Exam Questions Professional-Data-Engineer

Google Professional Data Engineer Exam

https://www.2passeasy.com/dumps/Professional-Data-Engineer/

NEW QUESTION 1
- (Exam Topic 1)
Your company handles data processing for a number of different clients. Each client prefers to use their own suite of analytics tools, with some allowing direct query access via Google BigQuery. You need to secure the data so that clients cannot see each other's data. You want to ensure appropriate access to the data. Which three steps should you take? (Choose three.)

A. Load data into different partitions.
B. Load data into a different dataset for each client.
C. Put each client's BigQuery dataset into a different table.
D. Restrict a client's dataset to approved users.
E. Only allow a service account to access the datasets.
F. Use the appropriate identity and access management (IAM) roles for each client's users.

Answer: BDF

NEW QUESTION 2
- (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 3
- (Exam Topic 1)
You work for a car manufacturer and have set up a data pipeline using Google Cloud Pub/Sub to capture anomalous sensor events. You are using a push subscription in Cloud Pub/Sub that calls a custom HTTPS endpoint that you have created to take action of these anomalous events as they occur. Your custom HTTPS endpoint keeps getting an inordinate amount of duplicate messages. What is the most likely cause of these duplicate messages?

A. The message body for the sensor event is too large.
B. Your custom endpoint has an out-of-date SSL certificate.
C. The Cloud Pub/Sub topic has too many messages published to it.
D. Your custom endpoint is not acknowledging messages within the acknowledgement deadline.

Answer: B

NEW QUESTION 4
- (Exam Topic 1)
Your company built a TensorFlow neutral-network model with a large number of neurons and layers. The model fits well for the training data. However, when tested against new data, it performs poorly. What method can you employ to address this?

A. Threading
B. Serialization
C. Dropout Methods
D. Dimensionality Reduction

Answer: C

Explanation:
Reference
https://medium.com/mlreview/a-simple-deep-learning-model-for-stock-price-prediction-using-tensorflow-30505

NEW QUESTION 5
- (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 6
- (Exam Topic 1)
Your company's on-premises Apache Hadoop servers are approaching end-of-life, and IT has decided to migrate the cluster to Google Cloud Dataproc. A like-for-like migration of the cluster would require 50 TB of Google Persistent Disk per node. The CIO is concerned about the cost of using that much block storage. You want to minimize the storage cost of the migration. What should you do?

A. Put the data into Google Cloud Storage.
B. Use preemptible virtual machines (VMs) for the Cloud Dataproc cluster.
C. Tune the Cloud Dataproc cluster so that there is just enough disk for all data.
D. Migrate some of the cold data into Google Cloud Storage, and keep only the hot data in Persistent Disk.

Answer: B

NEW QUESTION 7
- (Exam Topic 1)
An external customer provides you with a daily dump of data from their database. The data flows into Google Cloud Storage GCS as comma-separated values (CSV) files. You want to analyze this data in Google BigQuery, but the data could have rows that are formatted incorrectly or corrupted. How should you build this pipeline?

A. Use federated data sources, and check data in the SQL query.
B. Enable BigQuery monitoring in Google Stackdriver and create an alert.
C. Import the data into BigQuery using the gcloud CLI and set max_bad_records to 0.
D. Run a Google Cloud Dataflow batch pipeline to import the data into BigQuery, and push errors to another dead-letter table for analysis.

Answer: D

NEW QUESTION 8
- (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

NEW QUESTION 9
- (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 10
- (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 10
- (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 12
- (Exam Topic 5)
What are all of the BigQuery operations that Google charges for?

A. Storage, queries, and streaming inserts

B. Storage, queries, and loading data from a file
C. Storage, queries, and exporting data
D. Queries and streaming inserts

Answer: A

Explanation:
Google charges for storage, queries, and streaming inserts. Loading data from a file and exporting data are free operations.
Reference: https://cloud.google.com/bigquery/pricing

NEW QUESTION 13
- (Exam Topic 5)
Which of these are examples of a value in a sparse vector? (Select 2 answers.)

