EXAM PROFESSIONAL DATA ENGINEER TOPIC 1 QUESTION 214 DISCUSSION

Actual exam question from Google's Professional Data Engineer
Question #: 214
Topic #: 1
[All Professional Data Engineer Questions]

You have a Standard Tier Memorystore for Redis instance deployed in a production environment. You need to simulate a Redis instance failover in the most accurate disaster recovery situation, and ensure that the failover has no impact on production data. What should you do?

A. Create a Standard Tier Memorystore for Redis instance in the development environment. Initiate a manual failover by using the limited-data-loss data protection mode.

B. Create a Standard Tier Memorystore for Redis instance in a development environment. Initiate a manual failover by using the force-data-loss data protection mode.

C. Increase one replica to Redis instance in production environment. Initiate a manual failover by using the force-data-loss data protection mode.

D. Initiate a manual failover by using the limited-data-loss data protection mode to the Memorystore for Redis instance in the production environment.

Show Suggested Answer

by e70ea9e at *Dec. 30, 2023, 9:39 a.m.*

Comments

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MaxNRG Highly Voted 1 year, 3 months ago

Selected Answer: B

The best option is B - Create a Standard Tier Memorystore for Redis instance in a development environment. Initiate a manual failover by using the force-data-loss data protection mode.
The key points are:
• The failover should be tested in a separate development environment, not production, to avoid impacting real data.
• The force-data-loss mode will simulate a full failover and restart, which is the most accurate test of disaster recovery.
• Limited-data-loss mode only fails over reads which does not fully test write capabilities.
• Increasing replicas in production and failing over (C) risks losing real production data.
• Failing over production (D) also risks impacting real data and traffic.
So option B isolates the test from production and uses the most rigorous failover mode to fully validate disaster recovery capabilities.

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desertlotus1211 Most Recent 1 month, 2 weeks ago

Answer A is best suited for an 'accurate disaster recovery' scenario...

limited-data-loss mode is Google's recommended failover simulation mode:

Promotes the replica.

Attempts to minimize data loss (vs. force failover).

Mimics a realistic Redis failover due to a zonal outage or instance crash.

upvoted 1 times

Parandhaman_Margan 1 month, 3 weeks ago

Selected Answer: D

Initiate a manual failover by using the limited-data-loss data protection mode to the Memorystore for Redis instance in the production environment.

upvoted 1 times

desertlotus1211 1 month, 2 weeks ago

did you read this part? ' ensure that the failover has no impact on production data'....
Answer D is wrong.

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SamuelTsch 6 months, 1 week ago

Selected Answer: B

The question says "no impact on production data" Thus, the best practice is about simulating in a different environment. force-data-loss mode covers the most accurate disaster recovery situation.
(https://cloud.google.com/memorystore/docs/redis/about-manual-failover)

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mi_yulai 6 months, 2 weeks ago

D:
"A standard tier Memorystore for Redis instance uses a replica node to back up the primary node. A normal failover occurs when the primary node becomes unhealthy, causing the replica to be designated as the new primary. A manual failover differs from a normal failover because you initiate it yourself."
The limited-data-loss mode minimizes data loss by verifying that the difference in data between the primary and replica is below 30 MB before initiating the failover. The offset on the primary is incremented for each byte of data that must be synchronized to its replicas.

upvoted 1 times

mayankazyour 8 months, 1 week ago

Selected Answer: A

We are trying to simulate the disaster recovery on a redis Instance and we want minimum data loss.
Therefore, Option A - create a test Standard Tier Memorystore for Redis instance in Dev Environment and use the limited data loss data protection mode, seems to be the correct option here.

upvoted 1 times

anyone_99 10 months ago

D seems correct. We are required to simulate and not test in a different environment.
"How data protection modes work
The limited-data-loss mode minimizes data loss by verifying that the difference in data between the primary and replica is below 30 MB before initiating the failover. The offset on the primary is incremented for each byte of data that must be synchronized to its replicas. In the limited-data-loss mode, the failover will abort if the greatest offset delta between the

primary and each replica is 30MB or greater. If you can tolerate more data loss and want to aggressively execute the failover, try setting the data protection mode to force-data-loss.

The force-data-loss mode employs a chain of failover strategies to aggressively execute the failover. It does not check the offset delta between the primary and replicas before initiating the failover; you can potentially lose more than 30MB of data changes."

upvoted 1 times

tibuenoc 1 year, 3 months ago

Selected Answer: B

https://cloud.google.com/memorystore/docs/redis/about-manual-failover

upvoted 2 times

datapassionate 1 year, 3 months ago

Selected Answer: B

B. Create a Standard Tier Memorystore for Redis instance in a development environment. Initiate a manual failover by using the force-data-loss data protection mode

upvoted 1 times

Matt_108 1 year, 3 months ago

Selected Answer: B

Best option is B - no impact on production env and forces a full failover

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raaad 1 year, 4 months ago

Selected Answer: C

Increasing the number of replicas in a Redis instance in a production environment means that we will have additional copies of the same data and thats why failover will not impact the production data

upvoted 1 times

MaxNRG 1 year, 3 months ago

"no impact on production data" - not C nor D

upvoted 1 times

e70ea9e 1 year, 4 months ago

Selected Answer: C

Separate Development Environment:

Isolates testing from production, preventing any impact on live data or services.
Provides a safe and controlled environment for simulating failover scenarios.

upvoted 1 times