST

API with AWS Lambda function integration. The application uses Amazon DynamoDB for data persistence.

The application has three stages, development, testing, and production. Each stage uses its own

DynamoDB table.

The company has encountered unexpected issues when promoting changes to the production stage. The

changes were successful in the development and testing stages. A developer needs to route 20% of the

traffic to the new production stage API with the next production release. The developer needs to route the

remaining 80% of the traffic to the existing production stage. The solution must minimize the number of

errors that any single customer experiences.

Which approach should the developer take to meet these requirements?

A. Update 20% of the planned changes to the production stage. Deploy the new production stage. Monitor

the results. Repeat this process five times to test all planned changes

B. Update the Amazon Route 53 DNS record entry for the production stage API to use a weighted routing

policy Set the weight to a value of 80. Add a second record for the production domain name Change the

second routing policy to a weighted routing policy. Set the weight of the second policy to a value of 20.

Change the alias of the second policy to use the testing stage API.

C. Deploy an Application Load Balancer (ALB) in front of the REST API Change the production API

Amazon Route 53 record to point traffic to the ALB Register the production and testing stages as targets of

the ALB with weights of 80% and 20%. respectively.

D. Configure canary settings for the production stage API. Change the percentage of traffic directed to

canary deployment to 20%. Make the planned updates to the production stage Deploy the changes.

Answer: B

34. - (Exam Topic 4)

A developer is testing a new file storage application that uses an Amazon CloudFront distribution to serve content from an Amazon S3 bucket. The distribution accesses the S3 bucket by using an origin access identity (OAI). The S3 bucket's permissions explicitly deny access to all other users.

The application prompts users to authenticate on a login page and then uses signed cookies to allow users to access their personal storage directories. The developer has configured the distribution to use its default cache behavior with restricted viewer access and has set the origin to point to the S3 bucket. However, when the developer tries to navigate to the login page, the developer receives a 403 Forbidden error.

The developer needs to implement a solution to allow unauthenticated access to the login page. The solution also must keep all private content secure.

Which solution will meet these requirements?

A. Add a second cache behavior to the distribution with the same origin as the default cache behavior. Set the path pattern for the second cache behavior to the path of the login page, and make viewer access unrestricted. Keep the default cache behavior's settings unchanged.

B. Add a second cache behavior to the distribution with the same origin as the default cache behavior. Set the path pattern for the second cache behavior to *, and make viewer access restricted. Change the default cache behavior's path pattern to the path of the login page, and make viewer access unrestricted.

C. Add a second origin as a failover origin to the default cache behavior. Point the failover origin to the S3 bucket. Set the path pattern for the primary origin to * and make viewer access restricted. Set the path pattern for the failover origin to the path of the login page, and make viewer access unrestricted.

D. Add a bucket policy to the S3 bucket to allow read access. Set the resource on the policy to the Amazon Resource Name (ARN) of the login page object in the S3 bucket. Add a CloudFront function to the default cache behavior to redirect unauthorized requests to the login page's S3 URI.

Answer: B

Explanation:

Adding a second cache behavior to the distribution with the same origin as the default cache behavior and setting the path pattern to * will allow access to all files in the S3 bucket. Changing the default cache

behavior's path pattern to the path of the login page and making viewer access unrestricted will allow unauthenticated users to access the login page, while keeping all other private content secure.

35. - (Exam Topic 4)

A company is running its website on Amazon EC2 instances behind an Application Load Balancer (ALB). The instances run in an Amazon EC2 Auto Scaling group. A developer needs to secure the internet-facing connection with HTTPS. The developer uses AWS Certificate Manager (ACM) to issue an X.509 certificate. What should the developer do to secure the connection?

A. Configure the ALB to use the X.509 certificate by using the AWS Management Console.

B. Configure each EC2 instance to use the same X.509 certificate by using the AWS Management Console.

C. Export the root key of the X.509 certificate to an Amazon S3 bucket. Configure each EC2 instance to use the same X.509 certificate from the S3 bucket.

D. Export the root key of the X.509 certificate to an Amazon S3 bucket. Configure the ALB to use the X.509 certificate from the S3 bucket.

Answer: A

Explanation:

https://aws.amazon.com/premiumsupport/knowledge-center/configure-acm-certificates-ec2/

https://aws.amazon.com/premiumsupport/knowledge-center/associate-acm-certificate-alb-nlb/

Configuring an Amazon Issued ACM public certificate for a website that's hosted on an EC2 instance requires exporting the certificate. However, you can't export the certificate because ACM manages the private key that signs and creates the certificate.

Instead, you can associate an ACM certificate with a load balancer or an ACM SSL/TLS certificate with a CloudFront distribution.

Associate an ACM SSL certificate with an Application Load Balancer

Open the Amazon EC2 console.

In the navigation pane, choose Load Balancers, and then choose your Application Load Balancer. Choose Add listener.

For Protocol, choose HTTPS. For port, choose 443.

For Default action(s), choose Forward to, and then select your ALB target group from the dropdown list. For

Default SSL certificate, choose From ACM (recommended) and then choose the ACM certificate. Choose

Save.

36. - (Exam Topic 4)

A developer is creating a web application that collects highly regulated and confidential user data through a

POST request. The web application is served through Amazon CloudFront. User names and phone

numbers must be encrypted at the edge and must remain encrypted throughout the entire application stack.

What is the MOST secure way to meet these requirements?

A. Enforce Match Viewer with HTTPS Only on CloudFront.

B. Use only the newest TLS security policy on CloudFront.

C. Enforce a signed URL on CloudFront on the front end.

D. Use field-level encryption on CloudFront.

Answer: D

Explanation:

Field-level encryption allows you to enable your users to securely upload sensitive information to your web

servers. The sensitive information provided by your users is encrypted at the edge, close to the user, and

remains encrypted throughout your entire application stack.

https://docs.aws.amazon.com/AmazonCloudFront/latest/DeveloperGuide/field-level-encryption.html

37. - (Exam Topic 4)

A developer is creating an AWS CloudFormation template to deploy Amazon EC2 instances across

multiple AWS accounts. The developer must choose the EC2 instances from a list of approved instance

types.

How can the developer incorporate the list of approved instance types in the CloudFormation template?

A. Create a separate CloudFormation template for each EC2 instance type in the list

B. In the Resources section of the CloudFormation template, create resources for each EC2 instance type

in the list.

C. In the CloudFormation template, create a separate parameter for each EC2 instance type in the list.

D. In the CloudFormation template, create a parameter with the list of EC2 instance types as

AllowedValues

Answer: B

38. - (Exam Topic 4)

A business intelligence application runs on Amazon Elastic Container Service (Amazon ECS) on AWS

Fargate. Application-level audits require a searchable log of all API calls from users to the application. The

application's developers must store the logs centrally on AWS.

Which solution will meet these requirements?

A. Install the Amazon CloudWatch agent on the Amazon EC2 host that runs Fargate.

B. Configure the awslogs log driver in the ECS task definition.

C. Configure AWS CloudTrail for the ECS containers.

D. Install the ECS logs collector on the ECS hosts.

Answer: B

Explanation:

https://docs.aws.amazon.com/AmazonECS/latest/developerguide/using_awslogs.html

Configuring the awslogs log driver in the ECS task definition will allow the application to store the logs

centrally on AWS. The awslogs log driver sends logs to Amazon CloudWatch Logs, which is a managed

service that provides search and analysis of log data. This solution will meet the requirements of storing the

logs centrally on AWS and making them searchable. Installing the Amazon CloudWatch agent on the

Amazon EC2 host or installing the ECS logs collector on the ECS hosts will not work because the

application is running on AWS Fargate and not on Amazon EC2. AWS CloudTrail is not a suitable solution

because it is used to record API calls made to AWS services, not application-level API calls.

39. - (Exam Topic 4)

A developer deploys a custom application to three Amazon EC2 instances. The application processes

messages from an Amazon Simple Queue Service (Amazon SQS) standard queue with default settings.

When the developer runs a load test on the Amazon SQS queue, the developer discovers that the

application processes many messages multiple times.

How can the developer ensure that the application processes each message exactly once?

A. Modify the SQS standard queue to an SQS FIFO queue.

B. Process the messages on one EC2 instance instead of three instances.
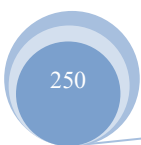
C. Create a new SQS FIFO queue. Point the application to the new queue.

D. Increase the DelaySeconds value on the current SQS queue.

Answer: C

Explanation:

https://docs.aws.amazon.com/AWSSimpleQueueService/latest/SQSDeveloperGuide/FIFO-queues-moving.

html Moving from a standard queue to a FIFO queue:

If you have an existing application that uses standard queues and you want to take advantage of the

ordering or exactly-once processing features of FIFO queues, you need to configure the queue and your

application correctly.

