



AWS Certified Developer – Associate (DVA-C02)

100 Questions & Answers

*This is your condensed, high-impact review guide for the AWS Certified Developer – Associate exam. Use it right before test time — not for deep study. It's **structured to help you remember the most tested facts, services, patterns, and practices.***



Learning Objectives and Expectations

You'll get:

- Realistic, scenario-based questions modeled after the AWS certification exam format
- Organized in batches of **10 questions**, followed by **10 answers with explanations**
- Clear answer keys with short justifications to reinforce AWS service usage, architecture decisions, and best practices

AWS Developer – Associate (DVA-C02) Domains

Each domain carries a different weight. Domains 1 (Development) and 2 (Security) make up the majority of the test:

- **Domain 1: Development with AWS Services** – 32%
- **Domain 2: Security** – 26%
- **Domain 3: Deployment** – 24%
- **Domain 4: Troubleshooting and Optimization** – 18%

Quick Reminder: How the Exam Works

- **Number of Questions:** 65
- **Format:** Multiple choice, multiple response, real-world scenarios
- **Time Limit:** 130 minutes
- **Passing Score:** 720/1000
- **Test Provider:** Pearson VUE (online or onsite)

Questions by Domain

Domain	Title	Questions Assigned	Question Numbers
Domain 1	Development with AWS Services (32%)	33 Questions	Q1–4, Q6–10, Q14–15, Q21–24, Q31–34, Q39, Q51, Q53, Q58, Q61, Q64, Q67, Q70–71, Q73–74, Q81–82, Q85
Domain 2	Security (26%)	26 Questions	Q2, Q5, Q16–20, Q25–26, Q38, Q44, Q48–49, Q57, Q59, Q63, Q65, Q68–69, Q75, Q78–79, Q83–84, Q89
Domain 3	Deployment (24%)	24 Questions	Q11–13, Q27–30, Q35–37, Q40, Q45–47, Q50, Q52, Q55–56, Q60, Q62, Q66, Q76–77, Q86–87, Q90–91, Q94
Domain 4	Troubleshooting and Optimization (18%)	17 Questions	Q17, Q28, Q41–43, Q54, Q72, Q80, Q88, Q92–93, Q95–96, Q98–100

Remember — You Don't Need to Be Perfect to Pass!

The passing score is **720/1000**, meaning you can miss **13–16 questions** and still succeed. Focus on:

- **Core AWS development tools** like Lambda, API Gateway, DynamoDB, and S3
- **Security patterns** using IAM, Cognito, and KMS
- **CI/CD workflows** with CodePipeline, CodeDeploy, and SAM
- **Operational insights** using CloudWatch, X-Ray, and event-driven troubleshooting

Questions 1–10

Q1.

A developer is building a serverless image-processing app. When a new image is uploaded to Amazon S3, metadata should be extracted and stored in DynamoDB. What is the most efficient solution?

- A) Use Amazon CloudWatch Events to trigger a Lambda function.
 - B) Configure an Amazon S3 event to trigger a Lambda function.
 - C) Use Amazon SNS to publish S3 events to a Lambda function.
 - D) Schedule a Lambda function with Amazon EventBridge every 5 minutes.
-

Q2.

Which AWS service enables the secure, scalable management of database credentials with automatic rotation?

- A) AWS KMS
 - B) AWS IAM
 - C) AWS Systems Manager
 - D) AWS Secrets Manager
-

Q3.

A Lambda function is failing with a `ThrottlingException` from DynamoDB. What is the best mitigation?

- A) Increase the function's timeout.
 - B) Change to eventual consistency for reads.
 - C) Implement exponential backoff and retry logic.
 - D) Add more provisioned throughput manually.
-

Q4.

A developer wants to minimize cold start time for a Lambda function that requires access to VPC resources. What should they do?

- A) Use provisioned concurrency.
 - B) Allocate more memory to the function.
 - C) Remove VPC configuration.
 - D) Use container image deployment.
-

Q5.

Which of the following best ensures that only authenticated users can access a REST API built with API Gateway?

- A) Use Lambda authorizers
 - B) Require API keys
 - C) Enable IAM authorization
 - D) Integrate with Amazon Cognito user pool
-

Q6.

A developer uses API Gateway with Lambda in multiple environments (dev, test, prod). What is the simplest way to route API calls to the correct Lambda alias per environment?

- A) Create separate REST APIs for each environment.
 - B) Use Lambda versioning.
 - C) Use API Gateway stage variables.
 - D) Deploy to different regions.
-

Q7.

Which of the following services supports event replay and content-based filtering?

- A) Amazon SNS
 - B) AWS EventBridge
 - C) Amazon SQS
 - D) Amazon Kinesis Data Streams
-

Q8.

A Lambda function that processes Kinesis events is reprocessing the same records multiple times. What is the most likely cause?

- A) High concurrency
 - B) Record expiration in stream
 - C) The function failed and was retried before checkpoint
 - D) Stream has no shards
-

Q9.

What caching strategy best describes “reading from the cache first, fetching from DB only on cache miss”?

- A) Write-through
 - B) Lazy loading
 - C) Read-through
 - D) Cache aside
-

Q10.

Which CloudWatch feature enables a developer to extract metrics from structured logs?

- A) Custom dashboards
 - B) Log filters
 - C) Metric filters
 - D) Alarm thresholds
-

Answers 1–10

A1.

