How to Investigate Transaction Conflict

Start a Transaction and Leave It Open

1) Open a query window in SQL Server Management Studio and run the following script.

```
USE AdventureWorks2012;
GO
BEGIN TRAN;
	UPDATE [Sales].[Customer]
	SET [ModifiedDate] = getdate()
	WHERE [CustomerID] = 100;
	WAITFOR DELAY '00:12:00'
ROLLBACK TRAN;
```

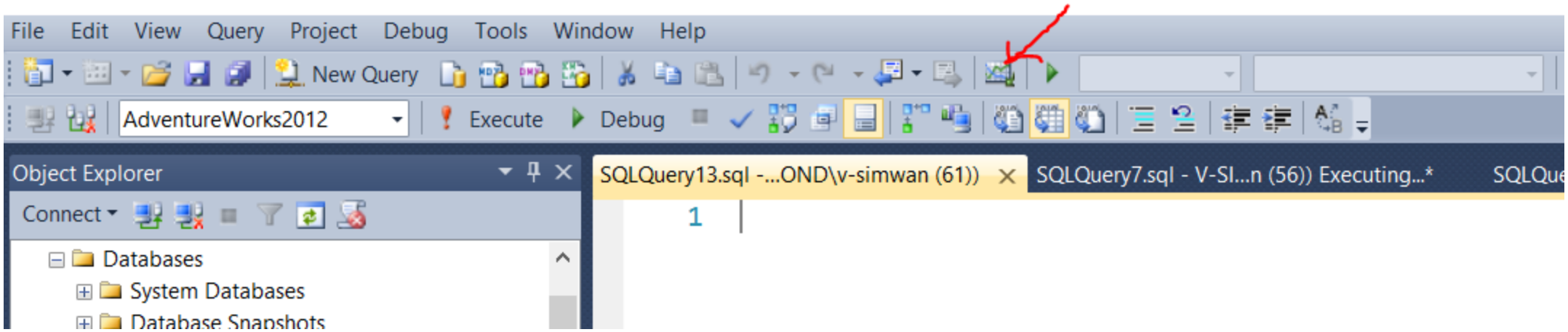
Simulate a Conflict

2) Open another query window in SQL Server Management Studio and run the following script.

```
USE AdventureWorks2012;
GO
SELECT * FROM [Sales].[Customer];
```

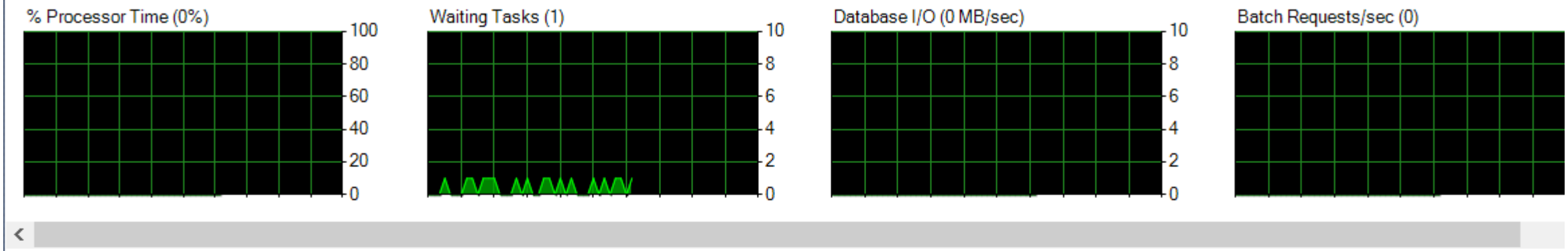
Use Activity Monitor

3) Open Activity Monitor in SQL Server Management Studio to investigate any blocking issue.



What's found by Activity Monitor

Overview



Processes

S	U	L...	Database	T...	Comm...	A...	Wait ...	Wait Ty...	Wait Resource	B...	H	M...	H...	W...
52	1	REDM...	tempdb	RUNN...	SELECT	Micro...	0					24	V-SIM...	default
53	1	REDM...	master			Micro...	0					24	V-SIM...	default
55	1	REDM...	AdventureWorks2012			Micro...	0					24	V-SIM...	default
56	1	REDM...	AdventureWorks2012	SUSP...	WAITFOR	Micro...	415647	WAITFOR			1	16	V-SIM...	default
57	1	REDM...	AdventureWorks2012	SUSP...	SELECT	Micro...	387761	LCK_M_S	pagelock fileid=1 pa...	56		16	V-SIM...	default
58	1	REDM...	master			Micro...	0					0	V-SIM...	default

