Professional-Data-Engineer Dumps

Google Professional Data Engineer Exam

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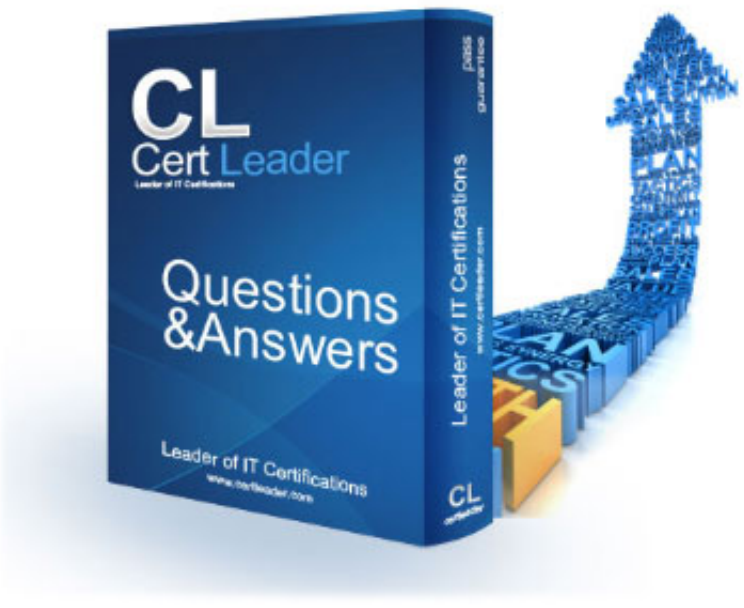


NEW QUESTION 1
- (Exam Topic 1)
You want to use Google Stackdriver Logging to monitor Google BigQuery usage. You need an instant notification to be sent to your monitoring tool when new data is appended to a certain table using an insert job, but you do not want to receive notifications for other tables. 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 2
- (Exam Topic 1)
You are building new real-time data warehouse for your company and will use Google BigQuery streaming inserts. There is no guarantee that data will only be sent in once but you do have a unique ID for each row of data and an event timestamp. You want to ensure that duplicates are not included while interactively querying data. Which query type should you use?

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

Answer: D

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

NEW QUESTION 3
- (Exam Topic 1)
Your company is migrating their 30-node Apache Hadoop cluster to the cloud. They want to re-use Hadoop jobs they have already created and minimize the management of the cluster as much as possible. They also want to be able to persist data beyond the life of the cluster. What should you do?

A. Create a Google Cloud Dataflow job to process the data.
B. Create a Google Cloud Dataproc cluster that uses persistent disks for HDFS.
C. Create a Hadoop cluster on Google Compute Engine that uses persistent disks.
D. Create a Cloud Dataproc cluster that uses the Google Cloud Storage connector.
E. Create a Hadoop cluster on Google Compute Engine that uses Local SSD disks.

Answer: D

NEW QUESTION 4
- (Exam Topic 1)
Your company is performing data preprocessing for a learning algorithm in Google Cloud Dataflow. Numerous data logs are being are being generated during this step, and the team wants to analyze them. Due to the dynamic nature of the campaign, the data is growing exponentially every hour.
The data scientists have written the following code to read the data for a new key features in the logs. BigQueryIO.Read
.named(“ReadLogData”)
.from(“clouddataflow-readonly:samples.log_data”)
You want to improve the performance of this data read. What should you do?

A. Specify the TableReference object in the code.
B. Use .fromQuery operation to read specific fields from the table.
C. Use of both the Google BigQuery TableSchema and TableFieldSchema classes.
D. Call a transform that returns TableRow objects, where each element in the PCollexction represents a single row in the table.

Answer: D

NEW QUESTION 5
- (Exam Topic 3)
You need to compose visualization for operations teams with the following requirements:
- Telemetry must include data from all 50,000 installations for the most recent 6 weeks (sampling once every minute)
- The report must not be more than 3 hours delayed from live data.
- The actionable report should only show suboptimal links.
- Most suboptimal links should be sorted to the top.
- Suboptimal links can be grouped and filtered by regional geography.
- User response time to load the report must be <5 seconds.

You create a data source to store the last 6 weeks of data, and create visualizations that allow viewers to see multiple date ranges, distinct geographic regions, and unique installation types. You always show the latest data without any changes to your visualizations. You want to avoid creating and updating new visualizations each month. What should you do?

