Google Discussions

EXAM PROFESSIONAL DATA ENGINEER TOPIC 1 QUESTION 231 DISCUSSION

Actual exam question from Google's Professional Data Engineer
Question #: 231
Topic #: 1
[All Professional Data Engineer Questions]

You recently deployed several data processing jobs into your Cloud Composer 2 environment. You notice that some tasks are failing in Apache Airflow. On the monitoring dashboard, you see an increase in the total workers memory usage, and there were worker pod evictions. You need to resolve these errors. What should you do? (Choose two.)

A. Increase the directed acyclic graph (DAG) file parsing interval.

B. Increase the Cloud Composer 2 environment size from medium to large.

C. Increase the maximum number of workers and reduce worker concurrency.

D. Increase the memory available to the Airflow workers.

E. Increase the memory available to the Airflow triggerer.

Show Suggested Answer

by raaad at *Jan. 4, 2024, 5:09 p.m.*

Comments

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ML6 Highly Voted 8 months, 3 weeks ago

Selected Answer: D

If an Airflow worker pod is evicted, all task instances running on that pod are interrupted, and later marked as failed by Airflow. The majority of issues with worker pod evictions happen because of out-of-memory situations in workers.
You might want to:
- (D) Increase the memory available to workers.
- (C) Reduce worker concurrency. In this way, a single worker handles fewer tasks at once. This provides more memory or storage to each individual task. If you change worker concurrency, you might also want to increase the maximum number of workers. In this way, the number of tasks that your environment can handle at once stays the same. For example, if you reduce worker Concurrency from 12 to 6, you might want to double the maximum number of workers.

Source: https://cloud.google.com/composer/docs/composer-2/optimize-environments

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taka5094 Most Recent 1 month, 1 week ago

Selected Answer: C

CD
On the Monitoring dashboard, in the Workers section, observe the Worker Pods evictions graphs for your environment. The Total workers memory usage graph shows a total perspective of the environment. A single worker can still exceed the memory limit, even if the memory utilization is healthy at the environment level.
According to your observations, you might want to:
- Increase the memory available to workers.
- Reduce worker concurrency.
In this way, a single worker handles fewer tasks at once. This provides more memory or storage to each individual task. If you change worker concurrency, you might also want to increase the maximum number of workers. In this way, the number of tasks that your environment can handle at once stays the same. For example, if you reduce worker Concurrency from 12 to 6, you might want to double the maximum number of workers.

upvoted 1 times

desertlotus1211 1 month, 1 week ago

Answer is B,D

upvoted 2 times

Anudeep58 5 months, 1 week ago

Selected Answer: D

Answer C,D

According to your observations, you might want to:

Increase the memory available to workers.
Reduce worker concurrency. In this way, a single worker handles fewer tasks at once. This provides more memory or storage to each individual task. If you change worker concurrency, you might also want to increase the maximum number of workers. In this way, the number of tasks that your environment can handle at once stays the same. For example, if you reduce worker Concurrency from 12 to 6, you might want to double the maximum number of workers.

upvoted 1 times

desertlotus1211 1 month, 1 week ago

Reducing concurrency can reduce memory pressure per worker, but won't help if the memory limit per pod is too low

upvoted 1 times

virat_kohli 5 months, 2 weeks ago

Selected Answer: D

C. Increase the maximum number of workers and reduce worker concurrency. Most Voted
D. Increase the memory available to the Airflow workers.

upvoted 1 times

ML6 8 months, 3 weeks ago

Selected Answer: D

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Source: https://cloud.google.com/composer/docs/composer-2/optimize-environments

upvoted 2 times

qq589539483084gfrgrgfr 9 months, 3 weeks ago

Selected Answer: C

CD It is clear

upvoted 3 times

Matt_108 9 months, 3 weeks ago

Selected Answer: C

C & D to me

upvoted 2 times

GCP001 9 months, 4 weeks ago

Selected Answer: C

C and D
Check ref for memory optimization - https://cloud.google.com/composer/docs/composer-2/optimize-environments

upvoted 4 times

AllenChen123 9 months, 3 weeks ago

Agree. Straightforward.
https://cloud.google.com/composer/docs/composer-2/optimize-environments#monitor-scheduler
-> Figure 3. Graph that displays worker pod evictions

upvoted 4 times

qq589539483084gfrgrgfr 10 months ago

Selected Answer: B

B&D See this-
https://cloud.google.com/composer/docs/composer-2/troubleshooting-dags#task-fails-without-logs
go through the suggested fixes for If there are airflow-worker pods that show Evicted

upvoted 1 times

Jordan18 10 months ago

Selected Answer: C

C and D

upvoted 2 times

raaad 10 months ago

Selected Answer: B

B&D:
B :
- Scaling up the environment size can provide more resources, including memory, to the Airflow workers. If worker pod evictions are occurring due to insufficient memory, increasing the environment size to allocate more resources could alleviate the problem and improve the stability of your data processing jobs.

D:
- Increase the memory available to the Airflow workers. - Directly increasing the memory allocation for Airflow workers can address the issue of high memory usage and worker pod evictions. More memory per worker means that each worker can handle more demanding tasks or a higher volume of tasks without running out of memory.

upvoted 3 times

GCP001 9 months, 3 weeks ago

why not B) It s not decreasing concurrency which may cause issue again

upvoted 2 times