

Unlocking the Power of WholsActive

Jeff Iannucci



Who in the world is Jeff Iannucci?



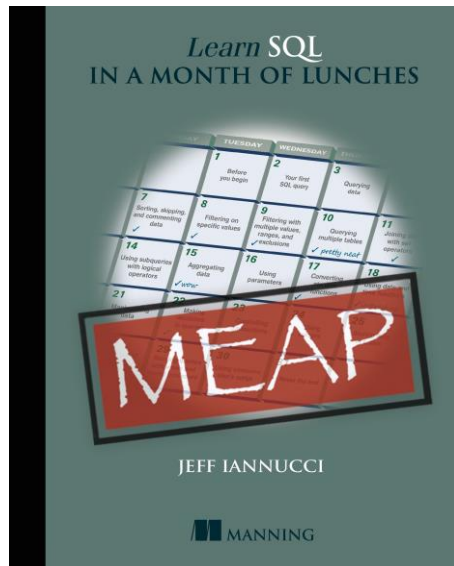
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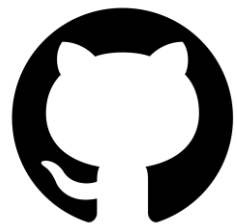
Author of “Learn SQL in a Month of Lunches”





Discovering hidden gems
Unlocking magic spells
Time travelling





github.com/desertdba

In the “Presentations” folder:

- **All the slides!**
- **One handy T-SQL script!**
- **Bonus material!!**





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@output_column_list

```
/*  
Change columns returned or column order  
*/  
EXEC sp_WhoIsActive  
    @output_column_list = '[session_id][login_name][sql_text][percent_complete][%]';
```

Use brackets, not commas

% wildcard works with column names

[%] returns all remaining columns

@filter_type and @filter

```
/*  
Filter rows returned (includes wildcard examples)  
*/  
EXEC sp_WhoIsActive  
    @output_column_list = '[session_id][login_name][sql_text][%]'  
    , @filter_type = 'login'  
    , @filter = 'GlobalInc%'
```

Filter on:	Login	Session
	Host	Program
	Database*	

@sort_order

```
/*  
Change sort order  
*/  
EXEC sp_WhoIsActive  
    @output_column_list = '[session_id][login_name][sql_text][%]'  
    , @filter_type = 'login'  
    , @filter = 'GlobalInc%'  
    , @sort_order = '[login_name] DESC';
```

Use brackets, not commas

ASC or DESC order

Wildcards are NOT supported

@show_sleeping_spids

```
/*  
Show sleeping spids  
*/  
EXEC sp_WhoIsActive  
    @show_sleeping_spids = 2;
```

2 = show all sleeping SPIDs

1 = show only sleeping SPIDs with open transactions (default)

0 = show no sleeping SPIDs

@get_outter_command

```
/*
```

```
Show the original command/stored procedure that called the SQL statement
```

```
*/
```

```
EXEC sp_WhoIsActive
```

```
@get_outter_command = 1;
```

dd hh:mm:ss.mss	session_id	sql_text	sql_command
03 06:16:16.503	169	<?query -- waitfor delay @waittime --?>	<?query -- sys.sp_MScdc_capture_job --?>
03 06:08:16.357	380	<?query -- waitfor delay @waittime --?>	<?query -- sys.sp_MScdc_capture_job --?>
03 02:48:27.390	596	<?query -- select isnull(a.title, b.title) from ppwr_outbar_item...	<?query -- select isnull(a.title, b.title) from ppwr_outbar_item...
03 01:39:21.513	450	<?query -- SELECT NAME, DEVICE, DRIVER, PORT, cas...	<?query -- SELECT NAME, DEVICE, DRIVER, PORT, cas...
00 11:11:50.753	299	<?query -- select isnull(a.title, b.title) from ppwr_outbar_item...	<?query -- select isnull(a.title, b.title) from ppwr_outbar_item...
00 11:08:27.117	387	<?query -- (@p0 varchar(13))SELECT count(*) FROM EPS...	<?query -- (@p0 varchar(13))SELECT count(*) FROM EPS...
00 11:08:18.637	395	<?query -- (@p0 varchar(13))SELECT count(*) FROM EPS...	<?query -- (@p0 varchar(13))SELECT count(*) FROM EPS...

@get_plans

```
/*  
Show the plan for the current statement  
*/  
EXEC sp_WhoIsActive  
@get_plans = 1;
```

reads	writes	physical_reads	query_plan
26,534,623	74,708	1,150,068	<ShowPlanXML xmlns='http://schemas.microsoft.com...'>
2,470,548,926	10,534,121	146,261,964	<ShowPlanXML xmlns='http://schemas.microsoft.com...'>
747,346	1,055	528,361	NULL
638,089	856	67,331	NULL
1,386	4	0	NULL

1 = show plan for current statement

2 = show plan for all queries in the batch



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What is REALLY going on now?

```
/*  
Sample activity (delta interval in seconds)  
*/  
EXEC sp_WhoIsActive  
  @output_column_list = '[%delta][%]  
  , @delta_interval = 5;
```

reads_delta	physical_reads_delta	writes_delta	tempdb_allocations_delta	tempdb_current_delta	CPU_delta	used_memory_delta	session_id	dd hh:mm:ss.mss	reads	physical_reads	writes
121	0	0	0	0	3	0	169	03 06:23:21.133	26,562,897	1,150,068	74,772
123	0	0	0	0	3	0	380	03 06:15:20.987	2,470,588,480	146,262,006	10,534,249
0	0	0	0	0	0	0	596	03 02:55:32.020	747,346	528,361	1,055
0	0	0	0	0	0	0	450	03 01:46:26.143	638,089	67,331	856
0	0	0	0	0	0	0	299	00 11:18:55.383	1,386	0	4
0	0	0	0	0	0	0	387	00 11:15:31.747	462	0	0
0	0	0	0	0	0	0	395	00 11:15:23.267	247	0	1
0	0	0	0	0	0	0	711	00 09:57:51.127	1,002	0	1
0	0	0	0	0	0	0	672	00 09:53:28.733	2,001	0	0

Values indicate number of 8K data pages

What filled up the log?

```
/*  
What filled up the transaction log?  
*/  
EXEC sp_WhoIsActive  
  @output_column_list = '[start_time][session_id][tran%][login%][sql_text][%]',  
  , @get_transaction_info = 1;
```

start_time	session_id	tran_start_time	tran_log_writes
2023-02-18 11:21:16.867	146	NULL	NULL
2023-03-14 07:15:02.460	490	NULL	NULL
2023-03-14 15:25:00.183	823	NULL	NULL
2023-03-14 15:30:02.853	552	2023-03-14 15:30:02.857	msdb: 5 (0 kB)

Tran_start_time: date and time the first database was written to

Tran_log writes: number of log records (size of log records)

What filled up tempdb?

```
/*  
What filled up tempdb?  
*/  
EXEC sp_WhoIsActive  
@output_column_list = '[start_time][session_id][temp%][sql_text][query_plan][wait_info][%]'  
  , @get_plans = 1  
  , @sort_order = '[tempdb_current] DESC';
```

start_time	session_id	tempdb_allocations	tempdb_current	sql_text	query_plan	wait_info
2023-03-10 11:41:42.530	169	299,408	3,648	<?query -- waitfor delay @waittime --?>	<ShowPlanXML xmlns="http://schemas.microsoft.com..."	(3970ms)WAITFOR
2023-03-10 11:49:42.677	380	290,256	2,784	<?query -- waitfor delay @waittime --?>	<ShowPlanXML xmlns="http://schemas.microsoft.com..."	(2976ms)WAITFOR
2023-03-13 15:27:30.893	474	1,016	288	<?query -- select isnull(a title, b title) from pphr_outbar item...	NULL	NULL
2023-03-13 16:13:05.637	148	416	184	<?query -- select isnull(a title, b title) from pphr_outbar item...	NULL	NULL
2023-03-13 15:59:43.177	924	2,624	96	<?query -- SELECT DISTINCT routing_routedesc FROM ...	NULL	NULL

High tempdb_allocations indicates high usage

High tempdb_current indicates growth

What filled up memory?

```
/*  
What filled up the memory? (v12 only)  
*/  
EXEC sp_WhoIsActive  
@output_column_list = '[start_time][session_id][%memory][login%][sql_text][%]'  
, @get_memory_info = 1;
```

start_time	session_id	used_memory	max_used_memory	requested_memory	granted_memory
2023-03-13 19:26:18.590	114	3	3	128	128
2023-03-07 09:26:59.820	296	5	NULL	NULL	NULL
2023-03-09 14:29:13.363	115	5	NULL	NULL	NULL
2023-03-10 06:59:58.883	161	5	NULL	NULL	NULL

Watch for large grants with low used_memory

What is causing the blocking?

```
/*  
What's causing the blocking?  
*/  
EXEC sp_WhoIsActive  
@output_column_list = '[start_time][session_id][block%][login%][sql_text][%]'  
, @find_block_leaders = 1  
, @sort_order = '[blocked_session_count] DESC'  
, @get_locks = 1  
, @get_additional_info = 1;
```

@find_block_leaders adds blocked_session_id and _count

session_id	blocking_session_id	blocked_session_count
80	NULL	3
63	80	2
86	63	1
65	86	0

What is causing the blocking?

```
/*  
What's causing the blocking?  
*/  
EXEC sp_WhoIsActive  
@output_column_list = '[start_time][session_id][block%][login%][sql_text][%]'  
 , @find_block_leaders = 1  
 , @sort_order = '[blocked_session_count] DESC'  
 , @get_locks = 1  
 , @get_additional_info = 1;
```

@find_block_leaders adds blocked_session_count

@get_locks adds locks column (XML)

@get_locks

```
<Database name="AdventureWorks2019">
  <Locks>
    <Lock request_mode="S" request_status="GRANT" request_count="1" />
  </Locks>
  <Objects>
    <Object name="(null)">
      <Locks>
        <Lock resource_type="METADATA.DATABASE_PRINCIPAL" principal_name="dbo" request_mode="Sch-S" request_status="GRANT" request_count="1" />
      </Locks>
    </Object>
  </Objects>
</Database>
```

What is causing the blocking?

```
/*  
What's causing the blocking?  
*/  
EXEC sp_WhoIsActive  
@output_column_list = '[start_time][session_id][block%][login%][sql_text][%]'  
, @find_block_leaders = 1  
, @sort_order = '[blocked_session_count] DESC'  
, @get_locks = 1  
, @get_additional_info = 1;
```

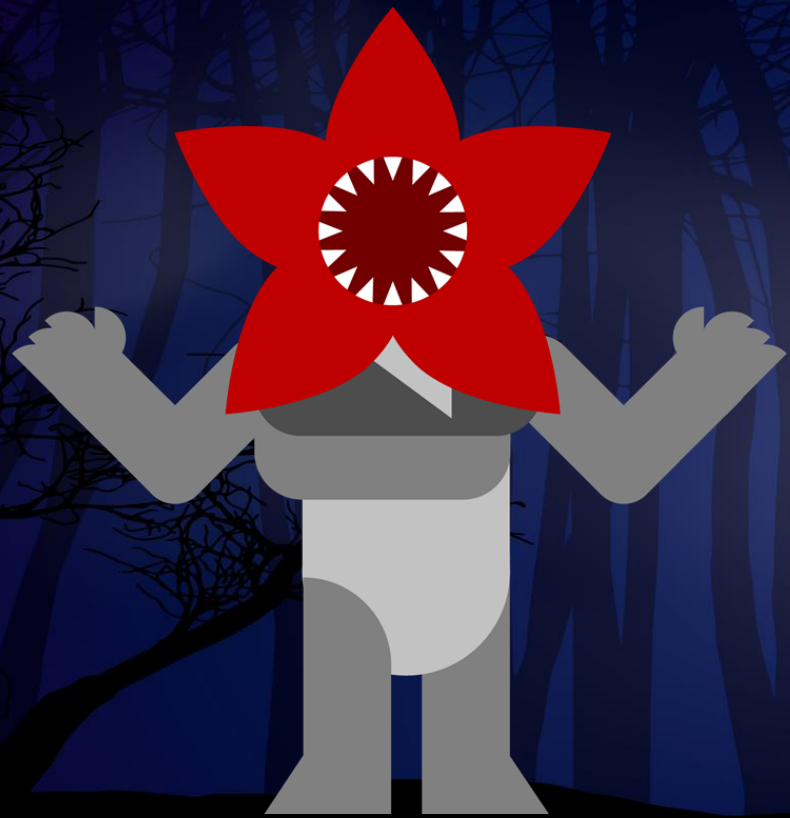
@find_block_leaders adds blocked_session_count

@get_locks adds locks column (XML)

@get_additional_info adds...additional info! (XML)

@get_additional_info

```
<additional_info>
  <text_size>-1</text_size>
  <language>us_english</language>
  <date_format>mdy</date_format>
  <date_first>7</date_first>
  <quoted_identifier>ON</quoted_identifier>
  <arithabort>OFF</arithabort>
  <ansi_null_dflt_on>ON</ansi_null_dflt_on>
  <ansi_defaults>OFF</ansi_defaults>
  <ansi_warnings>ON</ansi_warnings>
  <ansi_padding>ON</ansi_padding>
  <ansi_nulls>ON</ansi_nulls>
  <concat null yields null>ON</concat null yields null>
  <transaction_isolation_level>ReadCommitted</transaction_isolation_level>
  <lock_timeout>-1</lock_timeout>
  <deadlock_priority>0</deadlock_priority>
  <row_count>1</row_count>
  <command_type>AWAITING COMMAND</command_type>
  <sql_handle>0x0100050075ccff0300c8a0290e02000000000000</sql_handle>
  <statement_start_offset>-1</statement_start_offset>
  <statement_end_offset>-1</statement_end_offset>
  <host_process_id>6496</host_process_id>
  <group_id>1</group_id>
  <original_login_name>Jeff.I</original_login_name>
</additional_info>
```



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Create a table

```
/*  
Create a table to track activity  
*/  
DECLARE  
@destination_table VARCHAR(500) = 'WhoIsActive'  
    , @schema VARCHAR(MAX);  
  
EXEC sp_WhoIsActive  
    @get_transaction_info = 1  
    , @get_outer_command = 1  
    , @get_plans = 1  
    , @return_schema = 1  
    , @schema = @schema OUTPUT;  
  
SET @schema = REPLACE(@schema, '<table_name>', @destination_table);  
  
SELECT @schema;
```

(No column name)

```
CREATE TABLE WholsActive ( [dd hh:mm:ss.mss] varchar(8000) NULL,[session_id] smallint NOT NULL,[sql_text] xml
```

Create an index

```
/*  
Create a clustered index on collection_time  
*/  
CREATE CLUSTERED INDEX cx_collection_time  
ON WhoIsActive (collection_time);
```

Optional... but highly recommended

Create a job

```
/*  
Create a job (with this step)  
*/  
DECLARE  
@destination_table VARCHAR(500) = 'WhoIsActive';  
  
EXEC sp_WhoIsActive  
    @get_transaction_info = 1  
    , @get_outer_command = 1  
    , @get_plans = 1  
    , @destination_table = @destination_table;
```

Query the table

```
SELECT *  
FROM WhoIsActive  
WHERE collection_time BETWEEN '2023-03-12 00:00:00' AND '2023-03-12 01:00:00'
```

	dd hh:mm:ss.mss	session_id	sql_text	sql_command	lo
1	09 08:03:26.044	371	<?query -- select isnull(a.title, b.title) from pphr_outb...	<?query -- select isnull(a.title, b.title) from pphr_outb...	k
2	09 08:02:18.610	288	<?query -- select isnull(a.title, b.title) from pphr_outb...	<?query -- select isnull(a.title, b.title) from pphr_outb...	k
3	03 12:05:05.407	206	<?query -- select isnull(a.title, b.title) from pphr_outb...	<?query -- select isnull(a.title, b.title) from pphr_outb...	h
4	03 12:04:00.940	201	<?query -- select isnull(a.title, b.title) from pphr_outb...	<?query -- select isnull(a.title, b.title) from pphr_outb...	E
5	03 12:03:00.750	296	<?query -- select isnull(a.title, b.title) from pphr_outb...	<?query -- select isnull(a.title, b.title) from pphr_outb...	h
6	02 11:29:42.960	184	<?query -- select isnull(a.title, b.title) from pphr_outb...	<?query -- select isnull(a.title, b.title) from pphr_outb...	n
7	02 11:29:23.907	297	<?query -- select isnull(a.title, b.title) from pphr_outb...	<?query -- select isnull(a.title, b.title) from pphr_outb...	n
8	01 07:00:47.207	115	<?query -- SELECT DISTINCT routing , routedesc ...	<?query -- SELECT DISTINCT routing , routedesc ...	F
9	01 06:16:19.680	225	<?query -- select isnull(a.title, b.title) from pphr_outb...	<?query -- select isnull(a.title, b.title) from pphr_outb...	E

We're all Wizards now!





Thank you!

Your feedback is
greatly appreciated!



github.com/desertdba