A. Look through the current data and compose a series of charts and tables, one for each possible combination of criteria.
B. Look through the current data and compose a small set of generalized charts and tables bound to criteria filters that allow value selection.
C. Export the data to a spreadsheet, compose a series of charts and tables, one for each possible combination of criteria, and spread them across multiple tabs.
D. Load the data into relational database tables, write a Google App Engine application that queries all rows, summarizes the data across each criteria, and then

renders results using the Google Charts and visualization API.

Answer: B

NEW QUESTION 6
- (Exam Topic 3)
MJTelco's Google Cloud Dataflow pipeline is now ready to start receiving data from the 50,000 installations. You want to allow Cloud Dataflow to scale its compute power up as required. Which Cloud Dataflow pipeline configuration setting should you update?

A. The zone
B. The number of workers
C. The disk size per worker
D. The maximum number of workers

Answer: A

NEW QUESTION 7
- (Exam Topic 3)
Given the record streams MJTelco is interested in ingesting per day, they are concerned about the cost of Google BigQuery increasing. MJTelco asks you to provide a design solution. They require a single large data table called tracking_table. Additionally, they want to minimize the cost of daily queries while performing fine-grained analysis of each day's events. They also want to use streaming ingestion. What should you do?

A. Create a table called tracking_table and include a DATE column.
B. Create a partitioned table called tracking_table and include a TIMESTAMP column.
C. Create sharded tables for each day following the pattern tracking_table_YYYYMMDD.
D. Create a table called tracking_table with a TIMESTAMP column to represent the day.

Answer: B

NEW QUESTION 8
- (Exam Topic 5)
Scaling a Cloud Dataproc cluster typically involves .

A. increasing or decreasing the number of worker nodes
B. increasing or decreasing the number of master nodes
C. moving memory to run more applications on a single node
D. deleting applications from unused nodes periodically

Answer: A

Explanation:
After creating a Cloud Dataproc cluster, you can scale the cluster by increasing or decreasing the number of worker nodes in the cluster at any time, even when jobs are running on the cluster. Cloud Dataproc clusters are typically scaled to:
1) increase the number of workers to make a job run faster
2) decrease the number of workers to save money
3) increase the number of nodes to expand available Hadoop Distributed Filesystem (HDFS) storage Reference:
https://cloud.google.com/dataproc/docs/concepts/scaling-clusters

NEW QUESTION 9
- (Exam Topic 5)
You are developing a software application using Google's Dataflow SDK, and want to use conditional, for loops and other complex programming structures to create a branching pipeline. Which component will be used for the data processing operation?

A. PCollection
B. Transform
C. Pipeline
D. Sink API

Answer: B

Explanation:
In Google Cloud, the Dataflow SDK provides a transform component. It is responsible for the data processing operation. You can use conditional, for loops, and other complex programming structure to create a branching pipeline.
Reference: https://cloud.google.com/dataflow/model/programming-model

NEW QUESTION 10
- (Exam Topic 5)
In order to securely transfer web traffic data from your computer's web browser to the Cloud Dataproc cluster you should use a(n) .

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

Answer: C

Explanation:

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

NEW QUESTION 10
- (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 11
- (Exam Topic 5)
Which software libraries are supported by Cloud Machine Learning Engine?

A. Theano and TensorFlow
B. Theano and Torch
C. TensorFlow
D. TensorFlow and Torch

Answer: C

Explanation:
Cloud ML Engine mainly does two things:
Enables you to train machine learning models at scale by running TensorFlow training applications in the cloud.
Hosts those trained models for you in the cloud so that you can use them to get predictions about new data.
Reference: https://cloud.google.com/ml-engine/docs/technical-overview#what_it_does

NEW QUESTION 15
- (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 16
- (Exam Topic 5)
When creating a new Cloud Dataproc cluster with the projects.regions.clusters.create operation, these four values are required: project, region, name, and .

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

Answer: A

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

NEW QUESTION 18
- (Exam Topic 5)
Which is the preferred method to use to avoid hotspotting in time series data in Bigtable?