Note:

You can't convert an existing standard queue into a FIFO queue. To make the move, you must either create

a new FIFO queue for your application or delete your existing standard queue and recreate it as a FIFO

queue.

40. - (Exam Topic 4)

An application adds a processing date to each transaction that it receives. The application writes each

transaction to an Amazon DynamoDB table by using the Putitem operation. Each transaction has a unique

ID (transactionID). Sometimes the application receives transactions more than once.

A developer notices that duplicate transactions in DynamoDB have the latest processing date instead of the

date when the transaction was first received. Duplicate records happen infrequently, and most of the

transactions are unique.

What is the MOST cost-effective solution that the developer can implement to ensure that PutItem does not

update an existing record?

A. Call the GetItem operation first to confirm that the record does not exist. Then call PutItem

B. Enable the TTL attribute on the DynamoDB table.

C. Implement a conditional put by using the attribute_exists(transactionID) condition expression.

D. Implement a conditional put by using the attribute_not_exists(transactionID) condition expression.

Answer: C

41. - (Exam Topic 4)

A developer creates a web service that performs many critical activities. The web service code uses an

AWS SDK to publish noncritical metrics to Amazon CloudWatch by using the PutMetricData API. The web

service must return results to the caller as quickly as possible. The response data from the PutMetricData

API is not necessary to create the web service response.

Which solution will MOST improve the response time of the web service?

A. Upgrade to the latest version of the AWS SDK.

B. Call the PutMetricData API in a background thread.

C. Use the AWS SDK to perform a synchronous call to an AWS Lambda function. Call the PutMetricData

API within the Lambda function.

D. Send metric data to an Amazon Simple Queue Service (Amazon SQS) queue. Configure an AWS

Lambda function with the queue as the event source. Call the PutMetricData API within the Lambda

function.

Answer: D

Explanation:

https://docs.aws.amazon.com/lambda/latest/dg/invocation-async.html#invocation-async-api

42. - (Exam Topic 4)

A developer is designing a serverless application that customers use to select seats for a concert venue.

Customers send the ticket requests to an Amazon API Gateway API with an AWS Lambda function that

acknowledges the order and generates an order ID. The application includes two additional Lambda

functions: one for inventory management and one for payment processing. These two Lambda functions

run in parallel and write the order to an Amazon Dynamo DB table.

The application must provide seats to customers according to the following requirements. If a seat is

accidently sold more than once, the first order that the application received must get the seat. In these

cases, the application must process the payment for only the first order. However, if the first order is

rejected during payment processing, the second order must get the seat. In these cases, the application

must process the payment for the second order.

Which solution will meet these requirements?

A. Send the order ID to an Amazon Simple Notification Service (Amazon SNS) FIFO topic that fans out to

one Amazon Simple Queue Service (Amazon SQS) FIFO queue for inventory management and another

SQS FIFO queue for payment processing.

B. Change the Lambda function that generates the order ID to initiate the Lambda function for inventory

management. Then initiate the Lambda function for payment processing.

C. Send the order ID to an Amazon Simple Notification Service (Amazon SNS) topic. Subscribe the

Lambda functions for inventory management and payment processing to the topic.

D. Deliver the order ID to an Amazon Simple Queue Service (Amazon SQS) queue. Configure the Lambda

functions for inventory management and payment processing to poll the queue.

Answer: A

Explanation:

Inventory & Payment functions are running in parallel. So going with Fanout option.

https://docs.aws.amazon.com/sns/latest/dg/sns-common-scenarios.html

43. - (Exam Topic 4)

A company is migrating a legacy application to a serverless application on AWS. The legacy application

consists of a set of web services that are exposed by a Amazon API Gateway API. A developer needs to

replace the existing implementation of web services with AWS Lambda functions. The developer needs to

test new version of the" API that uses the functions in production. The developer must minimize the impact

of the testing on the application's users.

Which solution will meet these requirements?

A. Create a beta stage for the new version of the API. Send the updated endpoint to the users.

B. Create a development stage for the new version of the API. Use a canary deployment.

C. Create a development stage for the new version of the API. Promote a canary release.

D. Create a deployment stage. Enable mutual TLS for the new version of the API.

Answer: B

44. - (Exam Topic 4)

A developer is creating a photo website. Amazon Route 53 hosts the website's domain. The developer

wants to store the application code and images in an Amazon S3 bucket. The developer also wants to jse

Amazon CloudFront to deliver the images to users.

the developer has created the S3 bucket and a CloudFront distribution. The developer wants the images to

be accessed only through the website's domain. Users must not use the S3 URLs.

Which solution will meet these requirements?

A. Create a CloudFront origin access identity (OAI). Associate the OAI with the CloudFront distribution. Modify the S3 bucket policy to allow access from only the OAI. Create an alias in Route 53 that points the website domain to the S3 bucket.

B. Create a CloudFront origin access identity (OAI). Associate the OAI with the CloudFront distribution. Modify the S3 bucket policy to allow access from only the OAI. Update the Route 53 records to point the website domain to the CloudFront domain name.

C. Block public access in the S3 bucket policy. Configure CloudFront to use the S3 bucket endpoint. Create an alias in Route 53 that points the website domain to the S3 bucket.

D. Block public access in the S3 bucket policy. Configure CloudFront to use the S3 bucket endpoint. Create an alias in Route 53 that points the website domain to the CloudFront domain name.

Answer: A

45. - (Exam Topic 4)

A company is using an Amazon API Gateway REST API endpoint as a webhook lo publish events from an on-premises source control management (SCM) system to Amazon EventBridge. The company has configured an EventBridge rule to listen for the events and to control application deployment m a central AWS account. The company needs to receive the same events across multiple receiver AWS accounts How can a developer meet these requirements without changing the configuration of the SCM system?

A. Deploy the API Gateway REST API to all the required AWS accounts. Use the same custom domain name for all the gateway endpoints so that a single SCM webhook can be used for all events from all accounts.

B. Deploy the API Gateway REST API to all the receiver AWS accounts Create as many SCM webhooks as the number of AWS accounts.

C. Grant permission to the central AWS account for EventBridge to access the receiver AWS accounts. Add an EventBridge event bus on the receiver AWS accounts as the targets to the existing EventBridge rule

D. Convert the API Gateway type from REST API to HTTP API

Answer: A
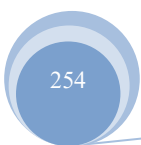
46. - (Exam Topic 4)

An ecommerce application is running behind an Application Load Balancer. A developer observes some unexpected load on the application during non-peak hours. The developer wants to analyze patterns for the client IP addresses that use the application.

Which HTTP header should the developer use for this analysis?

A. The X-Forwarded-Proto header

B. The X-Forwarded-Host header

C. The X-Forwarded-For header

D. The X-Forwarded-Port header

Answer: C

Explanation:

https://developer.mozilla.org/en-US/docs/Web/HTTP/Headers/X-Forwarded-Proto
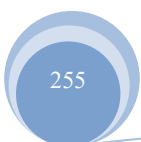

47. - (Exam Topic 4)

\ 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 un behind an Amazon API Gateway HTTP API.

rhe developer needs to implement a solution to register and log in users on the application's sign-in page.

The solution must minimize operational overhead and must minimize ongoing management of user identities.

Which solution will meet these requirements?

A. Create Amazon Cognito user pools for external social identity providers. Configure 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 1AM policy.

Answer: A

48. - (Exam Topic 4)

A company has a front-end application that runs on four Amazon EC2 instances behind an Elastic Load Balancer (ELB) in a production environment that is provisioned by AWS Elastic Beanstalk. A developer needs to deploy and test new application code while updating the Elastic Beanstalk platform from the current version to a newer version of Node.js. The solution must result in zero downtime for the application. Which solution meets these requirements?

A. Clone the production environment to a different platform version. Deploy the new application code, and test it. Swap the environment URLs upon verification.

B. Deploy the new application code in an all-at-once deployment to the existing EC2 instances. Test the code. Redeploy the previous code if verification fails.

C. Perform an immutable update to deploy the new application code to new EC2 instances. Serve traffic to the new instances after they pass health checks

D. Use a rolling deployment for the new application code. Apply the code to a subset of EC2 instances until the tests pass. Redeploy the previous code if the tests fail.

Answer: D

49. - (Exam Topic 4)

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?

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

B. Query the instance user data from http://169 254.169.254/latest/user-data/.

C. Query the Amazon Machine Image (AMI) information from http://169 254.169.254/latesl/meta-data/ami/.

D. Check the hosts file of the operating system.

Answer: A

50. - (Exam Topic 4)

A development team set up a pipeline to launch a test environment. The developers want to automate tests for their application. The team created an AWS CodePipeline stage to deploy the application to a test environment in batches using AWS Elastic Beanstalk. A later CodePipeline stage contains a single action
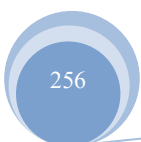
that uses AWS CodeBuild to run numerous automated Selenium-based tests on the deployed application.

