

# Exam Questions AWS-Certified-Data-Analytics-Specialty

AWS Certified Data Analytics - Specialty

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**NEW QUESTION 1**

A retail company wants to use Amazon QuickSight to generate dashboards for web and in-store sales. A group of 50 business intelligence professionals will develop and use the dashboards. Once ready, the dashboards will be shared with a group of 1,000 users. The sales data comes from different stores and is uploaded to Amazon S3 every 24 hours. The data is partitioned by year and month, and is stored in Apache Parquet format. The company is using the AWS Glue Data Catalog as its main data catalog and Amazon Athena for querying. The total size of the uncompressed data that the dashboards query from at any point is 200 GB. Which configuration will provide the MOST cost-effective solution that meets these requirements?

- A. Load the data into an Amazon Redshift cluster by using the COPY command
- B. Configure 50 author users and 1,000 reader user
- C. Use QuickSight Enterprise edition
- D. Configure an Amazon Redshift data source with a direct query option.
- E. Use QuickSight Standard edition
- F. Configure 50 author users and 1,000 reader user
- G. Configure an Athena data source with a direct query option.
- H. Use QuickSight Enterprise edition
- I. Configure 50 author users and 1,000 reader user
- J. Configure an Athena data source and import the data into SPICE
- K. Automatically refresh every 24 hours.
- L. Use QuickSight Enterprise edition
- M. Configure 1 administrator and 1,000 reader user
- N. Configure an S3 data source and import the data into SPICE
- O. Automatically refresh every 24 hours.

**Answer: C**

**NEW QUESTION 2**

A company is sending historical datasets to Amazon S3 for storage. A data engineer at the company wants to make these datasets available for analysis using Amazon Athena. The engineer also wants to encrypt the Athena query results in an S3 results location by using AWS solutions for encryption. The requirements for encrypting the query results are as follows:  
Use custom keys for encryption of the primary dataset query results. Use generic encryption for all other query results.  
Provide an audit trail for the primary dataset queries that shows when the keys were used and by whom.  
Which solution meets these requirements?

- A. Use server-side encryption with S3 managed encryption keys (SSE-S3) for the primary dataset
- B. Use SSE-S3 for the other datasets.
- C. Use server-side encryption with customer-provided encryption keys (SSE-C) for the primary dataset. Use server-side encryption with S3 managed encryption keys (SSE-S3) for the other datasets.
- D. Use server-side encryption with AWS KMS managed customer master keys (SSE-KMS CMKs) for the primary dataset
- E. Use server-side encryption with S3 managed encryption keys (SSE-S3) for the other datasets.
- F. Use client-side encryption with AWS Key Management Service (AWS KMS) customer managed keys for the primary dataset
- G. Use S3 client-side encryption with client-side keys for the other datasets.

**Answer: A**

**NEW QUESTION 3**

A manufacturing company uses Amazon S3 to store its data. The company wants to use AWS Lake Formation to provide granular-level security on those data assets. The data is in Apache Parquet format. The company has set a deadline for a consultant to build a data lake. How should the consultant create the MOST cost-effective solution that meets these requirements?

- A. Run Lake Formation blueprints to move the data to Lake Formation
- B. Once Lake Formation has the data, apply permissions on Lake Formation.
- C. To create the data catalog, run an AWS Glue crawler on the existing Parquet data
- D. Register the Amazon S3 path and then apply permissions through Lake Formation to provide granular-level security.
- E. Install Apache Ranger on an Amazon EC2 instance and integrate with Amazon EMR
- F. Using Ranger policies, create role-based access control for the existing data assets in Amazon S3.
- G. Create multiple IAM roles for different users and group
- H. Assign IAM roles to different data assets in Amazon S3 to create table-based and column-based access controls.

**Answer: A**

**Explanation:**

<https://aws.amazon.com/blogs/big-data/building-securing-and-managing-data-lakes-with-aws-lake-formation/>

**NEW QUESTION 4**

A company needs to store objects containing log data in JSON format. The objects are generated by eight applications running in AWS. Six of the applications generate a total of 500 KiB of data per second, and two of the applications can generate up to 2 MiB of data per second. A data engineer wants to implement a scalable solution to capture and store usage data in an Amazon S3 bucket. The usage data objects need to be reformatted, converted to .csv format, and then compressed before they are stored in Amazon S3. The company requires the solution to include the least custom code possible and has authorized the data engineer to request a service quota increase if needed. Which solution meets these requirements?

