

# Identify Poorly Performing Queries

Three Tools You Already Own

**NO FOOD OR DRINKS IN THE CLASSROOMS**

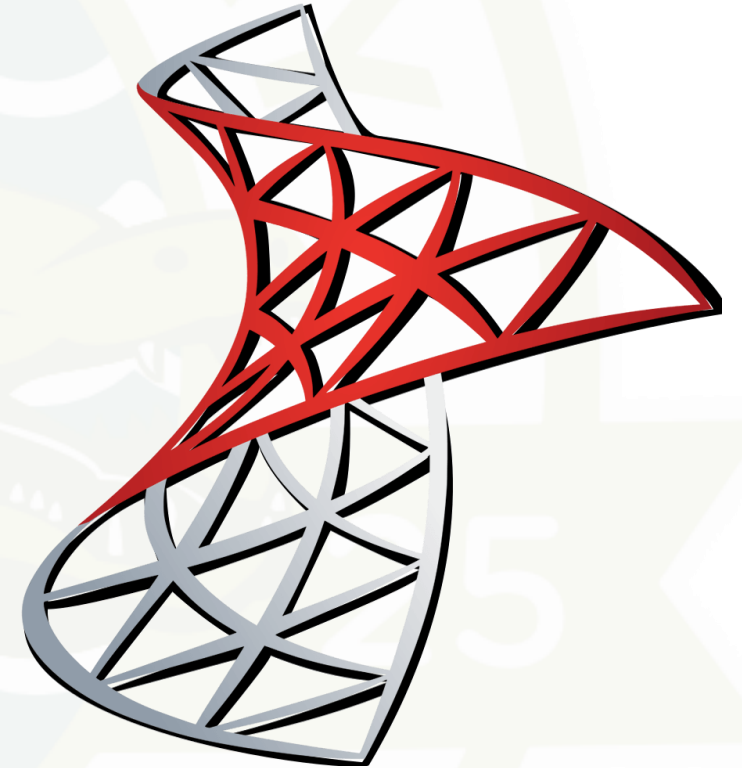
# SQL Saturday Baton Rouge 2025



Thank you, Sponsors!

## Agenda

1. Understand the query performance tuning process
2. Learn about the importance of measuring query performance
3. Discover the three tools you can use to achieve these goals



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# Easy Query Tuning



## Actual Query Tuning





## Capturing Query Metrics

- Include Client Statistics
- Connection Properties
- SET STATISTICS TIME
- QueryTimeStats in an actual execution plan
- Query Store
- Dynamic Management Views
- Trace Events
- Extended Events

## Capturing Query Metrics

- Dynamic Management Views
- Extended Events (2012+)
- Query Store (2016+)





## Notes on Query Metrics

- Have two points to compare
- Use all the metrics, not just one
- Execution plans are not a measure of performance
- Don't forget execution count

## Dynamic Management Views

- Ubiquitous (means they're everywhere)
- Easy
- Aggregation only
- Cache dependent
- No comparison point unless you make one

## Dynamic Management Views

Live

sys.dm\_exec\_requests

sys.dm\_exec\_session\_wait\_stats

sys.dm\_exec\_sessions

Cache

sys.dm\_exec\_query\_stats

sys.dm\_exec\_XXX\_stats

Both

sys.dm\_exec\_query\_plan

sys.dm\_exec\_sql\_text

sys.dm\_exec\_text\_query\_plan

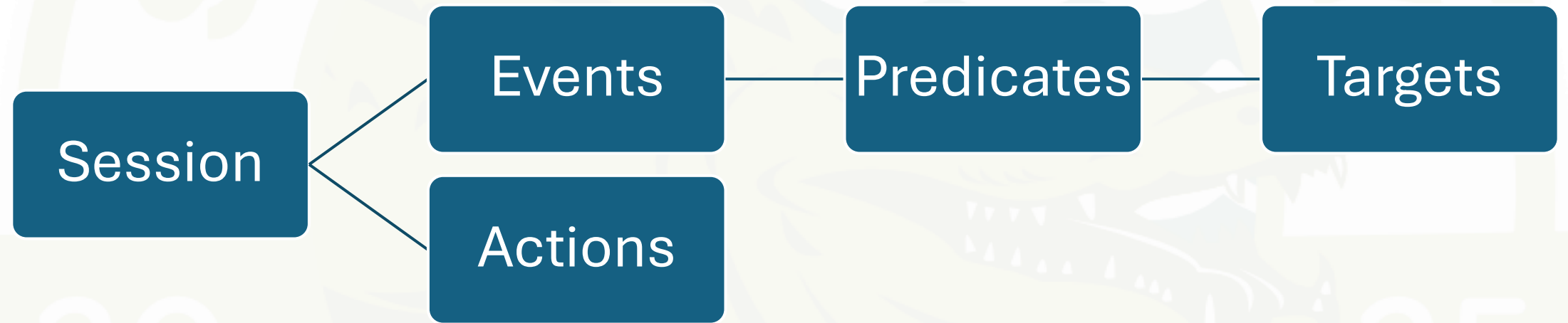
## Dynamic Management Views: A Cheaters Guide

