Google

Exam Questions Professional-Data-Engineer

Google Professional Data Engineer Exam

NEW QUESTION 1
- (Exam Topic 1)
You want to use a database of information about tissue samples to classify future tissue samples as either normal or mutated. You are evaluating an unsupervised anomaly detection method for classifying the tissue samples. Which two characteristic support this method? (Choose two.)

A. There are very few occurrences of mutations relative to normal samples.
B. There are roughly equal occurrences of both normal and mutated samples in the database.
C. You expect future mutations to have different features from the mutated samples in the database.
D. You expect future mutations to have similar features to the mutated samples in the database.
E. You already have labels for which samples are mutated and which are normal in the database.

Answer: AD

Explanation:
Unsupervised anomaly detection techniques detect anomalies in an unlabeled test data set under the assumption that the majority of the instances in the data set are normal by looking for instances that seem to fit least to the remainder of the data set. https://en.wikipedia.org/wiki/Anomaly_detection

NEW QUESTION 2
- (Exam Topic 1)
You want to use Google Stackdriver Logging to monitor Google BigQuery usage. You need an instant notification to be sent to your monitoring tool when new data is appended to a certain table using an insert job, but you do not want to receive notifications for other tables. What should you do?

A. Make a call to the Stackdriver API to list all logs, and apply an advanced filter.
B. In the Stackdriver logging admin interface, and enable a log sink export to BigQuery.
C. In the Stackdriver logging admin interface, enable a log sink export to Google Cloud Pub/Sub, and subscribe to the topic from your monitoring tool.
D. Using the Stackdriver API, create a project sink with advanced log filter to export to Pub/Sub, and subscribe to the topic from your monitoring tool.

Answer: B

NEW QUESTION 3
- (Exam Topic 1)
Your weather app queries a database every 15 minutes to get the current temperature. The frontend is powered by Google App Engine and server millions of users. How should you design the frontend to respond to a database failure?

A. Issue a command to restart the database servers.
B. Retry the query with exponential backoff, up to a cap of 15 minutes.
C. Retry the query every second until it comes back online to minimize staleness of data.
D. Reduce the query frequency to once every hour until the database comes back online.

Answer: B

Explanation:
https://cloud.google.com/sql/docs/mysql/manage-connections#backoff

NEW QUESTION 4
- (Exam Topic 1)
You are designing a basket abandonment system for an ecommerce company. The system will send a message to a user based on these rules:
- No interaction by the user on the site for 1 hour
- Has added more than $30 worth of products to the basket
- Has not completed a transaction
You use Google Cloud Dataflow to process the data and decide if a message should be sent. How should you design the pipeline?

A. Use a fixed-time window with a duration of 60 minutes.
B. Use a sliding time window with a duration of 60 minutes.
C. Use a session window with a gap time duration of 60 minutes.
D. Use a global window with a time based trigger with a delay of 60 minutes.

Answer: C

NEW QUESTION 5
- (Exam Topic 1)
Your company is using WHILECARD tables to query data across multiple tables with similar names. The SQL statement is currently failing with the following error:
Syntax error : Expected end of statement but got "-" at [4:11] SELECT age
FROM
bigquery-public-data.noaa_gsod.gsod WHERE
age != 99
AND_TABLE_SUFFIX = '1929' ORDER BY
age DESC
Which table name will make the SQL statement work correctly?

A. 'bigquery-public-data.noaa_gsod.gsod'
B. bigquery-public-data.noaa_gsod.gsod*
C. 'bigquery-public-data.noaa_gsod.gsod'*
D. 'bigquery-public-data.noaa_gsod.gsod*`

Answer: D

NEW QUESTION 6
- (Exam Topic 1)
Your company is streaming real-time sensor data from their factory floor into Bigtable and they have noticed extremely poor performance. How should the row key be redesigned to improve Bigtable performance on queries that populate real-time dashboards?

A. Use a row key of the form <timestamp>.
B. Use a row key of the form <sensorid>.
C. Use a row key of the form <timestamp>#<sensorid>.
D. Use a row key of the form >#<sensorid>#<timestamp>.

Answer: A

NEW QUESTION 7
- (Exam Topic 1)
Your startup has never implemented a formal security policy. Currently, everyone in the company has access to the datasets stored in Google BigQuery. Teams have freedom to use the service as they see fit, and they have not documented their use cases. You have been asked to secure the data warehouse. You need to discover what everyone is doing. What should you do first?

A. Use Google Stackdriver Audit Logs to review data access.
B. Get the identity and access management IIAM) policy of each table
C. Use Stackdriver Monitoring to see the usage of BigQuery query slots.
D. Use the Google Cloud Billing API to see what account the warehouse is being billed to.

Answer: A

NEW QUESTION 8
- (Exam Topic 1)
You are building new real-time data warehouse for your company and will use Google BigQuery streaming inserts. There is no guarantee that data will only be sent in once but you do have a unique ID for each row of data and an event timestamp. You want to ensure that duplicates are not included while interactively querying data. Which query type should you use?

A. Include ORDER BY DESK on timestamp column and LIMIT to 1.
B. Use GROUP BY on the unique ID column and timestamp column and SUM on the values.
C. Use the LAG window function with PARTITION by unique ID along with WHERE LAG IS NOT NULL.
D. Use the ROW_NUMBER window function with PARTITION by unique ID along with WHERE row equals 1.

Answer: D

Explanation:
https://cloud.google.com/bigquery/docs/reference/standard-sql/analytic-function-concepts

NEW QUESTION 9
- (Exam Topic 1)
You want to process payment transactions in a point-of-sale application that will run on Google Cloud Platform. Your user base could grow exponentially, but you do not want to manage infrastructure scaling.
Which Google database service should you use?

A. Cloud SQL
B. BigQuery
C. Cloud Bigtable
D. Cloud Datastore

Answer: A

NEW QUESTION 10
- (Exam Topic 1)
Your company's customer and order databases are often under heavy load. This makes performing analytics against them difficult without harming operations. The databases are in a MySQL cluster, with nightly backups taken using mysqldump. You want to perform analytics with minimal impact on operations. What should you do?

A. Add a node to the MySQL cluster and build an OLAP cube there.
B. Use an ETL tool to load the data from MySQL into Google BigQuery.
C. Connect an on-premises Apache Hadoop cluster to MySQL and perform ETL.
D. Mount the backups to Google Cloud SQL, and then process the data using Google Cloud Dataproc.

Answer: C

NEW QUESTION 10
- (Exam Topic 1)
You have spent a few days loading data from comma-separated values (CSV) files into the Google BigQuery table CLICK_STREAM. The column DT stores the epoch time of click events. For convenience, you chose a simple schema where every field is treated as the STRING type. Now, you want to compute web session durations of users who visit your site, and you want to change its data type to the TIMESTAMP. You want to minimize the migration effort without making future queries computationally expensive. What should you do?

A. Delete the table CLICK_STREAM, and then re-create it such that the column DT is of the TIMESTAMP typ
B. Reload the data.
C. Add a column TS of the TIMESTAMP type to the table CLICK_STREAM, and populate the numeric values from the column TS for each ro

D. Reference the column TS instead of the column DT from now on.
E. Create a view CLICK_STREAM_V, where strings from the column DT are cast into TIMESTAMP value
F. Reference the view CLICK_STREAM_V instead of the table CLICK_STREAM from now on.
G. Add two columns to the table CLICK STREAM: TS of the TIMESTAMP type and IS_NEW of the BOOLEAN typ
H. Reload all data in append mod
I. For each appended row, set the value of IS_NEW to tru
J. For future queries, reference the column TS instead of the column DT, with the WHERE clause ensuring that the value of IS_NEW must be true.
K. Construct a query to return every row of the table CLICK_STREAM, while using the built-in function to cast strings from the column DT into TIMESTAMP value
L. Run the query into a destination table NEW_CLICK_STREAM, in which the column TS is the TIMESTAMP typ
M. Reference the table NEW_CLICK_STREAM instead of the table CLICK_STREAM from now o
N. In the future, new data is loaded into the table NEW_CLICK_STREAM.

Answer: D

NEW QUESTION 14
- (Exam Topic 1)
Your company is running their first dynamic campaign, serving different offers by analyzing real-time data during the holiday season. The data scientists are collecting terabytes of data that rapidly grows every hour during their 30-day campaign. They are using Google Cloud Dataflow to preprocess the data and collect the feature (signals) data that is needed for the machine learning model in Google Cloud Bigtable. The team is observing suboptimal performance with reads and writes of their initial load of 10 TB of data. They want to improve this performance while minimizing cost. What should they do?

A. Redefine the schema by evenly distributing reads and writes across the row space of the table.
B. The performance issue should be resolved over time as the site of the BigDate cluster is increased.
C. Redesign the schema to use a single row key to identify values that need to be updated frequently in the cluster.
D. Redesign the schema to use row keys based on numeric IDs that increase sequentially per user viewing the offers.

Answer: A

NEW QUESTION 18
- (Exam Topic 1)
Business owners at your company have given you a database of bank transactions. Each row contains the user ID, transaction type, transaction location, and transaction amount. They ask you to investigate what type of machine learning can be applied to the data. Which three machine learning applications can you use? (Choose three.)

A. Supervised learning to determine which transactions are most likely to be fraudulent.
B. Unsupervised learning to determine which transactions are most likely to be fraudulent.
C. Clustering to divide the transactions into N categories based on feature similarity.
D. Supervised learning to predict the location of a transaction.
E. Reinforcement learning to predict the location of a transaction.
F. Unsupervised learning to predict the location of a transaction.

Answer: BCD

NEW QUESTION 20
- (Exam Topic 1)
You create an important report for your large team in Google Data Studio 360. The report uses Google BigQuery as its data source. You notice that visualizations are not showing data that is less than 1 hour old. What should you do?