A. Field promotion

B. Randomization
C. Salting
D. Hashing

Answer: A

Explanation:
By default, prefer field promotion. Field promotion avoids hotspotting in almost all cases, and it tends to make it easier to design a row key that facilitates queries.
Reference:
https://cloud.google.com/bigtable/docs/schema-design-time-series#ensure_that_your_row_key_avoids_hotspotti

NEW QUESTION 21
- (Exam Topic 5)
Which of the following is NOT true about Dataflow pipelines?

A. Dataflow pipelines are tied to Dataflow, and cannot be run on any other runner
B. Dataflow pipelines can consume data from other Google Cloud services
C. Dataflow pipelines can be programmed in Java
D. Dataflow pipelines use a unified programming model, so can work both with streaming and batch data sources

Answer: A

Explanation:
Dataflow pipelines can also run on alternate runtimes like Spark and Flink, as they are built using the Apache Beam SDKs
Reference: https://cloud.google.com/dataflow/

NEW QUESTION 23
- (Exam Topic 5)
If you're running a performance test that depends upon Cloud Bigtable, all the choices except one below are recommended steps. Which is NOT a recommended step to follow?

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

Answer: A

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

NEW QUESTION 28
- (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 31
- (Exam Topic 5)
Which of the following job types are supported by Cloud Dataproc (select 3 answers)?

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

Answer: ABD

Explanation:

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

NEW QUESTION 33
- (Exam Topic 6)
An online retailer has built their current application on Google App Engine. A new initiative at the company mandates that they extend their application to allow their customers to transact directly via the application.
They need to manage their shopping transactions and analyze combined data from multiple datasets using a business intelligence (BI) tool. They want to use only a single database for this purpose. Which Google Cloud database should they choose?

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

Answer: C

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

NEW QUESTION 38
- (Exam Topic 6)
You are managing a Cloud Dataproc cluster. You need to make a job run faster while minimizing costs, without losing work in progress on your clusters. What should you do?

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

Answer: D

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

NEW QUESTION 40
- (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 45
- (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

NEW QUESTION 48
- (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

NEW QUESTION 49
- (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: A

Explanation:
https://towardsdatascience.com/understanding-hyperparameters-and-its-optimisation-techniques-f0debba07568

NEW QUESTION 53
- (Exam Topic 6)
You are updating the code for a subscriber to a Put/Sub feed. You are concerned that upon deployment the subscriber may erroneously acknowledge messages, leading to message loss. You subscriber is not set up to retain acknowledged messages. What should you do to ensure that you can recover from errors after deployment?

A. Use Cloud Build for your deployment if an error occurs after deployment, use a Seek operation to locate a tmestamp logged by Cloud Build at the start of the deployment
B. Create a Pub/Sub snapshot before deploying new subscriber cod
C. Use a Seek operation to re-deliver messages that became available after the snapshot was created
D. Set up the Pub/Sub emulator on your local machine Validate the behavior of your new subscriber togs before deploying it to production
E. Enable dead-lettering on the Pub/Sub topic to capture messages that aren't successful acknowledged if an error occurs after deployment, re-deliver any messages captured by the dead-letter queue

Answer: B

NEW QUESTION 54
- (Exam Topic 6)
You are building a new data pipeline to share data between two different types of applications: jobs generators and job runners. Your solution must scale to accommodate increases in usage and must accommodate the addition of new applications without negatively affecting the performance of existing ones. What should you do?

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

Answer: A

NEW QUESTION 57
- (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 62
- (Exam Topic 6)
Each analytics team in your organization is running BigQuery jobs in their own projects. You want to enable each team to monitor slot usage within their projects. What should you do?

A. Create a Stackdriver Monitoring dashboard based on the BigQuery metric query/scanned_bytes
B. Create a Stackdriver Monitoring dashboard based on the BigQuery metric slots/allocated_for_project
C. Create a log export for each project, capture the BigQuery job execution logs, create a custom metric based on the totalSlotMs, and create a Stackdriver Monitoring dashboard based on the custom metric
D. Create an aggregated log export at the organization level, capture the BigQuery job execution logs, create a custom metric based on the totalSlotMs, and create a Stackdriver Monitoring dashboard based on the custom metric