- [Sp\\_whoisactive](#)
- [Glenn Berry's Diagnostic Information Queries](#)
- [DBA Tools](#)

## Extended Events

- 2012+
- Ubiquitous (2012+)
- Lightweight and low cost
- Superior filtering
- Stored on the server
- Functionality not available anywhere else
- The most detailed data
- Also, the costliest

## Extended Events



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## Extended Events: Learn The Live Data Explorer

localhost - QueryPerformance: Live Data								
Displaying 79 Events. SQL server events session stopped or no longer available.								
	name	timestamp	batch_text	statement	duration	cpu_time	logical_re...	
	sql_batch_complet...	2021-10-05 14:00...	use [AdventureWorks]	NULL	232	0	0	
	rpc_completed	2021-10-05 14:00...	NULL	exec sp_executesql N'SELECT	(C...	34051	28000	141
	rpc_completed	2021-10-05 14:00...	NULL	exec sp_executesql N'SELECT	(C...	2261	0	31
	sql_batch_complet...	2021-10-05 14:00...	SELECT SCHEMA_NAME(tbl sch...	NULL	31299	27000	393	
	rpc_completed	2021-10-05 14:00...	NULL	exec sp_executesql N'SELECT SCHEMA_NAM...	15153	7000	185	
	rpc_completed	2021-10-05 14:00...	NULL	exec sp_executesql N'SELECT	(C...	30787	14000	145
	rpc_completed	2021-10-05 14:00...	NULL	exec sp_executesql N'SELECT	...	16124	8000	76
	sql_batch_complet...	2021-10-05 14:00...	DBCC TRACEON (3604)	NULL	3143	2000	0	
	sql_batch_complet...	2021-10-05 14:00...	DBCC DBINFO	NULL	968	0	1	
	sql_batch_complet...	2021-10-05 14:00...	DBCC TRACEOFF (3604)	NULL	6971	6000	0	
	sql_batch_complet...	2021-10-05 14:00...	SELECT SCHEMA_NAME(obj sc...	NULL	57769	51000	928	
	rpc_completed	2021-10-05 14:00...	NULL	exec sp_executesql N'SELECT SCHEMA_NAM...	104576	93000	9303	
▶	rpc_completed	2021-10-05 14:00...	NULL	exec sp_executesql N'SELECT SCHEMA_NAM...	92719	86000	81195	
	sql_batch_complet...	2021-10-05 14:00...	SELECT SCHEMA_NAME(s sche...	NULL	10127	4000	155	
	sql_batch_complet...	2021-10-05 14:00...	SELECT SCHEMA_NAME(xproc...	NULL	9541	4000	126	
	sql_batch_complet...	2021-10-05 14:00...	SELECT st.name AS [Schema], s...	NULL	6905	7000	104	
	rpc_completed	2021-10-05 14:00...	NULL	exec sp_executesql N'SELECT st.name AS [Na...	30214	27000	171	
	rpc_completed	2021-10-05 14:00...	NULL	exec sp_executesql N'SELECT st.name AS [Na...	652	0	22	
	rpc_completed	2021-10-05 14:00...	NULL	exec sp_executesql N'SELECT st.name AS [Na...	556	0	22	
	rpc_completed	2021-10-05 14:00...	NULL	exec sp_executesql N'SELECT st.name AS [Na...	577	0	22	
	rpc_completed	2021-10-05 14:00...	NULL	exec sp_executesql N'SELECT st.name AS [Na...	547	0	22	
	rpc_completed	2021-10-05 14:00...	NULL	exec sp_executesql N'SELECT st.name AS [Na...	698	0	22	
	sql_batch_complet...	2021-10-05 14:00...	SELECT SCHEMA_NAME(tt sche...	NULL	6939	5000	82	
	sql_batch_complet...	2021-10-05 14:00...	SELECT stypes.name AS [Sche...	NULL	7656	3000	236	
	rpc_completed	2021-10-05 14:00...	NULL	exec sp_executesql N'SELECT dmns.column_id ...	90234	72000	617	
	rpc_completed	2021-10-05 14:00...	NULL	exec sp_executesql N'SELECT NULL AS [Text], l...	15756	10000	92	
	rpc_completed	2021-10-05 14:00...	NULL	exec sp_executesql N'SELECT udf.name AS [Na...	123989	109000	633	
	rpc_completed	2021-10-05 14:00...	NULL	exec sp_executesql N'SELECT param.parameter...	52823	53000	255	
	sql_batch_complet...	2021-10-05 14:00...	SELECT @@SPID;	NULL	189	0	0	
	rpc_completed	2021-10-05 14:00...	NULL	exec sp_executesql N'SELECT param.is_readonl...	52716	52000	310	
	rpc_completed	2021-10-05 14:00...	NULL	exec sp_executesql N'SELECT param.is_readonl...	1352	0	18	
	rpc_completed	2021-10-05 14:00...	NULL	exec sp_executesql N'SELECT param.is_readonl...	1103	0	18	
	rpc_completed	2021-10-05 14:00...	NULL	exec sp_executesql N'SELECT param.is_readonl...	1226	0	18	
	rpc_completed	2021-10-05 14:00...	NULL	exec sp_executesql N'SELECT dmns.column_id ...	114068	105000	486	
	sql_batch_complet...	2021-10-05 14:01...	--retrieving deadlocks DECLARE ...	NULL	8243254	6622000	48	



