

CHAPTER 2

The Database Server

About this chapter This chapter describes the command-line options for the Adaptive Server Anywhere database server.

It also contains information for the command-line options of the client executable (provided for compatibility with Version 5 software).

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The database server

Function Start a personal database server or network database server.

Syntax { **dbeng6** | **dbsrv6** }
 [*server-switches*] [*database-file* [*database-switches*]]*

Windows 3.x syntax **dbeng6w** [*server-switches*] [*database-file* [*database-switches*]]*

NetWare syntax **load dbsrv6** [*server-switches*] [*database-file* [*database-switches*]]*

Switch	Description
<i>@filename</i>	Read in switches from a configuration file. See " <i>@filename</i> command-line option" on page 16
<i>@environment-variable</i>	Read in switches from an environment variable. See " <i>@environment-variable</i> command-line option" on page 16.
-?	Display usage information. See " -? command-line option" on page 17
-b	Run in bulk operations mode. See " - b command-line option" on page 17.
-c	Set maximum cache size. See " - c command-line option" on page 17.
-ct	Enable character-set translation. See " -ct command-line option" on page 19.
-d	Disable asynchronous I/O [Windows NT, NetWare]. See " - d command-line option" on page 19.
-df	Force direct I/O [Windows 3.x]. See " -df command-line option" on page 20.
-di	Use direct I/O if possible [Windows 3.x]. See " -di command-line option" on page 20.
-e	Enable packet encryption [network server]. See " - e command-line option" on page 20.
-ga	Automatically unload the database after the last connection closed. In addition, shut down after the last database is closed . See " -ga command-line option" on page 20.
-gb level	Set database process priority class to <i>level</i> [Windows NT]. See " -gb command-line option" on page 21.
-gc num	Set checkpoint timeout period to <i>num</i> minutes. See " -gc command-line option" on page 21.
-gd level	Set database starting permission. See " -gd command-line option" on page 22.
-ge size	Set the stack size for threads that run external functions [not

Switch	Description
	UNIX or Windows 3.X]. See "-ge command-line option" on page 22.
-gf	Disable firing of triggers. See "-gf command-line option" on page 22.
-gk level	Set the permission that is required to stop the server. See "-gk command-line option" on page 22.
-gm num	Limit the maximum number of connections. See "-gm command-line option" on page 23.
-gn num	Set the number of threads. See "-gn command-line option" on page 23.
-gp size	Set the maximum page size to <i>size</i> bytes.. See "-gp command-line option" on page 23.
-gr num	Set the maximum recovery time to <i>num</i> minutes. See "-gr command-line option" on page 23.
-gss size	Set the thread stack size to <i>size</i> bytes. See "-gss command-line option" on page 24.
-gt num	Set the number of CPUs for request processing. See "-gt command-line option" on page 24.
-gu level	Set the permission level for utility commands: utility_db , all , none , dba . See "-gu command-line option" on page 24.
-gw	Set the interval (in milliseconds) for background processing. See "-gw command-line option" on page 25.
-gx	Modify operating system threading [Windows 95 and Windows NT]. See "-gx command-line option" on page 25.
-m	Truncate the transaction log after each checkpoint, for all databases. See "- m command-line option" on page 25.
-n name	Use <i>name</i> as the name of the database server. See "- n command-line option" on page 26.
-o filename	Output messages to the specified file. See "- o command-line option" on page 26.
-p packet-size	Set the maximum network packet size [network server]. See "- p command-line option" on page 27.
-q	Quiet mode—suppress output. See "- q command-line option" on page 27.
-r	Disable multiple-row fetching. See "- r command-line option" on page 27.
-s	Set the syslog facility ID (none, user, daemon, local0,..., local7) [UNIX]. See "- s command-line option" on page 27.

Switch	Description
-sc	Disable the shared memory port, and enable Named Pipes. [NT personal database server]. See "-sc command-line option" on page 28.
-ta <i>seconds</i>	Scan time for terminated applications—default 30 seconds [Windows 3.X, Windows 95, Windows NT]. See "-ta command-line option" on page 28.
-ti <i>minutes</i>	Client idle time before shutdown—default 240 minutes [network server]. See "-ti command-line option" on page 28.
-tl <i>seconds</i>	Default liveness timeout for clients in seconds—default 120 seconds [network server]. See "-tl command-line option" on page 28.
-tq <i>time</i>	Set quitting time [network server]. See "-tq time command-line option" on page 29.
-u	Use buffered disk I/O [Windows 95 and Windows NT]. See "- u command-line option" on page 29.
-ud	Run as a daemon [UNIX]. See "-ud command-line option" on page 30.
-ut <i>minutes</i>	Touch temporary files every <i>min</i> minutes [UNIX]. See "-ut command-line option" on page 30.
-v	Display database server version and stop.. See "- v command-line option" on page 30.
-x <i>list</i>	Comma-separated list of communication links to try. See "- x command-line option" on page 30.
-y	Run as a Windows 95 service [Windows 95]. See "- y command-line option" on page 32.
-z	Provide diagnostic information on communication links [network server]. See "- z command-line option" on page 32.

