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EXAM PROFESSIONAL DATA ENGINEER TOPIC 1 QUESTION 159 DISCUSSION

Actual exam question from Google's Professional Data Engineer

Question #: 159

Topic #: 1

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You need to choose a database for a new project that has the following requirements:

- ⇒ Fully managed
- ⇒ Able to automatically scale up
- ⇒ Transactionally consistent
- ⇒ Able to scale up to 6 TB
- ⇒ Able to be queried using SQL

Which database do you choose?

- A. Cloud SQL
- B. Cloud Bigtable
- C. Cloud Spanner
- D. Cloud Datastore

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by [deleted] at *March 22, 2020, 7:42 a.m.*

Comments

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- [Removed]** Highly Voted 5 years, 1 month ago

Correct: A
It asks for scaling up which can be done in cloud sql, horizontal scaling is not possible in cloud sql
Automatic storage increase
If you enable this setting, Cloud SQL checks your available storage every 30 seconds. If the available storage falls below a threshold size, Cloud SQL automatically adds additional storage capacity. If the available storage repeatedly falls below the threshold size, Cloud SQL continues to add storage until it reaches the maximum of 30 TB.

upvoted 35 times
- google_learner123** 4 years, 8 months ago

C - CloudSQL does not scale automatically.

upvoted 10 times
- zxing233** 4 years, 7 months ago

Cloud SQL can automatically scale up storage capacity when you are near your limit

upvoted 5 times
- dmzr** 2 years, 6 months ago

it does not say about type of scaling, Cloud SQL scale up automatically with storage, that should works

upvoted 4 times
- Rajuuu** 4 years, 10 months ago

C:- Cloud SQL is not fully managed as that is one of the requirement.

upvoted 7 times
- dem2021** 3 years, 11 months ago

Have you really worked on GCP?

upvoted 16 times
- zxing233** 4 years, 7 months ago

<https://cloud.google.com/sql> it is fully managed

upvoted 2 times
- Gcpyspark** 4 years, 4 months ago

Google documentation says "Cloud SQL is a fully-managed database service that helps you set up, maintain, manage, and administer your relational databases on Google Cloud Platform."

upvoted 8 times

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- AzureDP900** 2 years, 4 months ago

A. Cloud SQL There is no need of Spanner

upvoted 1 times
- [Removed]** Highly Voted 5 years, 1 month ago

Should be C.

upvoted 14 times
- [Removed]** 5 years, 1 month ago

May be A

upvoted 8 times
- MBNR** Most Recent 2 months, 1 week ago

Selected Answer: C

Cloud SQL
Cloud SQL can store up to 30 TB of data.
It offers limited scalability as per the lesser load.
You can easily work with MySQL code in Cloud SQL.
Cloud SQL is a cost-effective service.

Cloud Spanner:
Cloud Spanner is used to store more than 30 TB of data.
It provides better scalability and SLOs.
Cloud Spanner is an expensive service.
It provides strong transactional consistency.
It is built on Google Cloud's dedicated network that ensures low latency, security, and reliability.

upvoted 1 times

🗋️ 👤 **Siahara** 2 months, 4 weeks ago

Selected Answer: C

C. Cloud Spanner and an explanation of the other options:

Why Cloud Spanner is the best fit:

Fully managed service: Cloud Spanner is fully managed by Google, simplifying database administration.

Automatic scaling It handles scaling seamlessly, both horizontally and vertically.

Transactional consistency: Cloud Spanner is known for its strong transactional consistency, including globally distributed transactions.

Scalable up to 6 TB (and beyond): It easily accommodates your 6 TB requirement and can scale much larger if needed.

SQL Support: Cloud Spanner offers a familiar SQL interface.

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🗋️ 👤 **b3e59c2** 4 months ago

Selected Answer: C

Although the type of automatic scaling isn't specified, Cloud SQL does not allow for outright dynamic capacity auto scaling, so I believe the answer would be C

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🗋️ 👤 **Rav761** 4 months, 1 week ago

Selected Answer: C

C. Cloud Spanner

Here's why:

Fully Managed: Cloud Spanner is a fully managed database service provided by Google Cloud.

