# Professional-Data-Engineer Dumps

# Google Professional Data Engineer Exam

## https://www.certleader.com/Professional-Data-Engineer-dumps.html

**NEW QUESTION 1**
- (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 numericvalues 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 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 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 4**
- (Exam Topic 1)
You are working on a sensitive project involving private user data. You have set up a project on Google Cloud Platform to house your work internally. An external consultant is going to assist with coding a complex transformation in a Google Cloud Dataflow pipeline for your project. How should you maintain users' privacy?

A. Grant the consultant the Viewer role on the project.
B. Grant the consultant the Cloud Dataflow Developer role on the project.
C. Create a service account and allow the consultant to log on with it.
D. Create an anonymized sample of the data for the consultant to work with in a different project.

**Answer:** C

**NEW QUESTION 5**
- (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 6**
- (Exam Topic 1)
Your company has hired a new data scientist who wants to perform complicated analyses across very large datasets stored in Google Cloud Storage and in a

Cassandra cluster on Google Compute Engine. The scientist primarily wants to create labelled data sets for machine learning projects, along with some visualization tasks. She reports that her laptop is not powerful enough to perform her tasks and it is slowing her down. You want to help her perform her tasks. What should you do?

A. Run a local version of Jupiter on the laptop.
B. Grant the user access to Google Cloud Shell.
C. Host a visualization tool on a VM on Google Compute Engine.
D. Deploy Google Cloud Datalab to a virtual machine (VM) on Google Compute Engine.

**Answer:** B


**NEW QUESTION 7**
- (Exam Topic 1)
You are building a model to make clothing recommendations. You know a user's fashion preference is likely to change over time, so you build a data pipeline to stream new data back to the model as it becomes available.
How should you use this data to train the model?

A. Continuously retrain the model on just the new data.
B. Continuously retrain the model on a combination of existing data and the new data.
C. Train on the existing data while using the new data as your test set.
D. Train on the new data while using the existing data as your test set.

**Answer:** D


**NEW QUESTION 8**
- (Exam Topic 1)
You designed a database for patient records as a pilot project to cover a few hundred patients in three clinics. Your design used a single database table to represent all patients and their visits, and you used self-joins to generate reports. The server resource utilization was at 50%. Since then, the scope of the project has expanded. The database must now store 100 times more patient records. You can no longer run the reports, because they either take too long or they encounter errors with insufficient compute resources. How should you adjust the database design?

A. Add capacity (memory and disk space) to the database server by the order of 200.
B. Shard the tables into smaller ones based on date ranges, and only generate reports with prespecified date ranges.
C. Normalize the master patient-record table into the patient table and the visits table, and create othernecessary tables to avoid self-join.
D. Partition the table into smaller tables, with one for each clini
E. Run queries against the smaller table pairs, and use unions for consolidated reports.

**Answer:** B


**NEW QUESTION 9**
- (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 10**
- (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 10**
- (Exam Topic 3)
You need to compose visualizations for operations teams with the following requirements: Which approach meets the requirements?

A. Load the data into Google Sheets, use formulas to calculate a metric, and use filters/sorting to show only suboptimal links in a table.
B. Load the data into Google BigQuery tables, write Google Apps Script that queries the data, calculates the metric, and shows only suboptimal rows in a table in Google Sheets.
C. Load the data into Google Cloud Datastore tables, write a Google App Engine Application that queries all rows, applies a function to derive the metric, and then renders results in a table using the Google charts and visualization API.
D. Load the data into Google BigQuery tables, write a Google Data Studio 360 report that connects to your data, calculates a metric, and then uses a filter expression to show only suboptimal rows in a table.

**Answer:** C

**NEW QUESTION 13**
- (Exam Topic 3)
You create a new report for your large team in Google Data Studio 360. The report uses Google BigQuery as its data source. It is company policy to ensure employees can view only the data associated with their region, so you create and populate a table for each region. You need to enforce the regional access policy to the data.
Which two actions should you take? (Choose two.)

A. Ensure all the tables are included in global dataset.
B. Ensure each table is included in a dataset for a region.
C. Adjust the settings for each table to allow a related region-based security group view access.
D. Adjust the settings for each view to allow a related region-based security group view access.
E. Adjust the settings for each dataset to allow a related region-based security group view access.