Recovery

Switch	Description
-as <i>filename</i>	Apply the named transaction log file. See "- a command-line option" on page 32.
-f	Force the database to start without a transaction log. See "-f command-line option" on page 32.

Database

Switch	Description
-m	Truncate (delete) the transaction log after each checkpoint. See "- m command-line option" on page 33.
-n <i>name</i>	Name the database. See "- n command-line option" on page 34.

	<p>See also</p> <p>"Running the Database Server" on page 3 of the book <i>Adaptive Server Anywhere User's Guide</i></p> <p>"Network communications parameters" on page 54</p>
Description	<p>The dbeng6 command starts a personal database server. The dbsrv6 command starts a network database server.</p> <p>The <i>database-file</i> specifies the database filename. If <i>database-file</i> is specified without a file extension, Adaptive Server Anywhere looks first for <i>database-file</i> with extension <i>.wrt</i> (a write file) followed by <i>database-file</i> with extension <i>.db</i>.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>Server differences</p> <p>The personal database server has a maximum of ten concurrent connections, uses at most two CPUs for request processing, and does not support network client/server connections.</p> <p>In addition, there are other minor differences, such as the default permission level that is required to start new databases, or the permissions required to execute the CHECKPOINT statement.</p> </div>
Platform availability	<p>Both personal and network database servers are supplied for each supported operating system, with the following exceptions:</p> <ul style="list-style-type: none"> ◆ Novell NetWare Only the network server is supplied. ◆ Windows 3.x Only the personal server is supplied. ◆ Windows CE Only the network server is supplied. The support for TCP/IP in the network server enables you carry out tasks from your desktop machine, including database management with Sybase Central.
NetWare notes	<p>In NetWare, the database file and the transaction log file must be on a NetWare volume, and the paths must be fully specified. NetWare allows you to have volumes that span two or more hard disks.</p> <p>Adaptive Server Anywhere uses the Direct File System to maintain database files. The Direct File System is built into NetWare 4.0 and 4.1, but not in NetWare 3.11 or 3.12. Novell has provided a loadable module that contains the DIRECTFS functions for version 3.11 and 3.12. <i>directfs.nlm</i> comes with Adaptive Server Anywhere, and is installed during the installation if it is not found on your NetWare server. The DIRECTFS module is automatically loaded when you load <i>dbsrv6</i>.</p>

Novell has also provided an updated *clib.nlm* for NetWare 3.11. This update contains bug fixes that are necessary for Adaptive Server Anywhere to work properly. It is installed during the installation of Adaptive Server Anywhere if it is not already on your NetWare server.

Database server switches

These switches apply to the server as a whole, not just to an individual database.

@filename command-line option

Function Read in command-line switches from the supplied file.

Syntax [**dbsrv6** | **dbeng6**] @*filename* ...

Applies to All operating systems and servers.

Description The command-line file may contain line breaks, and may contain any set of command line switches. For example, the following command file holds a set of command line switches for a server named **myserver** that starts with a cache size of 4Mb and loads the sample database:

```
-c 4096
-n myserver
c:\asa6\asademo.db
```

If this configuration file is saved as *c:\config.txt*, it can be used in a command line as follows:

```
dbsrv6 @c:\config.txt
```

@environment-variable command-line option

Function Read in command-line switches from the supplied environment variable.

Syntax [**dbsrv6** | **dbeng6**] @*env-var* ...

Applies to All operating systems and servers.

Description The environment variable may contain any set of command line switches. For example, the first statement sets an environment variable that holds command line switches for a database server that starts with a cache size of 4Mb and loads the sample database. The second statement starts the database server:

```
set envvar=-c 4096 c:\asa6\asademo.db
dbsrv6 @envvar
```

Environment variable given priority

If you have both a file and an environment variable with the value of your @ command-line switch, the environment variable is used.

