You are developing a new application on a VM that is on your corporate network. The application will use Java Database Connectivity (JDBC) to connect to Cloud SQL for PostgreSQL. Your Cloud SQL instance is configured with IP address 192.168.3.48, and SSL is disabled. You want to ensure that your application can access your database instance without requiring configuration changes to your database. What should you do?

A. Define a connection string using your Google username and password to point to the external (public) IP address of your Cloud SQL instance.

B. Define a connection string using a database username and password to point to the internal (private) IP address of your Cloud SQL instance.

C. Define a connection string using Cloud SQL Auth proxy configured with a service account to point to the internal (private) IP address of your Cloud SQL instance.

D. Define a connection string using Cloud SQL Auth proxy configured with a service account to point to the external (public) IP address of your Cloud SQL instance.

Correct Answer: C

Community vote distribution

C (88%) 13%

robofeb Highly Voted 4 months, 4 weeks ago

I cleared the exam and PASSED by reviewing all the 292 exam topics questions on sep16, 2023. All the questions came from here including 2 case studies itexamslab.com

upvoted 25 times

Hilab Highly Voted 1 year, 2 months ago

Option B is the best choice.

By using the internal (private) IP address of the Cloud SQL instance, the traffic will stay within the corporate network and will not traverse the publi internet. This will help to ensure that the traffic is secure and cannot be intercepted by unauthorized parties. Additionally, using the internal IP address does not require any additional configuration changes to the database instance.

Option A is not recommended as it requires exposing the database instance's external (public) IP address, which can be less secure and may require additional firewall rules.

Option C is a valid option if SSL is enabled on the Cloud SQL instance, but since SSL is disabled in this scenario, this option is not suitable.

Option D is not recommended as it requires exposing the database instance's external (public) IP address, which can be less secure and may require additional firewall rules. upvoted 7 times

BenMS 1 year, 1 month ago

The Cloud SQL Proxy wraps your connection in an SSL/TLS layer, resolving the concern about compatibility:

https://cloud.google.com/sql/docs/postgres/connect-auth-proxy

upvoted 1 times

mennahibi 5 months, 2 weeks ago

B can be the correct answer, bt the most secure and best solution is C, because the Auth Proxy will enable ssl for you without enabling it on the Cloud SQL instance. upvoted 1 times

Witcher_PL Most Recent 6 months ago

Selected Answer: C

C is the valid

upvoted 2 times

goodsport 7 months, 2 weeks ago

Vote for C

upvoted 2 times

[Removed] 7 months, 2 weeks ago

seems valid

upvoted 1 times

CloudKida 10 months, 1 week ago

Selected Answer: C

The Cloud SQL connectors are libraries that provide encryption and IAM-based authorization when connecting to a Cloud SQL instance. They can't provide a network path to a Cloud SQL instance if one is not already present.

Other ways to connect to a Cloud SQL instance include using a database client or the Cloud SQL Auth proxy. https://cloud.google.com/sql/docs/postgres/connect-connectors

https://github.com/GoogleCloudPlatform/cloud-sql-jdbc-socket-factory/blob/main/docs/jdbc-postgres.md

upvoted 4 times

dynamic_dba 1 year, 2 months ago

C.

The IP address given is a private IP address and not routable via the internet. Therefore any answer which references a public IP is wrong by definition (A, D). That leaves B and C. B cannot be correct because the app is on a corporate network and thus not on a Google VPC network. Good security practices dictate using Cloud SQL Auth Proxy and a service account which access the Cloud SQL instance via its private IP address. upvoted 5 times

Nirca 1 year, 2 months ago

Selected Answer: C

Service account is a must. upvoted

1 times

__pacman__ 1 year, 2 months ago

Vote for C

upvoted 2 times

ssaporylo 1 year, 3 months ago

Vote for C

upvoted 4 times

chelbsik 1 year, 4 months ago

Selected Answer: C

Vote for C

upvoted 3 times

pk349 1 year, 4 months ago

C: Define a connection string using Cloud SQL Auth proxy *** configured with a service account to point to the internal (private) IP address of your Cloud SQL instance.

upvoted 3 times

pk349 1 year, 4 months ago

Selected Answer: D

Database Migration Service

Simplify migrations to the cloud. Available now for MySQL and PostgreSQL, with SQL Server and Oracle migrations in preview. • Migrate to Cloud SQL and AlloyDB for PostgreSQL from on-premises, Google Cloud, or other clouds

• Replicate data continuously for minimal downtime migrations

• Serverless and easy to set up

upvoted 2 times

GCP72 1 year, 4 months ago

Selected Answer: C

C is the correct answer

upvoted 2 times

Kloudgeek 1 year, 4 months ago

C is correct answer. First of all SSL is disabled and it is not secure to get it exposed to Internet.

https://cloud.google.com/sql/docs/postgres/connect-overview#authentication_options

upvoted 4 times

juancambb 1 year, 4 months ago

Selected Answer: C

C is correct, must be private ip because the ip starts with 192... and cloud sql require a proxy to connect because exist on a tenant project upvoted 2 times

Question #2 Topic 1

Your digital-native business runs its database workloads on Cloud SQL. Your website must be globally accessible 24/7. You need to prepare your Cloud SQL instance for high availability (HA). You want to follow Google-recommended practices. What should you do? (Choose two.)

A. Set up manual backups.

B. Create a PostgreSQL database on-premises as the HA option.

C. Configure single zone availability for automated backups.

D. Enable point-in-time recovery.

E. Schedule automated backups.

Correct Answer: BD

Community vote distribution

DE (100%)

dynamic_dba Highly Voted 1 year, 2 months ago

D,E.

A is wrong because why bother configuring manual backups when Cloud SQL will automate that for you.

B seems attractive, but why bother replicating back to on-prem when you can configure a Cloud SQL for HA.

C is wrong because a single zone failure would not give you HA.

That leaves D & E.

upvoted 5 times

rapila Highly Voted 3 months, 2 weeks ago

Vote for D, E.

https://shorturl.at/vzM06

upvoted 5 times

goodsport Most Recent 7 months, 2 weeks

ago Vote for D, E. upvoted 1 times

studyingveryhard 10 months, 2 weeks ago

Correct explanations can be found here
https://examlab.co/google/google-cloud-professional-database-engineer

upvoted 1 times

Nirca 1 year, 2 months ago

Selected Answer: DE

Only valid options.

upvoted 2 times

chelbsik 1 year, 4 months ago

Selected Answer: DE

Vote for DE, seems only reasonable options to me

upvoted 3 times

omermahgoub 1 year, 4 months ago

To prepare your Cloud SQL instance for high availability, you should do the following:

D. Enable point-in-time recovery - This feature allows you to restore your database to a specific point in time. It helps protect against data loss and can be used in the event of data corruption or accidental data deletion.

E. Schedule automated backups - Automated backups allow you to take regular backups of your database without manual intervention. You can use these backups to restore your database in the event of data loss or corruption.

Note that options A and C are not recommended practices for high availability. Option B is not related to Cloud SQL. upvoted 2 times

GCP72 1 year, 4 months ago

Selected Answer: DE

D,E is the correct answer

upvoted 2 times

range9005 1 year, 4 months ago

Selected Answer: DE

Enable point-in-time recovery.

Schedule automated backups. upvoted

2 times

H_S 1 year, 4 months ago

Selected Answer: DE

D. Enable point-in-time recovery.

E. Schedule automated backups

upvoted 1 times

omermahgoub 1 year, 4 months ago

D. Enable point-in-time recovery.

E. Schedule automated backups.

To prepare your Cloud SQL instance for high availability, Google recommends enabling point-in-time recovery and scheduling automated backups Point-in-time recovery allows you to restore your database to a specific point in time, helping you to recover from data loss or corruption.

Scheduling automated backups ensures that you have a recent copy of your database available for recovery in case of an outage or other issue. upvoted 2 times

omermahgoub 1 year, 4 months ago

Option A, setting up manual backups, would not be a recommended practice because manual backups are prone to errors and can be time consuming to create and maintain. Automated backups are a more reliable and efficient way to ensure that you have a recent copy of your database available for recovery.

Option B, creating a PostgreSQL database on-premises as the HA option, would not be a recommended practice because it would not take advantage of the high availability features provided by Cloud SQL.

Option C, configuring single zone availability for automated backups, would not be a recommended practice because it would not provide sufficient protection against outages or other issues. To ensure high availability, it is recommended to use a multi-zone configuration for your Cloud SQL instance. upvoted 1 times

Popa 1 year, 4 months ago

Selected Answer: DE https://cloud.google.com/sql/docs/mysql/high-availability#backups-and-restores

upvoted 2 times

Popa 1 year, 4 months ago

Answer is D and E.
https://cloud.google.com/sql/docs/mysql/high-availability#backups-and-restores

upvoted 1 times

range9005 1 year, 4 months ago

Selected Answer: DE

Automated backups and point-in-time recovery must be enabled for high availability (point-in-time recovery uses binary logs). For more information check here -> https://cloud.google.com/sql/docs/mysql/high-availability#backups-and-restores upvoted 2 times

Question #3 Topic 1

Your company wants to move to Google Cloud. Your current data center is closing in six months. You are running a large, highly transactional Oracle application footprint on VMWare. You need to design a solution with minimal disruption to the current architecture and provide ease of migration to Google Cloud. What should you do?

A. Migrate applications and Oracle databases to Google Cloud VMware Engine (VMware Engine).

B. Migrate applications and Oracle databases to Compute Engine.

C. Migrate applications to Cloud SQL.

D. Migrate applications and Oracle databases to Google Kubernetes Engine (GKE).

Correct Answer: A

Community vote distribution

A (100%)

rapila Highly Voted 3 months, 2 weeks ago

Selected Answer: A

Correct andswer is A.

https://shorturl.at/vzM06

upvoted 6 times

goodsport Most Recent 7 months, 2 weeks ago

Selected Answer: A

Lift , shift. Correct andswer is A. upvoted

2 times

studyingveryhard 10 months, 2 weeks ago

correct ans is here
https://examlab.co/google/google-cloud-professional-database-engineer

upvoted 1 times

Nirca 1 year, 2 months ago

Selected Answer: A

Classic lift and lift. Everything keeps the same structure. Therefore minimizing impact to zero. upvoted 2 times

dynamic_dba 1 year, 2 months ago

A.

The key here is the current architecture and minimal disruption to it. The simplest way to keep the current architecture is a live migrate using VMware. That can only mean one thing, use Oracle running in GCVE.

You could do B. There's nothing stopping you creating a VM in GCE, copying the Oracle binaries to it and spinning up an Oracle database or several. However, the licensing costs would not be attractive (if even supported), plus the migration would likely be disruptive. C is wrong because Cloud SQL doesn't support Oracle. D is wrong because that represents an architecture change. upvoted 3 times

chelbsik 1 year, 4 months ago

Selected Answer: A

Since there is no Bare Metal for Oracle option and VMware mentioned -> Choose

VMware

upvoted 3 times

Popa 1 year, 4 months ago

Selected Answer: A

Here is the explanation:

https://cloud.google.com/blog/products/databases/migrate-databases-to-google-cloud-vmware-engine-gcve upvoted 2 times

range9005 1 year, 4 months ago

Selected Answer: A

A GCVE VMware environment runs natively on Google Cloud bare metal infrastructure in some Google Cloud locations, and the GCVE service includes all the features required to help consume the VMware platforms efficiently and securely

.

https://cloud.google.com/blog/products/databases/migrate-databases-to-google-cloud-vmware-engine-gcve

upvoted 1 times

fredcaram 1 year, 4 months ago

Oracle databases can only be migrated to bare metal solutions

upvoted1times

GCP721year,4monthsago

Yes .GCPrecommendedto use BareMetal solutionforOraclebut option ismissing

inanswers

upvoted1times

Question #4 Topic 1

Your customer has a global chat application that uses a multi-regional Cloud Spanner instance. The application has recently experienced degraded performance after a new version of the application was launched. Your customer asked you for assistance. During initial troubleshooting, you observed high read latency. What should you do?

A. Use query parameters to speed up frequently executed queries.

B. Change the Cloud Spanner configuration from multi-region to single region.

C. Use SQL statements to analyze SPANNER_SYS.READ_STATS* tables.

D. Use SQL statements to analyze SPANNER_SYS.QUERY_STATS* tables.

Correct Answer: B

Community vote distribution

C (100%)

jnya_1991 4 months, 3 weeks ago

Selected Answer: C

Read statistics provide insight into how an application is using the database, and are useful when investigating performance issues.

https://cloud.google.com/spanner/docs/introspection/read-statistics

upvoted 3 times

theseawillclaim 7 months, 1 week ago

C! You should analyze the situation before changing the architecture so drastically.

upvoted 2 times

kpkakadiya 7 months, 2 weeks ago

Selected Answer: C

C is the correct answer

upvoted 2 times

goodsport 7 months, 2 weeks ago

C is definitely the correct answer here. SPANNER_SYS.READ_STATS* contains statistics about reads. upvoted 1 times

RahulHanumante 9 months ago

C is the correct answer

upvoted 1 times

jamalkhan 10 months, 2 weeks ago

Selected Answer: C

C. Read stats

upvoted 2 times

dynamic_dba 1 year, 1 month ago

C.

A Query parameters is vague at best. B would not achieve anything. C and D look interesting, but as others have stated, querying the READ_STATS* tables would give you information about what is causing read issues. So C is the best answer.
upvoted 2 times

H_S 1 year, 1 month ago

Selected Answer: C

C. Use SQL statements to analyze SPANNER_SYS.READ_STATS* tables

upvoted 3 times

H_S 1 year, 1 month ago

Selected Answer: C

C. Use SQL statements to analyze SPANNER_SYS.READ_STATS* tables

upvoted 2 times

omermahgoub 1 year, 4 months ago

C. Use SQL statements to analyze SPANNER_SYS.READ_STATS* tables.

To troubleshoot high read latency, you can use SQL statements to analyze the SPANNER_SYS.READ_STATS* tables. These tables contain statistics about read operations in Cloud Spanner, including the number of reads, read latency, and the number of read errors. By analyzing these tables, yo can identify the cause of the high read latency and take appropriate action to resolve the issue. Other options, such as

using query parameters to speed up frequently executed queries or changing the Cloud Spanner configuration from multi-region to single region, may not be directly related to the issue of high read latency.

Similarly, analyzing the SPANNER_SYS.QUERY_STATS* tables, which contain statistics about query operations, may not be relevant to the issue of high read latency.

upvoted 4 times

pk349 1 year, 4 months ago

C: Use SQL statements to analyze ***** SPANNER_SYS.READ_STATS* tables.

upvoted 3 times

GCP72 1 year, 4 months ago

Selected Answer: C

C is the correct answer

upvoted 4 times

yylbgevkujgphocvyh 1 year, 4 months ago

B - Is correct

upvoted 1 times

range9005 1 year, 4 months ago

Selected Answer: C

Read statistics provide insight into how an application is using the database, and are useful when investigating performance issues .

https://cloud.google.com/spanner/docs/introspection/read-statistics#when_to_use_read_statistics

upvoted 2 times

Question #5 Topic 1

Your company has PostgreSQL databases on-premises and on Amazon Web Services (AWS). You are planning multiple database migrations to Cloud SQL in an effort to reduce costs and downtime. You want to follow Google-recommended practices and use Google native data migration tools. You also want to closely monitor the migrations as part of the cutover strategy. What should you do?

A. Use Database Migration Service to migrate all databases to Cloud SQL.

B. Use Database Migration Service for one-time migrations, and use third-party or partner tools for change data capture (CDC) style migrations.

C. Use data replication tools and CDC tools to enable migration.

D. Use a combination of Database Migration Service and partner tools to support the data migration strategy.

Correct Answer: B

Community vote distribution

A (96%) 4%

Killerbee05 1 month, 2 weeks ago

Selected Answer: A

A is a correct answer

upvoted 1 times

whoosh 4 months, 1 week ago

Selected Answer: A

https://cloud.google.com/database-migration/docs/overview

upvoted 2 times

jnya_1991 4 months, 3 weeks ago

Selected Answer: A https://cloud.google.com/database-migration/docs/overview

upvoted 2 times

goodsport 7 months, 2 weeks ago

Selected Answer: A

A is the correct answer here.

upvoted 3 times

somnathmaddi 1 year ago

Selected Answer: A

The question says to use Google native data migration tools

upvoted 3 times

nmnm22 1 month ago

good point, thank you for pointing it out

upvoted 1 times

cloudkoala 1 year, 1 month ago

Selected Answer: A

DMS will do the CDC too. upvoted

3 times

dynamic_dba 1 year, 1 month ago

A.

The question says to use Google native data migration tools. That eliminates B and D. C doesn't specify the data replication tool in question so it's a reasonable assumption its referring to database native replication which wouldn't be a Google native solution. That eliminates C. That leave A. upvoted 3 times

Nirca 1 year, 2 months ago

Selected Answer: A

DMS will do the job. For the init time and the CDC phase

upvoted 1 times

Hilab 1 year, 2 months ago

Option A is the most straightforward and recommended solution for migrating PostgreSQL databases to Cloud SQL while following Google recommended practices and using native data migration tools. upvoted 1 times realvarez 1 year, 3 months ago

Selected Answer: A A

https://cloud.google.com/blog/products/databases/tips-for-migrating-across-compatibledatabase-engines

upvoted 1 times

chelbsik 1 year, 4 months ago

Selected Answer: A

A is enough

upvoted 4 times

pk349 1 year, 4 months ago

A: Use Database Migration Service to migrate all databases to Cloud SQL.

upvoted 1 times

GCP72 1 year, 4 months ago

Selected Answer: C

C is the correct answer, we can use GCP migration tool for onetime or CDC

upvoted 1 times

GCP72 1 year, 3 months ago

My bad ,A is correct answer

upvoted 2 times

H_S 1 year, 4 months ago

Selected Answer: A

A for live magrations

upvoted 1 times

range9005 1 year, 4 months ago

Selected Answer: A

Migrate to Cloud SQL and AlloyDB for PostgreSQL from on-premises, Google Cloud, or other clouds

upvoted 2 times

Question #6 Topic 1

You are setting up a Bare Metal Solution environment. You need to update the operating system to the latest version. You need to connect the Bare Metal Solution environment to the internet so you

can receive software updates. What should you do?