A. Disable caching by editing the report settings.
B. Disable caching in BigQuery by editing table details.
C. Refresh your browser tab showing the visualizations.
D. Clear your browser history for the past hour then reload the tab showing the virtualizations.

Answer: A

Explanation:
Reference https://support.google.com/datastudio/answer/7020039?hl=en

NEW QUESTION 23
- (Exam Topic 2)
Flowlogistic is rolling out their real-time inventory tracking system. The tracking devices will all send package-tracking messages, which will now go to a single Google Cloud Pub/Sub topic instead of the Apache Kafka cluster. A subscriber application will then process the messages for real-time reporting and store them in Google BigQuery for historical analysis. You want to ensure the package data can be analyzed over time.
Which approach should you take?

A. Attach the timestamp on each message in the Cloud Pub/Sub subscriber application as they are received.
B. Attach the timestamp and Package ID on the outbound message from each publisher device as they are sent to Clod Pub/Sub.
C. Use the NOW () function in BigQuery to record the event's time.
D. Use the automatically generated timestamp from Cloud Pub/Sub to order the data.

Answer: B

NEW QUESTION 27
- (Exam Topic 2)
Flowlogistic's CEO wants to gain rapid insight into their customer base so his sales team can be better informed in the field. This team is not very technical, so they've purchased a visualization tool to simplify the creation of BigQuery reports. However, they've been overwhelmed by all the data in the table, and are spending a lot of money on queries trying to find the data they need. You want to solve their problem in the most cost-effective way. What should you do?

A. Export the data into a Google Sheet for virtualization.
B. Create an additional table with only the necessary columns.
C. Create a view on the table to present to the virtualization tool.
D. Create identity and access management (IAM) roles on the appropriate columns, so only they appear in a query.

Answer: C

NEW QUESTION 32
- (Exam Topic 2)
Flowlogistic's management has determined that the current Apache Kafka servers cannot handle the data volume for their real-time inventory tracking system. You need to build a new system on Google Cloud Platform (GCP) that will feed the proprietary tracking software. The system must be able to ingest data from a variety of global sources, process and query in real-time, and store the data reliably. Which combination of GCP products should you choose?

A. Cloud Pub/Sub, Cloud Dataflow, and Cloud Storage
B. Cloud Pub/Sub, Cloud Dataflow, and Local SSD
C. Cloud Pub/Sub, Cloud SQL, and Cloud Storage
D. Cloud Load Balancing, Cloud Dataflow, and Cloud Storage

Answer: C

NEW QUESTION 36
- (Exam Topic 2)
Flowlogistic wants to use Google BigQuery as their primary analysis system, but they still have Apache Hadoop and Spark workloads that they cannot move to BigQuery. Flowlogistic does not know how to store the data that is common to both workloads. What should they do?

A. Store the common data in BigQuery as partitioned tables.
B. Store the common data in BigQuery and expose authorized views.
C. Store the common data encoded as Avro in Google Cloud Storage.
D. Store he common data in the HDFS storage for a Google Cloud Dataproc cluster.

Answer: B

NEW QUESTION 37
- (Exam Topic 3)
MJTelco needs you to create a schema in Google Bigtable that will allow for the historical analysis of the last 2 years of records. Each record that comes in is sent every 15 minutes, and contains a unique identifier of the device and a data record. The most common query is for all the data for a given device for a given day. Which schema should you use?

A. Rowkey: date#device_idColumn data: data_point
B. Rowkey: dateColumn data: device_id, data_point
C. Rowkey: device_idColumn data: date, data_point
D. Rowkey: data_pointColumn data: device_id, date
E. Rowkey: date#data_pointColumn data: device_id

Answer: D

NEW QUESTION 39
- (Exam Topic 4)
You are choosing a NoSQL database to handle telemetry data submitted from millions of Internet-of-Things (IoT) devices. The volume of data is growing at 100 TB per year, and each data entry has about 100 attributes. The data processing pipeline does not require atomicity, consistency, isolation, and durability (ACID). However, high availability and low latency are required.
You need to analyze the data by querying against individual fields. Which three databases meet your requirements? (Choose three.)

A. Redis
B. HBase
C. MySQL
D. MongoDB
E. Cassandra
F. HDFS with Hive

Answer: BDF

NEW QUESTION 40
- (Exam Topic 4)
Your company is loading comma-separated values (CSV) files into Google BigQuery. The data is fully imported successfully; however, the imported data is not matching byte-to-byte to the source file. What is the most likely cause of this problem?

A. The CSV data loaded in BigQuery is not flagged as CSV.
B. The CSV data has invalid rows that were skipped on import.
C. The CSV data loaded in BigQuery is not using BigQuery's default encoding.
D. The CSV data has not gone through an ETL phase before loading into BigQuery.

Answer: B

NEW QUESTION 41
- (Exam Topic 4)
Your company produces 20,000 files every hour. Each data file is formatted as a comma separated values

(CSV) file that is less than 4 KB. All files must be ingested on Google Cloud Platform before they can be processed. Your company site has a 200 ms latency to Google Cloud, and your Internet connection bandwidth is limited as 50 Mbps. You currently deploy a secure FTP (SFTP) server on a virtual machine in Google Compute Engine as the data ingestion point. A local SFTP client runs on a dedicated machine to transmit the CSV files as is. The goal is to make reports with data from the previous day available to the executives by 10:00 a.m. each day. This design is barely able to keep up with the current volume, even though the bandwidth utilization is rather low.
You are told that due to seasonality, your company expects the number of files to double for the next three months. Which two actions should you take? (choose two.)

A. Introduce data compression for each file to increase the rate file of file transfer.
B. Contact your internet service provider (ISP) to increase your maximum bandwidth to at least 100 Mbps.
C. Redesign the data ingestion process to use gsutil tool to send the CSV files to a storage bucket in parallel.
D. Assemble 1,000 files into a tape archive (TAR) fil
E. Transmit the TAR files instead, and disassemble the CSV files in the cloud upon receiving them.
F. Create an S3-compatible storage endpoint in your network, and use Google Cloud Storage Transfer Service to transfer on-premices data to the designated storage bucket.

Answer: CE

NEW QUESTION 45
- (Exam Topic 4)
You are designing the database schema for a machine learning-based food ordering service that will predict what users want to eat. Here is some of the information you need to store:

- The user profile: What the user likes and doesn't like to eat
- The user account information: Name, address, preferred meal times
- The order information: When orders are made, from where, to whom

The database will be used to store all the transactional data of the product. You want to optimize the data schema. Which Google Cloud Platform product should you use?

A. BigQuery
B. Cloud SQL
C. Cloud Bigtable
D. Cloud Datastore

Answer: A

NEW QUESTION 48
- (Exam Topic 4)
Your company has recently grown rapidly and now ingesting data at a significantly higher rate than it was previously. You manage the daily batch MapReduce analytics jobs in Apache Hadoop. However, the recent increase in data has meant the batch jobs are falling behind. You were asked to recommend ways the development team could increase the responsiveness of the analytics without increasing costs. What should you recommend they do?

A. Rewrite the job in Pig.
B. Rewrite the job in Apache Spark.
C. Increase the size of the Hadoop cluster.
D. Decrease the size of the Hadoop cluster but also rewrite the job in Hive.

Answer: A

NEW QUESTION 49
- (Exam Topic 5)
Which of these is NOT a way to customize the software on Dataproc cluster instances?

A. Set initialization actions
B. Modify configuration files using cluster properties
C. Configure the cluster using Cloud Deployment Manager
D. Log into the master node and make changes from there

Answer: C

Explanation:
You can access the master node of the cluster by clicking the SSH button next to it in the Cloud Console.
You can easily use the --properties option of the dataproc command in the Google Cloud SDK to modify many common configuration files when creating a cluster.
When creating a Cloud Dataproc cluster, you can specify initialization actions in executables and/or scripts that Cloud Dataproc will run on all nodes in your Cloud Dataproc cluster immediately after the cluster is set up. [https://cloud.google.com/dataproc/docs/concepts/configuring-clusters/init-actions]
Reference: https://cloud.google.com/dataproc/docs/concepts/configuring-clusters/cluster-properties

NEW QUESTION 53
- (Exam Topic 5)
What are two of the characteristics of using online prediction rather than batch prediction?

A. It is optimized to handle a high volume of data instances in a job and to run more complex models.
B. Predictions are returned in the response message.
C. Predictions are written to output files in a Cloud Storage location that you specify.
D. It is optimized to minimize the latency of serving predictions.

Answer: BD

Explanation:

Online prediction
Optimized to minimize the latency of serving predictions.
Predictions returned in the response message. Batch prediction
Optimized to handle a high volume of instances in a job and to run more complex models. Predictions written to output files in a Cloud Storage location that you specify.
Reference:
https://cloud.google.com/ml-engine/docs/prediction-overview#online_prediction_versus_batch_prediction

NEW QUESTION 58
- (Exam Topic 5)
If a dataset contains rows with individual people and columns for year of birth, country, and income, how many of the columns are continuous and how many are categorical?

A. 1 continuous and 2 categorical
B. 3 categorical
C. 3 continuous
D. 2 continuous and 1 categorical

Answer: D

Explanation:
The columns can be grouped into two types—categorical and continuous columns:
A column is called categorical if its value can only be one of the categories in a finite set. For example, the native country of a person (U.S., India, Japan, etc.) or the education level (high school, college, etc.) are categorical columns.
A column is called continuous if its value can be any numerical value in a continuous range. For example, the capital gain of a person (e.g. $14,084) is a continuous column.
Year of birth and income are continuous columns. Country is a categorical column.
You could use bucketization to turn year of birth and/or income into categorical features, but the raw columns are continuous.
Reference: https://www.tensorflow.org/tutorials/wide#reading_the_census_data

NEW QUESTION 59
- (Exam Topic 5)
Which row keys are likely to cause a disproportionate number of reads and/or writes on a particular node in a Bigtable cluster (select 2 answers)?