**Answer:** BD


**NEW QUESTION 15**
- (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 18**
- (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 19**
- (Exam Topic 4)
You work for an economic consulting firm that helps companies identify economic trends as they happen. As part of your analysis, you use Google BigQuery to correlate customer data with the average prices of the 100 most common goods sold, including bread, gasoline, milk, and others. The average prices of these goods are updated every 30 minutes. You want to make sure this data stays up to date so you can combine it with other data in BigQuery as cheaply as possible.
What should you do?

A. Load the data every 30 minutes into a new partitioned table in BigQuery.
B. Store and update the data in a regional Google Cloud Storage bucket and create a federated data source in BigQuery
C. Store the data in Google Cloud Datastor
D. Use Google Cloud Dataflow to query BigQuery and combine the data programmatically with the data stored in Cloud Datastore
E. Store the data in a file in a regional Google Cloud Storage bucke
F. Use Cloud Dataflow to query BigQuery and combine the data programmatically with the data stored in Google Cloud Storage.

**Answer:** A


**NEW QUESTION 20**
- (Exam Topic 5)
When using Cloud Dataproc clusters, you can access the YARN web interface by configuring a browser to connect through a proxy.

A. HTTPS
B. VPN
C. SOCKS
D. HTTP

**Answer:** C

**Explanation:**
When using Cloud Dataproc clusters, configure your browser to use the SOCKS proxy. The SOCKS proxy routes data intended for the Cloud Dataproc cluster through an SSH tunnel.
Reference: https://cloud.google.com/dataproc/docs/concepts/cluster-web-interfaces#interfaces

**NEW QUESTION 22**
- (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 24**
- (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 25**
- (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 29**
- (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 32**
- (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 35**
- (Exam Topic 5)
How would you query specific partitions in a BigQuery table?

A. Use the DAY column in the WHERE clause
B. Use the EXTRACT(DAY) clause
C. Use the PARTITIONTIME pseudo-column in the WHERE clause
D. Use DATE BETWEEN in the WHERE clause

**Answer:** C

**Explanation:**
Partitioned tables include a pseudo column named _PARTITIONTIME that contains a date-based timestamp for data loaded into the table. To limit a query to particular partitions (such as Jan 1st and 2nd of 2017), use a clause similar to this:
WHERE _PARTITIONTIME BETWEEN TIMESTAMP('2017-01-01') AND TIMESTAMP('2017-01-02')
Reference: https://cloud.google.com/bigquery/docs/partitioned-tables#the_partitiontime_pseudo_column

**NEW QUESTION 39**
- (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 41**
- (Exam Topic 5)
To give a user read permission for only the first three columns of a table, which access control method would you use?

A. Primitive role
B. Predefined role
C. Authorized view
D. It's not possible to give access to only the first three columns of a table.

**Answer:** C

**Explanation:**
An authorized view allows you to share query results with particular users and groups without giving them
read access to the underlying tables. Authorized views can only be created in a dataset that does not contain the tables queried by the view.
When you create an authorized view, you use the view's SQL query to restrict access to only the rows and columns you want the users to see.
Reference: https://cloud.google.com/bigquery/docs/views#authorized-views

**NEW QUESTION 43**
- (Exam Topic 5)
If you want to create a machine learning model that predicts the price of a particular stock based on its recent price history, what type of estimator should you use?

A. Unsupervised learning
B. Regressor
C. Classifier

D. Clustering estimator

**Answer:** B

**Explanation:**
Regression is the supervised learning task for modeling and predicting continuous, numeric variables. Examples include predicting real-estate prices, stock price movements, or student test scores.
Classification is the supervised learning task for modeling and predicting categorical variables. Examples include predicting employee churn, email spam, financial fraud, or student letter grades.
Clustering is an unsupervised learning task for finding natural groupings of observations (i.e. clusters) based on the inherent structure within your dataset. Examples include customer segmentation, grouping similar items in e-commerce, and social network analysis.
Reference: https://elitedatascience.com/machine-learning-algorithms

**NEW QUESTION 45**
- (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 49**
- (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 52**
- (Exam Topic 5)
Cloud Dataproc is a managed Apache Hadoop and Apache _____ service.

A. Blaze
B. Spark
C. Fire
D. Ignite

**Answer:** B

**Explanation:**
Cloud Dataproc is a managed Apache Spark and Apache Hadoop service that lets you use open source data tools for batch processing, querying, streaming, and machine learning.
Reference: https://cloud.google.com/dataproc/docs/

**NEW QUESTION 54**
- (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)
You are planning to use Google's Dataflow SDK to analyze customer data such as displayed below. Your project requirement is to extract only the customer name from the data source and then write to an output PCollection.
Tom,555 X street Tim,553 Y street Sam, 111 Z street
Which operation is best suited for the above data processing requirement?