-? command-line option

Function	Display usage information.
Syntax	[dbsrv6 dbeng6] -?
Applies to	All operating systems and servers.
Description	Display a short description of each command-line option. The database does not carry out any other task.

- b command-line option

Function	Use bulk operation mode.
Syntax	[dbsrv6 dbeng6] -b ...
Applies to	All operating systems and servers.
Description	<p>This is useful for using the Interactive SQL INPUT command to load large quantities of data into a database.</p> <p>The -b option should not be used if you are using LOAD TABLE to bulk load data.</p> <p>When you use this option, the database server allows only one connection by one application. It does not keep a rollback log or a transaction log, and the multi-user locking mechanism is turned off.</p> <p>When you first start the database server after loading data with the -b switch, you should use a new log file.</p> <p>Bulk operation mode does not disable the firing of triggers.</p>

- c command-line option

Function	Set the memory reserved for caching database pages and other server information..
Syntax	[dbsrv6 dbeng6] -c [<i>integer</i> <i>integerK</i> <i>integerM</i>] ...
Applies to	All operating systems and servers.

Description

The amount of memory available for use as a database server cache is one of the key factors controlling performance. You can set the amount of cache memory using the `-c` command-line option

By default, the database server uses 2 megabytes of memory for caching. The more cache memory that can be given the server, the better will be its performance.


If M or K is not supplied, any integer less than 10000 is assumed to be in kilobytes, and any integer 10000 or greater is assumed to be in bytes.

NetWare database server

There is a trade off between memory for the database server and memory for the NetWare file system buffers. A larger database server cache will improve database server performance at the expense of NetWare file system performance. If the database server cache is too big, NetWare will report an error that there is insufficient memory for cache buffers.

NetWare memory requirements increase with every new directory and file on the file server. To track memory usage on the NetWare server, load *monitor.nlm* (if it is not already loaded) and select "Resource Utilization". Extra memory for your NetWare server computer could improve database performance and/or file server performance dramatically.

-ct command-line option

Function	Enable character set translation.
Syntax	[dbsrv6 dbeng6] -ct ...
Applies to	All operating systems and servers.
Description	Character set translation converting strings between character sets that represent the same characters, but at different values. This is useful when the client machine and the database use different character sets.  For more information, see "Using character set translation" on page 297 of the book <i>Adaptive Server Anywhere User's Guide</i> .

-d command-line option

Function	Disable asynchronous I/O.
Syntax	[dbsrv6 dbeng6] -d ...
Applies to	Windows NT, NetWare
Description	Use synchronous I/O rather than asynchronous I/O. Asynchronous I/O is generally the preferred option. Since Windows 3.x and Windows 95 systems use synchronous I/O by default, this option applies only to Windows NT and NetWare systems, which use asynchronous I/O by default.

-df command-line option

Function	Use direct, asynchronous I/O.
Syntax	dbeng6w -df ...
Applies to	Windows 3.x
Description	<p>The default I/O method for Windows 3.x is to use normal DOS input and output instead of direct input and output.</p> <p>This option forces the use of direct, or asynchronous, I/O, rather than normal DOS calls.</p> <p>Asynchronous I/O is not supported in Windows 95 environments.</p>

-di command-line option

Function	Use direct I/O if possible.
Syntax	dbeng6w -di ...
Applies to	Windows 3.x
Description	<p>The default I/O method for Windows 3.x is to use normal DOS input and output instead of direct input and output.</p> <p>When the <code>-di</code> option is supplied, the database server tests to see if it is possible for direct I/O to be used before it is implemented.</p> <p>With this switch, the server will not use direct I/O under Windows for Workgroups 3.11 or for some highly fragmented database files.</p>

-e command-line option

Function	Encrypt all packets transmitted to and from all clients.
Syntax	[dbsrv6 dbeng6] -e...
Applies to	All operating systems and servers.
Description	By default, communication packets are not encrypted, thus posing a potential security risk. If you are concerned about the security of network packets, use the <code>-e</code> switch. Encryption does marginally affect performance.

-ga command-line option

Function	Unload database after last connection dropped.
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Syntax	[dbsrv6 dbeng6] -ga ...
Applies to	All operating systems except NetWare.
Description	<p>The meaning of this switch depends on whether you are running a personal server or a network server.</p> <ul style="list-style-type: none"> ◆ Network server Specifying this switch on the network server causes each database to be unloaded after the last connection to it is dropped. The database server itself does not shut down. ◆ Personal server In addition to unloading each database after the last connection is dropped, the personal server shuts down when the last database is stopped.