A. [0, 5, 0, 0, 0, 0]
B. [0, 0, 0, 1, 0, 0, 1]
C. [0, 1]
D. [1, 0, 0, 0, 0, 0, 0]

Answer: CD

Explanation:
Categorical features in linear models are typically translated into a sparse vector in which each possible value has a corresponding index or id. For example, if there are only three possible eye colors you can represent 'eye_color' as a length 3 vector: 'brown' would become [1, 0, 0], 'blue' would become [0, 1, 0] and 'green' would become [0, 0, 1]. These vectors are called "sparse" because they may be very long, with many zeros, when the set of possible values is very large (such as all English words).
[0, 0, 0, 1, 0, 0, 1] is not a sparse vector because it has two 1s in it. A sparse vector contains only a single 1. [0, 5, 0, 0, 0, 0] is not a sparse vector because it has a 5 in it. Sparse vectors only contain 0s and 1s. Reference: https://www.tensorflow.org/tutorials/linear#feature_columns_and_transformations

NEW QUESTION 16
- (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 21
- (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 26
- (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 30
- (Exam Topic 5)
Which of the following statements is NOT true regarding Bigtable access roles?

A. Using IAM roles, you cannot give a user access to only one table in a project, rather than all tables in a project.
B. To give a user access to only one table in a project, grant the user the Bigtable Editor role for that table.
C. You can configure access control only at the project level.
D. To give a user access to only one table in a project, you must configure access through your application.

Answer: B

Explanation:
For Cloud Bigtable, you can configure access control at the project level. For example, you can grant the ability to:
Read from, but not write to, any table within the project.
Read from and write to any table within the project, but not manage instances. Read from and write to any table within the project, and manage instances.
Reference: https://cloud.google.com/bigtable/docs/access-control

NEW QUESTION 31
- (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 34
- (Exam Topic 5)
Which Java SDK class can you use to run your Dataflow programs locally?

A. LocalRunner
B. DirectPipelineRunner
C. MachineRunner
D. LocalPipelineRunner

Answer: B

Explanation:
DirectPipelineRunner allows you to execute operations in the pipeline directly, without any optimization. Useful for small local execution and tests
Reference:
https://cloud.google.com/dataflow/java-sdk/JavaDoc/com/google/cloud/dataflow/sdk/runners/DirectPipelineRun

NEW QUESTION 35
- (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 36
- (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 41
- (Exam Topic 5)
Which of the following IAM roles does your Compute Engine account require to be able to run pipeline jobs?

A. dataflow.worker
B. dataflow.compute
C. dataflow.developer
D. dataflow.viewer

Answer: A

Explanation:
The dataflow.worker role provides the permissions necessary for a Compute Engine service account to execute work units for a Dataflow pipeline
Reference: https://cloud.google.com/dataflow/access-control

NEW QUESTION 46
- (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 50
- (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 51
- (Exam Topic 5)
The YARN ResourceManager and the HDFS NameNode interfaces are available on a Cloud Dataproc cluster .

A. application node
B. conditional node
C. master node
D. worker node

Answer: C

Explanation:
The YARN ResourceManager and the HDFS NameNode interfaces are available on a Cloud Dataproc cluster master node. The cluster master-host-name is the name of your Cloud Dataproc cluster followed by an -m suffix—for example, if your cluster is named "my-cluster", the master-host-name would be "my-cluster-m".
Reference: https://cloud.google.com/dataproc/docs/concepts/cluster-web-interfaces#interfaces

NEW QUESTION 53
- (Exam Topic 5)
Which of these is not a supported method of putting data into a partitioned table?

A. If you have existing data in a separate file for each day, then create a partitioned table and upload each file into the appropriate partition.
B. Run a query to get the records for a specific day from an existing table and for the destination table, specify a partitioned table ending with the day in the format "$YYYYMMDD".
C. Create a partitioned table and stream new records to it every day.
D. Use ORDER BY to put a table's rows into chronological order and then change the table's type to "Partitioned".

Answer: D

Explanation:
You cannot change an existing table into a partitioned table. You must create a partitioned table from scratch. Then you can either stream data into it every day and the data will automatically be put in the right partition, or you can load data into a specific partition by using "$YYYYMMDD" at the end of the table name.
Reference: https://cloud.google.com/bigquery/docs/partitioned-tables

NEW QUESTION 56
- (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 57
- (Exam Topic 5)
Which SQL keyword can be used to reduce the number of columns processed by BigQuery?

A. BETWEEN
B. WHERE
C. SELECT
D. LIMIT

Answer: C

Explanation:
SELECT allows you to query specific columns rather than the whole table.
LIMIT, BETWEEN, and WHERE clauses will not reduce the number of columns processed by BigQuery.
Reference:
https://cloud.google.com/bigquery/launch-checklist#architecture_design_and_development_checklist

NEW QUESTION 59
- (Exam Topic 5)
Cloud Bigtable is a recommended option for storing very large amounts of _____ ?