A. A sequential numeric ID
B. A timestamp followed by a stock symbol
C. A non-sequential numeric ID
D. A stock symbol followed by a timestamp

Answer: AB

Explanation:
using a timestamp as the first element of a row key can cause a variety of problems.
In brief, when a row key for a time series includes a timestamp, all of your writes will target a single node; fill that node; and then move onto the next node in the cluster, resulting in hotspotting.
Suppose your system assigns a numeric ID to each of your application's users. You might be tempted to use the user's numeric ID as the row key for your table. However, since new users are more likely to be active users, this approach is likely to push most of your traffic to a small number of nodes.
[https://cloud.google.com/bigtable/docs/schema-design]
Reference:
https://cloud.google.com/bigtable/docs/schema-design-time-series#ensure_that_your_row_key_avoids_hotspotti

NEW QUESTION 62
- (Exam Topic 5)
In order to securely transfer web traffic data from your computer's web browser to the Cloud Dataproc cluster you should use a(n) .

A. VPN connection
B. Special browser
C. SSH tunnel
D. FTP connection

Answer: C

Explanation:
To connect to the web interfaces, it is recommended to use an SSH tunnel to create a secure connection to the master node.
Reference:
https://cloud.google.com/dataproc/docs/concepts/cluster-web-interfaces#connecting_to_the_web_interfaces

NEW QUESTION 64
- (Exam Topic 5)
What are two methods that can be used to denormalize tables in BigQuery?

A. 1) Split table into multiple tables; 2) Use a partitioned table
B. 1) Join tables into one table; 2) Use nested repeated fields
C. 1) Use a partitioned table; 2) Join tables into one table
D. 1) Use nested repeated fields; 2) Use a partitioned table

Answer: B

Explanation:

The conventional method of denormalizing data involves simply writing a fact, along with all its dimensions, into a flat table structure. For example, if you are dealing with sales transactions, you would write each individual fact to a record, along with the accompanying dimensions such as order and customer information. The other method for denormalizing data takes advantage of BigQuery's native support for nested and repeated structures in JSON or Avro input data. Expressing records using nested and repeated structures can provide a more natural representation of the underlying data. In the case of the sales order, the outer part of a JSON structure would contain the order and customer information, and the inner part of the structure would contain the individual line items of the order, which would be represented as nested, repeated elements.
Reference: https://cloud.google.com/solutions/bigquery-data-warehouse#denormalizing_data

NEW QUESTION 67
- (Exam Topic 5)
Which is not a valid reason for poor Cloud Bigtable performance?

A. The workload isn't appropriate for Cloud Bigtable.
B. The table's schema is not designed correctly.
C. The Cloud Bigtable cluster has too many nodes.
D. There are issues with the network connection.

Answer: C

Explanation:
The Cloud Bigtable cluster doesn't have enough nodes. If your Cloud Bigtable cluster is overloaded, adding more nodes can improve performance. Use the monitoring tools to check whether the cluster is overloaded.
Reference: https://cloud.google.com/bigtable/docs/performance

NEW QUESTION 72
- (Exam Topic 5)
What Dataflow concept determines when a Window's contents should be output based on certain criteria being met?

A. Sessions
B. OutputCriteria
C. Windows
D. Triggers

Answer: D

Explanation:
Triggers control when the elements for a specific key and window are output. As elements arrive, they are put into one or more windows by a Window transform and its associated WindowFn, and then passed to the associated Trigger to determine if the Windows contents should be output.
Reference:
https://cloud.google.com/dataflow/java-sdk/JavaDoc/com/google/cloud/dataflow/sdk/transforms/windowing/Tri

NEW QUESTION 75
- (Exam Topic 5)
Which of the following is not possible using primitive roles?

A. Give a user viewer access to BigQuery and owner access to Google Compute Engine instances.
B. Give UserA owner access and UserB editor access for all datasets in a project.
C. Give a user access to view all datasets in a project, but not run queries on them.
D. Give GroupA owner access and GroupB editor access for all datasets in a project.

Answer: C

Explanation:
Primitive roles can be used to give owner, editor, or viewer access to a user or group, but they can't be used to separate data access permissions from job-running permissions.
Reference: https://cloud.google.com/bigquery/docs/access-control#primitive_iam_roles

NEW QUESTION 79
- (Exam Topic 5)
What are the minimum permissions needed for a service account used with Google Dataproc?

A. Execute to Google Cloud Storage; write to Google Cloud Logging
B. Write to Google Cloud Storage; read to Google Cloud Logging
C. Execute to Google Cloud Storage; execute to Google Cloud Logging
D. Read and write to Google Cloud Storage; write to Google Cloud Logging

Answer: D

Explanation:
Service accounts authenticate applications running on your virtual machine instances to other Google Cloud Platform services. For example, if you write an application that reads and writes files on Google Cloud Storage, it must first authenticate to the Google Cloud Storage API. At a minimum, service accounts used with Cloud Dataproc need permissions to read and write to Google Cloud Storage, and to write to Google Cloud Logging.
Reference: https://cloud.google.com/dataproc/docs/concepts/service-accounts#important_notes

NEW QUESTION 81
- (Exam Topic 5)
When you design a Google Cloud Bigtable schema it is recommended that you .

A. Avoid schema designs that are based on NoSQL concepts
B. Create schema designs that are based on a relational database design
C. Avoid schema designs that require atomicity across rows
D. Create schema designs that require atomicity across rows

Answer: C

Explanation:
All operations are atomic at the row level. For example, if you update two rows in a table, it's possible that one row will be updated successfully and the other update will fail. Avoid schema designs that require atomicity across rows.
Reference: https://cloud.google.com/bigtable/docs/schema-design#row-keys

NEW QUESTION 83
- (Exam Topic 5)
Which of these rules apply when you add preemptible workers to a Dataproc cluster (select 2 answers)?

A. Preemptible workers cannot use persistent disk.
B. Preemptible workers cannot store data.
C. If a preemptible worker is reclaimed, then a replacement worker must be added manually.
D. A Dataproc cluster cannot have only preemptible workers.

Answer: BD

Explanation:
The following rules will apply when you use preemptible workers with a Cloud Dataproc cluster: Processing only—Since preemptibles can be reclaimed at any time, preemptible workers do not store data.
Preemptibles added to a Cloud Dataproc cluster only function as processing nodes.
No preemptible-only clusters—To ensure clusters do not lose all workers, Cloud Dataproc cannot create preemptible-only clusters.
Persistent disk size—As a default, all preemptible workers are created with the smaller of 100GB or the primary worker boot disk size. This disk space is used for local caching of data and is not available through HDFS.
The managed group automatically re-adds workers lost due to reclamation as capacity permits. Reference:
https://cloud.google.com/dataproc/docs/concepts/preemptible-vms

NEW QUESTION 85
- (Exam Topic 5)
Why do you need to split a machine learning dataset into training data and test data?

A. So you can try two different sets of features
B. To make sure your model is generalized for more than just the training data
C. To allow you to create unit tests in your code
D. So you can use one dataset for a wide model and one for a deep model

Answer: B

Explanation:
The flaw with evaluating a predictive model on training data is that it does not inform you on how well the model has generalized to new unseen data. A model that is selected for its accuracy on the training dataset rather than its accuracy on an unseen test dataset is very likely to have lower accuracy on an unseen test dataset. The reason is that the model is not as generalized. It has specialized to the structure in the training dataset. This is called overfitting.
Reference: https://machinelearningmastery.com/a-simple-intuition-for-overfitting/

NEW QUESTION 86
- (Exam Topic 5)
When creating a new Cloud Dataproc cluster with the projects.regions.clusters.create operation, these four values are required: project, region, name, and .

A. zone
B. node
C. label
D. type

Answer: A

Explanation:
At a minimum, you must specify four values when creating a new cluster with the projects.regions.clusters.create operation:
The project in which the cluster will be created The region to use
The name of the cluster
The zone in which the cluster will be created
You can specify many more details beyond these minimum requirements. For example, you can
also specify the number of workers, whether preemptible compute should be used, and the network settings. Reference:
https://cloud.google.com/dataproc/docs/tutorials/python-library-example#create_a_new_cloud_dataproc_cluste

NEW QUESTION 88
- (Exam Topic 5)
Which of the following is NOT a valid use case to select HDD (hard disk drives) as the storage for Google Cloud Bigtable?

A. You expect to store at least 10 TB of data.
B. You will mostly run batch workloads with scans and writes, rather than frequently executing random reads of a small number of rows.
C. You need to integrate with Google BigQuery.
D. You will not use the data to back a user-facing or latency-sensitive application.

Answer: C

Explanation:
For example, if you plan to store extensive historical data for a large number of remote-sensing devices and then use the data to generate daily reports, the cost savings for HDD storage may justify the performance tradeoff. On the other hand, if you plan to use the data to display a real-time dashboard, it probably would not make sense to use HDD storage—reads would be much more frequent in this case, and reads are much slower with HDD storage.
Reference: https://cloud.google.com/bigtable/docs/choosing-ssd-hdd

NEW QUESTION 93
- (Exam Topic 5)
Which of these statements about BigQuery caching is true?

A. By default, a query's results are not cached.
B. BigQuery caches query results for 48 hours.
C. Query results are cached even if you specify a destination table.
D. There is no charge for a query that retrieves its results from cache.

Answer: D

Explanation:
When query results are retrieved from a cached results table, you are not charged for the query. BigQuery caches query results for 24 hours, not 48 hours.
Query results are not cached if you specify a destination table.
A query's results are always cached except under certain conditions, such as if you specify a destination table. Reference: https://cloud.google.com/bigquery/querying-data#query-caching

NEW QUESTION 94
- (Exam Topic 5)
What is the general recommendation when designing your row keys for a Cloud Bigtable schema?