-gb command-line option

Function	Set the database process priority class.
Syntax	[dbsrv6 dbeng6] -gb [idle normal high maximum] ...
Applies to	Windows NT
Description	Set the database process priority class. The value idle is provided for completeness, and maximum may interfere with the running of your computer. Normal and high are the commonly used settings.

-gc command-line option

Function	Set maximum desired interval between checkpoints.
Syntax	[dbsrv6 dbeng6] -gc <i>integer</i> ...
Applies to	All operating systems and servers.
Description	<p>Set the maximum desired length of time in minutes that the database server runs without doing a checkpoint.</p> <p>The default value is 60 minutes.</p> <p>When a database server is running with multiple databases, the checkpoint time specified by the first database started is used unless overridden by this switch. If a value of 0 is entered, the default value of 60 minutes is used.</p> <p>☞ For information on database checkpoint times, see "CHECKPOINT_TIME option" on page 147.</p>

-gd command-line option

Function	Set permissions required to start a database.
Syntax	[dbsrv6 dbeng6] -gd [dba all none] ...
Applies to	All operating systems and servers.
Description	<p>This is the permission required for a user to cause a new database file to be loaded by the server. The level can be one of the following:</p> <ul style="list-style-type: none">◆ DBA Only users with DBA authority can start new databases.◆ ALL All users can start new databases.◆ NONE Starting new databases is not allowed. <p>The default setting is ALL for the personal database server and DBA for the network database server.</p>

-ge command-line option

Function	Set stack size for external functions.
Syntax	[dbsrv6 dbeng6] -ge <i>integer</i> ...
Applies to	Windows 95, Windows NT, NetWare
Description	Sets the stack size for threads running external functions, in bytes. The default is 16384 (16K).

-gf command-line option

Function	Disable firing of triggers by the server.
Syntax	[dbsrv6 dbeng6] -gf ...
Applies to	All operating systems and servers.

-gk command-line option

Function	Set the permission that's required to stop the database server using <i>dbstop</i> .
Syntax	[dbsrv6 dbeng6] -gk [dba all none] ...
Applies to	All operating systems and servers.
Description	<ul style="list-style-type: none">◆ DBA Only users with DBA authority can use <i>dbstop</i> to stop the server (the default).◆ ALL All users can use <i>dbstop</i> to stop the server.

- ◆ **NONE** The server cannot be stopped using *dbstop*.

-gm command-line option

Function	Limit the number of concurrent connections to the server.
Syntax	[dbsrv6 dbeng6] -gm <i>integer</i> ...
Applies to	All operating systems and servers.
Description	If this number is greater than the number that is allowed under licensing and memory constraints, it has no effect.

-gn command-line option

Function	Set the number of execution threads.
Syntax	[dbsrv6 dbeng6] -gn <i>integer</i> ...
Applies to	All operating systems and servers.
Description	Set the number of execution threads that will be used in the database server while running with multiple users.

-gp command-line option


Function	Set the maximum allowed database page size.
Syntax	[dbsrv6 dbeng6] -gp [1024 2048 4096] ...
Applies to	All operating systems and servers.
Description	Database files with a page size larger than the page size of the server cannot be loaded. This switch explicitly sets the page size of the server, in bytes. If you do not use this switch, then the page size of the first database on the command line is used. If you do not use this switch and start a server with no databases loaded, the default value is 1024.

-gr command-line option

Function	Set the maximum length of time (in minutes) for recovery from system failure.
Syntax	[dbsrv6 dbeng6] -gm <i>integer</i> ...

Applies to All operating systems and servers.

Description When a database server is running with multiple databases, the recovery time that is specified by the first database started is used unless overridden by this switch.

 For more information, see "RECOVERY_TIME option" on page 170.

-gss command-line option

Function Set the stack size per internal execution thread in the server.

Syntax [**dbsrv6** | **dbeng6**] **-gss** [*integer* | *integerK* | *integerM*]...

Applies to All operating systems and servers.

Description The number of execution threads is controlled by the `-gn` switch, and has a default value of twenty. The default stack size is 16 kb. You may want to use the `-gss` option to lower the memory usage of the database server in environments with limited memory.

-gt command-line option

Function Set the number of CPUs to use for request processing.

Syntax [**dbsrv6** | **dbeng6**] **-gt** *integer* ...

Applies to All operating systems and servers except NetWare and Windows 3.x.

Description By default, the database server uses all CPUs available on the machine.

