

# CDC0001: LogFull-LogNearFull due to CDC Capture job failure(Non-MI)

Last updated by | Keith Elmore | Apr 5, 2021 at 7:57 AM PDT

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## Issue

This TSG is for the case when you see this message Log full "This log full health property is due to Change data capture (CDC) being enabled on the database. Please take a look at the TSG related to Change data capture [TSG: CDC0001]."

On a Non-MI, if **log\_reuse\_wait\_desc** is REPLICATION, it is likely that the capture job for CDC is holding up the log from getting truncated. In order to verify that please follow the steps below

- Use the backup-restore log full triage.xts with the appropriate region and the server name
- Check that the log\_reuse\_wait\_desc is "REPLICATION" in the Physical Database Info pane

Check if db is enabled for CDC from sys.databases Non MI: Likely whitelisted subscriptions in CDC SqlAzure Whitelist Details

## Investigation/Analysis

Capture job reads the logs and adds records to the change table. The capture job has to be run frequently for the logs to get truncated. In order to check if the capture job ran properly use the query below from Kusto to check if the capture job ran in the last 1 hour

In Kusto -> Select the appropriate region for the database and run:

```
MonCDCTraces
| where TIMESTAMP > ago(1h)
| where LogicalServerName contains {"LogicalServerName"}
| where logical_database_name contains {"LogicalDatabaseName"}
```

Check the **end\_time**, **empty\_scan\_count**, **error\_count**, **phase\_number**, **failed\_session\_count** for any errors.

The bold fields are usually where there are discrepancies.

- **End\_time:** Find the end last end\_time for the capture job using the query in the section 'Capture job not run' below, if the end time is more than 1hour ago update the customer that the capture job is not run or needs to run more frequently to not cause log nearfull/full.
- **Error\_count:** Error\_count > 0 indicates that the capture job ran into some errors mostly soft failure. More context can be derived after cdc\_error events are added to the Kusto Telemetry
- **Failed\_session\_count:** This is a hard failure, if the value of this field repeatedly shows as '1' then the capture job is hitting an exception.
- **Phase\_number:** The phase\_number for a completed session is expected to be '8' or 'Done'. If anything else it is a discrepancy.
- **Empty\_scan\_count:** If empty\_scan\_count is > 0 we must confirm with the customer in order to verify that the underlying tables on which cdc was enabled did not have any DML changes which resulted in an empty scan.

## Mitigation

- Capture job not run:

If there are no traces in the last 1 hour for the databases means that the capture job was not run at all. If this is a dynamics database we should raise an incident against them indicating that they should run the capture job to prevent the log hold up.

To check when was the capture job run last in Kusto run the following query

Execute: [Web](#) [Desktop] [Web Lens](#) [Desktop (SAW)] <https://sqladhoc.kustomfa.windows.net/sqlazure1>

```
MonCDCTraces
| where AppTypeName contains "Worker.ISO"
| summarize arg_max(end_time, *) by LogicalServerName, logical_database_name
| where logical_database_name contains <"databasename"> and LogicalServerName contains <"servername">
```

- Capture job ran with errors:

The first step in order to investigate this is to get any errors from the customer.

We need to reference sql the error code against the codebase to investigate further.

If the traces show that the capture job is repeatedly failing(i.e failed\_session\_count > 0 or error\_count > 0) that means that the capture job ran into issues and needs further investigation,

please raise ICM and provide the data from the Kusto table and the SQL error received from the customer for the issue.

## Public Doc Reference (optional)

Is db Standard or Premium db? Standard db is in Remote Storage. For limits on log size see <https://azure.microsoft.com/en-us/pricing/details/storage/page-blobs/>

## Internal Reference (optional)

Incase customer request or analysis is to increase transactional log size, please raise ICM

## Root Cause Classification

Cases resolved by this TSG should be coded to the following root cause:

<Root cause path>

**\*\*How good have you found this content?\*\***