A. Include multiple time series values within the row key
B. Keep the row keep as an 8 bit integer
C. Keep your row key reasonably short
D. Keep your row key as long as the field permits

Answer: C

Explanation:
A general guide is to, keep your row keys reasonably short. Long row keys take up additional memory and storage and increase the time it takes to get responses from the Cloud Bigtable server.
Reference: https://cloud.google.com/bigtable/docs/schema-design#row-keys

NEW QUESTION 99
- (Exam Topic 5)
Suppose you have a dataset of images that are each labeled as to whether or not they contain a human face. To create a neural network that recognizes human faces in images using this labeled dataset, what approach would likely be the most effective?

A. Use K-means Clustering to detect faces in the pixels.
B. Use feature engineering to add features for eyes, noses, and mouths to the input data.
C. Use deep learning by creating a neural network with multiple hidden layers to automatically detect features of faces.
D. Build a neural network with an input layer of pixels, a hidden layer, and an output layer with two categories.

Answer: C

Explanation:
Traditional machine learning relies on shallow nets, composed of one input and one output layer, and at most one hidden layer in between. More than three layers (including input and output) qualifies as “deep” learning. So deep is a strictly defined, technical term that means more than one hidden layer.
In deep-learning networks, each layer of nodes trains on a distinct set of features based on the previous layer’s output. The further you advance into the neural net, the more complex the features your nodes can recognize, since they aggregate and recombine features from the previous layer.
A neural network with only one hidden layer would be unable to automatically recognize high-level features of faces, such as eyes, because it wouldn't be able to "build" these features using previous hidden layers that detect low-level features, such as lines.
Feature engineering is difficult to perform on raw image data.
K- means Clustering is an unsupervised learning method used to categorize unlabeled data. Reference: https://deeplearning4j.org/neuralnet-overview

NEW QUESTION 102
- (Exam Topic 5)
Which of the following are examples of hyperparameters? (Select 2 answers.)

A. Number of hidden layers
B. Number of nodes in each hidden layer
C. Biases
D. Weights

Answer: AB

Explanation:
If model parameters are variables that get adjusted by training with existing data, your hyperparameters are the variables about the training process itself. For example, part of setting up a deep neural network is deciding how many "hidden" layers of nodes to use between the input layer and the output layer, as well as how many nodes each layer should use. These variables are not directly related to the training data at all. They are configuration variables. Another difference is

that parameters change during a training job, while the hyperparameters are usually constant during a job.
Weights and biases are variables that get adjusted during the training process, so they are not hyperparameters. Reference: https://cloud.google.com/ml-engine/docs/hyperparameter-tuning-overview

NEW QUESTION 104
- (Exam Topic 5)
Which of the following are feature engineering techniques? (Select 2 answers)

A. Hidden feature layers
B. Feature prioritization
C. Crossed feature columns
D. Bucketization of a continuous feature

Answer: CD

Explanation:
Selecting and crafting the right set of feature columns is key to learning an effective model.
Bucketization is a process of dividing the entire range of a continuous feature into a set of consecutive bins/buckets, and then converting the original numerical feature into a bucket ID (as a categorical feature) depending on which bucket that value falls into.
Using each base feature column separately may not be enough to explain the data. To learn the differences between different feature combinations, we can add crossed feature columns to the model.
Reference: https://www.tensorflow.org/tutorials/wide#selecting_and_engineering_features_for_the_model

NEW QUESTION 106
- (Exam Topic 5)
All Google Cloud Bigtable client requests go through a front-end server they are sent to a Cloud Bigtable node.

A. before
B. after
C. only if
D. once

Answer: A

Explanation:
In a Cloud Bigtable architecture all client requests go through a front-end server before they are sent to a Cloud Bigtable node.
The nodes are organized into a Cloud Bigtable cluster, which belongs to a Cloud Bigtable instance, which is a container for the cluster. Each node in the cluster handles a subset of the requests to the cluster.
When additional nodes are added to a cluster, you can increase the number of simultaneous requests that the cluster can handle, as well as the maximum throughput for the entire cluster.
Reference: https://cloud.google.com/bigtable/docs/overview

NEW QUESTION 109
- (Exam Topic 5)
For the best possible performance, what is the recommended zone for your Compute Engine instance and Cloud Bigtable instance?

A. Have the Compute Engine instance in the furthest zone from the Cloud Bigtable instance.
B. Have both the Compute Engine instance and the Cloud Bigtable instance to be in different zones.
C. Have both the Compute Engine instance and the Cloud Bigtable instance to be in the same zone.
D. Have the Cloud Bigtable instance to be in the same zone as all of the consumers of your data.

Answer: C

Explanation:
It is recommended to create your Compute Engine instance in the same zone as your Cloud Bigtable instance for the best possible performance,
If it's not possible to create a instance in the same zone, you should create your instance in another zone within the same region. For example, if your Cloud Bigtable instance is located in us-central1-b, you could create your instance in us-central1-f. This change may result in several milliseconds of additional latency for each Cloud Bigtable request.
It is recommended to avoid creating your Compute Engine instance in a different region from
your Cloud Bigtable instance, which can add hundreds of milliseconds of latency to each Cloud Bigtable request.
Reference: https://cloud.google.com/bigtable/docs/creating-compute-instance

NEW QUESTION 111
- (Exam Topic 5)
You have a job that you want to cancel. It is a streaming pipeline, and you want to ensure that any data that is in-flight is processed and written to the output.
Which of the following commands can you use on the Dataflow monitoring console to stop the pipeline job?

A. Cancel
B. Drain
C. Stop
D. Finish

Answer: B

Explanation:
Using the Drain option to stop your job tells the Dataflow service to finish your job in its current state. Your job will immediately stop ingesting new data from input sources, but the Dataflow service will preserve any existing resources (such as worker instances) to finish processing and writing any buffered data in your pipeline.
Reference: https://cloud.google.com/dataflow/pipelines/stopping-a-pipeline

NEW QUESTION 113
- (Exam Topic 5)
Which of these numbers are adjusted by a neural network as it learns from a training dataset (select 2 answers)?

A. Weights
B. Biases
C. Continuous features
D. Input values

Answer: AB

Explanation:
A neural network is a simple mechanism that's implemented with basic math. The only difference between the traditional programming model and a neural network is that you let the computer determine the parameters (weights and bias) by learning from training datasets.
Reference:
https://cloud.google.com/blog/big-data/2016/07/understanding-neural-networks-with-tensorflow-playground

NEW QUESTION 115
- (Exam Topic 5)
Which of the following is not true about Dataflow pipelines?

A. Pipelines are a set of operations
B. Pipelines represent a data processing job
C. Pipelines represent a directed graph of steps
D. Pipelines can share data between instances

Answer: D

Explanation:
The data and transforms in a pipeline are unique to, and owned by, that pipeline. While your program can create multiple pipelines, pipelines cannot share data or transforms
Reference: https://cloud.google.com/dataflow/model/pipelines

NEW QUESTION 120
- (Exam Topic 5)
Which of the following statements about the Wide & Deep Learning model are true? (Select 2 answers.)

A. The wide model is used for memorization, while the deep model is used for generalization.
B. A good use for the wide and deep model is a recommender system.
C. The wide model is used for generalization, while the deep model is used for memorization.
D. A good use for the wide and deep model is a small-scale linear regression problem.

Answer: AB

Explanation:
Can we teach computers to learn like humans do, by combining the power of memorization and generalization? It's not an easy question to answer, but by jointly training a wide linear model (for memorization) alongside a deep neural network (for generalization), one can combine the strengths of both to bring us one step closer. At Google, we call it Wide & Deep Learning. It's useful for generic large-scale regression and classification problems with sparse inputs (categorical features with a large number of possible feature values), such as recommender systems, search, and ranking problems.
Reference: https://research.googleblog.com/2016/06/wide-deep-learning-better-together-with.html

NEW QUESTION 123
- (Exam Topic 5)
Which of these operations can you perform from the BigQuery Web UI?

A. Upload a file in SQL format.
B. Load data with nested and repeated fields.
C. Upload a 20 MB file.
D. Upload multiple files using a wildcard.

Answer: B

Explanation:
You can load data with nested and repeated fields using the Web UI. You cannot use the Web UI to:
- Upload a file greater than 10 MB in size
- Upload multiple files at the same time
- Upload a file in SQL format
All three of the above operations can be performed using the "bq" command. Reference: https://cloud.google.com/bigquery/loading-data

NEW QUESTION 124
- (Exam Topic 5)
Google Cloud Bigtable indexes a single value in each row. This value is called the .

A. primary key
B. unique key
C. row key
D. master key

Answer: C

Explanation:
Cloud Bigtable is a sparsely populated table that can scale to billions of rows and thousands of columns, allowing you to store terabytes or even petabytes of data. A single value in each row is indexed; this value is known as the row key.
Reference: https://cloud.google.com/bigtable/docs/overview

NEW QUESTION 125
- (Exam Topic 5)
What is the recommended action to do in order to switch between SSD and HDD storage for your Google Cloud Bigtable instance?

A. create a third instance and sync the data from the two storage types via batch jobs
B. export the data from the existing instance and import the data into a new instance
C. run parallel instances where one is HDD and the other is SDD
D. the selection is final and you must resume using the same storage type

Answer: B

Explanation:
When you create a Cloud Bigtable instance and cluster, your choice of SSD or HDD storage for the cluster is permanent. You cannot use the Google Cloud Platform Console to change the type of storage that is used for the cluster.
If you need to convert an existing HDD cluster to SSD, or vice-versa, you can export the data from the existing instance and import the data into a new instance. Alternatively, you can write
a Cloud Dataflow or Hadoop MapReduce job that copies the data from one instance to another. Reference: https://cloud.google.com/bigtable/docs/choosing-ssd-hdd–

NEW QUESTION 129
- (Exam Topic 5)
If you're running a performance test that depends upon Cloud Bigtable, all the choices except one below are recommended steps. Which is NOT a recommended step to follow?