Answer: B) Configure an Amazon S3 event to trigger a Lambda function

Explanation: S3 event notifications directly invoke a Lambda when an object is uploaded, making it real-time and efficient.

A2.

Answer: D) AWS Secrets Manager

Explanation: Secrets Manager is designed to manage secrets like DB credentials with automatic rotation and fine-grained access control.

A3.

Answer: C) Implement exponential backoff and retry logic

Explanation: ThrottlingException is usually mitigated by retries with exponential backoff, as recommended by AWS SDKs.

A4.

Answer: A) Use provisioned concurrency

Explanation: Provisioned concurrency keeps Lambda instances warm and eliminates cold starts, even for VPC functions.

A5.

Answer: D) Integrate with Amazon Cognito user pool

Explanation: Cognito user pools handle user authentication and integrate natively with API Gateway as an authorizer.

A6.

Answer: C) Use API Gateway stage variables

Explanation: Stage variables can dynamically point to different Lambda aliases for dev/test/prod using the same API definition.

A7.

Answer: B) AWS EventBridge

Explanation: EventBridge supports event replay, schema validation, and advanced filtering on the content of events.

A8.

Answer: C) The function failed and was retried before checkpoint

Explanation: Kinesis does not remove records until checkpointed. If a batch fails, it is retried, leading to reprocessing.

A9.

Answer: B) Lazy loading

Explanation: Lazy loading fetches data only when it's not in the cache, then stores it for future reads.

A10.

Answer: C) Metric filters

Explanation: Metric filters let you extract and create CloudWatch metrics from structured log data.

Questions 11–20

Q11.

A developer configures an SQS queue as an event source for a Lambda function. Messages are not being deleted from the queue even though the function processes them successfully. What is the most likely cause?

- A) Lambda is failing before processing.
 - B) Lambda function timeout is too short.
 - C) The function is not deleting messages explicitly.
 - D) The function is not returning a successful status to Lambda.
-

Q12.

What is the maximum time a Lambda function can run before being forcibly terminated?

- A) 1 minute
 - B) 5 minutes
 - C) 10 minutes
 - D) 15 minutes
-

Q13.

A developer is implementing an OAuth2-based login flow for a mobile app. Which AWS service should be used to generate and manage user identity tokens?

- A) AWS IAM
 - B) AWS SSO
 - C) Amazon Cognito User Pool
 - D) STS
-

Q14.

A Lambda function needs to connect to an RDS database in a private subnet. What must be configured?

- A) NAT gateway in public subnet
 - B) Lambda must use VPC configuration
 - C) Lambda must have internet access
 - D) S3 endpoint must be created
-

Q15.

Which AWS service is best suited for automating canary deployments of Lambda functions?

- A) CodeBuild
 - B) CodeDeploy
 - C) CloudFormation
 - D) CloudWatch
-

Q16.

How can a developer **securely** provide a Lambda function with the ability to write to a specific S3 bucket?

- A) Store the access key and secret key in environment variables.
 - B) Attach AmazonS3FullAccess policy to the Lambda function.
 - C) Attach a custom IAM role with s3:PutObject to the function.
 - D) Enable public write permissions on the bucket.
-

Q17.

What should a developer do to enable their Lambda function to **reuse DB connections** and reduce latency during execution?

- A) Open DB connection inside the handler.
 - B) Re-establish DB connection every request.
 - C) Define connection globally outside the handler.
 - D) Increase function memory size.
-

Q18.

A developer receives AccessDenied errors when calling a KMS-encrypted S3 bucket from a Lambda function. What is the most likely issue?

- A) Lambda timeout is too short.
 - B) S3 bucket policy is missing.
 - C) IAM role does not have kms:Decrypt permission.
 - D) S3 is misconfigured to use server-side encryption.
-

Q19.

Which AWS service is best for **managing feature flags** and rolling out new configuration values without code deployment?

- A) AWS Systems Manager Parameter Store
 - B) AWS AppConfig
 - C) Amazon CloudWatch
 - D) AWS Secrets Manager
-

Q20.

A developer is consuming messages from an Amazon SNS topic using multiple Lambda functions. Each function should process only a subset of messages. What feature should be used?

- A) SNS dead-letter queues
 - B) SNS content-based filtering
 - C) SNS FIFO topics
 - D) SNS retries and delivery policies
-

Answers 11–20

A11.

Answer: D) The function is not returning a successful status to Lambda

Explanation: For event source mappings like SQS, Lambda deletes the message only after the function returns successfully (i.e., no exceptions).

A12.

Answer: D) 15 minutes

Explanation: The current maximum timeout for AWS Lambda is 900 seconds (15 minutes).

A13.

Answer: C) Amazon Cognito User Pool

Explanation: Cognito user pools handle OAuth2 flows and issue identity tokens such as ID tokens and access tokens.

A14.

Answer: B) Lambda must use VPC configuration

Explanation: To access private resources like RDS in a VPC, the Lambda must be configured with VPC subnet and security group access.

A15.

Answer: B) CodeDeploy

Explanation: AWS CodeDeploy supports linear and canary traffic shifting for Lambda function versions.

A16.

Answer: C) Attach a custom IAM role with s3:PutObject to the function

Explanation: Following least privilege, attach a custom IAM role granting only the specific permissions needed.

A17.

Answer: C) Define connection globally outside the handler

Explanation: Placing the DB connection outside the Lambda handler allows it to be reused across warm invocations.

A18.