- A. Configure an Amazon Kinesis Data Firehose delivery stream for each application
- B. Write AWS Lambda functions to read log data objects from the stream for each application
- C. Have the function perform reformatting and .csv conversion
- D. Enable compression on all the delivery streams.
- E. Configure an Amazon Kinesis data stream with one shard per application
- F. Write an AWS Lambda function to read usage data objects from the shard

- G. Have the function perform .csv conversion, reformatting, and compression of the dat
- H. Have the function store the output in Amazon S3.
- I. Configure an Amazon Kinesis data stream for each applicatio
- J. Write an AWS Lambda function to read usage data objects from the stream for each applicatio
- K. Have the function perform .csv conversion, reformatting, and compression of the dat
- L. Have the function store the output in Amazon S3.
- M. Store usage data objects in an Amazon DynamoDB tabl
- N. Configure a DynamoDB stream to copy the objects to an S3 bucke
- O. Configure an AWS Lambda function to be triggered when objects are written to the S3 bucke
- P. Have the function convert the objects into .csv format.

**Answer:** A

#### NEW QUESTION 5

A global company has different sub-organizations, and each sub-organization sells its products and services in various countries. The company's senior leadership wants to quickly identify which sub-organization is the strongest performer in each country. All sales data is stored in Amazon S3 in Parquet format. Which approach can provide the visuals that senior leadership requested with the least amount of effort?

- A. Use Amazon QuickSight with Amazon Athena as the data sourc
- B. Use heat maps as the visual type.
- C. Use Amazon QuickSight with Amazon S3 as the data sourc
- D. Use heat maps as the visual type.
- E. Use Amazon QuickSight with Amazon Athena as the data sourc
- F. Use pivot tables as the visual type.
- G. Use Amazon QuickSight with Amazon S3 as the data sourc
- H. Use pivot tables as the visual type.

**Answer:** A

#### NEW QUESTION 6

An advertising company has a data lake that is built on Amazon S3. The company uses AWS Glue Data Catalog to maintain the metadata. The data lake is several years old and its overall size has increased exponentially as additional data sources and metadata are stored in the data lake. The data lake administrator wants to implement a mechanism to simplify permissions management between Amazon S3 and the Data Catalog to keep them in sync. Which solution will simplify permissions management with minimal development effort?

- A. Set AWS Identity and Access Management (IAM) permissions tor AWS Glue
- B. Use AWS Lake Formation permissions
- C. Manage AWS Glue and S3 permissions by using bucket policies
- D. Use Amazon Cognito user pools.

**Answer:** B

#### NEW QUESTION 7

A company is planning to create a data lake in Amazon S3. The company wants to create tiered storage based on access patterns and cost objectives. The solution must include support for JDBC connections from legacy clients, metadata management that allows federation for access control, and batch-based ETL using PySpark and Scala. Operational management should be limited. Which combination of components can meet these requirements? (Choose three.)

- A. AWS Glue Data Catalog for metadata management
- B. Amazon EMR with Apache Spark for ETL
- C. AWS Glue for Scala-based ETL
- D. Amazon EMR with Apache Hive for JDBC clients
- E. Amazon Athena for querying data in Amazon S3 using JDBC drivers
- F. Amazon EMR with Apache Hive, using an Amazon RDS with MySQL-compatible backed metastore

**Answer:** BEF

#### NEW QUESTION 8

A marketing company wants to improve its reporting and business intelligence capabilities. During the planning phase, the company interviewed the relevant stakeholders and discovered that:

- The operations team reports are run hourly for the current month's data.
- The sales team wants to use multiple Amazon QuickSight dashboards to show a rolling view of the last 30 days based on several categories.
- The sales team also wants to view the data as soon as it reaches the reporting backend.
- The finance team's reports are run daily for last month's data and once a month for the last 24 months of data.

Currently, there is 400 TB of data in the system with an expected additional 100 TB added every month. The company is looking for a solution that is as cost-effective as possible.

Which solution meets the company's requirements?

- A. Store the last 24 months of data in Amazon Redshif
- B. Configure Amazon QuickSight with Amazon Redshift as the data source.
- C. Store the last 2 months of data in Amazon Redshift and the rest of the months in Amazon S3. Set up an external schema and table for Amazon Redshift Spectru
- D. Configure Amazon QuickSight with Amazon Redshift as the data source.
- E. Store the last 24 months of data in Amazon S3 and query it using Amazon Redshift Spectrum. Configure Amazon QuickSight with Amazon Redshift Spectrum as the data source.
- F. Store the last 2 months of data in Amazon Redshift and the rest of the months in Amazon S3. Use a long- running Amazon EMR with Apache Spark cluster to query the data as neede

G. Configure Amazon QuickSight with Amazon EMR as the data source.

**Answer:** B

#### NEW QUESTION 9

A manufacturing company uses Amazon Connect to manage its contact center and Salesforce to manage its customer relationship management (CRM) data. The data engineering team must build a pipeline to ingest data from the contact center and CRM system into a data lake that is built on Amazon S3. What is the MOST efficient way to collect data in the data lake with the LEAST operational overhead?