The team must speed up the pipeline without removing any of the individual tests.

Which set of actions will MOST effectively speed up application deployment and testing?

A. Set up an all-at-once deployment in Elastic Beanstalk. Run tests in parallel with multiple CodeBuild actions.

B. Set up a rolling update in Elastic Beanstalk. Run tests in serial with a single CodeBuild action.

C. Set up an immutable update in Elastic Beanstalk. Run tests in serial with a single CodeBuild action.

D. Set up a traffic-splitting deployment in Elastic Beanstalk. Run tests in parallel with multiple CodeBuild actions.

Answer: A

Explanation:

https://docs.aws.amazon.com/elasticbeanstalk/latest/dg/using-features.deploy-existing-version.html

All at once – The quickest deployment method. Suitable if you can accept a short loss of service, and if quick deployments are important to you. With this method, Elastic Beanstalk deploys the new application version to each instance. Then, the web proxy or application server might need to restart. As a result, your application might be unavailable to users (or have low availability) for a short time.

51. - (Exam Topic 4)

A developer is building a three-tier application with an Application Load Balancer (ALB). Amazon EC2 instances, and Amazon RDS. There is an alias record in Amazon Route 53 that points to the ALB. When lhe developer tries to access the ALB from a laptop, the request times out.

Which logs should the developer investigate to verify that the request is reaching the AWS network?

A. VPC Flow Logs

B. Amazon Route 53 logs

C. AWS Systems Manager Agent logs

D. Amazon CloudWatch agent logs

Answer: A

52. - (Exam Topic 4)

A developer is monitoring an application that runs on an Amazon EC2 instance. The developer has

configured a custom Amazon CloudWatch metric with d#ta granularity of 1 second. If any issues occur, the

developer wants to be notified within 30 seconds by Amazon Simple Notification Service (Amazon SNS).

What should the developer do to meet this requirement?

A. Configure a high-resolution CloudWatch alarm.

B. Set up a custom CloudWatch dashboard.

C. Use Amazon CloudWatch Logs Insights.

D. Change to a default CloudWatch metric.

Answer: D

53. - (Exam Topic 4)

A developer uses server-side encryption with Amazon S3 managed encryption keys (SSE-S3) to store data

in Amazon S3. The developer needs to decrypt and download the encrypted objects by using the GetObject

API call.

What is the LEAST amount of information that the developer must provide in the API call to meet this

requirement?

A. The S3 object key only

B. The S3 object key and the encryption key

C. The S3 object key and the Amazon Resource Name (ARN) of the AWS Key Management Service (AWS

KMS) key

D. The S3 object key and a randomly salted Hash-based Message Authentication Code (HMAC) value of

the encryption key

Answer: A

Explanation:

https://docs.aws.amazon.com/AmazonS3/latest/API/API_GetObject.html

Encryption request headers, like x-amz-server-side-encryption, should not be sent for GET requests if your

object uses server-side encryption with KMS keys (SSE-KMS) or server-side encryption with Amazon

S3–managed encryption keys (SSE-S3). If your object does use these types of keys, you'll get an HTTP

400 BadRequest error.

https://docs.aws.amazon.com/AmazonS3/latest/API/API_GetObject.html#API_GetObject_Examples

https://awscli.amazonaws.com/v2/documentation/api/latest/reference/s3api/get-object.html
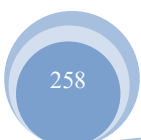
Sample Request:

The following request returns the object my-image.jpg. GET /my-image.jpg HTTP/1.1

Host: bucket.s3.<Region>.amazonaws.com Date: Mon, 3 Oct 2016 22:32:00 GMT

Authorization: authorization string

The following example uses the get-object command to download an object from Amazon S3: aws s3api

get-object --bucket text-content --key dir/my_images.tar.bz2 my_images.tar.bz2

54. - (Exam Topic 4)

A company is developing a microservice that will manage customer account data in an Amazon DynamoDB

table. Insert, update, and delete requests will be rare. Read traffic will be heavy. The company must have

the ability to access customer data quickly by using a customer ID. The microservice can tolerate stale data.

Which solution will meet these requirements with the FEWEST possible read capacity units (RCUs)?

A. Read the table by using eventually consistent reads.

B. Read the table by using strongly consistent reads.

C. Read the table by using transactional reads.

D. Read the table by using strongly consistent PartiQL queries.

Answer: A

Explanation:

Key points: "Read heavy", "access data quickly", "can tolerate stale data" To achieve: "FEWEST" possible

(RCUs)

For items up to 4 KB in size, one RCU can perform one strongly consistent read request per second. For

items up to 4 KB in size, one RCU can perform two eventually consistent read requests per second.

Transactional read requests require two RCUs to perform one read per second for items up to 4 KB. For

example, a strongly consistent read of an 8 KB item would require two RCUs, an eventually consistent read

of an 8 KB item would require one RCU, and a transactional read of an 8 KB item would require four RCUs.

https://aws.amazon.com/dynamodb/pricing/provisioned/

55. - (Exam Topic 4)

A developer is designing a serverless application for an ecommerce website. An Amazon API Gateway API

exposes.....
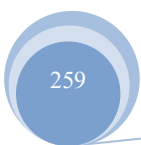
user operations. The website features shopping carts for the users. The shopping carts must be stored for

extended..... the front-end application.

The load on the application will vary significantly based on the time of day and the promotional sales that

are offered..... scale automatically to meet these changing demands.

Which solution will meet these requirements?

A. Store the data objects on an Amazon RDS DB instance. Cache the data objects in memory by using

Amazon ElastiCache.

B. Store the data objects on Amazon EC2 instances behind an Application Load Balancer. Use session

affinity (sticky sessions) for each user's shopping cart.

C. Store the data objects in Amazon S3 buckets. Cache the data objects by using Amazon CloudFront with

the maximum TTL.

D. Store the data objects in Amazon DynamoDB tables. Cache the data objects by using DynamoDB

Accelerator (DAX).

Answer: D

Explanation:

A developer is designing a serverless application for an ecommerce website." DynamoDB is the best option

to keep the servelress design.

56. - (Exam Topic 4)

A company that has multiple offices uses an Amazon DynamoDB table to store employee payroll

information. Item attributes consist of employee names, office identifiers, and cumulative daily hours

worked. The most frequently used query extracts a report of an alphabetical subset of employees for a

specific office.

Which design of the DynamoDB table primary key will have the MINIMUM performance impact?

A. Partition key on the office identifier and sort key on the employee name

B. Partition key on the employee name and sort key on the office identifier

C. Partition key on the employee name

D. Partition key on the office identifier

Answer: B

57. - (Exam Topic 4)

A banking application processes thousands of transactions each second. Each transaction payload must have end-to-end encryption. The application encrypts each transaction locally by using the AWS Key Management Service (AWS KMS) GenerateDataKey operation. A developer is testing the application and receives a Throttling Except ion error.

Which actions are best practices to resolve this error? (Select TWO.)

A. Use the LocalCryptoMaterialsCache feature of the AWS Encryption SDK encryption library.

B. Call the AWS KMS Encrypt operation directly to allow AWS KMS to encrypt the data.

C. Create a case in the AWS Support Center to increase the quota for the account.

D. Use Amazon Simple Queue Service (Amazon SQS) to queue the requests to AWS KMS.

E. Switch to an AWS KMS custom key store.

Answer: A C

Explanation:

https://aws.amazon.com/premiumsupport/knowledge-center/kms-throttlingexception-error/

58. - (Exam Topic 4)

A developer is migrating a legacy monolithic application to AWS and wants to convert the application's internal processes to microservices The application's internal processes communicate through internal asynchronous messaging Occasionally messages need to be reprocessed by multiple microservices

How should the developer migrate the application's internal messaging to AWS to meet these requirements?

A. Use Amazon Simple Queue Service (Amazon SQS) queues to communicate messages between the microservices

B. Use Amazon API Gateway to provide REST interfaces between the microservices

C. Use Amazon Kinesis Data Streams to communicate messages between the microservices

D. Use Amazon API Gateway to provide WebSocket APIs between the microservices.

Answer: A

59. - (Exam Topic 4)

An application that is running on Amazon EC2 instances stores data in an Amazon S3 bucket. All the data

must be encrypted in transit. How can a developer ensure that all traffic to the S3 bucket is encrypted?

A. Install certificates on the EC2 instances.

B. Create a private VPC endpoint.

C. Configure the S3 bucket with server-side encryption with AWS KMS managed encryption keys (SSE-KMS).

D. Create an S3 bucket policy that denies traffic when the value for the aws:SecureTransport condition key is false.

Answer: C

60. - (Exam Topic 4)

A developer designed an application on an Amazon EC2 instance. The application makes API requests to objects in an Amazon S3 bucket. Which combination of steps will ensure that the application makes the API requests in the MOST secure manner? (Select TWO.)

