

Query Store

Last updated by | Tariq Rasheed Al-Qaralleh | Dec 6, 2022 at 12:37 AM PST

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Query Store

Best Practice with the Query Store

<https://msdn.microsoft.com/en-us/library/mt604821.aspx>

Query Store: A flight data recorder for your database

<https://azure.microsoft.com/en-us/blog/query-store-a-flight-data-recorder-for-your-database/>

Monitoring Performance By Using the Query Store

<https://msdn.microsoft.com/en-us/library/dn817826.aspx>

PASS Summit 2015 - Query Store in SQL Server 2016 and Azure SQL Database (1.5 hours video)

<https://www.youtube.com/watch?v=nSZE18f4vew&feature=youtu.be&list=PLoGAcXKPCrVbJ5ge4J2DHSleRy4QjSLjw>

Kusto tables and sample queries

- MonQueryStoreInfo returns similar information as in sys.database_query_store_options DMV.

```
// Retrieving near equivalent of sys.database_query_store_options DMV
MonQueryStoreInfo
| where AppName =~ "{AppName}"
| where logical_database_name =~ "{LogicalDatabaseName}"
| where event in( "query_store_disk_size_info" , "query_store_db_diagnostics")
| where TIMESTAMP >= ago(6h)
| project TIMESTAMP, NodeName, logical_database_name, db_state_desired, db_state_actual, query_store_read_only
, current_size_kb, flush_interval_seconds, interval_length_minutes, max_size_mb, stale_query_threshold_day
, capture_policy_mode, capture_policy_execution_count
, capture_policy_total_compile_cpu_ms, capture_policy_total_execution_cpu_ms, capture_policy_stale_thresho
, size_based_cleanup_mode, wait_stats_capture_mode
```

- MonQueryStoreFailures return failure related information.

Sample query

```
MonQueryStoreFailures
| where AppName =~ "{AppName}"
//| project TIMESTAMP, LogicalServerName, logical_database_name, NodeName, event
| summarize count(), min(TIMESTAMP), max(TIMESTAMP) by event, error_number, logical_database_name
| order by max_TIMESTAMP desc
```

- Below Query returns Query Store Plan Forcing Timeout (error 8684).

Sample query

```
MonQueryStoreFailures
| where AppName =~ '{AppName}'
| where LogicalServerName =~ '{LogicalServerName}' and logical_database_name =~ '{LogicalDatabaseName}'
| where event =~ 'query_store_plan_forcing_failed_core' and error_number == 8684
| summarize first_occurrence = min(originalEventTimestamp), last_occurrence = max(originalEventTimestamp), count
| project last_occurrence, first_occurrence, query_id, plan_id, count = count_
| order by last_occurrence desc
```



- Events (not all listed) collect in MonQueryStoreFailures and its description.

Event	Description
query_store_background_task_initialization_failed	Fired if the background processing task for Query Store could not be initialized
query_store_background_task_persist_failed	Fired if the background task for Query Store data persistence is not completed successfully
query_store_buffered_items_over_memory_limit	Fired when Query Store buffered items memory size grows over allowed memory limit
query_store_capture_policy_abort_capture	Fired when an UNDECIDED query failed to transition to CAPTURED
query_store_catch_exception	Fired when Query Store encounters an exception
query_store_database_initialization_failed	Fired if initialization of the Query Store for database has failed. The Query Store will be disabled for this database
query_store_database_out_of_disk_space	Fired when Query Store hits an error because database is out of disk space
query_store_disk_size_check_failed	Fired when a check against Query Store on-disk size limit fails
query_store_disk_size_over_limit	Fired when Query Store disk size grows over allowed limit
query_store_failed_to_capture_query_core	Fired if the Query Store failed to capture query. The Query Store will not track statistics for this query. Contains only core non-customer data which can be used to identify issue.
query_store_failed_to_find_resource_group	Fired when Query Store resource group is not initialized
query_store_failed_to_load_forced_plan_core	Fired if the query failed to load forced plan from Query Store. Forcing policy will not be applied. Contains only core non-customer data which can be used to identify issue.
query_store_generate_showplan_failure	Fired when Query Store failed to store a query plan because the showplan generation failed.

query_store_hints_init_failed	Fired if initialization of the Query Store Hints for database has failed. The Query Store Hints will be disabled for this database.
query_store_notify_force_failure_failed	Fired when Query Store failed to notify force failure
query_store_plan_forcing_failed_core	Occurs when forcing of plan from Query Store fail, this version doesn't have error message text
query_store_read_write_failed	Fired if the read/write to Query Store internal tables failed
query_store_resource_total_over_instance_limit	Fired when Query Store sum of sizes for specified resource for all databases on instance is over the instance limit for that resource
query_store_schema_consistency_check_failure	Fired when the Query Store schema consistency check failed
query_store_severe_error_shutdown	Fired when Query Store hits a severe error which causes it to shutdown in error state.
query_store_stmt_hash_map_over_memory_limit	Fired when Query Store statement hash map memory size grows over allowed memory limit

Classification

Root cause path -

Azure SQL v3/Performance/How-to/advisory

How good have you found this content?



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