sqlcmd SQL Server shell

CONCEPTS

Typed lines collect in a batch; nothing runs until GO on a line of its own. GO and :commands belong to sqlcmd, not T-SQL, and must start the line.

Connect -S -U -E -d
↓ type / :r
Batch lines, $(var) expanded
↓ GO
Server runs the batch
↓ results
Output screen, -o, :out

Two variants share the name: go-sqlcmd (standalone, has sqlcmd --version and create) and ODBC sqlcmd from mssql-tools18. sqlcmd -? shows the version on both.

ODBC sqlcmd 18 encrypts by default (-Nm) and validates the certificate, so a local server with a self-signed cert needs -C.

CONNECT

sqlcmd -S *<host>*,*<port>* **-U** *<user>*
Connect with a SQL login

sqlcmd -S *<host>**<instance>*
Connect to a named instance

sqlcmd -E
Use integrated (Windows/ Kerberos) auth

SQLCMDPASSWORD=*<pw>* **sqlcmd -U** *<user>*
Pass the password via environment

sqlcmd -d *<db>*
Start in a database

sqlcmd -C
Trust the server certificate

sqlcmd -G -S *<srv>*.**database.windows.net**
Sign in with Microsoft Entra ID

:connect *<host>* **-U** *<user>*
Switch server inside a session

RUN SQL

sqlcmd -Q "*<sql>***"**
Run a query and exit

sqlcmd -i *<file.sql>*
Run a script file

sqlcmd -i *<in.sql>* **-o** *<out.txt>*
Write all output to a file

GO
Run the buffered batch

:r *<file>*
Read a file into the batch

:reset
Discard the current batch

sqlcmd -t *<seconds>*
Query timeout (default none)

:quit
Leave sqlcmd

VARIABLES

:setvar *<var>* **"***<value>***"**
Define a scripting variable

$(*<var>***)**
Insert a variable's value

sqlcmd -v *<var>*="*<value>*"
Set a variable from the shell

Built-in variables

Variable	Set by
SQLCMDSERVER	-S, :connect
SQLCMDUSER	-U
SQLCMDPASSWORD	-P
SQLCMDDBNAME	-d
SQLCMDINI	startup script path
SQLCMDEDITOR	editor for :ed

OUTPUT

sqlcmd -W
Trim trailing spaces from columns

sqlcmd -s "*<sep>***"**
Set the column separator

sqlcmd -h -1
Omit column headers

sqlcmd -y *<n>*
Max width of (max)/xml values

SET NOCOUNT ON;
Hide "(n rows affected)"

:out *<file>*
Send results to a file

OUTPUT (cont.)

sqlcmd --vertical
One column per line (go-sqlcmd)

ERRORS & EXIT CODES

sqlcmd -b
Stop and exit 1 on an error

:on error exit
Stop the script on an error

sqlcmd -V *<severity>*
Minimum severity that sets the exit code

:exit(*<query>***)**
Exit with a query result as code

GO-SQLCMD CONTAINERS

sqlcmd create mssql --accept-eula
Start SQL Server in a container

sqlcmd create mssql --accept-eula --using *<url.bak>*
Same, restoring a backup

sqlcmd query "*<sql>***"**
Query the current context

sqlcmd config use-context *<name>*
Switch context

sqlcmd config connection-strings
ODBC, ADO.NET, JDBC strings

T-SQL HELPERS

SELECT name FROM sys.databases;
List databases

USE *<db>*;
Switch database

SELECT name FROM sys.tables;
List tables in this database

EXEC sp_help '*<table>***';**
Describe a table

SELECT TOP (10) * FROM *<table>*;
First rows (no LIMIT in T-SQL)

SELECT @@VERSION;
Server version