A. Create an IAM user that has permissions to the S3 bucket. Add the user to an 1AM group.

B. Create an IAM role that has permissions to the S3 bucket.

C. Add the IAM role to an instance profile. Attach the instance profile to the EC2 instance.

D. Create an IAM role that has permissions to the S3 bucket. Assign the role to an 1AM group.

E. Store the credentials of the 1AM user in the environment variables on the EC2 instance.

Answer: B C

61. - (Exam Topic 4)

A developer is writing an AWS Lambda function. The Lambda function needs to access items that are stored in an Amazon DynamoDB table.

What is the MOST secure way to configure this access for the Lambda function?

A. Create an IAM user that has permissions to access the DynamoDB table. Create an access key for this user. Store the access key ID and secret...... key in the Lambda function environment variables.

B. Add a resource-based policy to the DynamoDB table to allow access from the Lambda function's IAM role.

C. Create an IAM policy that allows access to the DynamoDB table. Attach this policy to the Lambda function's 1AM role.

D. Create a DynamoDB Accelerator (DAX) cluster. Configure the Lambda function to use the DAX cluster to access the DynamoDB table.

Answer: A

62. - (Exam Topic 4)

A developer is implementing an AWS Lambda function that will be invoked when an object is uploaded to Amazon S3. The developer wants to test the Lambda function in a local development machine before publishing the function to a production AWS account.

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

A. Upload an object to Amazon S3 by using the aws s3api put-object CLI command. Wait for the local Lambda invocation from the S3 event.

B. Create a sample JSON text file for a put object S3 event. Invoke the Lambda function locally. Use the aws lambda invoke CLI command with the JSON file and Lambda function name as arguments.

C. Use the sam local start-lambda CLI command lo start Lambda. Use the sam local generate-event s3 put CLI command to create the Lambda test JSON file. Use the sam local invoke CLI command with the JSON file as the argument to invoke the Lambda function.

D. Create a JSON string for the put object S3 event. In the AWS Management Console, use the JSON string to create a test event for the local Lambda function. Perform the test.

Answer: D

63. - (Exam Topic 4)

A developer has an application container, an AWS Lambda function, and an Amazon Simple Queue Sen/ice (Amazon SOS) queue. The Lambda function uses the SOS queue as an event source. The Lambda function makes a call to a third-party machine learning API when the function is invoked. The response from the third-party API can take up to 60 seconds to return.

the Lambda function's timeout value is currently 65 seconds. The developer has noticed that the Lambda function sometimes processes duplicate messages from the SOS queue.

What should the developer do to ensure that the Lambda function does not process duplicate messages?

A. Configure the Lambda function with a larger amount of memory.

B. Configure an increase in the Lambda function's timeout value.

C. Configure the SOS queue's delivery delay value to be greater than the maximum time it takes to call the third-party API.

D. Configure the SOS queue's visibility timeout value to be greater than the maximum time it takes to call the third-party API.

Answer: A

64. - (Exam Topic 4)

A company manages a financial services application that stores a large volume of data in an Amazon DynamoDB table. A developer needs to improve the performance of the DynamoDB read queries without increasing the cost.

Which solution meets these requirements?

A. Use parallel scans

B. Add a local secondary index (LSI).

C. Create a DynamoDB Accelerator (DAX) cluster.

D. Query with the Projection Expression parameter

Answer: C

65. - (Exam Topic 4)

A developer is migrating a Windows-based legacy application from on premises to AWS. The application will run on Amazon EC2 instances that run Amazon Linux. The application stores a large number of files in an NFS drive. The migration solution must minimize downtime and application code changes.

Which solution should the developer use to migrate the application data?

A. Create an Amazon S3 bucket. Use the s3 sync command to upload the files to the S3 bucket.

B. Create an Amazon Elastic Block Store (Amazon E8S) volume. Upload the files to the volume. Attach the volume to the EC2 instances.

C. Create an Amazon Elastic File System (Amazon EFS) file system. Use AWS DataSync to transfer the files to Amazon EFS.

D. Create an Amazon Elastic File System (Amazon EFS) file system. Mount the EFS file system from the legacy application. Copy the files to the EFS mount.

Answer: C

66. - (Exam Topic 4)

A developer wants to implement authentication using Amazon Cognito user pools for an existing API in Amazon API Gateway. After creating the Amazon Cognito user pool, the developer tests the GET request to the API. Unauthenticated requests to the API return a 200 OK status response.

Which combination of additional steps are required to complete the authentication implementation? (Select TWO.)

A. Create an Amazon Cognito authonzer in API Gateway and specify the Amazon Cognito user pool.

B. Create an AWS Lambda authorizer in API Gateway and specify the Amazon Cognito user pool.

C. Specify the authofizer in the GET method section of API Gateway and redeploy the API.

D. Use Amazon Cognito user pools to make and authenticate the request to API Gateway.

E. Create an Amazon Cognito authorizer in API Gateway and specify the Amazon Cognito identity pool.

Answer: A D

67. - (Exam Topic 4)

A developer is writing an application that stores data in an Amazon DynamoDB table by using the PutItem API operation. The table has a partition key of streamID and has a sort key of seqID. The developer needs to make sure that the PutItem invocation does not overwrite the existing partition key and sort key.

Which condition expression will maintain the uniqueness of the partition key and the sort key?

A)

```
condition = 'attribute_not_exists(streamID)
            AND
            attribute_not_exists(seqID)'
```

B)

```
condition = 'attribute_not_exists(PARTITION)
            AND
            attribute_not_exists(SORT)'
```

C)

```
condition = 'attribute_exists(streamID)
            AND
            attribute_exists(seqID)'
```

D)

```
condition = 'attribute_exists(PARTITION)
            AND
            attribute_exists(SORT)'
```

A. Option A

B. Option B

C. Option C

D. Option D

Answer: A

Explanation:

https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/Expressions.ConditionExpressions.html
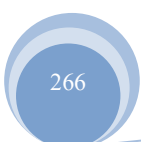
68. - (Exam Topic 4)

A developer has an application that pushes files from an on-premises local server to an Amazon S3 bucket.

The application uses an AWS access key and a secret key that are stored on the server for authentication.

The application calls AWS Security Token Service (AWS STS) to assume a role with access to perform the

S3 PUT operation to upload the file.

The developer is migrating the server to an Amazon EC2 instance. The EC2 instance is configured with an

1AM instance profile in the same AWS account that owns the S3 bucket.

What is the MOST secure solution for the developer to use to migrate the automation code?

A. Remove the code that calls the STS AssumeRole operation. Use the same access key and secret key

from the server to access the S3 bucket.

B. Remove the access key and the secret key. Use the STS AssumeRole operation to add permissions to

access the S3 bucket.

C. Remove the access key, the secret key, and the code that calls the STS AssumeRole operation. Use an

1AM instance profile role that grants access to the S3 bucket.

D. Remove the access key, the secret key, and the code that calls the STS AssumeRole operation. Create

a new access key and secret key. Use the new keys to access the S3 bucket.

Answer: C

69. - (Exam Topic 4)

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?

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

B. Query the instance user data from http://169.254.169.254/latest/user-data/.

C. Query the Amazon Machine Image (AMI) information from http://169.254.169.254/latest/meta-data/ami/.

D. Check the hosts file of the operating system.

Answer: A

70. - (Exam Topic 4)

A company that manages movie reviews wants to make its movie review data available to its customers by

calling a set of REST web service endpoints. The company will develop the retrieval functionality as AWS

Lambda functions and will expose the functionality to customers as an Amazon API Gateway REST API.

The company needs to ensure that no consumer exceeds 100 requests a day to the API during the initial

deployment. The company decides to use API Gateway API keys to restrict access. The company creates

and issues API keys for each customer.

What should the company do next to meet these requirements with the LEAST administrative effort?

A. Create a usage plan that applies throttling at 100 requests a day. Associate the usage plan with the API

keys of all customers.

B. Create an Amazon DynamoDB table to track all the requests that use a particular API key. For each

request to the API, count the number of records in the DynamoDB table for that day for the API key. If the

number of requests is 100 or greater, generate an exception.

C. Create a usage plan that applies a quota of 100 requests a day. Associate the usage plan with the API

keys of all customers.

D. Create an Amazon Aurora table to track all the requests that use a particular API key. For each request

to the API, count the number of records in the Aurora table for that day for the API key. If the number of

requests is 100 or greater, generate an exception.

Answer: C

Explanation:

What is quota in API gateway?

API quotas usually describe a certain amount of calls for longer intervals. For example, your API quota might be 5.000 calls per month. Remember that this could be combined with a rate limit or throttling setup e.g. 20 TPS (Transactions per Second).

What is throttling in AWS API gateway?

AWS throttling limits are applied across all accounts and clients in a region. These limit settings exist to prevent your API—and your account—from being overwhelmed by too many requests. These limits are set by AWS and can't be changed by a customer.

https://docs.aws.amazon.com/apigateway/latest/developerguide/api-gateway-create-usage-plans-with-con sole.ht Choose Enable quota, and set specify a value (for example, 5000) for a selected time interval (for example,

Month).