A. ParDo
B. Sink API
C. Source API
D. Data extraction

**Answer:** A

**Explanation:**
In Google Cloud dataflow SDK, you can use the ParDo to extract only a customer name of each element in your PCollection.
Reference: https://cloud.google.com/dataflow/model/par-do

**NEW QUESTION 60**
- (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 63**
- (Exam Topic 6)
You are running a pipeline in Cloud Dataflow that receives messages from a Cloud Pub/Sub topic and writes the results to a BigQuery dataset in the EU. Currently, your pipeline is located in europe-west4 and has a maximum of 3 workers, instance type n1-standard-1. You notice that during peak periods, your pipeline is struggling to process records in a timely fashion, when all 3 workers are at maximum CPU utilization. Which two actions can you take to increase performance of your pipeline? (Choose two.)

A. Increase the number of max workers
B. Use a larger instance type for your Cloud Dataflow workers
C. Change the zone of your Cloud Dataflow pipeline to run in us-central1
D. Create a temporary table in Cloud Bigtable that will act as a buffer for new dat
E. Create a new step in your pipeline to write to this table first, and then create a new pipeline to write from Cloud Bigtable to BigQuery
F. Create a temporary table in Cloud Spanner that will act as a buffer for new dat
G. Create a new step in your pipeline to write to this table first, and then create a new pipeline to write from Cloud Spanner to BigQuery

**Answer:** BE

**NEW QUESTION 67**
- (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 68**
- (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 70**
- (Exam Topic 6)
Your financial services company is moving to cloud technology and wants to store 50 TB of financial timeseries data in the cloud. This data is updated frequently and new data will be streaming in all the time. Your company also wants to move their existing Apache Hadoop jobs to the cloud to get insights into this data. Which product should they use to store the data?

A. Cloud Bigtable
B. Google BigQuery
C. Google Cloud Storage
D. Google Cloud Datastore

**Answer:** A

**Explanation:**
Reference: https://cloud.google.com/bigtable/docs/schema-design-time-series


**NEW QUESTION 72**
- (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 Machine Learning 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 KubernetesEngine cluste
J. Call the model from your application and process the results as labels.

**Answer:** B


**NEW QUESTION 74**
- (Exam Topic 6)
You decided to use Cloud Datastore to ingest vehicle telemetry data in real time. You want to build a storage system that will account for the long-term data growth, while keeping the costs low. You also want to create snapshots of the data periodically, so that you can make a point-in-time (PIT) recovery, or clone a copy of the data for Cloud Datastore in a different environment. You want to archive these snapshots for a long time. Which two methods can accomplish this? Choose 2 answers.

A. Use managed export, and store the data in a Cloud Storage bucket using Nearline or Coldline class.
B. Use managed exportm, and then import to Cloud Datastore in a separate project under a unique namespace reserved for that export.
C. Use managed export, and then import the data into a BigQuery table created just for that export, and delete temporary export files.
D. Write an application that uses Cloud Datastore client libraries to read all the entitie
E. Treat each entity as a BigQuery table row via BigQuery streaming inser
F. Assign an export timestamp for each export, and attach it as an extra column for each ro
G. Make sure that the BigQuery table is partitioned using the export timestamp column.
H. Write an application that uses Cloud Datastore client libraries to read all the entitie
I. Format the exported data into a JSON fil
J. Apply compression before storing the data in Cloud Source Repositories.

**Answer:** CE


**NEW QUESTION 75**
- (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

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## NEW QUESTION 78
- (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 forcefully decommission.
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

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## NEW QUESTION 81
- (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

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## NEW QUESTION 85
- (Exam Topic 6)
You want to build a managed Hadoop system as your data lake. The data transformation process is composed of a series of Hadoop jobs executed in sequence. To accomplish the design of separating storage from compute, you decided to use the Cloud Storage connector to store all input data, output data, and intermediary data. However, you noticed that one Hadoop job runs very slowly with Cloud Dataproc, when compared with the on-premises bare-metal Hadoop environment (8-core nodes with 100-GB RAM). Analysis shows that this particular Hadoop job is disk I/O intensive. You want to resolve the issue. What should you do?

