

SQL SERVER – Timeout expired. The timeout period elapsed prior to completion of the operation

🕒 January 26, 2016 👤 [Pinal Dave](#) 📁 [SQL Tips and Tricks](#) 🔒 32

Some errors when encountered take most of us for a spin. In this category the error related to “Timeout” surely falls. If you are a web developer and receive the same there are a hundred combinations why this can possibly happen. The web, results can sometimes lead us in completely opposite directions because we have not analyzed the root cause for this. I sincerely urge everyone when working with generic errors, look for specific symptoms and then use the trick of eliminating one after the other before a final solution can be arrived.

This is one of the most common error which you would hear from web developers. Here is a typical error raised shown on the website.

Timeout expired. The timeout period elapsed prior to completion of the operation or the server is not responding.

Description: An unhandled exception occurred during the execution of the current web request. Please review the stack trace for more information about the error and where it originated in the code.

Exception Details: System.Data.SqlClient.SqlException: Timeout expired. The timeout period elapsed prior to completion of the operation or the server is not responding.

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[SqlException (0x80131904): Timeout expired. The timeout period elapsed prior to completion of the operation or the server is not responding.]
System.Data.SqlClient.SqlConnection.OnError(SqlException exception, Boolean breakConnection)
System.Data.SqlClient.SqlInternalConnection.OnError(SqlException exception, Boolean breakCon
System.Data.SqlClient.TdsParser.ThrowExceptionAndWarning(TdsParserStateObject stateObj) +194
System.Data.SqlClient.TdsParser.Run(RunBehavior runBehavior, SqlCommand cmdHandl
bulkCopyHandler, TdsParserStateObject stateObj) +2392

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CopySimpleResultSet

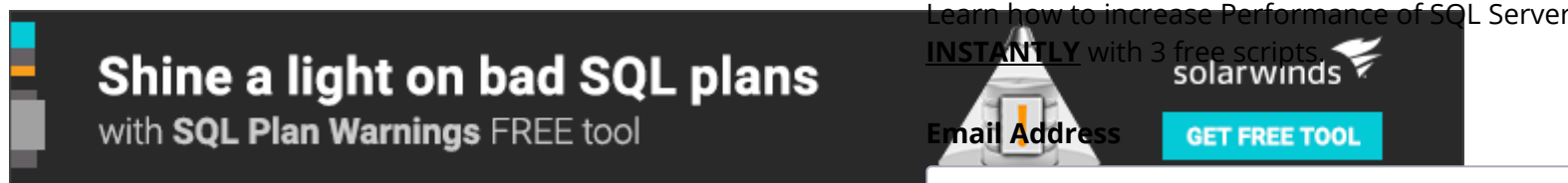
```
System.Data.SqlClient.SqlDataReader.ConsumeMetaData() +33
System.Data.SqlClient.SqlDataReader.get_MetaData() +83
System.Data.SqlClient.SqlCommand.FinishExecuteReader(SqlDataReader ds, RunBehavior runBehavior, String resetOptionsString) +297
System.Data.SqlClient.SqlCommand.RunExecuteReaderTds(CommandBehavior cmdBehavior, RunBehavior runBehavior, Boolean returnStream, Boolean async)
+954
System.Data.SqlClient.SqlCommand.RunExecuteReader(CommandBehavior cmdBehavior, RunBehavior runBehavior, Boolean returnStream, String method,
DbAsyncResult result) +162
System.Data.SqlClient.SqlCommand.RunExecuteReader(CommandBehavior cmdBehavior, RunBehavior runBehavior, Boolean returnStream, String method) +32
System.Data.SqlClient.SqlCommand.ExecuteReader(CommandBehavior behavior, String method) +141
System.Data.SqlClient.SqlCommand.ExecuteDbDataReader(CommandBehavior behavior) +12
System.Data.Common.DbCommand.ExecuteReader() +12
System.Data.Linq.SqlClient.SqlProvider.Execute(Expression query, QueryInfo queryInfo, IObjectReaderFactory factory, Object[] parentArgs, Object[] userArgs,
ICompiledSubQuery[] subQueries, Object lastResult) +332
```

It's very clear message that the timeout duration specified for the operation is completed but actual work didn't finish. The error can come because of two kind of timeouts:

1. Query Timeout: The default value for web application or .NET application is generally 30 seconds. If any request is in progress and it couldn't complete within the timeout period, we would again see an error.
2. Connection Timeout: The default value of connection timeout is generally 15 seconds. Within this time if the connection can't be made, we would see the error.

