



Amazon

Exam Questions AWS-Certified-Database-Specialty

AWS Certified Database - Specialty

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NEW QUESTION 1

A gaming company is designing a mobile gaming app that will be accessed by many users across the globe. The company wants to have replication and full support for multi-master writes. The company also wants to ensure low latency and consistent performance for app users. Which solution meets these requirements?

- A. Use Amazon DynamoDB global tables for storage and enable DynamoDB automatic scaling
- B. Use Amazon Aurora for storage and enable cross-Region Aurora Replicas
- C. Use Amazon Aurora for storage and cache the user content with Amazon ElastiCache
- D. Use Amazon Neptune for storage

Answer: A

NEW QUESTION 2

A financial services organization employs an Amazon Aurora PostgreSQL DB cluster to host an application on AWS. No log files detailing database administrator activity were discovered during a recent examination. A database professional must suggest a solution that enables access to the database and maintains activity logs. The solution should be simple to implement and have a negligible effect on performance. Which database specialist solution should be recommended?

- A. Enable Aurora Database Activity Streams on the database in synchronous mod
- B. Connect the Amazon Kinesis data stream to Kinesis Data Firehos
- C. Set the Kinesis Data Firehose destination to an Amazon S3 bucket.
- D. Create an AWS CloudTrail trail in the Region where the database run
- E. Associate the database activity logs with the trail.
- F. Enable Aurora Database Activity Streams on the database in asynchronous mod
- G. Connect the Amazon Kinesis data stream to Kinesis Data Firehos
- H. Set the Firehose destination to an Amazon S3 bucket.
- I. Allow connections to the DB cluster through a bastion host onl
- J. Restrict database access to the bastion host and application server
- K. Push the bastion host logs to Amazon CloudWatch Logs using the CloudWatch Logs agent.

Answer: C

Explanation:

<https://docs.aws.amazon.com/AmazonRDS/latest/AuroraUserGuide/DBActivityStreams.Overview.html>

NEW QUESTION 3

A ride-hailing application uses an Amazon RDS for MySQL DB instance as persistent storage for bookings. This application is very popular and the company expects a tenfold increase in the user base in next few months. The application experiences more traffic during the morning and evening hours. This application has two parts:

An in-house booking component that accepts online bookings that directly correspond to simultaneous requests from users.
A third-party customer relationship management (CRM) component used by customer care representatives. The CRM uses queries to access booking data. A database specialist needs to design a cost-effective database solution to handle this workload. Which solution meets these requirements?

- A. Use Amazon ElastiCache for Redis to accept the booking
- B. Associate an AWS Lambda function to capture changes and push the booking data to the RDS for MySQL DB instance used by the CRM.
- C. Use Amazon DynamoDB to accept the booking
- D. Enable DynamoDB Streams and associate an AWS Lambda function to capture changes and push the booking data to an Amazon SQS queue
- E. This triggers another Lambda function that pulls data from Amazon SQS and writes it to the RDS for MySQL DB instance used by the CRM.
- F. Use Amazon ElastiCache for Redis to accept the booking
- G. Associate an AWS Lambda function to capture changes and push the booking data to an Amazon Redshift database used by the CRM.
- H. Use Amazon DynamoDB to accept the booking
- I. Enable DynamoDB Streams and associate an AWS Lambda function to capture changes and push the booking data to Amazon Athena, which is used by the CRM.

Answer: D

NEW QUESTION 4

A company has an ecommerce web application with an Amazon RDS for MySQL DB instance. The marketing team has noticed some unexpected updates to the product and pricing information on the website, which is impacting sales targets. The marketing team wants a database specialist to audit future database activity to help identify how and when the changes are being made.

What should the database specialist do to meet these requirements? (Choose two.)

- A. Create an RDS event subscription to the audit event type.
- B. Enable auditing of CONNECT and QUERY_DML events.
- C. SSH to the DB instance and review the database logs.
- D. Publish the database logs to Amazon CloudWatch Logs.
- E. Enable Enhanced Monitoring on the DB instance.

Answer: BD

Explanation:

<https://aws.amazon.com/blogs/database/configuring-an-audit-log-to-capture-database-activities-for-amazon-rds>

NEW QUESTION 5

A company maintains several databases using Amazon RDS for MySQL and PostgreSQL. Each RDS database generates log files with retention periods set to their default values. The company has now mandated that database logs be maintained for up to 90 days in a centralized repository to facilitate real-time and after-the-fact analyses.

What should a Database Specialist do to meet these requirements with minimal effort?

- A. Create an AWS Lambda function to pull logs from the RDS databases and consolidate the log files in an Amazon S3 bucket
- B. Set a lifecycle policy to expire the objects after 90 days.
- C. Modify the RDS databases to publish log to Amazon CloudWatch Log
- D. Change the log retention policy for each log group to expire the events after 90 days.
- E. Write a stored procedure in each RDS database to download the logs and consolidate the log files in an Amazon S3 bucket
- F. Set a lifecycle policy to expire the objects after 90 days.
- G. Create an AWS Lambda function to download the logs from the RDS databases and publish the logs to Amazon CloudWatch Log
- H. Change the log retention policy for the log group to expire the events after 90 days.

Answer: B

Explanation:

https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_LogAccess.html

https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_LogAccess.Procedural.UploadtoCloudWat

<https://aws.amazon.com/premiumsupport/knowledge-center/rds-aurora-mysql-logs-cloudwatch/>

https://docs.aws.amazon.com/AmazonCloudWatchLogs/latest/APIReference/API_PutRetentionPolicy.html

NEW QUESTION 6

A gaming company has implemented a leaderboard in AWS using a Sorted Set data structure within Amazon ElastiCache for Redis. The ElastiCache cluster has been deployed with cluster mode disabled and has a replication group deployed with two additional replicas. The company is planning for a worldwide gaming event and is anticipating a higher write load than what the current cluster can handle.

Which method should a Database Specialist use to scale the ElastiCache cluster ahead of the upcoming event?

- A. Enable cluster mode on the existing ElastiCache cluster and configure separate shards for the Sorted Set across all nodes in the cluster.
- B. Increase the size of the ElastiCache cluster nodes to a larger instance size.
- C. Create an additional ElastiCache cluster and load-balance traffic between the two clusters.
- D. Use the EXPIRE command and set a higher time to live (TTL) after each call to increment a given key.

Answer: B

NEW QUESTION 7

A Database Specialist is performing a proof of concept with Amazon Aurora using a small instance to confirm a simple database behavior. When loading a large dataset and creating the index, the Database Specialist encounters the following error message from Aurora:

ERROR: cloud not write block 7507718 of temporary file: No space left on device

What is the cause of this error and what should the Database Specialist do to resolve this issue?

- A. The scaling of Aurora storage cannot catch up with the data loadin
- B. The Database Specialist needs to modify the workload to load the data slowly.
- C. The scaling of Aurora storage cannot catch up with the data loadin
- D. The Database Specialist needs to enable Aurora storage scaling.
- E. The local storage used to store temporary tables is full
- F. The Database Specialist needs to scale up the instance.
- G. The local storage used to store temporary tables is full
- H. The Database Specialist needs to enable localstorage scaling.

Answer: C

NEW QUESTION 8

An AWS CloudFormation stack that included an Amazon RDS DB instance was accidentally deleted and recent data was lost. A Database Specialist needs to add RDS settings to the CloudFormation template to reduce the chance of accidental instance data loss in the future.

Which settings will meet this requirement? (Choose three.)

- A. Set DeletionProtection to True
- B. Set MultiAZ to True
- C. Set TerminationProtection to True
- D. Set DeleteAutomatedBackups to False
- E. Set DeletionPolicy to Delete
- F. Set DeletionPolicy to Retain

Answer: ACF

NEW QUESTION 9

A company has an AWS CloudFormation template written in JSON that is used to launch new Amazon RDS for MySQL DB instances. The security team has asked a database specialist to ensure that the master password is automatically rotated every 30 days for all new DB instances that are launched using the template.

What is the MOST operationally efficient solution to meet these requirements?

- A. Save the password in an Amazon S3 object
- B. Encrypt the S3 object with an AWS KMS key
- C. Set the KMS key to be rotated every 30 days by setting the EnableKeyRotation property to true
- D. Use a CloudFormation custom resource to read the S3 object to extract the password.
- E. Create an AWS Lambda function to rotate the secret
- F. Modify the CloudFormation template to add an AWS::SecretsManager::RotationSchedule resource
- G. Configure the RotationLambdaARN value and, for the RotationRules property, set the AutomaticallyAfterDays parameter to 30.
- H. Modify the CloudFormation template to use the AWS KMS key as the database password
- I. Configure an Amazon EventBridge rule to invoke the KMS API to rotate the key every 30 days by setting the ScheduleExpression parameter to */30/*.
- J. Integrate the Amazon RDS for MySQL DB instances with AWS IAM and centrally manage the master database user password.

Answer: B

Explanation:

<https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/aws-resource-secretsmanager-rotationsche>

NEW QUESTION 10

A business maintains a SQL Server database on-premises. Active Directory authentication is used to provide users access to the database. The organization transferred their database successfully to Amazon RDS for SQL Server. The organization, however, has reservations regarding user authentication in the AWS Cloud environment.