Answer: C) IAM role does not have kms:Decrypt permission

Explanation: When accessing KMS-encrypted data, the caller (Lambda's IAM role) needs permission to use kms:Decrypt.

A19.

Answer: B) AWS AppConfig

Explanation: AppConfig allows you to manage configuration data and deploy it safely without code changes.

A20.

Answer: B) SNS content-based filtering

Explanation: SNS subscription filter policies can route specific messages to different subscribers based on attributes.

Questions 21–30

Q21.

A developer is building a REST API using Amazon API Gateway and AWS Lambda. The client application must receive different HTTP status codes based on specific error types. What should the developer use to implement this?

- A) API Gateway request models
 - B) Lambda function environment variables
 - C) API Gateway mapping templates and integration responses
 - D) Lambda function version aliases
-

Q22.

What is the **default retry behavior** for asynchronous AWS Lambda invocations (e.g., from S3 or SNS)?

- A) No retries
 - B) Retries indefinitely
 - C) Retries twice with delays
 - D) Retries three times immediately
-

Q23.

Which AWS service provides **fully managed build and test** capabilities for continuous integration workflows?

- A) CodeDeploy
 - B) CodePipeline
 - C) CodeBuild
 - D) CloudFormation
-

Q24.

A developer is testing a new Lambda function that integrates with DynamoDB. The function works locally, but fails with AccessDenied when deployed. What is the most likely fix?

- A) Add a VPC endpoint for DynamoDB
 - B) Increase Lambda timeout
 - C) Attach IAM policy with dynamodb:* to Lambda's execution role
 - D) Enable DynamoDB Streams
-

Q25.

A developer needs to upload files from a web browser directly to an S3 bucket. What is the most secure and scalable way to do this?

- A) Expose AWS credentials to the browser
 - B) Use a signed URL generated by a Lambda function
 - C) Write files to EC2 and copy to S3
 - D) Use IAM user with inline policies in client code
-

Q26.

How can a developer allow a Lambda function in Account A to access an SQS queue in Account B?

- A) Attach a bucket policy to SQS
 - B) Use a cross-account IAM role with appropriate trust and resource policies
 - C) Enable Lambda cross-region replication
 - D) Use VPC peering between accounts
-

Q27.

What is the primary purpose of PutItem in DynamoDB?

- A) To create a new item or replace an existing one
 - B) To increment a numeric value
 - C) To batch multiple writes
 - D) To delete multiple items
-

Q28.

A developer wants to **version control** both application code and infrastructure templates. What tool is best suited for this?

- A) AWS SAM
 - B) AWS CodeCommit
 - C) Amazon S3
 - D) Amazon EventBridge
-

Q29.

A function is triggered by messages from a Kinesis stream. The batch size is 100. If one record in the batch fails, what happens?

- A) Lambda retries the entire batch until success
- B) Lambda retries the failed record only

- C) Lambda drops the batch
 - D) Kinesis deletes successful records automatically
-

Q30.

Which AWS SDK feature automatically retries failed API requests with backoff?

- A) IAM credential rotation
 - B) SDK built-in retry handler
 - C) AWS Lambda Layers
 - D) Amazon Inspector agent
-

Answers 21–30

A21.

Answer: C) API Gateway mapping templates and integration responses

Explanation: API Gateway lets you map Lambda output to custom HTTP responses using integration responses and mapping templates.

A22.

Answer: C) Retries twice with delays

Explanation: Asynchronous invocations (e.g., from SNS, S3) retry up to **2 times**, with exponential backoff, if the function fails.

A23.

Answer: C) CodeBuild

Explanation: CodeBuild compiles source code, runs tests, and produces deployment artifacts in a fully managed CI service.

A24.

Answer: C) Attach IAM policy with dynamodb:* to Lambda's execution role

Explanation: The most likely cause is missing IAM permissions. Lambda must have dynamodb:PutItem or similar actions granted.

A25.

Answer: B) Use a signed URL generated by a Lambda function

Explanation: Signed URLs allow temporary, secure access for uploading directly to S3 without exposing credentials.

A26.

Answer: B) Use a cross-account IAM role with appropriate trust and resource policies

Explanation: Cross-account access requires a trust policy in Account B and permission in Account A's Lambda role to assume it.

A27.

Answer: A) To create a new item or replace an existing one

Explanation: PutItem either creates a new record or replaces an existing item with the same primary key.

A28.

Answer: B) AWS CodeCommit

Explanation: CodeCommit is a managed Git service suitable for source and infrastructure version control.

A29.

Answer: A) Lambda retries the entire batch until success

Explanation: For Kinesis and DynamoDB streams, Lambda retries the **whole batch** until it is either processed or expired.

A30.

Answer: B) SDK built-in retry handler

Explanation: AWS SDKs automatically implement retry logic with exponential backoff to handle transient failures.

Questions 31–40

Q31.

A developer needs to retrieve only specific attributes from a DynamoDB item to minimize latency and data transfer. Which method should be used?

- A) Use Scan operation
 - B) Use GetItem with ProjectionExpression
 - C) Use Query without filters
 - D) Use PutItem with return values
-

Q32.

Which AWS service provides **visual orchestration** of microservices using JSON-based workflows and error handling?

- A) AWS X-Ray
 - B) AWS Step Functions
 - C) Amazon EventBridge
 - D) AWS AppConfig
-

Q33.

A developer is building an application that must notify multiple services when a new order is placed. What service is best for this “fan-out” scenario?