The next obvious question is – what should we do if we see such error?

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Query timeout: The reasons a command/query runs longer than expected is commonly due to blocking. A quick way to check for blocking is to run sp_who2 while the query is running. The BlkBy column will show the SPID of the blocking connection if the query is blocked. For slow running query, you may want to check the execution plan to verify that the statement is to simple, if your intent is to Select a single row but you see a scan operator, that is a strong indication that you need to perform index or query tuning or need to update statistics.

Here is the over-simplified repro of query timeout done via SQL Server Management Studio (SSMS) Tools > Options in menu would open below window where the value can be set, if ne

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high is

Options

Specify the maximum number of rows to return before the server stops processing your query.

SET ROWCOUNT: 0

Specify the maximum size of text and ntext data returned from a SELECT statement.

SET TEXTSIZE: 2147483647 bytes

An execution time-out of 0 indicates an unlimited wait (no time-out).

Execution time-out: 0 seconds

Specify a word or character that can be used to separate batches.

Batch separator: GO

☐ By default, open new queries in SQLCMD mode

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Reset to Default

OK Cancel

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For demo purpose, I have changed it to 10 seconds. In one query window we would run below co

```
1 USE tempdb
2 GO
3 CREATE TABLE foo (i INT)
4 BEGIN TRAN
```

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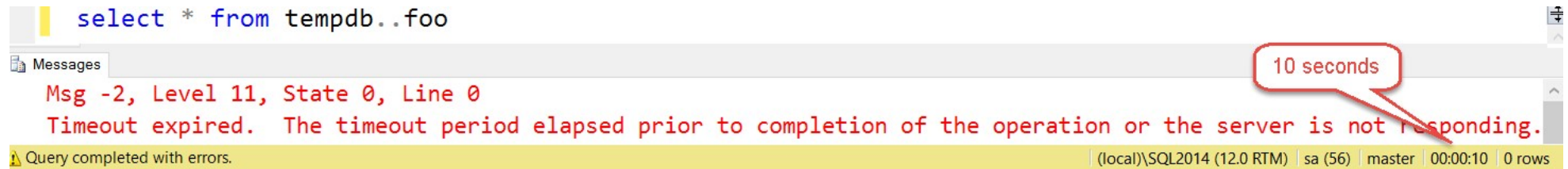
```
5 | INSERT INTO foo VALUES (1)
6 | GO
```

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In second query windows, we can run below command

```
1 | SELECT * FROM tempdb..foo
```

and we can see below after 10 seconds.



It is important to note the error number. It is not an SQL Server error but error by client. The query waited for 10 seconds because we caused blocking. If we don't set timeout value in SSMS, they query would run forever because default timeout is zero.