A. Allocate sufficient memory to the Hadoop cluster, so that the intermediary data of that particular Hadoop job can be held in memory
B. Allocate sufficient persistent disk space to the Hadoop cluster, and store the intermediate data of that particular Hadoop job on native HDFS
C. Allocate more CPU cores of the virtual machine instances of the Hadoop cluster so that the networking bandwidth for each instance can scale up
D. Allocate additional network interface card (NIC), and configure link aggregation in the operating system to use the combined throughput when working with Cloud Storage

**Answer:** A

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## NEW QUESTION 90
- (Exam Topic 6)
You have a data pipeline that writes data to Cloud Bigtable using well-designed row keys. You want to monitor your pipeline to determine when to increase the size of you Cloud Bigtable cluster. Which two actions can you take to accomplish this? Choose 2 answers.

A. Review Key Visualizer metric
B. Increase the size of the Cloud Bigtable cluster when the Read pressure index is above 100.
C. Review Key Visualizer metric
D. Increase the size of the Cloud Bigtable cluster when the Write pressure index is above 100.
E. Monitor the latency of write operation
F. Increase the size of the Cloud Bigtable cluster when there is a sustained increase in write latency.
G. Monitor storage utilizatio
H. Increase the size of the Cloud Bigtable cluster when utilization increases above 70% of max capacity.
I. Monitor latency of read operation
J. Increase the size of the Cloud Bigtable cluster of read operations take longer than 100 ms.

**Answer:** AC

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## NEW QUESTION 93
- (Exam Topic 6)
Your team is working on a binary classification problem. You have trained a support vector machine (SVM) classifier with default parameters, and received an area under the Curve (AUC) of 0.87 on the validation set. You want to increase the AUC of the model. What should you do?

A. Perform hyperparameter tuning
B. Train a classifier with deep neural networks, because neural networks would always beat SVMs
C. Deploy the model and measure the real-world AUC; it's always higher because of generalization

D. Scale predictions you get out of the model (tune a scaling factor as a hyperparameter) in order to get the highest AUC

**Answer:** D


**NEW QUESTION 95**
- (Exam Topic 6)
You need to create a data pipeline that copies time-series transaction data so that it can be queried from within BigQuery by your data science team for analysis. Every hour, thousands of transactions are updated with a new status. The size of the intitial dataset is 1.5 PB, and it will grow by 3 TB per day. The data is heavily structured, and your data science team will build machine learning models based on this data. You want to maximize performance and usability for your data science team. Which two strategies should you adopt? Choose 2 answers.

A. Denormalize the data as must as possible.
B. Preserve the structure of the data as much as possible.
C. Use BigQuery UPDATE to further reduce the size of the dataset.
D. Develop a data pipeline where status updates are appended to BigQuery instead of updated.
E. Copy a daily snapshot of transaction data to Cloud Storage and store it as an Avro fil
F. Use BigQuery'ssupport for external data sources to query.

**Answer:** DE


**NEW QUESTION 96**
- (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 97**
- (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 102**
- (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 107**
- (Exam Topic 6)
Your company is selecting a system to centralize data ingestion and delivery. You are considering messaging and data integration systems to address the requirements. The key requirements are:

▶ The ability to seek to a particular offset in a topic, possibly back to the start of all data ever captured

🔵 Support for publish/subscribe semantics on hundreds of topics

🔵 Retain per-key ordering Which system should you choose?

A. Apache Kafka
B. Cloud Storage
C. Cloud Pub/Sub
D. Firebase Cloud Messaging

**Answer:** A

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**NEW QUESTION 111**
- (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

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**NEW QUESTION 114**
- (Exam Topic 6)
You are training a spam classifier. You notice that you are overfitting the training data. Which three actions can you take to resolve this problem? (Choose three.)

A. Get more training examples
B. Reduce the number of training examples
C. Use a smaller set of features
D. Use a larger set of features
E. Increase the regularization parameters
F. Decrease the regularization parameters

**Answer:** ADF

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**NEW QUESTION 115**
- (Exam Topic 6)
You work for a bank. You have a labelled dataset that contains information on already granted loan application and whether these applications have been defaulted. You have been asked to train a model to predict default rates for credit applicants.
What should you do?

A. Increase the size of the dataset by collecting additional data.
B. Train a linear regression to predict a credit default risk score.
C. Remove the bias from the data and collect applications that have been declined loans.
D. Match loan applicants with their social profiles to enable feature engineering.