A. Setup a static external IP address in your VPC network.

B. Set up bring your own IP (BYOIP) in your VPC.

C. Set up a Cloud NAT gateway on the Compute Engine VM.

D. Set up Cloud NAT service.

Correct Answer: C

Community vote distribution

C (71%) D (29%)

Pime13 3 days, 19 hours ago

Selected Answer: C https://cloud.google.com/bare-metal/docs/bms-setup#bms-access-options

Note: Cloud NAT feature doesn't support transitive endpoints thus it can not be used standalone to provide the internet access to the BMS server. Compute Engine VM must be used along with Cloud NAT. upvoted 1 times

omermahgoub 1 week, 3 days ago

Selected Answer: C

https://medium.com/google-cloud/egressing-from-google-bare-metal-solution aa459389436c#:~:text=Google%20Cloud%20Bare%20Metal%20Solution,are%20as%20secure%20as%20possible. upvoted 1 times

Jason_Cloud_at 2 months, 2 weeks ago

Selected Answer: D

Knows the difference between Cloud NAT Services and Cloud NAT Gateway,

Cloud NAT services - lets your VMs and container pods create outbound connections to the internet or to other Virtual Private Cloud (VPC) networks.

Cloud NAT Gateway - Cloud NAT uses NAT gateway to manage the connections.

Also, Cloud NAT gateway is region and VPC network specific, we can use cloud NAT mapping to a VM instance , not the gateway itself.
upvoted 1 times

Jason_Cloud_at 2 months, 1 week ago

Looks like we can map NAT gateway on GCE, will change to C.

upvoted 1 times

PKookNN 3 months ago

Selected Answer: C

https://cloud.google.com/bare-metal/docs/bms-setup?hl=en#bms-access-internet-vm-nat

offers 3 options all of them involve Compute Engine VM and CloudNAT. so C

upvoted 1 times

whoosh 4 months, 1 week ago

Selected Answer: C

C - The following instructions set up a NAT gateway on a Compute Engine VM to connect the servers in a Bare Metal Solution environment to the internet for purposes such as receiving software updates

upvoted 1 times

ArtistS 4 months, 3 weeks ago

C - The following instructions set up a NAT gateway on a Compute Engine VM to connect the servers in a Bare Metal Solution environment to the internet for purposes such as receiving software updates

upvoted 1 times

juliorevk 7 months, 1 week ago

Selected Answer: C

C - https://cloud.google.com/bare-metal/docs/bms-setup?hl=en#bms-access-internet-vm-na
t

The docs specifically says "Setting up a NAT gateway on a Compute Engine VM" is the way to give BMS internet access. upvoted 3 times

goodsport 7 months, 2 weeks ago

Selected Answer: C

Voting for C.

upvoted 1 times

learnazureportal 7 months, 3 weeks ago

Correct answer is D. Option C (setting up a Cloud NAT gateway on a Compute Engine VM) is not a recommended approach for providing internet access to your Bare Metal Solution environment

upvoted 2 times

omermahgoub 9 months ago

Selected Answer: D

D:

Cloud NAT is a network address translation (NAT) service that allows you to connect your Bare Metal Solution environment to the internet without having to assign a public IP address to each machine. This is the best option for you because it is the most secure and easiest way to connect your Bare Metal Solution environment to the internet.

https://cloud.google.com/bare-metal/docs/bms-setup#bms-access-options

upvoted 1 times

JustANick 8 months, 4 weeks ago

In this link, there is no mention to Cloud NAT

upvoted 1 times

GoReplyGCPExam 9 months ago

Selected Answer: C

The BMS environment traffic originates outside the VPC, so Cloud NAT can not work. C is the correct one

upvoted 1 times

JustANick 9 months ago

Selected Answer: C https://cloud.google.com/bare-metal/docs/bms-setup?hl=en#bms-access-options It can't be D. This doc mentions NAT gateway, not Cloud NAT. upvoted 4 times

nescafe7 9 months, 1 week ago

Selected Answer: D

I agree D is the simplest option. upvoted

1 times

BenMS 1 year, 1 month ago

Selected Answer: D https://cloud.google.com/bare-metal/docs/bms-setup#bms-access-internet

The BMS documentation mentions the Cloud NAT service as an option but the provided example involves manually deploying a NAT gateway on a GCE machine, without explaining why you would need this option as opposed to the managed NAT service. However there are no limitations mentioned, so I take it both options are valid.

In this question, there is no mention of an existing GCE machine, therefore a managed NAT service is the simplest option, which avoids additional infrastructure - hence D is my choice. upvoted 2 times

Nirca 1 year, 1 month ago

Selected Answer: D

https://cloud.google.com/bare-metal/docs/bms-setup#bms-access-internet

D is the simplest option

upvoted 2 times

dynamic_dba 1 year, 2 months ago

C.

A could directly expose your BMS solution to the internet. Not good. B doesn't make sense. D (setup Cloud NAT service) is incorrect. Cloud NAT is intended for GCE VMs which do not have an external (public) IP to connect to the internet. Since this is a BMS solution, it's not a GCE VM by definition, so D cannot be correct. That leaves C. Using a GCE VM configured with Cloud NAT is the way to solve this. The BMS server talks to the GCE VM via private IP and the GCE VM talks to the internet on the BMS server's behalf. The link provided by range9005 is spot on. upvoted 2 times

pk349 1 year, 4 months ago

C: Set up a Cloud NAT *** gateway on the Compute Engine VM.

upvoted 2 times

Question #7 Topic 1

Your organization is running a MySQL workload in Cloud SQL. Suddenly you see a degradation in database performance. You need to identify the root cause of the performance degradation. What should you do?

A. Use Logs Explorer to analyze log data.

B. Use Cloud Monitoring to monitor CPU, memory, and storage utilization metrics.

C. Use Error Reporting to count, analyze, and aggregate the data.

D. Use Cloud Debugger to inspect the state of an application.

Correct Answer: B

Community vote distribution

B (100%)

dynamic_dba 1 year, 1 month ago

B.

No actual errors are mentioned so using Error reporting would be irrelevant. That eliminates C. Inspecting the state of an application is also irrelevant since so mention of any application changes is made. Eliminate D. That leave A and B and B is the best answer. In Cloud SQL you get

monitoring built right in (which you don't by default with GCE VMs). Cloud SQL monitoring metrics include CPU utilization, storage usage, memory usage, r/w operations and egress/ingress bytes. Has to be B. upvoted 2 times

pk349 1 year, 4 months ago

B: Use Cloud Monitoring ***** to monitor CPU, memory, and storage utilization metrics.

upvoted 2 times

GCP72 1 year, 4 months ago

Selected Answer: B

B is the correct answer

upvoted 1 times

chelbsik 1 year, 4 months ago

Selected Answer: B

If your instance stops responding to connections or performance is degraded, make sure it conforms to the Operational Guidelines https://cloud.google.com/sql/docs/mysql/diagnose

issues#:~:text=If%20your%20instance%20stops%20responding%20to%20connections%20or%20performance%20is%20degraded%2C%20make%20sure%20it%20conforms%20to%20the%20Operational%20Guidelines

And then checking resource constraints:

Storage full

CPU overloaded

Too many database tables https://cloud.google.com/sql/docs/mysql/operational-

guidelines#resource_constraints

Cloud Monitoring seems like the only way to check 2/3 of those, so for me answer is B

upvoted 2 times

H_S 1 year, 4 months ago

Selected Answer: B

B. Use Cloud Monitoring to monitor CPU, memory, and storage utilization metrics.

upvoted 1 times

jitu028 1 year, 4 months ago

Selected Answer: B

Correct Answer - B

upvoted 1 times

Question #8 Topic 1

You work for a large retail and ecommerce company that is starting to extend their business globally. Your company plans to migrate to Google Cloud. You want to use platforms that will scale easily, handle transactions with the least amount of latency, and provide a reliable customer experience. You need a storage layer for sales transactions and current inventory levels. You want to retain the same relational schema that your existing platform uses. What should you do?

A. Store your data in Firestore in a multi-region location, and place your compute resources in one of the constituent regions. B. Deploy Cloud Spanner using a multi-region instance, and place your compute resources close to the default leader region. C. Build an

in-memory cache in Memorystore, and deploy to the specific geographic regions where your application resides. D. Deploy a Bigtable instance with a cluster in one region and a replica cluster in another geographic region.

Correct Answer: B

Community vote distribution

B (100%)

juliorevk 7 months, 1 week ago

Selected Answer: B

B and Spanner as soon as it says Global and relational

upvoted 1 times

goodsport 7 months, 2 weeks ago

Selected Answer: B

B, spanner.

upvoted 1 times

somnathmaddi 1 year ago

Selected Answer: B

It's B. Spanner

upvoted 2 times

felipeschossler 1 year ago

Selected Answer: B

Global, scale easily and keeping the relation schema. It's B. Spanner. There is no other option. upvoted 1 times

dynamic_dba 1 year, 1 month ago

B.

The clues are "globally" and "relational schema". Relational rules out Firestore (A) and Bigtable (D). Cloud Spanner is both global in scale and relational, so it fits. So B. upvoted 4 times

Nirca 1 year, 2 months ago

Selected Answer: B

Spanner is the right answer

upvoted 2 times

pk349 1 year, 4 months ago

B: Deploy Cloud Spanner *** using a multi-region instance, and place your compute resources close to the default leader region. upvoted 1 times

GCP72 1 year, 4 months ago

Selected Answer: B

B is the correct answer

upvoted 1 times

chelbsik 1 year, 4 months ago

Selected Answer: B

Spanner seems to be the only option, since it's the only relational DB.
Plus "scale easily", which is another clear indication of Spanner.
upvoted 2 times

Question #9 Topic 1

You host an application in Google Cloud. The application is located in a single region and uses Cloud SQL for transactional data. Most of your users are located in the same time zone and expect the application to be available 7 days a week, from 6 AM to 10 PM. You want to ensure regular maintenance updates to your Cloud SQL instance without creating downtime for your users. What should you do?

A. Configure a maintenance window during a period when no users will be on the system. Control the order of update by setting non production instances to earlier and production instances to later.

B. Create your database with one primary node and one read replica in the region.

C. Enable maintenance notifications for users, and reschedule maintenance activities to a specific time after notifications have been

sent. D. Configure your Cloud SQL instance with high availability enabled.

Correct Answer: A

Community vote distribution

A (88%) 12%

chelbsik Highly Voted 1 year, 4 months ago

Selected Answer: A

Since we don't really need HA and we have a window that users are not need our app - A is fine, and D looks like an overkill upvoted 9 times

goodsport Most Recent 7 months, 2 weeks ago

Selected Answer: A

A is the correct answer.

upvoted 2 times

dynamic_dba 1 year, 1 month ago

A.

Google controls maintenance which could cause some downtime. Hence D would be irrelevant. C seems like a lot of work. B is also irrelevant. That leaves A as the best answer since you can choose your maintenance window to be after users will not be

using the system. The addition of the earlier and later information is fluff and is not relevant to the question. upvoted 4 times

Nirca 1 year, 2 months ago

Selected Answer: A

A is right. upvoted

1 times

ssaporylo 1 year, 3 months ago

Vote for A. Configure time slot for maintainance

HA for fail over but also has maintainance window

upvoted 4 times

pk349 1 year, 4 months ago

A: Configure a maintenance window ***** during a period when no users will be on the system. Control the order of update by setting non production instances to earlier and production instances to later. upvoted 4 times

GCP72 1 year, 4 months ago

6AM to 10PM

upvoted 1 times

GCP72 1 year, 4 months ago

Selected Answer: A

A is the correct answer because application is used between

upvoted 3 times

jitu028 1 year, 4 months ago

Selected Answer: D Correct answer - D

https://cloud.google.com/sql/docs/mysql/high-availability#HA-configuration

upvoted 2 times

Question #10 Topic 1

Your team recently released a new version of a highly consumed application to accommodate additional user traffic. Shortly after the release, you received an alert from your production monitoring team that there is consistently high replication lag between your primary instance and the read replicas of your Cloud SQL for MySQL instances. You need to resolve the replication lag. What should you do?

A. Identify and optimize slow running queries, or set parallel replication flags.

B. Stop all running queries, and re-create the replicas.

C. Edit the primary instance to upgrade to a larger disk, and increase vCPU count.

D. Edit the primary instance to add additional memory.

Correct Answer: C

Community vote distribution

A (95%) 5%

Tempingtron 1 month, 2 weeks ago

Selected Answer: A

Other options don't directly resolve the issue. B is the worst answer since it disrupts the whole read setup. upvoted 1 times

whoosh 4 months, 1 week ago

Selected Answer: A

Definitely A.

upvoted 3 times

goodsport 7 months, 2 weeks ago

Selected Answer: A

Definitely A.

upvoted 3 times

felipeschossler 1 year ago

Selected Answer: A

A. Optimize query for resolve replication lag. Docs: https://cloud.google.com/sql/docs/mysql/replication/replication lag#optimize_queries_and_schema

upvoted 3 times

BenMS 1 year, 1 month ago

Selected Answer: B

I would have thought that recreating your replicas should be a standard action as part of a major client software release - especially one that potentially makes structural changes to the DB, as implied by the description here.

Option B seems to me like the most effective solution in this scenario, as well as the simplest. upvoted 1 times

dynamic_dba 1 year, 1 month ago

A.

High replication lag is caused when the write load is too high for the replica to handle. Other causes include slow running queries on the replica, tables not having PKs thus forcing FTS, queries like DELETE…WHERE. Possible solutions are configure parallel replications, increase the size of the replica, send read traffic to the read replica, index the tables, identify and fix slow write queries, recreate the replica. To increase the throughput of

replication increase the flag slave_parallel_workers. B is possible but should not be the first option. C and D add resource but don't fix the issue. As others have said, the issue could be network related and additional traffic is mentioned in the question. A is still the best answer. upvoted 3 times

Nirca 1 year, 2 months ago

Selected Answer: A

A. But in reality, none. You need to analyze the root cause.
Network connection latency or bandwidth might be relevant too. upvoted 2 times

felipeschossler 1 year ago

It's true, none options seems to be right here because you need to analyze everything first. upvoted 1 times

ssaporylo 1 year, 3 months ago

Vote for A

upvoted 1 times

chelbsik 1 year, 4 months ago

Selected Answer: A

Vote for A

upvoted 2 times

pk349 1 year, 4 months ago

A: Identify and optimize slow running queries, or set parallel ***** replication flags.

upvoted 2 times

GCP72 1 year, 4 months ago

Selected Answer: A

A & C is correct but A is the best answer

upvoted 2 times

jitu028 1 year, 4 months ago

Selected Answer: A

correct answer - A

https://cloud.google.com/sql/docs/mysql/replication/manage

replicas#:~:text=Replication%20lag%20is%20consistently,Find%20and%20fix%20them.

upvoted 3 times

Question #11 Topic 1

Your organization operates in a highly regulated industry. Separation of concerns (SoC) and security principle of least privilege (PoLP) are critical.

The operations team consists of:

Person A is a database administrator.

Person B is an analyst who generates metric reports.

Application C is responsible for automatic backups.

You need to assign roles to team members for Cloud Spanner. Which roles should you assign?

A. roles/spanner.databaseAdmin for Person A roles/spanner.databaseReader for Person B roles/spanner.backupWriter for Application C

B. roles/spanner.databaseAdmin for Person A roles/spanner.databaseReader for Person B roles/spanner.backupAdmin for Application C

C. roles/spanner.databaseAdmin for Person A roles/spanner.databaseUser for Person B roles/spanner databaseReader for Application C

D. roles/spanner.databaseAdmin for Person A

roles/spanner.databaseUser for Person B roles/spanner.backupWriter

for Application C

Correct Answer: B

Community vote distribution

A (100%)

dynamic_dba Highly Voted 1 year, 1 month ago

A.

C is wrong because databaseUser (Person B) would allow database writes and the question says generate metric reports, which would be read access only. databaseReader (Application C) doesn't allow backups.

D is wrong because databaseUser (Person B) would allow database writes. That leaves A and B. Based upon Google's own documentation, it must be A. B would work, but backupAdmin for Application C would allow backup deletion as well as creation. backupWriter is described in the docs as "is intended to be used by scripts that automate backup creation".

https://cloud.google.com/spanner/docs/iam

upvoted 6 times

Tempingtron Most Recent 1 month, 2 weeks ago

Selected Answer: A

We need an Admin for A, A reader for B and a Writer for C. Therefore A is the correct answer. upvoted 1 times

theseawillclaim 7 months, 1 week ago

A is the one.

You don't need the backupAdmin.

upvoted 1 times

goodsport 7 months, 2 weeks ago

Selected Answer: A

Answer is A.

upvoted 2 times

cloudkoala 1 year ago

Selected Answer: A

It should be A as per the documentation.

https://cloud.google.com/spanner/docs/iam#spanner.backupWriter

upvoted 2 times

Nirca 1 year, 2 months ago

Selected Answer: A

A is the best answer

upvoted 2 times

pk349 1 year, 4 months ago

A: roles/spanner.databaseAdmin for Person A roles/spanner.databaseReader for Person B roles/spanner.backupWriter for Application C

upvoted 3 times

chelbsik 1 year, 4 months ago

Selected Answer: A

B and C are obviously wrong because application only needs backupWriter permissions.

D is wrong because roles/spanner.databaseUser contains write permissions, and we don't need that. upvoted 4 times

GCP72 1 year, 4 months ago

Selected Answer: A

A is the correct answer.

Cloud Spanner Backup Writer

This role is intended to be used by scripts that automate backup creation. A principal with this role can create backups, but cannot update or delet them. Lowest-level resource

upvoted 3 times

jitu028 1 year, 4 months ago

Selected Answer: A

Correct answer - A

upvoted 2 times

Question #12 Topic 1

You are designing an augmented reality game for iOS and Android devices. You plan to use Cloud Spanner as the primary backend database for game state storage and player authentication. You want to track in-game rewards that players unlock at every stage of the game. During the testing phase, you discovered that costs are much higher than anticipated, but the query response times are within the SLA. You want to follow Google-recommended practices. You need the database to be performant and highly available while you keep costs low. What should you do?

A. Manually scale down the number of nodes after the peak period has passed.

B. Use interleaving to co-locate parent and child rows.

C. Use the Cloud Spanner query optimizer to determine the most efficient way to execute the SQL query.

D. Use granular instance sizing in Cloud Spanner and Autoscaler.

Correct Answer: C

Community vote distribution

D (94%) 6%

dynamic_dba Highly Voted 1 year, 1 month ago

D.

