

Workflow for Index Maintenance and statistics

Last updated by | Vitor Tomaz | Feb 24, 2023 at 3:32 AM PST

Contents

- [Overview](#)
- [1 Scope the issue](#)
- [2 How to questions](#)
- [3 Error while creating / rebuild an index](#)
 - [3.1 Error on operation](#)
- [4 slow Rebuild / Create](#)
 - [4.1 Operation blocked](#)
 - [4.2 Resource related wait](#)
- [5 Performance or space issue in general](#)

Overview

The workflow below is designed to help you on Index maintenance and statistics support cases.

Start on 1.

1 Scope the issue

The customer is just asking questions? Go to 2

For an error while creating / rebuilding an index, go to 3

If the customer is complaining about a slow Rebuild / Create go to 4

The issue is related with performance or space consumption, go to 5

2 How to questions

Use this [FAQ](#) to support you in customer questions.

3 Error while creating / rebuild an index

Error in index creation can happen for a variety of reasons.

If it is a timeout or not progressing, the operation must be blocked. Check this [TSG](#) - might be worth to check first what is the wait type.

If is blocking go to 4.1.

If is Resource related go to 4.2

If is an error, go to 3.1

3.1 Error on operation

If the Index creation is failing referencing a duplicate key, check the TSG [Create Unique Index fails](#) to help you give valuable inputs to the customer

If the Index creation / rebuild is failing with space related issues, check this [TSG](#)

If the error is not reported by the customer, or the error message given by the customer is ambiguous, try to get it using the Kusto query:

```
let MIName = 'azuresqlmi2';
let startTime = datetime(2022-11-08 00:00:00.0000000);
let endTime = datetime(2022-11-10 00:00:00.0000000);
AllSQLErrorsReported
| where LogicalServerName =~ MIName
| where originalEventTimestamp >= startTime
| where originalEventTimestamp <= endTime
| project originalEventTimestamp, database_name, error_number, state , session_id
```

You get the error message using the error_number by running on any SQL Server

```
select * from sys.messages where message_id = <error_number>
```

4 slow Rebuild / Create

Check the [TSG](#). From checking the wait type, you can steer the analysis to different directions.

If is blocking go to 4.1.

If is Resource related go to 4.2

4.1 Operation blocked

Check this [TSG](#). The goal will be for you to identify the lead blocker.

From here the customer can decide if he wants to kill the lead blocker or wait for him to finish. Also the customer can explore other options: check this [TSG](#) for ONLINE and resumable index options.

4.2 Resource related wait

If the wait is Resource related check this [TSG](#) and this [TSG](#).

Also, the Index operation can be impacted by application workload. On ASC go to **Performance -> Overview**. Check for IO and CPU values during the operation. it might be that the customer needs to reschedule the operation, scale storage or CPU.

Also check for [Resumable index](#) that will allow to stop and resume the operation.

5 Performance or space issue in general

Customers might open cases on this category when they have performance problems. In other words, they might use this SAP when they don't have Index or statistics directly related issues, but general performance

related concerns.

If this is the case, use one of the already existing workflows depending on what is the issue description and your own analysis when looking at ASC **Performance** -> **Overview**:

[High CPU](#)

[High IO](#)

[Managing Space](#)

[Query timeout](#)

[Query tuning](#)

[Blocking and deadlocks](#)

How good have you found this content?