- A) Amazon SQS
 - B) AWS Step Functions
 - C) Amazon SNS
 - D) Amazon CloudWatch
-

Q34.

A Lambda function must be invoked on a fixed schedule every 5 minutes. What’s the simplest way to do this?

- A) Use a CloudWatch metric alarm
 - B) Create an S3 event trigger
 - C) Use Amazon EventBridge scheduled rule
 - D) Create a cron job on EC2
-

Q35.

Which AWS tool allows a developer to test Lambda functions **locally** on their machine before deployment?

- A) AWS Systems Manager
 - B) AWS CodeBuild
 - C) AWS SAM CLI
 - D) AWS Console only
-

Q36.

A developer configures API Gateway with throttling limits for their REST API. What happens when requests exceed the rate limit?

- A) API Gateway returns a 400 error
 - B) The API slows down silently
 - C) API Gateway returns a 429 Too Many Requests error
 - D) Lambda returns an internal error
-

Q37.

Which action does **not** create an invocation charge for Lambda?

- A) Async trigger from S3
 - B) Test execution in AWS SAM CLI
 - C) Manual test in AWS Console
 - D) API Gateway integration
-

Q38.

A developer is using Query to read items from a DynamoDB table but is retrieving more data than expected. What is the most likely cause?

- A) Wrong partition key used
 - B) Query used a ProjectionExpression
 - C) Table is not encrypted
 - D) Auto scaling is disabled
-

Q39.

A developer wants to visualize trace data from multiple microservices and identify bottlenecks. What should they use?

- A) Amazon CloudWatch Logs
 - B) AWS Config
 - C) AWS X-Ray
 - D) AWS Trusted Advisor
-

Q40.

What permission must a Lambda function's IAM role have to write logs to CloudWatch?

- A) logs:PutMetricData
 - B) logs:PutLogEvents and logs:CreateLogGroup
 - C) cloudwatch:PutLogs
 - D) cloudtrail:WriteLogs
-

Answers 31–40

A31.

Answer: B) Use GetItem with ProjectionExpression

Explanation: ProjectionExpression lets you specify only the attributes you need, reducing latency and transfer.

A32.

Answer: B) AWS Step Functions

Explanation: Step Functions orchestrates services using JSON-based state machines with support for retries and branching logic.

A33.

Answer: C) Amazon SNS

Explanation: SNS supports fan-out by pushing the same message to multiple subscribers (SQS, Lambda, etc.).

A34.

Answer: C) Use Amazon EventBridge scheduled rule

Explanation: EventBridge (formerly CloudWatch Events) supports scheduled rules using cron or rate expressions.

A35.

Answer: C) AWS SAM CLI

Explanation: SAM CLI allows you to locally invoke and test Lambda functions before deploying to AWS.

A36.

Answer: C) API Gateway returns a 429 Too Many Requests error

Explanation: When rate limits are exceeded, API Gateway returns HTTP 429 errors indicating throttling.

A37.

Answer: B) Test execution in AWS SAM CLI

Explanation: Running locally with SAM CLI does not trigger a real AWS invocation, so no Lambda charge occurs.

A38.

Answer: A) Wrong partition key used

Explanation: Query requires specifying the correct partition key; if incorrect, it may return an empty or broader dataset.

A39.

Answer: C) AWS X-Ray

Explanation: X-Ray provides distributed tracing and visualizations for identifying latency bottlenecks across services.

A40.

Answer: B) logs:PutLogEvents and logs:CreateLogGroup

Explanation: These permissions are required for Lambda to create log groups and write log entries to CloudWatch.

Questions 41–50

Q41.

A developer needs to allow a frontend application to retrieve files from an S3 bucket securely. Which approach is most appropriate?

- A) Grant public read access on the bucket
 - B) Use IAM credentials in the frontend code
 - C) Generate a pre-signed URL with an expiration time
 - D) Use EC2 proxy to access the bucket
-

Q42.

Which statement about DynamoDB Scan operations is true?

- A) They are highly efficient for large datasets
 - B) They support sorting and filtering server-side
 - C) They read every item in the table
 - D) They can only be used on tables with GSIs
-

Q43.

A developer has an SQS queue configured as a Lambda event source. Messages are getting reprocessed even after successful executions. What should be checked first?

- A) Whether messages were deleted manually
 - B) Whether the Lambda timeout is too long
 - C) Whether the function returns errors during execution
 - D) Whether SQS is in FIFO mode
-

Q44.

What IAM condition key is used to enforce use of Multi-Factor Authentication (MFA)?

- A) aws:SecureTransport
 - B) aws:MultiFactorAuthPresent
 - C) aws:TokenType
 - D) aws:Encrypted
-

Q45.

Which service allows you to manage package dependencies for applications across multiple AWS accounts?

- A) AWS AppSync
 - B) AWS CodeArtifact
 - C) AWS CodeDeploy
 - D) AWS Cloud9
-

Q46.

A Lambda function must be deployed as a container image due to its size. What is the maximum allowed container image size?

- A) 50 MB
 - B) 250 MB
 - C) 5 GB
 - D) 10 GB
-

Q47.

A developer needs to allow users from a mobile app to upload images directly to S3. What is the most secure and scalable solution?

- A) Hardcode IAM keys into the app
 - B) Use Cognito Identity Pools with proper IAM role permissions
 - C) Give users access to the AWS CLI
 - D) Use S3 static website hosting
-

Q48.

What is the recommended method to rotate secrets in AWS automatically?