A is nonsense. Using interleaved tables can help speed up queries, but the question says query response times are OK. So B is wrong. C is wrong for the same reason. That leaves D. The question is about which factors determine the cost of running

Spanner. They include region vs. multi region, compute unit (nodes or processing units), how much storage and how much backup space. From the Google docs, it says “When you creat a Cloud Spanner instance, you choose the number of compute capacity nodes or processing units to serve your data. However, if the workload of an instance changes, Cloud Spanner doesn't automatically adjust the size of the instance. This document introduces the Autoscaler tool for Cloud Spanner (Autoscaler), an open source tool that you can use as a companion tool to Cloud Spanner. This tool lets you automatically increase or reduce the number of nodes or processing units in one or more Spanner instances based on how their capacity is being used.” https://cloud.google.com/spanner/docs/autoscaling-overview

upvoted 5 times

ewelaz Most Recent 7 months, 1 week ago

Selected Answer: B

It’s D

upvoted 1 times

goodsport 7 months, 2 weeks ago

Selected Answer: D

Autoscaling is the way to go here. D.

upvoted 3 times

CloudKida 10 months, 1 week ago

Selected Answer: D

Granular instance is available in Public Preview. With this feature, you can run workloads on Spanner at as low as 1/10th the cost of regular instances,

https://cloud.google.com/blog/products/databases/get-more-out-of-spanner-with-granular-instance-sizing

upvoted 3 times

BenMS 1 year, 1 month ago

Selected Answer: D

As the others say - use autoscaling to rightsize the cluster

upvoted 3 times

pk349 1 year, 4 months ago

D: Use granular instance sizing in Cloud Spanner and Autoscaler. upvoted

4 times

GCP72 1 year, 4 months ago

Selected Answer: D

D is the correct answer, https://cloud.google.com/architecture/autoscaling-cloud-spanner

upvoted 4 times

jitu028 1 year, 4 months ago

Selected Answer: D

Correct answer - D

upvoted 2 times

Question #13 Topic 1

You recently launched a new product to the US market. You currently have two Bigtable clusters in one US region to serve all the traffic.
Your marketing team is planning an immediate expansion to APAC. You need to roll out the regional expansion while implementing high availability according to Google-recommended practices. What should you do?

A. Maintain a target of 23% CPU utilization by locating:

cluster-a in zone us-central1-a cluster-b

in zone europe-west1-d cluster-c in

zone asia-east1-b

B. Maintain a target of 23% CPU utilization by locating:

cluster-a in zone us-central1-a cluster-b

in zone us-central1-b cluster-c in zone

us-east1-a

C. Maintain a target of 35% CPU utilization by locating: cluster-a in zone us-central1-a cluster-b in zone australia-southeast1-a cluster-c in zone europe-west1-d cluster-d in zone asia-east1-b

D. Maintain a target of 35% CPU utilization by locating:

cluster-a in zone us-central1-a cluster-b

in zone us-central2-a cluster-c in zone

asia-northeast1-b cluster-d in zone

asia-east1-b

Correct Answer: D

Community vote distribution

D (100%)

dynamic_dba Highly Voted 1 year, 1 month ago

D.

The question HA for US and APAC. Any answer which mentions Europe must be wrong. That eliminates A and C. HA requires > 1 cluster, so B must be wrong, leaving D. D shows 2 clusters in US and 2 in APAC. upvoted 8 times

goodsport Most Recent 7 months, 2 weeks ago

Selected Answer: D

D seems right.

upvoted 1 times

jteru 9 months, 1 week ago

Selected Answer: D

D is correct.

upvoted 1 times

pk349 1 year, 4 months ago

D: Maintain a target of 35% CPU utilization by locating:

cluster-a in zone us-central1-a cluster-b

in zone us-central2-a cluster-c in zone

asia-northeast1-b cluster-d in zone

asia-east1-b

upvoted 2 times

chelbsik 1 year, 4 months ago

Selected Answer: D

Forgot to vote

upvoted 3 times

chelbsik 1 year, 4 months ago

Looks like D to me - it's the only one with 2 US and 2 Asia regions. Also https://cloud.google.com/bigtable/docs/replication-settings#regional failover

upvoted 3 times

GCP721year,4monthsago D isthecorrectanswer

upvoted2times

Question #14 Topic 1

Your ecommerce website captures user clickstream data to analyze customer traffic patterns in real time and support personalization features on your website. You plan to analyze this data using big data tools. You need a low-latency solution that can store 8 TB of data and can scale to millions of read and write requests per second. What should you do?

A. Write your data into Bigtable and use Dataproc and the Apache Hbase libraries for analysis.

B. Deploy a Cloud SQL environment with read replicas for improved performance. Use Datastream to export data to Cloud Storage and analyze with Dataproc and the Cloud Storage connector.

C. Use Memorystore to handle your low-latency requirements and for real-time analytics.

D. Stream your data into BigQuery and use Dataproc and the BigQuery Storage API to analyze large volumes of data.

Correct Answer: B

Community vote distribution

A (79%) D (21%)

dynamic_dba Highly Voted 1 year, 1 month ago A.

Cloud SQL could not handle the load, so B is wrong. Memorystore can scale up to 300 GB. The question mentions needing 8 TB, so C must be wrong. BigQuery could not handle the latency requirements of the question, which leaves A. Bigtable could handle the volume of writes at the speeds required.

upvoted 6 times

Highly Voted 1 year, 4 months ago

pk349

A: Write your data into Bigtable ***** and use Dataproc and the Apache Hbase libraries for analysis. upvoted 5 times

Most Recent 2 months, 1 week ago

Jason_Cloud_at

Selected Answer: A

Bigtable is ideal for clickstream and IOT use cases, also it can process high performance read and writes globally. upvoted 3 times

ToniTovar 2 months, 2 weeks ago

Selected Answer: D

This option uses BigQuery, that has a low latency and is a big data

upvoted 1 times

VG1900 5 months, 4 weeks ago

Selected Answer: D

A is not correct because Bigtable is not designed for real-time analytics. It is a good choice for storing and retrieving small amounts of data quickly but it is not as efficient for analyzing large volumes of data.

B is not correct because it cannot support Million of Read and Write

C is not correct because of storage limitation

D is correct

upvoted 4 times

goodsport 7 months, 2 weeks ago

Selected Answer: A

I would opt for A. upvoted

2 times

ArtistS 4 months, 3 weeks ago

Why opt A? It is not real-time, and the question mentions that they want to analysis, why not use bigquery, only 8 TB upvoted 1 times

learnazureportal 7 months, 2 weeks ago

The correct answer is D. Stream your data into BigQuery and use Dataproc and the BigQuery Storage API to analyze large volumes of data.. A is used for NOSQL

upvoted 2 times

CloudKida 10 months, 1 week ago

Selected Answer: A

At a high level, Bigtable is a NoSQL wide-column database. It's optimized for low latency, large numbers of reads and writes, and maintaining performance at scale.

Bigtable use cases are of a certain scale or throughput with strict latency requirements, such as IoT, AdTech, FinTech, and

so on. If high throughput and low latency at scale are not priorities for you, then another NoSQL database like Firestore might be a better fit.

upvoted 2 times Hilab 1 year, 1 month ago

B. Normalize the data model.

D. Promote high-cardinality attributes in multi-attribute primary keys.

When designing a schema for Cloud Spanner, it is important to follow best practices to avoid hotspots and ensure optimal performance. Hotspots occur when too many requests are targeted at a single node or group of nodes, causing them to become overloaded and potentially impacting performance. upvoted 1 times

Hilab 1 year, 1 month ago

Normalization is a recommended best practice in database schema design, including in Cloud Spanner. It involves breaking down large tables into smaller, more manageable tables that are linked together by relationships. This can help reduce duplication of data and improve performance by reducing the amount of data that needs to be read or written to the database.

Promoting high-cardinality attributes in multi-attribute primary keys is also recommended in Cloud Spanner schema design. High-cardinality attributes are those that have a large number of distinct values, such as product IDs or customer IDs. Including these attributes in the primary key can help distribute data more evenly across nodes, reducing the likelihood of hotspots.

Using an auto-incrementing value as the primary key or a bit-reverse sequential value as the primary key can result in hotspots, particularly if new data is being added at a high rate. These approaches can cause all new data to be inserted into a single node, leading to performance issues.

upvoted 1 times

Hilab 1 year, 1 month ago

The above answer is for Question #15, my mistake I put the comments here

upvoted 1 times

Hilab 1 year, 1 month ago

D. Stream your data into BigQuery and use Dataproc and the BigQuery Storage API to analyze large volumes of data.

BigQuery is a fully managed, serverless data warehouse that allows you to store and analyze large datasets using SQL-like queries. It is designed to handle petabyte-scale data and is optimized for fast query performance. By streaming your clickstream data into BigQuery, you can store and process large amounts of data in real-time.

Dataproc, on the other hand, is a fully-managed cloud service for running Apache Hadoop and Spark clusters. It provides a managed, easy-to-use environment for data processing, which can be used to analyze the data stored in BigQuery.

The BigQuery Storage API allows you to directly access data stored in BigQuery from external applications, including Dataproc, which enables you to run advanced analytics on large volumes of data with low latency.

This approach provides a scalable, low-latency solution for storing and analyzing large volumes of data, making it a good fit for your requirements upvoted 1 times

H_S 1 year, 1 month ago

Selected Answer: A

A. Write your data into Bigtable and use Dataproc and the Apache Hbase libraries for analysis. Most Voted

upvoted 2 times

Nirca 1 year, 2 months ago

Selected Answer: A

A looks like best option.

upvoted 2 times

GCP72 1 year, 4 months ago

Selected Answer: A

A is correct answer, C wouldn't be handled 8TB data

Scalable: Start with the lowest tier and smallest size and then grow your instance as needed. Memorystore provides automated scaling using APIs, and optimized node placement across zones for redundancy. Memorystore for Memcached can support clusters as large as 5 TB, enabling millions of QPS at very low latency

upvoted 3 times

Kloudgeek 1 year, 4 months ago

Answer is A. Click stream and time series data and the size is 8TB. Read low latency with reads and writes. Correct answer is A to use BigTable for storage and use either CBT or Hbase API to interact with data. upvoted 5 times

fredcaram 1 year, 4 months ago

Selected Answer: A

B couldn't handle this volume of writes and read, D wouldn't be able to handle the writing and C wouldn't be suited for this. upvoted 3 times

juancambb 1 year, 4 months ago

Selected Answer: A

must be A

upvoted 2 times

Question #15 Topic 1

Your company uses Cloud Spanner for a mission-critical inventory management system that is globally available. You recently loaded stock keeping unit (SKU) and product catalog data from a company acquisition and observed hotspots in the Cloud Spanner database. You want to follow Google-recommended schema design practices to avoid performance degradation. What should you do? (Choose two.)

A. Use an auto-incrementing value as the primary key.

B. Normalize the data model.

C. Promote low-cardinality attributes in multi-attribute primary keys.

D. Promote high-cardinality attributes in multi-attribute primary keys.

E. Use bit-reverse sequential value as the primary key.

Correct Answer: AD

Community vote distribution

DE (69%) CE (21%) 7%

PrtkKA Highly Voted 1 year, 2 months ago

Selected Answer: DE

Spanner needs high cardinality primary key to avoid hotspotting. upvoted

6 times

PKookNN Most Recent 3 months, 2 weeks ago

Selected Answer: DE

I would go with D and E

upvoted 2 times

juliorevk 7 months ago

Selected Answer: DE https://cloud.google.com/spanner/docs/schema-design

D because high cardinality means you have more unique values in the collumn. That's a good thing for a hot-spotting issue. E because Spanner specifically has this feature to reduce hot spotting. Basically, it generates unique values https://cloud.google.com/spanner/docs/schema-design#bit_reverse_primary_key

upvoted 2 times

nescafe7 9 months, 1 week ago

Selected Answer: BD

I agree with Hilab's comment below.

upvoted 2 times

felipeschossler 1 year ago

Selected Answer: DE

D and E, the docs are below.

D: https://cloud.google.com/bigtable/docs/schema-design#row-keys-avoid

E: https://cloud.google.com/spanner/docs/schema-design#bit_reverse_primary_key

upvoted 4 times

Carpediem78 1 year ago

high-cardinality

upvoted 1 times

PATILDXB 1 year ago

Correct answers are D,E.

Refer to the link which is self explanatory.

https://cloud.google.com/spanner/docs/schema-design

upvoted 3 times

BenMS 1 year, 1 month ago

Selected Answer: DE

A - incrementing values are an explicitly documented antipattern

B - normalising the schema does not specifically address hotspotting

C - low cardinality values in the primary key will also cause hotspotting

D - promoting high cardinality values in the primary key (i.e. moving them nearer the front of the value) is a recommended approach to reduce hotspotting

E - bit-reversed keys are an explicitly recommended best practice upvoted 3 times

dynamic_dba 1 year, 1 month ago

D, E.

A is wrong because that will promote hotspots. C is wrong because low cardinality attributes being part of the key (particularly at the front multi attribute keys) will also promote hotspots. That makes D correct by definition. This leave B or D at the other correct answer. The fact the new data has already been added to the database suggests the data model is already properly normalized. In addition, one of the techniques to reduce or eliminate hotspots is to bit reverse sequential values. It's in Google's docs here:

https://cloud.google.com/spanner/docs/schema-design

upvoted 2 times

Hilab 1 year, 1 month ago

B. Normalize the data model.

D. Promote high-cardinality attributes in multi-attribute primary keys.

When designing a schema for Cloud Spanner, it is important to follow best practices to avoid hotspots and ensure optimal performance. Hotspots occur when too many

requests are targeted at a single node or group of nodes, causing them to become overloaded and potentially impacting performance. upvoted 2 times

Hilab 1 year, 1 month ago

Normalization is a recommended best practice in database schema design, including in Cloud Spanner. It involves breaking down large tables into smaller, more manageable tables that are linked together by relationships. This can help reduce duplication of data and improve performance by reducing the amount of data that needs to be read or written to the database.

Promoting high-cardinality attributes in multi-attribute primary keys is also recommended in Cloud Spanner schema design. High-cardinality attributes are those that have a large number of distinct values, such as product IDs or customer IDs. Including these attributes in the primary key can help distribute data more evenly across nodes, reducing the likelihood of hotspots.

Using an auto-incrementing value as the primary key or a bit-reverse sequential value as the primary key can result in hotspots, particularly if new data is being added at a high rate. These approaches can cause all new data to be inserted into a single node, leading to performance issues. upvoted 2 times

Nirca 1 year, 2 months ago

Selected Answer: DE

"hotspots" in a database means that many IOPS (usually writes/updates) are happening on the same data-block; usually due to calling the same DATA.

low cardinality => same value in the column ==> hotspots.

High cardinality => different values in the column ==> avoiding hotspotting. upvoted 3 times

zanhsieh 1 year, 2 months ago

Selected Answer: CE

CE

A and D: WRONG. Anti-pattern

Since the question specifically stated the hotspots cause by new SKUs and product catalog data added, so the goal would be: 1.
The old data keeps distributed without any extra work needed.

2. Resolving the new data hot spots problem.

It seems to me that SKU and product catalog are already normalized, so further normalize might touch the old data. This means B is out. If the new data already normalized, then it must have some high-cardinality attributes, e.g. SKU_id, and some low-cardinality attributes, e.g. category_id. So I picked low-cardinality attibutes in multi-attribute primary keys as C. I agreed with E as already Google recommended practice. Reference:

https://cloud.google.com/spanner/docs/schema-design

upvoted 3 times

TFMV 1 year, 4 months ago

CE. Normalizing the data is not generally recommended if interleaving can suffice.

upvoted 1 times

pk349 1 year, 4 months ago

B: Normalize the data model.

E: Use bit-reverse sequential value as the primary key. upvoted

2 times

gabrielosluz 1 year, 2 months ago

Wrong B

upvoted 1 times

GCP72 1 year, 4 months ago

Selected Answer: CE

Looks CE is correct for me

upvoted 2 times

jitu028 1 year, 4 months ago

Selected Answer: CE

Correct answer - CE

upvoted1times Kloudgeek1year,4monthsago

Answer is B &Eforschemadesign.
https://cloud.google.com/spanner/docs/schema-design
. B&Earecorrectanswers upvoted1times

Question #16 Topic 1

You are managing multiple applications connecting to a database on Cloud SQL for PostgreSQL. You need to be able to monitor database performance to easily identify applications with long-running and resource-intensive queries. What should you do?

A. Use log messages produced by Cloud SQL.

B. Use Query Insights for Cloud SQL.

C. Use the Cloud Monitoring dashboard with available metrics from Cloud SQL.

D. Use Cloud SQL instance monitoring in the Google Cloud Console.

Correct Answer: C

Community vote distribution

B (82%) D (18%)

dynamic_dba Highly Voted 1 year, 1 month ago

B.

Query Insights helps identify performance and load issues at the database application layer. None of the other options do that. So the answer is B. upvoted 6 times

H_S Most Recent 1 year, 1 month ago

Selected Answer: B

B. Query insights: for identifying long running SQLs https://cloud.google.com/sql/docs/mysql/using-query-insights#intr oduction upvoted 2 times

Nirca 1 year, 2 months ago

Selected Answer: B

B. Query insights: for identifying long running SQLs https://cloud.google.com/sql/docs/mysql/using-query-insights#intr oduction upvoted 2 times

SidsA 1 year, 2 months ago

Answer should be B: As long-running query and resource intensive queries are available in query insight providing details about which queries are taking how much time and resource utilization at what stage.

upvoted 3 times

chelbsik 1 year, 4 months ago

Selected Answer: B

Vote for B

upvoted 4 times

Blueocean 1 year, 4 months ago

Option B

https://cloud.google.com/sql/docs/postgres/using-query-insights

upvoted 2 times

pk349 1 year, 4 months ago B: Use

Query Insights for Cloud SQL.

ging multiple applications connecting

upvoted 1 times

GCP72 1 year, 4 months ago

Selected Answer: B

B is the correct answer, agree with jitu028

upvoted 1 times

jitu028 1 year, 4 months ago

Correct answer - B https://www.youtube.com/watch?v=qN7x3ngwz1o

upvoted 2 times

range9005 1 year, 4 months ago

Selected Answer: D

For Database performance, Cloud SQL System insights dashboard is preferable

upvoted 1 times

Kloudgeek 1 year, 4 months ago C is correct answer. We can use Cloud SQL Instance monitoring as well, but need to build the custom metrics for the metrics needed. Instead with Cloud Monitoring these metrics are already available. https://cloud.google.com/sql/docs/mysql/monitor-instance#cloud-monitoring https://cloud.google.com/sql/docs/sqlserver/admin-api/metrics

upvoted 1 times

range9005 1 year, 4 months ago

Selected Answer: D

The Cloud SQL System insights dashboard helps you detect and analyze system performance problems.

.

https://cloud.google.com/sql/docs/postgres/monitor-instance#sql-system-insights

upvoted 1 times

Question #17 Topic 1

You are building an application that allows users to customize their website and mobile experiences. The application will capture user information and preferences. User profiles have a dynamic schema, and users can add or delete information from their profile. You need to ensure that user changes automatically trigger updates to your downstream BigQuery data warehouse. What should you do?