- A. Use Amazon Kinesis Data Streams to ingest Amazon Connect data and Amazon AppFlow to ingest Salesforce data.
- B. Use Amazon Kinesis Data Firehose to ingest Amazon Connect data and Amazon Kinesis Data Streams to ingest Salesforce data.
- C. Use Amazon Kinesis Data Firehose to ingest Amazon Connect data and Amazon AppFlow to ingest Salesforce data.
- D. Use Amazon AppFlow to ingest Amazon Connect data and Amazon Kinesis Data Firehose to ingest Salesforce data.

**Answer:** B

#### NEW QUESTION 10

An insurance company has raw data in JSON format that is sent without a predefined schedule through an Amazon Kinesis Data Firehose delivery stream to an Amazon S3 bucket. An AWS Glue crawler is scheduled to run every 8 hours to update the schema in the data catalog of the tables stored in the S3 bucket. Data analysts analyze the data using Apache Spark SQL on Amazon EMR set up with AWS Glue Data Catalog as the metastore. Data analysts say that, occasionally, the data they receive is stale. A data engineer needs to provide access to the most up-to-date data. Which solution meets these requirements?

- A. Create an external schema based on the AWS Glue Data Catalog on the existing Amazon Redshift cluster to query new data in Amazon S3 with Amazon Redshift Spectrum.
- B. Use Amazon CloudWatch Events with the rate (1 hour) expression to execute the AWS Glue crawler every hour.
- C. Using the AWS CLI, modify the execution schedule of the AWS Glue crawler from 8 hours to 1 minute.
- D. Run the AWS Glue crawler from an AWS Lambda function triggered by an S3:ObjectCreated:\* eventnotification on the S3 bucket.

**Answer:** D

#### Explanation:

<https://docs.aws.amazon.com/AmazonS3/latest/dev/NotificationHowTo.html> "you can use a wildcard (for example, s3:ObjectCreated:\*) to request notification when an object is created regardless of the API used" "AWS Lambda can run custom code in response to Amazon S3 bucket events. You upload your custom code to AWS Lambda and create what is called a Lambda function. When Amazon S3 detects an event of a specific type (for example, an object created event), it can publish the event to AWS Lambda and invoke your function in Lambda. In response, AWS Lambda runs your function."

#### NEW QUESTION 10

A company uses Amazon Redshift for its data warehousing needs. ETL jobs run every night to load data, apply business rules, and create aggregate tables for reporting. The company's data analysis, data science, and business intelligence teams use the data warehouse during regular business hours. The workload management is set to auto, and separate queues exist for each team with the priority set to NORMAL. Recently, a sudden spike of read queries from the data analysis team has occurred at least twice daily, and queries wait in line for cluster resources. The company needs a solution that enables the data analysis team to avoid query queuing without impacting latency and the query times of other teams. Which solution meets these requirements?

- A. Increase the query priority to HIGHEST for the data analysis queue.
- B. Configure the data analysis queue to enable concurrency scaling.
- C. Create a query monitoring rule to add more cluster capacity for the data analysis queue when queries are waiting for resources.
- D. Use workload management query queue hopping to route the query to the next matching queue.

**Answer:** D

#### NEW QUESTION 12

A streaming application is reading data from Amazon Kinesis Data Streams and immediately writing the data to an Amazon S3 bucket every 10 seconds. The application is reading data from hundreds of shards. The batch interval cannot be changed due to a separate requirement. The data is being accessed by Amazon Athena. Users are seeing degradation in query performance as time progresses. Which action can help improve query performance?

- A. Merge the files in Amazon S3 to form larger files.
- B. Increase the number of shards in Kinesis Data Streams.
- C. Add more memory and CPU capacity to the streaming application.
- D. Write the files to multiple S3 buckets.

**Answer:** A

#### Explanation:

<https://aws.amazon.com/blogs/big-data/top-10-performance-tuning-tips-for-amazon-athena/>

#### NEW QUESTION 17

A marketing company collects clickstream data. The company sends the data to Amazon Kinesis Data Firehose and stores the data in Amazon S3. The company wants to build a series of dashboards that will be used by hundreds of users across different departments. The company will use Amazon QuickSight to develop these dashboards. The company has limited resources and wants a solution that could scale and provide daily updates about clickstream activity. Which combination of options will provide the MOST cost-effective solution? (Select TWO)

- A. Use Amazon Redshift to store and query the clickstream data.
- B. Use QuickSight with a direct SQL query.
- C. Use Amazon Athena to query the clickstream data in Amazon S3.
- D. Use S3 analytics to query the clickstream data.

