



VORTEXsql

Users Guide

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Contents

Preface ii

Revisions iii

1 Overview

1

2 VORTEXsql Commands

/b 3

/c 4

/d 5

/e 7

/f 8

/l 9

/m 10

/n 11

/o 12

/p 13

/q 14

/r 15

/s 16

/t 17

/w 18

/? 19



Preface

Background

Trifox Inc. has been serving the relational database market since 1984 through consulting and the development of software products. In 1987, Trifox created SQL*QMX for Oracle. This easy-to-use, powerful querying and report writing tool, which is based on IBM's QMF, continues to be used at thousands of sites. In 1989, Trifox created TRIMtools, a family of application and reportwriting tools now known as DesignVision. DesignVision was developed in response to the OLTP requirements of several large application vendors.

Database Access

VORTEX is an integrated family of products that allows nearly any production application to access SQL data:

- On any or all of the major relational databases.
- Across networks.
- Across platforms.
- With a dramatic increase in the number of concurrent users.
- Without any additional hardware.

In a client/server or multi-tier configuration, VORTEX makes it possible for your SQL applications to access data on different platforms over one or more network configurations. Currently it supports only TCP/IP.

Inherent in this approach are services that allow production applications originally written for one relational database (such as Oracle) can access the same data on another database (such as Informix), even if it is spread across different databases.

VORTEX Precompilers for C and COBOL, as well as a variety of program interfaces, allow existing SQL programs to take full advantage of VORTEX services such as performance enhancement, transaction monitoring, and flat-file database access.

With VORTEXaccelerator in your configuration, you dramatically increase the number of concurrent users who can log on to a specific SQL production application. Your users experience faster performance and you won't have to change any programs or add any hardware.

Application and Report Development

DesignVision DVapp lets you design, generate, and maintain forms-based applications. You can easily port the pop-up windows, customizable menus and submenus, and

custom keyboard assignments, in fact the entire application, to Windows .NET, Unix, OpenVMS, or HTML5 with no extra effort.

The reportwriter, TRIMreport, lets you create simple reports quickly, or complex reports with absolute confidence in their power.

When you want to write stand-alone applications (including triggers) without a user interface, the TRIMpl 4GL language gives you the freedom you want. The procedural language has over 100 database-specific functions that help you write powerful applications in very little time.

Reaching Legacy Data

GENESISsql is a SQL processor that accesses low-level data sources such as ISAM, SDMS, ADABAS, RMS, and MicroFocus and makes the data accessible to VORTEX clients. You can add GENESIS data sources to a VORTEX system in a matter of days, simplifying what used to be an enormous task.

Conventions

Screen shots in this manual come from the Windows version of our software.

Trifox documentation uses the following conventions for communicating information:

Example	Describes
CHOOSE REPORT > [F3] >	Press [F3] on the CHOOSE REPORT menu and ...
Right-click	Clicking the right mouse button.
Left-click	Clicking the left mouse button.
<i>connect_string</i>	Replace italicized text with your own variable.
vtxnetd	Text in bold typewriter style represents strings that you type exactly as they appear in the manual.

Support

If you have a question about a TRIFOX product that is not answered in the documentation (paper or online), contact the Customer Support Services group at:

- support@trifox.com
- Trifox Customer Support Services
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- 408-796-1590

Revisions



Chapter 1

Overview

VORTEXsql is a command line interface to VORTEXchannel. While it is often used to test database connections, it can also be used to write simple reports as well as execute scripts. VORTEXsql provides the following benefits:

- Consistent interface across all VORTEX supported databases.
- Simple command with built-in help.
- Available on all VORTEX supported operating systems.



Chapter 2

VORTEXsql Commands

This chapter describes the various VORTEXsql commands in detail. All of these commands can be read in from a file.

To run VORTEXsql, simply type

```
vtxsql
```

at the command prompt for your operating system. VORTEXsql will show

```
VORTEXsql - Simple Interactive SQL.  
Version 2.0.5.2 (64-bit) - Production.  
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All Rights Reserved Worldwide.
```

```
SQL (/? for help) ==>
```

At this point, there is no database connection and you use the /c option to connect. To exit, type /q. To see a list of commands, type /?. VORTEXsql commands can be presented as part of the command line, e.g.

```
vtxsql /oracle:scott/tiger
```

NOTE: *There is no space between the commands and any parameters for the command. For example, to connect to a local oracle database, use /oracle:scott/tiger. not /c oracle:scott/tiger.*

/b

Displays the internal database request block in its current state. This is typically used to debug SQL errors and the format may change.

