

Google Certified Professional Data Engineer Exam Certification Sample Questions and Practice Exam



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These practice exams are customizable and help you counter exam anxiety. You can use Google Professional-Data-Engineer desktop practice test software and web-based practice test software to assess your knowledge, test-taking skills, and readiness for the actual Professional-Data-Engineer exam. With both Professional-Data-Engineer exam practice test software you can familiarize yourself with the types of questions, and overall exam environment and improve your exam time management skills. So choose your desired Professional-Data-Engineer Exam Practice test software and start exam preparation today. The desktop software runs on Windows computers and the web-based is supported by all operating systems.

To be eligible for the Google Professional-Data-Engineer exam, candidates are required to have a deep understanding of data processing technologies, such as Hadoop, Spark, and other big data frameworks. They should also be proficient in programming languages such as Python, Java, or Go, and have experience in designing and developing data processing pipelines. Additionally, candidates should have hands-on experience working with Google Cloud Platform services such as BigQuery, Dataflow, and Dataproc. Passing the Google Professional-Data-Engineer Exam can prove to be a valuable asset for data professionals who want to advance their careers or demonstrate their expertise in managing data solutions on Google Cloud.

>> **Relevant Professional-Data-Engineer Questions** <<

Quiz 2026 Google Professional-Data-Engineer Fantastic Relevant Questions

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Google Certified Professional Data Engineer Exam Sample Questions (Q302-Q307):

NEW QUESTION # 302

Your neural network model is taking days to train. You want to increase the training speed. What can you do?

- A. Subsample your training dataset.
- B. Increase the number of layers in your neural network.

- C. Subsample your test dataset.
- D. Increase the number of input features to your model.

Answer: B

NEW QUESTION # 303

MJTelco Case Study

Company Overview

MJTelco is a startup that plans to build networks in rapidly growing, underserved markets around the world.

The company has patents for innovative optical communications hardware. Based on these patents, they can create many reliable, high-speed backbone links with inexpensive hardware.

Company Background

Founded by experienced telecom executives, MJTelco uses technologies originally developed to overcome communications challenges in space. Fundamental to their operation, they need to create a distributed data infrastructure that drives real-time analysis and incorporates machine learning to continuously optimize their topologies. Because their hardware is inexpensive, they plan to overdeploy the network allowing them to account for the impact of dynamic regional politics on location availability and cost. Their management and operations teams are situated all around the globe creating many-to-many relationship between data consumers and provides in their system. After careful consideration, they decided public cloud is the perfect environment to support their needs.

Solution Concept

MJTelco is running a successful proof-of-concept (PoC) project in its labs. They have two primary needs:

- * Scale and harden their PoC to support significantly more data flows generated when they ramp to more than 50,000 installations.
- * Refine their machine-learning cycles to verify and improve the dynamic models they use to control topology definition.

MJTelco will also use three separate operating environments - development/test, staging, and production - to meet the needs of running experiments, deploying new features, and serving production customers.

Business Requirements

- * Scale up their production environment with minimal cost, instantiating resources when and where needed in an unpredictable, distributed telecom user community.
- * Ensure security of their proprietary data to protect their leading-edge machine learning and analysis.
- * Provide reliable and timely access to data for analysis from distributed research workers
- * Maintain isolated environments that support rapid iteration of their machine-learning models without affecting their customers.

Technical Requirements

Ensure secure and efficient transport and storage of telemetry data

Rapidly scale instances to support between 10,000 and 100,000 data providers with multiple flows each.

Allow analysis and presentation against data tables tracking up to 2 years of data storing approximately 100m records/day Support rapid iteration of monitoring infrastructure focused on awareness of data pipeline problems both in telemetry flows and in production learning cycles.

CEO Statement

Our business model relies on our patents, analytics and dynamic machine learning. Our inexpensive hardware is organized to be highly reliable, which gives us cost advantages. We need to quickly stabilize our large distributed data pipelines to meet our reliability and capacity commitments.

CTO Statement

Our public cloud services must operate as advertised. We need resources that scale and keep our data secure. We also need environments in which our data scientists can carefully study and quickly adapt our models. Because we rely on automation to process our data, we also need our development and test environments to work as we iterate.

CFO Statement

The project is too large for us to maintain the hardware and software required for the data and analysis. Also, we cannot afford to staff an operations team to monitor so many data feeds, so we will rely on automation and infrastructure. Google Cloud's machine learning will allow our quantitative researchers to work on our high- value problems instead of problems with our data pipelines.

MJTelco is building a custom interface to share data. They have these requirements:

1. They need to do aggregations over their petabyte-scale datasets.
2. They need to scan specific time range rows with a very fast response time (milliseconds).

Which combination of Google Cloud Platform products should you recommend?

- A. Cloud Datastore and Cloud Bigtable
- **B. BigQuery and Cloud Bigtable**
- C. BigQuery and Cloud Storage
- D. Cloud Bigtable and Cloud SQL

Answer: B

NEW QUESTION # 304

Your team runs a complex analytical query daily that processes terabytes of data. Recently, after running for 20 minutes, the query fails with a "Resources exceeded" error. You need to resolve this issue. What should you do?

- **A. Move from BigQuery on-demand to slot reservations.**
- B. Increase the maximum table size limit.
- C. Analyze the SQL syntax for errors.
- D. Increase your project's BigQuery API request quota.

Answer: A

Explanation:

In BigQuery, the "Resources exceeded" error (specifically during execution) typically indicates that the query's resource demands (CPU/Memory/Shuffle) have surpassed the limits of the shared on-demand slot pool.