A. multi-keyed data with very high latency
B. multi-keyed data with very low latency
C. single-keyed data with very low latency
D. single-keyed data with very high latency

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. Cloud Bigtable is ideal for storing very large amounts of single-keyed data with very low latency. It supports high read and write throughput at low latency, and it is an ideal data source for MapReduce operations.
Reference: https://cloud.google.com/bigtable/docs/overview

NEW QUESTION 61
- (Exam Topic 6)
Your team is responsible for developing and maintaining ETLs in your company. One of your Dataflow jobs is failing because of some errors in the input data, and you need to improve reliability of the pipeline (incl. being able to reprocess all failing data). What should you do?

A. Add a filtering step to skip these types of errors in the future, extract erroneous rows from logs.
B. Add a try… catch block to your DoFn that transforms the data, extract erroneous rows from logs.
C. Add a try… catch block to your DoFn that transforms the data, write erroneous rows to PubSub directly from the DoFn.

D. Add a try… catch block to your DoFn that transforms the data, use a sideOutput to create a PCollection that can be stored to PubSub later.

Answer: C

NEW QUESTION 62
- (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 67
- (Exam Topic 6)
You have a requirement to insert minute-resolution data from 50,000 sensors into a BigQuery table. You expect significant growth in data volume and need the data to be available within 1 minute of ingestion for real-time analysis of aggregated trends. What should you do?

A. Use bq load to load a batch of sensor data every 60 seconds.
B. Use a Cloud Dataflow pipeline to stream data into the BigQuery table.
C. Use the INSERT statement to insert a batch of data every 60 seconds.
D. Use the MERGE statement to apply updates in batch every 60 seconds.

Answer: C

NEW QUESTION 72
- (Exam Topic 6)
You're training a model to predict housing prices based on an available dataset with real estate properties. Your plan is to train a fully connected neural net, and you've discovered that the dataset contains latitude and longtitude of the property. Real estate professionals have told you that the location of the property is highly influential on price, so you'd like to engineer a feature that incorporates this physical dependency.
What should you do?

A. Provide latitude and longtitude as input vectors to your neural net.
B. Create a numeric column from a feature cross of latitude and longtitude.
C. Create a feature cross of latitude and longtitude, bucketize at the minute level and use L1 regularization during optimization.
D. Create a feature cross of latitude and longtitude, bucketize it at the minute level and use L2 regularization during optimization.

Answer: B

Explanation:
Reference https://cloud.google.com/bigquery/docs/gis-data

NEW QUESTION 74
- (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 79
- (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: D

NEW QUESTION 80
- (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 82
- (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 86
- (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: D

NEW QUESTION 88
- (Exam Topic 6)
You want to automate execution of a multi-step data pipeline running on Google Cloud. The pipeline includes Cloud Dataproc and Cloud Dataflow jobs that have multiple dependencies on each other. You want to use managed services where possible, and the pipeline will run every day. Which tool should you use?

A. cron
B. Cloud Composer
C. Cloud Scheduler
D. Workflow Templates on Cloud Dataproc

Answer: D

NEW QUESTION 90
- (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 95
- (Exam Topic 6)
After migrating ETL jobs to run on BigQuery, you need to verify that the output of the migrated jobs is the same as the output of the original. You’ve loaded a table containing the output of the original job and want to compare the contents with output from the migrated job to show that they are identical. The tables do not contain a primary key column that would enable you to join them together for comparison.
What should you do?

A. Select random samples from the tables using the RAND() function and compare the samples.
B. Select random samples from the tables using the HASH() function and compare the samples.
C. Use a Dataproc cluster and the BigQuery Hadoop connector to read the data from each table and calculate a hash from non-timestamp columns of the table after sortin
D. Compare the hashes of each table.
E. Create stratified random samples using the OVER() function and compare equivalent samples from each table.

Answer: B

NEW QUESTION 97
- (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 100
- (Exam Topic 6)
You operate a database that stores stock trades and an application that retrieves average stock price for a given company over an adjustable window of time. The data is stored in Cloud Bigtable where the datetime of the stock trade is the beginning of the row key. Your application has thousands of concurrent users, and you notice that performance is starting to degrade as more stocks are added. What should you do to improve the performance of your application?