Syntax

`/b`

Example

For example, after a `/dtstaff` command, `/b` will show

```
SQL (/? for help) ==> /b
Database request block. (TDB)
----- Send @0xb29010
FNC: DESCRIBE
OPT: 4      RBS: 40000 CUR: -1 NRE: 1 AUX: 1 CMD: 0
PDL: 0      PDP: (nil)
PBL: 0      PBP: 0x7fb3bf4fa1d5
SBL: 19     SBP: 0x7fff7a39d820
select * from staff
----- Receive @0xb29010
RET: 0      ARS: 0 NCO: 7 DEC: 0 NRA: 40000
RBL: 98     RBP: 0xb290f0
  0: dty:  2, 2, 2 len:  22 pre,sca: 38, 0 flg:  0 Name: ID
  1: dty:  1, 1, 1 len:  10 pre,sca:  0, 0 flg:  0 Name: NAME
  2: dty:  2, 2, 2 len:  22 pre,sca: 38, 0 flg:  0 Name: DEPT
  3: dty:  1, 1, 1 len:   6 pre,sca:  0, 0 flg:  0 Name: JOB
  4: dty:  2, 2, 2 len:  22 pre,sca: 38, 0 flg:  1 Name: YEARS
  5: dty:  2, 2, 2 len:  22 pre,sca:  7, 2 flg:  0 Name: SALARY
  6: dty:  2, 2, 2 len:  22 pre,sca:  7, 2 flg:  1 Name: COMM
MSL: 0      MBP:
----- Misc @0xb29010
DID: 0 DBI: 0 DBC: 1 MBL: 300 MNC: 1024 NAC: 2 NLC: 2 CIO: 0
```


/c

Connects to a VORTEX database. The connect string format is described in the *VORTEX Installation and Operations Manual* chapter 7.

Syntax

`/c[connect string]`

Example

To connect to a local oracle database, type

```
/coracle:scott/tiger
```

Using `/c` with a new connect string drops the existing connection. Using `/c` by itself drops the existing connection.

/d

Describe a table or SQL statement resultset.

Syntax

/ds|t<string>

Example

The result of */dtstaff* is

```

SQL (/? for help) ==> /dtstaff
Database request block. (TDB)
----- Send @0x1e89010
FNC: DESCRIBE
OPT: 0   RBS: 0 CUR: -1 NRE: 0 AUX: 1024 CMD: 0
PDL: 0   PDP: (nil)
PBL: 0   PBP: (nil)
SBL: 19  SBP: 0x7fff47df8890
select * from staff
----- Receive @0x1e89010
RET: 0   ARS: 0 NCO: 7 DEC: 0 NRA: 0
RBL: 98  RBP: 0x1e890f0
  0: dtypes: 2, 0,68 len: 22 pre,sca: 5, 0 flg: 0 Name: ID
  1: dtypes: 1, 1,65 len: 10 pre,sca: 0, 0 flg: 0 Name: NAME
  2: dtypes: 2, 0,68 len: 22 pre,sca: 5, 0 flg: 0 Name: DEPT
  3: dtypes: 1, 1,65 len: 6 pre,sca: 0, 0 flg: 0 Name: JOB
  4: dtypes: 2, 0,68 len: 22 pre,sca: 5, 0 flg: 1 Name: YEARS
  5: dtypes: 2, 2,68 len: 22 pre,sca: 7, 2 flg: 0 Name: SALARY
  6: dtypes: 2, 2,68 len: 22 pre,sca: 7, 2 flg: 1 Name: COMM
MSL: 0   MBP:
----- Misc @0x1e89010
DID: 4 DBI: 0 DBC: 0 MBL: 300 MNC: 1024 NAC: 2 NLC: 2 CIO: 0

```

The selectlist or table columns are described as follows:

seq The sequence number of the column beginning with zero.

dtype The datatype of the column. There are three comma separated values: the internal VORTEX datatype, the original internal VORTEX datatype, and the actual database's datatype. The first two are usually the same although they can differ for various numeric datatypes. These values are defined in *vortex.h*. The last value is defined by the database vendor.

len The VORTEX internal length of the column data. For numeric values, the internal VORTEX length is always 22. For datetime, it can be 4 (date), 7 (datetime), or 10 (timestamp).

pre, sca The precision and scale of a numeric column.

flg Flags that further define the field. These are bit values that can OR'd. The current values are: 0x01 - Nulls allowed, 0x02 - Unsigned, 0x04 - Readonly.

name The column name.

/e

Controls the SQL error handling behavior of vtssql. /e with no parameters resets the default SQL error handling, continue on SQL error.