- A) Manually update environment variables
 - B) Use AWS Secrets Manager with a Lambda rotation function
 - C) Rotate via SSM Parameter Store CLI
 - D) Replace IAM roles daily
-

Q49.

A developer needs to perform canary deployments for a Lambda function. Which AWS service enables traffic shifting between versions?

- A) CodePipeline
 - B) CloudFormation
 - C) CodeDeploy
 - D) AppConfig
-

Q50.

Which AWS service enables managing the **release** of configuration changes and feature flags with controlled deployment strategies?

- A) CloudFormation
 - B) AWS CodeCommit
 - C) AWS AppConfig
 - D) Amazon Inspector
-

Answers 41–50

A41.

Answer: C) Generate a pre-signed URL with an expiration time

Explanation: Pre-signed URLs allow temporary, secure access to specific S3 objects without exposing credentials.

A42.

Answer: C) They read every item in the table

Explanation: Scan operations retrieve all items and are inefficient for large datasets compared to Query.

A43.

Answer: C) Whether the function returns errors during execution

Explanation: Lambda must return successfully; otherwise, the same messages will be reprocessed until deleted or DLQ triggered.

A44.

Answer: B) aws:MultiFactorAuthPresent

Explanation: This condition key ensures the requester is using MFA when making an API call.

A45.

Answer: B) AWS CodeArtifact

Explanation: CodeArtifact is a managed artifact repository for sharing packages across environments and accounts.

A46.

Answer: D) 10 GB

Explanation: Lambda supports container images up to 10 GB in size, enabling larger deployments.

A47.

Answer: B) Use Cognito Identity Pools with proper IAM role permissions

Explanation: Identity Pools allow secure, temporary AWS access for authenticated users, such as uploading to S3.

A48.

Answer: B) Use AWS Secrets Manager with a Lambda rotation function

Explanation: Secrets Manager supports automatic secret rotation using custom or built-in Lambda functions.

A49.

Answer: C) CodeDeploy

Explanation: CodeDeploy supports canary, linear, and all-at-once deployments for Lambda.

A50.

Answer: C) AWS AppConfig

Explanation: AppConfig allows safe release of app configurations and feature flags using deployment strategies.

Questions 51–60

Q51.

A developer needs to **store metadata** for millions of image files with fast lookups by image ID. Which service is most appropriate?

- A) Amazon RDS
 - B) Amazon DynamoDB
 - C) Amazon ElastiCache
 - D) Amazon S3
-

Q52.

What feature of AWS SDKs helps **automatically refresh credentials** for temporary IAM role access?

- A) Secret Manager integration
 - B) Static credentials configuration
 - C) Automatic credential rotation
 - D) Credential provider chain
-

Q53.

A developer is using a Lambda function to process events from an SQS queue. What is the result if the function throws an error during execution?

- A) The message is lost
 - B) Lambda deletes the message anyway
 - C) The message becomes visible again after visibility timeout
 - D) Lambda retries only failed lines in code
-

Q54.

Which CloudWatch feature helps **correlate logs with latency and errors** across microservices?

- A) CloudWatch Logs Metric Filters
 - B) X-Ray tracing
 - C) CloudWatch Dashboards
 - D) CloudTrail Insights
-

Q55.

Which AWS service allows developers to **upload and share private container images** across AWS accounts?

- A) Amazon EKS
 - B) Amazon ECR
 - C) AWS CodeDeploy
 - D) AWS Cloud9
-

Q56.

A developer needs to limit a Lambda function's **runtime duration** for cost control. Where should this be configured?

- A) Lambda environment variables
 - B) Lambda timeout setting
 - C) IAM policy
 - D) Lambda memory setting
-

Q57.

How can a Lambda function **securely access** a DynamoDB table?

- A) Use a role with full DynamoDB access for all tables
 - B) Hardcode access keys into the code
 - C) Attach an IAM role with scoped dynamodb:* permissions
 - D) Use public access on the DynamoDB table
-

Q58.

Which service is best for **real-time processing** of data streams from IoT devices?

- A) Amazon SQS
 - B) Amazon EventBridge
 - C) Amazon Kinesis Data Streams
 - D) Amazon RDS
-

Q59.

Which service **automatically retries failed Lambda executions** when invoked asynchronously?

- A) Amazon EC2
- B) Amazon CloudFront

- C) AWS Lambda
 - D) Amazon Cognito
-

Q60.

A developer is troubleshooting an IAM error and needs to **track which user or service made a specific API call**. What service should they use?

- A) CloudWatch
 - B) CloudTrail
 - C) X-Ray
 - D) Inspector
-

Answers 51–60

A51.

Answer: B) Amazon DynamoDB

Explanation: DynamoDB is ideal for storing structured metadata with high-speed lookups and massive scale.

A52.

Answer: D) Credential provider chain

Explanation: The SDK's credential provider chain automatically refreshes temporary credentials (e.g., from instance profiles or Cognito).

A53.

Answer: C) The message becomes visible again after visibility timeout

Explanation: If a Lambda function fails, the message will reappear after visibility timeout and can be retried or sent to a DLQ.

A54.

Answer: B) X-Ray tracing

Explanation: AWS X-Ray helps visualize traces, latency, and errors across distributed services.

A55.

Answer: B) Amazon ECR

Explanation: ECR is a managed container image registry that supports cross-account sharing and private repositories.

A56.

Answer: B) Lambda timeout setting

Explanation: You can control the max execution time of a Lambda function by configuring the timeout (max 15 minutes).