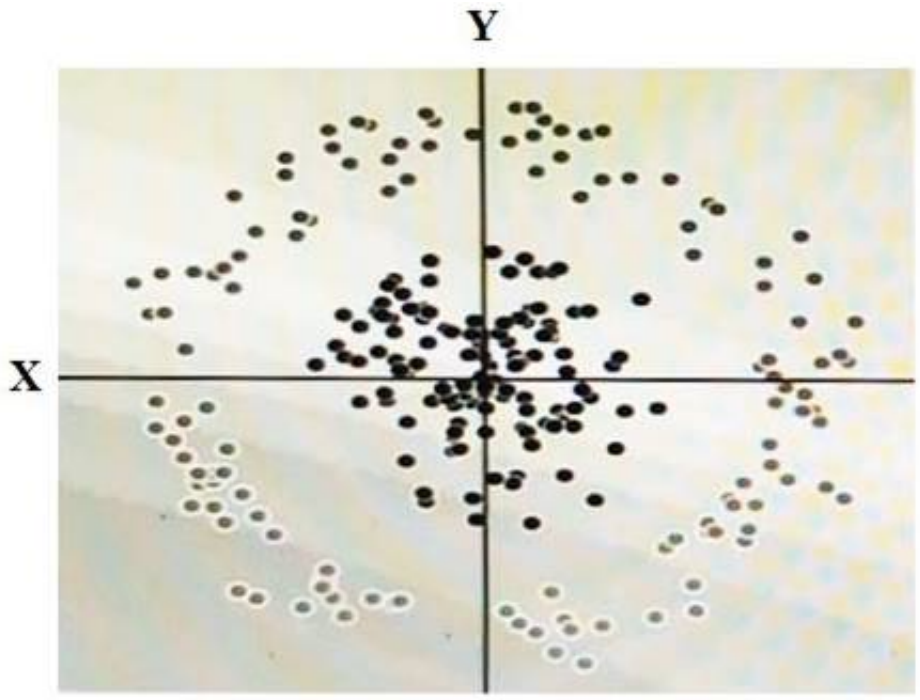
Answer: D

NEW QUESTION 63
- (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: B

NEW QUESTION 65
- (Exam Topic 6)
You have some data, which is shown in the graphic below. The two dimensions are X and Y, and the shade of each dot represents what class it is. You want to classify this data accurately using a linear algorithm.



To do this you need to add a synthetic feature. What should the value of that feature be?

A. X^2+Y^2
B. X^2
C. Y^2
D. cos(X)

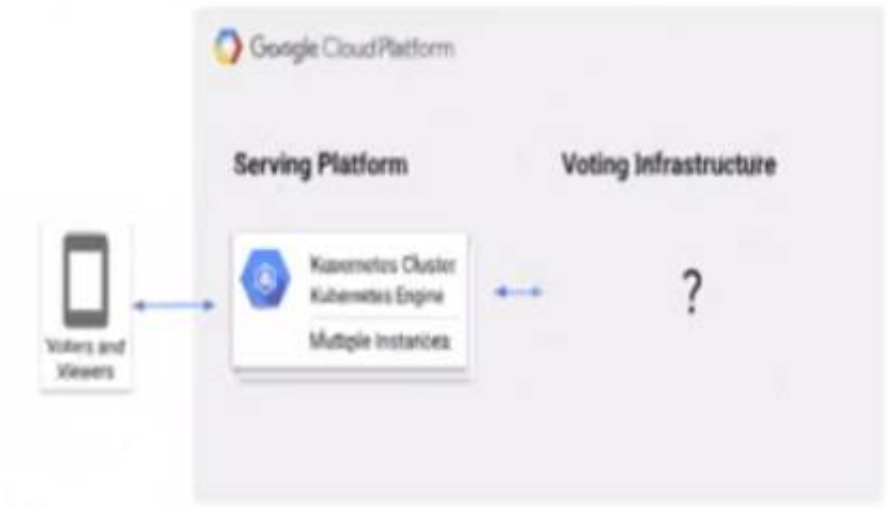
Answer: D

NEW QUESTION 67
- (Exam Topic 6)
You need to create a new transaction table in Cloud Spanner that stores product sales data. You are deciding what to use as a primary key. From a performance perspective, which strategy should you choose?

A. The current epoch time
B. A concatenation of the product name and the current epoch time
C. A random universally unique identifier number (version 4 UUID)
D. The original order identification number from the sales system, which is a monotonically increasing integer

Answer: C

NEW QUESTION 69
- (Exam Topic 6)
A live TV show asks viewers to cast votes using their mobile phones. The event generates a large volume of data during a 3 minute period. You are in charge of the Voting restructure* and must ensure that the platform can handle the load and Hal all votes are processed. You must display partial results write voting is open. After voting doses you need to count the votes exactly once white optimizing cost. What should you do?



