

# All SQL Server SqlConnection Properties

There are plenty of combinations when creating an SQL Server connection string. This reference table explains each option available per keyword.

Written by: Sebastian Affakes

This table shows all connection string properties for the ADO.NET SqlConnection object. Most of the properties are also used in ADO. Using this table will give you a better understanding of the options available.

## The Properties

Some of the keywords have several equivalents. For those, each variant is specified on its own line separated with "-or-".

KEYWORD	DEFAULT	EXPLANATION
Application Name		The name of the application, or '.Net SqlClient Data Provider' if no applicationname is provided.
Async	'false'	When true, enables asynchronous operation support. Recognized values are true, false, yes, and no.
AttachDBFilename -or- extended properties -or- Initial File Name		<p>The name of the primary database file, including the full path name of an attachable database. AttachDBFilename is only supported for primary data files with an .mdf extension. The attachment will fail if the primary data file is read-only. The path may be absolute or relative by using the DataDirectory substitution string. If DataDirectory is used, the database file must exist within a subdirectory of the directory pointed to by the substitution string.</p> <p>Note that remote servers, HTTP, and UNC (\\server\sharename\folder\ ) path names are not supported.</p> <p>The database name must be specified with the keyword 'database' (or one of its aliases) as in the following: "AttachDbFileName= DataDirectory \data\YourDB.mdf;integrated security=true;database=YourDatabase". An error will be generated if a log file exists in the same directory as the data file and the 'database' keyword is used when attaching the primary data file. In this case, remove the log file. Once the database is attached, a new log file will be automatically generated based on the physical path.</p>
Connect Timeout -or- Connection Timeout	15	The length of time (in seconds) to wait for a connection to the server before terminating the attempt and generating an error.
Connection Lifetime	0	When a connection is returned to the pool, its creation time is compared with the current time, and the connection is destroyed if that time span (in seconds) exceeds the value specified by Connection Lifetime. This is useful in clustered configurations to force load balancing between a running server and a server just brought online. A value of zero (0) causes pooled connections to have the maximum connection timeout.
Context Connection	'false'	true if an in-process connection to SQL Server should be made.
Connection Reset	'true'	Determines whether the database connection is reset when being removed from the pool. Setting to 'false' avoids making an additional server round-trip when obtaining a connection, but the programmer must be aware that the connection state is not being reset.
Current Language		The SQL Server Language record name.