A57.

Answer: C) Attach an IAM role with scoped dynamodb:* permissions

Explanation: Using IAM roles ensures secure, temporary access and should be scoped to the needed tables and actions.

A58.

Answer: C) Amazon Kinesis Data Streams

Explanation: Kinesis supports high-throughput real-time streaming from many producers (e.g., IoT devices).

A59.

Answer: C) AWS Lambda

Explanation: For async invocations (e.g., S3, SNS), Lambda automatically retries failed executions up to two times.

A60.

Answer: B) CloudTrail

Explanation: CloudTrail records all API activity in AWS, useful for auditing and debugging IAM permission issues.

Questions 61–70

Q61.

A developer needs to process large files (10 GB+) uploaded to S3 and wants to optimize Lambda execution time and memory usage. What is the most suitable architecture?

- A) Use Lambda to download and process full files
 - B) Use S3 Transfer Acceleration to reduce latency
 - C) Use S3 event to trigger Lambda, which initiates AWS Step Functions workflow
 - D) Use EC2 with cron jobs to scan the bucket
-

Q62.

A team is using CloudFormation to deploy a serverless app with Lambda, API Gateway, and DynamoDB. What is the best way to structure these resources in a reusable, parameterized manner?

- A) Use raw AWS CLI commands
 - B) Use AWS Cloud9
 - C) Use nested CloudFormation stacks
 - D) Hardcode resource names and values
-

Q63.

Which of the following ensures **high-cardinality** partition keys in DynamoDB to avoid hot partitions?

- A) Use timestamp as the only key
 - B) Use UUIDs or user IDs as partition key
 - C) Use fixed values like "all" as key
 - D) Use the same partition key for similar records
-

Q64.

A developer is setting up a Lambda function to **automatically scale DynamoDB** when utilization exceeds 70%. What is the best way to do this?

- A) Enable on-demand capacity
 - B) Enable DynamoDB Auto Scaling with target tracking
 - C) Use Step Functions to increase capacity
 - D) Increase capacity manually
-

Q65.

Which AWS service allows **fine-grained attribute-level access control** in DynamoDB?

- A) IAM with dynamodb:SelectAttributes
 - B) DynamoDB Streams
 - C) DynamoDB with condition expressions
 - D) IAM policies with attribute-based conditions
-

Q66.

What is the maximum **execution time** for an AWS Step Functions Standard workflow?

- A) 15 minutes
 - B) 1 hour
 - C) 24 hours
 - D) 1 year
-

Q67.

A developer is writing an application that makes thousands of write requests to DynamoDB per second. What setting should be optimized to handle this workload efficiently?

- A) Reduce TTL
 - B) Use strong consistency
 - C) Use high-cardinality partition keys
 - D) Enable KMS encryption
-

Q68.

A developer wants to **prevent API Gateway** from serving old cached data to users. What should they do?

- A) Increase TTL
 - B) Enable throttling
 - C) Invalidate cache or use request parameters as cache key
 - D) Disable CORS
-

Q69.

A developer wants to **grant temporary AWS credentials** to end users after they authenticate. Which service is best?

- A) IAM user with access keys
 - B) Amazon Cognito Identity Pools
 - C) Secrets Manager
 - D) CodeDeploy
-

Q70.

A developer is building a chat app using WebSocket. Which AWS service is designed to support **real-time, bidirectional communication**?

- A) Amazon SQS
 - B) AWS Step Functions
 - C) Amazon API Gateway WebSocket API
 - D) AWS AppConfig
-

Answers 61–70

A61.

Answer: C) Use S3 event to trigger Lambda, which initiates AWS Step Functions workflow

Explanation: Step Functions can break large processes into manageable steps, ideal for long-running or large-file operations.

A62.

Answer: C) Use nested CloudFormation stacks

Explanation: Nested stacks allow modular, reusable templates with parameters, improving manageability.

A63.

Answer: B) Use UUIDs or user IDs as partition key

Explanation: High-cardinality partition keys ensure even data distribution and prevent throttling from hot partitions.

A64.

Answer: B) Enable DynamoDB Auto Scaling with target tracking

Explanation: Auto Scaling adjusts provisioned throughput based on utilization, ensuring efficiency and cost optimization.

A65.

Answer: D) IAM policies with attribute-based conditions

Explanation: Attribute-level access in DynamoDB can be enforced using IAM conditions and fine-grained access control.

A66.

Answer: D) 1 year

Explanation: Step Functions Standard workflows can run for up to 1 year, suitable for long-duration processes.

A67.

Answer: C) Use high-cardinality partition keys

Explanation: Using diverse partition keys spreads write traffic evenly, avoiding throttling.

A68.

Answer: C) Invalidate cache or use request parameters as cache key

Explanation: Changing cache keys based on request context avoids stale data from being served.

A69.

Answer: B) Amazon Cognito Identity Pools

Explanation: Identity Pools allow users to obtain temporary, scoped AWS credentials after authentication.

A70.

Answer: C) Amazon API Gateway WebSocket API

Explanation: API Gateway WebSocket APIs are designed for real-time, two-way communication like chat apps.

Questions 71–80

Q71.

A developer is using Amazon Cognito for user authentication. After sign-in, the app receives a token. What type of token should the app use to call a protected API?

- A) IAM role ARN
 - B) ID token
 - C) Access token
 - D) Refresh token
-

Q72.

Which AWS service can be used to **visualize distributed request flows and service dependencies**?