71. - (Exam Topic 4)

A developer is storing JSON files in an Amazon S3 bucket. The developer wants to securely share an object with a specific group of people. How can the developer securely provide temporary access to the objects that are stored in the S3 bucket?

A. Set object retention on the files. Use the AWS software development kit (SDK) to restore the object before subsequent requests. Provide the bucket's URL.

B. Use the AWS software development kit (SDK) to generate a presigned URL. Provide the presigned URL.

C. Set a bucket policy that restricts access after a period of time. Provide the bucket's S3 URL.

D. Configure static web hosting on the S3 bucket. Provide the bucket's web URL.

Answer: B

72. - (Exam Topic 4)

A company uses Amazon DynamoDB as a data store for its order management system. The company frontend application stores orders in a DynamoDB table. The DynamoDB table is configured to send change events to a DynamoDB stream. The company uses an AWS Lambda function to log and process the incoming orders based on data from the DynamoDB stream.

An operational review reveals that the order quantity of incoming orders is sometimes set to 0. A developer
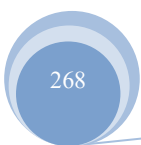
needs to create a dashboard that will show how many unique customers this problem affects each day.

What should the developer do to implement the dashboard?

A. Grant the Lambda function's execution role permissions to upload logs to Amazon CloudWatch Logs.

Implement a CloudWatch Logs Insights query that selects the number of unique customers for orders with

order quantity equal to 0 and groups the results in 1-day periods. Add the CloudWatch Logs Insights query

to a CloudWatch dashboard.

B. Use Amazon Athena to query AWS CloudTrail API logs for API calls. Implement an Athena query that

selects the number of unique customers for orders with order quantity equal to 0 and groups the results in 1

-day periods. Add the Athena query to an Amazon CloudWatch dashboard.

C. Configure the Lambda function to send events to Amazon EventBridge. Create an EventBridge rule that

groups the number of unique customers for orders with order quantity equal to 0 in 1 -day periods. Add a

CloudWatch dashboard as the target of the rule.

D. Turn on custom Amazon CloudWatch metrics for the DynamoDB stream of the DynamoDB table.

Create a CloudWatch alarm that groups the number of unique customers for orders with order quantity

equal to 0 in 1-day periods. Add the CloudWatch alarm to a CloudWatch dashboard.

Answer: D

73. - (Exam Topic 4)

A developer is creating a serverless orchestrator that performs a series of steps to processes incoming IoT

data. The orchestrator transforms the data, performs a series of calculations, and stores the results in

Amazon DynamoDB. The entire process is completed in less than a minute.

The orchestrator must process tens of thousands of transactions each second. The orchestrator must not

miss a transaction and must process each transaction at least once.

Which solution will meet these requirements MOST cost-effectively?

A. Use Amazon Simple Notification Service (Amazon SNS) to process the data through an HTTP or HTTPS

endpoint.

B. Use AWS Step Functions to process the data as Standard Workflows.

C. Use AWS Step Functions to process the data as Synchronous Express Workflows.

D. Use AWS Step Functions to process the data as Asynchronous Express Workflows.

Answer: D
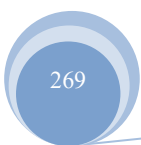
74. - (Exam Topic 4)

A company has an application that uses Amazon Cognito user pools as an identity provider. The company

must secure access to user records. The company I up multi-factor authentication (MFA). The company

also wants to send a login activity notification by email every time a user logs in.

What is the MOST operationally efficient solution that meets this requirement?

A. Create an AWS Lambda function that uses Amazon Simple Email Service (Amazon SES) to send the

email notification. Add an Amazon API Gateway to invoke the function. Call the API from the client side

when login confirmation is received.

B. Create an AWS Lambda function that uses Amazon Simple Email Service (Amazon SES) to send the

email notification. Add an Amazon Cognito post authentication Lambda trigger for the function.

C. Create an AWS Lambda function that uses Amazon Simple Email Service (Amazon SES) to send the

email notification. Create an Amazon CloudWatch Logs log subscription filter to invoke the function based

on the login status.

D. Configure Amazon Cognito to stream all logs to Amazon Kinesis Data Firehose. Create an AWS

Lambda function to process the streamed logs and it send the email notification based on the login status of

each user.

Answer: C

75. - (Exam Topic 4)

A company is using Amazon Cognito user pools for sign-up and login functionality for a web application.

The company is using Amazon RDS for the application's data persistence and is using Amazon API

Gateway and AWS Lambda for the application's API functionality. Users must provide their first name, last

name, email address, and phone number to sign up. All API endpoints have a Cognito user pool authorizer

to guard against unauthenticated requests.

A developer wants to show a personalized welcome screen to users after they log in. The welcome screen

needs to show the user's first name and the user's previous login date. According to company policy.

developers who work on the web application cannot store any personally identifiable information in RDS

instances.

Which solution should the developer implement to meet these requirements?
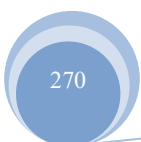
A. After successful login, submit a Cognito request for user tokens. When redirecting to the welcome screen, provide the identity token in the Authorization header of the request. Extract the user name from the given_name claim and the user's universally unique identifier (UUID) from the sub claim inside the identity token. Use the UUID as the key to store and retrieve the previous login information from the database.

B. After successful login, submit a Cognito request for user tokens. When redirecting to the welcome screen, provide the access token in the Authorization header of the request. Extract the user name from the given_name claim and the user's universally unique identifier (UUID) from the sub claim inside the access token. Use the UUID as the key to store and retrieve the previous login information from the database.

C. After successful login, submit a Cognito request for user tokens. When redirecting to the welcome screen, provide the identity token in the Authorization header of the request. Extract the user name from the given_name claim and the user's universally unique identifier (UUID) from the iss claim inside the identity token. Use the UUID as the key to store and retrieve the previous login information from the database.

D. After successful login, submit a Cognito request for user tokens. When redirecting to the welcome screen, provide the access token in the Authorization header of the request. Extract the user name from the given name claim and the user's universally unique identifier (UUID) from the iss claim inside the access token. Use the UUID as the key to store and retrieve the previous login information from the database.

Answer: C

76. - (Exam Topic 4)

A developer notices timeouts from the AWS CLI when the developer runs list commands. What should the developer do to avoid these timeouts?

A. Use the -page-size parameter to request a smaller number of items.

B. Use shorthand syntax to separate the list by a single space.

C. Use the yaml-stream output for faster viewing of large datasets.

D. Use quotation marks around strings to enclose data structure.

Answer: A

77. - (Exam Topic 4)

Which solution will meet these requirements?

A. Build the container from the amazon/aws-xray-daemon base image. Use the AWS X-Ray SDK to

instrument the application.

B. Install the Amazon CloudWatch agent on the container image. Use the CloudWatch SDK to publish

custom metrics from each of the microservices.

C. Install the AWS X-Ray daemon on each of the ECS instances.

D. Configure AWS CloudTrail data events to capture the traffic between the microservices.

Answer: C

78. - (Exam Topic 4)

A media company wants to test its web application more frequently. The company deploys the application

by using a separate AWS CloudFormation stack for each environment. The same CloudFormation template

is deployed to each stack as the application progresses through the development lifecycle.

A developer needs to build an automated alert for the quality assurance (QA) team. The developer wants

the alert to occur for new deployments in the final pre-production environment.

Which solution will moot these requirements?

A. Create an Amazon Simple Notification Service (Amazon SNS) topic. Add a subscription to notify the QA

team. Update the CloudFormation stack options to point to the SNS topic in the pro-production environment.

Most Voted

B. Create an AWS Lambda function that notifies the QA team. Create an Amazon EventBridge rule to

invoke the Lambda function on the default event bus. Filter the events on the CloudFormation service and

the CloudFormation stack Amazon Resource Name (ARM).

C. Create an Amazon CloudWatch alarm that monitors the metrics from CloudFormation. Filter the metrics

on the stack name and the stack status. Configure the alarm to notify the QA team.

D. Create an AWS Lambda function that notifies the QA team. Configure the event source mapping to

receive events from CloudFormation. Specify the filtering values to limit invocations to the desired

CloudFormation stack.

Answer: A

Explanation:

https://aws.amazon.com/premiumsupport/knowledge-center/cloudformation-rollback-email/

https://aws.amazon.com/premiumsupport/knowledge-center/cloudformation-rollback-email/

https://www.trendmicro.com/cloudoneconformity/knowledge-base/aws/CloudFormation/cloudformation-sta

ck-n

79. - (Exam Topic 4)

A company is creating a continuous integration and continuous delivery (CI/CD) process by using AWS CodePipeline for its application on AWS The CI/CD process will pull code from an AWS CodeCommit repository, create the application infrastructure by using AWS Cloud Formation, deploy the frontend code to an Amazon S3 bucket that is configured for static website hosting, and deploy the application backend on an Amazon Elastic Container Service (Amazon ECS) cluster.