A. Store your data in Bigtable, and use the user identifier as the key. Use one column family to store user profile data, and use another column family to store user preferences.

B. Use Cloud SQL, and create different tables for user profile data and user preferences from your recommendations model. Use SQL to join the user profile data and preferences

C. Use Firestore in Native mode, and store user profile data as a document. Update the user profile with preferences specific to that user and use the user identifier to query.

D. Use Firestore in Datastore mode, and store user profile data as a document. Update the user profile with preferences specific to that user and use the user identifier to query.

Correct Answer: A

Community vote distribution

C (93%) 7%

abhinav45852 3 months, 2 weeks ago

Selected Answer: A

Firestore in native mode and Bigtable both seems to be correct answer but weightage can be given to Bigtable on the basis of replication to BigQuery via change streams is easier. upvoted 1 times

Shadab 1 year ago

Selected Answer: C

Use Firestore in Datastore mode for new server projects.

Firestore in Datastore mode allows you to use established Datastore server architectures while removing fundamental Datastore limitations. Datastore mode can automatically scale to millions of writes per second.

Use Firestore in Native mode for new mobile and web apps.

Firestore offers mobile and web client libraries with real-time and offline features. Native mode can automatically scale to millions of concurrent clients. upvoted

2 times

BenMS 1 year, 1 month ago

Selected Answer: C

Dynamic schema indicates this is a NoSQL solution (ruling out Cloud SQL) and the application use case specifically suits Firestore (the question even refers to storing data in documents) as opposed to BigTable.

Firestore in Native supports realtime client updates, which is needed for the analytics requirement:

https://cloud.google.com/firestore/docs/firestore-or-datastore#feature_comparison

upvoted 4 times

dynamic_dba 1 year, 1 month ago

C.

A dynamic schema means the database backend cannot be relational. That eliminates B. No criteria is mentioned that would justify Bigtable (low latency or massive data volume), so eliminate A. That leaves Firestore options which make sense since it's a NoSQL database. Since "website" and "mobile" are both mentioned in the question, Firestore in Native mode must be the correct answer. upvoted 3 times

pk349 1 year, 4 months ago

C: Use Firestore in Native mode, and store user profile data as a document. Update the user profile with preferences specific to that user and use the user identifier to query. upvoted 1 times

GCP72 1 year, 4 months ago

Selected Answer: C

C is the correct Answer

upvoted 2 times

range9005 1 year, 4 months ago

Selected Answer: C

Firestore introduces new features such as:

A new, strongly consistent storage layer

A collection and document data model

Real-time updates

Mobile and Web client libraries

.

https://cloud.google.com/datastore/docs/firestore-or-datastore#in_native_mode

upvoted 3 times

fredcaram 1 year, 4 months ago

Selected Answer: C

Seems like a better use for firestore and since it needs to reflect changes downstream in real time the native one would be better.

upvoted 2 times

Question #18 Topic 1

Your application uses Cloud SQL for MySQL. Your users run reports on data that relies on near-real time; however, the additional analytics caused excessive load on the primary database. You created a read replica for the analytics workloads, but now your users are complaining about the lag in data changes and that their reports are still slow. You need to improve the report performance and shorten the lag in data replication without making changes to the current reports. Which two approaches should you implement? (Choose two.)

A. Create secondary indexes on the replica.

B. Create additional read replicas, and partition your analytics users to use different read replicas.

C. Disable replication on the read replica, and set the flag for parallel replication on the read replica. Re-enable replication and optimize performance by setting flags on the primary instance.

D. Disable replication on the primary instance, and set the flag for parallel replication on the primary instance. Re-enable replication and optimize performance by setting flags on the read replica.

E. Move your analytics workloads to BigQuery, and set up a streaming pipeline to move data and update BigQuery.

Correct Answer: BE

Community vote distribution

BC (52%) 14% 14% Other

ssaporylo Highly Voted 1 year, 3 months ago

Vote for AC

A https://cloud.google.com/sql/docs/mysql/replication/read-repli ca-indexes increase performance on read operation C https://cloud.google.com/sql/docs/mysql/replication/manage-replicas#basic-steps-to-change-parallel-replication-flags upvoted 7 times

dynamic_dba Highly Voted 1 year, 1 month ago

B, C.

You have 2 problems. Replication lag and slow report performance. E is eliminated because using BigQuery would mean changes to the current reports. Report slowness could be the result of poor indexing or just too much read load (or both!). Since excessive load is mentioned in the question, creating additional read replicas and spreading the analytics workload around makes B correct and eliminates A as a way to speed up reporting. That leaves the replication problem. Cloud SQL enables single threaded replication by default, so it stands to reason enabling parallel

replication would help the lag. To do that you disable replication on the replica (not the primary), set flags on the replica and optionally set flags o the primary instance to optimize performance for parallel replication. That makes C correct and D incorrect.

https://cloud.google.com/sql/docs/mysql/replication/manage-replicas#configuring-parallel-replication

upvoted 6 times

cardareel 7 months, 2 weeks ago

B isn't correct ==> "without making changes to the current reports". If you choose B, reports will need changes to point to the new instances. upvoted 1 times

PKookNN Most Recent 2 months, 2 weeks ago

Selected Answer: C

Just got this question and there is no A, and it is not 'choose two' but one answer only.

upvoted 2 times

cardareel 8 months ago

There's no discussion about C.

A & B both sounds reasonable. Why I would choose A instead of B? Due to keywords "without making changes to the current reports" and "MySQL". Option B would require to point to new IP addresses (the new read replicas) and split which group of users which run X reports and which group of user which run Y reports connect to which read replica. Option A (secondary indexes) is only available for Cloud SQL (the question'

use case is about MySQL) and explicitly mentions "for reporting purposes". upvoted 3 times

KennyHuang 11 months, 1 week ago

Selected Answer: BC

B. By creating additional read replicas, you can distribute the load of analytics workloads across multiple instances. Partitioning your analytics users to use different read replicas allows you to further distribute the workload and improve performance. This helps to alleviate the excessive load on the primary database and enhances the reporting experience for users.

C. Disabling replication on the read replica can help reduce the data replication lag. By setting the flag for parallel replication on the read replica, you allow parallel execution of replication threads, which can expedite data replication. Additionally, optimizing performance by setting flags on the primary instance can help improve the overall performance of the replication process and reduce the lag experienced by the read replica. upvoted 3 times

cardareel 7 months, 2 weeks ago

B isn't correct ==> "without making changes to the current reports". If you choose B, reports

will need changes to point to the new instances.

upvoted 1 times Hilab 1 year, 1 month ago

B. Create additional read replicas, and partition your analytics users to use different read replicas.

D. Disable replication on the primary instance, and set the flag for parallel replication on the primary instance. Re-enable replication and optimize performance by setting flags on the read replica.

Creating additional read replicas can distribute the analytics workload and reduce the lag in data replication. By partitioning your analytics users to use different read replicas, you can further reduce the load on each replica and improve performance.

upvoted 1 times

Hilab 1 year, 1 month ago

Disabling replication on the primary instance and setting the flag for parallel replication can improve the replication speed and reduce the lag i data replication. Once you have optimized performance on the primary instance, you can re-enable replication and optimize performance on the read replica.

Creating secondary indexes on the replica may improve query performance but will not reduce the lag in data replication. Moving your analytic workloads to BigQuery and setting up a streaming pipeline to move data can provide near-real-time data but will require significant changes to your current reports. upvoted 1 times

H_S 1 year, 1 month ago

Selected Answer: BC

B. Create additional read replicas, and partition your analytics users to use different read replicas. Most Voted

C. Disable replication on the read replica, and set the flag for parallel replication on the read replica. Re-enable replication and optimize performance by setting flags on the primary instance. upvoted 1 times

cardareel 7 months, 2 weeks ago

B isn't correct ==> "without making changes to the current reports". If you choose B, reports will need changes to point to the new instances. upvoted 1 times

Nirca 1 year, 2 months ago

Selected Answer: BC

A. Create secondary indexes on the replica. - No indication that the reports will benefit from indexes.

B. Create additional read replicas, and partition your analytics users to use different read replicas. --> might rebalance the load. C. Disable replication on the read replica, and set the flag for parallel replication on the read replica. Re-enable replication and optimize performance by setting flags on the primary instance. --> might add parallelism to the replication lag.

D. Disable replication on the primary instance, and set the flag for parallel replication on the primary instance. Re-enable replication and optimize performance by setting flags on the read replica. --> na

E. Move your analytics workloads to BigQuery, and set up a streaming pipeline to move data and update BigQuery.--> according to question statement , no SQL rewrite is possible. upvoted 2 times

Swapnil54 1 year, 2 months

ago A & C looks fine. upvoted

2 times

muky31dec 1 year, 3 months ago

Selected Answer: AC

Ans is AC

upvoted 3 times

muky31dec 1 year, 3 months ago

Creating secondary indexes on the replica can help improve the performance of the reports by allowing the read replica to quickly locate the data it needs without having to scan the entire table. This can help speed up the queries

upvoted 1 times

muky31dec 1 year, 3 months ago

Ans is AC

upvoted 1 times

csrazdan 1 year, 3 months ago

Selected Answer: BC

The question has 2 issues - replication lag and reports running slow.

B - will address reports running snow since fewer uses will be on the replica server

C - will address replication lag. upvoted 4 times

muky31dec 1 year, 3 months ago

AC must correct choice in the situation.

upvoted 1 times

TFMV 1 year, 4 months ago

Moving workload to BQ is not an option. That, at a minimum, would require connection changes in the reports and the question specifically states that report changes are unacceptable. Aside from that, we do not know if the reports are being generated by a tool and whether that tool support

BQ. upvoted 1 times

sp57 1year,4monthsago

AC-NotunderstandingvotesforE,can'tbedonewithoutsomechangesto reports.

upvoted 2 times

SVGoogle89 1year,4monthsago

AC

https://cloud.google.com/sql/docs/mysql/replication/read-replica-indexes

upvoted2times

chelbsik1year,4monthsago

SelectedAnswer:BC

BC,youcan'tdisablereplication ontheprimary instance, only onthereplica

upvoted1times

chelbsik1year,4monthsago

Wrongvote,shouldbeCE

upvoted1times

Question #19 Topic 1

You are evaluating Cloud SQL for PostgreSQL as a possible destination for your on-premises PostgreSQL instances. Geography is becoming increasingly relevant to customer privacy worldwide. Your solution must support data residency requirements and include a strategy to: configure where data is stored control where the encryption keys are stored govern the access to data

What should you do?

A. Replicate Cloud SQL databases across different zones.

B. Create a Cloud SQL for PostgreSQL instance on Google Cloud for the data that does not need to adhere to data residency requirements. Keep

the data that must adhere to data residency requirements on-premises. Make application changes to support both databases.

C. Allow application access to data only if the users are in the same region as the Google Cloud region for the Cloud SQL for PostgreSQL database.

D. Use features like customer-managed encryption keys (CMEK), VPC Service Controls, and Identity and Access Management (IAM) policies.

Correct Answer: C

Community vote distribution

D (100%)

juliorevk 7 months ago

D because

CMEK where the encryption keys are stored

IAM govern the access to data

VPC Service Controls configure where data is stored control

upvoted 3 times

theseawillclaim 7 months, 1 week ago

Selected Answer: D

D.

C might seem ok, but you'd need some kind of tracking to localize users, and there is no mention of it. upvoted 1 times

standm 11 months, 1 week ago

should be CSEK and not CMEK. Then 'D'. upvoted 1 times

dynamic_dba 1 year, 1 month ago

D.

Using IAM policies, VPC Service Controls and CMEK is the best answer. A doesn't make sense since Geography would be a factor at the Region level, not zone level. B is a lot of work and GCP is all about making things easier. C address part of the issue, but D addresses more. The link provided by sp57 is spot on. upvoted 1 times

ralf_cc 1 year, 3 months ago

C - it is about location of the data

upvoted 1 times

ssaporylo 1 year, 3 months ago

My vote D

upvoted 1 times

sp57 1 year, 4 months ago

D, https://cloud.google.com/blog/products/identity-securi ty/meet-data-residency-requirements-with-google-clo ud upvoted 3 times

pk349 1 year, 4 months ago

D. Use features like customer-managed encryption keys (CMEK), VPC Service Controls, and Identity and Access Management (IAM) policies.
upvoted 2 times

GCP72 1 year, 4 months ago

Selected Answer: D

D is the correct answer

upvoted 1 times

range9005 1 year, 4 months ago

Selected Answer: D

dataresidencyrequirementscanbeachiywithCMEK,VPCand IAM upvoted2times

Question #20 Topic 1

Your customer is running a MySQL database on-premises with read replicas. The nightly incremental backups are expensive and add maintenance overhead. You want to follow Google-recommended practices to migrate the database to Google Cloud, and you need to ensure minimal downtime. What should you do?

A. Create a Google Kubernetes Engine (GKE) cluster, install MySQL on the cluster, and then import the dump file.

B. Use the mysqldump utility to take a backup of the existing on-premises database, and then import it into Cloud SQL.

C. Create a Compute Engine VM, install MySQL on the VM, and then import the dump file.

D. Create an external replica, and use Cloud SQL to synchronize the data to the replica.

Correct Answer: B

Community vote distribution

D (75%) B (25%)

dynamic_dba Highly Voted 1 year, 1 month ago

D.

The question says backups and maintenance are an issue, so moving to a managed service (Cloud SQL) would be the right thing to do. That eliminates C and A. Option B could (depending upon the DB size) require a lot of downtime to export, copy the dump file to Cloud Storage, then import into Cloud SQL. Therefore, the least amount of downtime would be D.

https://cloud.google.com/sql/docs/mysql/replication/configure-replication-from-external

upvoted 5 times

RaphaelG Most Recent 3 months, 2 weeks ago

The only issue that I have with the D answer is that an external replica is an explicit Cloud SQL concept not a MySQL concept; external replica is when you have a primary instance already in Cloud SQL, however, if you have your MySQL on premises then you are dealing with replication from an external server. I have read documentation for CloudSQL for MySQL before and I am more convinced with B to be frank upvoted 1 times

kkjw 7 months, 3 weeks ago

External replica is a setup with primary on cloud an the replica external to the cloud .eg.e on prem.. which is the reverse of what the question is looking for

upvoted 2 times

ArtistS 4 months, 3 weeks ago

Yep, D sounds wired, the question said it should import from the on-premise. So my opinion is B

upvoted 1 times

KennyHuang 11 months, 1 week ago

Selected Answer: D

This approach provides a seamless migration process with minimal impact on the application's availability. upvoted 2 times

BenMS 1 year, 1 month ago

Selected Answer: D

Another good explanation from dynamic_dba.

upvoted 2 times

EueChan 1 year, 1 month ago

Selected Answer: D

I agree with D

upvoted 2 times

H_S 1 year, 1 month ago

Selected Answer: D

D is the better option

upvoted 3 times

Nirca 1 year, 2 months ago

Selected Answer: D minimal downtime!!! And the customer has read replicas +

backups are expensive.

D is the better option

upvoted 4 times

PrtkKA 1 year, 2 months ago

Selected Answer: D

D : External read replica will help achive minimal down

time. upvoted 2

times

SidsA 1 year, 2 months ago

Correct answer is D: Create cloudsql replica of on-prem server and promote with almost-no downtime by pointing app to cloudsql. mysqldump is heavy and time-consuming operation (even though if you run it on on-prem read-replica, it will be identical to migrating to cloudsql using managed database migration service. upvoted 4 times

SandyZA 1 year, 3 months ago

D create a read replica on cloud then promote it

upvoted 3 times

GCP72 1 year, 4 months ago

Selected Answer: B

B is correct answer

upvoted 2 times

range9005 1 year, 4 months ago

Selected Answer: B https://cloud.google.com/database-migration/docs/mysql/mysql-dump

upvoted 3 times

Question #21 Topic 1

Your team uses thousands of connected IoT devices to collect device maintenance data for your oil and gas customers in real time. You want to design inspection routines, device repair, and replacement schedules based on insights gathered from the data produced by these devices. You need a managed solution that is highly scalable, supports a

multi-cloud strategy, and offers low latency for these IoT devices. What should you do?

A. Use Firestore with Looker.

B. Use Cloud Spanner with Data Studio.

C. Use MongoD8 Atlas with Charts.

D. Use Bigtable with Looker.

Correct Answer: C

Community vote distribution

C (50%) D (47%)

KennyHuang Highly Voted 11 months, 1 week ago

Selected Answer: D

By combining Google Cloud IoT Core for device management and data ingestion, Google Cloud Bigtable for storing and processing IoT data with low latency, and Looker for advanced analytics and visualization, you can build a highly scalable, multi-cloud compatible, and low-latency solution to address your IoT device maintenance requirements effectively. upvoted 6 times

Pime13 Most Recent 3 days, 18 hours ago

Selected Answer: C

Bigtable can't be integrated with looker

upvoted 1 times

Haraprasad 2 weeks, 3 days ago

C . As its says to avoid refactoring. upvoted

1 times

okkokkoo 4 weeks ago

Selected Answer: D

Google will only pitch its own products

upvoted 1 times

james2033 1 month ago

Selected Answer: C

multi-cloud

upvoted 1 times

ToniTovar 2 months, 1 week ago

Selected Answer: D

I think Looker is multi-cloud as some of the colleagues said in this post. So I choose D.

https://services.google.com/fh/files/misc/042420-ppm-multi-cloud-one-sheet-8-5x11-enweb-gc.pdf

upvoted 1 times

ToniTovar 2 months, 1 week ago

I think Looker is multi-cloud as some of the colleagues said in this post. So I choose D.

https://services.google.com/fh/files/misc/042420-ppm-multi-cloud-one-sheet-8-5x11-enweb-gc.pdf

upvoted 1 times

PKookNN 3 months ago

Selected Answer: C

As others said, MongoDB is the only one that support multi-cloud (otherwise D is also a candidate). upvoted 1 times

gcp_k 1 week ago

BigTable is nothing but hbase.

upvoted 1 times

Ravi_Mangalpally 6 months ago

The answer is D. Use Bigtable with Looker.

Bigtable is a fully managed, petabyte-scale NoSQL wide column database service for storing large amounts of data. It is designed for low latency, high throughput, and scalability. Bigtable is a good choice for storing IoT data because it can handle the high volume of data generated by IoT devices and provide low latency for real-time analysis.