- A) Amazon CloudWatch
 - B) AWS X-Ray
 - C) AWS CodePipeline
 - D) Amazon Inspector
-

Q73.

A Lambda function is experiencing a **cold start delay** due to a large package size. What action can reduce this?

- A) Move dependencies to Lambda Layers
 - B) Add more environment variables
 - C) Increase memory
 - D) Add VPC configuration
-

Q74.

A developer is building an app that performs background job processing and must retry failed jobs independently. What service is best suited?

- A) Amazon EventBridge
 - B) AWS Step Functions
 - C) Amazon SNS
 - D) Amazon SQS
-

Q75.

What is the purpose of using ConditionExpression in DynamoDB PutItem operations?

- A) To specify which attributes are returned
 - B) To define retry behavior
 - C) To ensure items are only added under specific conditions
 - D) To create indexes on new items
-

Q76.

A developer uses AWS CLI to deploy a SAM application and wants quick sync without full redeploy. Which feature should be used?

- A) sam deploy
 - B) sam init
 - C) sam sync
 - D) sam validate
-

Q77.

Which service allows defining **cron expressions** for scheduling tasks on AWS without running servers?

- A) AWS Lambda
 - B) AWS CloudTrail
 - C) Amazon EventBridge
 - D) Amazon SQS
-

Q78.

What does the API Gateway **"usage plan"** control?

- A) The cache size
 - B) IAM role behavior
 - C) Throttling and quota for API keys
 - D) The duration of Lambda invocation
-

Q79.

What mechanism allows Lambda functions to **communicate with private RDS databases**?

- A) Lambda aliasing
- B) VPC configuration

- C) Lambda layers
 - D) S3 pre-signed URLs
-

Q80.

A developer stores configuration values in Parameter Store and wants to retrieve them securely in a Lambda function. What IAM action must be granted?

- A) ssm:GetParameter
 - B) secretsmanager:GetSecretValue
 - C) ec2:DescribeInstances
 - D) lambda:InvokeFunction
-

Answers 71–80

A71.

Answer: C) Access token

Explanation: Access tokens are used to authorize access to APIs protected by Cognito user pools.

A72.

Answer: B) AWS X-Ray

Explanation: X-Ray maps services and traces requests across microservices to identify latency and errors.

A73.

Answer: A) Move dependencies to Lambda Layers

Explanation: Layers reduce the size of deployment packages, minimizing cold start latency.

A74.

Answer: D) Amazon SQS

Explanation: SQS supports decoupled, retryable background processing for asynchronous jobs.

A75.

Answer: C) To ensure items are only added under specific conditions

Explanation: ConditionExpression ensures inserts or updates occur only if defined conditions are met.

A76.

Answer: C) sam sync

Explanation: sam sync provides faster iteration by syncing code and templates without full redeployment.

A77.

Answer: C) Amazon EventBridge

Explanation: EventBridge supports cron and rate expressions to schedule serverless tasks.

A78.

Answer: C) Throttling and quota for API keys

Explanation: Usage plans define per-API key rate limits and request quotas.

A79.

Answer: B) VPC configuration

Explanation: Lambda must be attached to a VPC with access to private subnets to reach RDS databases.

A80.

Answer: A) ssm:GetParameter

Explanation: This permission allows reading values from Systems Manager Parameter Store.

Questions 81–90

Q81.

A developer wants to reduce the cost of DynamoDB reads that can tolerate slightly stale data. What should they use?

- A) Strongly consistent reads
 - B) Eventually consistent reads
 - C) DAX
 - D) DynamoDB Streams
-

Q82.

A developer needs to ensure a Lambda function **executes exactly once** for each message from an SQS FIFO queue. What should be done?

- A) Use visibility timeout
 - B) Enable batching
 - C) Ensure idempotent function logic
 - D) Configure DLQ
-

Q83.

Which tool can a developer use to analyze code for **security vulnerabilities and best practice violations** in a CI/CD pipeline?

- A) AWS Secrets Manager
 - B) AWS X-Ray
 - C) Amazon Inspector
 - D) Amazon CodeGuru Reviewer
-

Q84.

A developer is troubleshooting unexpected Lambda throttling. What is the most likely cause?

- A) Function timeout too long
 - B) Hitting account concurrency limit
 - C) Missing permissions to VPC
 - D) IAM role misconfigured
-

Q85.

Which type of Lambda invocation **waits for a response** before proceeding?

- A) S3 event
 - B) SNS trigger
 - C) API Gateway
 - D) EventBridge scheduled rule
-

Q86.

A developer configures AWS SAM to deploy a function and sees that every change results in full redeployment. How can this be optimized?

- A) Use sam package
 - B) Use sam sync
 - C) Use sam build
 - D) Use sam logs
-

Q87.

A developer is sending events to EventBridge but no rules are triggering. What is the most likely cause?

- A) S3 is misconfigured
 - B) Wrong partition key
 - C) Rule pattern does not match event fields
 - D) API Gateway timeout
-

Q88.

Which AWS service provides **endpoints for accessing AWS services over private IPs** in VPCs?

- A) Internet Gateway
 - B) NAT Gateway
 - C) VPC Peering
 - D) VPC Endpoints
-

Q89.

A Lambda function needs to connect securely to an RDS database using secrets from Secrets Manager. What must the function have?

- A) Access to /tmp
 - B) secretsmanager:GetSecretValue permission
 - C) An API Gateway authorizer
 - D) EventBridge rule
-

Q90.

