Professional-Data-Engineer資格試験 & Professional-Data-Engineer問題例

P.S. Fast2testがGoogle Driveで共有している無料かつ新しいProfessional-Data-Engineerダンプ：https://drive.google.com/open?id=1pWc4snctqa8i5zBhmchAz6AhkSF5jbTu

Fast2testのProfessional-Data-Engineer問題集はあなたを楽に試験の準備をやらせます。それに、もし最初で試験を受ける場合、試験のソフトウェアのバージョンを使用することができます。これは完全に実際の試験雰囲気とフォーマットをシミュレートするソフトウェアですから。このソフトで、あなたは事前に実際の試験を感じることができます。そうすれば、実際のProfessional-Data-Engineer試験を受けるときに緊張をすることはないです。ですから、心のリラックスした状態で試験に出る問題を対応することができ、あなたの正常なレベルをプレイすることもできます。

Google Professional-Data-Engineer認定試験は、Google Cloud Platform上でデータ処理システムを設計および構築するスキルを証明したい専門家を対象としています。この認定資格は、ビッグデータを扱うデータエンジニア、データアナリスト、およびデータベース管理者に最適です。試験は、データ処理、データストレージ、データ分析、および機械学習など、幅広いトピックをカバーしています。

>> Professional-Data-Engineer資格試験 <<

Professional-Data-Engineer問題例 & Professional-Data-Engineer関連資格試験対応

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Google Certified Professional Data Engineer Exam 認定 Professional-Data-Engineer 試験問題 (Q372-Q377):

質問 # 372
Flowlogistic Case Study
Company Overview
Flowlogistic is a leading logistics and supply chain provider. They help businesses throughout the world manage their resources and transport them to their final destination. The company has grown rapidly, expanding their offerings to include rail, truck, aircraft, and oceanic shipping.
Company Background
The company started as a regional trucking company, and then expanded into other logistics market.
Because they have not updated their infrastructure, managing and tracking orders and shipments has become a bottleneck. To improve operations, Flowlogistic developed proprietary technology for tracking shipments in real time at the parcel level. However,

they are unable to deploy it because their technology stack, based on Apache Kafka, cannot support the processing volume. In addition, Flowlogistic wants to further analyze their orders and shipments to determine how best to deploy their resources.

Solution Concept

Flowlogistic wants to implement two concepts using the cloud:

Use their proprietary technology in a real-time inventory-tracking system that indicates the location of their loads

Perform analytics on all their orders and shipment logs, which contain both structured and unstructured data, to determine how best to deploy resources, which markets to expand info. They also want to use predictive analytics to learn earlier when a shipment will be delayed.

Existing Technical Environment

Flowlogistic architecture resides in a single data center:

Databases

8 physical servers in 2 clusters

- SQL Server - user data, inventory, static data

3 physical servers

- Cassandra - metadata, tracking messages

10 Kafka servers - tracking message aggregation and batch insert

Application servers - customer front end, middleware for order/customs

60 virtual machines across 20 physical servers

- Tomcat - Java services
- Nginx - static content
- Batch servers

Storage appliances

- iSCSI for virtual machine (VM) hosts
- Fibre Channel storage area network (FC SAN) - SQL server storage
- Network-attached storage (NAS) image storage, logs, backups

Apache Hadoop /Spark servers

- Core Data Lake
- Data analysis workloads

20 miscellaneous servers

- Jenkins, monitoring, bastion hosts,

Business Requirements

Build a reliable and reproducible environment with scaled panty of production.

Aggregate data in a centralized Data Lake for analysis

Use historical data to perform predictive analytics on future shipments

Accurately track every shipment worldwide using proprietary technology

Improve business agility and speed of innovation through rapid provisioning of new resources

Analyze and optimize architecture for performance in the cloud

Migrate fully to the cloud if all other requirements are met

Technical Requirements

Handle both streaming and batch data

Migrate existing Hadoop workloads

Ensure architecture is scalable and elastic to meet the changing demands of the company.

Use managed services whenever possible

Encrypt data flight and at rest

Connect a VPN between the production data center and cloud environment

SEO Statement

We have grown so quickly that our inability to upgrade our infrastructure is really hampering further growth and efficiency. We are efficient at moving shipments around the world, but we are inefficient at moving data around.

We need to organize our information so we can more easily understand where our customers are and what they are shipping.

CTO Statement

IT has never been a priority for us, so as our data has grown, we have not invested enough in our technology. I have a good staff to manage IT, but they are so busy managing our infrastructure that I cannot get them to do the things that really matter, such as organizing our data, building the analytics, and figuring out how to implement the CFO' s tracking technology.

CFO Statement

Part of our competitive advantage is that we penalize ourselves for late shipments and deliveries. Knowing where out shipments are at all times has a direct correlation to our bottom line and profitability.