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

Answer: C

NEW QUESTION 72
- (Exam Topic 6)
You've migrated a Hadoop job from an on-prem cluster to dataproc and GCS. Your Spark job is a complicated analytical workload that consists of many shuffing operations and initial data are parquet files (on average 200-400 MB size each). You see some degradation in performance after the migration to Dataproc, so you'd like to optimize for it. You need to keep in mind that your organization is very cost-sensitive, so you'd like to continue using Dataproc on preemptibles (with 2 non-preemptible workers only) for this workload.
What should you do?

A. Increase the size of your parquet files to ensure them to be 1 GB minimum.
B. Switch to TFRecords formats (app
C. 200MB per file) instead of parquet files.
D. Switch from HDDs to SSDs, copy initial data from GCS to HDFS, run the Spark job and copy results back to GCS.
E. Switch from HDDs to SSDs, override the preemptible VMs configuration to increase the boot disk size.

Answer: A

NEW QUESTION 75
- (Exam Topic 6)
You are migrating your data warehouse to BigQuery. You have migrated all of your data into tables in a dataset. Multiple users from your organization will be using the data. They should only see certain tables based on their team membership. How should you set user permissions?

A. Assign the users/groups data viewer access at the table level for each table
B. Create SQL views for each team in the same dataset in which the data resides, and assign the users/groups data viewer access to the SQL views
C. Create authorized views for each team in the same dataset in which the data resides, and assign the users/groups data viewer access to the authorized views
D. Create authorized views for each team in datasets created for each tea
E. Assign the authorized views data viewer access to the dataset in which the data reside
F. Assign the users/groups data viewer access to the datasets in which the authorized views reside