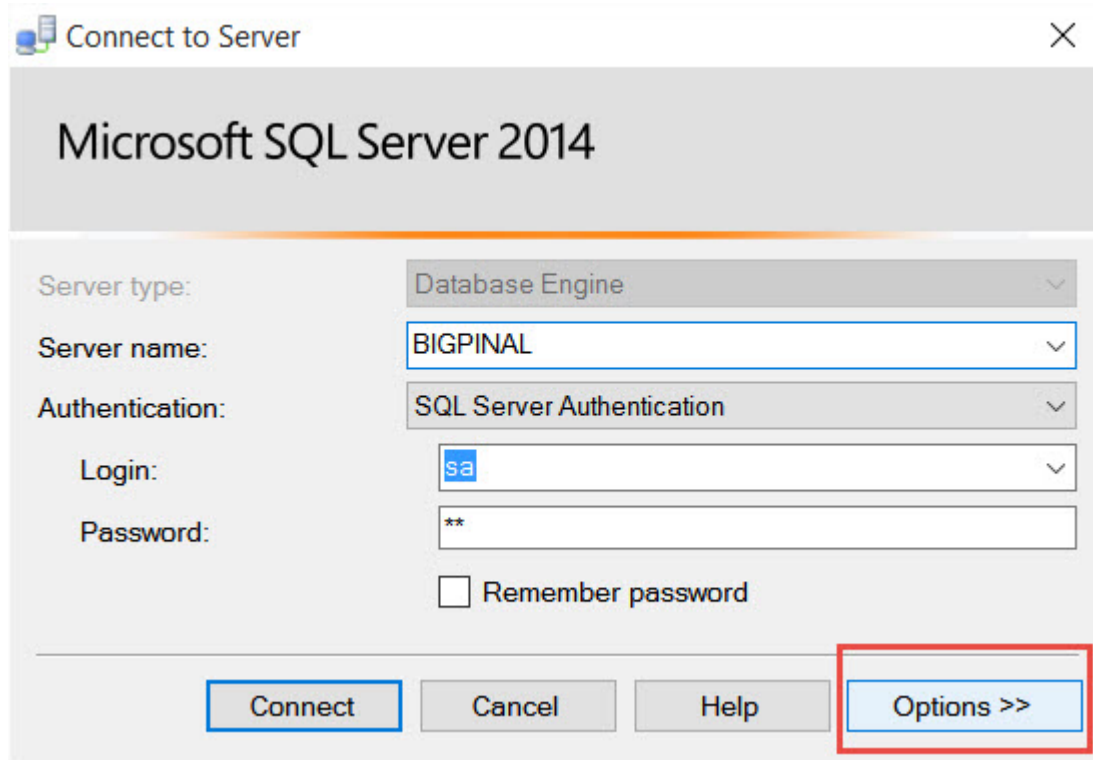
Connection timeout: This I can't reproduce by management studio query easily. On a slow network, you can easily reproduce it by reducing the connection timeout to a lower value. In SSMS. You need to click on Options on login page as shown below:

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And change the value in the Connection Properties tab.

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Connect to Server

Microsoft SQL Server 2014

Login Connection Properties Additional Connection Parameters

Type or select the name of the database for the connection.

Connect to database: <default>

Network

Network protocol: <default>

Network packet size: 4096 bytes

Connection

Connection time-out: 15 seconds

Execution time-out: 0 seconds

☐ Encrypt connection

☐ Use custom color: Select...

Reset All

Connect Cancel Help Options <<

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On the same screen we can also set the query timeout (shown as execution time-out)

If you are seeing the same errors in your web application, then you need to check a configuration file (usually known as web.config file). The same parameters (query and connection timeout) can be set in the connection string of the application as well.

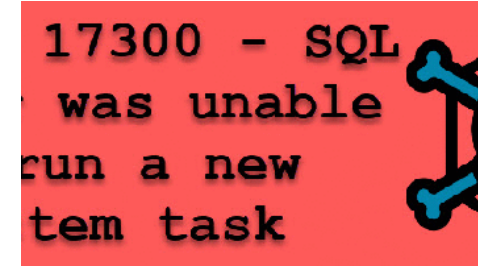
Reference: **Pinal Dave** (<https://blog.sqlauthority.com>)

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April 11, 2019

In "SQL"

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June 4, 2016

In "SQL"

SQL SERVER - Error: 17300 - SQL Server Was Unable to Run a New System Task

December 25, 2017

In "SQL"