**Answer:** B

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**NEW QUESTION 117**
- (Exam Topic 6)
You use BigQuery as your centralized analytics platform. New data is loaded every day, and an ETL pipeline modifies the original data and prepares it for the final users. This ETL pipeline is regularly modified and can generate errors, but sometimes the errors are detected only after 2 weeks. You need to provide a method to recover from these errors, and your backups should be optimized for storage costs. How should you organize your data in BigQuery and store your backups?

A. Organize your data in a single table, export, and compress and store the BigQuery data in Cloud Storage.
B. Organize your data in separate tables for each month, and export, compress, and store the data in Cloud Storage.
C. Organize your data in separate tables for each month, and duplicate your data on a separate dataset in BigQuery.
D. Organize your data in separate tables for each month, and use snapshot decorators to restore the table to a time prior to the corruption.

**Answer:** D

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**NEW QUESTION 118**
- (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 120**
- (Exam Topic 6)
You have several Spark jobs that run on a Cloud Dataproc cluster on a schedule. Some of the jobs run in sequence, and some of the jobs run concurrently. You need to automate this process. What should you do?

A. Create a Cloud Dataproc Workflow Template
B. Create an initialization action to execute the jobs
C. Create a Directed Acyclic Graph in Cloud Composer
D. Create a Bash script that uses the Cloud SDK to create a cluster, execute jobs, and then tear down the cluster

**Answer:** A


**NEW QUESTION 124**
- (Exam Topic 6)
You architect a system to analyze seismic data. Your extract, transform, and load (ETL) process runs as a series of MapReduce jobs on an Apache Hadoop cluster. The ETL process takes days to process a data set because some steps are computationally expensive. Then you discover that a sensor calibration step has been omitted. How should you change your ETL process to carry out sensor calibration systematically in the future?

A. Modify the transformMapReduce jobs to apply sensor calibration before they do anything else.
B. Introduce a new MapReduce job to apply sensor calibration to raw data, and ensure all other MapReduce jobs are chained after this.
C. Add sensor calibration data to the output of the ETL process, and document that all users need to apply sensor calibration themselves.
D. Develop an algorithm through simulation to predict variance of data output from the last MapReduce job based on calibration factors, and apply the correction to all data.

**Answer:** A


**NEW QUESTION 128**
- (Exam Topic 6)
You're using Bigtable for a real-time application, and you have a heavy load that is a mix of read and writes. You've recently identified an additional use case and need to perform hourly an analytical job to calculate certain statistics across the whole database. You need to ensure both the reliability of your production application as well as the analytical workload.
What should you do?

A. Export Bigtable dump to GCS and run your analytical job on top of the exported files.
B. Add a second cluster to an existing instance with a multi-cluster routing, use live-traffic app profile for your regular workload and batch-analytics profile for the analytics workload.
C. Add a second cluster to an existing instance with a single-cluster routing, use live-traffic app profile for your regular workload and batch-analytics profile for the analytics workload.
D. Increase the size of your existing cluster twice and execute your analytics workload on your new resized cluster.

**Answer:** B


**NEW QUESTION 129**
- (Exam Topic 6)
You want to migrate an on-premises Hadoop system to Cloud Dataproc. Hive is the primary tool in use, and the data format is Optimized Row Columnar (ORC). All ORC files have been successfully copied to a Cloud Storage bucket. You need to replicate some data to the cluster's local Hadoop Distributed File System (HDFS) to maximize performance. What are two ways to start using Hive in Cloud Dataproc? (Choose two.)

A. Run the gsutil utility to transfer all ORC files from the Cloud Storage bucket to HDF
B. Mount the Hive tables locally.
C. Run the gsutil utility to transfer all ORC files from the Cloud Storage bucket to any node of the Dataproc cluste
D. Mount the Hive tables locally.
E. Run the gsutil utility to transfer all ORC files from the Cloud Storage bucket to the master node of the Dataproc cluste
F. Then run the Hadoop utility to copy them do HDF
G. Mount the Hive tables from HDFS.
H. Leverage Cloud Storage connector for Hadoop to mount the ORC files as external Hive table
I. Replicate external Hive tables to the native ones.
J. Load the ORC files into BigQuer
K. Leverage BigQuery connector for Hadoop to mount the BigQuery tables as external Hive table
L. Replicate external Hive tables to the native ones.

**Answer:** BC


**NEW QUESTION 130**
- (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 135**
- (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 136**
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