Looker is a business intelligence and data analytics platform that can be used to visualize and analyze data stored in Bigtable. Looker provides a variety of features that can be used to design inspection routines, device repair, and replacement schedules based on insights gathered from the data produced by IoT devices. Looker supports hosting on public clouds like AWS and GCP, and in multi-cloud and hybrid environments. upvoted 4 times

theseawillclaim 7 months, 1 week ago

Selected Answer: C

"Multi-cloud" is the key that rules out everything except C. upvoted

3 times

Ramheadhunter 9 months, 3 weeks ago

Selected Answer: C

Every thing in this question points to D except for one scenario "multi-cloud". So just becuase multi cloud is specified, I choose 'C' upvoted 2 times

wolfie09 10 months, 3 weeks ago

for everyone saying managed solution is the key, MongoDb is also a managed solution

upvoted 1 times

somnathmaddi 1 year ago

Selected Answer: D

Bigtable for IOT stuff

upvoted 2 times

felipeschossler 1 year ago

Selected Answer: C

C. Supports Multi-cloud strategy and managed solution. This makes MongoDB Atlas the only option. upvoted 1 times

BenMS 1 year, 1 month ago

Selected Answer: C

This is a curious question!

This scenario has BigTable written all over it - large amounts of data from many devices to be analysed in realtime. I would even argue it could qualify as a multicloud solution, given the links to HBASE.

BUT it does not support SQL queries and is not therefore compatible (on its own) with Looker.

Firestore + Looker has the same problem.

Spanner + Data Studio is at least a compatible pairing, but I agree with others that it doesn't fit this use-case - not least because it's Google-native

By contrast, MongoDB Atlas is a managed solution (just not by Google) which is compatible with the proposed reporting tool (Mongo's own Charts), it's specifically designed for this type of solution and of course it can run on any cloud.

Therefore the only possible answer is C, even though it isn't a Google product!

upvoted 3 times

EueChan 1 year, 1 month ago

Selected Answer: D

D is the managed solution

upvoted 2 times

dynamic_dba 1 year, 1 month ago

D.

The question says a managed solution, so that eliminates C. Firestore and Spanner do not have the scalability or low latency required. This leaves D Bigtable by itself is a GCP thing, but Looker allows data visualization across multiple cloud environments.

https://www.looker.com/google-cloud/

upvoted 4 times

Question #22 Topic 1

Your application follows a microservices architecture and uses a single large Cloud SQL instance, which is starting to have performance issues as your application grows. in the Cloud Monitoring dashboard, the CPU utilization looks normal You want to

follow Google-recommended practices to resolve and prevent these performance issues while avoiding any major refactoring. What should you do?

A. Use Cloud Spanner instead of Cloud SQL.

B. Increase the number of CPUs for your instance.

C. Increase the storage size for the instance.

D. Use many smaller Cloud SQL instances.

Correct Answer: A

Community vote distribution

D (50%) C (50%)

Kloudgeek Highly Voted 1 year, 4 months ago

Correct answer is D.
https://cloud.google.com/sql/docs/mysql/best-practices#data-arch - Split your large instances into smaller instances, where possible. upvoted 7 times

fraloca Highly Voted 3 months, 1 week ago

Selected Answer: C

The solution D is better if we can execute a massive refactor. So, the best solution is C because if CPU is normal, the issue is the capacity of the I/O For increase it, it's enough increase the disk storage.

Source: https://cloud.google.com/sql/docs/sqlserver/best-practices

upvoted 6 times

0e75489 Most Recent 4 months, 1 week ago

Splitting smaller databases require major effort.

Answer should be C

upvoted 1 times

juliorevk 7 months ago

Selected Answer: D

It's a microservices architecture and CPU utilization is normal. This means that having multiple Cloud SQL instances will help for each microservice. upvoted 2 times

theseawillclaim 7 months, 1 week ago

Wouldn't D be a big refactoring, as well as switching to Spanner, especially if MySQL is considered?

This question is bad.

upvoted 2 times

dynamic_dba 1 year, 1 month ago

D.

Needing to avoid any major refactoring eliminates A. The question states CPU is not an issue, so that eliminates B. Adding more storage would increase IOPS, but there's no indication network throughput is an issue, so that eliminates C. That leaves D. A microservice architecture is supposed to use a separate database for each microservice, rather than one big database for all the microservices. So D it is. The link provided by Kloudgeek is spot on. upvoted 4 times

Ramheadhunter 9 months, 3 weeks ago

Will splitting single instance to multiple smaller instance amount to re-factoring ?

upvoted 1 times

H_S 1 year, 1 month ago

Selected Answer: D

D: Use many smaller Cloud SQL instances. upvoted

1 times

H_S 1 year, 1 month ago

D: Use many smaller Cloud SQL instances. upvoted

2 times

pk349 1 year, 4 months ago

D: Use many smaller ***** Cloud SQL instances. upvoted

3 times GCP72 1 year, 4 months ago

Selected Answer: D

D is the correct answer

upvoted 1 times

range9005 1 year, 4 months ago

Selected Answer: D

Split CloudSql instance into many small instances to support Microservices

upvoted 2 times

Question #23 Topic 1

You need to perform a one-time migration of data from a running Cloud SQL for MySQL instance in the us-central1 region to a new Cloud SQL for MySQL instance in the us-east1 region. You want to follow Google-recommended practices to minimize performance impact on the currently running instance. What should you do?

A. Create and run a Dataflow job that uses JdbcIO to copy data from one Cloud SQL instance to another.

B. Create two Datastream connection profiles, and use them to create a stream from one Cloud SQL instance to another. C. Create a SQL dump file in Cloud Storage using a temporary instance, and then use that file to import into a new instance.

D. Create a CSV file by running the SQL statement SELECT...INTO OUTFILE, copy the file to a Cloud Storage bucket, and import it into a new instance.

Correct Answer: C

Community vote distribution

C (100%)

PKookNN 3 months, 2 weeks ago

Selected Answer: C

C is simple and works

upvoted 1 times

dynamic_dba 1 year, 1 month ago

C.

The only way to minimize performance impact of running an export on a Cloud SQL instance is to use a serverless export. The fact that no data synchronization is needed since it’s a one off eliminates every option apart from C. upvoted 3 times

Nirca 1 year, 2 months ago

Selected Answer: C

C looks simple and ok. upvoted

1 times

chelbsik 1 year, 4 months ago

Selected Answer: C

C - serverless export https://cloud.google.com/sql/docs/mysql/import-export#serverless

upvoted 1 times

pk349 1 year, 4 months ago

C: Create a SQL dump file in Cloud Storage using a temporary instance, and then use that file to import into a new instance.

upvoted 1 times

GCP72 1 year, 4 months ago

Selected Answer: C

C is the correct answer

upvoted 1 times

Question #24 Topic 1

You are running a mission-critical application on a Cloud SQL for PostgreSQL database with a multi-zonal setup. The primary and read replica instances are in the same region but in different zones. You need to ensure that you split the application load between both instances. What should you do?

A. Use Cloud Load Balancing for load balancing between the Cloud SQL primary and read replica instances.

B. Use PgBouncer to set up database connection pooling between the Cloud SQL primary and read replica instances.

C. Use HTTP(S) Load Balancing for database connection pooling between the Cloud SQL primary and read replica instances. D. Use the Cloud SQL Auth proxy for database connection pooling between the Cloud SQL primary and read replica instances.

Correct Answer: B

Community vote distribution

B (53%) A (47%)

dynamic_dba Highly Voted 1 year, 1 month ago

A.

Eliminate D because Cloud SQL Auth Proxy by itself does not provide connection pooling. There's nothing in the question about needing to load balance HTTP traffic specifically, so ignore C. B is eliminated on the basis Pgbouncer does not have multi-host configuration, failover, or detection

and the question specifically says "mission critical". That leaves A which makes sense since Google Cloud Load Balancer is a regional service and th question specifically mentions a single region. upvoted 8 times

bigdawg70 2 months, 3 weeks ago

This doesn't seem correct:

https://www.googlecloudcommunity.com/gc/Databases/Load-Balancer-for-Postgres/m

p/647563#:~:text=To%20clarify%2C%20Google%20Cloud%20Platform%27s,in%20Cloud%20SQL%20for%20PostgreSQL. upvoted 2 times

Tempingtron Most Recent 1 month, 1 week ago

Should be A. Pgbouncer needs a load balancer or DNS roundrobin in front of it to operate. It can't route the traffic to multiple hosts without it. C, D are wrong.

upvoted 1 times

Jason_Cloud_at 2 months, 1 week ago

Selected Answer: B

PgBouncer is especially used to manage connection pools to the PostgreSQL database.

upvoted 1 times

PKookNN 3 months ago

Selected Answer: B

Cloud Load Balancing can't be used to LB cloud SQL (it's mostly for VM), so you can choose to use HAProxy or PGBouncer as Google recommend connection pooling (https://cloud.google.com/sql/docs/postgres/replication#rr-info)

upvoted 2 times

whoosh 4 months, 1 week ago

Selected Answer: B

By using PgBouncer, you can configure it to distribute the application load between the Cloud SQL primary and read replica instances. PgBouncer will handle connection pooling and load balancing, ensuring efficient utilization of resources and improving performance for your mission-critical application. upvoted 1 times

AngieSoccerBall49 5 months, 1 week ago

It should be (A). Specifically, you'd (most likely) use a TCP Load balancer

https://www.pgbouncer.org/faq.html#how-to-load-balance-queries-between-several-servers

"PgBouncer does not have an internal multi-host configuration. It is possible via external tools."

you need to frontend stateless pgBouncer instances with a TCP load balancer.

upvoted 2 times

Jay_Krish 5 months, 3 weeks ago

Selected Answer: B

PgBouncer (Option B): PgBouncer is a lightweight connection pooler for PostgreSQL that can efficiently manage and distribute database connections between the primary and read replica instances. It helps in load balancing the application traffic between the instances. upvoted 1 times KennyHuang 11 months, 1 week ago

Selected Answer: B

By using PgBouncer, you can configure it to distribute the application load between the Cloud SQL primary and read replica instances. PgBouncer will handle connection pooling and load balancing, ensuring efficient utilization of resources and improving performance for your mission-critical application. upvoted 2 times

BenMS 1 year, 1 month ago

Selected Answer: A

As others have said, A is the only option which could achieve the desired effect, providing TCP load balancing across multiple servers. upvoted 3 times

Nirca 1 year, 1 month ago

Selected Answer: A

A, I think is better.

HAProxy is not same as Cloud Load balancing. upvoted

2 times

PrtkKA 1 year, 2 months ago

Selected Answer: B

Connection pooling ! upvoted

2 times

Teraflow 1 year, 2 months ago

Selected Answer: A

https://cloud.google.com/blog/products/databases/using-haproxy - to-scale-read-only-workloads-on-cloud-sql-for-postgresql upvoted 4 times

PrtkKA 1 year, 2 months ago

HAProxy is not same as Cloud Load balancing.

upvoted 1 times

felipeschossler 1 year ago

I think in the same way, it's not the same thing. However pgBouncer is not recommended for Load Balancing, just for connection pooling upvoted 1 times

JayGeotab 1 year, 3 months ago

A is the best answer, PgBouncer does not have multi-host

upvoted 2 times

sp57 1 year, 4 months ago

Per GPC72's referenced link, you need PgBouncer only does connection pooling, need Load balancing coupled. Since Load Balancing not referenced in B., is not A the best answer?

PgBouncer is a popular connection pooler designed for PostgreSQL, but it is not enough to achieve PostgreSQL High Availability by itself as it doesn't have multi-host configuration, failover, or detection.

Using a Load Balancer is a way to have High Availability in your database topology. It could be useful for redirecting traffic to healthy database nodes, distribute the

upvoted 3 times

sp57 1 year, 4 months ago

And C & D are wrong because they don't pool connections. ref for refuting C...The load balancer doesn't store database credentials (except for the health check user), and it doesn't pool or decrypt/re-encrypt database connections. A single client connection in HAProxy translates to a single client connection in Postgres.

This approach is suitable when the workload is constrained by the database's processing capacity, and not by the number of client connections You may require an additional connection pooling component (e.g. PgBouncer) if the number of clients becomes an issue, for example, when the database instances exhibit performance or stability issues due to the sheer number of simultaneous database connections. upvoted 1 times

sp57 1 year, 4 months ago

https://cloud.google.com/blog/products/databases/using-haproxy - to-scale-read-only-workloads-on-cloud-sql-for-postgresql upvoted 1 times

pk349 1 year, 4 months ago

PgBouncer is a light-weight connection pool manager for Greenplum and PostgreSQL. PgBouncer maintains a pool for connections for each database and user combination. PgBouncer either creates a new database connection for a client or reuses an existing connection for the same user and database. upvoted 1 times

pk349 1 year, 4 months ago

B: Use PgBouncer to set up database connection pooling between the Cloud SQL primary and read replica instances. upvoted1times GCP721year,4monthsago

SelectedAnswer:B B isthecorrectanswer https://severalnines.com/blog/how-achieve-postgresql high-availability-pgbouncer/

upvoted1times

Question #25 Topic 1

Your organization deployed a new version of a critical application that uses Cloud SQL for MySQL with high availability (HA) and binary logging enabled to store transactional information. The latest release of the application had an error that caused massive data corruption in your Cloud SQL for MySQL database. You need to minimize data loss. What should you do?

A. Open the Google Cloud Console, navigate to SQL > Backups, and select the last version of the automated backup before the corruption.

B. Reload the Cloud SQL for MySQL database using the LOAD DATA command to load data from CSV files that were used to initialize the instance.

C. Perform a point-in-time recovery of your Cloud SQL for MySQL database, selecting a date and time before the data was corrupted. D. Fail over to the Cloud SQL for MySQL HA instance. Use that instance to recover the transactions that occurred before the corruption.

Correct Answer: B

Community vote distribution

C (88%) 13%

dynamic_dba Highly Voted 1 year, 1 month ago

C.

The question specifically mentions binary logging and the binary logs are used by point-in-time recovery. D doesn't buy you anything since the corrupt data would also be on the HA replica you fail over to. B looks like a lot of work and if the Cloud SQL instance were instantiated a while ago option B could take a long time. A would work but the backup could have been taken a while before the corruption began. In which case restoring using that backup would wipe all the good data up to the point of corruption. The question asks for minimal data loss and the only way to ensure that is to restore to a point-in-time just before the corruption began. upvoted 6 times

PKookNN Most Recent 3 months, 2 weeks ago

Selected Answer: C unrelated but this was also a question from PCA. and

the same answer C

upvoted 1 times

Hilab 1 year, 1 month ago

C. Perform a point-in-time recovery of your Cloud SQL for MySQL database, selecting a date and time before the data was corrupted.

Performing a point-in-time recovery is the best option to minimize data loss in case of data corruption. Point-in-time recovery restores the database to a specific point in time before the data was corrupted, by replaying the binary logs that were generated since the selected time. This option is available when binary logging is enabled on Cloud SQL for MySQL with high availability.

Option A, restoring from an automated backup, can lead to data loss because it might not contain all the changes made to the database after the backup was taken. Option B, reloading the database from CSV files, can be time-consuming and may lead to data loss if the files used for initialization are not up to date. Option D, failing over to the Cloud SQL for MySQL HA instance, may not help in this scenario as the data corruption is replicated to the HA instance, and it is intended to be used for high availability and not for disaster recovery. upvoted 2 times

zanhsieh 1 year, 2 months ago

Selected Answer: A

A. Originally I thought it was C, but after reading mysql best practices as well as Kloudgeek link carefully I changed my answer. In Cloud SQL best practice: https://cloud.google.com/sql/docs/mysql/best-practices

"A point-in-time recovery always creates a new instance; you cannot perform a point-in-time recovery to an existing instance." Kloudgeek's link (why gcloud command use clone?): https://cloud.google.com/sql/docs/mysql/backup-recovery/pitr#perform-pitr-binlog

"gcloud sql instances clone instance1 \ instance1-clone

\

--bin-log-file-name=mysql-bin.0000031 \

--bin-log-position=107"

It seems to me that the question does not expect Cloud SQL instance switched just because of data corruption. upvoted 1 times

pk349 1 year, 4 months ago

C: Perform a point-in-time recovery of your Cloud SQL for MySQL database, selecting a date and time ***** before the data was corrupted. upvoted 1 times

GCP72 1 year, 4 months ago

Selected Answer: C

C is correct answer

upvoted 1 times

range9005 1 year, 4 months ago

Selected Answer: C

Binary logging --> Point in Recovery

upvoted 3 times

fredcaram 1 year, 4 months ago

Selected Answer: C

Since it is retaining transaction log, point in time recovery is enabled and that would be the best option

upvoted 2 times

Kloudgeek 1 year, 4 months ago

Correct Answer C: Binary Logging enabled, with that you can identify the point of time the data was good and recover from that point time.
https://cloud.google.com/sql/docs/mysql/backup-recovery/pitr#perform_the_poi nt-in-time_recovery_using_binary_log_positions upvoted 3 times

Question #26 Topic 1

You plan to use Database Migration Service to migrate data from a PostgreSQL on-premises instance to Cloud SQL. You need to identify the prerequisites for creating and automating the task. What should you do? (Choose two.)

A. Drop or disable all users except database administration users.

B. Disable all foreign key constraints on the source PostgreSQL database.

C. Ensure that all PostgreSQL tables have a primary key.

D. Shut down the database before the Data Migration Service task is started.

E. Ensure that pglogical is installed on the source PostgreSQL database.

Correct Answer: BE

Community vote distribution

CE (80%) BE (20%)

DeeData 7 months, 1 week ago

You are sure to know the answer is CE if you did the labs

upvoted 3 times

RaphaelG 3 months, 2 weeks ago

so true!! I remember doing the challenge on my own for like 2 days to make certain I've got it all right; so the number of times I actually had to install pglogical and create primary keys on tables were ridiculous! :D

upvoted 2 times

Pilot50 1 year ago

Selected Answer: CE https://cloud.google.com/database-migration/docs/postgres/faq

upvoted 3 times

dynamic_dba 1 year, 1 month ago

C, E.

A is wrong because you want user accounts migrated as well as the data. B is nonsense. D is also nonsense since the DMS is an online migration. That leave C and E, both of which are mentioned in the Google doc:

https://cloud.google.com/database-migration/docs/postgres/configure-source-database

upvoted 4 times

Hilab 1 year, 1 month ago

C. Ensure that all PostgreSQL tables have a primary key.

E. Ensure that pglogical is installed on the source PostgreSQL database.

When using Database Migration Service to migrate data from a PostgreSQL on-premises instance to Cloud SQL, it is important to ensure that all PostgreSQL tables

have a primary key. This is because Cloud SQL requires tables to have a primary key to enable replication and ensure data consistency.

It is also important to ensure that pglogical is installed on the source PostgreSQL database. This is because pglogical is used by Database Migratio Service to replicate data changes from the source database to the target Cloud SQL instance.