Resource Waits

Wait Category	Wait Time (ms/sec)	Recent Wait Time...	Average Waiter C...	Cumulative Wait Tim...
Lock	1000	999	1.0	394
Logging	0	0	0.0	0
Memory	0	0	0.0	0

Use Dynamic Management Views

4) Open a new query window in SQL Server Management Studio and run the following script to investigate any blocking issue.

```
SELECT
    t1.resource_type,
    t1.resource_database_id,
    t1.resource_associated_entity_id,
    t1.request_mode,
    t1.request_session_id,
    t2.blocking_session_id
FROM sys.dm_tran_locks as t1
INNER JOIN sys.dm_os_waiting_tasks as t2
    ON t1.request_session_id = t2.session_id;
```

What's found by Dynamic Management Views

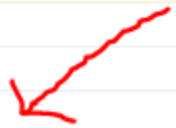
SQLQuery12.sql -...OND\v-simwan (60))* | SQLQuery11.sql -...OND\v-simwan (58))* | SQLQuery10.sql -...OND\v-simwan (59))*

```
1  SELECT
2          t1.resource_type,
3          t1.resource_database_id,
4          t1.resource_associated_entity_id,
5          t1.request_mode,
6          t1.request_session_id,
7          t2.blocking_session_id
8      FROM sys.dm_tran_locks as t1
9      INNER JOIN sys.dm_os_waiting_tasks as t2
10         ON t1.request_session_id = t2.session_id;
11
```

100 %

Results | Messages

	resource_ty...	resource_databas...	resource_associated_entit...	request_m...	request_session...	blocking_session...
1	DATABASE	9	0	S	56	NULL
2	PAGE	9	72057594044743680	IX	56	NULL
3	KEY	9	72057594044743680	X	56	NULL
4	OBJECT	9	997578592	IX	56	NULL
5	DATABASE	9	0	S	57	56
6	PAGE	9	72057594044743680	S	57	56
7	OBJECT	9	357576312	Sch-S	57	56
8	OBJECT	9	997578592	IS	57	56



Use System Stored Procedure

5) Open a new query window in SQL Server Management Studio and run the following system stored procedure to investigate any blocking issue.

sp_who2

What's found by sp_who2

SQLQuery10.sql -...OND\v-simwan (59))* | SQLQuery9.sql - V-SI...n (57)) Executing...* | SQLQuery7.sql - V-SI...n (56)) Executing...*

```
1  sp_who2
```