Which authentication solution should a database professional provide?

- A. Deploy Active Directory Federation Services (AD FS) on premises and configure it with an on-premises Active Director
- B. Set up delegation between the on- premises AD FS and AWS Security Token Service (AWS STS) to map user identities to a role using theAmazonRDSDirectoryServiceAccess managed IAM policy.
- C. Establish a forest trust between the on-premises Active Directory and AWS Directory Service for Microsoft Active Director
- D. Use AWS SSO to configure an Active Directory user delegated to access the databases in RDS for SQL Server.
- E. Use Active Directory Connector to redirect directory requests to the company's on-premises Active Directory without caching any information in the clou
- F. Use the RDS master user credentials to connect to the DB instance and configure SQL Server logins and users from the Active Directory users and groups.
- G. Establish a forest trust between the on-premises Active Directory and AWS Directory Service for Microsoft Active Director
- H. Ensure RDS for SQL Server is using mixed mode authenticatio
- I. Use the RDS master user credentials to connect to the DB instance and configure SQL Server logins and users from the Active Directory users and groups.

Answer: D

Explanation:

https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_SQLServerWinAuth.html

NEW QUESTION 10

Recently, an ecommerce business transferred one of its SQL Server databases to an Amazon RDS for SQL Server Enterprise Edition database instance. The corporation anticipates an increase in read traffic as a result of an approaching sale. To accommodate the projected read load, a database professional must establish a read replica of the database instance.

Which procedures should the database professional do prior to establishing the read replica? (Select two.)

- A. Identify a potential downtime window and stop the application calls to the source DB instance.
- B. Ensure that automatic backups are enabled for the source DB instance.
- C. Ensure that the source DB instance is a Multi-AZ deployment with Always ON Availability Groups.
- D. Ensure that the source DB instance is a Multi-AZ deployment with SQL Server Database Mirroring(DBM).
- E. Modify the read replica parameter group setting and set the value to 1.

Answer: BC

Explanation:

<https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/SQLServer.ReadReplicas.html>

NEW QUESTION 13

A company's ecommerce website uses Amazon DynamoDB for purchase orders. Each order is made up of a Customer ID and an Order ID. The DynamoDB table uses the Customer ID as the partition key and the Order ID as the sort key.

To meet a new requirement, the company also wants the ability to query the table by using a third attribute named Invoice ID. Queries using the Invoice ID must be strongly consistent. A database specialist must provide this capability with optimal performance and minimal overhead.

What should the database administrator do to meet these requirements?

- A. Add a global secondary index on Invoice ID to the existing table.
- B. Add a local secondary index on Invoice ID to the existing table.
- C. Recreate the table by using the latest snapshot while adding a local secondary index on Invoice ID.
- D. Use the partition key and a FilterExpression parameter with a filter on Invoice ID for all queries.

Answer: C

Explanation:

as Local secondary index can only be created while creating the Dynamodb table. and query needs to use third attribute on top of primary and sort key, so Local Secondary index has primary and sort key as well as the third attribute. Global secondary index can be created without primary and sort key

NEW QUESTION 15

A business is operating an on-premises application that is divided into three tiers: web, application, and MySQL database. The database is predominantly accessed during business hours, with occasional bursts of activity throughout the day. As part of the company's shift to AWS, a database expert wants to increase the availability and minimize the cost of the MySQL database tier.

Which MySQL database choice satisfies these criteria?

- A. Amazon RDS for MySQL with Multi-AZ
- B. Amazon Aurora Serverless MySQL cluster
- C. Amazon Aurora MySQL cluster
- D. Amazon RDS for MySQL with read replica

Answer: B

Explanation:

Amazon Aurora Serverless v1 is a simple, cost-effective option for infrequent, intermittent, or unpredictable workloads.

<https://aws.amazon.com/rds/aurora/serverless/>

NEW QUESTION 16

A team of Database Specialists is currently investigating performance issues on an Amazon RDS for MySQL DB instance and is reviewing related metrics. The team wants to narrow the possibilities down to specific database wait events to better understand the situation. How can the Database Specialists accomplish this?

- A. Enable the option to push all database logs to Amazon CloudWatch for advanced analysis
- B. Create appropriate Amazon CloudWatch dashboards to contain specific periods of time
- C. Enable Amazon RDS Performance Insights and review the appropriate dashboard
- D. Enable Enhanced Monitoring with the appropriate settings

Answer: C

Explanation:

https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_PerfInsights.Enabling.html <https://aws.amazon.com/rds/performance-insights/>
<https://aws.amazon.com/blogs/database/tuning-amazon-rds-for-mysql-with-performance-insights/>

NEW QUESTION 17

The Amazon CloudWatch metric for FreeLocalStorage on an Amazon Aurora MySQL DB instance shows that the amount of local storage is below 10 MB. A database engineer must increase the local storage available in the Aurora DB instance. How should the database engineer meet this requirement?

- A. Modify the DB instance to use an instance class that provides more local SSD storage.
- B. Modify the Aurora DB cluster to enable automatic volume resizing.
- C. Increase the local storage by upgrading the database engine version.
- D. Modify the DB instance and configure the required storage volume in the configuration section.

Answer: A

Explanation:

<https://docs.aws.amazon.com/AmazonRDS/latest/AuroraUserGuide/Aurora.AuroraMySQL.Monitoring.Metrics>. Unlike for other DB engines, for Aurora DB instances this metric reports the amount of storage available to each DB instance. This value depends on the DB instance class (for pricing information, see the Amazon RDS product page). You can increase the amount of free storage space for an instance by choosing a larger DB instance class for your instance."

NEW QUESTION 22

A database specialist is building a system that uses a static vendor dataset of postal codes and related territory information that is less than 1 GB in size. The dataset is loaded into the application's cache at start up. The company needs to store this data in a way that provides the lowest cost with a low application startup time.

Which approach will meet these requirements?

- A. Use an Amazon RDS DB instance
- B. Shut down the instance once the data has been read.
- C. Use Amazon Aurora Serverless
- D. Allow the service to spin resources up and down, as needed.
- E. Use Amazon DynamoDB in on-demand capacity mode.
- F. Use Amazon S3 and load the data from flat files.

Answer: D

Explanation:

<https://www.sumologic.com/insight/s3-cost-optimization/>

For example, for 1 GB file stored on S3 with 1 TB of storage provisioned, you are billed for 1 GB only. In a lot of other services such as Amazon EC2, Amazon Elastic Block Storage (Amazon EBS) and Amazon DynamoDB you pay for provisioned capacity. For example, in the case of Amazon EBS disk you pay for the size of 1 TB of disk even if you just save 1 GB file. This makes managing S3 cost easier than many other services including Amazon EBS and Amazon EC2. On S3 there is no risk of over-provisioning and no need to manage disk utilization.

NEW QUESTION 27

A large financial services company requires that all data be encrypted in transit. A Developer is attempting to connect to an Amazon RDS DB instance using the company VPC for the first time with credentials provided by a Database Specialist. Other members of the Development team can connect, but this user is consistently receiving an error indicating a communications link failure. The Developer asked the Database Specialist to reset the password a number of times, but the error persists.

Which step should be taken to troubleshoot this issue?

- A. Ensure that the database option group for the RDS DB instance allows ingress from the Developer machine's IP address
- B. Ensure that the RDS DB instance's subnet group includes a public subnet to allow the Developer to connect
- C. Ensure that the RDS DB instance has not reached its maximum connections limit
- D. Ensure that the connection is using SSL and is addressing the port where the RDS DB instance is listening for encrypted connections

Answer: D

Explanation:

<https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/SQLServer.Concepts.General.SSL.Using.html>

NEW QUESTION 29

A company is running an Amazon RDS for MySQL Multi-AZ DB instance for a business-critical workload. RDS encryption for the DB instance is disabled. A recent security audit concluded that all business-critical applications must encrypt data at rest. The company has asked its database specialist to formulate a plan to accomplish this for the DB instance.

Which process should the database specialist recommend?

- A. Create an encrypted snapshot of the unencrypted DB instance
- B. Copy the encrypted snapshot to Amazon S3. Restore the DB instance from the encrypted snapshot using Amazon S3.
- C. Create a new RDS for MySQL DB instance with encryption enabled
- D. Restore the unencrypted snapshot to this DB instance.
- E. Create a snapshot of the unencrypted DB instance
- F. Create an encrypted copy of the snapshot
- G. Restore the DB instance from the encrypted snapshot.
- H. Temporarily shut down the unencrypted DB instance
- I. Enable AWS KMS encryption in the AWS Management Console using an AWS managed CMK
- J. Restart the DB instance in an encrypted state.

Answer: C

Explanation:

<https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/Overview.Encryption.html#Overview.Encryption>.

NEW QUESTION 30

A database professional maintains a fleet of Amazon RDS database instances that are configured to utilize the default database parameter group. A database expert must connect a custom parameter group with certain database instances.

When will the instances be allocated to this new parameter group once the database specialist performs this change?