Options A and D are not prerequisites for creating and automating the task. Option B is not recommended as it can cause data inconsistencies during the migration. Disabling foreign key constraints may result in data being migrated with foreign key constraint violations. upvoted 3 times

Nirca 1 year, 1 month ago

Selected Answer: CE

Run the CREATE EXTENSION IF NOT EXISTS pglogical command on every database on your source instance. This installs the pglogical extension into the database.

For tables that don't have primary keys, Database Migration Service supports migration of the initial snapshot and INSERT statements during the change data capture (CDC) phase. You should migrate UPDATE and DELETE statements manually. upvoted 1 times

TFMV 1 year, 4 months

ago CE are correct.

upvoted 2 times

sp57 1 year, 4 months ago

E for sure; presume C is required for "automation" of task, because intervention required for tables without primary key. For tables that don't have primary keys, Database Migration Service supports migration of the initial snapshot and INSERT statements during the change data capture (CDC) phase. You should migrate

UPDATE and DELETE statements manually. https://cloud.google.com/database-migration/docs/postgres/configure-source-database

upvoted 1 times

sp57 1 year, 4 months ago

Found this confirming C - was not option prior to 6/2022 - Tables without primary keys on the source PostgreSQL database are not migrated. For those tables, DMS migrated only the schema. This is no longer a limitation after the June 2022 product update.

Additional good content beyond scope of question in source link...https://cloud.google.com/blog/products/databases/reduce-downtime-for postgresql-migration-to-google-cloud-sql

upvoted 2 times

chelbsik 1 year, 4 months ago

Selected Answer: CE

Vote for CE

upvoted 2 times

pk349 1 year, 4 months ago

C: Ensure that all PostgreSQL ***** tables have a primary key.

E: Ensure that pglogical ***** is installed on the source PostgreSQL database.

upvoted 1 times

GCP72 1 year, 4 months ago

Selected Answer: CE

CE

https://cloud.google.com/database-migration/docs/postgres/faq

upvoted 1 times

h3clht 1 year, 4 months ago

Selected Answer: CE https://cloud.google.com/database-migration/docs/postgres/configure-source-database

upvoted 1 times

h3clht 1 year, 4 months ago

CE

https://cloud.google.com/database-migration/docs/postgres/configure-source-database

upvoted 1 times

range9005 1 year, 4 months ago

Selected Answer: BE

Remove all the foreign key constraints

Come up with necessary pglogical

upvoted 2 times

Question #27 Topic 1

You are using Compute Engine on Google Cloud and your data center to manage a set of MySQL databases in a hybrid configuration. You need to

create replicas to scale reads and to offload part of the management operation. What should you do?

A. Use external server replication.

B. Use Data Migration Service.

C. Use Cloud SQL for MySQL external replica.

D. Use the mysqldump utility and binary logs.

Correct Answer: B

Community vote distribution

C (48%) A (35%) B (17%)

dynamic_dba Highly Voted 1 year, 1 month ago

C.

D is nonsense, so can be eliminated. The question tells us we're already managing BOTH sets of MySQL instances, one on prem and the other in GCE. The question also says an objective is to offload part of the management. That can only mean leverage a managed service. The Data(base) Migration Service is a managed service used to instantiate a new migrated DB in Cloud SQL (or AlloyDB for PostgreSQL but that's not in scope here). The question isn't asking about database migration, so we can eliminate B. A could be used to create replicas, but doesn't help with offloading management operations. That leaves C which does use a managed service which could be leveraged to create replicas. upvoted 11 times

Jason_Cloud_at Most Recent 2 months, 1 week ago

C. MySQL external replica are best for create replicas to sclae reads and offload

upvoted 1 times

BIGQUERY_ALT_ALT 5 months, 1 week ago

Selected Answer: C

C is the answer as Question mentions offload part of the management operation

upvoted 3 times

ewelaz 7 months, 1 week ago

Selected Answer: C

it's c

upvoted 1 times

Kapello10 7 months, 2 weeks ago

Selected Answer: C

The ans is C

upvoted 2 times

learnazureportal 8 months ago

A is correct - se external server replication -==> This option allows you to set up replication between your on-premises MySQL server (in your data center) and a MySQL server running on GOOGLE CLOUD COMPUTE ENGINE.

upvoted 1 times

KennyHuang 11 months, 1 week ago

Selected Answer: A

By using external server replication, you can set up and manage replication between your on-premises MySQL database and a replica instance in Google Cloud. This enables you to scale reads, offload management operations, and distribute the workload between your data center and Google Cloud, providing the desired benefits in a hybrid configuration. upvoted 2 times

leroygordo 1 year, 1 month ago

Selected Answer: B

Agree with B.

- Multi-cloud continuous replication

Much like the read replicas across regions, if data exists in another cloud provider, a migration job can be set up which continuously replicates the database <<into Google Cloud for multi-cloud read-availability>>. Database Migration Service doesn't support a dual-write scenario, that is writing to and reading from both the source and destination.

https://cloud.google.com/database-migration/docs/overview#use_cases

upvoted 2 times

H_S 1 year, 1 month ago

Selected Answer: C offload part of the management operation

=> cloud sql => C

upvoted 1 times

H_S 1 year, 1 month ago

https://cloud.google.com/sql/docs/mysql/replication/external-server

upvoted 2 times

Nirca 1 year, 1 month ago

Selected Answer: A

A. Use external server replication.

https://cloud.google.com/sql/docs/mysql/replication/external-server#config-description

upvoted 1 times

zanhsieh 1 year, 2 months ago

Selected Answer: A

A

A: CORRECT. External server replication meant to serve the case as the question describe: DC -> GSQL.

B: WRONG. DMS intends for one time migration + CDC but does not mean to serve as primary + replica fashion. The replica is not ready to serve the traffic.

C: WRONG. Cloud SQL for MySQL external replica meant to serve the replica is outside of Google cloud, which means GSQL -> GSQL or GSQL -> DC.

D: WRONG. This option is for one time only.

Reference: https://cloud.google.com/sql/docs/mysql/replication/external-server

https://cloud.google.com/sql/docs/mysql/replication

https://cloud.google.com/database-migration/docs/overview#use_cases

upvoted 3 times

zanhsieh 1 year, 2 months ago

Correct the reference links:

https://cloud.google.com/sql/docs/m

ysql/replication/configure-

replication-from-extern al#curl

https://cloud.google.com/sql/docs/m

ysql/replication/configure-external-

replica

https://cloud.google.com/database-

migration/docs/overview#use_case

s

upvoted 1 times

Tharun1125438 1 year, 3 months ago

Selected Answer: A

I strongly believe it is A. Since the database is already in your datacenter. So you need to replicate your datacenter database to cloud to offload management. External Server Replication will replicate your database on to cloud sql.

https://cloud.google.com/sql/docs/mysql/replication/external-server

upvoted 2 times

ssaporylo 1 year, 3 months ago

C: https://cloud.google.com/sql/docs/mysql/replication

upvoted 1 times

pk349 1 year, 4 months ago

C: Use Cloud SQL for MySQL external replica. upvoted

2 times

GCP72 1 year, 4 months ago

Selected Answer: C

C is the Correct Answer

upvoted 2 times

lapeyus 1 year, 4 months ago

Selected Answer: B https://cloud.google.com/database-migration/docs/overview#use_cases

upvoted 2 times

range9005 1 year, 4 months ago

Selected Answer: C

Cloud SQL for MySQL external replica helps to migrate data to ClouSql and to increase read write latency

upvoted 2 times

Question #28 Topic 1

Your company is shutting down their data center and migrating several MySQL and PostgreSQL databases to Google Cloud. Your database operations team is severely constrained by ongoing production releases and the lack of capacity for additional on-premises backups. You want to ensure that the scheduled migrations happen with minimal downtime and that the Google Cloud databases stay in sync with the on-premises data changes until the applications can cut over. What should you do? (Choose two.)

A. Use Database Migration Service to migrate the databases to Cloud SQL.

B. Use a cross-region read replica to migrate the databases to Cloud SQL.

C. Use replication from an external server to migrate the databases to Cloud SQL.

D. Use an external read replica to migrate the databases to Cloud SQL.

E. Use a read replica to migrate the databases to Cloud SQL.

Correct Answer: CE

Community vote distribution

AC (100%)

juliorevk 7 months ago

Selected Answer: AC

A because Database migration service is the managed offering C because the external server is used for migration.

The others aren't approaches aren't actual methods for migration.

upvoted 1 times

Pilot50 1 year ago

Selected Answer: AC no other choices are correct

upvoted 1 times

dynamic_dba 1 year, 1 month ago

A, C.

B doesn't make sense since the DBs aren't in Cloud SQL yet. D and E don't makes sense because no method is attached to either answer and you wouldn't use a read replica as a source anyway. That leaves A and C. A makes sense since it can be scheduled and is online hence little/no downtime. Native DB replication of an external (on prem) server is basically what the Database Migration Service is doing.
Which makes C correct as well.

upvoted 1 times

Nirca 1 year, 1 month ago

Selected Answer: AC

A & C is the correct Answer

upvoted 1 times

pk349 1 year, 4 months ago

A: Use Database Migration Service ***** to migrate the databases to Cloud SQL.

C: Use replication ***** from an external server to migrate the databases to Cloud SQL.

upvoted 2 times

GCP72 1 year, 4 months ago

A & C is the correct Answer

upvoted 2 times

lapeyus 1 year, 4 months ago

Selected Answer: AC

https://cloud.google.com/sql/docs/mysql/replication/manage-replicas#basic-steps-to-change-parallel-replication-flags upvoted 1 times

range9005 1 year, 4 months ago

Selected Answer: AC

A is Database Migration Service to migrate the databases with CDC

C is Replication from an external server is used to Migration Database to Cloud SQL

upvoted 1 times

fredcaram 1 year, 4 months ago

Selected Answer: AC

UsingAforCDCmakessenseto meandC isan optionaswell upvoted1times

Question #29 Topic 1

Your company is migrating the existing infrastructure for a highly transactional application to Google Cloud. You have several databases in a MySQL database instance and need to decide how to transfer the data to Cloud SQL. You need to minimize the downtime for the migration of your 500 GB instance. What should you do?

A. 1. Create a Cloud SQL for MySQL instance for your databases, and configure Datastream to stream your database changes to Cloud

SQL. 2. Select the Backfill historical data check box on your stream configuration to initiate Datastream to backfill any data that is out of sync between the source and destination.

3. Delete your stream when all changes are moved to Cloud SQL for MySQL, and update your application to use the new instance.

B. 1. Create migration job using Database Migration Service.

2. Set the migration job type to Continuous, and allow the databases to complete the full dump phase and start sending data in change data capture (CDC) mode.

3. Wait for the replication delay to minimize, initiate a promotion of the new Cloud SQL instance, and wait for the migration job to complete. 4. Update your application connections to the new instance.

C. 1. Create migration job using Database Migration Service.

2. Set the migration job type to One-time, and perform this migration during a maintenance window.

3. Stop all write workloads to the source database and initiate the dump. Wait for the dump to be loaded into the Cloud SQL destination database and the destination database to be promoted to the primary database.

4. Update your application connections to the new instance.

D. 1. Use the mysqldump utility to manually initiate a backup of MySQL during the application maintenance window.

2. Move the files to Cloud Storage, and import each database into your Cloud SQL instance.

3. Continue to dump each database until all the databases are migrated.

4. Update your application connections to the new instance.

Correct Answer: C

Community vote distribution

B (100%)

dynamic_dba Highly Voted 1 year, 1 month ago

B.

A is wrong because Datastream is a CDC and replication service for data synchronization across heterogeneous databases. It’s reasonable to assume you’ll be using Cloud SQL for MySQL, so you’ll be performing a homogeneous migration. Plus, while the a Datastream source can be MySQL, a Datastream target is either BigQuery or Cloud Storage and not Cloud SQL. See https://cloud.google.com/datastream/docs/overview. C is wrong because a one time migration wouldn’t capture all the data changes once the maintenance window ended and the apps were fired bac up. Furthermore, stopping all writes during the dump would constitute downtime which the question wants minimized. D would take forever in a rapidly changing source system. B is the cleanest and simplest solution especially since the question puts no time constraint on making the migration happen.
upvoted 5 times

Pilot50 Most Recent 1 year ago

Selected Answer: B

C isn't correct since it will not minimize the downtime

upvoted 2 times

Nirca 1 year, 1 month ago

Selected Answer: B

B is the correct answer

upvoted 1 times

pk349 1 year, 4 months ago

B: Create migration job using Database ***** Migration Service.

Set the migration job type to Continuous, and allow the databases to complete the full dump phase and start sending data in change data capture (CDC) mode.

Wait ***** for the replication delay to minimize, initiate a promotion of the new

Cloud SQL instance, and wait for the migration job to complete. Update your

application connections to the new instance. upvoted 1 times

GCP72 1 year, 4 months ago

Selected Answer: B

B is the correct answer

upvoted 2 times

range9005 1 year, 4 months ago

Selected Answer: B

Continuous Migration with CDC

upvoted 2 times

fredcaram 1 year, 4 months ago

Selected Answer: B

C is not minimizing the downtime

upvoted 2 times

Kloudgeek 1 year, 4 months ago

Correct option is B. You need to minimize the downtime of the application but option C refers to stop the app while migration to complete. upvoted 4 times

Question #30 Topic 1

Your company uses the Cloud SQL out-of-disk recommender to analyze the storage utilization trends of production databases

over the last 30 days. Your database operations team uses these recommendations to proactively monitor storage utilization and implement corrective actions. You receive a recommendation that the instance is likely to run out of disk space. What should you do to address this storage alert?

A. Normalize the database to the third normal form.

B. Compress the data using a different compression algorithm.

C. Manually or automatically increase the storage capacity.

D. Create another schema to load older data.

Correct Answer: B

Community vote distribution

C (100%)

Pilot50 1 year ago

Selected Answer: C

out of disk means need for more

space

upvoted 1 times

dynamic_dba 1 year, 1 month ago

C.

A is wrong since modifying the schemas to 3NF would use more disk. D is nonsense. B sounds vague at best and probably not supported at the database level. C is the best answer. The link provided by Kloudgeek is spot on. upvoted 4 times

pk349 1 year, 4 months ago

C: Manually or automatically increase the storage capacity. upvoted

1 times

GCP72 1 year, 4 months ago

Selected Answer: C

C is the correct answer

upvoted 2 times

lapeyus 1 year, 4 months ago

Selected Answer: C

https://cloud.google.com/sql/docs/mysql/instance-settings#storage-capacity-2ndgen

upvoted 1 times

range9005 1 year, 4 months ago

Selected Answer: C

Manually or automatically increase the storage capacity. upvoted

2 times

Kloudgeek 1 year, 4 months ago

Correct answer is C:
https://cloud.google.com/sql/docs/mysql/using-ood-recommender#apply_recommendations

upvoted 4 times

Question #31 Topic 1

You are managing a mission-critical Cloud SQL for PostgreSQL instance. Your application team is running important transactions on the database when another DBA starts an on-demand backup. You want to verify the status of the backup. What should you do?

A. Check the cloudsql.googleapis.com/postgres.log instance log.

B. Perform the gcloud sql operations list command.

C. Use Cloud Audit Logs to verify the status.

D. Use the Google Cloud Console.

Correct Answer: C

Community vote distribution

B (83%) Other

dynamic_dba Highly Voted 1 year, 1 month ago

B.

A is wrong. The cloudsql.googleapis.com/postgres.log log file could be used to find out who started the backup operation, not the status of the operation. C is wrong for a similar reason. D is partially right. In the console there's an Operations option in the menu on the left. Click that and it

shows "Creating backup" together a start time. That's not a million miles different from the gcloud sql operations list command which shows simila output except there's a STATUS: line showing the word RUNNING while the backup is in progress. Given the question specifically mentions "status" B would be the better answer. Just. upvoted 5 times

honeymania23 Most Recent 3 weeks, 6 days ago

gcloud sql backup list --instance= instance-id will give the status of backup for that particular instance. So B is good. upvoted 1 times

juliorevk 7 months ago

Selected Answer: B

B to get the status using gcloud. D is possible but as mentioned, it doesn't specifically mention where in the console so B is a better answer. upvoted 2 times

theseawillclaim 7 months, 1 week ago

Selected Answer: B

If you want the status of the backup, then gcloud is the only viable option, as the Audit Logs will just tell you who started it.

upvoted 1 times

KennyHuang 11 months, 1 week ago

Selected Answer: D

Using the Google Cloud Console is the most straightforward and convenient method for verifying the status of an on-demand backup for your mission-critical Cloud SQL for PostgreSQL instance. It provides a graphical interface that displays the backup status and any relevant details, enabling you to quickly assess the situation and ensure the integrity of your important transactions. upvoted 1 times

Pilot50 1 year ago

Selected Answer: B option C is to find out who started the backup, for the status B is correct

upvoted 1 times

Nirca 1 year, 1 month ago

Selected Answer: B

B should the right answer: via gcloud sql operations list --instance=<instance_name> gcloud alpha sql operations list --instance=<instance_name>

upvoted 1 times

Sekierer 1 year, 3 months ago

Selected Answer: B

Should be B

Perform the gcloud sql operations list command

https://cloud.google.com/sql/docs/postgres/backup-recovery/backups#troubleshooting-backups

Under Troubleshooting:

Issue: "You can't see the current operation's status."

The Google Cloud console reports only success or failure when the operation is done. It isn't designed to show warnings or other updates. Run the gcloud sql operations list command to list all operations for the given Cloud SQL instance.

A and C iis wrong because there are used for WHO issued the Backup, but not the current status of the backup

D is wrong only shows success or failure in the Cloud Console but not the current status of the backup

upvoted 3 times

chelbsik 1 year, 4 months ago

Selected Answer: B

Vote for B

upvoted 1 times

pk349 1 year, 4 months ago

B: Perform the gcloud sql operations list ***** command. upvoted

1 times

GCP72 1 year, 4 months ago

Selected Answer: C

C is the correct answer.log gives more information

upvoted 1 times

range9005 1 year, 4 months ago

Selected Answer: B

Perform the gcloud sql operations list command. upvoted

1 times

Kloudgeek 1 year, 4 months ago

Correct answer is B.
https://cloud.google.com/sql/docs/postgres/backup-recovery/backups#troubleshooting-backups upvoted 2 times

Question #32 Topic 1

You support a consumer inventory application that runs on a multi-region instance of Cloud Spanner. A customer opened a support ticket to complain about slow response times. You notice a Cloud Monitoring alert about high CPU utilization. You want to follow Google-

recommended practices to address the CPU performance issue. What should you do first?