E. Use the QuickSight SPICE engine with a daily refresh

**Answer:** BD

#### NEW QUESTION 22

A company is planning to do a proof of concept for a machine learning (ML) project using Amazon SageMaker with a subset of existing on-premises data hosted in the company's 3 TB data warehouse. For part of the project, AWS Direct Connect is established and tested. To prepare the data for ML, data analysts are performing data curation. The data analysts want to perform multiple step, including mapping, dropping null fields, resolving choice, and splitting fields. The company needs the fastest solution to curate the data for this project.

Which solution meets these requirements?

- A. Ingest data into Amazon S3 using AWS DataSync and use Apache Spark scrips to curate the data in an Amazon EMR cluste
- B. Store the curated data in Amazon S3 for ML processing.
- C. Create custom ETL jobs on-premises to curate the dat
- D. Use AWS DMS to ingest data into Amazon S3 for ML processing.
- E. Ingest data into Amazon S3 using AWS DM
- F. Use AWS Glue to perform data curation and store the data in Amazon S3 for ML processing.
- G. Take a full backup of the data store and ship the backup files using AWS Snowbal
- H. Upload Snowball data into Amazon S3 and schedule data curation jobs using AWS Batch to prepare the data for ML.

**Answer:** C

#### NEW QUESTION 26

A smart home automation company must efficiently ingest and process messages from various connected devices and sensors. The majority of these messages are comprised of a large number of small files. These messages are ingested using Amazon Kinesis Data Streams and sent to Amazon S3 using a Kinesis data stream consumer application. The Amazon S3 message data is then passed through a processing pipeline built on Amazon EMR running scheduled PySpark jobs. The data platform team manages data processing and is concerned about the efficiency and cost of downstream data processing. They want to continue to use PySpark.

Which solution improves the efficiency of the data processing jobs and is well architected?

- A. Send the sensor and devices data directly to a Kinesis Data Firehose delivery stream to send the data to Amazon S3 with Apache Parquet record format conversion enable
- B. Use Amazon EMR running PySpark to process the data in Amazon S3.
- C. Set up an AWS Lambda function with a Python runtime environmen
- D. Process individual Kinesis data stream messages from the connected devices and sensors using Lambda.
- E. Launch an Amazon Redshift cluste
- F. Copy the collected data from Amazon S3 to Amazon Redshift and move the data processing jobs from Amazon EMR to Amazon Redshift.
- G. Set up AWS Glue Python jobs to merge the small data files in Amazon S3 into larger files and transform them to Apache Parquet forma
- H. Migrate the downstream PySpark jobs from Amazon EMR to AWS Glue.

**Answer:** D

#### Explanation:

<https://aws.amazon.com/it/about-aws/whats-new/2020/04/aws-glue-now-supports-serverless-streaming-etl/>

#### NEW QUESTION 30

A company developed a new elections reporting website that uses Amazon Kinesis Data Firehose to deliver full logs from AWS WAF to an Amazon S3 bucket. The company is now seeking a low-cost option to perform this infrequent data analysis with visualizations of logs in a way that requires minimal development effort. Which solution meets these requirements?

- A. Use an AWS Glue crawler to create and update a table in the Glue data catalog from the log
- B. Use Athena to perform ad-hoc analyses and use Amazon QuickSight to develop data visualizations.
- C. Create a second Kinesis Data Firehose delivery stream to deliver the log files to Amazon Elasticsearch Service (Amazon ES). Use Amazon ES to perform text-based searches of the logs for ad-hoc analyses and use Kibana for data visualizations.
- D. Create an AWS Lambda function to convert the logs into .csv forma
- E. Then add the function to the Kinesis Data Firehose transformation configuratio
- F. Use Amazon Redshift to perform ad-hoc analyses of the logs using SQL queries and use Amazon QuickSight to develop data visualizations.
- G. Create an Amazon EMR cluster and use Amazon S3 as the data sourc
- H. Create an Apache Spark job to perform ad-hoc analyses and use Amazon QuickSight to develop data visualizations.

**Answer:** A

#### Explanation:

<https://aws.amazon.com/blogs/big-data/analyzing-aws-waf-logs-with-amazon-es-amazon-athena-and-amazon-qu>

#### NEW QUESTION 31

A media company has been performing analytics on log data generated by its applications. There has been a recent increase in the number of concurrent analytics jobs running, and the overall performance of existing jobs is decreasing as the number of new jobs is increasing. The partitioned data is stored in Amazon S3 One Zone-Infrequent Access (S3 One Zone-IA) and the analytic processing is performed on Amazon EMR clusters using the EMR File System (EMRFS) with consistent view enabled. A data analyst has determined that it is taking longer for the EMR task nodes to list objects in Amazon S3. Which action would MOST likely increase the performance of accessing log data in Amazon S3?

