

Copy Activity: ADF not auto-detecting Oracle table partitions

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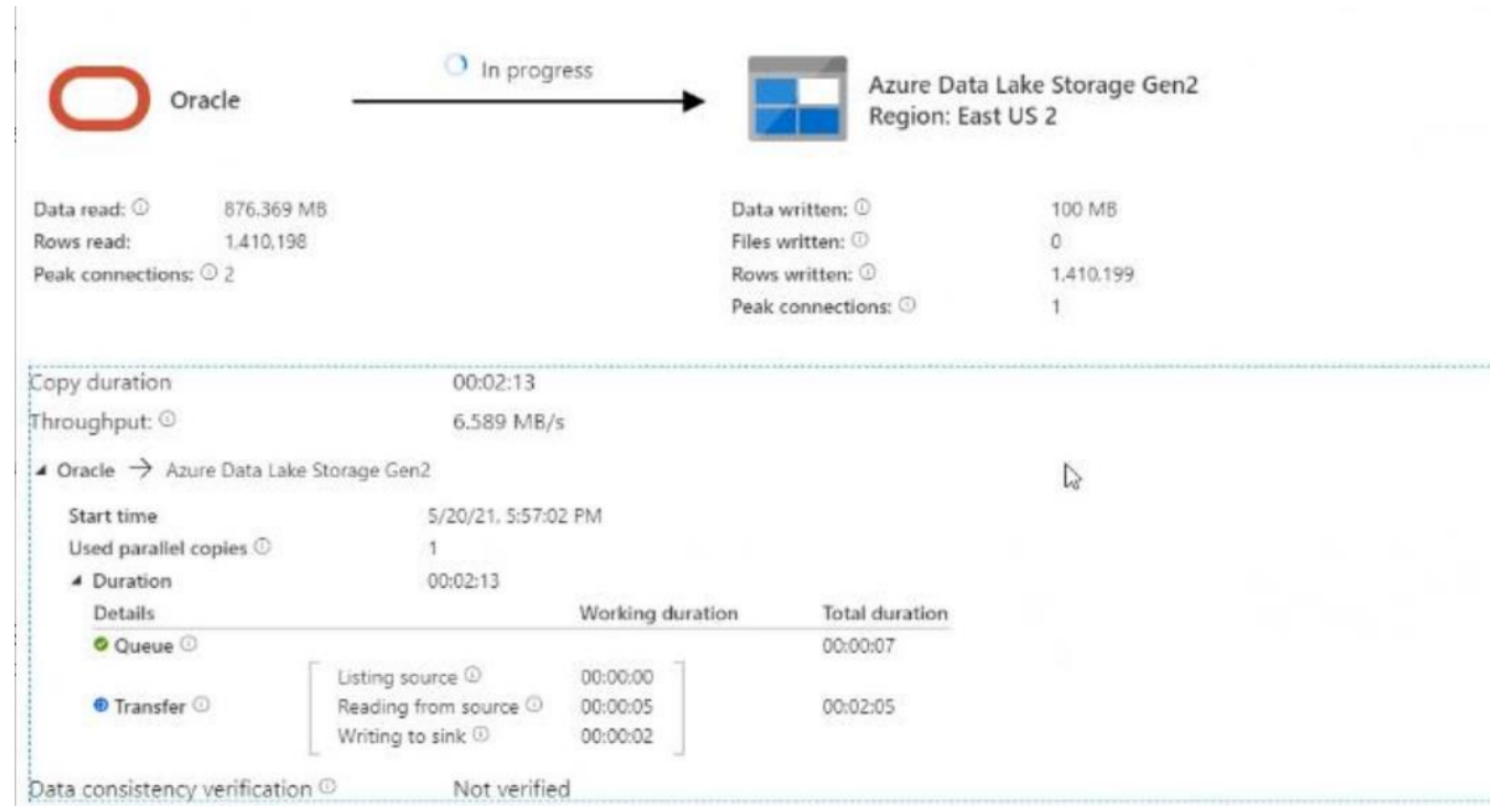
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Issue Overview

- The customer is using a copy activity to copy data from their On-premises Oracle Server to Azure Data Lake Gen2. The oracle version is supported by Azure Data Factory.
- As per the official documentation: <https://docs.microsoft.com/en-us/azure/data-factory/connector?oracle?tabs=data-factory>, Azure Data Factory must auto-detect the partitions in the source table if the customer has chosen the partition option as physical partition of the table.
- In this scenario, the customer source table has physical partitions, but ADF is not able to auto-detect these partitions. Due to this, the pipeline performance is degraded.
- The pipeline run completes successfully but take a huge amount of time.

Symptoms

1. Used parallel copies in the Copy Activity details tab always remains 1. The speed is also very less.



2. Copy Activity Settings:

- The customer uses a query and has selected the option of physical partitions on the source settings tab. `SELECT * FROM CustomerTablename PARTITION("AdfTabularPartitionName")`
- As per the official documentation: <https://docs.microsoft.com/en-us/azure/data-factory/connector> oracle#parallel-copy-from-oracle "Partition name: Specify the partition name(s) to copy data from. If not specified, Data Factory automatically detects the physical partitions on the table you specified in the Oracle dataset."
- The customer does not specify the partition name as there are 200+ partitions. But the data factory fails to automatically detect the partitions and execute the query.

3. When the customer manually specifies the partition names, ADF easily detects them, and the copy activity speed is increased. The value of "Used Parallel Copies" is also increased.

Cause

- Oracle database has a table named as DBA_TAB_PARTITIONS which has a list of all the partitions present in your oracle table.
- ADF accesses this table to auto-detect the table partitions. For this, ADF uses the username used while creating the linked service to access the DBA_TAB_PARTITIONS table.
- If the user used in the creation of the linked service does not have access to this DBA_TAB_PARTITIONS table, ADF will not be able to auto-detect any partitions.

Resolution

- You need to ask the customer to assign permissions to the username used while creating the linked service to the DBA_TAB_PARTITIONS table.
- Post assigning all the permissions, the performance of the copy activity will increase and the value of the used parallel copies will also increase.

Additional Information

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Tags:

- Oracle partitions, auto-detect, copy activity

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