A. Do not use a production instance.
B. Run your test for at least 10 minutes.
C. Before you test, run a heavy pre-test for several minutes.
D. Use at least 300 GB of data.

Answer: A

Explanation:
If you're running a performance test that depends upon Cloud Bigtable, be sure to follow these steps as you plan and execute your test:
Use a production instance. A development instance will not give you an accurate sense of how a production instance performs under load.
Use at least 300 GB of data. Cloud Bigtable performs best with 1 TB or more of data. However, 300 GB of data is enough to provide reasonable results in a performance test on a 3-node cluster. On larger clusters, use 100 GB of data per node.
Before you test, run a heavy pre-test for several minutes. This step gives Cloud Bigtable a chance to balance data across your nodes based on the access patterns it observes.
Run your test for at least 10 minutes. This step lets Cloud Bigtable further optimize your data, and it helps ensure that you will test reads from disk as well as cached reads from memory.
Reference: https://cloud.google.com/bigtable/docs/performance

NEW QUESTION 130
- (Exam Topic 5)
Which Google Cloud Platform service is an alternative to Hadoop with Hive?
A. Cloud Dataflow
B. Cloud Bigtable
C. BigQuery
D. Cloud Datastore

Answer: C

Explanation:
Apache Hive is a data warehouse software project built on top of Apache Hadoop for providing data summarization, query, and analysis.
Google BigQuery is an enterprise data warehouse. Reference: https://en.wikipedia.org/wiki/Apache_Hive

NEW QUESTION 135
- (Exam Topic 5)
Cloud Dataproc charges you only for what you really use with billing.

A. month-by-month
B. minute-by-minute
C. week-by-week
D. hour-by-hour

Answer: B

Explanation:
One of the advantages of Cloud Dataproc is its low cost. Dataproc charges for what you really use with minute-by-minute billing and a low, ten-minute-minimum billing period.

Reference: https://cloud.google.com/dataproc/docs/concepts/overview

NEW QUESTION 138
- (Exam Topic 5)
Which of the following job types are supported by Cloud Dataproc (select 3 answers)?

A. Hive
B. Pig
C. YARN
D. Spark

Answer: ABD

Explanation:
Cloud Dataproc provides out-of-the box and end-to-end support for many of the most popular job types, including Spark, Spark SQL, PySpark, MapReduce, Hive, and Pig jobs.
Reference: https://cloud.google.com/dataproc/docs/resources/faq#what_type_of_jobs_can_i_run

NEW QUESTION 139
- (Exam Topic 5)
Which of these statements about exporting data from BigQuery is false?

A. To export more than 1 GB of data, you need to put a wildcard in the destination filename.
B. The only supported export destination is Google Cloud Storage.
C. Data can only be exported in JSON or Avro format.
D. The only compression option available is GZIP.

Answer: C

Explanation:
Data can be exported in CSV, JSON, or Avro format. If you are exporting nested or repeated data, then CSV format is not supported.
Reference: https://cloud.google.com/bigquery/docs/exporting-data

NEW QUESTION 142
- (Exam Topic 5)
Which methods can be used to reduce the number of rows processed by BigQuery?

A. Splitting tables into multiple tables; putting data in partitions
B. Splitting tables into multiple tables; putting data in partitions; using the LIMIT clause
C. Putting data in partitions; using the LIMIT clause
D. Splitting tables into multiple tables; using the LIMIT clause

Answer: A

Explanation:
If you split a table into multiple tables (such as one table for each day), then you can limit your query to the data in specific tables (such as for particular days). A better method is to use a partitioned table, as long as your data can be separated by the day.
If you use the LIMIT clause, BigQuery will still process the entire table. Reference: https://cloud.google.com/bigquery/docs/partitioned-tables

NEW QUESTION 143
- (Exam Topic 6)
You use a dataset in BigQuery for analysis. You want to provide third-party companies with access to the same dataset. You need to keep the costs of data sharing low and ensure that the data is current. Which solution should you choose?

A. Create an authorized view on the BigQuery table to control data access, and provide third-party companies with access to that view.
B. Use Cloud Scheduler to export the data on a regular basis to Cloud Storage, and provide third-party companies with access to the bucket.
C. Create a separate dataset in BigQuery that contains the relevant data to share, and provide third-party companies with access to the new dataset.
D. Create a Cloud Dataflow job that reads the data in frequent time intervals, and writes it to the relevant BigQuery dataset or Cloud Storage bucket for third-party companies to use.

Answer: B

NEW QUESTION 144
- (Exam Topic 6)
An online retailer has built their current application on Google App Engine. A new initiative at the company mandates that they extend their application to allow their customers to transact directly via the application.
They need to manage their shopping transactions and analyze combined data from multiple datasets using a business intelligence (BI) tool. They want to use only a single database for this purpose. Which Google Cloud database should they choose?

A. BigQuery
B. Cloud SQL
C. Cloud BigTable
D. Cloud Datastore

Answer: C

Explanation:

Reference: https://cloud.google.com/solutions/business-intelligence/

NEW QUESTION 149
- (Exam Topic 6)
You have Cloud Functions written in Node.js that pull messages from Cloud Pub/Sub and send the data to BigQuery. You observe that the message processing rate on the Pub/Sub topic is orders of magnitude higher than anticipated, but there is no error logged in Stackdriver Log Viewer. What are the two most likely causes of this problem? Choose 2 answers.

A. Publisher throughput quota is too small.
B. Total outstanding messages exceed the 10-MB maximum.
C. Error handling in the subscriber code is not handling run-time errors properly.
D. The subscriber code cannot keep up with the messages.
E. The subscriber code does not acknowledge the messages that it pulls.

Answer: CD

NEW QUESTION 154
- (Exam Topic 6)
Your company maintains a hybrid deployment with GCP, where analytics are performed on your anonymized customer data. The data are imported to Cloud Storage from your data center through parallel uploads to a data transfer server running on GCP. Management informs you that the daily transfers take too long and have asked you to fix the problem. You want to maximize transfer speeds. Which action should you take?

A. Increase the CPU size on your server.
B. Increase the size of the Google Persistent Disk on your server.
C. Increase your network bandwidth from your datacenter to GCP.
D. Increase your network bandwidth from Compute Engine to Cloud Storage.

Answer: C

NEW QUESTION 157
- (Exam Topic 6)
You are building a new application that you need to collect data from in a scalable way. Data arrives continuously from the application throughout the day, and you expect to generate approximately 150 GB of JSON data per day by the end of the year. Your requirements are:
- Decoupling producer from consumer
- Space and cost-efficient storage of the raw ingested data, which is to be stored indefinitely
- Near real-time SQL query
- Maintain at least 2 years of historical data, which will be queried with SQ Which pipeline should you use to meet these requirements?

A. Create an application that provides an AP
B. Write a tool to poll the API and write data to Cloud Storage as gzipped JSON files.
C. Create an application that writes to a Cloud SQL database to store the dat
D. Set up periodic exports of the database to write to Cloud Storage and load into BigQuery.
E. Create an application that publishes events to Cloud Pub/Sub, and create Spark jobs on Cloud Dataproc to convert the JSON data to Avro format, stored on HDFS on Persistent Disk.
F. Create an application that publishes events to Cloud Pub/Sub, and create a Cloud Dataflow pipeline that transforms the JSON event payloads to Avro, writing the data to Cloud Storage and BigQuery.

Answer: A

NEW QUESTION 161
- (Exam Topic 6)
You need to set access to BigQuery for different departments within your company. Your solution should comply with the following requirements:
- Each department should have access only to their data.
- Each department will have one or more leads who need to be able to create and update tables and provide them to their team.
- Each department has data analysts who need to be able to query but not modify data. How should you set access to the data in BigQuery?

A. Create a dataset for each departmen
B. Assign the department leads the role of OWNER, and assign the data analysts the role of WRITER on their dataset.
C. Create a dataset for each departmen
D. Assign the department leads the role of WRITER, and assign the data analysts the role of READER on their dataset.
E. Create a table for each departmen
F. Assign the department leads the role of Owner, and assign the data analysts the role of Editor on the project the table is in.
G. Create a table for each departmen
H. Assign the department leads the role of Editor, and assign the data analysts the role of Viewer on the project the table is in.

Answer: D

NEW QUESTION 162
- (Exam Topic 6)
You are managing a Cloud Dataproc cluster. You need to make a job run faster while minimizing costs, without losing work in progress on your clusters. What should you do?

A. Increase the cluster size with more non-preemptible workers.
B. Increase the cluster size with preemptible worker nodes, and configure them to forcefullydecommission.
C. Increase the cluster size with preemptible worker nodes, and use Cloud Stackdriver to trigger a script to preserve work.

D. Increase the cluster size with preemptible worker nodes, and configure them to use graceful decommissioning.

Answer: D

Explanation:
Reference https://cloud.google.com/dataproc/docs/concepts/configuring-clusters/flex

NEW QUESTION 166
- (Exam Topic 6)
You need to copy millions of sensitive patient records from a relational database to BigQuery. The total size of the database is 10 TB. You need to design a solution that is secure and time-efficient. What should you do?

A. Export the records from the database as an Avro fil
B. Upload the file to GCS using gsutil, and then load the Avro file into BigQuery using the BigQuery web UI in the GCP Console.
C. Export the records from the database as an Avro fil
D. Copy the file onto a Transfer Appliance and send it to Google, and then load the Avro file into BigQuery using the BigQuery web UI in the GCP Console.
E. Export the records from the database into a CSV fil
F. Create a public URL for the CSV file, and then use Storage Transfer Service to move the file to Cloud Storag
G. Load the CSV file into BigQuery using the BigQuery web UI in the GCP Console.
H. Export the records from the database as an Avro fil
I. Create a public URL for the Avro file, and thenuse Storage Transfer Service to move the file to Cloud Storag
J. Load the Avro file into BigQuery using the BigQuery web UI in the GCP Console.