A. Change the row key syntax in your Cloud Bigtable table to begin with the stock symbol.
B. Change the row key syntax in your Cloud Bigtable table to begin with a random number per second.
C. Change the data pipeline to use BigQuery for storing stock trades, and update your application.
D. Use Cloud Dataflow to write summary of each day's stock trades to an Avro file on Cloud Storage.Update your application to read from Cloud Storage and Cloud Bigtable to compute the responses.

Answer: A

NEW QUESTION 101
- (Exam Topic 6)
Your globally distributed auction application allows users to bid on items. Occasionally, users place identical bids at nearly identical times, and different application servers process those bids. Each bid event contains the item, amount, user, and timestamp. You want to collate those bid events into a single location in real time to determine which user bid first. What should you do?

A. Create a file on a shared file and have the application servers write all bid events to that fil
B. Process the file with Apache Hadoop to identify which user bid first.
C. Have each application server write the bid events to Cloud Pub/Sub as they occu
D. Push the events from Cloud Pub/Sub to a custom endpoint that writes the bid event information into Cloud SQL.
E. Set up a MySQL database for each application server to write bid events int
F. Periodically query each of those distributed MySQL databases and update a master MySQL database with bid event information.
G. Have each application server write the bid events to Google Cloud Pub/Sub as they occu
H. Use a pull subscription to pull the bid events using Google Cloud Dataflo
I. Give the bid for each item to the userIn the bid event that is processed first.

Answer: C

NEW QUESTION 105
- (Exam Topic 6)
You want to analyze hundreds of thousands of social media posts daily at the lowest cost and with the fewest steps.
You have the following requirements:
- You will batch-load the posts once per day and run them through the Cloud Natural Language API.
- You will extract topics and sentiment from the posts.
- You must store the raw posts for archiving and reprocessing.
- You will create dashboards to be shared with people both inside and outside your organization.

You need to store both the data extracted from the API to perform analysis as well as the raw social media posts for historical archiving. What should you do?

A. Store the social media posts and the data extracted from the API in BigQuery.
B. Store the social media posts and the data extracted from the API in Cloud SQL.
C. Store the raw social media posts in Cloud Storage, and write the data extracted from the API into BigQuery.
D. Feed to social media posts into the API directly from the source, and write the extracted data from the API into BigQuery.

Answer: D

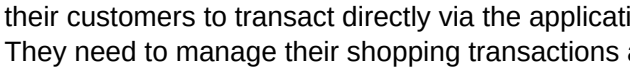
NEW QUESTION 110
- (Exam Topic 6)
You have historical data covering the last three years in BigQuery and a data pipeline that delivers new data to BigQuery daily. You have noticed that when the Data Science team runs a query filtered on a date column and limited to 30–90 days of data, the query scans 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 DATE Type.
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 111
- (Exam Topic 6)
You are using Google BigQuery as your data warehouse. Your users report that the following simple query is running very slowly, no matter when they run the query:
SELECT country, state, city FROM [myproject:mydataset.mytable] GROUP BY country
You check the query plan for the query and see the following output in the Read section of Stage:1:



What is the most likely cause of the delay for this query?

A. Users are running too many concurrent queries in the system
B. The [myproject:mydataset.mytable] table has too many partitions
C. Either the state or the city columns in the [myproject:mydataset.mytable] table have too many NULL values
D. Most rows in the [myproject:mydataset.mytable] table have the same value in the country column, causing data skew

Answer: A

NEW QUESTION 113
- (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 114
- (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

NEW QUESTION 116
- (Exam Topic 6)
You have a query that filters a BigQuery table using a WHERE clause on timestamp and ID columns. By using bq query – -dry_run you learn that the query triggers a full scan of the table, even though the filter on timestamp and ID select a tiny fraction of the overall data. You want to reduce the amount of data scanned by BigQuery with minimal changes to existing SQL queries. What should you do?

A. Create a separate table for each ID.
B. Use the LIMIT keyword to reduce the number of rows returned.
C. Recreate the table with a partitioning column and clustering column.
D. Use the bq query - -maximum_bytes_billed flag to restrict the number of bytes billed.

Answer: B

NEW QUESTION 118
- (Exam Topic 6)
Your United States-based company has created an application for assessing and responding to user actions. The primary table's data volume grows by 250,000 records per second. Many third parties use your application's APIs to build the functionality into their own frontend applications. Your application's APIs should comply with the following requirements:
- Single global endpoint
- ANSI SQL support
- Consistent access to the most up-to-date data What should you do?