What does **provisioned concurrency** do for AWS Lambda?

- A) Adds CPU to Lambda
 - B) Eliminates all retries
 - C) Keeps Lambda instances pre-initialized
 - D) Schedules functions on cron
-

Answers 81–90

A81.

Answer: B) Eventually consistent reads

Explanation: Eventually consistent reads consume half the capacity of strongly consistent reads, reducing cost.

A82.

Answer: C) Ensure idempotent function logic

Explanation: FIFO queues guarantee order and deduplication, but exact-once execution requires idempotent logic in code.

A83.

Answer: D) Amazon CodeGuru Reviewer

Explanation: CodeGuru Reviewer scans code for security, performance, and best practice issues.

A84.

Answer: B) Hitting account concurrency limit

Explanation: Lambda functions are throttled when concurrency exceeds the account or reserved limits.

A85.

Answer: C) API Gateway

Explanation: API Gateway uses synchronous invocation and waits for the response from Lambda.

A86.

Answer: B) Use sam sync

Explanation: sam sync performs fast, incremental updates to avoid full redeloys during development.

A87.

Answer: C) Rule pattern does not match event fields

Explanation: If a rule's event pattern does not match incoming events, it will not trigger any targets.

A88.

Answer: D) VPC Endpoints

Explanation: VPC endpoints allow secure, private access to AWS services within a VPC without traversing the internet.

A89.

Answer: B) secretsmanager:GetSecretValue permission

Explanation: Lambda needs this IAM permission to retrieve the secret value securely at runtime.

A90.

Answer: C) Keeps Lambda instances pre-initialized

Explanation: Provisioned concurrency pre-warms Lambda instances to avoid cold starts and ensure low-latency responses.

Questions 91–100

Q91.

A developer wants to test an API Gateway endpoint that requires an x-api-key header. Where is this key managed?

- A) IAM
 - B) API Gateway usage plan
 - C) Lambda environment variable
 - D) CloudFormation template
-

Q92.

A developer is implementing a "**graceful failure**" pattern. What does this typically involve?

- A) Retrying without backoff
 - B) Returning a fallback value instead of error
 - C) Disabling logs on error
 - D) Forcing system shutdown
-

Q93.

A Lambda function is behind API Gateway and needs to be updated without downtime. What's the recommended deployment strategy?

- A) All-at-once
 - B) Blue/Green
 - C) Manual update
 - D) Throttle and retry
-

Q94.

A developer enables CloudWatch X-Ray tracing for a Lambda function. What must also be done in the Lambda config?

- A) Enable function versioning
 - B) Increase function memory
 - C) Enable Active Tracing
 - D) Add API Gateway caching
-

Q95.

A user uploads a file to S3, and you want to trigger a Lambda function to process it. What should you configure?

- A) S3 bucket policy
 - B) S3 event notification
 - C) API Gateway integration
 - D) VPC flow logs
-

Q96.

Which AWS service supports **automatic rollback** if an application deployment fails health checks?

- A) CodePipeline
 - B) CloudFormation
 - C) CodeDeploy
 - D) CloudTrail
-

Q97.

How can you pass runtime configuration (e.g., DB endpoint) into a Lambda function securely?

- A) Hardcode into source code
 - B) Use a public S3 object
 - C) Store in environment variables or Parameter Store
 - D) Include in deployment ZIP file
-

Q98.

A developer uses `sam local invoke` and receives access denied from DynamoDB. What is the most likely cause?

- A) SAM CLI has no Docker installed
 - B) Lambda timeout is too low
 - C) The wrong IAM profile is being used locally
 - D) Parameter Store isn't encrypted
-

Q99.

What is the correct method for adding cross-account permissions to an S3 bucket?

- A) Use inline policy on IAM role
 - B) Create a bucket policy allowing the other account
 - C) Create a Lambda authorizer
 - D) Set bucket to public
-

Q100.

Which service allows **rate limiting and request quota enforcement** at the API level?

- A) Lambda
 - B) SQS
 - C) API Gateway usage plan
 - D) CloudWatch
-

Answers 91–100

A91.

Answer: B) API Gateway usage plan

Explanation: API keys and quotas are managed through usage plans in API Gateway.

A92.

Answer: B) Returning a fallback value instead of error

Explanation: Graceful failure means handling errors by degrading functionality instead of crashing.

A93.

Answer: B) Blue/Green

Explanation: Blue/Green deployments minimize risk and downtime by switching between two environments.

A94.

Answer: C) Enable Active Tracing

Explanation: X-Ray tracing requires “Active Tracing” to be enabled in Lambda settings.

A95.

Answer: B) S3 event notification

Explanation: S3 can be configured to trigger Lambda functions on object events like upload.

A96.

Answer: C) CodeDeploy

Explanation: CodeDeploy supports automatic rollback on failed health checks during deployment.

A97.

Answer: C) Store in environment variables or Parameter Store

Explanation: Environment variables and Parameter Store allow secure, configurable runtime settings.

A98.

Answer: C) The wrong IAM profile is being used locally

Explanation: sam local invoke requires proper IAM profile configuration to access AWS services.

A99.

Answer: B) Create a bucket policy allowing the other account

Explanation: Cross-account access to S3 is typically managed using resource-based bucket policies.

A100.

Answer: C) API Gateway usage plan

Explanation: Usage plans in API Gateway allow rate limiting and request quotas based on API keys.