Answer: A

NEW QUESTION 170
- (Exam Topic 6)
You need ads data to serve Al models and historical data tor analytics longtail and outlier data points need to be identified You want to cleanse the data n near-reel time before running it through Al models What should you do?

A. Use BigQuery to ingest prepare and then analyze the data and then run queries to create views
B. Use Cloud Storage as a data warehouse shell scripts tor processing, and BigQuery to create views tor desired datasets
C. Use Dataflow to identity longtail and outber data points programmatically with BigQuery as a sink
D. Use Cloud Composer to identify longtail and outlier data points, and then output a usable dataset to BigQuery

Answer: A

NEW QUESTION 175
- (Exam Topic 6)
You are building a new data pipeline to share data between two different types of applications: jobs generators and job runners. Your solution must scale to accommodate increases in usage and must accommodate the addition of new applications without negatively affecting the performance of existing ones. What should you do?

A. Create an API using App Engine to receive and send messages to the applications
B. Use a Cloud Pub/Sub topic to publish jobs, and use subscriptions to execute them
C. Create a table on Cloud SQL, and insert and delete rows with the job information
D. Create a table on Cloud Spanner, and insert and delete rows with the job information

Answer: A

NEW QUESTION 178
- (Exam Topic 6)
You have historical data covering the last three years in BigQuery and a data pipeline that delivers new data to BigQuery daily. You have noticed that when the Data Science team runs a query filtered on a date column and limited to 30–90 days of data, the query scans the entire table. You also noticed that your bill is increasing more quickly than you expected. You want to resolve the issue as cost-effectively as possible while maintaining the ability to conduct SQL queries. What should you do?

A. Re-create the tables using DD
B. Partition the tables by a column containing a TIMESTAMP or DATEType.
C. Recommend that the Data Science team export the table to a CSV file on Cloud Storage and use Cloud Datalab to explore the data by reading the files directly.
D. Modify your pipeline to maintain the last 30–90 days of data in one table and the longer history in a different table to minimize full table scans over the entire history.
E. Write an Apache Beam pipeline that creates a BigQuery table per da
F. Recommend that the Data Science team use wildcards on the table name suffixes to select the data they need.

Answer: C

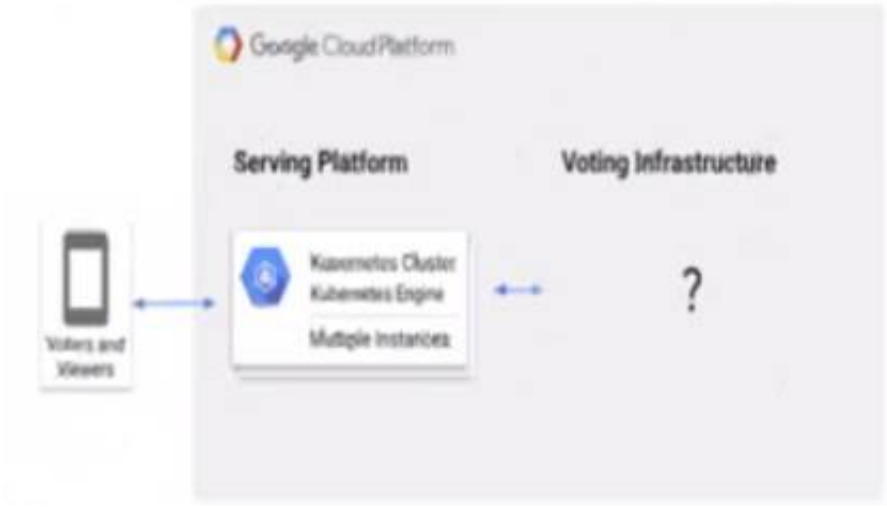
NEW QUESTION 180
- (Exam Topic 6)
You are a head of BI at a large enterprise company with multiple business units that each have different priorities and budgets. You use on-demand pricing for BigQuery with a quota of 2K concurrent on-demand slots per project. Users at your organization sometimes don’t get slots to execute their query and you need to correct this. You’d like to avoid introducing new projects to your account.
What should you do?

A. Convert your batch BQ queries into interactive BQ queries.
B. Create an additional project to overcome the 2K on-demand per-project quota.
C. Switch to flat-rate pricing and establish a hierarchical priority model for your projects.
D. Increase the amount of concurrent slots per project at the Quotas page at the Cloud Console.

Answer: C

Explanation:
Reference https://cloud.google.com/blog/products/gcp/busting-12-myths-about-bigquery

NEW QUESTION 181
- (Exam Topic 6)
A live TV show asks viewers to cast votes using their mobile phones. The event generates a large volume of data during a 3 minute period. You are in charge of the Voting restructure* and must ensure that the platform can handle the load and Hal all votes are processed. You must display partial results write voting is open. After voting doses you need to count the votes exactly once white optimizing cost. What should you do?



A. Create a Memorystore instance with a high availability (HA) configuration
B. Write votes to a Pub Sub tope and have Cloud Functions subscribe to it and write voles to BigQuery
C. Write votes to a Pub/Sub tope and toad into both Bigtable and BigQuery via a Dataflow pipeline Query Bigtable for real-time results and BigQuery for later analysis Shutdown the Bigtable instance when voting concludesD Create a Cloud SQL for PostgreSQL database with high availability (HA) configuration and multiple read replicas

Answer: C

NEW QUESTION 182
- (Exam Topic 6)
You are deploying MariaDB SQL databases on GCE VM Instances and need to configure monitoring and alerting. You want to collect metrics including network connections, disk IO and replication status from MariaDB with minimal development effort and use StackDriver for dashboards and alerts.
What should you do?

A. Install the OpenCensus Agent and create a custom metric collection application with a StackDriver exporter.
B. Place the MariaDB instances in an Instance Group with a Health Check.
C. Install the StackDriver Logging Agent and configure fluentd in_tail plugin to read MariaDB logs.
D. Install the StackDriver Agent and configure the MySQL plugin.

Answer: C

NEW QUESTION 185
- (Exam Topic 6)
You are selecting services to write and transform JSON messages from Cloud Pub/Sub to BigQuery for a data pipeline on Google Cloud. You want to minimize service costs. You also want to monitor and accommodate input data volume that will vary in size with minimal manual intervention. What should you do?
A. Use Cloud Dataproc to run your transformation
B. Monitor CPU utilization for the cluste
C. Resize the number of worker nodes in your cluster via the command line.
D. Use Cloud Dataproc to run your transformation
E. Use the diagnose command to generate an operational output archiv
F. Locate the bottleneck and adjust cluster resources.
G. Use Cloud Dataflow to run your transformation
H. Monitor the job system lag with Stackdrive
I. Use the default autoscaling setting for worker instances.
J. Use Cloud Dataflow to run your transformation
K. Monitor the total execution time for a sampling of job
L. Configure the job to use non-default Compute Engine machine types when needed.

Answer: B

NEW QUESTION 188
- (Exam Topic 6)
You are developing an application on Google Cloud that will automatically generate subject labels for users' blog posts. You are under competitive pressure to add this feature quickly, and you have no additional developer resources. No one on your team has experience with machine learning. What should you do?

A. Call the Cloud Natural Language API from your applicatio
B. Process the generated Entity Analysis as labels.
C. Call the Cloud Natural Language API from your applicatio
D. Process the generated Sentiment Analysis as labels.
E. Build and train a text classification model using TensorFlo
F. Deploy the model using Cloud MachineLearning Engin

G. Call the model from your application and process the results as labels.
H. Build and train a text classification model using TensorFlo
I. Deploy the model using a Kubernetes Engine cluste
J. Call the model from your application and process the results as labels.

Answer: B

NEW QUESTION 189
- (Exam Topic 6)
You need (o give new website users a globally unique identifier (GUID) using a service that takes in data points and returns a GUID This data is sourced from both internal and external systems via HTTP calls that you will make via microservices within your pipeline There will be tens of thousands of messages per second and that can be multithreaded, and you worry about the backpressure on the system How should you design your pipeline to minimize that backpressure?

A. Call out to the service via HTTP
B. Create the pipeline statically in the class definition
C. Create a new object in the startBundle method of DoFn
D. Batch the job into ten-second increments

Answer: A

NEW QUESTION 192
- (Exam Topic 6)
You are migrating an application that tracks library books and information about each book, such as author or year published, from an on-premises data warehouse to BigQuery In your current relational database, the author information is kept in a separate table and joined to the book information on a common key Based on Google's recommended practice for schema design, how would you structure the data to ensure optimal speed of queries about the author of each book that has been borrowed?

A. Keep the schema the same, maintain the different tables for the book and each of the attributes, and query as you are doing today
B. Create a table that is wide and includes a column for each attribute, including the author's first name, last name, date of birth, etc
C. Create a table that includes information about the books and authors, but nest the author fields inside the author column
D. Keep the schema the same, create a view that joins all of the tables, and always query the view

Answer: C

NEW QUESTION 197
- (Exam Topic 6)
You launched a new gaming app almost three years ago. You have been uploading log files from the previous day to a separate Google BigQuery table with the table name format LOGS_yyyymmdd. You have been using table wildcard functions to generate daily and monthly reports for all time ranges. Recently, you discovered that some queries that cover long date ranges are exceeding the limit of 1,000 tables and failing. How can you resolve this issue?

A. Convert all daily log tables into date-partitioned tables
B. Convert the sharded tables into a single partitioned table
C. Enable query caching so you can cache data from previous months
D. Create separate views to cover each month, and query from these views

Answer: A

NEW QUESTION 200
- (Exam Topic 6)
An organization maintains a Google BigQuery dataset that contains tables with user-level datA. They want to expose aggregates of this data to other Google Cloud projects, while still controlling access to the user-level data. Additionally, they need to minimize their overall storage cost and ensure the analysis cost for other projects is assigned to those projects. What should they do?