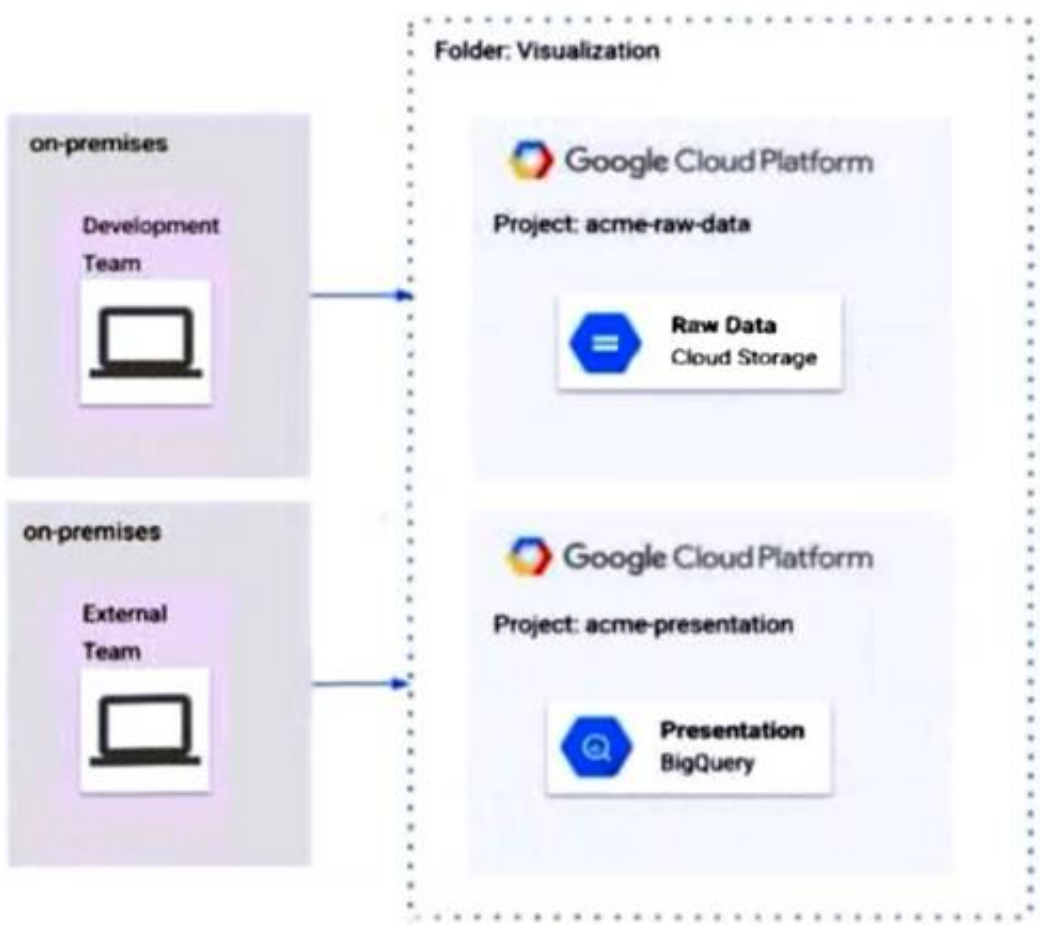
Answer: A

NEW QUESTION 80
- (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 81
- (Exam Topic 6)
The Development and External teams nave the project viewer Identity and Access Management (1AM) role m a folder named Visualization. You want the Development Team to be able to read data from both Cloud Storage and BigQuery, but the External Team should only be able to read data from BigQuery. What should you do?



A. Remove Cloud Storage IAM permissions to the External Team on the acme-raw-data project

B. Create Virtual Private Cloud (VPC) firewall rules on the acme-raw-data protect that deny all Ingress traffic from the External Team CIDR range
C. Create a VPC Service Controls perimeter containing both protects and BigQuery as a restricted API Add the External Team users to the perimeter s Access Level
D. Create a VPC Service Controls perimeter containing both protects and Cloud Storage as a restricted AP
E. Add the Development Team users to the perimeter's Access Level

Answer: C

NEW QUESTION 85
- (Exam Topic 6)
You are developing an application on Google Cloud that will automatically generate subject labels for users' blog posts. You are under competitive pressure to add this feature quickly, and you have no additional developer resources. No one on your team has experience with machine learning. What should you do?

A. Call the Cloud Natural Language API from your applicatio
B. Process the generated Entity Analysis as labels.
C. Call the Cloud Natural Language API from your applicatio
D. Process the generated Sentiment Analysis as labels.
E. Build and train a text classification model using TensorFlo
F. Deploy the model using Cloud MachineLearning Engin
G. Call the model from your application and process the results as labels.
H. Build and train a text classification model using TensorFlo
I. Deploy the model using a Kubernetes Engine cluste
J. Call the model from your application and process the results as labels.

Answer: B

NEW QUESTION 87
- (Exam Topic 6)
You are migrating an application that tracks library books and information about each book, such as author or year published, from an on-premises data warehouse to BigQuery In your current relational database, the author information is kept in a separate table and joined to the book information on a common key Based on Google's recommended practice for schema design, how would you structure the data to ensure optimal speed of queries about the author of each book that has been borrowed?

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

Answer: C

NEW QUESTION 88
- (Exam Topic 6)
Your company receives both batch- and stream-based event data. You want to process the data using Google Cloud Dataflow over a predictable time period. However, you realize that in some instances data can arrive late or out of order. How should you design your Cloud Dataflow pipeline to handle data that is late or out of order?

A. Set a single global window to capture all the data.
B. Set sliding windows to capture all the lagged data.
C. Use watermarks and timestamps to capture the lagged data.
D. Ensure every datasource type (stream or batch) has a timestamp, and use the timestamps to define the logic for lagged data.

Answer: B

NEW QUESTION 89
- (Exam Topic 6)
You plan to deploy Cloud SQL using MySQL. You need to ensure high availability in the event of a zone failure. What should you do?

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

Answer: C

NEW QUESTION 94
- (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 98
- (Exam Topic 6)
You need to create a near real-time inventory dashboard that reads the main inventory tables in your BigQuery data warehouse. Historical inventory data is stored as inventory balances by item and location. You have several thousand updates to inventory every hour. You want to maximize performance of the dashboard and ensure that the data is accurate. What should you do?

A. Leverage BigQuery UPDATE statements to update the inventory balances as they are changing.
B. Partition the inventory balance table by item to reduce the amount of data scanned with each inventory update.
C. Use the BigQuery streaming the stream changes into a daily inventory movement tabl
D. Calculate balances in a view that joins it to the historical inventory balance tabl
E. Update the inventory balance table nightly.
F. Use the BigQuery bulk loader to batch load inventory changes into a daily inventory movement table.Calculate balances in a view that joins it to the historical inventory balance tabl
G. Update the inventory balance table nightly.