* Slot Reservations: On-demand pricing uses a shared pool of slots with a soft cap (typically 2,000 slots). For massive, complex queries processing terabytes and running for long durations, this pool may be insufficient or subject to "load shedding" during peak times. Moving to Capacity-based pricing (Slots) allows you to reserve a dedicated number of slots (e.g., 500, 2,000, or more) that are exclusively yours, providing the sustained compute power needed for heavy analytical jobs.

* Correcting other options:

* A: API request quotas (e.g., queries per second) are unrelated to the internal compute resources required to execute a single massive query.

* B: While query optimization (removing ORDER BY, etc.) can help, if the logic is correct but simply too large for the shared pool, syntax analysis won't fix the underlying resource constraint.

* C: There is no "maximum table size limit" that causes an execution-time resource error; BigQuery supports petabyte-scale tables.

Reference: Google Cloud Documentation on BigQuery Troubleshooting:

"Resources exceeded during query execution: This error occurs when a query uses too many resources (CPU, memory, or shuffle). This is common for queries that are very complex or join large datasets... To resolve this, you can: 1. Optimize your query... 2.

Switch to capacity-based pricing (reservations) to ensure your jobs have a dedicated number of slots and are not impacted by the shared on-demand pool's limits." (Source: Troubleshoot query issues)

"On-demand pricing is subject to a default slot quota... For workloads that require more predictability or higher scale, slot commitments and reservations provide dedicated capacity." (Source: BigQuery pricing models)

NEW QUESTION # 305

You are using BigQuery with a regional dataset that includes a table with the daily sales volumes. This table is updated multiple times per day. You need to protect your sales table in case of regional failures with a recovery point objective (RPO) of less than 24 hours, while keeping costs to a minimum. What should you do?

- **A. Schedule a daily BigQuery snapshot of the table.**
- B. Modify ETL job to load the data into both the current and another backup region.
- C. Schedule a daily copy of the dataset to a backup region.
- D. Schedule a daily export of the table to a Cloud Storage dual or multi-region bucket.

Answer: A

Explanation:

To apply complex business logic on a JSON response using Python's standard library within a Workflow, invoking a Cloud Function is the most efficient and straightforward approach. Here's why option A is the best choice:

Cloud Functions:

Cloud Functions provide a lightweight, serverless execution environment for running code in response to events. They support Python and can easily integrate with Workflows.

This approach ensures simplicity and speed of execution, as Cloud Functions can be invoked directly from a Workflow and handle the complex logic required.

Flexibility and Simplicity:

Using Cloud Functions allows you to leverage Python's extensive standard library and ecosystem, making it easier to implement and maintain the complex business logic.

Cloud Functions abstract the underlying infrastructure, allowing you to focus on the application logic without worrying about server management.

Performance:

Cloud Functions are optimized for fast execution and can handle the processing of the JSON response efficiently.

They are designed to scale automatically based on demand, ensuring that your workflow remains performant.

Steps to Implement:

Write the Cloud Function:

Develop a Cloud Function in Python that processes the JSON response and applies the necessary business logic.

Deploy the function to Google Cloud.

Invoke Cloud Function from Workflow:

Modify your Workflow to call the Cloud Function using an HTTP request or Google Cloud Function connector.

steps:

- callCloudFunction:

call: http.post

args:

url: https://REGION-PROJECT_ID.cloudfunctions.net/FUNCTION_NAME

body:

key: value

Process Results:

Handle the response from the Cloud Function and proceed with the next steps in the Workflow, such as loading data into BigQuery.

Reference:

Google Cloud Functions Documentation

Using Workflows with Cloud Functions

Workflows Standard Library

NEW QUESTION # 306

Your company's customer_order table in BigQuery stores the order history for 10 million customers, with a table size of 10 PB. You need to create a dashboard for the support team to view the order history. The dashboard has two filters, countryname and username. Both are string data types in the BigQuery table. When a filter is applied, the dashboard fetches the order history from the table and displays the query results.

However, the dashboard is slow to show the results when applying the filters to the following query:

```
SELECT date, order, status FROM customer_order
WHERE country = '<country_name>' AND username = '<username>'
```

How should you redesign the BigQuery table to support faster access?

- A. Partition the table by country and username fields.
- **B. Cluster the table by country and username fields**
- C. Cluster the table by country field, and partition by username field.
- D. Partition the table by _PARTITIONTIME.

Answer: B

Explanation:

To improve the performance of querying a large BigQuery table with filters on countryname and username, clustering the table by these fields is the most effective approach. Here's why option C is the best choice:

Clustering in BigQuery:

Clustering organizes data based on the values in specified columns. This can significantly improve query performance by reducing the amount of data scanned during query execution.

Clustering by countryname and username means that data is physically sorted and stored together based on these fields, allowing BigQuery to quickly locate and read only the relevant data for queries using these filters.

Filter Efficiency:

With the table clustered by countryname and username, queries that filter on these columns can benefit from efficient data retrieval, reducing the amount of data processed and speeding up query execution.

This directly addresses the performance issue of the dashboard queries that apply filters on these fields.

Steps to Implement:

Redesign the Table:

Create a new table with clustering on countryname and username:

```
CREATE TABLE project.dataset.new_table
CLUSTER BY countryname, username AS
SELECT * FROM project.dataset.customer_order;
```

Migrate Data:

Transfer the existing data from the original table to the new clustered table.

Update Queries:

