MSSQL – “Troubleshooting Sprocs”

Quick Trainer Series

DRL
DATA RESEARCH LABS

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SSMS Troubleshooting System Stored Procedures

- **What are the Top 4 System Stored Procedures for Troubleshooting?**
- How to Use “sp_server_info” to Troubleshoot Version, Case, & Isolation
- How to Use “sp_help” to Troubleshoot Object Details
- How to Use “sp_monitor” to Troubleshoot Server Status
- How to Use “sp_who2” to Troubleshoot Deadlocks

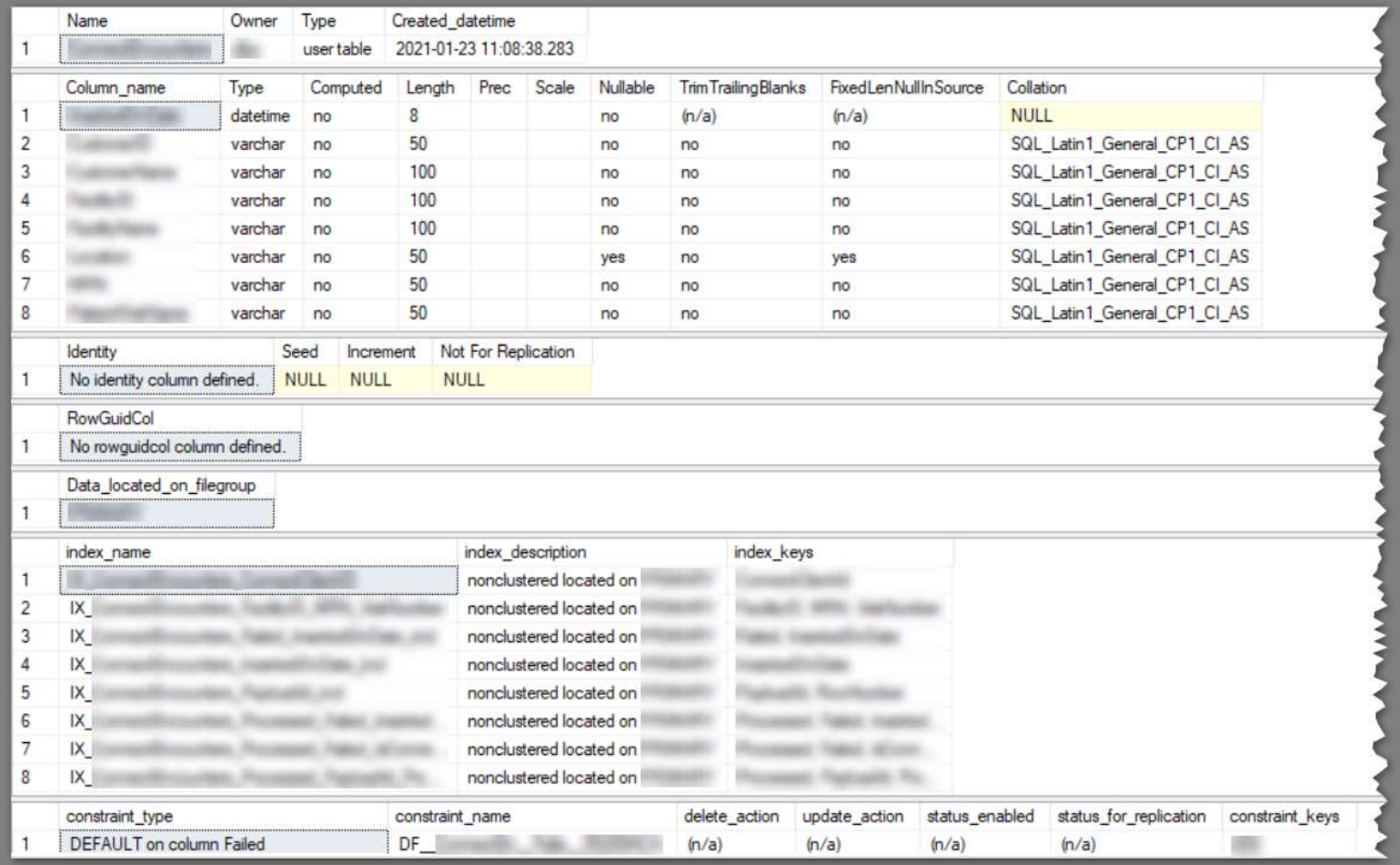
What are the Top 4 System Stored Procedures?

1. “sp_server_info”

	attribute_id	attribute_name	attribute_value
1	1	DBMS_NAME	Microsoft SQL Server
2	2	DBMS_VER	Microsoft SQL Server [redacted]
3	10	OWNER_TERM	owner
4	11	TABLE_TERM	table
5	12	MAX_OWNER_NAME_LENGTH	128
6	13	TABLE_LENGTH	128
7	14	MAX_QUAL_LENGTH	128
8	15	COLUMN_LENGTH	128
9	16	IDENTIFIER_CASE	MIXED
10	17	TX_ISOLATION	2
11	18	COLLATION_SEQ	charset=iso_1 sort_order=nocase_iso charset_num...
12	19	SAVEPOINT_SUPPORT	[redacted]
13	20	MULTI_RESULT_SETS	[redacted]
14	22	ACCESSIBLE_TABLES	[redacted]
15	100	USERID_LENGTH	128
16	101	QUALIFIER_TERM	[redacted]
17	102	NAMED_TRANSACTIONS	[redacted]
18	103	SPROC_AS_LANGUAGE	[redacted]
19	104	ACCESSIBLE_SPROC	[redacted]
20	105	MAX_INDEX_COLS	[redacted]
21	106	RENAME_TABLE	[redacted]
22	107	RENAME_COLUMN	[redacted]
23	108	DROP_COLUMN	[redacted]
24	109	INCREASE_COLUMN_LENGTH	[redacted]
25	110	DDL_IN_TRANSACTION	[redacted]
26	111	DESCENDING_INDEXES	[redacted]
27	112	SP_RENAME	[redacted]
28	113	REMOTE_SPROC	[redacted]
29	500	SYS_SPROC_VERSION	[redacted]

What are the Top 4 System Stored Procedures?

1. “sp_server_info”
2. “sp_help <tbl_name>”



	Name	Owner	Type	Created_datetime
1	[redacted]	[redacted]	user table	2021-01-23 11:08:38.283

	Column_name	Type	Computed	Length	Prec	Scale	Nullable	TrimTrailingBlanks	FixedLenNullInSource	Collation
1	[redacted]	datetime	no	8			no	(n/a)	(n/a)	NULL
2	[redacted]	varchar	no	50			no	no	no	SQL_Latin1_General_CP1_CI_AS
3	[redacted]	varchar	no	100			no	no	no	SQL_Latin1_General_CP1_CI_AS
4	[redacted]	varchar	no	100			no	no	no	SQL_Latin1_General_CP1_CI_AS
5	[redacted]	varchar	no	100			no	no	no	SQL_Latin1_General_CP1_CI_AS
6	[redacted]	varchar	no	50			yes	no	yes	SQL_Latin1_General_CP1_CI_AS
7	[redacted]	varchar	no	50			no	no	no	SQL_Latin1_General_CP1_CI_AS
8	[redacted]	varchar	no	50			no	no	no	SQL_Latin1_General_CP1_CI_AS

	Identity	Seed	Increment	Not For Replication
1	No identity column defined.	NULL	NULL	NULL

	RowGuidCol
1	No rowguidcol column defined.

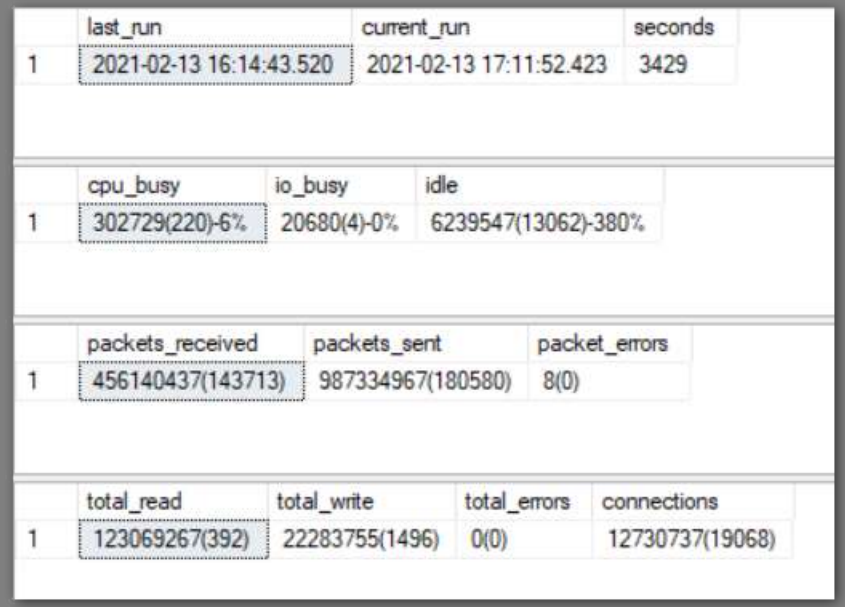
	Data_located_on_filegroup
1	[redacted]

	index_name	index_description	index_keys
1	[redacted]	nonclustered located on [redacted]	[redacted]
2	IX_[redacted]	nonclustered located on [redacted]	[redacted]
3	IX_[redacted]	nonclustered located on [redacted]	[redacted]
4	IX_[redacted]	nonclustered located on [redacted]	[redacted]
5	IX_[redacted]	nonclustered located on [redacted]	[redacted]
6	IX_[redacted]	nonclustered located on [redacted]	[redacted]
7	IX_[redacted]	nonclustered located on [redacted]	[redacted]
8	IX_[redacted]	nonclustered located on [redacted]	[redacted]

	constraint_type	constraint_name	delete_action	update_action	status_enabled	status_for_replication	constraint_keys
1	DEFAULT on column Failed	DF__[redacted]	(n/a)	(n/a)	(n/a)	(n/a)	[redacted]

What are the Top 4 System Stored Procedures?

1. “sp_server_info”
2. “sp_help <tbl_name>”
3. “sp_monitor”



	last_run	current_run	seconds
1	2021-02-13 16:14:43.520	2021-02-13 17:11:52.423	3429

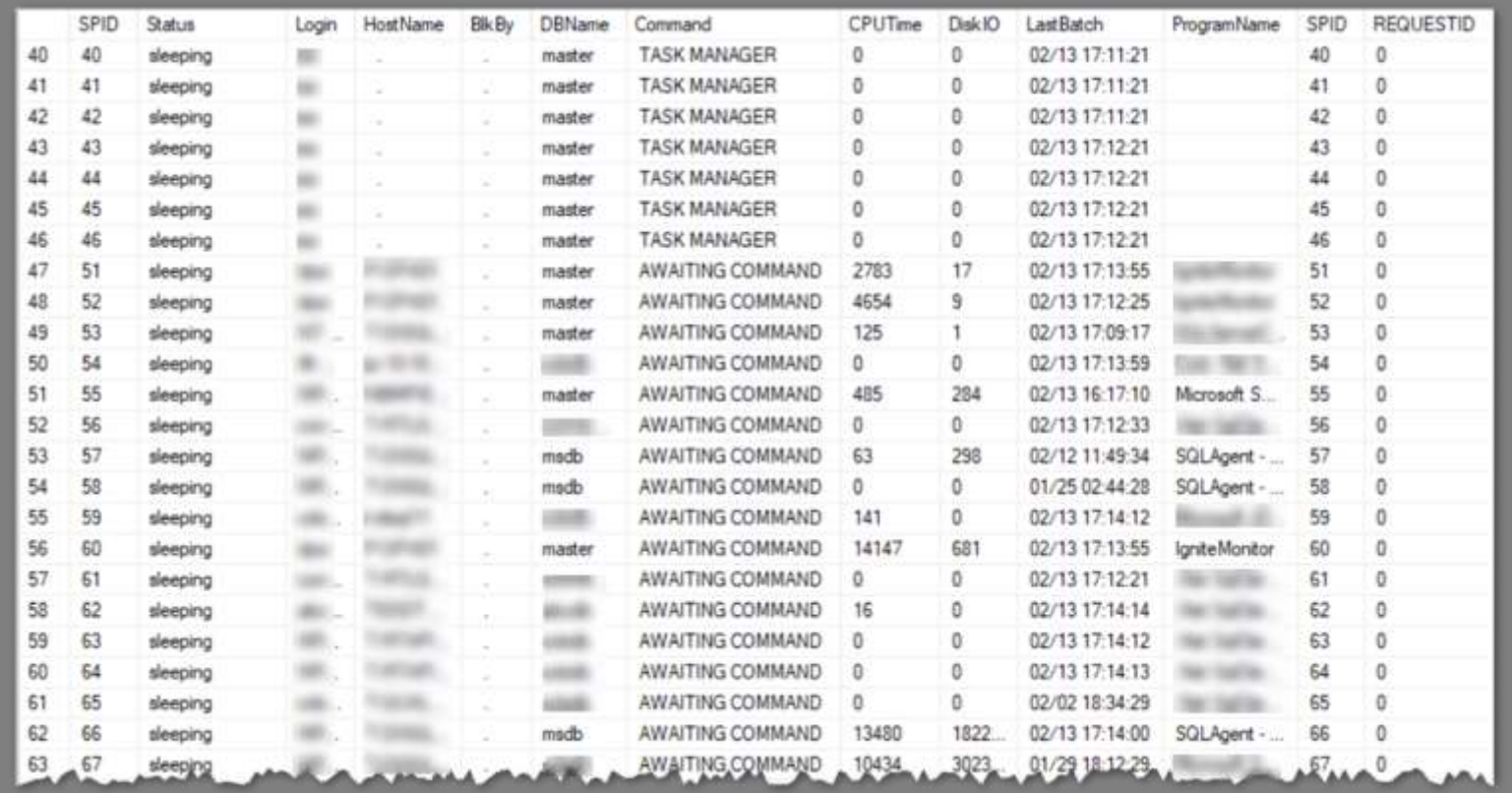
	cpu_busy	io_busy	idle
1	302729(220)-6%	20680(4)-0%	6239547(13062)-380%

	packets_received	packets_sent	packet_errors
1	456140437(143713)	987334967(180580)	8(0)

	total_read	total_write	total_errors	connections
1	123069267(392)	22283755(1496)	0(0)	12730737(19068)

What are the Top 4 System Stored Procedures?

1. “sp_server_info”
2. “sp_help <tbl_name>”
3. “sp_monitor”
4. “sp_who2”



	SPID	Status	Login	HostName	BlkBy	DBName	Command	CPUTime	DiskIO	LastBatch	ProgramName	SPID	REQUESTID
40	40	sleeping		.	.	master	TASK MANAGER	0	0	02/13 17:11:21		40	0
41	41	sleeping		.	.	master	TASK MANAGER	0	0	02/13 17:11:21		41	0
42	42	sleeping		.	.	master	TASK MANAGER	0	0	02/13 17:11:21		42	0
43	43	sleeping		.	.	master	TASK MANAGER	0	0	02/13 17:12:21		43	0
44	44	sleeping		.	.	master	TASK MANAGER	0	0	02/13 17:12:21		44	0
45	45	sleeping		.	.	master	TASK MANAGER	0	0	02/13 17:12:21		45	0
46	46	sleeping		.	.	master	TASK MANAGER	0	0	02/13 17:12:21		46	0
47	51	sleeping			.	master	AWAITING COMMAND	2783	17	02/13 17:13:55		51	0
48	52	sleeping			.	master	AWAITING COMMAND	4654	9	02/13 17:12:25		52	0
49	53	sleeping			.	master	AWAITING COMMAND	125	1	02/13 17:09:17		53	0
50	54	sleeping			.		AWAITING COMMAND	0	0	02/13 17:13:59		54	0
51	55	sleeping			.	master	AWAITING COMMAND	485	284	02/13 16:17:10	Microsoft S...	55	0
52	56	sleeping			.		AWAITING COMMAND	0	0	02/13 17:12:33		56	0
53	57	sleeping			.	msdb	AWAITING COMMAND	63	298	02/12 11:49:34	SQLAgent - ...	57	0
54	58	sleeping			.	msdb	AWAITING COMMAND	0	0	01/25 02:44:28	SQLAgent - ...	58	0
55	59	sleeping			.		AWAITING COMMAND	141	0	02/13 17:14:12		59	0
56	60	sleeping			.	master	AWAITING COMMAND	14147	681	02/13 17:13:55	IgniteMonitor	60	0
57	61	sleeping			.		AWAITING COMMAND	0	0	02/13 17:12:21		61	0
58	62	sleeping			.		AWAITING COMMAND	16	0	02/13 17:14:14		62	0
59	63	sleeping			.		AWAITING COMMAND	0	0	02/13 17:14:12		63	0
60	64	sleeping			.		AWAITING COMMAND	0	0	02/13 17:14:13		64	0
61	65	sleeping			.		AWAITING COMMAND	0	0	02/02 18:34:29		65	0
62	66	sleeping			.	msdb	AWAITING COMMAND	13480	1822...	02/13 17:14:00	SQLAgent - ...	66	0
63	67	sleeping			.		AWAITING COMMAND	10434	3023...	01/29 18:12:29		67	0

SSMS Troubleshooting System Stored Procedures

- What are the Top 4 System Stored Procedures for Troubleshooting?
- **How to Use “sp_server_info” to Troubleshoot Version, Case, & Isolation**
- How to Use “sp_help” to Troubleshoot Object Details
- How to Use “sp_monitor” to Troubleshoot Server Status
- How to Use “sp_who2” to Troubleshoot Deadlocks

How to Use “sp_server_info” for Troubleshooting

Definitions for “**sp_server_info**”…

“Returns a list of attribute names and matching values for SQL Server…”

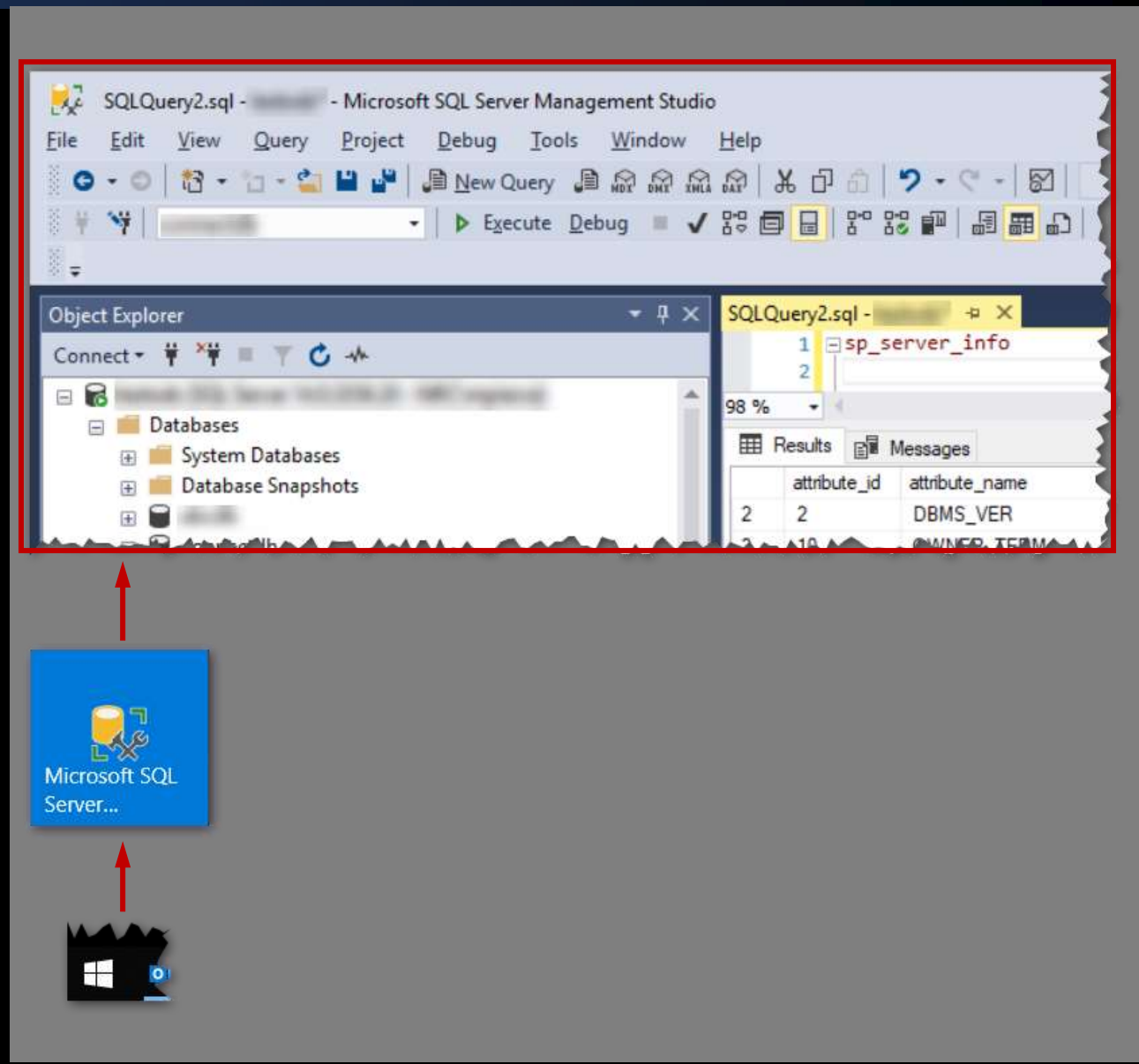
– docs.Microsoft.com

“…is a system stored procedure which returns a list of attribute names and matching values for SQL Server.”

– sqlknowledgebank.blogspot.com

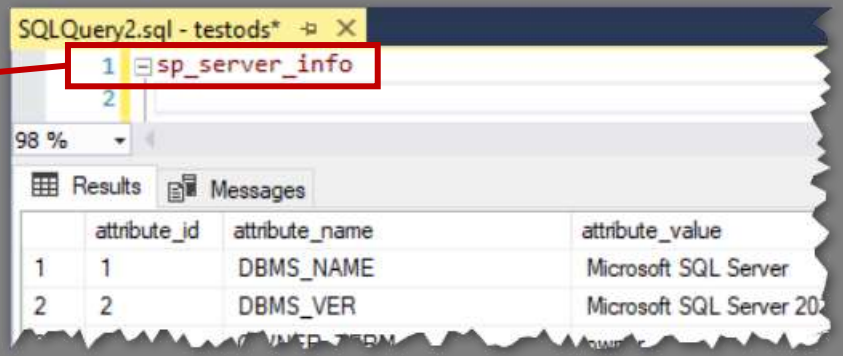
How to Use “sp_server_info” for Troubleshooting

- Starting from SSMS…



How to Use “sp_server_info” for Troubleshooting

- Starting from SSMS Query Window
- Execute “sp_server_info”



How to Use “sp_server_info” for Troubleshooting

- Starting from SSMS Query Window
- Execute “sp_server_info”
- Analyze results for…
  - “DBMS_VER”

    MSSQL 2017 – 14.0.1234.X

    Ex: You use a new SQL 2016 command like STRING_AGG and it works fine in DEV but fails in STAGE due to server version…well check all environment server versions first to ensure compatible before using new TSQL command

attribute_id	attribute_name	attribute_value
2	DBMS_VER	Microsoft SQL Server

How to Use “sp_server_info” for Troubleshooting

- Starting from SSMS Query Window
- Execute “sp_server_info”
- Analyze results for…
  - “DBMS_VER”
  - “IDENTIFIER_CASE”

    Values include:
    - MIXED or
    - SENSITIVE

    Ex: SQL might run fine in DEV, but then odd behavior in STAGE or PROD b/c server’s CASE is different…so WHERE clause on SELECT finds values ok when MIXED, but misses on downstream server having SENSITIVE

How to Use “sp_server_info” for Troubleshooting

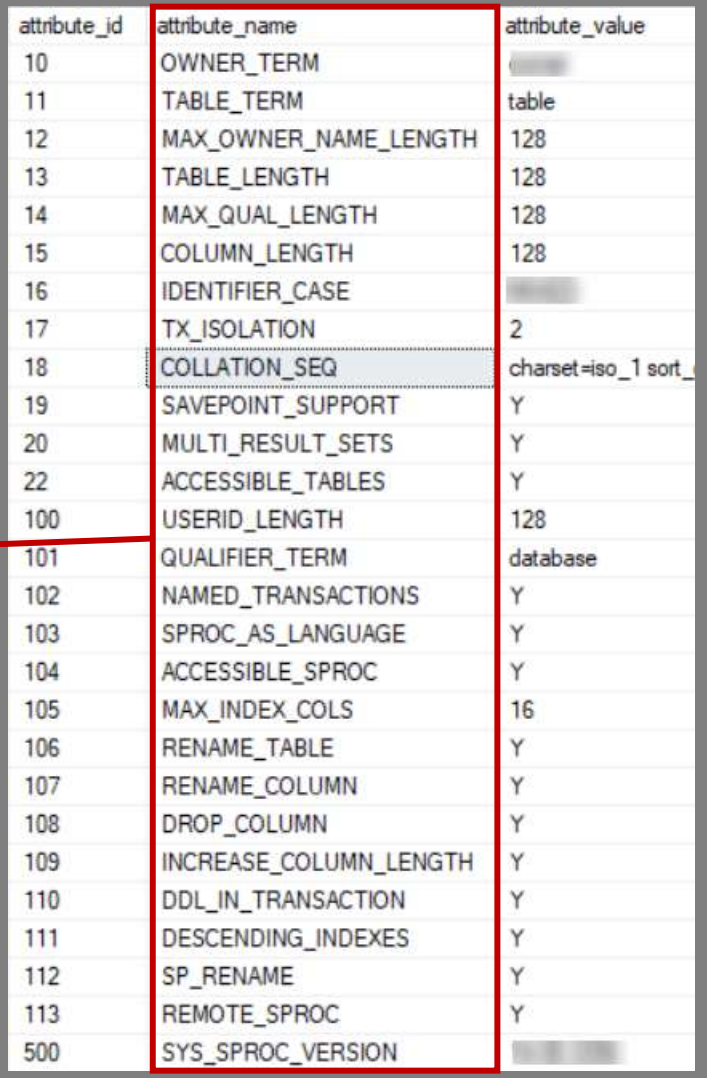
- Starting from SSMS Query Window
- Execute “sp_server_info”
- Analyze results for…
  - “DBMS_VER”
  - “IDENTIFIER_CASE”
  - “TX_ISOLATION”

    Should never by altered, default = 2
    SQL-92 ANSI Standard:
    1=Read Uncommitted (dirty reads, like nolock)
    2=Read Committed (default, no dirty reads)
    3=Repeatable Read (not write if read lock exists)
    4=Serializable (transactions tightly enforced)
    5=Snapshot Isolation (read values at start of tran)

    Ex: Be sure all env’s match, else get completely different locking behavior.

How to Use “sp_server_info” for Troubleshooting

- Starting from SSMS Query Window
- Execute “sp_server_info”
- Analyze results for…
  - “DBMS_VER”
  - “IDENTIFIER_CASE”
  - “TX_ISOLATION”
  - Other properties exist…



attribute_id	attribute_name	attribute_value
10	OWNER_TERM	[redacted]
11	TABLE_TERM	table
12	MAX_OWNER_NAME_LENGTH	128
13	TABLE_LENGTH	128
14	MAX_QUAL_LENGTH	128
15	COLUMN_LENGTH	128
16	IDENTIFIER_CASE	[redacted]
17	TX_ISOLATION	2
18	COLLATION_SEQ	charset=iso_1 sort_
19	SAVEPOINT_SUPPORT	Y
20	MULTI_RESULT_SETS	Y
22	ACCESSIBLE_TABLES	Y
100	USERID_LENGTH	128
101	QUALIFIER_TERM	database
102	NAMED_TRANSACTIONS	Y
103	SPROC_AS_LANGUAGE	Y
104	ACCESSIBLE_SPROC	Y
105	MAX_INDEX_COLS	16
106	RENAME_TABLE	Y
107	RENAME_COLUMN	Y
108	DROP_COLUMN	Y
109	INCREASE_COLUMN_LENGTH	Y
110	DDL_IN_TRANSACTION	Y
111	DESCENDING_INDEXES	Y
112	SP_RENAME	Y
113	REMOTE_SPROC	Y
500	SYS_SPROC_VERSION	[redacted]

SSMS Troubleshooting System Stored Procedures

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- How to Use “sp_server_info” to Troubleshoot Version, Case, & Isolation
- **How to Use “sp_help” to Troubleshoot Object Details**
- How to Use “sp_monitor” to Troubleshoot Server Status
- How to Use “sp_who2” to Troubleshoot Deadlocks

How to Use “sp_help” for Troubleshooting

Definitions for “**sp_help**”…

“Reports information about a database object…or data type”

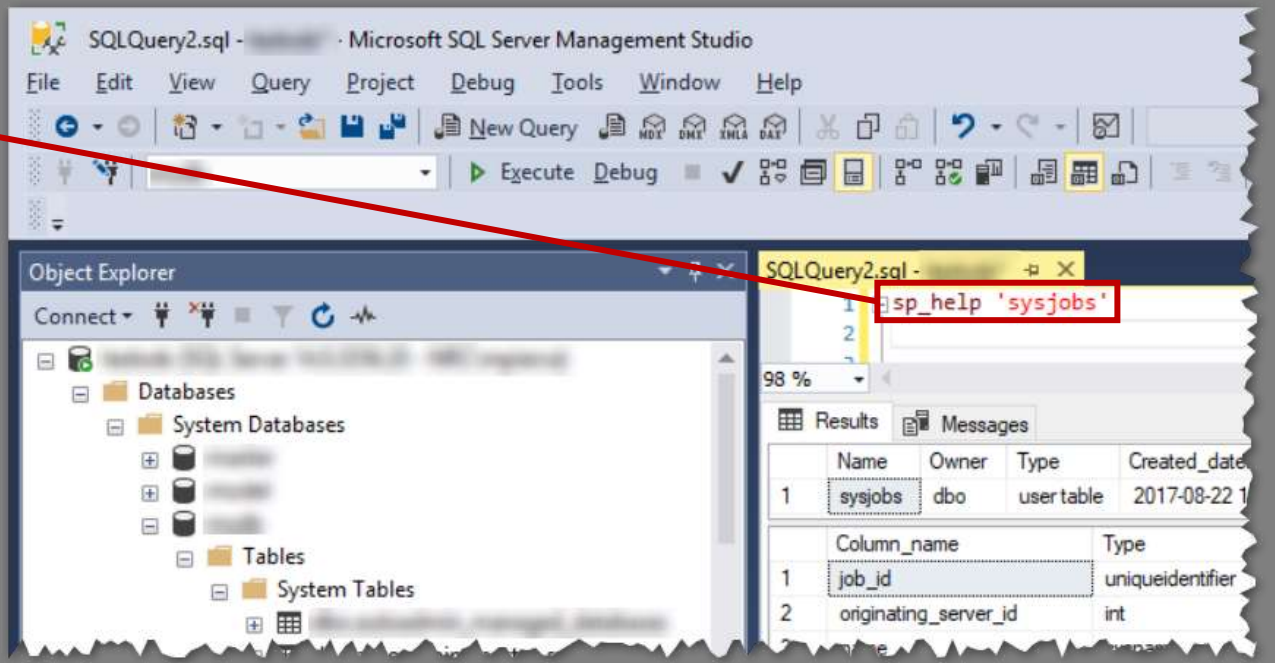
– docs.Microsoft.com

“Using sp_help to get help on a table, procedure, column, etc. If you only remember one system stored procedure, this is probably the one to choose.”

– www.wiseowl.co.uk/blog/s2522

How to Use “sp_help” for Troubleshooting

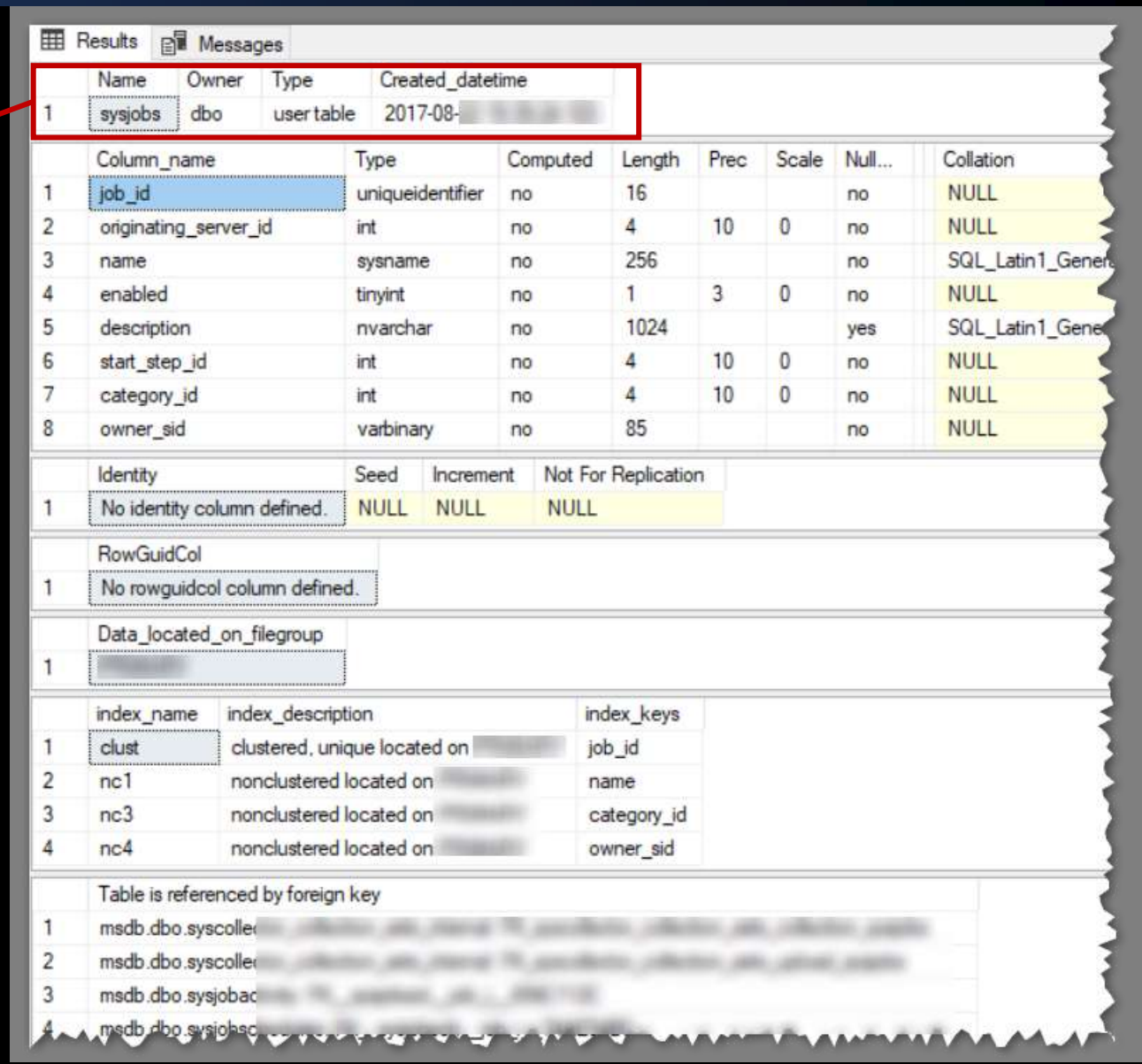
- Starting from SSMS…
- Execute “sp_help ‘sysjobs’ ”
  Is standard SQL system table



How to Use “sp_help” for Troubleshooting

- Starting from SSMS Query Window
- Execute “sp_help ‘sysjobs’ ”
- Analyze Results…
  - Table Details

    Note that this demo is for a table, but that other objects will have different properties displayed.



Results | Messages

	Name	Owner	Type	Created_datetime
1	sysjobs	dbo	user table	2017-08-

	Column_name	Type	Computed	Length	Prec	Scale	Null...	Collation
1	job_id	uniqueidentifier	no	16			no	NULL
2	originating_server_id	int	no	4	10	0	no	NULL
3	name	sysname	no	256			no	SQL_Latin1_Gener
4	enabled	tinyint	no	1	3	0	no	NULL
5	description	nvarchar	no	1024			yes	SQL_Latin1_Gene
6	start_step_id	int	no	4	10	0	no	NULL
7	category_id	int	no	4	10	0	no	NULL
8	owner_sid	varbinary	no	85			no	NULL

	Identity	Seed	Increment	Not For Replication
1	No identity column defined.	NULL	NULL	NULL

	RowGuidCol
1	No rowguidcol column defined.

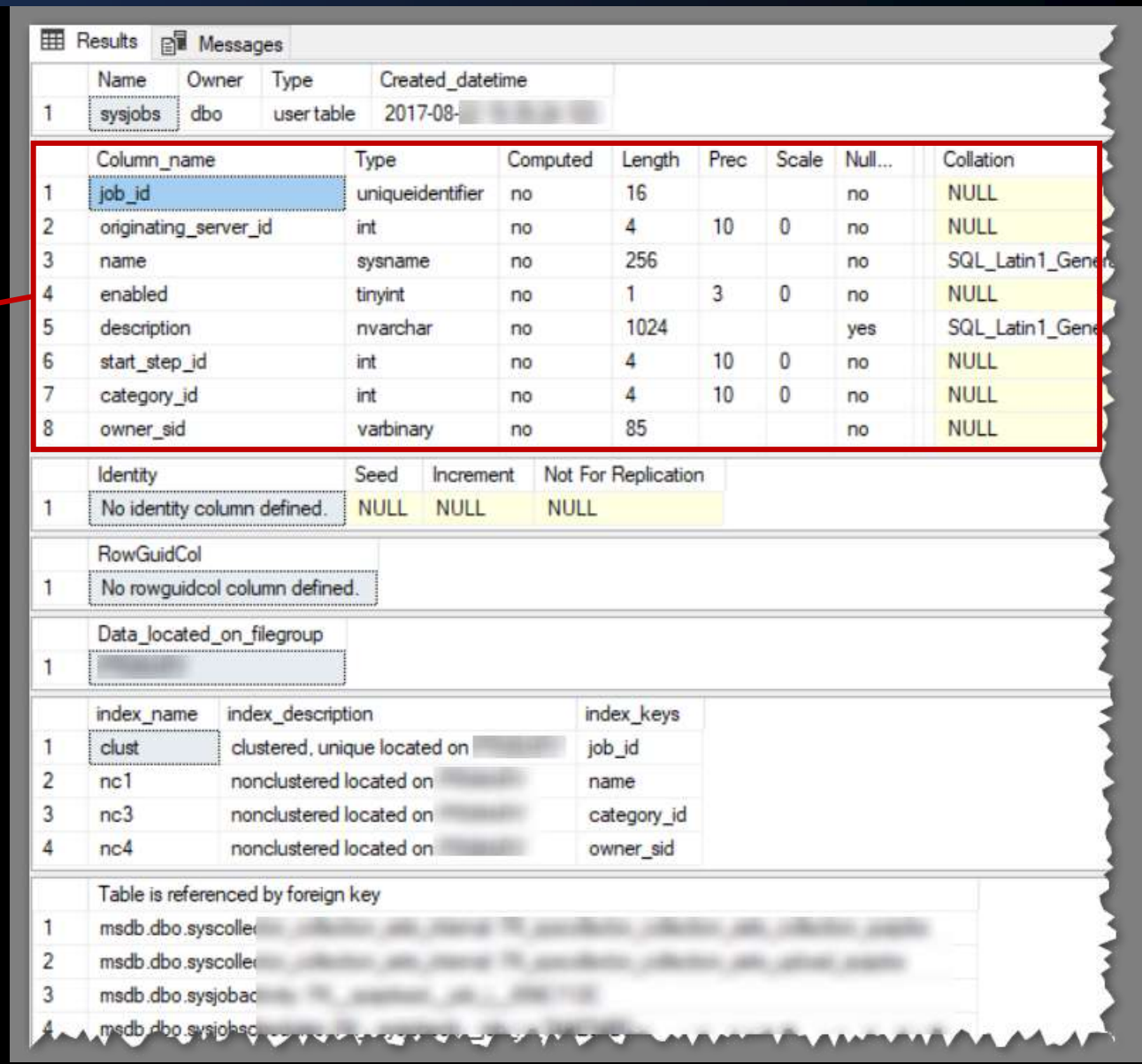
	Data_located_on_filegroup
1	

	index_name	index_description	index_keys
1	clust	clustered, unique located on	job_id
2	nc1	nonclustered located on	name
3	nc3	nonclustered located on	category_id
4	nc4	nonclustered located on	owner_sid

	Table is referenced by foreign key
1	msdb.dbo.syscolle
2	msdb.dbo.syscolle
3	msdb.dbo.sysjobac
4	msdb.dbo.sysjobsc

How to Use “sp_help” for Troubleshooting

- Starting from SSMS Query Window
- Execute “sp_help ‘sysjobs’ ”
- Analyze Results…
  - Table Details
  - Column Details



Results | Messages

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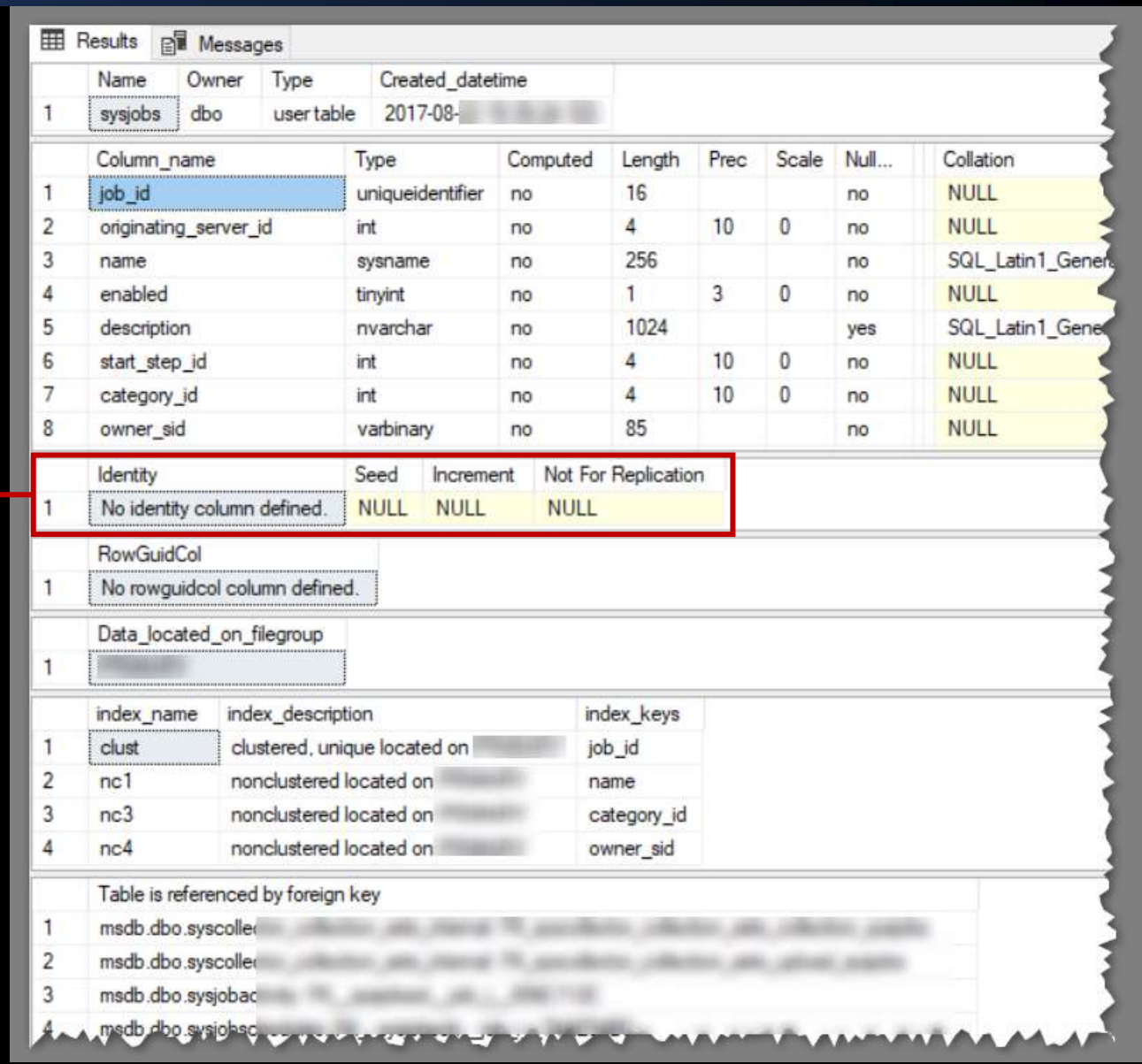
4	msdb.dbo.sysjobsc

How to Use “sp_help” for Troubleshooting

- Starting from SSMS Query Window
- Execute “sp_help ‘sysjobs’ ”
- Analyze Results…
  - Table Details
  - Column Details
  - Identity Details (if exists)



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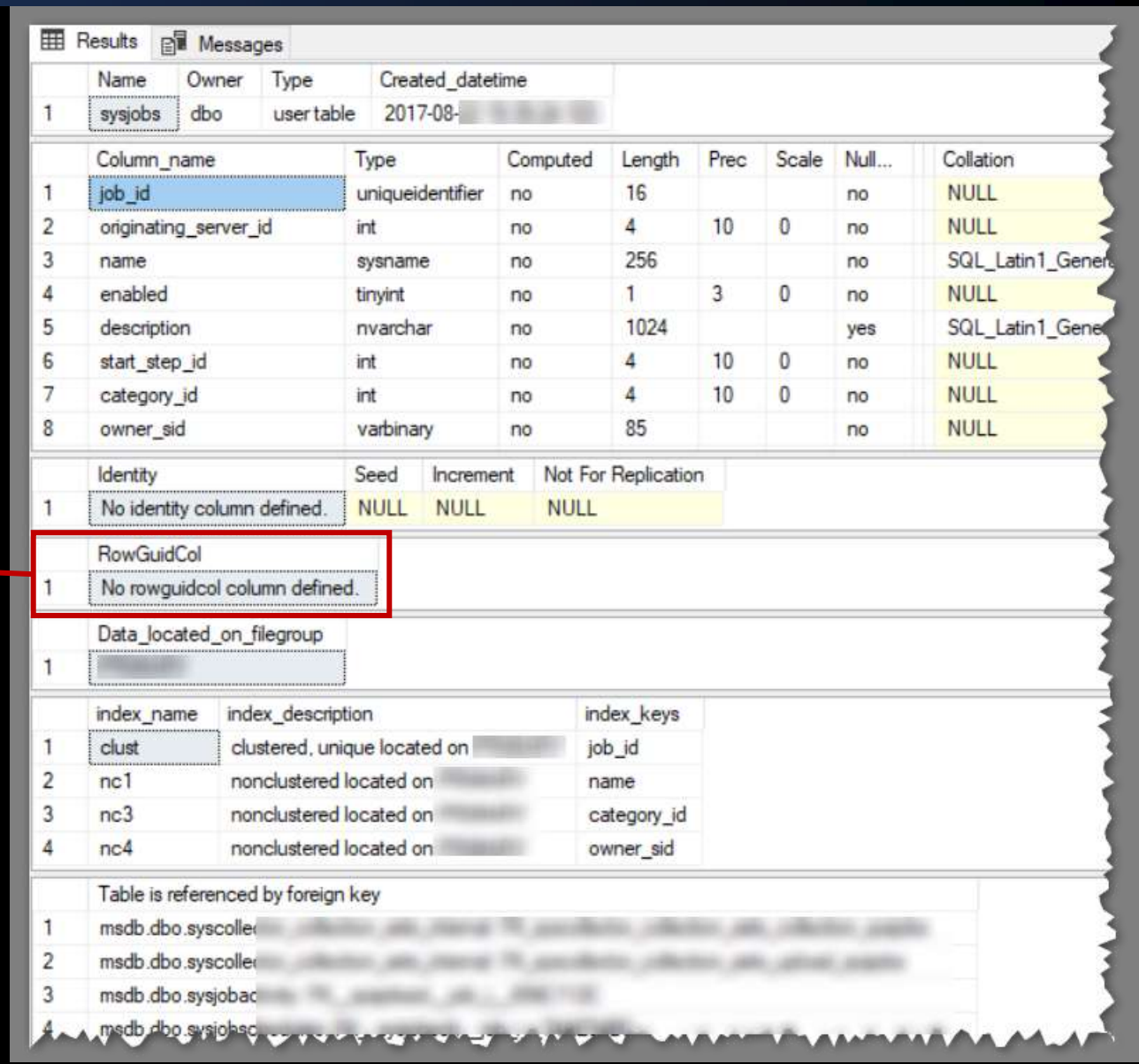
How to Use “sp_help” for Troubleshooting

- Starting from SSMS Query Window
- Execute “sp_help ‘sysjobs’ ”
- Analyze Results…
  - Table Details
  - Column Details
  - Identity Details (if exists)
  - Row GUID Details (if exists)



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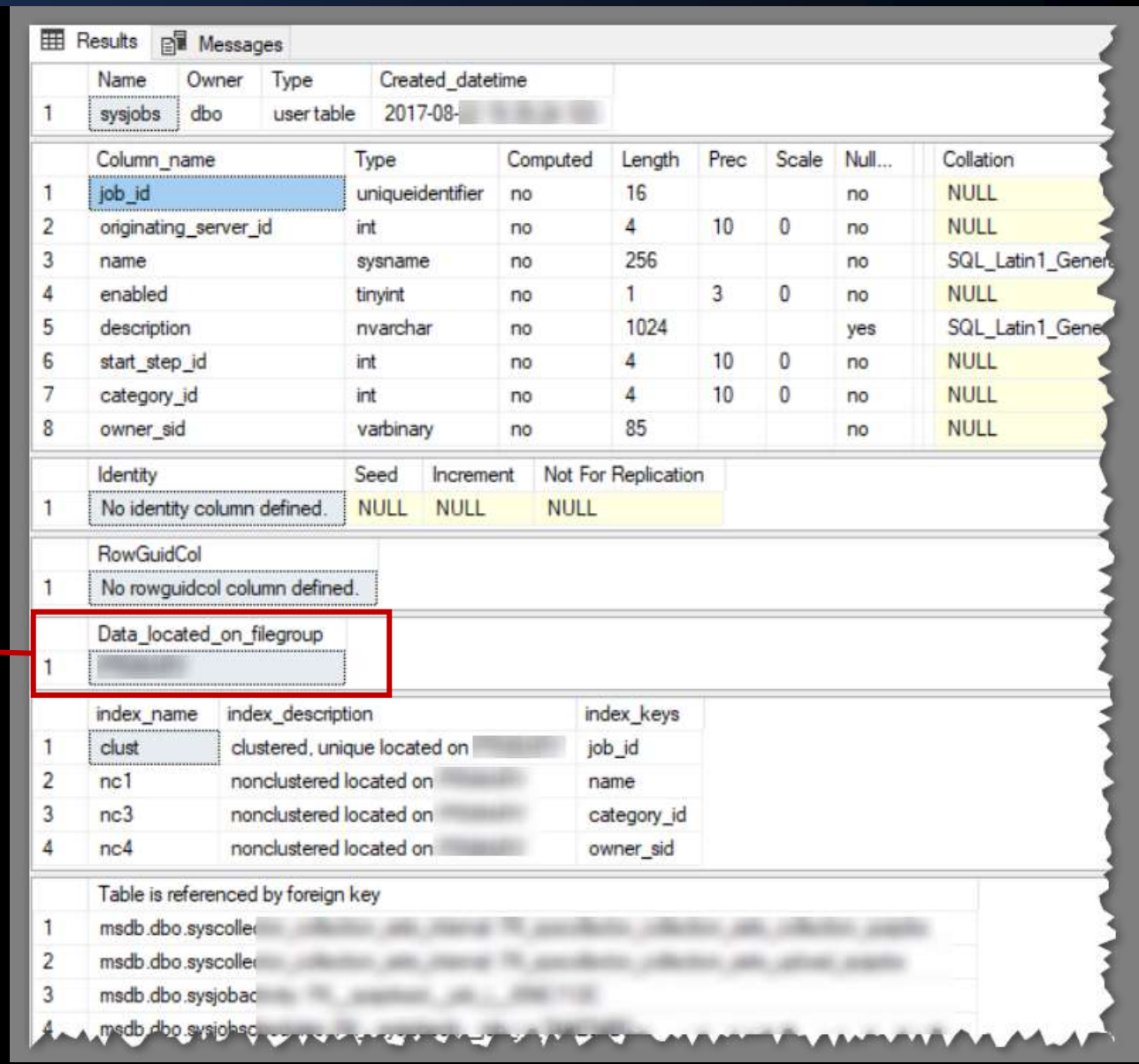
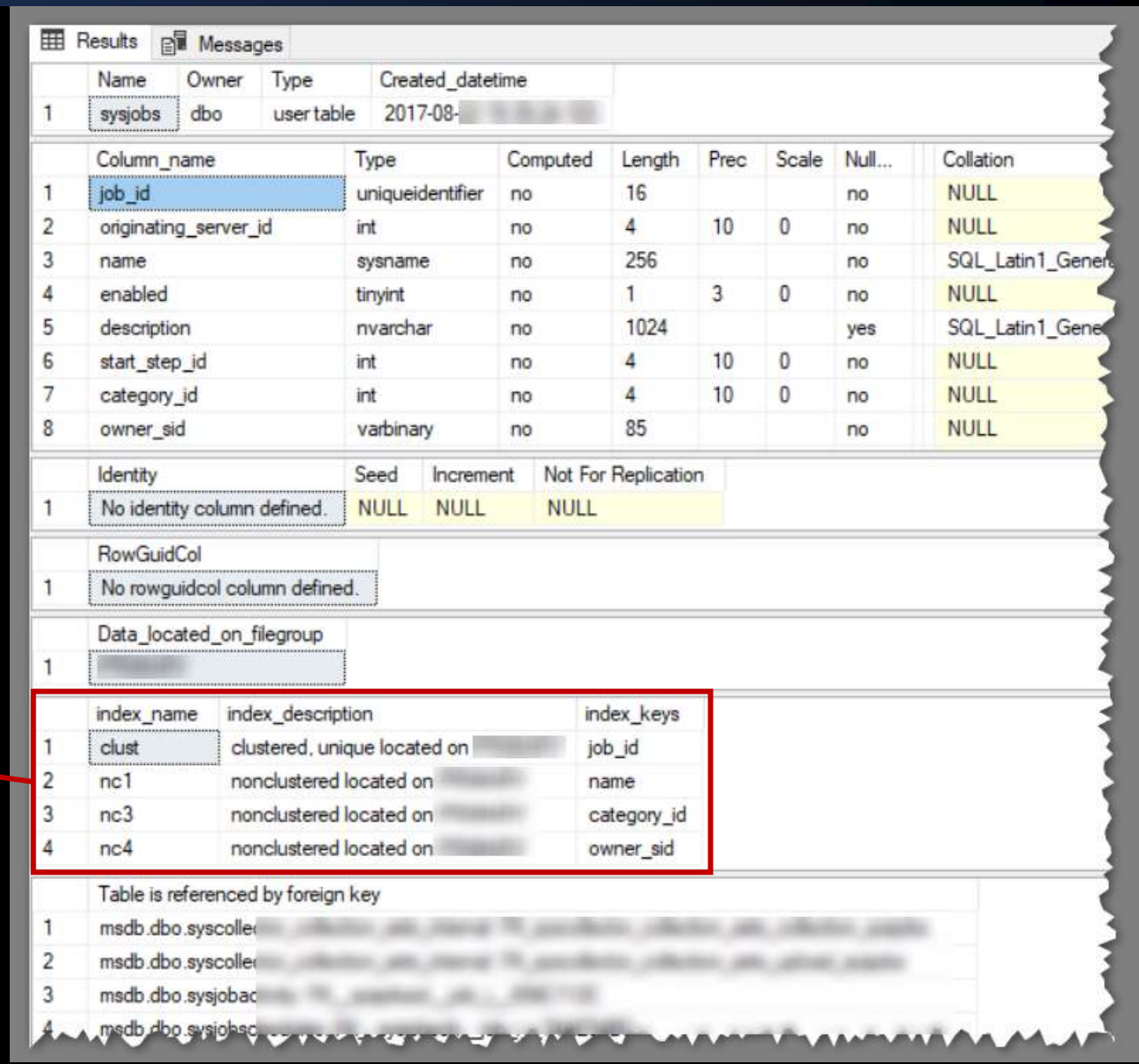
- Execute “sp_help ‘sysjobs’ ”
- Analyze Results…
  - Table Details
  - Column Details
  - Identity Details (if exists)
  - Row GUID Details (if exists)
  - Filegroup Details



How to Use “sp_help” for Troubleshooting

- Starting from SSMS Query Window
- Execute “sp_help ‘sysjobs’ ”
- Analyze Results…
  - Table Details
  - Column Details
  - Identity Details (if exists)
  - Row GUID Details (if exists)
  - Filegroup Details
  - Index List + Details
    All in one place!!!



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1	job_id	uniqueidentifier	no	16			no	NULL
2	originating_server_id	int	no	4	10	0	no	NULL
3	name	sysname	no	256			no	SQL_Latin1_Gener
4	enabled	tinyint	no	1	3	0	no	NULL
5	description	nvarchar	no	1024			yes	SQL_Latin1_Gene
6	start_step_id	int	no	4	10	0	no	NULL
7	category_id	int	no	4	10	0	no	NULL
8	owner_sid	varbinary	no	85			no	NULL

	Identity	Seed	Increment	Not For Replication
1	No identity column defined.	NULL	NULL	NULL

	RowGuidCol
1	No rowguidcol column defined.

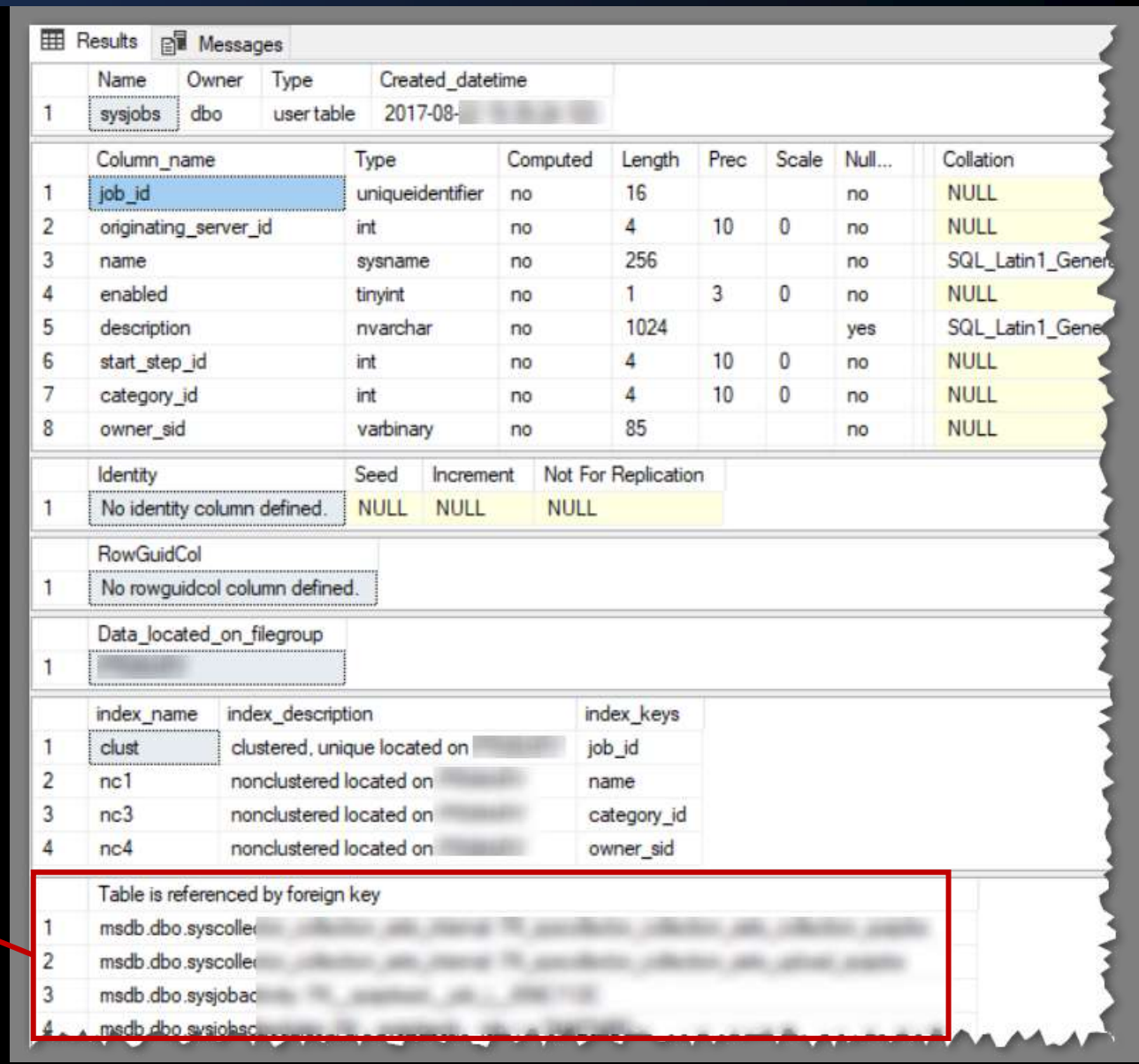
	Data_located_on_filegroup
1	

	index_name	index_description	index_keys
1	clust	clustered, unique located on	job_id
2	nc1	nonclustered located on	name
3	nc3	nonclustered located on	category_id
4	nc4	nonclustered located on	owner_sid

	Table is referenced by foreign key
1	msdb.dbo.syscolle
2	msdb.dbo.syscolle
3	msdb.dbo.sysjobac
4	msdb.dbo.sysjobsc

How to Use “sp_help” for Troubleshooting

- Starting from SSMS Query Window
- Execute “sp_help ‘sysjobs’ ”
- Analyze Results…
  - Table Details
  - Column Details
  - Identity Details (if exists)
  - Row GUID Details (if exists)
  - Filegroup Details
  - Index List + Details
  - Foreign Key References
    …to this table!
- Bottom Line = Lot of Info
  All in One Place!!



SSMS Troubleshooting System Stored Procedures

- What are the Top 4 System Stored Procedures for Troubleshooting?
- How to Use “sp_server_info” to Troubleshoot Version, Case, & Isolation
- How to Use “sp_help” to Troubleshoot Object Details
- **How to Use “sp_monitor” to Troubleshoot Server Status**
- How to Use “sp_who2” to Troubleshoot Deadlocks

How to Use “sp_monitor” for Troubleshooting

Definitions for “**sp_monitor**”…

“…displays the current values returned by these functions and shows how much they have changed since the last time the procedure was run.”

– docs.Microsoft.com

“This stored procedure reads the current row…into a temporary table and then inserts a new row and compares the difference between all the various counters tracked.”

– dba.stackexchange.com

How to Use “sp_monitor” for Troubleshooting

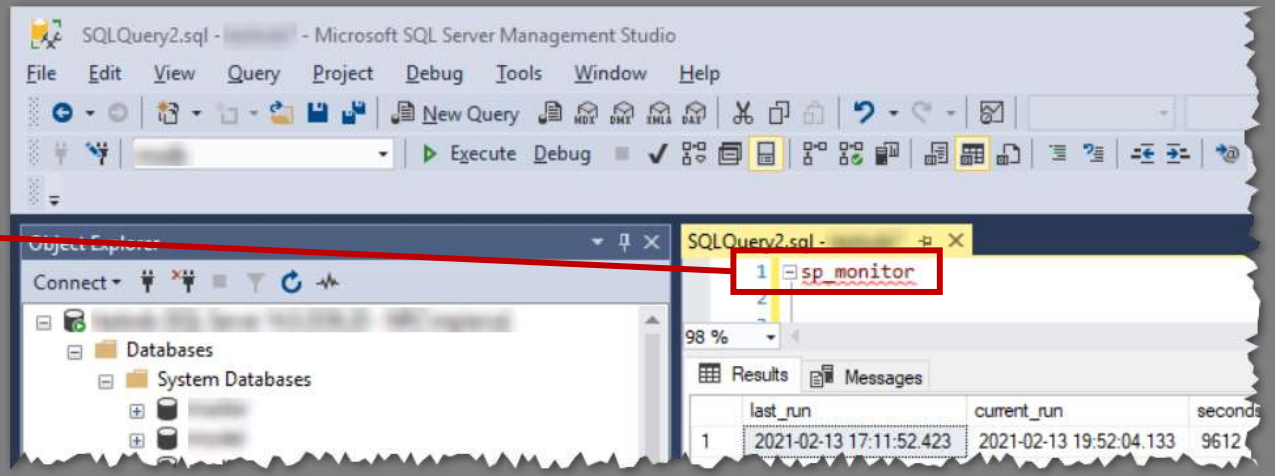
- Starting from SSMS…
- Execute “sp_monitor”

How to Use “sp_monitor” for Troubleshooting

- Starting from SSMS Query Window
- Execute “sp_monitor”
  - Ignore and re-run if Overflow Error

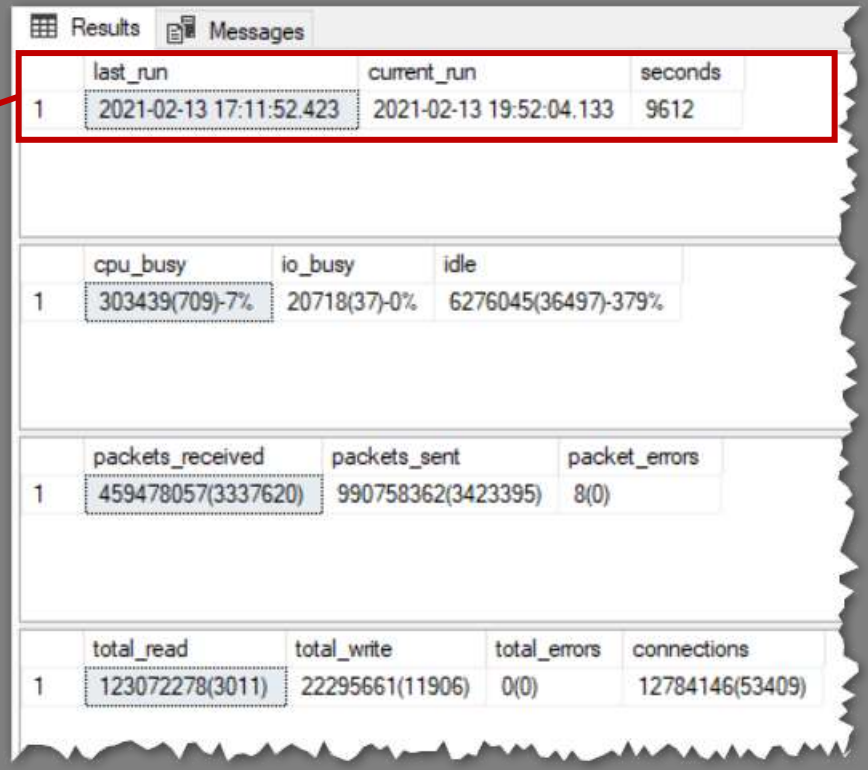
How to Use “sp_monitor” for Troubleshooting