Answer: A

NEW QUESTION 100
- (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 101
- (Exam Topic 6)
You are designing a cloud-native historical data processing system to meet the following conditions:
- The data being analyzed is in CSV, Avro, and PDF formats and will be accessed by multiple analysis tools including Cloud Dataproc, BigQuery, and Compute Engine.
- A streaming data pipeline stores new data daily.
- Peformance is not a factor in the solution.
- The solution design should maximize availability.

How should you design data storage for this solution?

A. Create a Cloud Dataproc cluster with high availabilit
B. Store the data in HDFS, and peform analysis as needed.
C. Store the data in BigQuer
D. Access the data using the BigQuery Connector or Cloud Dataproc and Compute Engine.
E. Store the data in a regional Cloud Storage bucke
F. Aceess the bucket directly using Cloud Dataproc, BigQuery, and Compute Engine.
G. Store the data in a multi-regional Cloud Storage bucke
H. Access the data directly using Cloud Dataproc, BigQuery, and Compute Engine.

Answer: D

NEW QUESTION 104
- (Exam Topic 6)
You are developing an application that uses a recommendation engine on Google Cloud. Your solution should display new videos to customers based on past views. Your solution needs to generate labels for the entities in videos that the customer has viewed. Your design must be able to provide very fast filtering suggestions based on data from other customer preferences on several TB of data. What should you do?

A. Build and train a complex classification model with Spark MLlib to generate labels and filter the results.Deploy the models using Cloud Datapro
B. Call the model from your application.
C. Build and train a classification model with Spark MLlib to generate label
D. Build and train a second classification model with Spark MLlib to filter results to match customer preference
E. Deploy themodels using Cloud Datapro
F. Call the models from your application.
G. Build an application that calls the Cloud Video Intelligence API to generate label
H. Store data in Cloud Bigtable, and filter the predicted labels to match the user's viewing history to generate preferences.
I. Build an application that calls the Cloud Video Intelligence API to generate label
J. Store data in Cloud SQL, and join and filter the predicted labels to match the user's viewing history to generate preferences.

Answer: C

NEW QUESTION 109
- (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 110
- (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: C

NEW QUESTION 111
- (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 115
- (Exam Topic 6)
You are building a report-only data warehouse where the data is streamed into BigQuery via the streaming API Following Google's best practices, you have both a staging and a production table for the data How should you design your data loading to ensure that there is only one master dataset without affecting performance on either the ingestion or reporting pieces?

A. Have a staging table that is an append-only model, and then update the production table every three hours with the changes written to staging
B. Have a staging table that is an append-only model, and then update the production table every ninety minutes with the changes written to staging
C. Have a staging table that moves the staged data over to the production table and deletes the contents of the staging table every three hours
D. Have a staging table that moves the staged data over to the production table and deletes the contents of the staging table every thirty minutes

Answer: D

NEW QUESTION 117
- (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 118
- (Exam Topic 6)
You currently have a single on-premises Kafka cluster in a data center in the us-east region that is responsible for ingesting messages from IoT devices globally. Because large parts of globe have poor internet connectivity, messages sometimes batch at the edge, come in all at once, and cause a spike in load on your Kafka cluster. This is becoming difficult to manage and prohibitively expensive. What is the
Google-recommended cloud native architecture for this scenario?

A. Edge TPUs as sensor devices for storing and transmitting the messages.
B. Cloud Dataflow connected to the Kafka cluster to scale the processing of incoming messages.
C. An IoT gateway connected to Cloud Pub/Sub, with Cloud Dataflow to read and process the messages from Cloud Pub/Sub.
D. A Kafka cluster virtualized on Compute Engine in us-east with Cloud Load Balancing to connect to the devices around the world.

Answer: C

NEW QUESTION 120
- (Exam Topic 6)
You want to archive data in Cloud Storage. Because some data is very sensitive, you want to use the "Trust No One" (TNO) approach to encrypt your data to

prevent the cloud provider staff from decrypting your data. What should you do?

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

Answer: B

NEW QUESTION 123
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