Additionally, I don't want to commit capital to building out a server environment.
Flowlogistic wants to use Google BigQuery as their primary analysis system, but they still have Apache Hadoop and Spark workloads that they cannot move to BigQuery. Flowlogistic does not know how to store the data that is common to both workloads. What should they do?

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

正解：A

質問 # 373
You are preparing an organization-wide dataset. You need to preprocess customer data stored in a restricted bucket in Cloud Storage. The data will be used to create consumer analyses. You need to follow data privacy requirements, including protecting certain sensitive data elements, while also retaining all of the data for potential future use cases. What should you do?

- A. Use customer-managed encryption keys (CMEK) to directly encrypt the data in Cloud Storage. Use federated queries from BigQuery. Share the encryption key by following the principle of least privilege.
- B. Use Dataflow and Cloud KMS to encrypt sensitive fields and write the encrypted data in BigQuery.
  Share the encryption key by following the principle of least privilege.
- C. Use Dataflow and the Cloud Data Loss Prevention API to mask sensitive data. Write the processed data in BigQuery.
- D. Use the Cloud Data Loss Prevention API and Dataflow to detect and remove sensitive fields from the data in Cloud Storage. Write the filtered data in BigQuery.

正解：C

解説：
The core requirements are to protect sensitive data elements (data privacy) while retainingalldata for potential future use, and then using this preprocessed data for consumer analyses.
* Retaining All Data:This immediately makes option B (remove sensitive fields) unsuitable because it involves data loss.
* Protecting Sensitive Data for Analysis & Future Use:Masking is a de-identification technique that redacts or replaces sensitive data with a substitute, allowing the data structure and usability for analysis to be maintained without exposing the original sensitive values. This aligns with protecting data while still making it usable.
* Cloud Data Loss Prevention (DLP) API:This service is specifically designed to discover, classify, and protect sensitive data. It offers various de-identification techniques, including masking.
* Dataflow:This is a serverless, fast, and cost-effective service for unified stream and batch data processing. It's well-suited for transforming large datasets, such as those read from Cloud Storage, and can integrate with the DLP API for de-identification.
* Writing to BigQuery:BigQuery is an ideal destination for an organization-wide dataset for consumer analyses.
Therefore, using Dataflow to read the data from Cloud Storage, leveraging the Cloud DLP API tomask(a form of de-identification) the sensitive elements, and then writing the processed (masked) data to BigQuery is the most appropriate solution. This approach protects privacy for the consumer analyses dataset while the original, unaltered data can still be retained in the restricted Cloud Storage bucket for future use cases that might require access to the original sensitive information (under strict governance).
Let's analyze why other options are less suitable:
* Option B:"Remove sensitive fields" means data loss, which contradicts the requirement to retain all data for potential future use cases.
* Option C:Encrypting sensitive fields with Cloud KMS and writing them to BigQuery is a valid way to protect data. However, for "consumer analyses," masked data is generally more directly usable than encrypted data. Analysts would typically work with de-identified (e.g., masked) data rather than directly querying encrypted fields and managing decryption keys for analytical purposes. While decryption is possible, masking often provides a better balance of privacy and utility for broad analysis.
The question also implies creating a datasetforanalysis, where masking makes the data ready-to-use for that purpose. The original data remains in Cloud Storage.
* Option D:Using CMEK encrypts the entire object in Cloud Storage at rest. While this protects the data in Cloud Storage, federated queries from BigQuery would access the raw, unmasked data (assuming decryption occurs seamlessly). This doesn't address the preprocessing requirement of protectingcertain sensitive data elementswithin the data itself for theconsumer analysesdataset. The goal is to create a de- identified dataset for analysis, not just secure the raw data at rest.
Reference:
Google Cloud Documentation: Cloud Data Loss Prevention > De-identification overview. "De-identification is the process of removing identifying information from data. Cloud DLP uses de-identification techniques such as masking, tokenization, pseudonymization, date shifting, and more to help you protect sensitive data." Google Cloud Documentation: Cloud Data Loss

Prevention > Basic de-identification > Masking. "Masking hides parts of data by replacing characters with a symbol, such as an asterisk (*) or hash (#)." Google Cloud Documentation: Dataflow > Overview. "Dataflow is a fully managed streaming analytics service that minimizes latency, processing time, and cost through autoscaling and batch processing." Google Cloud Solution: Automating the de-identification of PII in large-scale datasets using Cloud DLP and Dataflow. This solution guide explicitly outlines using Dataflow and DLP API for de-identifying (including masking) data from Cloud Storage and loading it into BigQuery. "You can use Cloud DLP to scan data for sensitive elements andthen apply de-identification techniques such as redaction, masking, or tokenization." and "This tutorial uses Dataflow to orchestrate the de-identification process."

質問 # 374
What are two of the benefits of using denormalized data structures in BigQuery?