A developer needs to create a new CodePipeline stage that creates the application infrastructure. Which solution will meet these requirements with the LEAST operational overhead?

A. Create a new action with AWS Lambda as the action provider Create a Lambda function that makes an AWS SDK API call to create the CloudFormation stack

B. Create a new action with CloudFormation as the action provider Set the action mode to CREATE UPDATE Target the CloudFormation stack to be launched.

C. Create a new action with Jenkins as the action provider. Create and configure a Jenkins job to make an API call by using the AWS CLI to create the CloudFormation stack.

D. Create a new action with AWS CodeBuikl as the action provider Configure the buildspec to make an API call by using the AWS CLI to create the CloudFormation stack

Answer: D

80. - (Exam Topic 4)

A team of developers is using an AWS CodePipeline pipeline as a continuous integration and continuous delivery (CI/CD) mechanism for a web application. A developer has written unit tests to programmatically test the functionality of the application code. The unit tests produce a test report that shows the results of each individual check. The developer now wants to run these tests automatically during the CI/CD process. Which solution will meet this requirement with the LEAST operational effort?

A. Write a Git pre-commit hook that runs the tests before every commit. Ensure that each developer who is working on the project has the pre-commit hook installed locally. Review the test report and resolve any issues before pushing changes to AWS CodeCommit.

B. Add a new stage to the pipeline. Use AWS CodeBuild as the provider. Add the new stage after the stage
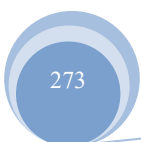
that deploys code revisions to the test environment. Write a buildspec that fails the CodeBuild stage if any test does not pass. Use the test reports feature of CodeBuild to integrate the report with the CodeBuild console. View the test results in CodeBuild. Resolve any issues.

C. Add a new stage to the pipeline. Use AWS CodeBuild as the provider. Add the new stage before the stage that deploys code revisions to the test environment. Write a buildspec that fails the CodeBuild stage if any test does not pass. Use the test reports feature of CodeBuild to integrate the report with the CodeBuild console. View the test results in CodeBuild. Resolve any issues.

D. Add a new stage to the pipeline. Use Jenkins as the provider. Configure CodePipeline to use Jenkins to run the unit tests. Write a Jenkinsfile that fails the stage if any test does not pass. Use the test report plugin for Jenkins to integrate the report with the Jenkins dashboard. View the test results in Jenkins. Resolve any issues.

Answer: C

Explanation:

https://aws.amazon.com/blogs/devops/test-reports-with-aws-codebuild/


81. - (Exam Topic 4)

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 for each function.

Now 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

82. - (Exam Topic 4)

A company requires objects that are stored in Amazon S3 to be encrypted The company is currently using
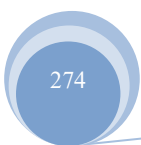
server-side encryption with AWS KMS managed encryption keys (SSE-KMS) A developer needs to

optimize the cost-effectiveness of the encryption mechanism without negatively affecting performance

What should the developer do to meet these requirements?

A. Change the encryption type to customer-provided keys.

B. Configure the SJ bucket to use an S3 Bucket Key for SSE-KMS

C. Use S3 bucket policies to limit the principals who can create objects

D. Use a custom policy to limit the number of AWS KMS calls that are allowed

Answer: B

83. - (Exam Topic 4)

A developer is managing an application that uploads user files to an Amazon S3 bucket named

companybucket. The company wants to maintain copies of all the files uploaded by users for compliance

purposes, while ensuring users still have access to the data through the application.

Which IAM permissions should be applied to users to ensure they can create but not remove files from the

bucket?

A.

```
{
    "Version":"2012-10-17",
    "Statement":[
        {
            "Sid":"statement1",
            "Effect":"Allow",
            "Action":[
                "s3:GetObject",
                "s3:PutObject",
                "s3:DeleteObject"
            ],
            "Resource":[
                "arn:aws:s3:::companybucket"
            ]
        }
    ]
}
```

B. Text Description automatically generated

```
{
    "Version":"2012-10-17",
    "Statement":[
        {
            "Sid":"statement1",
            "Effect":"Allow",
            "Action":[
                "s3:CreateBucket",
                "s3:GetBucketLocation"
            ],
            "Resource":[
                "arn:aws:s3:::companybucket"
            ]
        }
    ]
}
```

C. Text, letter Description automatically generated

```
{
    "Version":"2012-10-17",
    "Statement":[
        {
            "Sid":"statement1",
            "Effect":"Allow",
            "Action":[
                "s3:GetObject",
                "s3:PutObject",
                "s3:DeleteObject",
                "s3:PutObjectRetention"
            ],
            "Resource":[
                "arn:aws:s3:::companybucket"
            ]
        }
    ]
}
```

D. Text Description automatically generated

```
{
    "Version":"2012-10-17",
    "Statement":[
        {
            "Sid":"statement1",
            "Effect":"Allow",
            "Action":[
                "s3:GetObject",
                "s3:PutObject"
            ],
            "Resource":[
                "arn:aws:s3:::companybucket"
            ]
        }
    ]
}
```

Answer: D

Explanation:

To accomplish: "can create but not remove files"

-- Need: "Put Object"

-- Don't need: "Delete Object" https://docs.aws.amazon.com/cli/latest/reference/s3api/put-object.html

84. - (Exam Topic 4)

A developer is writing a new serverless application for a company. Several other developers must

collaborate on the code for this application, and the company expects frequent changes to the code. The

developer needs to deploy the code from source control to AWS Lambda with the fewest number of manual

steps.

Which strategy for the build and deployment should the developer use to meet these requirements?

A. Build the code locally, and then upload the code into the source control system. When a release is

needed, run AWS CodePipeline to extract the uploaded build and deploy the resources.

B. Use the AWS Serverless Application Model (AWS SAM) CLI to build and deploy the application from the

developer's local machine with the latest version checked out locally.

C. Use AWS CodeBuild and AWS CodePipeline to invoke builds and corresponding deployments when

configured source controlled branches have pull requests merged into them

D. Use the Lambda console to upload a .zip file of the application that is created by the AWS Serverless

Application Model (AWS SAM) CLI build command.

Answer: C

85. - (Exam Topic 4)

A developer is receiving an intermittent ProvisionedThroughputExceededException error from an

application that is based on Amazon DynamoDB. According to the Amazon CloudWatch metrics for the

table, the application is not exceeding the provisioned throughput

What could be the cause of the issue?

A. The DynamoDB table storage size is larger than the provisioned size.

B. The application is exceeding capacity on a particular hash key.

C. The DynamoDB table is exceeding the provisioned scaling operations.

D. The application is exceeding capacity on a particular sort key.

Answer: B

86. - (Exam Topic 4)

A company hosts a monolithic application on Amazon EC2 instances. The company starts converting some

features of the application to a serverless architecture by using Amazon API Gateway and AWS Lambda

After the migration, some users report problems with payment processing

Upon inspection, a developer discovers that the Lambda function that calls the external payment API is

taking longer than expected Therefore, the API Gateway requests are timing out

What should the developer do to resolve this issue in the serverless architecture?

A. Use the EC2 instances to make the API calls to the payment API

B. Use Amazon Simple Queue Service (Amazon SQS) with API Gateway and the Lambda function to

asynchronously call the payment API

C. Increase the API Gateway timeout duration to match the payment API time

D. Increase the Lambda function's memory to increase the network bandwidth and increase the speed of

the payment API calls

Answer: B

87. - (Exam Topic 4)

An open-source map application gathers data from several geolocation APIs. The application's source code

repository is public and can be used by anyone, but the geolocation APIs must not be directly accessible.

A developer must implement a solution to prevent the credentials that are used to access the APIs from

becoming public. The solution also must ensure that the application still functions properly.

Which solution will meet these requirements MOST cost-effectively?

A. Store the credentials in AWS Secrets Manager. Retrieve the credentials by using the GetSecretValue

API operation.

B. Store the credentials in AWS Key Management Service (AWS KMS). Retrieve the credentials by using

the GetPublicKey API operation.

C. Store the credentials in AWS Security Token Service (AWS STS). Retrieve the credentials by using the

GetCallerIdentity API operation.

D. Store the credentials in AWS Systems Manager Parameter Store. Retrieve the credentials by using the
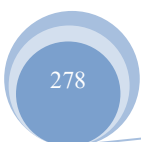
GetParameter API operation.