- A. Instantaneously after the change is made to the parameter group
- B. In the next scheduled maintenance window of the DB instances
- C. After the DB instances are manually rebooted
- D. Within 24 hours after the change is made to the parameter group

Answer: C

Explanation:

When you associate a new DB parameter group with a DB instance, the modified static and dynamic parameters are applied only after the DB instance is rebooted.

NEW QUESTION 32

A company is moving its fraud detection application from on premises to the AWS Cloud and is using Amazon Neptune for data storage. The company has set up a 1 Gbps AWS Direct Connect connection to migrate 25 TB of fraud detection data from the on-premises data center to a Neptune DB instance. The company already has an Amazon S3 bucket and an S3 VPC endpoint, and 80% of the company's network bandwidth is available.

How should the company perform this data load?

- A. Use an AWS SDK with a multipart upload to transfer the data from on premises to the S3 bucket
- B. Use the Copy command for Neptune to move the data in bulk from the S3 bucket to the Neptune DB instance.
- C. Use AWS Database Migration Service (AWS DMS) to transfer the data from on premises to the S3 bucket
- D. Use the Loader command for Neptune to move the data in bulk from the S3 bucket to the Neptune DB instance.
- E. Use AWS DataSync to transfer the data from on premises to the S3 bucket
- F. Use the Loader command for Neptune to move the data in bulk from the S3 bucket to the Neptune DB instance.
- G. Use the AWS CLI to transfer the data from on premises to the S3 bucket
- H. Use the Copy command for Neptune to move the data in bulk from the S3 bucket to the Neptune DB instance.

Answer: C

Explanation:

"AWS DataSync is an online data transfer service that simplifies, automates, and accelerates moving data between on-premises storage systems and AWS storage services, and also between AWS storage services."

<https://docs.aws.amazon.com/neptune/latest/userguide/bulk-load.html>

NEW QUESTION 35

A database specialist is managing an application in the us-west-1 Region and wants to set up disaster recovery in the us-east-1 Region. The Amazon Aurora MySQL DB cluster needs an RPO of 1 minute and an RTO of 2 minutes.

Which approach meets these requirements with no negative performance impact?

- A. Enable synchronous replication.
- B. Enable asynchronous binlog replication.
- C. Create an Aurora Global Database.
- D. Copy Aurora incremental snapshots to the us-east-1 Region.

Answer: C

Explanation:

<https://docs.aws.amazon.com/AmazonRDS/latest/AuroraUserGuide/aurora-global-database-disaster-recovery.html>

NEW QUESTION 40

A database expert is responsible for building a highly available online transaction processing (OLTP) solution that makes use of Amazon RDS for MySQL production databases. Disaster recovery criteria include a cross-regional deployment and an RPO and RTO of 5 and 30 minutes, respectively.

What should the database professional do to ensure that the database meets the criteria for high availability and disaster recovery?

- A. Use a Multi-AZ deployment in each Region.
- B. Use read replica deployments in all Availability Zones of the secondary Region.
- C. Use Multi-AZ and read replica deployments within a Region.
- D. Use Multi-AZ and deploy a read replica in a secondary Region.

Answer: D

NEW QUESTION 43

A database professional is developing an application that will respond to single-instance requests. The program will query large amounts of client data and offer end users with results.

These reports may include a variety of fields. The database specialist want to enable users to query the database using any of the fields offered.

During peak periods, the database's traffic volume will be significant yet changeable. However, the database will see little activity over the rest of the day.

Which approach will be the most cost-effective in meeting these requirements?

- A. Amazon DynamoDB with provisioned capacity mode and auto scaling
- B. Amazon DynamoDB with on-demand capacity mode
- C. Amazon Aurora with auto scaling enabled
- D. Amazon Aurora in a serverless mode

Answer: D

Explanation:

<https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/Limits.html#limits-items>

NEW QUESTION 46

A financial institution uses AWS to host its online application. Amazon RDS for MySQL is used to host the application's database, which includes automatic backups.

The program has corrupted the database logically, resulting in the application being unresponsive. The exact moment the corruption occurred has been determined, and it occurred within the backup retention period.

How should a database professional restore a database to its previous state prior to corruption?

- A. Use the point-in-time restore capability to restore the DB instance to the specified time
- B. No changes to the application connection string are required.
- C. Use the point-in-time restore capability to restore the DB instance to the specified time
- D. Change the application connection string to the new, restored DB instance.
- E. Restore using the latest automated backup
- F. Change the application connection string to the new, restored DB instance.
- G. Restore using the appropriate automated backup
- H. No changes to the application connection string are required.

Answer: B

Explanation:

When you perform a restore operation to a point in time or from a DB Snapshot, a new DB Instance is created with a new endpoint (the old DB Instance can be deleted if so desired). This is done to enable you to create multiple DB Instances from a specific DB Snapshot or point in time."

NEW QUESTION 48

The Development team recently executed a database script containing several data definition language (DDL) and data manipulation language (DML) statements on an Amazon Aurora MySQL DB cluster. The release accidentally deleted thousands of rows from an important table and broke some application functionality. This was discovered 4 hours after the release. Upon investigation, a Database Specialist tracked the issue to a DELETE command in the script with an incorrect WHERE clause filtering the wrong set of rows.

The Aurora DB cluster has Backtrack enabled with an 8-hour backtrack window. The Database Administrator also took a manual snapshot of the DB cluster before the release started. The database needs to be returned to the correct state as quickly as possible to resume full application functionality. Data loss must be minimal. How can the Database Specialist accomplish this?

- A. Quickly rewind the DB cluster to a point in time before the release using Backtrack.
- B. Perform a point-in-time recovery (PITR) of the DB cluster to a time before the release and copy the deleted rows from the restored database to the original database.
- C. Restore the DB cluster using the manual backup snapshot created before the release and change the application configuration settings to point to the new DB cluster.
- D. Create a clone of the DB cluster with Backtrack enable
- E. Rewind the cloned cluster to a point in time before the release
- F. Copy deleted rows from the clone to the original database.

Answer: A

NEW QUESTION 52

A company is running a two-tier ecommerce application in one AWS account. The web server is deployed using an Amazon RDS for MySQL Multi-AZ DB instance. A Developer mistakenly deleted the database in the production environment. The database has been restored, but this resulted in hours of downtime and lost revenue.

Which combination of changes in existing IAM policies should a Database Specialist make to prevent an error like this from happening in the future? (Choose three.)

- A. Grant least privilege to groups, users, and roles
- B. Allow all users to restore a database from a backup that will reduce the overall downtime to restore the database
- C. Enable multi-factor authentication for sensitive operations to access sensitive resources and API operations
- D. Use policy conditions to restrict access to selective IP addresses
- E. Use AccessList Controls policy type to restrict users for database instance deletion
- F. Enable AWS CloudTrail logging and Enhanced Monitoring

Answer: ACD

Explanation:

<https://aws.amazon.com/blogs/database/using-iam-multifactor-authentication-with-amazon-rds/>

https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/security_iam_id-based-policy-html<https://docs.aws>

NEW QUESTION 57

A company wants to migrate its existing on-premises Oracle database to Amazon Aurora PostgreSQL. The migration must be completed with minimal downtime using AWS DMS. A Database Specialist must validate that the data was migrated accurately from the source to the target before the cutover. The migration must have minimal impact on the performance of the source database.

Which approach will MOST effectively meet these requirements?

- A. Use the AWS Schema Conversion Tool (AWS SCT) to convert source Oracle database schemas to the target Aurora DB cluster.
- B. Verify the datatype of the columns.
- C. Use the table metrics of the AWS DMS task created for migrating the data to verify the statistics for the tables being migrated and to verify that the data definition language (DDL) statements are completed.
- D. Enable the AWS Schema Conversion Tool (AWS SCT) premigration validation and review the premigration checklist to make sure there are no issues with the conversion.
- E. Enable AWS DMS data validation on the task so the AWS DMS task compares the source and target records, and reports any mismatches.

Answer: D

Explanation:

"To ensure that your data was migrated accurately from the source to the target, we highly recommend that you use data validation."

https://docs.aws.amazon.com/dms/latest/userguide/CHAP_BestPractices.html

NEW QUESTION 62

An worldwide gaming company's development team is experimenting with using Amazon DynamoDB to store in-game events for three mobile titles. Maximum concurrent users for the most popular game is 500,000, while the least popular game is 10,000. The typical event is 20 KB in size, while the average user session generates one event each second. Each event is assigned a millisecond time stamp and a globally unique identification.

The lead developer generated a single DynamoDB database with the following structure for the events:

Partition key: game name
Sort key: event identifier
Local secondary index: player identifier
Event time

In a small-scale development setting, the tests were successful. When the application was deployed to production, however, new events were not being added to the database, and the logs indicated DynamoDB failures with the `ItemCollectionSizeLimitExceededException` issue code.

Which design modification should a database professional offer to the development team?