- A. Use a hash function to create a random string and add that to the beginning of the object prefixes when storing the log data in Amazon S3.
- B. Use a lifecycle policy to change the S3 storage class to S3 Standard for the log data.
- C. Increase the read capacity units (RCUs) for the shared Amazon DynamoDB table.
- D. Redeploy the EMR clusters that are running slowly to a different Availability Zone.

**Answer:** C

**Explanation:**

<https://docs.aws.amazon.com/emr/latest/ManagementGuide/emrfs-metadata.html>

**NEW QUESTION 33**

A data analyst is designing an Amazon QuickSight dashboard using centralized sales data that resides in Amazon Redshift. The dashboard must be restricted so that a salesperson in Sydney, Australia, can see only the Australia view and that a salesperson in New York can see only United States (US) data. What should the data analyst do to ensure the appropriate data security is in place?

- A. Place the data sources for Australia and the US into separate SPICE capacity pools.
- B. Set up an Amazon Redshift VPC security group for Australia and the US.
- C. Deploy QuickSight Enterprise edition to implement row-level security (RLS) to the sales table.
- D. Deploy QuickSight Enterprise edition and set up different VPC security groups for Australia and the US.

**Answer:** D

**NEW QUESTION 34**

A large company has a central data lake to run analytics across different departments. Each department uses a separate AWS account and stores its data in an Amazon S3 bucket in that account. Each AWS account uses the AWS Glue Data Catalog as its data catalog. There are different data lake access requirements based on roles. Associate analysts should only have read access to their departmental data. Senior data analysts can have access in multiple departments including theirs, but for a subset of columns only.

Which solution achieves these required access patterns to minimize costs and administrative tasks?

- A. Consolidate all AWS accounts into one account
- B. Create different S3 buckets for each department and move all the data from every account to the central data lake account
- C. Migrate the individual data catalogs into a central data catalog and apply fine-grained permissions to give to each user the required access to tables and databases in AWS Glue and Amazon S3.
- D. Keep the account structure and the individual AWS Glue catalogs on each account
- E. Add a central data lake account and use AWS Glue to catalog data from various account
- F. Configure cross-account access for AWS Glue crawlers to scan the data in each departmental S3 bucket to identify the schema and populate the catalog
- G. Add the senior data analysts into the central account and apply highly detailed access controls in the Data Catalog and Amazon S3.
- H. Set up an individual AWS account for the central data lake
- I. Use AWS Lake Formation to catalog the cross-account location
- J. On each individual S3 bucket, modify the bucket policy to grant S3 permissions to the Lake Formation service-linked role
- K. Use Lake Formation permissions to add fine-grained access controls to allow senior analysts to view specific tables and columns.
- L. Set up an individual AWS account for the central data lake and configure a central S3 bucket
- M. Use an AWS Lake Formation blueprint to move the data from the various buckets into the central S3 bucket
- N. On each individual bucket, modify the bucket policy to grant S3 permissions to the Lake Formation service-linked role
- O. Use Lake Formation permissions to add fine-grained access controls for both associate and senior analysts to view specific tables and columns.

**Answer:** C

**Explanation:**

Lake Formation provides secure and granular access to data through a new grant/revoke permissions model that augments AWS Identity and Access Management (IAM) policies. Analysts and data scientists can use the full portfolio of AWS analytics and machine learning services, such as Amazon Athena, to access the data. The configured Lake Formation security policies help ensure that users can access only the data that they are authorized to access. Source : <https://docs.aws.amazon.com/lake-formation/latest/dg/how-it-works.html>

**NEW QUESTION 37**

A company is migrating its existing on-premises ETL jobs to Amazon EMR. The code consists of a series of jobs written in Java. The company needs to reduce overhead for the system administrators without changing the underlying code. Due to the sensitivity of the data, compliance requires that the company use root device volume encryption on all nodes in the cluster. Corporate standards require that environments be provisioned through AWS CloudFormation when possible. Which solution satisfies these requirements?

- A. Install open-source Hadoop on Amazon EC2 instances with encrypted root device volume
- B. Configure the cluster in the CloudFormation template.
- C. Use a CloudFormation template to launch an EMR cluster
- D. In the configuration section of the cluster, define a bootstrap action to enable TLS.
- E. Create a custom AMI with encrypted root device volume
- F. Configure Amazon EMR to use the custom AMI using the CustomAmiId property in the CloudFormation template.
- G. Use a CloudFormation template to launch an EMR cluster
- H. In the configuration section of the cluster, define a bootstrap action to encrypt the root device volume of every node.