100 %

Results | Messages

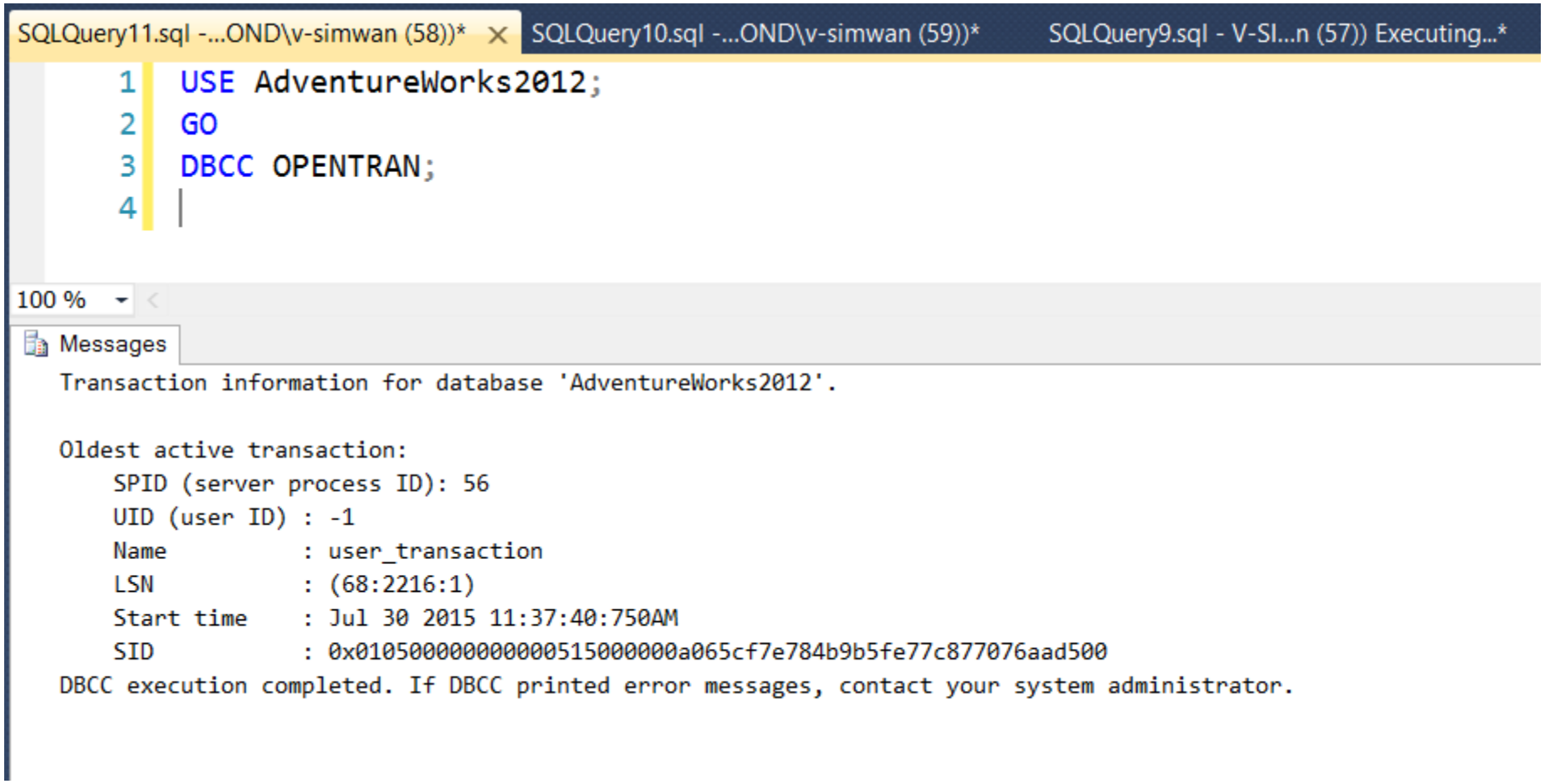
	SPID	Status	Login	HostNa...	BlkBy	DBName	Command	CPUTime	DiskIO	LastBatch	ProgramNa...	SPID	RI
35	35	sleeping	sa	.	.	master	TASK MANAGER	0	0	07/30 11:43:58		35	0
36	36	sleeping	sa	.	.	master	TASK MANAGER	0	0	07/30 11:38:57		36	0
37	37	sleeping	sa	.	.	master	TASK MANAGER	0	8	07/30 11:43:58		37	0
38	38	sleeping	sa	.	.	master	TASK MANAGER	0	0	07/30 11:43:58		38	0
39	39	BACKGROUND	sa	.	.	master	BRKR EVENT HNDLR	0	89	07/28 20:16:47		39	0
40	40	BACKGROUND	sa	.	.	master	FT FULL PASS	0	0	07/30 11:39:43		40	0
41	41	BACKGROUND	sa	.	.	NULL	UNKNOWN TOKEN	0	0	07/28 20:16:51		41	0
42	42	BACKGROUND	sa	.	.	master	FT CRAWL MON	0	0	07/30 11:47:35		42	0
43	46	BACKGROUND	sa	.	.	master	BRKR TASK	0	0	07/28 20:16:47		46	0
44	48	BACKGROUND	sa	.	.	master	BRKR TASK	15	0	07/28 20:16:47		48	0
45	49	BACKGROUND	sa	.	.	master	BRKR TASK	15	0	07/28 20:16:47		49	0
46	51	BACKGROUND	sa	.	.	master	BRKR TASK	0	0	07/28 20:16:47		51	0
47	52	sleeping	REDM...	V-SIM...	.	master	AWAITING COMMAND	0	0	07/30 11:47:38	Microsoft S...	52	0
48	53	sleeping	REDM...	V-SIM...	.	master	AWAITING COMMAND	1578	1512	07/29 14:04:37	Microsoft S...	53	0
49	54	sleeping	REDM...	V-SIM...	.	master	AWAITING COMMAND	0	0	07/30 11:47:35	Microsoft S...	54	0
50	55	sleeping	REDM...	V-SIM...	.	AdventureWorks2012	AWAITING COMMAND	94	12	07/30 11:20:37	Microsoft S...	55	0
51	56	SUSPENDED	REDM...	V-SIM...	.	AdventureWorks2012	WAITFOR	31	41	07/30 11:37:40	Microsoft S...	56	0
52	57	SUSPENDED	REDM...	V-SIM...	56	AdventureWorks2012	SELECT	15	113	07/30 11:38:08	Microsoft S...	57	0
53	58	sleeping	REDM...	V-SIM...	.	msdb	AWAITING COMMAND	0	0	07/30 11:47:38	Microsoft S...	58	0

Use DBCC (Database Console Command)

6) Open a new query window in SQL Server Management Studio and run the following system stored procedure to investigate any blocking issue.

```
USE AdventureWorks2012;
GO
DBCC OPENTRAN;
```

What's found by DBCC



Compare different tools

- Start with Activity Monitor
- Use other tools to do in-depth investigation and troubleshooting