KEYWORD	DEFAULT	EXPLANATION
Data Source -or- Server -or- Address -or- Addr -or- Network Address		The name or network address of the instance of SQL Server to which to connect. The port number can be specified after the server name: server=tcp:servername, portnumber. When specifying a local instance, always use (local). To force a protocol, add one of the following prefixes: np:(local), tcp:(local), ipc:(local)  ADO.NET 2.0 does not support asynchronous commands over shared memory for SQL Server 2000 or earlier. However, you can force the use of TCP instead of shared memory, either by prefixing tcp: to the server name in the connection string, or by using localhost.
Encrypt	'false'	When true, SQL Server uses SSL encryption for all data sent between the client and server if the server has a certificate installed. Recognized values are true, false, yes, and no.
Enlist	'true'	When true, the pooler automatically enlists the connection in the creation thread's current transaction context. Recognized values are true, false, yes, and no.
Failover Partner	N/A	The name of the failover partner server where database mirroring is configured. The Failover Partner keyword is not supported by .NET Framework version 1.0 or 1.1.
Initial Catalog -or- Database		The name of the database.
Load Balance Timeout	0	The minimum time, in seconds, for the connection to live in the connection pool before being destroyed.
MultipleActiveResultSets	'false'	When true, an application can maintain multiple active result sets (MARS). When false, an application must process or cancel all result sets from one batch before it can execute any other batch on that connection. Recognized values are true and false. The keyword is not supported by .NET Framework version 1.0 or 1.1.
Integrated Security -or- Trusted_Connection	'false'	Whether the connection is to be a secure connection or not. Recognized values are 'true', 'false', and 'sspi', which is equivalent to 'true'.
Max Pool Size	100	The maximum number of connections allowed in the pool.
Min Pool Size	0	The minimum number of connections allowed in the pool.
Network Library -or- Net	'dbmssocn'	The network library used to establish a connection to an instance of SQL Server. Supported values include dbnmptw (Named Pipes), dbmsrpcn (Multiprotocol, Windows RPC), dbmsadsn (Apple Talk), dbmsgnet (VIA), dbmslpcn (Shared Memory, local machine only) and dbmsspxn (IPX/SPX), dbmssocn (TCP/IP) and Dbmsvinn (Banyan Vines). The corresponding network DLL must be installed on the system to which you connect. If you do not specify a network and you use a local server (for example, "." or "(local)"), shared memory is used.
Packet Size	8192	Size in bytes of the network packets used to communicate with an instance of SQL Server.
Password -or- Pwd		The password for the SQL Server account logging on. Not used with (the strongly recommended) 'Integrated Security=true' option.
Persist Security Info	'false'	When set to 'false' (strongly recommended), security-sensitive information, such as the password, is not returned as part of the connection if the connection is open or has ever been in an open state. Resetting the connection string resets all connection string values including the password.
Pooling	'true'	When true, the SqlConnection object is drawn from the appropriate pool, or if necessary, is created and added to the appropriate pool. Recognized values are true, false, yes, and no.
Replication	'false'	true if replication is supported using the connection.
Transaction Binding	Implicit Unbind	Controls connection association with an enlisted System.Transactions transaction. Possible values are: Transaction Binding=Implicit Unbind; Transaction Binding=Explicit Unbind; Implicit Unbind causes the connection to detach from the transaction when it ends. After detaching, additional requests on the connection are performed in autocommit mode. The System.Transactions.Transaction.Current property is not checked when executing requests while the transaction is active. After the transaction has ended, additional requests are performed in autocommit mode. Explicit Unbind causes the connection to remain attached to the transaction until the connection is closed or an explicit SqlConnection.TransactionEnlist(null) is called. An InvalidOperationException is thrown if Transaction.Current is not the enlisted transaction or if the enlisted transaction is not active.

KEYWORD	DEFAULT	EXPLANATION
TrustServerCertificate	'false'	When set to true, SSL is used to encrypt the channel when bypassing walking the certificate chain to validate trust. If TrustServerCertificate is set to true and Encrypt is set to false, the channel is not encrypted. Recognized values are true, false, yes, and no.
Type System Version	N/A	<p>A string value that indicates the type system the application expects. Possible values are:</p> <p>Type System Version=SQL Server 2000;  Type System Version=SQL Server 2005;  Type System Version=SQL Server 2008;  Type System Version=Latest;</p> <p>When set to SQL Server 2000, the SQL Server 2000 type system is used. The following conversions are performed when connecting to a SQL Server 2005 instance:</p> <p>XML to NTEXT  UDT to VARBINARY  VARCHAR(MAX), NVARCHAR(MAX) and VARBINARY(MAX) to TEXT, NEXT and IMAGE respectively.</p> <p>When set to SQL Server 2005, the SQL Server 2005 type system is used. No conversions are made for the current version of ADO.NET.</p> <p>When set to Latest, the latest version than this client-server pair can handle is used. This will automatically move forward as the client and server components are upgraded.</p>
User ID		The SQL Server login account.
User Instance	'false'	A value that indicates whether to redirect the connection from the default SQL Server Express instance to a runtime-initiated instance running under the account of the caller.
Workstation ID	The local computer name	The name of the workstation connecting to SQL Server.

## Summary

There is no point in always defining each of these properties. Return to this sheet to look up definitions as a way to ensure proper connections. Also use this as a reference to ensure that you have included every property applicable to your specific situation.