- Starting from SSMS Query Window
- Execute “sp_monitor”
- Wait 30sec…Execute “sp_monitor”



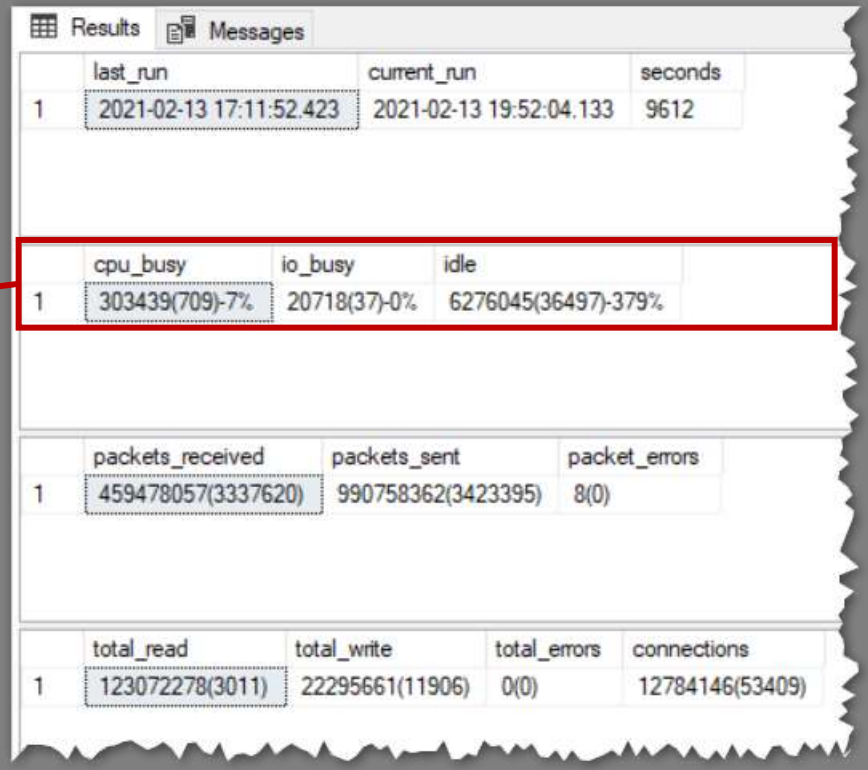
How to Use “sp_monitor” for Troubleshooting

- Starting from SSMS Query Window
- Execute “sp_monitor”
- Wait 30sec…Execute “sp_monitor”
- Analyze Results…
  - Sec. 1 - Delta Between Runs



How to Use “sp_monitor” for Troubleshooting

- Starting from SSMS Query Window
- Execute “sp_monitor”
- Wait 30sec…Execute “sp_monitor”
- Analyze Results…
  - Sec. 1 - Delta Between Runs
  - Sec. 2 - CPU & IO Busy?



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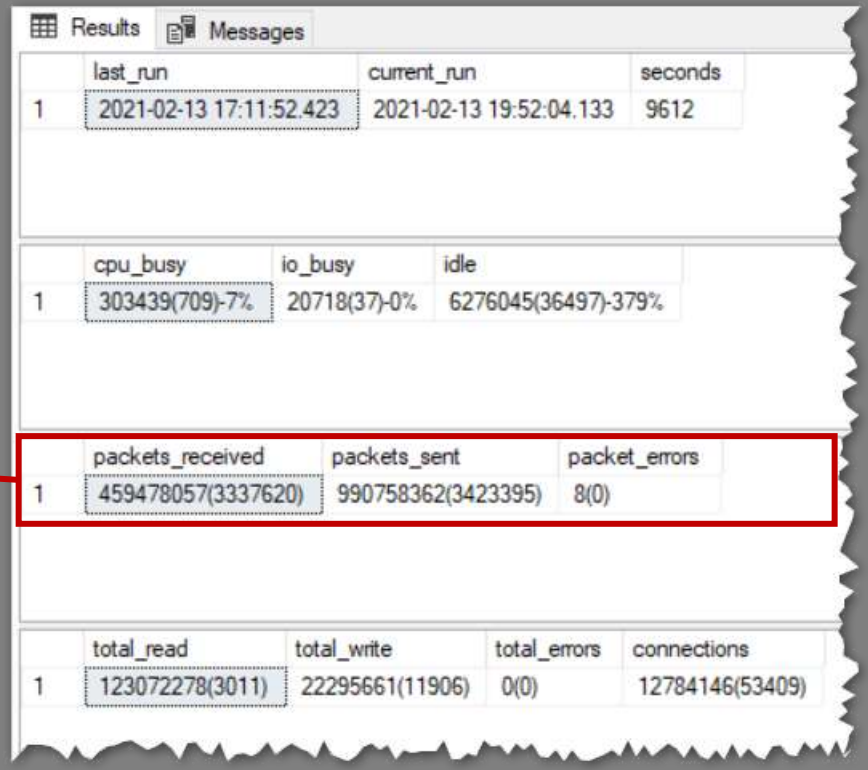
- Execute “sp_monitor”
- Wait 30sec…Execute “sp_monitor”
- Analyze Results…
  - Sec. 1 - Delta Between Runs
  - Sec. 2 - CPU & IO Busy?
  - Sec. 3 - Packets Received/Sent/Err



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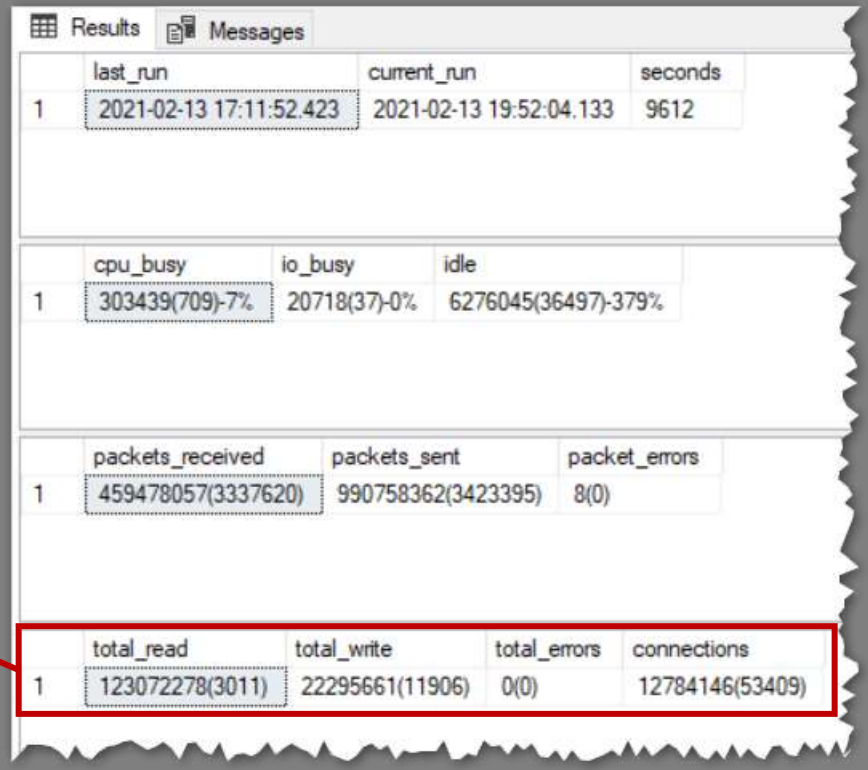
- Starting from SSMS Query Window
- Execute “sp_monitor”
- Wait 30sec…Execute “sp_monitor”
- Analyze Results…
  - Sec. 1 - Delta Between Runs
  - Sec. 2 - CPU & IO Busy?
  - Sec. 3 - Packets Received/Sent/Err
  - Sec. 4 – Total Reads/Writes/Err/Conn



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- **How to Use “sp_who2” to Troubleshoot Deadlocks**

How to Use “sp_who2” for Troubleshooting

Definitions for “**sp_who2**”…

“sp_who2 is a undocumented thus unsupported stored procedure in SQL Server, but widely used instead of sp_who to list processes currently active…”

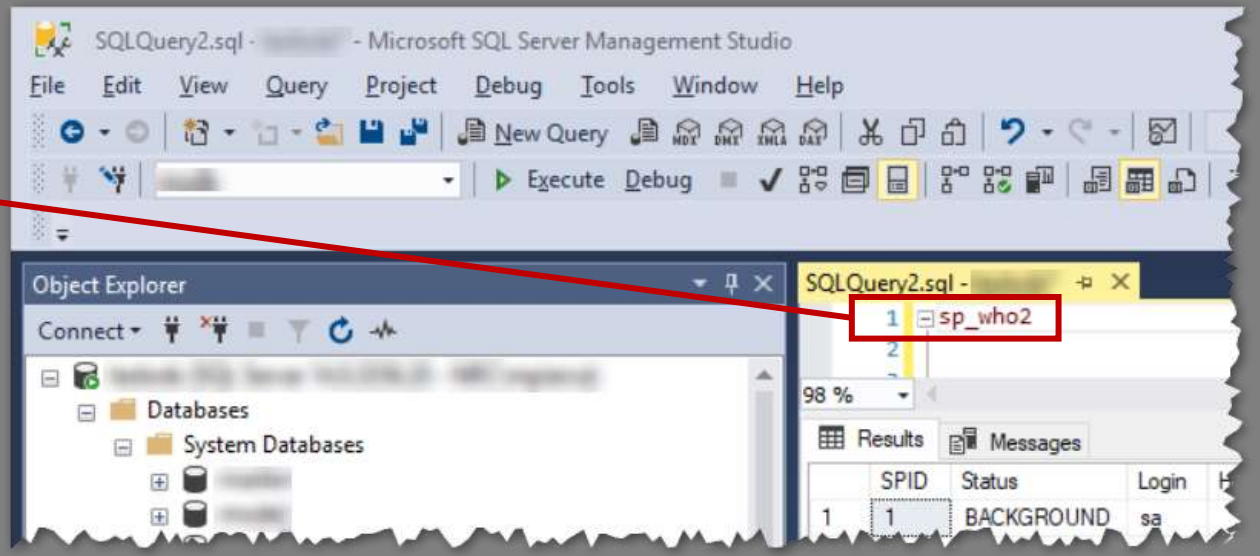
– codeproject.com

“sp_who2 should be part of every DBA's troubleshooting toolbox. It provides a great overview of what the connections are doing on the SQL Server and can quickly help the DBA find reasons for increases in application timeouts, high disk IO or high CPU pressure…”

– dbadiaries.com

How to Use “sp_who2” for Troubleshooting

- Starting from SSMS…
- Execute “sp_who2”



How to Use “sp_who2” for Troubleshooting

- Starting from SSMS Query Window
- Execute “sp_who2”
- Analyze Results…
  - Output Columns

Column Name	Description
SPID	SQL Session ID
Status	Process Status … *(come back to this one)*
Login	Login Name for Session
Host Name	Host or computer name login is connected to
BlkBy	Session ID for blocking process; blank=no blk; -2=orphaned distributed transaction
DBName	Database used by the session
Command	Database Engine command (T-SQL, etc.)
CPUTime	CPU time used by session
DiskIO	Disk IO used by session
LastBatch	Last time a batch request was run by session
ProgramName	Software application connecting to MSSQL
SPID	Repeated (wonder why?)
RequestID	ID for requests running in specific session