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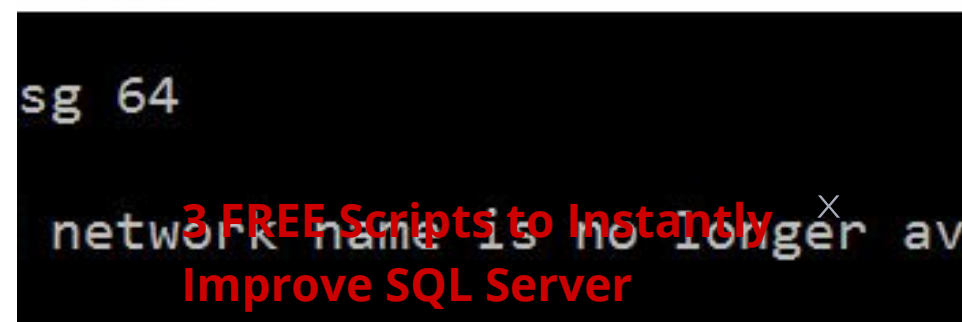
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April 7, 2013

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Database Mirroring
Specified Network Name
No Longer Available

132\cmd.exe



SQL SERVER – Database Mirroring Error -The Specified Network Name is No Longer Available

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32 . Leave new



FreeDreamCode

September 4, 2017 9:07 am

Hello Sir,

I got Following error every day while i move database from RAM Disk to Hard Disk Because but i g

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XTitle :DALHelper.GetDataTableFromQuery, XMessage : SELECT I.NAME AS INDEXNAME FROM NULL) PS INNER JOIN SYS.INDEXES I ON I.OBJECT_ID = PS.OBJECT_ID AND I.INDEX_ID = PS.IND PS.INDEX_ID > 0 AND I.TYPE = 2 AND I.OBJECT_ID = OBJECT_ID('TestDATAAnalog17_9_4_12_TC_... DESC:data source=***SQLEXPRESS;initial catalog=TestHistorianData17090404;persist security info=True;user id=sa;password=***;MultipleActiveResultSets=True;;System.Data.SqlClient.SqlException (0x80131904): Cannot continue the execution because the session is in the kill state.

at System.Data.SqlClient.SqlConnection.OnError(SqlException exception, Boolean breakConnection, Action`1 wrapCloseInAction)
at System.Data.SqlClient.SqlInternalConnection.OnError(SqlException exception, Boolean breakConnection, Action`1 wrapCloseInAction)
at System.Data.SqlClient.TdsParser.ThrowExceptionAndWarning(TdsParserStateObject stateObj, Boolean callerHasConnectionLock, Boolean asyncClose)
at System.Data.SqlClient.TdsParser.TryRun(RunBehavior runBehavior, SqlCommand cmdHandler, SqlDataReader dataStream, BulkCopySimpleResultSet bulkCopyHandler, TdsParserStateObject stateObj, Boolean& dataReady)
at System.Data.SqlClient.SqlDataReader.TryCloseInternal(Boolean closeReader)
at System.Data.SqlClient.SqlDataReader.Close()
at System.Data.Common.DbDataReader.Dispose(Boolean disposing)
at System.Data.Common.DbDataReader.Dispose()
at System.Data.Common.DbDataAdapter.FillInternal(DataSet dataset, DataTable[] datatables, Int32 startRecord, Int32 maxRecords, String srcTable, IDbCommand command, CommandBehavior behavior)
at System.Data.Common.DbDataAdapter.Fill(DataTable[] dataTables, Int32 startRecord, Int32 maxRecords, IDbCommand command, CommandBehavior behavior)
at System.Data.Common.DbDataAdapter.Fill(DataTable dataTable)
at XForceHistorian.DAL.Helper.DALHelper.GetDataTableFromQuery(String query, String connectionString) in F:\Kalpesh X-Force Historian 1.0\XForceHistorian.DAL\Helper\DALHelper.cs:line 173
ClientConnectionId:c506af27-4f8d-4a03-a9a3-42034948cfe3

Reply



Hari Varma

March 14, 2019 11:44 am

One of my windows login is trying to connect to the SQL server 2008R2 Express edition he is facing the error: Timeout expired. The timeout period elapsed prior to completion of the operation or the server is not responding. This Issue appears only once when I login to the server.

I have tried with my SA login but I didn't find any issue for the first time login in a day.

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16/5/2019

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He has tried connecting to SQL Server with server name as well as IP address but that hasn't :

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Can you please suggest for this issue.

Reply

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