**Answer:** C

**NEW QUESTION 41**

A company wants to improve the data load time of a sales data dashboard. Data has been collected as .csv files and stored within an Amazon S3 bucket that is partitioned by date. The data is then loaded to an Amazon Redshift data warehouse for frequent analysis. The data volume is up to 500 GB per day. Which solution will improve the data loading performance?

- A. Compress .csv files and use an INSERT statement to ingest data into Amazon Redshift.
- B. Split large .csv files, then use a COPY command to load data into Amazon Redshift.
- C. Use Amazon Kinesis Data Firehose to ingest data into Amazon Redshift.
- D. Load the .csv files in an unsorted key order and vacuum the table in Amazon Redshift.

**Answer:** B

**Explanation:**

[https://docs.aws.amazon.com/redshift/latest/dg/c\\_loading-data-best-practices.html](https://docs.aws.amazon.com/redshift/latest/dg/c_loading-data-best-practices.html)

**NEW QUESTION 43**

A mobile gaming company wants to capture data from its gaming app and make the data available for analysis immediately. The data record size will be approximately 20 KB. The company is concerned about achieving optimal throughput from each device. Additionally, the company wants to develop a data stream processing application with dedicated throughput for each consumer. Which solution would achieve this goal?

- A. Have the app call the PutRecords API to send data to Amazon Kinesis Data Stream
- B. Use the enhanced fan-out feature while consuming the data.
- C. Have the app call the PutRecordBatch API to send data to Amazon Kinesis Data Firehose
- D. Submit a support case to enable dedicated throughput on the account.
- E. Have the app use Amazon Kinesis Producer Library (KPL) to send data to Kinesis Data Firehose
- F. Use the enhanced fan-out feature while consuming the data.
- G. Have the app call the PutRecords API to send data to Amazon Kinesis Data Stream
- H. Host the stream- processing application on Amazon EC2 with Auto Scaling.

**Answer:** A

**Explanation:**

<https://docs.aws.amazon.com/streams/latest/dev/enhanced-consumers.html>

**NEW QUESTION 45**

An education provider's learning management system (LMS) is hosted in a 100 TB data lake that is built on Amazon S3. The provider's LMS supports hundreds of schools. The provider wants to build an advanced analytics reporting platform using Amazon Redshift to handle complex queries with optimal performance. System users will query the most recent 4 months of data 95% of the time while 5% of the queries will leverage data from the previous 12 months. Which solution meets these requirements in the MOST cost-effective way?

- A. Store the most recent 4 months of data in the Amazon Redshift cluster
- B. Use Amazon Redshift Spectrum to query data in the data lake
- C. Use S3 lifecycle management rules to store data from the previous 12 months in Amazon S3 Glacier storage.
- D. Leverage DS2 nodes for the Amazon Redshift cluster
- E. Migrate all data from Amazon S3 to Amazon Redshift
- F. Decommission the data lake.
- G. Store the most recent 4 months of data in the Amazon Redshift cluster
- H. Use Amazon Redshift Spectrum to query data in the data lake
- I. Ensure the S3 Standard storage class is in use with objects in the data lake.
- J. Store the most recent 4 months of data in the Amazon Redshift cluster
- K. Use Amazon Redshift federated queries to join cluster data with the data lake to reduce cost
- L. Ensure the S3 Standard storage class is in use with objects in the data lake.

**Answer:** C

**NEW QUESTION 48**

A hospital is building a research data lake to ingest data from electronic health records (EHR) systems from multiple hospitals and clinics. The EHR systems are independent of each other and do not have a common patient identifier. The data engineering team is not experienced in machine learning (ML) and has been asked to generate a unique patient identifier for the ingested records. Which solution will accomplish this task?

- A. An AWS Glue ETL job with the FindMatches transform
- B. Amazon Kendra
- C. Amazon SageMaker Ground Truth
- D. An AWS Glue ETL job with the ResolveChoice transform

**Answer:** A

**Explanation:**

Matching Records with AWS Lake Formation FindMatches

**NEW QUESTION 49**

An operations team notices that a few AWS Glue jobs for a given ETL application are failing. The AWS Glue jobs read a large number of small JSON files from an Amazon S3 bucket and write the data to a different S3 bucket in Apache Parquet format with no major transformations. Upon initial investigation, a data engineer notices the following error message in the History tab on the AWS Glue console: "Command Failed with Exit Code 1."