- A. Use the player identifier as the partition key.
- B. Use the event time as the sort key.
- C. Add a global secondary index with the game name as the partition key and the event time as the sort key.
- D. Create two tables.
- E. Use the game name as the partition key in both tables.
- F. Use the event time as the sort key for the first table.
- G. Use the player identifier as the sort key for the second table.
- H. Replace the sort key with a compound value consisting of the player identifier collated with the event time, separated by a dash.
- I. Add a local secondary index with the player identifier as the sort key.
- J. Create one table for each game.
- K. Use the player identifier as the partition key.
- L. Use the event time as the sort key.

Answer: D

NEW QUESTION 64

A company is migrating its on-premises database workloads to the AWS Cloud. A database specialist performing the move has chosen AWS DMS to migrate an Oracle database with a large table to Amazon RDS. The database specialist notices that AWS DMS is taking significant time to migrate the data.

Which actions would improve the data migration speed? (Choose three.)

- A. Create multiple AWS DMS tasks to migrate the large table.
- B. Configure the AWS DMS replication instance with Multi-AZ.
- C. Increase the capacity of the AWS DMS replication server.
- D. Establish an AWS Direct Connect connection between the on-premises data center and AWS.
- E. Enable an Amazon RDS Multi-AZ configuration.
- F. Enable full large binary object (LOB) mode to migrate all LOB data for all large tables.

Answer: CDE

NEW QUESTION 67

After restoring an Amazon RDS snapshot from 3 days ago, a company's Development team cannot connect to the restored RDS DB instance. What is the likely cause of this problem?

- A. The restored DB instance does not have Enhanced Monitoring enabled.
- B. The production DB instance is using a custom parameter group.
- C. The restored DB instance is using the default security group.
- D. The production DB instance is using a custom option group.

Answer: C

Explanation:

<https://aws.amazon.com/premiumsupport/knowledge-center/rds-cannot-connect/>

https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_RestoreFromSnapshot.html

NEW QUESTION 68

Recently, a gaming firm purchased a popular iOS game that is especially popular during the Christmas season. The business has opted to include a leaderboard into the game, which will be powered by Amazon DynamoDB. The application's load is likely to increase significantly throughout the Christmas season. Which solution satisfies these criteria at the lowest possible cost?

- A. DynamoDB Streams
- B. DynamoDB with DynamoDB Accelerator
- C. DynamoDB with on-demand capacity mode
- D. DynamoDB with provisioned capacity mode with Auto Scaling

Answer: D

Explanation:

"On-demand is ideal for bursty, new, or unpredictable workloads whose traffic can spike in seconds or minutes" vs.

'DynamoDB released auto scaling to make it easier for you to manage capacity efficiently, and auto scaling continues to help DynamoDB users lower the cost of workloads that have a predictable traffic pattern.'

<https://aws.amazon.com/blogs/database/amazon-dynamodb-auto-scaling-performance-and-cost-optimization-at>

NEW QUESTION 69

A software development company is using Amazon Aurora MySQL DB clusters for several use cases, including development and reporting. These use cases place unpredictable and varying demands on the Aurora DB clusters, and can cause momentary spikes in latency. System users run ad-hoc queries sporadically throughout the week. Cost is a primary concern for the company, and a solution that does not require significant rework is needed. Which solution meets these requirements?

- A. Create new Aurora Serverless DB clusters for development and reporting, then migrate to these new DB clusters.
- B. Upgrade one of the DB clusters to a larger size, and consolidate development and reporting activities on this larger DB cluster.
- C. Use existing DB clusters and stop/start the databases on a routine basis using scheduling tools.
- D. Change the DB clusters to the burstable instance family.

Answer: A

Explanation:

<https://docs.aws.amazon.com/AmazonRDS/latest/AuroraUserGuide/Concepts.DBInstanceClass.html>

NEW QUESTION 72

A company is going through a security audit. The audit team has identified cleartext master user password in the AWS CloudFormation templates for Amazon RDS for MySQL DB instances. The audit team has flagged this as a security risk to the database team. What should a database specialist do to mitigate this risk?

- A. Change all the databases to use AWS IAM for authentication and remove all the cleartext passwords in CloudFormation templates.
- B. Use an AWS Secrets Manager resource to generate a random password and reference the secret in the CloudFormation template.
- C. Remove the passwords from the CloudFormation templates so Amazon RDS prompts for the password when the database is being created.
- D. Remove the passwords from the CloudFormation template and store them in a separate file
- E. Replace the passwords by running CloudFormation using a sed command.

Answer: B

Explanation:

<https://aws.amazon.com/blogs/infrastructure-and-automation/securing-passwords-in-aws-quick-starts-using-aws>

NEW QUESTION 74

An ecommerce company has tasked a Database Specialist with creating a reporting dashboard that visualizes critical business metrics that will be pulled from the core production database running on Amazon Aurora. Data that is read by the dashboard should be available within 100 milliseconds of an update. The Database Specialist needs to review the current configuration of the Aurora DB cluster and develop a cost-effective solution. The solution needs to accommodate the unpredictable read workload from the reporting dashboard without any impact on the write availability and performance of the DB cluster. Which solution meets these requirements?

- A. Turn on the serverless option in the DB cluster so it can automatically scale based on demand.
- B. Provision a clone of the existing DB cluster for the new Application team.
- C. Create a separate DB cluster for the new workload, refresh from the source DB cluster, and set up ongoing replication using AWS DMS change data capture (CDC).
- D. Add an automatic scaling policy to the DB cluster to add Aurora Replicas to the cluster based on CPU consumption.

Answer: A

NEW QUESTION 78

A Database Specialist is migrating a 2 TB Amazon RDS for Oracle DB instance to an RDS for PostgreSQL DB instance using AWS DMS. The source RDS Oracle DB instance is in a VPC in the us-east-1 Region. The target RDS for PostgreSQL DB instance is in a VPC in the us-west-2 Region. Where should the AWS DMS replication instance be placed for the MOST optimal performance?

- A. In the same Region and VPC of the source DB instance
- B. In the same Region and VPC as the target DB instance
- C. In the same VPC and Availability Zone as the target DB instance
- D. In the same VPC and Availability Zone as the source DB instance

Answer: C

Explanation:

https://docs.aws.amazon.com/dms/latest/userguide/CHAP_ReplicationInstance.VPC.html#CHAP_ReplicationInstance.VPC In fact, all the configurations list on above url prefer the replication instance putting into target vpc region / subnet / az.
https://docs.aws.amazon.com/dms/latest/sbs/CHAP_SQLServer2Aurora.Steps.CreateReplicationInstance.html

NEW QUESTION 81

A database specialist was alerted that a production Amazon RDS MariaDB instance with 100 GB of storage was out of space. In response, the database specialist modified the DB instance and added 50 GB of storage capacity. Three hours later, a new alert is generated due to a lack of free space on the same DB instance. The database specialist decides to modify the instance immediately to increase its storage capacity by 20 GB. What will happen when the modification is submitted?

- A. The request will fail because this storage capacity is too large.
- B. The request will succeed only if the primary instance is in active status.
- C. The request will succeed only if CPU utilization is less than 10%.
- D. The request will fail as the most recent modification was too soon.

Answer: D

Explanation:

https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_PIOPS.StorageTypes.html

NEW QUESTION 83

A company is deploying a solution in Amazon Aurora by migrating from an on-premises system. The IT department has established an AWS Direct Connect link from the company's data center. The company's Database Specialist has selected the option to require SSL/TLS for connectivity to prevent plaintext data from being set over the network. The migration appears to be working successfully, and the data can be queried from a desktop machine. Two Data Analysts have been asked to query and validate the data in the new Aurora DB cluster. Both Analysts are unable to connect to Aurora. Their user names and passwords have been verified as valid and the Database Specialist can connect to the DB cluster using their accounts. The Database Specialist also verified that the security group configuration allows network from all corporate IP addresses. What should the Database Specialist do to correct the Data Analysts' inability to connect?

- A. Restart the DB cluster to apply the SSL change.
- B. Instruct the Data Analysts to download the root certificate and use the SSL certificate on the connection string to connect.
- C. Add explicit mappings between the Data Analysts' IP addresses and the instance in the security group assigned to the DB cluster.
- D. Modify the Data Analysts' local client firewall to allow network traffic to AWS.

Answer: B

Explanation:

- To connect using SSL:
- Provide the SSLTrust certificate (can be downloaded from AWS)
- Provide SSL options when connecting to database
- Not using SSL on a DB that enforces SSL would result in error <https://docs.aws.amazon.com/AmazonRDS/latest/AuroraUserGuide/ssl-certificate-rotation-aurora-postgresql.html>

NEW QUESTION 87

A database specialist needs to configure an Amazon RDS for MySQL DB instance to close non-interactive connections that are inactive after 900 seconds. What should the database specialist do to accomplish this task?

- A. Create a custom DB parameter group and set the wait_timeout parameter value to 900. Associate the DB instance with the custom parameter group.
- B. Connect to the MySQL database and run the SET SESSION wait_timeout=900 command.
- C. Edit the my.cnf file and set the wait_timeout parameter value to 900. Restart the DB instance.
- D. Modify the default DB parameter group and set the wait_timeout parameter value to 900.