A. Increase the number of processing units.

B. Modify the database schema, and add additional indexes.

C. Shard data required by the application into multiple instances.

D. Decrease the number of processing units.

Correct Answer: A

Community vote distribution

A (88%) 13%

honeymania23 3 weeks, 6 days ago

A seems to be the first go to choice, if that does not resolve we can move to other options, But first A. upvoted 1 times

njda 7 months, 3 weeks ago

Selected Answer: A

In case of high CPU utilization like, mentioned in question, refer: https://cloud.google.com/spanner/docs/identify-latency point#:~:text=Check%20the%20CPU%20utilization%20of%20the%20instance.%20If %20the%20CPU%20utilization%20of%20the%20instance%20is

%20above%20the%20recommended%20level%2C%20you%20should%20manually % 20add%20more%20nodes%2C%20or%20set%20up%20auto% 20scaling.

"Check the CPU utilization of the instance. If the CPU utilization of the instance is above the recommended level, you should manually add more nodes, or set up auto scaling."

Indexes and schema are reviewed post identifying query with slow performance. Refer : https://cloud.google.com/spanner/docs/troubleshooting performance-regressions#review-schema

upvoted 3 times

learnazureportal 8 months ago

I surprised with the chosen answer. The correct answer is B. When addressing high CPU utilization in a Google Cloud Spanner instance, you should first consider B. Modify the database schema, and add additional indexes. High CPU utilization in a database often occurs due to inefficient queries or lack of appropriate indexes. upvoted 2 times

ArtistS 4 months, 2 weeks ago

So, any words mentioned the schema is not right? or it lacks index?

upvoted 1 times

KennyHuang 11 months, 1 week ago

Selected Answer: D

By modifying the database schema and adding additional indexes, you can optimize query performance and potentially reduce the CPU utilization in Cloud Spanner. This approach focuses on improving the efficiency of the database and aligning it with the specific requirements of the consume inventory application. It is important to monitor the impact of these changes and make further optimizations as needed. upvoted 1 times

dynamic_dba 1 year, 1 month ago

A.

B is wrong since that would increase CPU utilization even further and the question does not mention anything being wrong with index design. D is wrong since that would reduce CPU capacity and thus increase the load on the remaining CPUs. Cloud Spanner does not autoscale. It’s up to you to allocate the number of nodes or processing units to keep CPU utilization under 65%. So add more processing units.
upvoted 3 times

pk349 1 year, 4 months ago

Compute capacity defines amount of server and storage resources that are available to the databases in an instance. When you create an instance, you specify its compute capacity as a number of processing ***** units or as a number of nodes, with 1000 processing units being equal to 1 node range9005

upvoted 2 times

pk349 1 year, 4 months ago

A: Increase the number of processing units.

upvoted 1 times

GCP72 1 year, 4 months ago

SelectedAnswer:A

A iscorrectanswer

B isnotcorrectbecausemodifyingschema isnotacorrect option

upvoted2times

range9005 1year,4monthsago

SelectedAnswer:A

Increase the number ofprocessingunits.

upvoted 2 times

Question #33 Topic 1

Your company uses Bigtable for a user-facing application that displays a low-latency real-time dashboard. You need to recommend the optimal storage type for this read-intensive database. What should you do?

A. Recommend solid-state drives (SSD).

B. Recommend splitting the Bigtable instance into two instances in order to load balance the concurrent reads.

C. Recommend hard disk drives (HDD).

D. Recommend mixed storage types.

Correct Answer: B

Community vote distribution

A (100%)

juliorevk 7 months ago

Selected Answer: A

SSD because this is the more highly performant PD type

upvoted 1 times

theseawillclaim 7 months, 1 week ago

Selected Answer: A A.

Data is split correctly on nodes if the row-key is well designed. upvoted

1 times

CloudKida 10 months, 1 week ago

Selected Answer: A

if you plan to store extensive historical data for a large number of remote-sensing devices and then use the data to generate daily reports, the cos savings for HDD storage might justify the performance tradeoff. On the other hand, if you plan to use the data to display a real-time dashboard, it probably would not make sense to use HDD storage—reads would be much more frequent in this case, and reads that are not scans are much slower with HDD storage. upvoted 1 times

dynamic_dba 1 year, 1 month ago

A.

When you create a Bigtable instance you have to choose either SSD or HDD. The SSD options says, “Lower latency and more rows read per second Typically used for real-time serving use cases, such as ad serving and mobile app recommendations”. User facing plus low latency plus read intensive equals SSD.

upvoted 1 times

Nirca 1 year, 1 month ago

Selected Answer: A

A is correct answer ,Question is about storage type (hardware)

upvoted 2 times

pk349 1 year, 4 months ago

A: Recommend solid-state drives ***** (SSD).

upvoted 2 times

GCP72 1 year, 4 months ago

Selected Answer: A

A is correct answer ,Question is about storage type so B is not a correct answer

upvoted 2 times

lapeyus 1 year, 4 months ago

Selected Answer: A

SSD is significantly faster and has more predictable performance than HDD. upvoted

1 times

range9005 1 year, 4 months ago

Selected Answer: A

Recommend solid-state drives (SSD)

upvoted 2 times

fredcaram 1 year, 4 months ago

SelectedAnswer:A

B isarightanswerbut it isnotastoragetype

upvoted1times

Kloudgeek1year,4monthsago

Correctanswer isA. https://cloud.google.com/bigtable/docs/choosing-ssd-hdd

upvoted3times

Question #34 Topic 1

Your organization has a critical business app that is running with a Cloud SQL for MySQL backend database. Your company wants to build the most fault-tolerant and highly available solution possible. You need to ensure that the application database can survive a zonal and regional failure with a primary region of us-central1 and the backup region of us-east1. What should you do?

A. 1. Provision a Cloud SQL for MySQL instance in us-central1-a.

2. Create a multiple-zone instance in us-west1-b.

3. Create a read replica in us-east1-c.

B. 1. Provision a Cloud SQL for MySQL instance in us-central1-a.

2. Create a multiple-zone instance in us-central1-b.

3. Create a read replica in us-east1-b.

C. 1. Provision a Cloud SQL for MySQL instance in us-central1-a.

2. Create a multiple-zone instance in us-east-b.

3. Create a read replica in us-east1-c.

D. 1. Provision a Cloud SQL for MySQL instance in us-central1-a.

2. Create a multiple-zone instance in us-east1-b.

3. Create a read replica in us-central1-b.

Correct Answer: B

Community vote distribution

B (100%)

dynamic_dba 1 year, 1 month ago

B.

Cloud SQL is a regional service with read replicas allowed in other regions. So the answer must reference 2 different zones in the us-central1 region, one for the primary and one for the HA replica. A read replica needs to be in a zone within us-east1. The only options which provides that i B. upvoted 4 times

sp57 1 year, 4 months ago

B is correct. DR write-up helps... https://cloud.google.com/sql/docs/sqlserver/intro-to-cloud-sql-disaster-recovery

upvoted 2 times

pk349 1 year, 4 months ago

D: Provision a Cloud SQL for MySQL instance in us-central1-a.

Create a multiple-zone instance in ***** us-east1-b.

Create a read replica in us-central1-b. upvoted

1 times

GCP72 1 year, 4 months ago

Selected Answer: B

B is the correct answer

upvoted 4 times

chelbsik 1 year, 4 months ago

Selected Answer: B

Very confusing description. My only guess is that steps 1 and 2 describe the same action - creating primary instance with multiple zones HA. This eliminates all answers but B, because you can only have HA setup within the same region. upvoted 2 times

range9005 1 year, 4 months ago

I guess D

Primary Instance Us-Central

For HA, Multi-Region us-east

Replica on the top of primary i.e Us-central for low latency

upvoted 1 times

fredcaram 1 year, 4 months ago

I got a little confused about the text, for B to be the correct answer the multiple-zone instance would be the stand-by instance and the read replica would be the cross-region read replica.

upvoted 1 times

Question #35 Topic 1

You are building an Android game that needs to store data on a Google Cloud serverless database. The database will log user activity, store user preferences, and receive in-game updates. The target audience resides in developing countries that have intermittent internet connectivity. You need to ensure that the game can synchronize game data to the backend database whenever an internet network is available. What should you do?

A. Use Firestore.

B. Use Cloud SQL with an external (public) IP address.

C. Use an in-app embedded database.

D. Use Cloud Spanner.

Correct Answer: B

Community vote distribution

A (100%)

dynamic_dba Highly Voted 1 year, 1 month ago A.

B is wrong since that's not secure and doesn't make sense. C is bizarre and doesn't leverage a GCP serverless database. The key is intermittent internet coverage, meaning real-time syncing is not needed and can be supported. That rules out Spanner, which leaves Firestore. Probably Datastore mode, not that the question

mentions that. The link provided by GCP72 is spot on. upvoted 6 times

Most Recent 1 year, 4 months ago

pk349

A: Use Firestore.

upvoted 1 times

GCP72 1 year, 4 months ago

Selected Answer: A

A is a correct answer , Cloud Firestone https://firebase.google.com/docs/firestore

upvoted 3 times

range9005 1 year, 4 months ago

Selected Answer: A

Android App -->> Cloud Firestone

upvoted 3 times

fredcaram 1 year, 4 months ago

Selected Answer: A

A supports offline sync

upvoted 2 times

Question #36 Topic 1

You released a popular mobile game and are using a 50 TB Cloud Spanner instance to store game data in a PITR-enabled production environment. When you analyzed the game statistics, you realized that some players are exploiting a loophole to gather more points to get on the leaderboard. Another DBA accidentally ran an emergency bugfix script that corrupted some of the data in the production environment. You need to determine the extent of the data corruption and restore the production environment. What should you do? (Choose two.)

A. If the corruption is significant, use backup and restore, and specify a recovery timestamp.

B. If the corruption is significant, perform a stale read and specify a recovery timestamp. Write the results back.

C. If the corruption is significant, use import and export.

D. If the corruption is insignificant, use backup and restore, and specify a recovery timestamp.

E. If the corruption is insignificant, perform a stale read and specify a recovery timestamp. Write the results back.

Correct Answer: BE

Community vote distribution

AE (80%) 10% 10%

chelbsik Highly Voted 1 year, 4 months ago

Selected Answer: AE https://cloud.google.com/spanner/docs/pitr#ways-to-recover

To recover the entire database, backup or export the database specifying a timestamp in the past and then restore or import it to a new database. This is typically used to recover from data corruption issues when you have to revert the entire database to a point-in-time before the corruption occurred.

This part describes significant corruption - A

To recover a portion of the database, perform a stale read specifying a query-condition and timestamp in the past, and then write the results back into the live database. This is typically used for surgical operations on a live database. For example, if you accidentally delete a particular row or incorrectly update a subset of data, you can recover it with this method.

This describes insignificant corruption case - E

upvoted 8 times

dynamic_dba Most Recent 1 year, 1 month ago

A, E.

The answers are split between significant and insignificant. For insignificant, the simplest form of recovery would be E. That eliminates D. For significant, let's assume that means a lot of data of the the 50 TB total. A stale read and write back would probably been too onerous, so that eliminates B. That leaves A and C. The question doesn't mention anything about logical backups (export) which suggests a restore from a backup would be appropriate of a large amount of data that needed to be recovered.

https://cloud.google.com/spanner/docs/pitr

https://cloud.google.com/spanner/docs/backup/restore-backup

upvoted 3 times

TFMV 1 year, 4 months ago

AE are correct.

upvoted 3 times

pk349 1 year, 4 months ago

B: If the corruption is significant, perform a stale ***** read and specify a recovery timestamp. Write the results back. D: If the corruption is insignificant, use backup and ***** restore, and specify a recovery timestamp. upvoted 1 times

range9005 1 year, 4 months ago

Selected Answer: BD

B. If the corruption is significant, perform a stale read and specify a recovery timestamp. Write the results back.

D. If the corruption is insignificant, use backup and restore, and specify a recovery timestamp. upvoted 1 times

range9005 1 year, 4 months ago

Selected Answer: BC

B. If the corruption is significant, perform a stale read and specify a recovery timestamp. Write the results back.

C. If the corruption is significant, use import and export. upvoted 1 times

range9005 1 year, 4 months ago

By mistake

upvoted 1 times

Question #37 Topic 1

You are starting a large CSV import into a Cloud SQL for MySQL instance that has many open connections. You checked memory and CPU usage, and sufficient resources are available. You want to follow Google-recommended practices to ensure that the import will not time out. What should you do?

A. Close idle connections or restart the instance before beginning the import operation.

B. Increase the amount of memory allocated to your instance.

C. Ensure that the service account has the Storage Admin role.

D. Increase the number of CPUs for the instance to ensure that it can handle the additional import operation.

Correct Answer: C

Community vote distribution

A (100%)

dynamic_dba 1 year, 1 month ago A.

CPU and memory are OK so that elimiates B and D. C is nonsense which leaves A. This is supported by Google's own documention (read recommended practices) which says close unused operations and re-start the instance. This is the best way to ensure maximum resources for the import operation.

https://cloud.google.com/sql/docs/mysql/import-export#troubleshooting

upvoted 2 times

SVGoogle89 1 year, 4 months ago

C. for import service account needs storage.buckets.get & storage.objects.get

upvoted 1 times

pk349 1 year, 4 months ago

A: Close idle connections or restart the instance before beginning the import

operation. upvoted 2 times

GCP72 1 year, 4 months ago

Selected Answer: A

The import operation is taking too long. Too many active connections can interfere with import operations.

Close unused operations. Check the CPU and memory usage of your Cloud SQL instance to make sure there are plenty of resources available. The best way to ensure maximum resources for the import is to restart the instance before beginning the operation.

A restart:

Closes all connections.

Ends any tasks that may be consuming resources
https://cloud.google.com/sql/docs/mysql/import-export

upvoted 3 times

chelbsik 1 year, 4 months ago

Selected Answer: A

Eliminate B and D because 'You checked memory and CPU usage, and sufficient resources are available.'

Eliminate C because it makes no sense. upvoted

1 times

chelbsik 1 year, 4 months ago

To elaborate on C - it's required for the export into Cloud Storage, which is not the case

https://cloud.google.com/sql/docs/postgres/import-export/import-export-csv#required_roles_and_permissions_for_exporting

upvoted 2 times

range9005 1 year, 4 months ago

Selected Answer: A

Close idle connections or restart the instance before beginning the import operation.

upvoted 3 times

fredcaram 1 year, 4 months ago

Selected Answer: A

It should be A given the amount of opened connections

upvoted 3 times

Question #38 Topic 1

You are migrating your data center to Google Cloud. You plan to migrate your applications to Compute Engine and your Oracle databases to Bare

Metal Solution for Oracle. You must ensure that the applications in different projects can communicate securely and efficiently with the Oracle databases. What should you do?

A. Set up a Shared VPC, configure multiple service projects, and create firewall rules.

B. Set up Serverless VPC Access.

C. Set up Private Service Connect.

D. Set up Traffic Director.

Correct Answer: A

Community vote distribution

A (100%)

dynamic_dba 1 year, 1 month ago

A.

B is wrong since Serverless VPC Access is for connecting to your VPC network from serverless environments (Cloud Run, App Engine, Cloud Functions). C is wrong as this concerns private consumption of services across VPC networks that belong to different groups, teams, projects, or organizations. D is wrong because it concerns application networking for services. Nothing in its documentation mentions BMS. That leaves A. I

would prefer to have seen something about VPC network peering, but the clincher is firewall rules which you would use to limit IP traffic sources to the backend Oracle DBs residing in their own Google managed VPC on BMS. upvoted 2 times

H_S 1 year, 1 month ago

Selected Answer: A

The answer is for sure A read the following; https://medium.com/google-

cloud/shared-vpc-in-google-cloud

64527e0a409e#:~:text=Unlike%20VPC%20peering%2C%20Shared%20VPC%20con n ects%20projects%20within%20the%20same%20organization.& text=There%20are%20a%20lot%20of,between%20VPCs%20in%20different%20proje c ts.

upvoted 2 times

GCP72 1 year, 4 months ago

Selected Answer: A

A is the correct answer

upvoted 3 times

chelbsik 1 year, 4 months ago

Selected Answer: A

B is not applicable here.

C is also not the case - don't confuse it with Private Google Access
https://cloud.google.com/bare-metal/docs/bms-security#enforce-a-secure perimeter-with-private-google-access

We don't have a Service Mesh here, so D is also not an option.

I go for A - https://cloud.google.com/bare-metal/docs/bms

security#:~:text=As%20shown%20in%20Figure%206%2C%20use%20a%20shared% 20VPC%20architecture%20to%20allow%20resources%20from%

20different%20projects%20to%20access%20the%20Bare%20Metal%20Solution%20s ervers

upvoted 3 times

range9005 1 year, 4 months ago

Selected Answer: A

When you use Shared VPC, you designate a project as a host project and attach one or more other service projects to it. upvoted 3 times

Question #39 Topic 1

You are running an instance of Cloud Spanner as the backend of your ecommerce website. You learn that the quality assurance (QA) team has doubled the number of their test cases. You need to create a copy of your Cloud Spanner database in a new test environment to accommodate the additional test cases. You want to follow Google-recommended practices. What should you do?

A. Use Cloud Functions to run the export in Avro format.

B. Use Cloud Functions to run the export in text format.

C. Use Dataflow to run the export in Avro format.

D. Use Dataflow to run the export in text format.

Correct Answer: C

Community vote distribution

C (100%)

dynamic_dba Highly Voted 1 year, 1 month ago

C.

A and B are wrong because Spanner exports are run as Dataflow jobs. The question says you need a copy of your entire database which means all the tables. You cannot export an entire database using the CSV (text) format, but you can using the Avro format. So that would make it the better option.

https://cloud.google.com/spanner/docs/import-export-overview#file-format

upvoted 5 times

H_S Most Recent 1 year, 1 month ago

Although I agree with C, I don't know why not D

upvoted 1 times

pk349 1 year, 4 months ago

C: Use Dataflow to run the export in Avro format.

upvoted 2 times

GCP72 1 year, 4 months ago

Selected Answer: C

Answer is C, Dataflow and Avro format.

Cloud functions has timeout Gen-1 6mins Gen-2 1hr

upvoted 3 times

range9005 1 year, 4 months ago

Selected Answer: C

Use Dataflow to run the export in Avro format.

.

https://cloud.google.com/spanner/docs/export

upvoted 4 times

Question #40 Topic 1

You need to redesign the architecture of an application that currently uses Cloud SQL for PostgreSQL. The users of the application complain about slow query response times. You want to enhance your application architecture to offer sub-millisecond query latency. What should you do?

