

🔗 Google Discussions



Exam Professional Data Engineer All Questions

View all questions & answers for the Professional Data Engineer exam

Go to Exam

📄 EXAM PROFESSIONAL DATA ENGINEER TOPIC 1 QUESTION 197 DISCUSSION

Actual exam question from Google's Professional Data Engineer

Question #: 197

Topic #: 1

[\[All Professional Data Engineer Questions\]](#)

You are designing a system that requires an ACID-compliant database. You must ensure that the system requires minimal human intervention in case of a failure.

What should you do?

- A. Configure a Cloud SQL for MySQL instance with point-in-time recovery enabled.
- B. Configure a Cloud SQL for PostgreSQL instance with high availability enabled.
- C. Configure a Bigtable instance with more than one cluster.
- D. Configure a BigQuery table with a multi-region configuration.

Show Suggested Answer

by **ducc** at Sept. 3, 2022, 3:57 a.m.

Comments

Type your comment...

Submit

🗨️ **NicolasN** Highly Voted 2 years, 5 months ago

Selected Answer: B

We exclude [C] as non ACID and [D] for being invalid (location is configured on Dataset level, not Table). Then, let's focus on "minimal human intervention in case of a failure" requirement in order to eliminate one answer among [A] and [B].

Basically, we have to compare point-in-time recovery with high availability. It doesn't matter whether it's about MySQL or PostgreSQL since both databases support those features.

- Point-in-time recovery logs are created automatically, but restoring an instance in case of failure requires manual steps (described here: <https://cloud.google.com/sql/docs/mysql/backup-recovery/pitr#perform-pitr>)
- High availability, in case of failure requires no human intervention: "If an HA-configured instance becomes unresponsive, Cloud SQL automatically switches to serving data from the standby instance." (from <https://cloud.google.com/sql/docs/postgres/high-availability#failover-overview>)

So answer [B] wins.

   upvoted 43 times

  **squishy_fishy** 1 year, 6 months ago

Will you change your answer if the answer D says dataset instead of table?

   upvoted 2 times

  **Mcloudgirl** 2 years, 5 months ago

Your explanation is perfect, thanks

   upvoted 2 times

  **edre** Most Recent 9 months, 3 weeks ago

Selected Answer: B

Its B because of HA

cant be A because point in time recovery still requires human intervention

   upvoted 1 times

  **MaxNRG** 1 year, 4 months ago

Selected Answer: B

The best option to meet the ACID compliance and minimal human intervention requirements is to configure a Cloud SQL for PostgreSQL instance with high availability enabled.

Key reasons:

Cloud SQL for PostgreSQL provides full ACID compliance, unlike Bigtable which provides only atomicity and consistency guarantees.

Enabling high availability removes the need for manual failover as Cloud SQL will automatically failover to a standby replica if the leader instance goes down.

Point-in-time recovery in MySQL requires manual intervention to restore data if needed.

BigQuery does not provide transactional guarantees required for an ACID database.

Therefore, a Cloud SQL for PostgreSQL instance with high availability meets the ACID and minimal intervention requirements best. The automatic failover will ensure availability and uptime without administrative effort.

   upvoted 2 times




  **[Removed]** 1 year, 8 months ago

Selected Answer: D

I vote for D - BigQuery with multi region configuration.

According to <https://cloud.google.com/bigquery/docs/introduction>, BigQuery support ACID and automatically replicated for high availability.

""BigQuery stores data using a columnar storage format that is optimized for analytical queries. BigQuery presents data in tables, rows, and columns and provides full support for database transaction semantics (ACID). BigQuery storage is automatically replicated across multiple locations to provide high availability.""

   upvoted 2 times

  **vamgcp** 1 year, 9 months ago

Selected Answer: B

Option B

   upvoted 1 times




  **musumusu** 2 years, 2 months ago

Answer B,

ACID -compliant database are Spanner and CloudSQL

Option A could be the answer if they setup a secondary or failure replicas and auto maintenance window that could trigger in non business hours.

Option B, does not explain about extra replica but in postgresql Highavailability option means the same extra replicas instances are available for emergency.

   upvoted 2 times

  **AzureDP900** 2 years, 4 months ago

B. Configure a Cloud SQL for PostgreSQL instance with high availability enabled.

   upvoted 1 times

👍 🔄 🚩 upvoted 1 times

🗨️ 👤 **zellck** 2 years, 5 months ago

Selected Answer: B

B is the answer.

<https://cloud.google.com/sql/docs/postgres/high-availability#HA-configuration>

The purpose of an HA configuration is to reduce downtime when a zone or instance becomes unavailable. This might happen during a zonal outage, or when an instance runs out of memory. With HA, your data continues to be available to client applications.

👍 🔄 🚩 upvoted 3 times

🗨️ 👤 **samirzubair** 2 years, 5 months ago

I voted for B

👍 🔄 🚩 upvoted 1 times

🗨️ 👤 **John_Pongthorn** 2 years, 7 months ago

Selected Answer: B

B it is exact anwer.

👍 🔄 🚩 upvoted 1 times

🗨️ 👤 **TNT87** 2 years, 7 months ago

Selected Answer: B

Ans B

Postgres is highly ACID compliant as compared to Mysql

👍 🔄 🚩 upvoted 2 times

🗨️ 👤 **Remi2021** 2 years, 7 months ago

Selected Answer: B

cloud sql with high availability enabled is enough

👍 🔄 🚩 upvoted 2 times

🗨️ 👤 **AWSandeep** 2 years, 8 months ago

Selected Answer: B

B. Configure a Cloud SQL for PostgreSQL instance with high availability enabled.

👍 🔄 🚩 upvoted 1 times

🗨️ 👤 **ducc** 2 years, 8 months ago

Selected Answer: B

I voted for B

👍 🔄 🚩 upvoted 1 times



Platform

> Home

> Examtopics PRO

> All Exams

> Training Courses