Answer: A

Explanation:

<https://aws.amazon.com/fr/blogs/database/best-practices-for-configuring-parameters-for-amazon-rds-for-mysql/> "You can set parameters globally using a parameter group. Alternatively, you can set them for a particular session using the SET command."
<https://aws.amazon.com/blogs/database/best-practices-for-configuring-parameters-for-amazon-rds-for-mysql-pa>

NEW QUESTION 91

A company's database specialist disabled TLS on an Amazon DocumentDB cluster to perform benchmarking tests. A few days after this change was implemented, a database specialist trainee accidentally deleted multiple tables. The database specialist restored the database from available snapshots. An hour after restoring the cluster, the database specialist is still unable to connect to the new cluster endpoint. What should the database specialist do to connect to the new, restored Amazon DocumentDB cluster?

- A. Change the restored cluster's parameter group to the original cluster's custom parameter group.
- B. Change the restored cluster's parameter group to the Amazon DocumentDB default parameter group.
- C. Configure the interface VPC endpoint and associate the new Amazon DocumentDB cluster.
- D. Run the syncInstances command in AWS DataSync.

Answer: A

Explanation:

You can't modify the parameter settings of the default parameter groups. You can use a DB parameter group to act as a container for engine configuration values that are applied to one or more DB instances. If you create a DB instance without specifying a DB parameter group, the DB instance uses a default DB parameter group. Each default DB parameter group contains database engine defaults and Amazon RDS system defaults. You can't modify the parameter settings of a default parameter group. Instead, you create your own parameter group where you choose your own parameter settings. Not all DB engine parameters can be changed in a parameter group that you create.

NEW QUESTION 93

An electric utility company wants to store power plant sensor data in an Amazon DynamoDB table. The utility company has over 100 power plants and each power plant has over 200 sensors that send data every 2 seconds. The sensor data includes time with milliseconds precision, a value, and a fault attribute if the sensor is malfunctioning. Power plants are identified by a globally unique identifier. Sensors are identified by a unique identifier within each power plant. A database specialist needs to design the table to support an efficient method of finding all faulty sensors within a given power plant.

Which schema should the database specialist use when creating the DynamoDB table to achieve the fastest query time when looking for faulty sensors?

- A. Use the plant identifier as the partition key and the measurement time as the sort key
- B. Create a global secondary index (GSI) with the plant identifier as the partition key and the fault attribute as the sort key.
- C. Create a composite of the plant identifier and sensor identifier as the partition key
- D. Use the measurement time as the sort key
- E. Create a local secondary index (LSI) on the fault attribute.
- F. Create a composite of the plant identifier and sensor identifier as the partition key
- G. Use the measurement time as the sort key
- H. Create a global secondary index (GSI) with the plant identifier as the partition key and the fault attribute as the sort key.
- I. Use the plant identifier as the partition key and the sensor identifier as the sort key
- J. Create a local secondary index (LSI) on the fault attribute.

Answer: D

Explanation:

Plant id as partition key and Sensor id as a sort key. Fault can be identified quickly using the local secondary index and associated plant and sensor can be identified easily.

NEW QUESTION 95

A company uses Amazon DynamoDB as the data store for its ecommerce website. The website receives little to no traffic at night, and the majority of the traffic occurs during the day. The traffic growth during peak hours is gradual and predictable on a daily basis, but it can be orders of magnitude higher than during off-peak hours.

The company initially provisioned capacity based on its average volume during the day without accounting for the variability in traffic patterns. However, the website is experiencing a significant amount of throttling during peak hours. The company wants to reduce the amount of throttling while minimizing costs.

What should a database specialist do to meet these requirements?

- A. Use reserved capacity
- B. Set it to the capacity levels required for peak daytime throughput.
- C. Use provisioned capacity
- D. Set it to the capacity levels required for peak daytime throughput.
- E. Use provisioned capacity
- F. Create an AWS Application Auto Scaling policy to update capacity based on consumption.
- G. Use on-demand capacity.

Answer: C

Explanation:

On-demand mode is a good option if any of the following are true: You create new tables with unknown workloads. You have unpredictable application traffic. You prefer the ease of paying for only what you use. [https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/HowItWorks.ReadWriteCapacityMode.h](https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/HowItWorks.ReadWriteCapacityMode.html)
Amazon DynamoDB auto scaling uses the AWS Application Auto Scaling service to dynamically adjust provisioned throughput capacity on your behalf
<https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/AutoScaling.html>

NEW QUESTION 100

A Database Specialist is troubleshooting an application connection failure on an Amazon Aurora DB cluster with multiple Aurora Replicas that had been running with no issues for the past 2 months. The connection failure lasted for 5 minutes and corrected itself after that. The Database Specialist reviewed the Amazon RDS events and determined a failover event occurred at that time. The failover process took around 15 seconds to complete.

What is the MOST likely cause of the 5-minute connection outage?

- A. After a database crash, Aurora needed to replay the redo log from the last database checkpoint
- B. The client-side application is caching the DNS data and its TTL is set too high
- C. After failover, the Aurora DB cluster needs time to warm up before accepting client connections
- D. There were no active Aurora Replicas in the Aurora DB cluster

Answer: B

Explanation:

When your application tries to establish a connection after a failover, the new Aurora PostgreSQL writer will be a previous reader, which can be found using the Aurora read only endpoint before DNS updates have fully propagated. Setting the java DNS TTL to a low value helps cycle between reader nodes on subsequent connection attempts.

Amazon Aurora is designed to recover from a crash almost instantaneously and continue to serve your application data. Unlike other databases, after a crash Amazon Aurora does not need to replay the redo log from the last database checkpoint before making the database available for operations. Amazon Aurora performs crash recovery asynchronously on parallel threads, so your database is open and available immediately after a crash. Because the storage is organized in many small segments, each with its own redo log, the underlying storage can replay redo records on demand in parallel and asynchronously as part of a disk read after a crash. This approach reduces database restart times to less than 60 seconds in most cases

NEW QUESTION 101

A database specialist is constructing an AWS CloudFormation stack using AWS CloudFormation. The database expert wishes to avoid the stack's Amazon RDS ProductionDatabase resource being accidentally deleted.

Which solution will satisfy this criterion?

- A. Create a stack policy to prevent update
- B. Include `Effect` : `ProductionDatabase` and `Resource` `Deny` in the policy.
- C. Create an AWS CloudFormation stack in XML format

- D. Set xAttribute as false.
- E. Create an RDS DB instance without the DeletionPolicy attribut
- F. Disable termination protection.
- G. Create a stack policy to prevent update
- H. Include Effect, Deny, and Resource :ProductionDatabase in the policy.

Answer: D

Explanation:

<https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/protect-stack-resources.html> "When you set a stack policy, all resources are protected by default. To allow updates on all resources, we add an Allow statement that allows all actions on all resources. Although the Allow statement specifies all resources, the explicit Deny statement overrides it for the resource with the ProductionDatabase logical ID. This Deny statement prevents all update actions, such as replacement or deletion, on the ProductionDatabase resource."

NEW QUESTION 106

A business uses Amazon EC2 instances in VPC A to serve an internal file-sharing application. This application is supported by an Amazon ElastiCache cluster in VPC B that is peering with VPC A. The corporation migrates the instances of its applications from VPC A to VPC B. The file-sharing application is no longer able to connect to the ElastiCache cluster, as shown by the logs.

What is the best course of action for a database professional to take in order to remedy this issue?

- A. Create a second security group on the EC2 instance
- B. Add an outbound rule to allow traffic from the ElastiCache cluster security group.
- C. Delete the ElastiCache security grou
- D. Add an interface VPC endpoint to enable the EC2 instances to connect to the ElastiCache cluster.
- E. Modify the ElastiCache security group by adding outbound rules that allow traffic to VPC CIDR blocks from the ElastiCache cluster.
- F. Modify the ElastiCache security group by adding an inbound rule that allows traffic from the EC2 instances security group to the ElastiCache cluster.

Answer: D

Explanation:

<https://docs.aws.amazon.com/vpc/latest/peering/vpc-peering-security-groups.html>

NEW QUESTION 107

A company has an Amazon RDS Multi-AZ DB instances that is 200 GB in size with an RPO of 6 hours. To meet the company's disaster recovery policies, the database backup needs to be copied into another Region. The company requires the solution to be cost-effective and operationally efficient.

What should a Database Specialist do to copy the database backup into a different Region?

- A. Use Amazon RDS automated snapshots and use AWS Lambda to copy the snapshot into another Region
- B. Use Amazon RDS automated snapshots every 6 hours and use Amazon S3 cross-Region replication to copy the snapshot into another Region
- C. Create an AWS Lambda function to take an Amazon RDS snapshot every 6 hours and use a second Lambda function to copy the snapshot into another Region
- D. Create a cross-Region read replica for Amazon RDS in another Region and take an automated snapshot of the read replica

Answer: C

Explanation:

System snapshot can't fulfill 6 hours requirement. You need to control it by script

<https://aws.amazon.com/blogs/database/%C2%AD%C2%AD%C2%ADautomating-cross-region-cross-account>

NEW QUESTION 109

A company is using Amazon RDS for PostgreSQL. The Security team wants all database connection requests to be logged and retained for 180 days. The RDS for PostgreSQL DB instance is currently using the default parameter group. A Database Specialist has identified that setting the log_connections parameter to 1 will enable connections logging.