Syntax

/e[s[n]]

- s** Stop processing script and exit.
- n** Stop processing script and exit with exit code set to n.

/f

Controls the use of an output file. Any VORTEXsql output can be redirected to a file at any time but only one output file is active. If the current active file is closed, output resumes to stdout.

Syntax

`/fc | a<file> | w<file>`

c Close the current output file.

a<file> Open file in append mode

w<file> Open file in overwrite mode

/l

Sets the number of output lines to display before prompting to continue.

Syntax

```
/l<n>
```

If *n* is zero or the */f* command has redirected output to a file or the */r* command is being used, then VORTEXsql sends the entire output without prompting. The default value is 20.

Example

```
SQL (/? for help) ==> select id,name,dept,job from staff;
```

ID	NAME	DEPT	JOB
10	SANDERS	20	MGR
20	PERNAL	20	SALES
30	MARENGHI	38	MGR
40	O'BRIEN	38	SALES
50	HANES	15	MGR
60	QUIGLEY	38	SALES
70	ROTHMAN	15	SALES
80	JAMES	20	CLERK
90	KOONITZ	42	SALES
100	PLOTZ	42	MGR
110	NGAN	15	CLERK
120	NAUGHTON	38	CLERK
130	YAMAGUCHI	42	CLERK
140	FRAYE	51	MGR
150	WILLIAMS	51	SALES
160	MOLINARE	10	MGR
170	KERMISCH	15	CLERK
180	ABRAHAMS	38	CLERK
190	SNEIDER	20	CLERK
200	SCOUTTEN	42	CLERK

Q to quit, any other key to continue q

```
SQL (/? for help) ==> /l5
```

```
SQL (/? for help) ==> select id,name,dept,job from staff;
```

ID	NAME	DEPT	JOB
10	SANDERS	20	MGR
20	PERNAL	20	SALES
30	MARENGHI	38	MGR
40	O'BRIEN	38	SALES
50	HANES	15	MGR

Q to quit, any other key to continue q

/m

Set the datetime format mask.

Syntax

/m<mask>

The valid datetime format masks are defined in the *VORTEX Installation and Operations Manual* chapter 12.

Example

```
SQL (/? for help) ==> select SYSDATE from dual;
```

```
SYSDATE  
-----  
17-MAY-13
```

```
SQL (/? for help) ==> /mYYYYMMDD HH:MI:SS
```

```
SQL (/? for help) ==> select SYSDATE from dual;
```

```
SYSDATE  
-----  
20130517 10:51:30
```

/n

Set the value to be displayed for NULL values.

Syntax

/n<string>

Example

```
SQL (/? for help) ==> select id,NULL from staff where id = 10;
```

```
      ID NULL  
-----  
      10
```

```
SQL (/? for help) ==> /n**
```

```
SQL (/? for help) ==> select id,NULL from staff where id = 10;
```

```
      ID NULL  
-----  
      10 **
```

```
SQL (/? for help) ==>
```


/o

Send a driver command.

Syntax

```
/o<cmd> [parms]
```

The *cmd* values are defined in *vortex.h* as well as in the *VORTEX cli Users Guide* chapter 2, in the VTXCMD section.

Example

Return fully qualified column names:

```
SQL (/? for help) ==> /o29 YES
SQL (/? for help) ==> /dtstaff
Database request block. (TDB)
----- Send @0x83c010
FNC: DESCRIBE
OPT: 0    RBS: 0 CUR: -1 NRE: 0 AUX: 1024 CMD: 29
PDL: 0    PDP: (nil)
PBL: 0    PBP: (nil)
SBL: 19   SBP: 0x7fffe4e3a9b0
select * from staff
----- Receive @0x83c010
RET: 0    ARS: 0 NCO: 7 DEC: 0 NRA: 0
RBL: 189  RBP: 0x83c0f0
0: dty: 2, 0,68 len: 22 pre,sca: 5, 0 flg: 0 Name: NIKLAS.STAFF.ID
```

/p

Set/reset SQL statement parameter values./q

Syntax

```
/p[N T [data]]
```

/p with no parameters resets all parameters. *N* is the parameter number, zero-based. *T* is the datatype: B - binary, C - char, D - datetime, I - integer, and N - number. *data* is the value to set for the parameter; if omitted then the parameter is set to NULL.