A. Create and share an authorized view that provides the aggregate results.
B. Create and share a new dataset and view that provides the aggregate results.
C. Create and share a new dataset and table that contains the aggregate results.
D. Create dataViewer Identity and Access Management (IAM) roles on the dataset to enable sharing.

Answer: D

Explanation:
Reference: https://cloud.google.com/bigquery/docs/access-control

NEW QUESTION 202
- (Exam Topic 6)
You receive data files in CSV format monthly from a third party. You need to cleanse this data, but every third month the schema of the files changes. Your requirements for implementing these transformations include:
- Executing the transformations on a schedule
- Enabling non-developer analysts to modify transformations
- Providing a graphical tool for designing transformations

What should you do?

A. Use Cloud Dataprep to build and maintain the transformation recipes, and execute them on a scheduled basis
B. Load each month’s CSV data into BigQuery, and write a SQL query to transform the data to a standard schem
C. Merge the transformed tables together with a SQL query
D. Help the analysts write a Cloud Dataflow pipeline in Python to perform the transformatio
E. The Python code should be stored in a revision control system and modified as the incoming data’s schema changes

F. Use Apache Spark on Cloud Dataproc to infer the schema of the CSV file before creating a Dataframe.Then implement the transformations in Spark SQL before writing the data out to Cloud Storage and loading into BigQuery

Answer: A

Explanation:
you can use dataprep for continuously changing target schema
In general, a target consists of the set of information required to define the expected data in a dataset. Often referred to as a "schema," this target schema information can include:
Names of columns
Order of columns Column data types Data type format Example rows of data
A dataset associated with a target is expected to conform to the requirements of the schema. Where there are differences between target schema and dataset schema, a validation indicator (or schema tag) is displayed.
https://cloud.google.com/dataprep/docs/html/Overview-of-RapidTarget_136155049

NEW QUESTION 207
- (Exam Topic 6)
You are implementing several batch jobs that must be executed on a schedule. These jobs have many interdependent steps that must be executed in a specific order. Portions of the jobs involve executing shell scripts, running Hadoop jobs, and running queries in BigQuery. The jobs are expected to run for many minutes up to several hours. If the steps fail, they must be retried a fixed number of times. Which service should you use to manage the execution of these jobs?

A. Cloud Scheduler
B. Cloud Dataflow
C. Cloud Functions
D. Cloud Composer

Answer: A

NEW QUESTION 211
- (Exam Topic 6)
Government regulations in your industry mandate that you have to maintain an auditable record of access to certain types of datA. Assuming that all expiring logs will be archived correctly, where should you store data that is subject to that mandate?

A. Encrypted on Cloud Storage with user-supplied encryption key
B. A separate decryption key will be given to each authorized user.
C. In a BigQuery dataset that is viewable only by authorized personnel, with the Data Access log used to provide the auditability.
D. In Cloud SQL, with separate database user names to each use
E. The Cloud SQL Admin activity logs will be used to provide the auditability.
F. In a bucket on Cloud Storage that is accessible only by an AppEngine service that collects user information and logs the access before providing a link to the bucket.

Answer: B

NEW QUESTION 215
- (Exam Topic 6)
You are a retailer that wants to integrate your online sales capabilities with different in-home assistants, such as Google Home. You need to interpret customer voice commands and issue an order to the backend systems. Which solutions should you choose?

A. Cloud Speech-to-Text API
B. Cloud Natural Language API
C. Dialogflow Enterprise Edition
D. Cloud AutoML Natural Language

Answer: C

NEW QUESTION 216
- (Exam Topic 6)
Data Analysts in your company have the Cloud IAM Owner role assigned to them in their projects to allow them to work with multiple GCP products in their projects. Your organization requires that all BigQuery data access logs be retained for 6 months. You need to ensure that only audit personnel in your company can access the data access logs for all projects. What should you do?

A. Enable data access logs in each Data Analyst’s projec
B. Restrict access to Stackdriver Logging via Cloud IAM roles.
C. Export the data access logs via a project-level export sink to a Cloud Storage bucket in the Data Analysts’ project
D. Restrict access to the Cloud Storage bucket.
E. Export the data access logs via a project-level export sink to a Cloud Storage bucket in a newly created projects for audit log
F. Restrict access to the project with the exported logs.
G. Export the data access logs via an aggregated export sink to a Cloud Storage bucket in a newly created project for audit log
H. Restrict access to the project that contains the exported logs.

Answer: D

NEW QUESTION 220
- (Exam Topic 6)
You are testing a Dataflow pipeline to ingest and transform text files. The files are compressed gzip, errors are written to a dead-letter queue, and you are using SideInputs to join data You noticed that the pipeline is taking longer to complete than expected, what should you do to expedite the Dataflow job?

A. Switch to compressed Avro files

B. Reduce the batch size
C. Retry records that throw an error
D. Use CoGroupByKey instead of the SideInput

Answer: B

NEW QUESTION 221
- (Exam Topic 6)
You are using Cloud Bigtable to persist and serve stock market data for each of the major indices. To serve the trading application, you need to access only the most recent stock prices that are streaming in How should you design your row key and tables to ensure that you can access the data with the most simple query?

A. Create one unique table for all of the indices, and then use the index and timestamp as the row key design
B. Create one unique table for all of the indices, and then use a reverse timestamp as the row key design.
C. For each index, have a separate table and use a timestamp as the row key design
D. For each index, have a separate table and use a reverse timestamp as the row key design

Answer: A

NEW QUESTION 224
- (Exam Topic 6)
You plan to deploy Cloud SQL using MySQL. You need to ensure high availability in the event of a zone failure. What should you do?

A. Create a Cloud SQL instance in one zone, and create a failover replica in another zone within the same region.
B. Create a Cloud SQL instance in one zone, and create a read replica in another zone within the same region.
C. Create a Cloud SQL instance in one zone, and configure an external read replica in a zone in a different region.
D. Create a Cloud SQL instance in a region, and configure automatic backup to a Cloud Storage bucket in the same region.

Answer: C

NEW QUESTION 225
- (Exam Topic 6)
Your company needs to upload their historic data to Cloud Storage. The security rules don’t allow access from external IPs to their on-premises resources. After an initial upload, they will add new data from existing
on-premises applications every day. What should they do?

A. Execute gsutil rsync from the on-premises servers.
B. Use Cloud Dataflow and write the data to Cloud Storage.
C. Write a job template in Cloud Dataproc to perform the data transfer.
D. Install an FTP server on a Compute Engine VM to receive the files and move them to Cloud Storage.

Answer: B

NEW QUESTION 229
- (Exam Topic 6)
You are working on a linear regression model on BigQuery ML to predict a customer's likelihood of purchasing your company's products. Your model uses a city name variable as a key predictive component in order to train and serve the model your data must be organized in columns. You want to prepare your data using the least amount of coding while maintaining the predictable variables. What should you do?

A. Use SQL in BigQuery to transform the stale column using a one-hot encoding method, and make each city a column with binary values.
B. Create a new view with BigQuery that does not include a column which city information.
C. Cloud Data Fusion to assign each city to a region that is labeled as 1, 2 3, 4, or 5, and then use that number to represent the city in the model.
D. Use TensorFlow to create a categorical variable with a vocabulary lis
E. Create the vocabulary file and upload that as part of your model to BigQuery ML.

Answer: C

NEW QUESTION 233
- (Exam Topic 6)
You want to optimize your queries for cost and performance. How should you structure your data?

A. Partition table data by create_date, location_id and device_version
B. Partition table data by create_date cluster table data by location_Id and device_version
C. Cluster table data by create_date location_id and device_version
D. Cluster table data by create_date partition by locationed and device_version

Answer: B

NEW QUESTION 237
- (Exam Topic 6)
You work for a large financial institution that is planning to use Dialogflow to create a chatbot for the company's mobile app You have reviewed old chat logs and lagged each conversation for intent based on each customer's stated intention for contacting customer service About 70% of customer requests are simple requests that are solved within 10 intents The remaining 30% of inquiries require much longer, more complicated requests Which intents should you automate first?

A. Automate the 10 intents that cover 70% of the requests so that live agents can handle more complicated requests
B. Automate the more complicated requests first because those require more of the agents' time
C. Automate a blend of the shortest and longest intents to be representative of all intents

D. Automate intents in places where common words such as "payment" appear only once so the software isn't confused

Answer: A

NEW QUESTION 242
- (Exam Topic 6)
You work for a global shipping company. You want to train a model on 40 TB of data to predict which ships in each geographic region are likely to cause delivery delays on any given day. The model will be based on multiple attributes collected from multiple sources. Telemetry data, including location in GeoJSON format, will be pulled from each ship and loaded every hour. You want to have a dashboard that shows how many and which ships are likely to cause delays within a region. You want to use a storage solution that has native functionality for prediction and geospatial processing. Which storage solution should you use?

A. BigQuery
B. Cloud Bigtable
C. Cloud Datastore
D. Cloud SQL for PostgreSQL

Answer: A

NEW QUESTION 243
- (Exam Topic 6)
You are integrating one of your internal IT applications and Google BigQuery, so users can query BigQuery from the application's interface. You do not want individual users to authenticate to BigQuery and you do not want to give them access to the dataset. You need to securely access BigQuery from your IT application.
What should you do?

A. Create groups for your users and give those groups access to the dataset
B. Integrate with a single sign-on (SSO) platform, and pass each user's credentials along with the query request
C. Create a service account and grant dataset access to that accoun
D. Use the service account's private key to access the dataset
E. Create a dummy user and grant dataset access to that use
F. Store the username and password for that user in a file on the files system, and use those credentials to access the BigQuery dataset

Answer: C

NEW QUESTION 248
- (Exam Topic 6)
Your company has a hybrid cloud initiative. You have a complex data pipeline that moves data between cloud provider services and leverages services from each of the cloud providers. Which cloud-native service should you use to orchestrate the entire pipeline?