Which combination of steps should the Database Specialist take to meet the logging and retention requirements? (Choose two.)

- A. Update the log_connections parameter in the default parameter group
- B. Create a custom parameter group, update the log_connections parameter, and associate the parameter with the DB instance
- C. Enable publishing of database engine logs to Amazon CloudWatch Logs and set the event expiration to 180 days
- D. Enable publishing of database engine logs to an Amazon S3 bucket and set the lifecycle policy to 180 days
- E. Connect to the RDS PostgreSQL host and update the log_connections parameter in the postgresql.conf file

Answer: AE

NEW QUESTION 112

A company is running Amazon RDS for MySQL for its workloads. There is downtime when AWS operating system patches are applied during the Amazon RDS-specified maintenance window.

What is the MOST cost-effective action that should be taken to avoid downtime?

- A. Migrate the workloads from Amazon RDS for MySQL to Amazon DynamoDB
- B. Enable cross-Region read replicas and direct read traffic to then when Amazon RDS is down
- C. Enable a read replicas and direct read traffic to it when Amazon RDS is down
- D. Enable an Amazon RDS for MySQL Multi-AZ configuration

Answer: D

Explanation:

<https://aws.amazon.com/premiumsupport/knowledge-center/rds-required-maintenance/>

To minimize downtime, modify the Amazon RDS DB instance to a Multi-AZ deployment. For Multi-AZ deployments, OS maintenance is applied to the secondary instance first, then the instance fails over, and then the primary instance is updated. The downtime is during failover. For more information, see Maintenance for Multi-AZ Deployments. <https://aws.amazon.com/rds/faqs/> The availability benefits of Multi-AZ also extend to planned maintenance. For example, with automated

backups, I/O activity is no longer suspended on your primary during your preferred backup window, since backups are taken from the standby. In the case of patching or DB instance class scaling, these operations occur first on the standby, prior to automatic fail over. As a result, your availability impact is limited to the time required for automatic failover to complete.

NEW QUESTION 115

An internet advertising firm stores its data in an Amazon DynamoDb table. Amazon DynamoDB Streams are enabled on the table, and one of the keys has a global secondary index. The table is encrypted using a customer-managed AWS Key Management Service (AWS KMS) key. The firm has chosen to grow worldwide and want to duplicate the database using DynamoDB global tables in a new AWS Region. An administrator observes the following upon review:

No role with the dynamodb: CreateGlobalTable permission exists in the account.
An empty table with the same name exists in the new Region where replication is desired.
A global secondary index with the same partition key but a different sort key exists in the new Region where replication is desired.
Which settings will prevent you from creating a global table or replica in the new Region? (Select two.)

- A. A global secondary index with the same partition key but a different sort key exists in the new Region where replication is desired.
- B. An empty table with the same name exists in the Region where replication is desired.
- C. No role with the dynamodb:CreateGlobalTable permission exists in the account.
- D. DynamoDB Streams is enabled for the table.
- E. The table is encrypted using a KMS customer managed key.

Answer: AB

NEW QUESTION 119

On a single Amazon RDS DB instance, a business hosts a MySQL database for its ecommerce application. Automatically saving application purchases to the database results in high-volume writes. Employees routinely create purchase reports for the company. The organization wants to boost database performance and minimize downtime associated with upgrade patching. Which technique will satisfy these criteria with the LEAST amount of operational overhead?

- A. Enable a Multi-AZ deployment of the RDS for MySQL DB instance, and enable Memcached in the MySQL option group.
- B. Enable a Multi-AZ deployment of the RDS for MySQL DB instance, and set up replication to a MySQL DB instance running on Amazon EC2.
- C. Enable a Multi-AZ deployment of the RDS for MySQL DB instance, and add a read replica.
- D. Add a read replica and promote it to an Amazon Aurora MySQL DB cluster master.
- E. Then enable Amazon Aurora Serverless.

Answer: C

NEW QUESTION 120

A ride-hailing application stores bookings in a persistent Amazon RDS for MySQL DB instance. This program is very popular, and the corporation anticipates a tenfold rise in the application's user base over the next several months. The application receives a higher volume of traffic in the morning and evening.

This application is divided into two sections:

An internal booking component that takes online reservations in response to concurrent user queries. A component of a third-party customer relationship management (CRM) system that customer service professionals utilize. Booking data is accessed using queries in the CRM.

To manage this workload effectively, a database professional must create a cost-effective database system. Which solution satisfies these criteria?

- A. Use Amazon ElastiCache for Redis to accept the booking
- B. Associate an AWS Lambda function to capture changes and push the booking data to the RDS for MySQL DB instance used by the CRM.
- C. Use Amazon DynamoDB to accept the booking
- D. Enable DynamoDB Streams and associate an AWS Lambda function to capture changes and push the booking data to an Amazon SQS queue
- E. This triggers another Lambda function that pulls data from Amazon SQS and writes it to the RDS for MySQL DB instance used by the CRM.
- F. Use Amazon ElastiCache for Redis to accept the booking
- G. Associate an AWS Lambda function to capture changes and push the booking data to an Amazon Redshift database used by the CRM.
- H. Use Amazon DynamoDB to accept the booking
- I. Enable DynamoDB Streams and associate an AWS Lambda function to capture changes and push the booking data to Amazon Athena, which is used by the CRM.

Answer: B

Explanation:

"AWS Lambda function to capture changes" capture changes to what? ElastiCache? The main use of ElastiCache is to cache frequently read data. Also "the company expects a tenfold increase in the user base" and "correspond to simultaneous requests from users"

NEW QUESTION 123

A retail company with its main office in New York and another office in Tokyo plans to build a database solution on AWS. The company's main workload consists of a mission-critical application that updates its application data in a data store. The team at the Tokyo office is building dashboards with complex analytical queries using the application data. The dashboards will be used to make buying decisions, so they need to have access to the application data in less than 1 second. Which solution meets these requirements?

- A. Use an Amazon RDS DB instance deployed in the us-east-1 Region with a read replica instance in the ap-northeast-1 Region
- B. Create an Amazon ElastiCache cluster in the ap-northeast-1 Region to cache application data from the replica to generate the dashboards.
- C. Use an Amazon DynamoDB global table in the us-east-1 Region with replication into the ap-northeast-1 Region
- D. Use Amazon QuickSight for displaying dashboard results.
- E. Use an Amazon RDS for MySQL DB instance deployed in the us-east-1 Region with a read replica instance in the ap-northeast-1 Region
- F. Have the dashboard application read from the read replica.
- G. Use an Amazon Aurora global database

- H. Deploy the writer instance in the us-east-1 Region and the replica in the ap-northeast-1 Region.
- I. Have the dashboard application read from the replica in the ap-northeast-1 Region.

Answer: D

Explanation:

<https://aws.amazon.com/blogs/database/aurora-postgresql-disaster-recovery-solutions-using-amazon-aurora-global>

NEW QUESTION 128

A company just migrated to Amazon Aurora PostgreSQL from an on-premises Oracle database. After the migration, the company discovered there is a period of time every day around 3:00 PM where the response time of the application is noticeably slower. The company has narrowed down the cause of this issue to the database and not the application.

Which set of steps should the Database Specialist take to most efficiently find the problematic PostgreSQL query?

- A. Create an Amazon CloudWatch dashboard to show the number of connections, CPU usage, and disk space consumption.
- B. Watch these dashboards during the next slow period.
- C. Launch an Amazon EC2 instance, and install and configure an open-source PostgreSQL monitoring tool that will run reports based on the output error logs.
- D. Modify the logging database parameter to log all the queries related to locking in the database and then check the logs after the next slow period for this information.
- E. Enable Amazon RDS Performance Insights on the PostgreSQL database.
- F. Use the metrics to identify any queries that are related to spikes in the graph during the next slow period.

Answer: D

NEW QUESTION 129

A company is due for renewing its database license. The company wants to migrate its 80 TB transactional database system from on-premises to the AWS Cloud. The migration should incur the least possible downtime on the downstream database applications. The company's network infrastructure has limited network bandwidth that is shared with other applications.

Which solution should a database specialist use for a timely migration?

- A. Perform a full backup of the source database to AWS Snowball Edge appliances and ship them to be loaded to Amazon S3. Use AWS DMS to migrate change data capture (CDC) data from the source database to Amazon S3. Use a second AWS DMS task to migrate all the S3 data to the target database.
- B. Perform a full backup of the source database to AWS Snowball Edge appliances and ship them to be loaded to Amazon S3. Periodically perform incremental backups of the source database to be shipped in another Snowball Edge appliance to handle syncing change data capture (CDC) data from the source to the target database.
- C. Use AWS DMS to migrate the full load of the source database over a VPN tunnel using the internet for its primary connection.
- D. Allow AWS DMS to handle syncing change data capture (CDC) data from the source to the target database.
- E. Use the AWS Schema Conversion Tool (AWS SCT) to migrate the full load of the source database over a VPN tunnel using the internet for its primary connection.
- F. Allow AWS SCT to handle syncing change data capture (CDC) data from the source to the target database.