A. Configure Firestore, and modify your application to offload queries.

B. Configure Bigtable, and modify your application to offload queries.

C. Configure Cloud SQL for PostgreSQL read replicas to offload queries.

D. Configure Memorystore, and modify your application to offload queries.

Correct Answer: D

Community vote distribution

D (71%) 14% 14%

pk349 Highly Voted 1 year, 4 months ago

D: Configure Memorystore and modify your application to offload queries. upvoted 8 times

csrazdan Highly Voted 1 year, 3 months ago

Selected Answer: D

The question says "redesign the architecture of an application" - Caching data using MemoryStore will trigger this. Read replica will require only updating connection details which would not be considered an application redesign. upvoted 5 times

theseawillclaim Most Recent 7 months, 1 week ago

Selected Answer: D

"sub-millisecond latency" always involves Memorystore.

Furthermore, as we are talking about a relational DB (Cloud SQL), BigTable is not a solution to be considered.

upvoted 2 times

RaphaelG 3 months, 1 week ago

"sub-milisecond latency" always involves Bigtable if anything

upvoted 2 times

KIDDO24 7 months, 1 week ago

MEMORY STORE IS ALSO A NO RELATIONAL DB LIKE BIGTABLE

upvoted 1 times

learnazureportal 8 months ago

The correct answer is ==> B. Configure Bigtable, and modify your application to offload queries. upvoted 1 times

learnazureportal 8 months ago

Memorystore is an in-memory data store that can provide low-latency access to cached data, but it may not be suitable for all types of queries, and achieving sub-millisecond latency depends on factors such as data size and query complexity. upvoted 1 times

KennyHuang 11 months, 1 week ago

Selected Answer: D

The recommended approach is to configure Memorystore (Redis) and modify your application to offload queries. This will allow you to take advantage of the sub-millisecond query latency provided by in-memory caching and significantly improve the performance of your application. upvoted 1 times

felipeschossler 1 year ago

Selected Answer: D

D. The only thing that achieves submilli seconds of response is Redis: https://blog.bytebytego.com/p/ep22-latency-numbers-you-should-know upvoted 1 times

PATILDXB 1 year ago

D.

To meet demands of low latency at increased scale and reduced cost you need an in-memory datastore. Redis and Memchaced are among the most popular. Memorystore is a fully managed in-memory data store service for Redis and Memcached at Google Cloud. upvoted 1 times

dynamic_dba 1 year, 1 month ago

D. A is wrong since Firestore would not offer sub-millisecond response. C would help, but sub-millisecond would still be hard to achieve. The questio gives no justification for Bigtable and sub-millisecond response does strongly suggest reads from memory rather than disk. That leaves D as the best answer. upvoted 4 times

muky31dec 1 year, 3 months ago

Selected Answer: D

Ans is D

upvoted 1 times

ssaporylo 1 year, 3 months ago

C: read replica

upvoted 2 times

SVGoogle89 1 year, 4 months ago

sub-millisecs -> BigTable

upvoted 1 times

ssaporylo 1 year, 3 months ago

it requires additional efforts to integrate BT

upvoted 1 times

GCP72 1 year, 4 months ago

Selected Answer: C

C is the correct answer

upvoted 2 times

GCP72 1 year, 4 months ago

Sorry D is the correct answer https://cloud.google.com/blog/topics/developers-practitioners/what-memorystore/

upvoted 7 times

chelbsik 1 year, 4 months ago

Selected Answer: B

Can't find any proper docs for this case, so let's try elimination. I'm not so sure though.

A and C - don't give us sub-millisecond query latency.

I don't see how Memorystore can help with queries, since it's cache, so eliminate D as well. upvoted 2 times

ssaporylo 1 year, 3 months ago

C read replica with additional indexes give benefits. PG => BT dev efforts to migrate

upvoted 1 times

Question #41 Topic 1

You need to migrate existing databases from Microsoft SQL Server 2016 Standard Edition on a single Windows Server 2019 Datacenter Edition to a single Cloud SQL for SQL Server instance. During the discovery phase of your project, you notice that your on-premises server peaks at around 25,000 read IOPS. You need to ensure that your Cloud SQL instance is sized appropriately to maximize read performance. What should you do?

A. Create a SQL Server 2019 Standard on Standard machine type with 4 vCPUs, 15 GB of RAM, and 800 GB of solid-state drive (SSD). B. Create a SQL Server 2019 Standard on High Memory machine type with at least 16 vCPUs, 104 GB of RAM, and 200 GB of SSD. C. Create a SQL Server 2019 Standard on High Memory machine type with 16 vCPUs, 104 GB of RAM, and 4 TB of SSD.

D. Create a SQL Server 2019 Enterprise on High Memory machine type with 16 vCPUs, 104 GB of RAM, and 500 GB of SSD.

Correct Answer: B

Community vote distribution

C (100%)

fredcaram Highly Voted 1 year, 4 months ago

Selected Answer: C

Given that Google SSD performance is related to the size of the disk in an order of 30

IOPS for each GB, ti would require at least 833 GB to handle 25000 IOPS, the only answer that exceeds this value is C.

https://cloud.google.com/compute/docs/disks/performance

upvoted 9 times

learnazureportal Most Recent 8 months ago

The correct answer is ==> B. Create a SQL Server 2019 Standard on High Memory machine type with at least 16 vCPUs, 104 GB of RAM, and 200 GB of SSD

focus on "at least" keyword

upvoted 2 times

dynamic_dba 1 year, 1 month ago

C.

D is wrong since the IOPS would not improve based upon the edition of SQL Server. IOPS increases with the amount of storage, so the most amount of storage is C with 4 TB. I checked this using the GCP console and C is correct.

upvoted 2 times

GCP72 1 year, 4 months ago

Selected Answer: C

Agree C is the correct answer

upvoted 2 times

pk349 1 year, 4 months ago

C: Create a SQL Server 2019 Standard on High Memory machine type with 16 vCPUs, ***** 104 GB of RAM, and 4 TB of SSD. upvoted 1 times

Popa 1 year, 4 months ago

Selected Answer: C

A disk size of 4TB or greater provides more throughput and IOPS. Storage: >= 4TB for the best IOPS https://cloud.google.com/sql/docs/sqlserver/best-practices#admin

upvoted 3 times

Question #42 Topic 1

You are managing a small Cloud SQL instance for developers to do testing. The instance is not critical and has a recovery point objective (RPO) of several days. You want to minimize ongoing costs for this instance. What should you do?

A. Take no backups, and turn off transaction log retention.

B. Take one manual backup per day, and turn off transaction log retention.

C. Turn on automated backup, and turn off transaction log retention. D. Turn on automated backup, and turn on transaction log retention.

Correct Answer: B

Community vote distribution

C (100%)

juliorevk 7 months ago

Selected Answer: C

C and not B because as per: https://cloud.google.com/sql/docs/mysql/backup-recovery/backups

On-demand backups are not automatically deleted the way automated backups are. They persist until you delete them or until their instance is deleted. Because they are not automatically deleted, on-demand backups can have a long-term effect on your billing charges. upvoted 1 times

theseawillclaim 7 months, 1 week ago

Selected Answer: C

C is the one.

Manual backups are always discouraged, and transaction log can be removed for a cheap, dev DB. upvoted 1 times

felipeschossler 1 year ago

Selected Answer: C

I think that is C but I didn't find any link that corroborates with my opinion

upvoted 1 times

Pilot50 1 year ago

Selected Answer: C

B is manual process and can't be the right approach for automation

upvoted 1 times

dynamic_dba 1 year, 1 month ago

C.

A is wrong since there is an RPO. B requires manual intervention which partly defeats the object of using a managed service like Cloud SQL. D is wrong since retaining transaction logs would permit point-in-time recovery which is not required.
That leaves C.

upvoted 3 times

csrazdan 1 year, 3 months ago

Selected Answer: C

Automatic backups are incremental where as manual backups are full. Other than compute time for manual backup, storage costs will also increase upvoted 1 times

GCP72 1 year, 4 months ago

Selected Answer: C

C. Turn on automated backup, and turn off transaction log retention. upvoted

3 times

pk349 1 year, 4 months ago

C: Turn on automated backup, and turn off transaction log retention. upvoted

1 times

fredcaram 1 year, 4 months ago

Selected Answer: C

There is no need to have the overload of using a manual backup, you could schedule an automatic one once a day upvoted 2 times

Question #43 Topic 1

You manage a meeting booking application that uses Cloud SQL. During an important launch, the Cloud SQL instance went through a maintenance event that resulted in a downtime of more than 5 minutes and adversely affected your production application. You need to immediately address the maintenance issue to prevent any unplanned events in the future. What should you do?

A. Set your production instance's maintenance window to non-business hours.

B. Migrate the Cloud SQL instance to Cloud Spanner to avoid any future disruptions due to maintenance.

C. Contact Support to understand why your Cloud SQL instance had a downtime of more than 5 minutes.

D. Use Cloud Scheduler to schedule a maintenance window of no longer than 5 minutes.

Correct Answer: B

Community vote distribution

A (100%)

fredcaram Highly Voted 1 year, 4 months ago

Selected Answer: A

A makes more sense than changing products

upvoted 5 times

LaxmanTiwari Most Recent 3 months, 2 weeks ago

Selected Answer: A

upvoted 1 times

vodkaHN 4 months, 1 week ago

Selected Answer: A

Changing service is too risky. ==> A

upvoted 1 times

dynamic_dba 1 year, 1 month ago

A.

Migrating to a different platform is a bit extreme, so eliminate B. C would be a good idea in any event, but is not the best answer here. D is not how you manage maintenance windows on Cloud SQL. A is the best answer. upvoted 1 times

GCP72 1 year, 4 months ago

Selected Answer: A

A is the correct answer

upvoted 4 times

pk349 1 year, 4 months ago

A: Set your production instance's maintenance window to ***** non-business hours.

upvoted 2 times

lapeyus 1 year, 4 months ago

Selected Answer: A

maintenance window

upvoted 3 times

Kloudgeek 1 year, 4 months ago

Correct Answer is A

upvoted 2 times

Question #44 Topic 1

You are designing a highly available (HA) Cloud SQL for PostgreSQL instance that will be used by 100 databases. Each database contains 80 tables that were migrated from your on-premises environment to Google Cloud. The applications that use these databases are located in multiple regions in the US, and you need to ensure that read and write operations have low latency. What should you do?

A. Deploy 2 Cloud SQL instances in the us-central1 region with HA enabled, and create read replicas in us-east1 and us-west1. B. Deploy 2 Cloud SQL instances in

the us-central1 region, and create read replicas in us-east1 and us-west1.

C. Deploy 4 Cloud SQL instances in the us-central1 region with HA enabled, and create read replicas in us-central1, us-east1, and us-west1. D. Deploy 4 Cloud SQL instances in the us-central1 region, and create read replicas in us-central1, us-east1 and us-west1.

Correct Answer: B

Community vote distribution

A (57%) C (43%)

SandyZA Highly Voted 1 year, 3 months ago

A is correct. We only have 8000 tables. More than 1 HA env is only required beyond 50000 tables

If you have 50,000 or more database tables on a single instance, it could result in the instance becoming unresponsive or unable to perform maintenance operations, and the instance is not covered by the SLA. upvoted 8 times

H_S 1 year, 1 month ago

although I agree with your answe, table limit is for mysql and not postgresql

https://cloud.google.com/sql/docs/mysql/quotas#table_limit

upvoted 1 times

Highly Voted 1 year, 1 month ago

dynamic_dba

A.

B and D do not mention HA, so eliminate those. That leaves A and C. C talks about 4 instances with HA which presumably means 2 primaries each with an HA standby. Oddly, there are 4 zones in us-central1. The killer is having a read replica also in us-central1 which would mean the same zone would have a read replica and either a primary or HA standby. Not a good idea. Option A is the best choice. A primary and an HA standby in us central1 (different zones) and then read replicas in us-east1 and us-west1. upvoted 7 times

PKookNN Most Recent 3 months, 2 weeks ago

Selected Answer: A as I focus on low latency

upvoted 1 times

BIGQUERY_ALT_ALT 5 months, 1 week ago

The answer is C. you need a instance for a read replica not 2 per read replica.

upvoted 1 times

Blackstile 6 months, 1 week ago

Selected Answer: A

Answer C is wrong because the question suggests low-latency and replication for 4 region INCREASE latency.

Answer A is correct because attend the two requirements high availability and low latency.

The Key for this question is low latency.

upvoted 2 times

learnazureportal 8 months ago

The correct answer is == C. Deploy 4 Cloud SQL instances in the us-central1 region with HA enabled, and create read replicas in us-central1, us east1, and us-west1.

upvoted 1 times

Jason_Cloud_at 2 months, 1 week ago

we can't have both primary and read replica in same region, it will not be considered as HA

i will stick with A. upvoted

1 times

KennyHuang 11 months, 1 week ago

Selected Answer: C

This option provides high availability with four instances in the primary region, ensuring redundancy and fault tolerance. By creating read replicas in us-central1, us-east1, and us-west1, read operations can be distributed across multiple regions, reducing latency for applications in those regions. This design allows for efficient and low-latency read operations while maintaining high availability.

Option C is the recommended choice as it combines HA with multiple read replicas in different regions, providing both high availability and low latency read operations for your multi-region application setup. upvoted 3 times GCP72 1 year, 4 months ago

Selected Answer: C

Why not " C" is an answer

upvoted 3 times

pk349 1 year, 4 months ago

A: Deploy 2 Cloud SQL instances in the us-central1 region ***** with HA enabled, and create read replicas in us-east1 and us-west1.
upvoted 4 times

chelbsik 1 year, 4 months ago

Selected Answer: A

We only need options with HA enabled and 4 databases with 3 read replicas (each?) seems overkill to me. upvoted 5 times

Question #45 Topic 1

You work in the logistics department. Your data analysis team needs daily extracts from Cloud SQL for MySQL to train a machine learning model. The model will be used to optimize next-day routes. You need to export the data in CSV format. You want to follow Google-recommended practices. What should you do?

A. Use Cloud Scheduler to trigger a Cloud Function that will run a select * from table(s) query to call the cloudsql.instances.export API. B. Use Cloud Scheduler to trigger a Cloud Function through Pub/Sub to call the cloudsql.instances.export API.

C. Use Cloud Composer to orchestrate an export by calling the cloudsql.instances.export API.

D. Use Cloud Composer to execute a select * from table(s) query and export results.

Correct Answer: A

Community vote distribution

B (58%) C (26%) A (16%)

chelbsik Highly Voted 1 year, 4 months ago

Selected Answer: B

https://cloud.google.com/blog/topics/developers-practitioners/scheduling-cloud-sql-exports-using-cloud-functions-and-cloud-scheduler upvoted 8 times

Pime13 Most Recent 3 days, 13 hours ago

Selected Answer: B https://cloud.google.com/sql/docs/mysql/backup-recovery/scheduling backups#creating_a_pub_sub_topic_a_cloud_function_and_a_cloud_scheduler_job

upvoted 1 times

nhiguchi 6 months ago

Selected Answer: C

C is correct.

upvoted 2 times

learnazureportal 7 months, 1 week ago

The most accurate answer based on Google-recommended practices would be C

upvoted 1 times

KennyHuang 11 months, 1 week ago

Selected Answer: C

C is the recommended choice as it leverages Cloud Composer's workflow orchestration capabilities to schedule and automate the export process.

By calling the cloudsql.instances.export API within the workflow, you can ensure that the data is exported from Cloud SQL for MySQL in CSV forma as needed by your data analysis team. upvoted 2 times

KennyHuang 11 months, 1 week ago

Selected Answer: C

Cloud Composer is a fully managed workflow orchestration service. It allows you to define and manage complex workflows using Apache Airflow. By using Cloud Composer, you can create a workflow that includes a task to export data from Cloud SQL for MySQL using the cloudsql.instances.export API. You can specify the export format as CSV to meet the requirement of your data analysis team. This approach provides a scalable and manageable solution for regular data exports.

Therefore, option C is the recommended choice as it leverages Cloud Composer's workflow orchestration capabilities to schedule and automate the export process. By calling the cloudsql.instances.export API within the workflow, you can ensure that the data is exported from Cloud SQL for MySQL in CSV format as needed by your data analysis team. upvoted 1 times

dynamic_dba 1 year, 1 month ago

B.

Performing a “SELECT * FROM TABLE” wouldn’t give you CSV output and that alone wouldn’t call an API. Eliminate A. There’s no need for Cloud Composer in this scenario, especially when the solution is a known combination of Cloud Scheduler, Cloud Function and a Pub/Sub Topic, which is B. upvoted 4 times

njda 7 months, 3 weeks ago

why will someone use 3 services when it can be done using 1 service only, in this case composer. Secondly export can be for multiple tables, an ,cloud functions has a execution time limit.?

C still looks most appropriate solution.

upvoted 3 times

Nirca 1 year, 1 month ago

Selected Answer: B

https://cloud.google.com/blog/topics/developers-practitioners/scheduling-clo ud-sql-exports-using-cloud-functions-and-cloud-scheduler upvoted 2 times

[Removed] 1 year, 3 months ago

what if the query is large, Cloud Function has limit? shouldn't it be C?

upvoted 2 times

sp57 1 year, 4 months ago

As noted in text from this link, Cloud Function can be triggered with/without pub/sub. I think distinction between A & B is suggestion in A the API called from query, which is not correct - the 'select query' is passed as parameter in call, so I think B is correct.

"Note that we could also have a Pub/Sub Trigger configured Cloud Function get triggered by the Scheduler by using the same steps given above to create a job. Except that in the target, you will select Pub/Sub and provide the Pub/Sub Topic name. At the scheduler trigger time, the Cloud Scheduler will publish a message to the topic with the message body that you specify." https://rominirani.com/google-

cloud-functions-tutorial-using-the -cloud-scheduler-to-trigger-your-functions-756160a95c43 upvoted 3 times

GCP72 1 year, 4 months ago

Selected Answer: A

A is the correct answer, PUSUB is not required for this task

upvoted 3 times

cardareel 7 months, 2 weeks ago

Doing a SELECT * won't call the API. Pub/Sub is not needed, you are correct, the problem is the SELECT * (nothing to do there).
upvoted 1 times

pk349 1 year, 4 months ago

A: Use Cloud Scheduler to trigger a Cloud Function that will run a select * from table(s) query to call the cloudsql.instances.export *** API. upvoted 2 times

gabrielosluz 1 year, 2 months ago

The answer is letter B. Google recomends this pattern to perform this task:
https://cloud.google.com/sql/docs/mysql/backup recovery/scheduling-backups

upvoted 2 times

cardareel 7 months, 2 weeks ago

Doing a SELECT * won't call the API. Pub/Sub is not needed, you are correct, the problem is the SELECT * (nothing to do there). upvoted 1 times