Answer: D

Explanation:

Secrets Manager: It is paid. The storage cost is $0.40 per secret per month and API interactions cost is $0.05 per 10,000 API calls. Parameter Store: For Standard parameters, No additional charge for storage and standard throughput. For higher throughput, API interactions cost is $0.05 per 10,000 API calls. For Advanced parameters, storage cost is $0.05 per advanced parameter per month and API interactions cost is $0.05 per 10,000 API calls.

https://aws.amazon.com/systems-manager/pricing/

88. - (Exam Topic 4)

A company has a serverless application that uses AWS Lambda functions and AWS Systems Manager parameters to store configuration data. The company moves the Lambda functions inside the VPC and into private subnets. The Lambda functions are now producing errors in their attempts to access Systems Manager parameters.

Which solution will allow the Lambda functions to access Systems Manager parameters inside the VPC?

A. Configure security groups to allow access lo Systems Manager.

B. Create an interface VPC endpoint for Systems Manager.

C. Use an internet gateway from inside the VPC.

D. Create a gateway VPC endpoint for Systems Manager.

Answer: B

89. - (Exam Topic 4)

A developer is creating a serverless application that uses an AWS Lambda function. The developer will use AWS Cloud Formation to deploy the application. The application will write logs to Amazon 3loudWatch Logs. The developer has created a log group in a Cloud Format ion template for the application to use. The developer needs to modify the CloudFormation template to make the name of the log [jroup available to the application at runtime.

Which solution will meet this requirement?

A. Use the AWS:: Include transform in CloudFormation to provide the log group's name to the application.

B. Pass the log group's name to the application in the user data section of the CloudFormation template.

C. Use the CloudFormation template's Mappings section to specify the log group's name for the application.

D. Pass the log group's Amazon Resource Name (ARN) as an environment variable to the Lambda function.

Answer: C

90. - (Exam Topic 4)

A movie fan club hosts a serverless web application in an Amazon S3 bucket. The application uses an

AWS Lambda function that is exposed by an Amazon API Gateway API. The function queries an Amazon

DynamoDB table to list actors sorted by movie. In the DynamoDB table. Actor is the primary key, Movie is

the sort key, and Role and Year are attributes.

In the web application, a developer wants to add a page that is named Phase 1 that lists only the movies

that were released between 2008 and 2012. The developer needs to fetch the Phase 1 items in a way that

minimizes the impact on the DynamoDB table.

Which solution will meet these requirements?

A. Create a global secondary index (GSI) with the Year attribute as the sort key. Create a Lambda function

to return the results from a new method in the API.

B. Design a Lambda function that scans the DynamoDB table and filters the results for the Phase 1 items.

Invoke the function from a new method in the API.

C. Use a DynamoDB stream to send items that are filtered by Year to a new DynamoDB table. Invoke a

Lambda function from a new method in the API.

D. Set up an Amazon CloudFront distribution. Create a Lambda@Edge function to filter the items that are

returned from the API request.

Answer: B

91. - (Exam Topic 4)

A developer is integrating Amazon ElastiCache in an application. The cache will store data from a database.

The cached data must populate real-time dashboards.

Which caching strategy will meet these requirements?

A. A read-through cache

B. A write-behind cache

C. A lazy-loading cache

D. A write-through cache

Answer: D

Explanation:

https://docs.aws.amazon.com/AmazonElastiCache/latest/mem-ug/Strategies.html#Strategies.WriteThroug

h

92. - (Exam Topic 4)

A developer has built an application running on AWS Lambda using AWS Serverless Application Model

(AWS SAM).

What is the correct sequence of steps to successfully deploy the application?

A. * 1. Build the SAM template in Amazon EC2.

   * 2. Package the SAM template to Amazon EBS storage.

   * 3. Deploy the SAM template from Amazon EBS.

B. * 1. Build the SAM template locally.

   * 2. Package the SAM template onto Amazon S3.

   * 3. Deploy the SAM template from Amazon S3.

C. * 1. Build the SAM template locally.

   * 2. Deploy the SAM template from Amazon S3.

   * 3. Package the SAM template for use.

D. * 1. Build the SAM template locally.

   * 2 Package the SAM template from AWS CodeCommit.

Answer: B

93. - (Exam Topic 4)

A developer is writing a new web application that will be deployed and managed with AWS Elastic

Beanstalk. The application will include an Amazon RDS DB instance. What steps should the developer take

to access the RDS DB instance from the code? (Select TWO.)

A. Modify the endpoint name using either the AWS Management Console or AWS CLI

B. Upload the driver to Amazon S3 and reference it in the code

C. Download the appropriate database driver and include it with the application.

D. Construct a connection string using the Elastic Beanstalk environment variables

E. Create a CNAME record referencing database instances ALIAS.

Answer: C D

94. - (Exam Topic 4)

A company is running an application on AWS Elastic Beanstalk in a single-instance environment. The

company's deployments must avoid any downtime. Which deployment option will meet these

requirements?

A. All at once

B. Rolling

C. Rolling with additional batch

D. Immutable

Answer: D

95. - (Exam Topic 4)

A company is building an application for stock trading. The application needs sub-millisecond latency for

processing trade requests. The company uses Amazon DynamoDB to store all the trading data that is used

to process each trading request

A development team performs load testing on the application and finds that the data retrieval time is higher

than expected. The development team needs a solution that reduces the data retrieval time with the least

possible effort.

Which solution meets these requirements?

A. Add local secondary indexes (LSIs) for the trading data

B. Store the trading data in Amazon S3, and use S3 Transfer Acceleration.

C. Add retries with exponential backoff for DynamoDB queries.

D. Use DynamoDB Accelerator (DAX) to cache the trading data

Answer: D

96. - (Exam Topic 4)

A developer is using AWS CodeDeploy to automate a company's application deployments to Amazon EC2.

Which application specification file properties are required to ensure the software deployments do not fail?

(Select TWO.)

A. The file must be a JSON-formatted file named appspec.json.

B. The file must be a YAML-formatted file named appspec.yml

C. The file must be stored in AWS CodeBuikJ and referenced from the application's source code.

D. The file must be placed in the root of the directory structure of the application's source code.

E. The file must be stored in Amazon S3 and referenced from the application's source code.

Answer: B D

97. - (Exam Topic 4)

A distributed application includes an AWS Lambda function that runs successfully in the DEV environment with 128 MB of memory assigned. The same function is failing in the TEST environment. The developer is monitoring the application using AWS X-Ray, but the Lambda function cannot be seen on the X-Ray service graph. The Lambda execution role has AWS X-Ray permissions

What is the MOST LIKELY cause for AWS X-Ray not showing any data for the Lambda function?

A. The AWS SDK needs to be included in the AWS Lambda deployment package.

B. VPC Flow Logs are not enabled for the application VPC.

C. Active tracing needs to be enabled for the Lambda function

D. The memory needs to be increased to 2 GB for the TEST environments.

**Answer:** C

Explanation:

https://stackoverflow.com/questions/43728674/enabling-x-ray-support-in-aws-lambda You need to check the "Enable Active Tracing" checkbox in the Lambda console.

98. - (Exam Topic 4)

A company is hosting a workshop for external users and wants to share the reference documents with the external users for 7 days. The company stores the reference documents in an Amazon S3 bucket that the company owns.
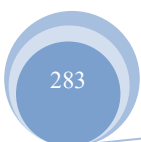
What is the MOST secure way to share the documents with the external users?

A. Use S3 presigned URLs to share the documents with the external users. Set an expiration time of 7 days.

B. Move the documents to an Amazon WorkDocs folder. Share the links of the WorkDocs folder with the external users.

C. Create temporary 1AM users that have read-only access to the S3 bucket. Share the access keys with the external users. Expire the credentials after 7 days.

D. Create a role that has read-only access to the S3 bucket. Share the Amazon Resource Name (ARN) of this role with the external users.

Answer: A

99. - (Exam Topic 4)

A developer runs an application that uses an Amazon API Gateway REST API. The developer needs to implement a solution to proactively monitor the health of both API responses and latencies in case a deployment causes a service disruption despite passing deployment pipeline tests. The solution also must check for endpoint vulnerability and unauthorized changes to APIs. URLs, and website content.

Which solution will meet these requirements?

A. Use the Amazon CloudWatch Synthetics canary functionality to call the API and check the responses and duration of the request.

B. Use a custom health check in the API that queries hosts to check the duration of the request.

C. Implement a custom AWS Lambda function with an Amazon EventBridge event to periodically call the API and check the responses and duration of the request.

D. Use the built-in API Gateway metrics to monitor the average duration of the API response.

Answer: A

100. - (Exam Topic 4)

A developer is working on a Python application that runs on Amazon EC2 instances. The developer wants to enable tracing of application requests to debug performance issues in the code.

Which combination of actions should the developer take to achieve this goal? (Select TWO.)

A. Install the Amazon CloudWatch agent on the EC2 instances.
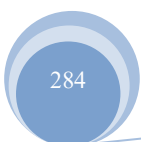
B. Install the AWS X-Ray daemon on the EC2 instances

C. Configure the application to write JSON-formatted logs to /var/log/cloudwatch.

D. Configure the application to write trace data to /var/log/xray.

E. Install and configure the AWS X-Ray SDK for Python in the application.

Answer: B E

101. - (Exam Topic 4)

A developer needs to use Amazon DynamoDB to store customer orders. The developer's company

requires all customer data to be encrypted at rest with a ke the company generates.