Upon further investigation, the data engineer notices that the driver memory profile of the failed jobs crosses the safe threshold of 50% usage quickly and reaches 90–95% soon after. The average memory usage across all executors continues to be less than 4%.

The data engineer also notices the following error while examining the related Amazon CloudWatch Logs. What should the data engineer do to solve the failure in the MOST cost-effective way?

- A. Change the worker type from Standard to G.2X.
- B. Modify the AWS Glue ETL code to use the 'groupFiles': 'inPartition' feature.
- C. Increase the fetch size setting by using AWS Glue dynamics frame.
- D. Modify maximum capacity to increase the total maximum data processing units (DPUs) used.

**Answer:** B

**Explanation:**

<https://docs.aws.amazon.com/glue/latest/dg/monitor-profile-debug-oom-abnormalities.html#monitor-debug-oom>

**NEW QUESTION 51**

A financial company hosts a data lake in Amazon S3 and a data warehouse on an Amazon Redshift cluster. The company uses Amazon QuickSight to build dashboards and wants to secure access from its on-premises Active Directory to Amazon QuickSight.

How should the data be secured?

- A. Use an Active Directory connector and single sign-on (SSO) in a corporate network environment.
- B. Use a VPC endpoint to connect to Amazon S3 from Amazon QuickSight and an IAM role to authenticate Amazon Redshift.
- C. Establish a secure connection by creating an S3 endpoint to connect Amazon QuickSight and a VPC endpoint to connect to Amazon Redshift.
- D. Place Amazon QuickSight and Amazon Redshift in the security group and use an Amazon S3 endpoint to connect Amazon QuickSight to Amazon S3.

**Answer:** A

**Explanation:**

<https://docs.aws.amazon.com/quicksight/latest/user/directory-integration.html>

#### NEW QUESTION 52

A manufacturing company wants to create an operational analytics dashboard to visualize metrics from equipment in near-real time. The company uses Amazon Kinesis Data Streams to stream the data to other applications. The dashboard must automatically refresh every 5 seconds. A data analytics specialist must design a solution that requires the least possible implementation effort.

Which solution meets these requirements?

- A. Use Amazon Kinesis Data Firehose to store the data in Amazon S3. Use Amazon QuickSight to build the dashboard.
- B. Use Apache Spark Streaming on Amazon EMR to read the data in near-real time.
- C. Develop a custom application for the dashboard by using D3.js.
- D. Use Amazon Kinesis Data Firehose to push the data into an Amazon Elasticsearch Service (Amazon ES) cluster.
- E. Visualize the data by using a Kibana dashboard.
- F. Use AWS Glue streaming ETL to store the data in Amazon S3. Use Amazon QuickSight to build the dashboard.

**Answer:** B

#### NEW QUESTION 55

A company's marketing team has asked for help in identifying a high performing long-term storage service for their data based on the following requirements:

- The data size is approximately 32 TB uncompressed.
- There is a low volume of single-row inserts each day.
- There is a high volume of aggregation queries each day.
- Multiple complex joins are performed.
- The queries typically involve a small subset of the columns in a table.

Which storage service will provide the MOST performant solution?

- A. Amazon Aurora MySQL
- B. Amazon Redshift
- C. Amazon Neptune
- D. Amazon Elasticsearch

**Answer:** B

#### NEW QUESTION 57

A large ride-sharing company has thousands of drivers globally serving millions of unique customers every day. The company has decided to migrate an existing data mart to Amazon Redshift. The existing schema includes the following tables.

A trips fact table for information on completed rides. A drivers dimension table for driver profiles. A customers fact table holding customer profile information. The company analyzes trip details by date and destination to examine profitability by region. The drivers data rarely changes. The customers data frequently changes.

What table design provides optimal query performance?

- A. Use DISTSTYLE KEY (destination) for the trips table and sort by date.
- B. Use DISTSTYLE ALL for the drivers and customers tables.
- C. Use DISTSTYLE EVEN for the trips table and sort by date.
- D. Use DISTSTYLE ALL for the drivers table. Use DISTSTYLE EVEN for the customers table.
- E. Use DISTSTYLE KEY (destination) for the trips table and sort by date.
- F. Use DISTSTYLE ALL for the drivers table.
- G. Use DISTSTYLE EVEN for the customers table.
- H. Use DISTSTYLE EVEN for the drivers table and sort by date.
- I. Use DISTSTYLE ALL for both fact tables.