How to Use "sp_who2" for Troubleshooting

- Starting from SSMS Query Window
- Execute "sp_who2"
- Analyze Results…

Status	Description
Background	Session running system background task
Sleeping	Session is not doing anything, but connection open
Running	Session is running one or more batches
Suspended	Session is waiting for an event (eg: IO) to complete TempDB op to finish, etc. If long, chk PerfMon HD
Rollback	Session has a transaction rollback in progress
Runnable	Session's task is in runnable queue of a scheduler while waiting to get a time quantum
Spinloop	Session's task is waiting for a spinlock to free up
Dormant	Session is being reset
Pending	Session is waiting for a worker thread to free up

Column Name	Description
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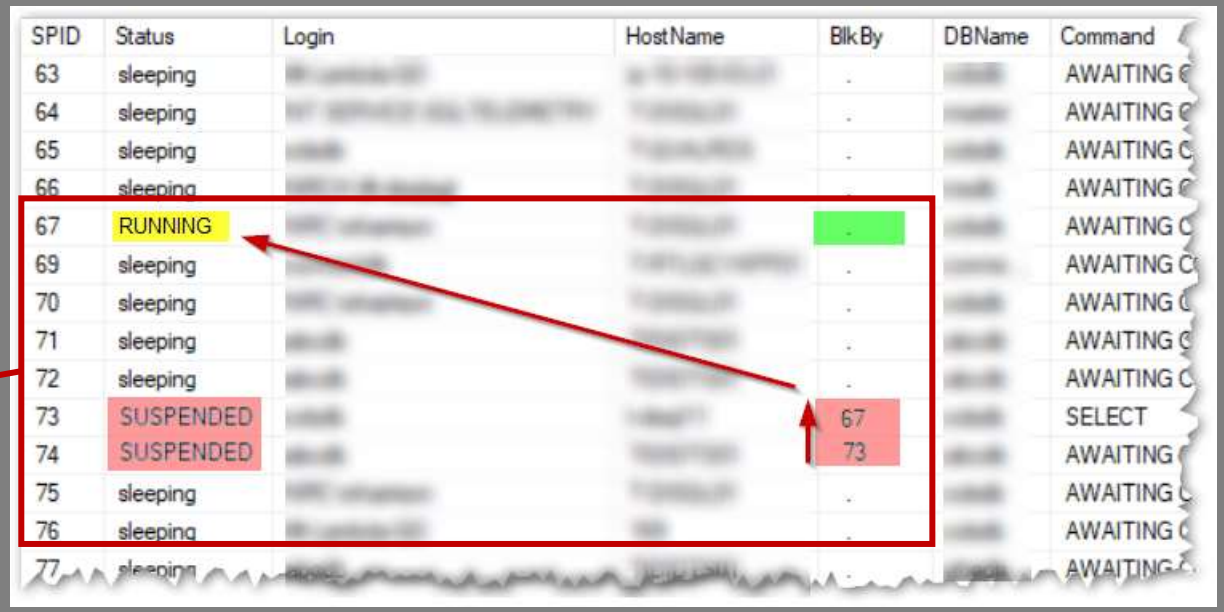
RequestID	ID for requests running in specific session

How to Use “sp_who2” for Troubleshooting

- Starting from SSMS Query Window
- Execute “sp_who2”
- Analyze Results…
  - Output Columns
  - Blocking/Deadlocking = Bad
    - Look for Status = “Suspended”
    - …and BlkBy column populated
    - Walk back up thru to parent spid (green)



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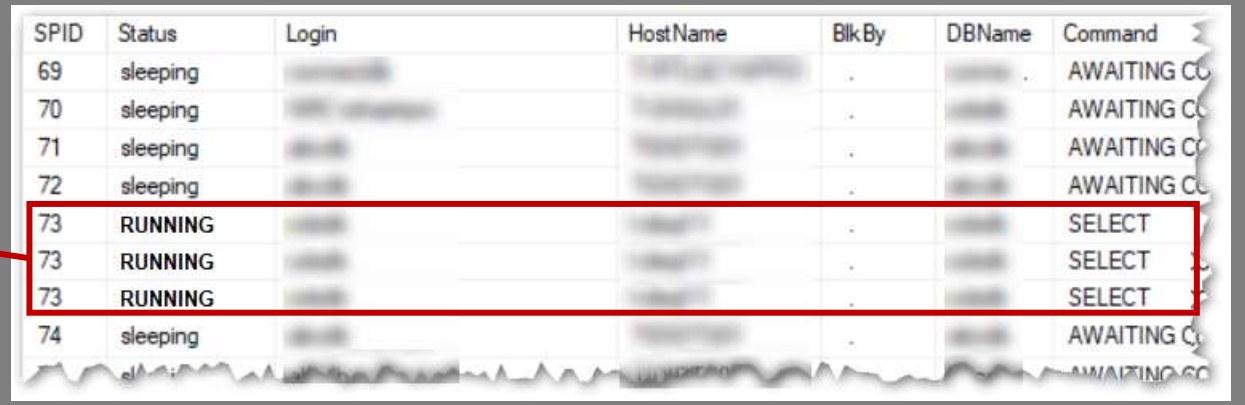
- Starting from SSMS Query Window
- Execute “sp_who2”
- Analyze Results…
  - Output Columns
  - Blocking/Deadlocking = Bad
    - Look for Status = “Suspended”
    - …and BlkBy column populated
    - Walk back up thru to parent spid (green)
    - Wait 20 sec, retry, if clears then move on
    - Else ask owner if okay to kill
    - Issue “kill <spid>” to cleanup
      (targeted spid 67 b/c is the root cause)

SPID	Status	Login	HostName	BlkBy	DBName	Command
63	sleeping			.		AWAITING C
64	sleeping			.		AWAITING C
65	sleeping			.		AWAITING C
66	sleeping			.		AWAITING C
67	RUNNING			.		AWAITING C
69	sleeping			.		AWAITING C
70	sleeping			.		AWAITING C
71	sleeping			.		AWAITING C
72	sleeping			.		AWAITING C
73	SUSPENDED			67		SELECT
74	SUSPENDED			73		AWAITING
75	sleeping			.		AWAITING C
76	sleeping			.		AWAITING C
77	sleeping			.		AWAITING C

How to Use “sp_who2” for Troubleshooting

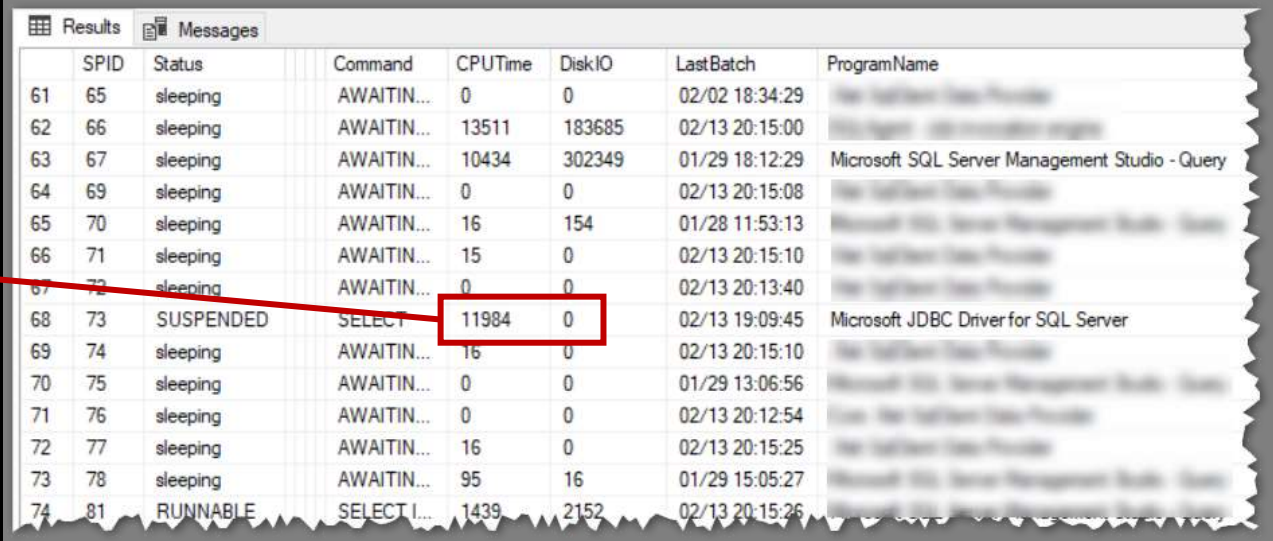
- Starting from SSMS Query Window
- Execute “sp_who2”
- Analyze Results…
  - Output Columns
  - Blocking/Deadlocking = Bad
  - Parallel Processes = Bad
    - Same SPID repeating
    - SQL Server determine query run long, so split across multiple threads.
      If frequent, devastating to perf, esp. IO
    - To Fix:
      (a) Raise Query Threshold for Parallelism
      (b) Turn down MAXDOP



SPID	Status	Login	HostName	BlkBy	DBName	Command
69	sleeping	[redacted]	[redacted]	.	[redacted]	AWAITING CO
70	sleeping	[redacted]	[redacted]	.	[redacted]	AWAITING CO
71	sleeping	[redacted]	[redacted]	.	[redacted]	AWAITING CO
72	sleeping	[redacted]	[redacted]	.	[redacted]	AWAITING CO
73	RUNNING	[redacted]	[redacted]	.	[redacted]	SELECT
73	RUNNING	[redacted]	[redacted]	.	[redacted]	SELECT
73	RUNNING	[redacted]	[redacted]	.	[redacted]	SELECT
74	sleeping	[redacted]	[redacted]	.	[redacted]	AWAITING C

How to Use “sp_who2” for Troubleshooting

- Starting from SSMS Query Window
- Execute “sp_who2”
- Analyze Results…
  - Output Columns
  - Blocking/Deadlocking = Bad
  - Parallel Processes = Bad
  - High CPUTime or High DiskIO = Bad
    - Note: CPUTime + DiskIO = since reboot
    - Note: Write down before v. after f/delta
    - If CPUTime=High, but DiskIO = 0, then indicates bad execution plan


Results Messages

	SPID	Status	Command	CPUTime	DiskIO	LastBatch	ProgramName
61	65	sleeping	AWAITIN...	0	0	02/02 18:34:29	[redacted]
62	66	sleeping	AWAITIN...	13511	183685	02/13 20:15:00	[redacted]
63	67	sleeping	AWAITIN...	10434	302349	01/29 18:12:29	Microsoft SQL Server Management Studio - Query
64	69	sleeping	AWAITIN...	0	0	02/13 20:15:08	[redacted]
65	70	sleeping	AWAITIN...	16	154	01/28 11:53:13	[redacted]
66	71	sleeping	AWAITIN...	15	0	02/13 20:15:10	[redacted]
67	72	sleeping	AWAITIN...	0	0	02/13 20:13:40	[redacted]
68	73	SUSPENDED	SELECT	11984	0	02/13 19:09:45	Microsoft JDBC Driver for SQL Server
69	74	sleeping	AWAITIN...	16	0	02/13 20:15:10	[redacted]
70	75	sleeping	AWAITIN...	0	0	01/29 13:06:56	[redacted]
71	76	sleeping	AWAITIN...	0	0	02/13 20:12:54	[redacted]
72	77	sleeping	AWAITIN...	16	0	02/13 20:15:25	[redacted]
73	78	sleeping	AWAITIN...	95	16	01/29 15:05:27	[redacted]
74	81	RUNNABLE	SELECT I...	1439	2152	02/13 20:15:26	[redacted]

Thanks for Watching

DRL
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