What should the developer do to meet these requirements?

A. Create the DynamoDB table with encryption set to None. Code the application to use the key to decrypt

the data when the application reads from the table. Code the application to use the key to encrypt the data

when the application writes to the table.

B. Store the key by using AWS Key Management Service (AWS KMS). Choose an AWS KMS customer

managed key during creation of the DynamoDB table. Provide the Amazon Resource Name (ARN) of the

AWS KMS key.

C. Store the key by using AWS Key Management Service (AWS KMS). Create the DynamoDB table with

default encryption. Include the kms:Encrypt parameter with the Amazon Resource Name (ARN) of the AWS

KMS key when using the DynamoDB software development kit (SDK).

D. Store the key by using AWS Key Management Service (AWS KMS). Choose an AWS KMS AWS

managed key during creation of the DynamoDB table Provide the Amazon Resource Name (ARN) of the

AWS KMS key.

Answer: C

102. - (Exam Topic 4)

A company must encrypt sensitive data that the company will store in Amazon S3. A developer must retain

total control over the company's AWS Key Management Service (AWS KMS) key and the company's data

keys. The company currently uses an on-premises hardware security module (HSM) solution. The

company wants to move its key management onto AWS.

Which solution will meet these requirements?
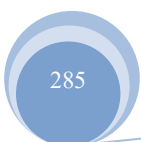
A. Implement server-side encryption with AWS KMS managed keys (SSE-KMS). Use AWS CloudHSM to generate the KMS key and data keys to use with AWS KMS.

B. Implement server-side encryption with customer-provided encryption keys (SSE-C). Use AWS CloudHSM to generate the KMS key and manage the data keys that the company will use to read and write objects to Amazon S3.

C. Implement server-side encryption with Amazon S3 managed encryption keys (SSE-S3). Use AWS CloudHSM to generate the KMS key and manage the data keys that the company will use to read and write objects to Amazon S3.

D. Implement server-side encryption with AWS KMS managed keys (SSE-KMS). Use the AWS KMS custom key store feature to manage the data keys. Then read or write objects to Amazon S3 as normal.

Answer: D

Explanation:

https://docs.aws.amazon.com/cloudhsm/latest/userguide/best-practices.html Q: Can other AWS services use CloudHSM to store and manage keys?

AWS services integrate with AWS Key Management Service, which in turn is integrated with AWS CloudHSM through the KMS custom key store feature. If you want to use the server-side encryption offered by many AWS services (such as EBS, S3, or Amazon RDS), you can do so by configuring a custom key store in AWS KMS.

103. - (Exam Topic 4)

A developer at a company recently created a serverless application to process and show data from business reports. The application's user interface (UI) allow users to select and start processing the files. The UI displays a message when the result is available to view. The application uses AWS Step Functions with A Lambda functions "to process the files. The developer used Amazon API Gateway and Lambda functions to create an API to support the UI.

The company's UI team reports that the request to process a file is often returning timeout errors because of the size or complexity of the files. The UI team w< API to provide an immediate response so that the UI can display a message while the files are being processed. The backend process that is invoked by the A needs to send an email message when the report processing is complete.

What should the developer do to configure the API to meet these requirements?

A. Change the API Gateway route to add an X-Amz-Invocation-Type header with a static value of 'Event' in the integration request. Deploy the API Gatt stage to apply the changes.

B. Change the configuration of the Lambda function that implements the request to process a file. Configure the maximum age of the event so that the Lambda function will run asynchronously.

C. Change the API Gateway timeout value to match the Lambda function timeout value. Deploy the API Gateway stage to apply the changes.

D. Change the API Gateway route to add an X-Amz-Target header with a static value of 'Async' in the integration request. Deploy the API Gateway stag apply the changes.

Answer: A

104. - (Exam Topic 4)

A company has an application that runs on AWS Elastic Beanstalk in a load-balanced environment. The company needs to update the instance types in the environment to a more recent generation of instance types. The company must minimize downtime during the deployment of this configuration change.

Which deployment options will meet these requirements? (Choose two.)

A. Disabled

B. Rolling based on Health

C. Immutable

D. All at once

E. Canary

Answer: B C

Explanation:

https://docs.aws.amazon.com/elasticbeanstalk/latest/dg/using-features.rollingupdates.html

105. - (Exam Topic 4)

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 the files 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. Use the S3 Standard storage class. Create an S3 Lifecycle policy to transition the files to the S3 Glacier Flexible Retrieval storage class after 1 year.

C. 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.

D. Store the files on an Amazon Elastic File System (Amazon EFS) mount. 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/

106. - (Exam Topic 4)

A developer is creating a Java application that will store sensitive data in an Amazon DynamoDB table. The data must be encrypted at all times.

How can the developer meet this requirement?

A. Enable encryption at rest by using an AWS Key Management Service (AWS KMS) AWS owned key for the DynamoDB table.

B. Enable encryption at rest by using an AWS Key Management Service (AWS KMS) customer managed key for the DynamoDB table.

C. Implement client-side encryption in the application code by using the DynamoDB Encryption Client.

D. Use an HTTPS connection to encrypt data in transit.

Answer: C

Explanation:

Client-side and server-side encryption:

"DynamoDB Encryption Client" supports client-side encryption, where you encrypt your table data before you send it to DynamoDB. However, DynamoDB provides a server-side encryption at rest feature that transparently encrypts your table when it is persisted to disk and decrypts it when you access the table.

https://docs.aws.amazon.com/dynamodb-encryption-client/latest/devguide/client-server-side.html

107. - (Exam Topic 4)

A developer is migrating to Amazon Cognito from a custom user management solution that stores user information in a database. The developer has created a…… Amazon Cognito user pool. The developer needs to migrate the existing user information to the user pool without forcing users to change their passwords. Which solution will meet these requirements?

A. Import users from a .csv file.

B. Add an OpenID Connect (OIDC) identity provider to the user pool.

C. Import users from a .json file.

D. Import users with a user migration AWS Lambda trigger.

Answer: B

108. - (Exam Topic 4)

A company is building a serverless application that uses AWS Lambda. The application includes Lambda functions that are exposed by Amazon API Gateway The functions will use several large third-party libraries, and the build artifacts will exceed 50 MB in size.

Which combination of steps should a developer take to prepare and perform the deployment? (Select TWO.)

A. Issue the aws lambda update-function-code CLI command with the -zip-file fileb://my-function.zip parameter

B. Upload the build artifact to Amazon S3.

C. Issue the aws cloudformation package CLI command.

D. Issue the aws lambda update-function-code CLI command with the -s3-bucket and -s3-key parameters.

E. Issue the aws lambda update-function-code CLI command with a parameter that points to the source code in AWS CodeCommit.

Answer: B D

109. - (Exam Topic 4)

A developer needs to secure the static assets in a company's Amazon S3 bucket that is named

DOC-EXAMPLE-BUCKET. The company has an Amazon CtoudFront distribution that serves the S3

bucket's assets to the public. The developer has already created the origin access identity (OAI) and has

associated the OAI with the distribution. The developer must write a bucket policy that allows only the

CloudFront distribution to access the S3 bucket

Which policy will meet this requirement MOST securely?

A)

```
{
    "Effect": "Allow",
    "Principal": {
        "AWS": "arn:aws:iam::cloudfront:user/CloudFront Origin Access Identity E123450AI12"
    },
    "Action": [
        "s3:GetObject"
    ],    "Resource": [
        "arn:aws:s3:::DOC-EXAMPLE-BUCKET/*"
    ]
}
```

B)

```
{
    "Effect": "Allow",
    "Principal": {
        "AWS": "arn:aws:iam::cloudfront:user/CloudFront Origin Access Identity E123450AI12"
    },
    "Action": [
        "s3:GetObject",
        "s3:PutObject"
    ],
    "Resource": [
        "arn:aws:s3:::DOC-EXAMPLE-BUCKET/*"
    ]
}
```

C)

```
{
    "Effect": "Allow",
    "Principal": {
        "AWS": "arn:aws:iam::cloudfront:user/CloudFront Origin Access Identity E123450AI12"
    },
    "Action": [
        "s3:GetObject"
    ],    "Resource": [
        "arn:aws:s3:::DOC-EXAMPLE-BUCKET"
    ]
}
```

D)

```
{
    "Effect": "Allow",
    "Principal": {
        "AWS": "arn:aws:iam::cloudfront:user/CloudFront Origin Access Identity E123450AI12"
    },
    "Action": [
        "s3:GetObject",
        "s3:PutObject"
    ],
    "Resource": [
        "arn:aws:s3:::DOC-EXAMPLE-BUCKET"
    ]
}
```

A. Option A

B. Option B

C. Option C

D. Option D

Answer: C