Answer: A

Explanation:

https://docs.aws.amazon.com/dms/latest/userguide/CHAP_Target.S3.html Using Amazon S3 as a target for AWS Database Migration Service

NEW QUESTION 131

A company recently acquired a new business. A database specialist must migrate an unencrypted 12 TB Amazon RDS for MySQL DB instance to a new AWS account. The database specialist needs to minimize the amount of time required to migrate the database.

Which solution meets these requirements?

- A. Create a snapshot of the source DB instance in the source account.
- B. Share the snapshot with the destination account.
- C. In the target account, create a DB instance from the snapshot.
- D. Use AWS Resource Access Manager to share the source DB instance with the destination account. Create a DB instance in the destination account using the shared resource.
- E. Create a read replica of the DB instance.
- F. Give the destination account access to the read replica.
- G. In the destination account, create a snapshot of the shared read replica and provision a new RDS for MySQL DB instance.
- H. Use mysqldump to back up the source database.
- I. Create an RDS for MySQL DB instance in the destination account.
- J. Use the mysql command to restore the backup in the destination database.

Answer: A

Explanation:

Sharing an unencrypted manual DB snapshot enables authorized AWS accounts to directly restore a DB instance from the snapshot instead of taking a copy of it and restoring from that. https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_ShareSnapshot.html However Resource Access Manager could not share non-Aurora cluster. <https://docs.aws.amazon.com/ram/latest/userguide/shareable.html>

NEW QUESTION 132

A business is launching a new Amazon RDS for SQL Server database instance. The organization wishes to allow auditing of the SQL Server database.

Which measures should a database professional perform in combination to achieve this requirement? (Select two.)

- A. Create a service-linked role for Amazon RDS that grants permissions for Amazon RDS to store audit logs on Amazon S3.
- B. Set up a parameter group to configure an IAM role and an Amazon S3 bucket for audit log storage. Associate the parameter group with the DB instance.
- C. Disable Multi-AZ on the DB instance, and then enable auditing.
- D. Enable Multi-AZ after auditing is enabled.
- E. Disable automated backup on the DB instance, and then enable auditing.
- F. Enable automated backup after auditing is enabled.

G. Set up an options group to configure an IAM role and an Amazon S3 bucket for audit log storage. Associate the options group with the DB instance.

Answer: AE

Explanation:

<https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/Appendix.SQLServer.Options.Audit.html>

https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/security_iam_service-with-iam.html

NEW QUESTION 137

A Database Specialist has migrated an on-premises Oracle database to Amazon Aurora PostgreSQL. The schema and the data have been migrated successfully. The on-premises database server was also being used to run database maintenance cron jobs written in Python to perform tasks including data purging and generating data exports. The logs for these jobs show that, most of the time, the jobs completed within 5 minutes, but a few jobs took up to 10 minutes to complete. These maintenance jobs need to be set up for Aurora PostgreSQL.

How can the Database Specialist schedule these jobs so the setup requires minimal maintenance and provides high availability?

- A. Create cron jobs on an Amazon EC2 instance to run the maintenance jobs following the required schedule.
- B. Connect to the Aurora host and create cron jobs to run the maintenance jobs following the required schedule.
- C. Create AWS Lambda functions to run the maintenance jobs and schedule them with Amazon CloudWatch Events.
- D. Create the maintenance job using the Amazon CloudWatch job scheduling plugin.

Answer: C

Explanation:

[https://docs.aws.amazon.com/AmazonCloudWatch/latest/events/Create-CloudWatch-Events-Scheduled-Rule.ht](https://docs.aws.amazon.com/AmazonCloudWatch/latest/events/Create-CloudWatch-Events-Scheduled-Rule.html) <https://docs.aws.amazon.com/prescriptive-guidance/latest/patterns/schedule-jobs-for-amazon-rds-and-aurora-pos> a job for data extraction or a job for data purging can easily be scheduled using cron. For these jobs, database credentials are typically either hard-coded or stored in a properties file. However, when you migrate to Amazon Relational Database Service (Amazon RDS) or Amazon Aurora PostgreSQL, you lose the ability to log in to the host instance to schedule cron jobs. This pattern describes how to use AWS Lambda and AWS Secrets Manager to schedule jobs for Amazon RDS and Aurora PostgreSQL databases after migration.

<https://docs.aws.amazon.com/AmazonCloudWatch/latest/events/RunLambdaSchedule.html>

NEW QUESTION 139

A company uses the Amazon DynamoDB table contractDB in us-east-1 for its contract system with the following schema:

orderID (primary key) timestamp (sort key) contract (map) createdBy (string) customerEmail (string)

After a problem in production, the operations team has asked a database specialist to provide an IAM policy to read items from the database to debug the application. In addition, the developer is not allowed to access the value of the customerEmail field to stay compliant.

Which IAM policy should the database specialist use to achieve these requirements?

A)

B)

C)

D)

A. Option A

B. Option B

C. Option C

D. Option C

Answer: A

NEW QUESTION 143

A business's production database is hosted on a single-node Amazon RDS for MySQL DB instance. The database instance is hosted in a United States AWS Region.

A week before a significant sales event, a fresh database maintenance update is released. The maintenance update has been designated as necessary. The firm want to minimize the database instance's downtime and requests that a database expert make the database instance highly accessible until the sales event concludes.

Which solution will satisfy these criteria?

- A. Defer the maintenance update until the sales event is over.
- B. Create a read replica with the latest update
- C. Initiate a failover before the sales event.
- D. Create a read replica with the latest update
- E. Transfer all read-only traffic to the read replica during the sales event.
- F. Convert the DB instance into a Multi-AZ deployment
- G. Apply the maintenance update.

Answer: D

Explanation:

<https://aws.amazon.com/premiumsupport/knowledge-center/rds-required-maintenance/>

NEW QUESTION 148

Amazon Neptune is being used by a corporation as the graph database for one of its products. During an ETL procedure, the company's data science team produced enormous volumes of temporary data by unintentionally. The Neptune DB cluster extended its storage capacity automatically to handle the added data, but the data science team erased the superfluous data.

What should a database professional do to prevent incurring extra expenditures for cluster volume space that is not being used?

- A. Take a snapshot of the cluster volume
- B. Restore the snapshot in another cluster with a smaller volume size.
- C. Use the AWS CLI to turn on automatic resizing of the cluster volume.
- D. Export the cluster data into a new Neptune DB cluster.
- E. Add a Neptune read replica to the cluster
- F. Promote this replica as a new primary DB instance
- G. Reset the storage space of the cluster.

Answer: C

Explanation:

The only way to shrink the storage space used by your DB cluster when you have a large amount of unused allocated space is to export all the data in your graph and then reload it into a new DB cluster. Creating and restoring a snapshot does not reduce the amount of storage allocated for your DB cluster, because a snapshot retains the original image of the cluster's underlying storage.

NEW QUESTION 152

A Database Specialist needs to speed up any failover that might occur on an Amazon Aurora PostgreSQL DB cluster. The Aurora DB cluster currently includes the primary instance and three Aurora Replicas.

How can the Database Specialist ensure that failovers occur with the least amount of downtime for the application?

- A. Set the TCP keepalive parameters low
- B. Call the AWS CLI failover-db-cluster command
- C. Enable Enhanced Monitoring on the DB cluster
- D. Start a database activity stream on the DB cluster

Answer: A

Explanation:

<https://docs.aws.amazon.com/AmazonRDS/latest/AuroraUserGuide/AuroraPostgreSQL.BestPractices.html#Aur>

NEW QUESTION 153

Amazon DynamoDB global tables are being used by a business to power an online gaming game. The game is played by gamers from all around the globe. As the game became popularity, the amount of queries to DynamoDB substantially rose. Recently, gamers have complained about the game's condition being inconsistent between nations. A database professional notices that the ReplicationLatency metric for many replica tables is set to an abnormally high value.

Which strategy will resolve the issue?

- A. Configure all replica tables to use DynamoDB auto scaling.
- B. Configure a DynamoDB Accelerator (DAX) cluster on each of the replicas.
- C. Configure the primary table to use DynamoDB auto scaling and the replica tables to use manually provisioned capacity.
- D. Configure the table-level write throughput limit service quota to a higher value.

Answer: A

Explanation:

https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/V2globaltables_reqs_bestpractices.html

NEW QUESTION 156

A company runs a customer relationship management (CRM) system that is hosted on-premises with a MySQL database as the backend. A custom stored

procedure is used to send email notifications to another system when data is inserted into a table. The company has noticed that the performance of the CRM system has decreased due to database reporting applications used by various teams. The company requires an AWS solution that would reduce maintenance, improve performance, and accommodate the email notification feature.

Which AWS solution meets these requirements?