**Answer:** C

**Explanation:**

<https://www.matillion.com/resources/blog/aws-redshift-performance-choosing-the-right-distribution-styles/#:~:t>

[https://docs.aws.amazon.com/redshift/latest/dg/c\\_best-practices-best-dist-key.html](https://docs.aws.amazon.com/redshift/latest/dg/c_best-practices-best-dist-key.html)

#### NEW QUESTION 61

A data analyst is using Amazon QuickSight for data visualization across multiple datasets generated by applications. Each application stores files within a separate Amazon S3 bucket. AWS Glue Data Catalog is used as a central catalog across all application data in Amazon S3. A new application stores its data within a separate S3 bucket. After updating the catalog to include the new application data source, the data analyst created a new Amazon QuickSight data source from an Amazon Athena table, but the import into SPICE failed.

How should the data analyst resolve the issue?

- A. Edit the permissions for the AWS Glue Data Catalog from within the Amazon QuickSight console.
- B. Edit the permissions for the new S3 bucket from within the Amazon QuickSight console.
- C. Edit the permissions for the AWS Glue Data Catalog from within the AWS Glue console.

D. Edit the permissions for the new S3 bucket from within the S3 console.

**Answer: B**

#### NEW QUESTION 66

A company has an application that ingests streaming data. The company needs to analyze this stream over a 5-minute timeframe to evaluate the stream for anomalies with Random Cut Forest (RCF) and summarize the current count of status codes. The source and summarized data should be persisted for future use. Which approach would enable the desired outcome while keeping data persistence costs low?

- A. Ingest the data stream with Amazon Kinesis Data Stream
- B. Have an AWS Lambda consumer evaluate the stream, collect the number status codes, and evaluate the data against a previously trained RCF model
- C. Persist the source and results as a time series to Amazon DynamoDB.
- D. Ingest the data stream with Amazon Kinesis Data Stream
- E. Have a Kinesis Data Analytics application evaluate the stream over a 5-minute window using the RCF function and summarize the count of status code
- F. Persist the source and results to Amazon S3 through output delivery to Kinesis Data Firehouse.
- G. Ingest the data stream with Amazon Kinesis Data Firehose with a delivery frequency of 1 minute or 1 MB in Amazon S3. Ensure Amazon S3 triggers an event to invoke an AWS Lambda consumer that evaluates the batch data, collects the number status codes, and evaluates the data against a previously trained RCF model
- H. Persist the source and results as a time series to Amazon DynamoDB.
- I. Ingest the data stream with Amazon Kinesis Data Firehose with a delivery frequency of 5 minutes or 1 MB into Amazon S3. Have a Kinesis Data Analytics application evaluate the stream over a 1-minute window using the RCF function and summarize the count of status code
- J. Persist the results to Amazon S3 through a Kinesis Data Analytics output to an AWS Lambda integration.

**Answer: B**

#### NEW QUESTION 68

A software company wants to use instrumentation data to detect and resolve errors to improve application recovery time. The company requires API usage anomalies, like error rate and response time spikes, to be detected in near-real time (NRT) The company also requires that data analysts have access to dashboards for log analysis in NRT

Which solution meets these requirements?

- A. Use Amazon Kinesis Data Firehose as the data transport layer for logging data Use Amazon Kinesis Data Analytics to uncover the NRT API usage anomalies Use Kinesis Data Firehose to deliver log data to Amazon OpenSearch Service (Amazon Elasticsearch Service) for search, log analytics, and application monitoring Use OpenSearch Dashboards (Kibana) in Amazon OpenSearch Service (Amazon Elasticsearch Service) for the dashboards.
- B. Use Amazon Kinesis Data Analytics as the data transport layer for logging data
- C. Use Amazon Kinesis Data Streams to uncover NRT monitoring metrics
- D. Use Amazon Kinesis Data Firehose to deliver log data to Amazon OpenSearch Service (Amazon Elasticsearch Service) for search, log analytics, and application monitoring Use Amazon QuickSight for the dashboards
- E. Use Amazon Kinesis Data Analytics as the data transport layer for logging data and to uncover NRT monitoring metrics Use Amazon Kinesis Data Firehose to deliver log data to Amazon OpenSearch Service (Amazon Elasticsearch Service) for search, log analytics, and application monitoring Use OpenSearch Dashboards (Kibana) in Amazon OpenSearch Service (Amazon Elasticsearch Service) for the dashboards
- F. Use Amazon Kinesis Data Firehose as the data transport layer for logging data Use Amazon Kinesis Data Analytics to uncover NRT monitoring metrics Use Amazon Kinesis Data Streams to deliver log data to Amazon OpenSearch Service (Amazon Elasticsearch Service) for search, log analytics, and application monitoring Use Amazon QuickSight for the dashboards.

**Answer: C**

#### NEW QUESTION 72

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