Example

```
SQL (/? for help) ==> /p0 C SANDERS
SQL (/? for help) ==> select * from staff where name = ?;
```

ID	NAME	DEPT	JOB	YEARS	SALARY	COMM
10	SANDERS	20	MGR	7	18357.5	

```
SQL (/? for help) ==> /p0 C PERNAL
SQL (/? for help) ==> select * from staff where name = ?;
```

ID	NAME	DEPT	JOB	YEARS	SALARY	COMM
20	PERNAL	20	SALES	8	18171.25	612.45

/q

Quit VORTEXsql.

/r

Runs commands from a file. Command files may be chained but not nested.

Syntax

```
/r<file>
```

Example

File *testme.sql* contains

```
/coracle:scott/tiger
drop table testme;
create table testme(col1 integer,col2 varchar(10),col3
decimal(8,2));
insert into testme (col1,col2,col3) values(10,'Hello?',12345.67);
/xc
select * from testme;
/q
```

The command

```
vtxsq1 /rtestme.sql
```

returns

```
VORTEXsql - Simple Interactive SQL.
Version 2.0.4.0 (64-bit) - Production.
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```

```
          COL1 COL2                COL3
-----
          10 Hello?                12345.67
```

/s

Sleep for a period of time

Syntax

`/s<n>`

n is seconds.

/t

Display the time since VORTEXsql was started and the since the previous */t* command.

Syntax

/t

Example

```
SQL (/? for help) ==> /t
Time since start/last: 224.568396/3.007809
SQL (/? for help) ==> select * from staff where id < 50;
```

ID	NAME	DEPT	JOB	YEARS	SALARY	COMM
40	O'BRIEN	38	SALES	6	18006	846.55
30	MARENGHI	38	MGR	5	17506.75	
20	PERNAL	20	SALES	8	18171.25	612.45
10	SANDERS	20	MGR	7	18357.5	

```
SQL (/? for help) ==> /t
Time since start/last: 232.343860/7.775464
```

/w

Set display width(s) starting with first column.

Syntax

```
/w[W...]
```

W is the display width for the column beginning with the first column. If *W* is zero, then the default database describe width is used. */w* with no values resets all columns to their default width. The width settings remain for all resultsets until reset.

Example

```
SQL (/? for help) ==> select substr(name | ' ' | years,1,12),job
from staff;
```

EXPR0	JOB
-----	-----
SANDERS 7	MGR
PERNAL 8	SALES
MARENGHI 5	MGR
O'BRIEN 6	SALES
HANES 10	MGR
QUIGLEY	SALES
ROTHMAN 7	SALES
JAMES	CLERK
KOONITZ 6	SALES
PLOTZ 7	MGR

Q to quit, any other key to continue q

```
SQL (/? for help) ==> /w12 6
```

```
SQL (/? for help) ==> select substr(name | ' ' | years,1,12),job
from staff;
```

EXPR0	JOB
-----	-----
SANDERS 7	MGR
PERNAL 8	SALES
MARENGHI 5	MGR
O'BRIEN 6	SALES
HANES 10	MGR
QUIGLEY	SALES
ROTHMAN 7	SALES
JAMES	CLERK
KOONITZ 6	SALES
PLOTZ 7	MGR

Q to quit, any other key to continue q

/?

Display help screen.

Example

SQL (/? for help) ==> /?

Input is read 'line at a time'. Lines beginning with a '#' are considered comments and the rest of the line is ignored. Lines beginning with a '/' are a local command line (see commands below). All other lines are SQL statements. Multiple lines are concatenated and are terminated by a ';'.

Commands	Parameters	Description
/c	connect_string	Connect to a database.
/x	c r[u]	Commit or Rollback transaction and, if 'u' specified, start a read/write transaction.
/d	s t<string>	Describe a SQL statement or a table.
/e	[s[n]]	Exit on SQL error. /e resets, [s] exits with default errorcode, [sn] exits with n errorcode.
/f	c a w[file]	Output to file. 'c' - close file, 'a' - append to file, 'w' - write (new) to file.
/r	file	Run statements/commands in file. Files can be chained, but not nested.
/o	cmd parms	Execute driver command.
/m	mask	Set datetime format mask.
/n	null	What to display for a NULL (default: blanks).
/l	N	N lines displayed for SELECT. 0 for continuous.
/w	[W ...]	Display width[s] starting with first column. 0 for default width. Just /w to reset all widths.
/p	[N T [data]]	Parameters. Just /p to reset. N is parameter number (zero based). T is datatype (B - binary, C - char, D - datetime, I - int, N - number). For a NULL value 'data' is omitted.
/v	y n	Verbose messages. If 'n' then only errors.
/b		Display DB request block.
/s	N	Sleep for N seconds.
/t		Timestamp.
/? or /h		This screen.
/q		Quit session and exit.