Automatic Scaling: It automatically scales horizontally to handle increased workloads and data volumes.

Transactional Consistency: Cloud Spanner provides strong transactional consistency with support for ACID transactions.

Scalability: It can easily scale up to and beyond 6 TB while maintaining performance and consistency.

SQL Queries: Cloud Spanner supports SQL queries, making it compatible with existing SQL-based analytics and applications.

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🗋️ 👤 **SamuelTsch** 6 months, 1 week ago

Selected Answer: C

I would go to C.

👍 🔄 🚩 upvoted 3 times

🗋️ 👤 **baimus** 7 months ago

Selected Answer: C

All the arguments below can essentially be boiled down to two questions. 1) is Cloud SQL fully managed? (yes), 2) Does it autoscale? It depends, is the answer. The question is horrifyingly worded, as it comes down to an ambiguity coinflip. I'm going with C, it feels like it's a better fit.

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🗋️ 👤 **JamesKarianis** 8 months, 4 weeks ago

Selected Answer: A

Did not refer to global, thus not spanner. A is correct

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🗋️ 👤 **Anudeep58** 9 months, 3 weeks ago

Selected Answer: C

Transactional consistency: spanner provides strong consistency across rows, regions, and continents.

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🗋️ 👤 **mothkuri** 1 year, 2 months ago

Answer : A

Cloud SQL and Cloud Spanner are the options for the questions. But here as per requirement they don't need horizontal scaling, they want manager SQL instance and it should support 6 TB of storage. Cloud SQL can support up to 64 TB of storage

<https://cloud.google.com/sql/docs/quotas#:~:text=Cloud%20SQL%20storage%20limits,core%3A%20Up%20to%203%20TB.>

👍 🔄 🚩 upvoted 1 times

🗋️ 👤 **cuadradobertolinisebastiancami** 1 year, 2 months ago

Selected Answer: A

Not horizontal scaling is required. cloud SQL will work for 10 TB

Not horizontal scaling is required, cloud SQL will work for 10 TB

👍 ↩ 🚩 upvoted 2 times

🗨️ 👤 **williamvinct** 1 year, 2 months ago

i will go with A, since the question doesnt specifically say it should be scaling horizontally

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🗨️ 👤 **arturido** 1 year, 5 months ago

Selected Answer: A

"Able to scale up to 6 TB" -seems to be the key

it looks like autoscaling is related to storage - possible in case of Cloud SQL

👍 ↩ 🚩 upvoted 2 times

🗨️ 👤 **LaxmanTiwari** 1 year, 4 months ago

no way , u can automaticly scale the Cloud SQL , please read the documents of Cloud SQL, Spanner is the solution .

👍 ↩ 🚩 upvoted 1 times

🗨️ 👤 **tibuenoc** 1 year, 5 months ago

Selected Answer: C

Spanner is consistent and fully-managed

<https://cloud.google.com/spanner/docs/transactions?hl=en>

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🗨️ 👤 **DataFrame** 1 year, 5 months ago

Selected Answer: A

A seems to be correct because of the scaling factor of 6 TB because cloud sql easily supports up to 40 TB and obviously there is a limitation of GLOBALLY MULTI REGIONAL which is nothing to do with question. Hence A seems more closer.

👍 ↩ 🚩 upvoted 2 times

🗨️ 👤 **Nirca** 1 year, 6 months ago

Selected Answer: C

Guys - this is 1000% C. ".....automatically scale up" Cloud SQL needs restart! this is not the solution. Only Spanner (and BQ) are true automatically scale up

👍 ↩ 🚩 upvoted 2 times

🗨️ 👤 **Zepopo** 1 year, 5 months ago

What problem in restart? There are no any constraints about this, but there directly writes: "Fully managed"

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