A. Cloud Dataflow
B. Cloud Composer
C. Cloud Dataprep
D. Cloud Dataproc

Answer: D

NEW QUESTION 249
- (Exam Topic 6)
You are collecting loT sensor data from millions of devices across the world and storing the data in BigQuery. Your access pattern is based on recent data tittered by location_id and device_version with the following query:

```
SELECT
    MAX(temperature)
FROM
    acme_iot_data.sensors
WHERE
    create_date > DATE_SUB(CURRENT_DATE(), INTERVAL 7 day)
    AND location_id = "SW1W9TQ"
    AND device_version = "202007r3"
```

You want to optimize your queries for cost and performance. How should you structure your data?

A. Partition table data by create_date, location_id and device_version
B. Partition table data by create_date cluster table data by tocation_id and device_version
C. Cluster table data by create_date location_id and device_version
D. Cluster table data by create_date, partition by location and device_version

Answer: C

NEW QUESTION 251
- (Exam Topic 6)
You used Cloud Dataprep to create a recipe on a sample of data in a BigQuery table. You want to reuse this recipe on a daily upload of data with the same schema, after the load job with variable execution time completes. What should you do?

A. Create a cron schedule in Cloud Dataprep.
B. Create an App Engine cron job to schedule the execution of the Cloud Dataprep job.
C. Export the recipe as a Cloud Dataprep template, and create a job in Cloud Scheduler.
D. Export the Cloud Dataprep job as a Cloud Dataflow template, and incorporate it into a Cloud Composer job.

Answer: D

NEW QUESTION 256
- (Exam Topic 6)
You are implementing security best practices on your data pipeline. Currently, you are manually executing jobs as the Project Owner. You want to automate these jobs by taking nightly batch files containing non-public information from Google Cloud Storage, processing them with a Spark Scala job on a Google Cloud Dataproc cluster, and depositing the results into Google BigQuery.
How should you securely run this workload?

A. Restrict the Google Cloud Storage bucket so only you can see the files
B. Grant the Project Owner role to a service account, and run the job with it
C. Use a service account with the ability to read the batch files and to write to BigQuery
D. Use a user account with the Project Viewer role on the Cloud Dataproc cluster to read the batch files and write to BigQuery

Answer: B

NEW QUESTION 260
- (Exam Topic 6)
Your organization has been collecting and analyzing data in Google BigQuery for 6 months. The majority of the data analyzed is placed in a time-partitioned table named events_partitioned. To reduce the cost of queries, your organization created a view called events, which queries only the last 14 days of data. The view is described in legacy SQL. Next month, existing applications will be connecting to BigQuery to read the events data via an ODBC connection. You need to ensure the applications can connect. Which two actions should you take? (Choose two.)

A. Create a new view over events using standard SQL
B. Create a new partitioned table using a standard SQL query
C. Create a new view over events_partitioned using standard SQL
D. Create a service account for the ODBC connection to use for authentication
E. Create a Google Cloud Identity and Access Management (Cloud IAM) role for the ODBC connection and shared “events”

Answer: AE

NEW QUESTION 262
- (Exam Topic 6)
Your analytics team wants to build a simple statistical model to determine which customers are most likely to work with your company again, based on a few different metrics. They want to run the model on Apache Spark, using data housed in Google Cloud Storage, and you have recommended using Google Cloud Dataproc to execute this job. Testing has shown that this workload can run in approximately 30 minutes on a 15-node cluster, outputting the results into Google BigQuery. The plan is to run this workload weekly. How should you optimize the cluster for cost?

A. Migrate the workload to Google Cloud Dataflow
B. Use pre-emptible virtual machines (VMs) for the cluster
C. Use a higher-memory node so that the job runs faster
D. Use SSDs on the worker nodes so that the job can run faster

Answer: A

NEW QUESTION 266
- (Exam Topic 6)
You work for a manufacturing company that sources up to 750 different components, each from a different supplier. You’ve collected a labeled dataset that has on average 1000 examples for each unique component. Your team wants to implement an app to help warehouse workers recognize incoming components based on a photo of the component. You want to implement the first working version of this app (as Proof-Of-Concept) within a few working days. What should you do?

A. Use Cloud Vision AutoML with the existing dataset.
B. Use Cloud Vision AutoML, but reduce your dataset twice.
C. Use Cloud Vision API by providing custom labels as recognition hints.
D. Train your own image recognition model leveraging transfer learning techniques.

Answer: A

NEW QUESTION 269
- (Exam Topic 6)
You work for a mid-sized enterprise that needs to move its operational system transaction data from an on-premises database to GCP. The database is about 20 TB in size. Which database should you choose?

A. Cloud SQL
B. Cloud Bigtable
C. Cloud Spanner
D. Cloud Datastore

Answer: A

NEW QUESTION 274
- (Exam Topic 6)

Your infrastructure includes a set of YouTube channels. You have been tasked with creating a process for sending the YouTube channel data to Google Cloud for analysis. You want to design a solution that allows your world-wide marketing teams to perform ANSI SQL and other types of analysis on up-to-date YouTube channels log data. How should you set up the log data transfer into Google Cloud?

A. Use Storage Transfer Service to transfer the offsite backup files to a Cloud Storage Multi-Regional storage bucket as a final destination.
B. Use Storage Transfer Service to transfer the offsite backup files to a Cloud Storage Regional bucket as a final destination.
C. Use BigQuery Data Transfer Service to transfer the offsite backup files to a Cloud Storage Multi-Regional storage bucket as a final destination.
D. Use BigQuery Data Transfer Service to transfer the offsite backup files to a Cloud Storage Regional storage bucket as a final destination.

Answer: B

NEW QUESTION 279
- (Exam Topic 6)
Your company is currently setting up data pipelines for their campaign. For all the Google Cloud Pub/Sub streaming data, one of the important business requirements is to be able to periodically identify the inputs and their timings during their campaign. Engineers have decided to use windowing and transformation in Google Cloud Dataflow for this purpose. However, when testing this feature, they find that the Cloud Dataflow job fails for the all streaming insert. What is the most likely cause of this problem?

A. They have not assigned the timestamp, which causes the job to fail
B. They have not set the triggers to accommodate the data coming in late, which causes the job to fail
C. They have not applied a global windowing function, which causes the job to fail when the pipeline is created
D. They have not applied a non-global windowing function, which causes the job to fail when the pipeline is created

Answer: C

NEW QUESTION 282
- (Exam Topic 6)
You are planning to migrate your current on-premises Apache Hadoop deployment to the cloud. You need to ensure that the deployment is as fault-tolerant and cost-effective as possible for long-running batch jobs. You want to use a managed service. What should you do?

A. Deploy a Cloud Dataproc cluste
B. Use a standard persistent disk and 50% preemptible worker
C. Store data in Cloud Storage, and change references in scripts from hdfs:// to gs://
D. Deploy a Cloud Dataproc cluste
E. Use an SSD persistent disk and 50% preemptible worker
F. Store data in Cloud Storage, and change references in scripts from hdfs:// to gs://
G. Install Hadoop and Spark on a 10-node Compute Engine instance group with standard instance
H. Install the Cloud Storage connector, and store the data in Cloud Storag
I. Change references in scripts from hdfs:// to gs://
J. Install Hadoop and Spark on a 10-node Compute Engine instance group with preemptible instances.Store data in HDF
K. Change references in scripts from hdfs:// to gs://

Answer: A

NEW QUESTION 286
- (Exam Topic 6)
You've migrated a Hadoop job from an on-premises cluster to Dataproc and Good Storage. Your Spark job is a complex analytical workload fiat consists of many shuffling operations, and initial data are parquet toes (on average 200-400 MB size each) You see some degradation in performance after the migration to Dataproc so you'd like to optimize for it. Your organization is very cost-sensitive so you'd Idee to continue using Dataproc on preemptibles (with 2 non-preemptibles workers only) for this workload. What should you do?

A. Switch from HODs to SSDs override the preemptible VMs configuration to increase the boot disk size
B. Increase the see of your parquet files to ensure them to be 1 GB minimum
C. Switch to TFRecords format (appr 200 MB per We) instead of parquet files
D. Switch from HDDs to SSD
E. copy initial data from Cloud Storage to Hadoop Distributed File System (HDFS) run the Spark job and copy results back to Cloud Storage

Answer: A

NEW QUESTION 288
- (Exam Topic 6)
You want to archive data in Cloud Storage. Because some data is very sensitive, you want to use the “Trust No One” (TNO) approach to encrypt your data to prevent the cloud provider staff from decrypting your data. What should you do?

A. Use gcloud kms keys create to create a symmetric ke
B. Then use gcloud kms encrypt to encrypt each archival file with the key and unique additional authenticated data (AAD). Use gsutil cp to upload each encrypted file to the Cloud Storage bucket, and keep the AAD outside of Google Cloud.
C. Use gcloud kms keys create to create a symmetric ke
D. Then use gcloud kms encrypt to encrypt each archival file with the ke
E. Use gsutil cp to upload each encrypted file to the Cloud Storage bucke
F. Manually destroy the key previously used for encryption, and rotate the key once and rotate the key once.
G. Specify customer-supplied encryption key (CSEK) in the .boto configuration fil
H. Use gsutil cp to upload each archival file to the Cloud Storage bucke
I. Save the CSEK in Cloud Memorystore as permanent storage of the secret.
J. Specify customer-supplied encryption key (CSEK) in the .boto configuration fil
K. Use gsutil cp to upload each archival file to the Cloud Storage bucke
L. Save the CSEK in a different project that only the security team can access.

Answer: B

NEW QUESTION 293

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