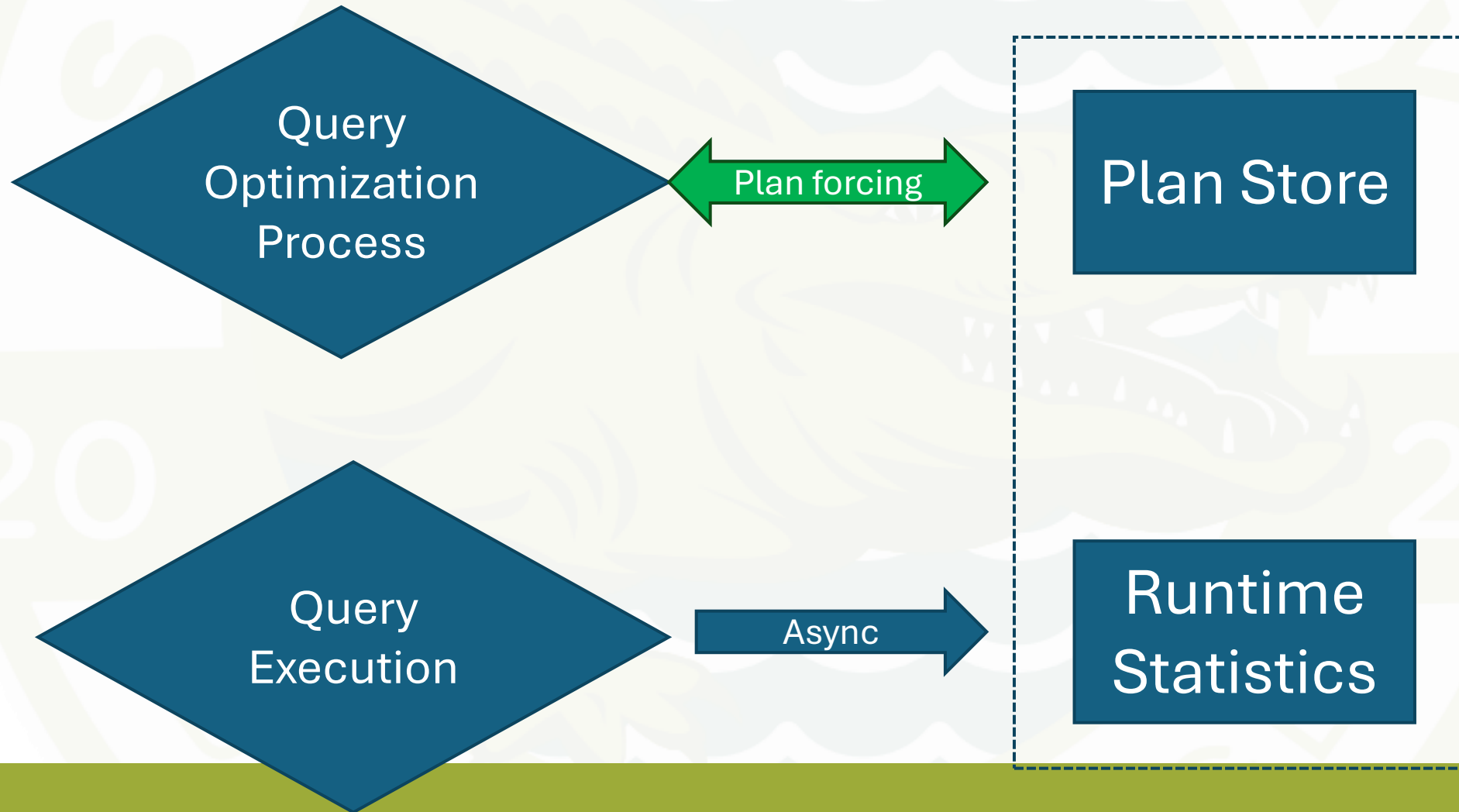
## Extended Events: A Cheaters Guide

- [DBA Tools](#)
- [Workload Tools](#)

## Query Store

- 2016+
- Azure SQL Database & Managed Instance (and PostgreSQL)
- Fairly lightweight
- Database driven
- Thorough information provided
- Aggregation only, but broken up by time
- Enabled by default, 2022+

## Query Store



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Demo!



## Capturing Query Metrics

- Dynamic Management Views
- Extended Events (2012+)
- Query Store (2016+)



## Further Knowledge

- [Dynamic Management Views](#)
- [Quick Start: Extended Events in SQL Server](#)
- [Monitoring Performance By Using the Query Store](#)
- [Query Store for SQL Server 2019](#)
- [SQL Server 2022 Query Performance Tuning](#)
- [Extended Events Live Data Window](#)

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Please complete you session evaluations



<https://www.sqlsatbr.com/session-evaluations>