- A. Use MySQL running on an Amazon EC2 instance with Auto Scaling to accommodate the reporting application
- B. Configure a stored procedure and an AWS Lambda function that uses Amazon SES to send email notifications to the other system.
- C. Use Amazon Aurora MySQL in a multi-master cluster to accommodate the reporting applications. Configure Amazon RDS event subscriptions to publish a message to an Amazon SNS topic and subscribe the other system's email address to the topic.
- D. Use MySQL running on an Amazon EC2 instance with a read replica to accommodate the reporting application
- E. Configure Amazon SES integration to send email notifications to the other system.
- F. Use Amazon Aurora MySQL with a read replica for the reporting application
- G. Configure a stored procedure and an AWS Lambda function to publish a message to an Amazon SNS topic
- H. Subscribe the other system's email address to the topic.

Answer: D

Explanation:

RDS event subscriptions do not cover "data is inserted into a table" - see

https://docs.aws.amazon.com/AmazonRDS/latest/AuroraUserGuide/USER_Events.Messages.html We can use stored procedure to invoke Lambda function -

<https://docs.aws.amazon.com/AmazonRDS/latest/AuroraUserGuide/AuroraMySQL.Integrating.Lambda.html>

NEW QUESTION 160

A Database Specialist is designing a disaster recovery strategy for a production Amazon DynamoDB table. The table uses provisioned read/write capacity mode, global secondary indexes, and time to live (TTL). The Database Specialist has restored the latest backup to a new table.

To prepare the new table with identical settings, which steps should be performed? (Choose two.)

- A. Re-create global secondary indexes in the new table
- B. Define IAM policies for access to the new table
- C. Define the TTL settings
- D. Encrypt the table from the AWS Management Console or use the update-table command
- E. Set the provisioned read and write capacity

Answer: BC

Explanation:

The following items need to be reconfigured after restoring the DynamoDB table.

--AutoScaling policy

--IAM policy

--CloudWatch settings

--Tags

--Stream settings

--TTL

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

NEW QUESTION 164

A Database Specialist is constructing a new Amazon Neptune DB cluster and tries to load data from Amazon S3 using the Neptune bulk loader API. The Database Specialist is confronted with the following error message:

€Unable to establish a connection to the s3 endpoint. The source URL is s3://mybucket/graphdata/ and the region code is us-east-1. Kindly confirm your Configuration S3.

Which of the following activities should the Database Specialist take to resolve the issue? (Select two.)

- A. Check that Amazon S3 has an IAM role granting read access to Neptune
- B. Check that an Amazon S3 VPC endpoint exists
- C. Check that a Neptune VPC endpoint exists
- D. Check that Amazon EC2 has an IAM role granting read access to Amazon S3
- E. Check that Neptune has an IAM role granting read access to Amazon S3

Answer: BE

Explanation:

<https://docs.aws.amazon.com/neptune/latest/userguide/bulk-load-tutorial-IAM.html> <https://docs.aws.amazon.com/neptune/latest/userguide/bulk-load-data.html>

“An IAM role for the Neptune DB instance to assume that has an IAM policy that allows access to the data files in the S3 bucket. The policy must grant Read and List permissions.” “An Amazon S3 VPC endpoint. For more information, see the Creating an Amazon S3 VPC Endpoint section.”

NEW QUESTION 167

A company is using Amazon with Aurora Replicas for read-only workload scaling. A Database Specialist needs to split up two read-only applications so each application always connects to a dedicated replica. The Database Specialist wants to implement load balancing and high availability for the read-only applications. Which solution meets these requirements?

- A. Use a specific instance endpoint for each replica and add the instance endpoint to each read-only application connection string.
- B. Use reader endpoints for both the read-only workload applications.
- C. Use a reader endpoint for one read-only application and use an instance endpoint for the other read-only application.
- D. Use custom endpoints for the two read-only applications.

Answer: D

Explanation:

<https://aws.amazon.com/about-aws/whats-new/2018/11/amazon-aurora-simplifies-workload-management-with-c>

NEW QUESTION 168

A large company is using an Amazon RDS for Oracle Multi-AZ DB instance with a Java application. As a part of its disaster recovery annual testing, the company would like to simulate an Availability Zone failure and record how the application reacts during the DB instance failover activity. The company does not want to make any code changes for this activity.

What should the company do to achieve this in the shortest amount of time?

- A. Use a blue-green deployment with a complete application-level failover test
- B. Use the RDS console to reboot the DB instance by choosing the option to reboot with failover
- C. Use RDS fault injection queries to simulate the primary node failure
- D. Add a rule to the NACL to deny all traffic on the subnets associated with a single Availability Zone

Answer: B

Explanation:

https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_RebootInstance.html <https://exain.wordpress.com/2017/07/12/amazon-rds-multi-az-setup-failover-simulation/>

"Rebooting with failover is beneficial when you want to simulate a failure of a DB instance for testing, or restore operations to the original AZ after a failover occurs."

NEW QUESTION 173

A company is developing a multi-tier web application hosted on AWS using Amazon Aurora as the database. The application needs to be deployed to production and other non-production environments. A Database Specialist needs to specify different MasterUsername and MasterUserPassword properties in the AWS CloudFormation templates used for automated deployment. The CloudFormation templates are version controlled in the company's code repository. The company also needs to meet compliance requirement by routinely rotating its database master password for production.

What is most secure solution to store the master password?

- A. Store the master password in a parameter file in each environmen
- B. Reference the environment-specific parameter file in the CloudFormation template.
- C. Encrypt the master password using an AWS KMS ke
- D. Store the encrypted master password in the CloudFormation template.
- E. Use the secretsmanager dynamic reference to retrieve the master password stored in AWS Secrets Manager and enable automatic rotation.
- F. Use the ssm dynamic reference to retrieve the master password stored in the AWS Systems Manager Parameter Store and enable automatic rotation.

Answer: C

Explanation:

"By using the secure string support in CloudFormation with dynamic references you can better maintain your infrastructure as code. You'll be able to avoid hard coding passwords into your templates and you can keep these runtime configuration parameters separated from your code. Moreover, when properly used, secure strings will help keep your development and production code as similar as possible, while continuing to make your infrastructure code suitable for continuous deployment pipelines."

<https://aws.amazon.com/blogs/mt/using-aws-systems-manager-parameter-store-secure-string-parameters-in-aws> <https://aws.amazon.com/blogs/security/how-to-use-aws-secrets-manager-rotate-credentials-amazon-rds-database>

NEW QUESTION 178

A large gaming company is creating a centralized solution to store player session state for multiple online games. The workload required key-value storage with low latency and will be an equal mix of reads and writes. Data should be written into the AWS Region closest to the user across the games' geographically distributed user base. The architecture should minimize the amount of overhead required to manage the replication of data between Regions.

Which solution meets these requirements?

- A. Amazon RDS for MySQL with multi-Region read replicas
- B. Amazon Aurora global database
- C. Amazon RDS for Oracle with GoldenGate
- D. Amazon DynamoDB global tables

Answer: A

NEW QUESTION 182

A clothing company uses a custom ecommerce application and a PostgreSQL database to sell clothes to thousands of users from multiple countries. The company is migrating its application and database from its on- premises data center to the AWS Cloud. The company has selected Amazon EC2 for the application and Amazon RDS for PostgreSQL for the database. The company requires database passwords to be changed every 60 days. A Database Specialist needs to ensure that the credentials used by the web application to connect to the database are managed securely.

Which approach should the Database Specialist take to securely manage the database credentials?

- A. Store the credentials in a text file in an Amazon S3 bucke
- B. Restrict permissions on the bucket to the IAM role associated with the instance profile onl
- C. Modify the application to download the text file and retrieve the credentials on start u
- D. Update the text file every 60 days.
- E. Configure IAM database authentication for the application to connect to the databas
- F. Create an IAM user and map it to a separate database user for each ecommerce use
- G. Require users to update their passwords every 60 days.
- H. Store the credentials in AWS Secrets Manage
- I. Restrict permissions on the secret to only the IAM role associated with the instance profil
- J. Modify the application to retrieve the credentials from Secrets Manager on start u
- K. Configure the rotation interval to 60 days.
- L. Store the credentials in an encrypted text file in the application AM
- M. Use AWS KMS to store the key for decrypting the text fil
- N. Modify the application to decrypt the text file and retrieve the credentials on start u
- O. Update the text file and publish a new AMI every 60 days.

Answer: C

NEW QUESTION 186

A company is running a website on Amazon EC2 instances deployed in multiple Availability Zones (AZs). The site performs a high number of repetitive reads and writes each second on an Amazon RDS for MySQL Multi- AZ DB instance with General Purpose SSD (gp2) storage. After comprehensive testing and analysis, a database specialist discovers that there is high read latency and high CPU utilization on the DB instance.

Which approach should the database specialist to take to resolve this issue without changing the application?

- A. Implementing sharding to distribute the load to multiple RDS for MySQL databases.
- B. Use the same RDS for MySQL instance class with Provisioned IOPS (PIOPS) storage.
- C. Add an RDS for MySQL read replica.
- D. Modify the RDS for MySQL database class to a bigger size and implement Provisioned IOPS (PIOPS).

Answer: D

NEW QUESTION 187

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