A. Implement BigQuery with no region selected for storage or processing.
B. Implement Cloud Spanner with the leader in North America and read-only replicas in Asia and Europe.
C. Implement Cloud SQL for PostgreSQL with the master in Norht America and read replicas in Asia and Europe.
D. Implement Cloud Bigtable with the primary cluster in North America and secondary clusters in Asia and Europe.

Answer: B

NEW QUESTION 121
- (Exam Topic 6)
You need to migrate a 2TB relational database to Google Cloud Platform. You do not have the resources to significantly refactor the application that uses this database and cost to operate is of primary concern.
Which service do you select for storing and serving your data?

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

Answer: D

NEW QUESTION 123
- (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 itto 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 then use 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 124
- (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 126
- (Exam Topic 6)
Your neural network model is taking days to train. You want to increase the training speed. What can you do?

A. Subsample your test dataset.
B. Subsample your training dataset.
C. Increase the number of input features to your model.
D. Increase the number of layers in your neural network.

Answer: D

Explanation:
Reference: https://towardsdatascience.com/how-to-increase-the-accuracy-of-a-neural-network-9f5d1c6f407d

NEW QUESTION 130
- (Exam Topic 6)
You are working on a niche product in the image recognition domain. Your team has developed a model that is dominated by custom C++ TensorFlow ops your team has implemented. These ops are used inside your main training loop and are performing bulky matrix multiplications. It currently takes up to several days to train a model. You want to decrease this time significantly and keep the cost low by using an accelerator on Google Cloud. What should you do?

A. Use Cloud TPUs without any additional adjustment to your code.
B. Use Cloud TPUs after implementing GPU kernel support for your customs ops.
C. Use Cloud GPUs after implementing GPU kernel support for your customs ops.
D. Stay on CPUs, and increase the size of the cluster you’re training your model on.

Answer: B

NEW QUESTION 131

- (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 134
- (Exam Topic 6)
You work for a shipping company that has distribution centers where packages move on delivery lines to route them properly. The company wants to add cameras to the delivery lines to detect and track any visual damage to the packages in transit. You need to create a way to automate the detection of damaged packages and flag them for human review in real time while the packages are in transit. Which solution should you choose?

A. Use BigQuery machine learning to be able to train the model at scale, so you can analyze the packages in batches.
B. Train an AutoML model on your corpus of images, and build an API around that model to integrate with the package tracking applications.
C. Use the Cloud Vision API to detect for damage, and raise an alert through Cloud Function
D. Integrate the package tracking applications with this function.
E. Use TensorFlow to create a model that is trained on your corpus of image
F. Create a Python notebook in Cloud Datalab that uses this model so you can analyze for damaged packages.

Answer: A

NEW QUESTION 137
- (Exam Topic 6)
A data scientist has created a BigQuery ML model and asks you to create an ML pipeline to serve predictions. You have a REST API application with the requirement to serve predictions for an individual user ID with latency under 100 milliseconds. You use the following query to generate predictions: SELECT predicted_label, user_id FROM ML.PREDICT (MODEL ‘dataset.model’, table user_features). How should you create the ML pipeline?

A. Add a WHERE clause to the query, and grant the BigQuery Data Viewer role to the application service account.
B. Create an Authorized View with the provided quer
C. Share the dataset that contains the view with the application service account.
D. Create a Cloud Dataflow pipeline using BigQueryIO to read results from the quer
E. Grant the Dataflow Worker role to the application service account.
F. Create a Cloud Dataflow pipeline using BigQueryIO to read predictions for all users from the query.Write the results to Cloud Bigtable using BigtableI
G. Grant the Bigtable Reader role to the application service account so that the application can read predictions for individual users from Cloud Bigtable.

Answer: D

NEW QUESTION 138
.....

THANKS FOR TRYING THE DEMO OF OUR PRODUCT

Visit Our Site to Purchase the Full Set of Actual Professional-Data-Engineer Exam Questions With Answers.

We Also Provide Practice Exam Software That Simulates Real Exam Environment And Has Many Self-Assessment Features. Order the Professional-Data-Engineer Product From:

https://www.2passeasy.com/dumps/Professional-Data-Engineer/

Money Back Guarantee

Professional-Data-Engineer Practice Exam Features:

* Professional-Data-Engineer Questions and Answers Updated Frequently

* Professional-Data-Engineer Practice Questions Verified by Expert Senior Certified Staff

* Professional-Data-Engineer Most Realistic Questions that Guarantee you a Pass on Your FirstTry

* Professional-Data-Engineer Practice Test Questions in Multiple Choice Formats and Updatesfor 1 Year