- A. Reduces the amount of data processed, increases query speed
- B. Reduces the amount of data processed, reduces the amount of storage required
- C. Increases query speed, makes queries simpler
- D. Reduces the amount of storage required, increases query speed

正解：C

解説：
Denormalization increases query speed for tables with billions of rows because BigQuery's performance degrades when doing JOINs on large tables, but with a denormalized data structure, you don't have to use JOINs, since all of the data has been combined into one table. Denormalization also makes queries simpler because you do not have to use JOIN clauses. Denormalization increases the amount of data processed and the amount of storage required because it creates redundant data.
https://cloud.google.com/solutions/bigquery-data-warehouse#denormalizing_data

質問 # 375
You are migrating a large number of files from a public HTTPS endpoint to Cloud Storage. The files are protected from unauthorized access using signed URLs. You created a TSV file that contains the list of object URLs and started a transfer job by using Storage Transfer Service. You notice that the job has run for a long time and eventually failed Checking the logs of the transfer job reveals that the job was running fine until one point, and then it failed due to HTTP 403 errors on the remaining files You verified that there were no changes to the source system You need to fix the problem to resume the migration process. What should you do?

- A. Create a new TSV file for the remaining files by generating signed URLs with a longer validity period.Split the TSV file into multiple smaller files and submit them as separate Storage Transfer Service jobs in parallel.
- B. Update the file checksums in the TSV file from using MD5 to SHA256. Remove the completed files from the TSV file and rerun the Storage Transfer Service job.
- C. Renew the TLS certificate of the HTTPS endpoint Remove the completed files from the TSV file and rerun the Storage Transfer Service job.
- D. Set up Cloud Storage FUSE, and mount the Cloud Storage bucket on a Compute Engine Instance Remove the completed files from the TSV file Use a shell script to iterate through the TSV file and download the remaining URLs to the FUSE mount point.

正解：A

解説：
A signed URL is a URL that provides limited permission and time to access a resource on a web server. It is often used to grant temporary access to protected files without requiring authentication. Storage Transfer Service is a service that allows you to transfer data from external sources, such as HTTPS endpoints, to Cloud Storage buckets. You can use a TSV file to specify the list of URLs to transfer. In this scenario, the most likely cause of the HTTP 403 errors is that the signed URLs have expired before the transfer job could complete.
This could happen if the signed URLs have a short validity period or the transfer job takes a long time due to the large number of files or network latency. To fix the problem, you need to create a new TSV file for the remaining files by generating new signed URLs with a longer validity period. This will ensure that the URLs do not expire before the transfer job finishes. You can use the Cloud Storage tools or your own program to generate signed URLs. Additionally, you can split the TSV file into multiple smaller files and submit them as separate Storage Transfer Service jobs in parallel. This will speed up the transfer process and reduce the risk of errors. References:
* Signed URLs | Cloud Storage Documentation
* V4 signing process with Cloud Storage tools
* V4 signing process with your own program

* Using a URL list file
* What Is a 403 Forbidden Error (and How Can I Fix It)?

質問 # 376
Your analytics team wants to build a simple statistical model to determine which customers are most likely to work with your company again, based on a few different metrics. They want to run the model on Apache Spark, using data housed in Google Cloud Storage, and you have recommended using Google Cloud Dataproc to execute this job. Testing has shown that this workload can run in approximately 30 minutes on a 15-node cluster, outputting the results into Google BigQuery. The plan is to run this workload weekly. How should you optimize the cluster for cost?

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

正解：C

質問 # 377
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Google　Professional-Data-Engineer試験参考書を利用すれば、あなたは多くの時間を節約するだけでなく、いろいろな知識を身につけます。最も重要なのは、Professional-Data-Engineer認定試験資格証明書を取得できるということです。また、Professional-Data-Engineer試験参考書の合格率は高いので、Professional-Data-Engineer試験に落ちる必要がないです。

Professional-Data-Engineer問題例: https://jp.fast2test.com/Professional-Data-Engineer-premium-file.html

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しかし、美樹自身も不思議に感じながら、やはりずっと使徒にいProfessional-Data-Engineerて欲しい、ずっとは無理でも少しでも長くとの想いが大きく高まる、太さ長さはともかく圧倒的に違ったのは肉の熱さと硬さ、Professional-Data-Engineer認証資格はIT業界の中で含金度高い試験で、JPshikenがProfessional-Data-Engineer試験について対応性的な訓練を提供しており、あなたの試験成功を助けることができます。

試験の準備方法-素晴らしいProfessional-Data-Engineer資格試験試験-信頼できるProfessional-Data-Engineer問題例

三つ目、あなたは現在の仕事に疲れていて、新しい仕事を探すときの優性があります、具体的には、購入後5〜10分以内にProfessional-Data-Engineerトレーニング資料をすぐに入手できます、最短時間でProfessional-Data-Engineer試験に合格すると、Fast2testすべての受験者の声になります。

これまでの練習教材は3つのバージョンで構成さProfessional-Data-Engineer関連資格試験対応れており、これら3つの基本タイプはすべて、好みや傾向に応じてサポーターに人気があります。

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