-gu command-line option

Function Set permission levels for utility commands.

Syntax [**dbsrv6** | **dbeng6**] **-gu** [**all** | **none** | **dba** | **utility_db**] ...

Applies to All operating systems and servers.

Description Sets permission levels for utility commands such as CREATE DATABASE and DROP DATABASE. The level can be set to one of the following:
utility_db, **all**, **none**, **dba**.

The **utility_db** level restricts the use of these commands to only those users who can connect to the utility database. The **all**, **none**, and **dba** levels permit all users, no users, or users with dba authority to execute utility commands.

-gw command-line option

Function	Set the interval for background processing.
Syntax	[dbsrv6 dbeng6] -gw <i>milliseconds...</i>
Applies to	All operating systems and servers.
Description	Sets the interval for background processing, in milliseconds. At each interval, the server carries out one I/O operation. The default setting is 500 (half a second).

-gx command-line option

Function	Set the number of execution threads.
Syntax	[dbsrv6 dbeng6] -gx <i>integer ...</i>
Applies to	Windows 95, Windows NT.
Description	By default, this is set to one more than the number of CPUs on the machine. You may want to use a larger number of threads if you wish to use remote data access and use a large number of tables. On UNIX, each task is executed in its own thread, so that the number of tasks (<i>-gn</i>) also determines the number of threads.

- m command-line option

Function	Delete the transaction log when a checkpoint is done.
Syntax	[dbsrv6 dbeng6] -m ...
Applies to	All operating systems and servers.
Description	This option deletes the transaction log when a checkpoint is done, either at shutdown or as a result of a checkpoint scheduled by the server.

Caution

When this option is selected, there is no protection against media failure on the device that contains the database files.

This provides a way to automatically limit the growth of the transaction log. Checkpoint frequency is still controlled by the CHECKPOINT_TIME and RECOVERY_TIME options (which you can also set on the command line).

This option is useful where high volume transactions that require fast response times are being processed, and the contents of the transaction log are not being relied upon for recovery or replication.

To avoid database file fragmentation, it is recommended that where this option is used, the transaction log be placed on a separate device or partition from the database itself.

Replicated databases

Do not use the `-m` option with databases that are being replicated. Replication inherently relies on transaction log information.

- n command-line option

Function Set the name of the database server.

Syntax [`dbsrv6` | `dbeng6`] `-n string ...`

Applies to All operating systems and servers.

Description By default, the database server receives the name of the database file with the path and extension removed. For example, if the server is started on the file `c:\sybase\asa6\asademo.db` and no `-n` switch is specified, the name of the server is **asademo**.


If the string contains spaces, it must be enclosed in double quotes.

The server name specifies the name to be used on client application connection strings or profiles.

The server name can be used on the connect statement. In all environments, there is a default database server that will be used if no server name is specified, provided at least one database server is running on the computer.

There are two n switches

The `-n` switch is positional. If it appears after a database file name, it has a different meaning.

 For more information, see "- n command-line option" on page 34.

- o command-line option

Function Print all server window output to a file.

Syntax [`dbsrv6` | `dbeng6`] `-o filename ...`

Applies to All operating systems and servers.

Description Print all server message window output to a file.

- p command-line option

Function Set the maximum size of communication packets.

Syntax [**dbsrv6** | **dbeng6**] -p *integer*...

Applies to All operating systems and servers.

Description The default is 512 bytes. The minimum value is 280 bytes and the maximum is 16000.

- q command-line option

Function Do not display the server screen or its output.

Syntax [**dbsrv6** | **dbeng6**] -q...

Applies to All operating systems and servers, except NetWare.

- r command-line option

Function Fetch only one row per client request.

Syntax [**dbsrv6** | **dbeng6**] -r ...

Applies to All operating systems and servers.

Description By default, when the database server gets a simple fetch request, it fills one network packet with several rows so that subsequent sequential fetches do not require network traffic. This is often referred to as **blocking** of fetches. This switch disables multiple-row fetching for all clients.

☞ For more information, see the "PREFETCH option" on page 169.

- s command-line option

Function Set the user ID for **syslog** messages.

Syntax [**dbsrv6** | **dbeng6**] -s *login-id*...

Applies to UNIX

Description Sets the system user ID used in messages to the **syslog** facility. The default is **user**.

-sc command-line option

Function	Disable the shared memory communications protocol and use Named Pipes.
Syntax	[dbsrv6 dbeng6] -sc...
Applies to	Windows NT personal server.
Description	<p>This option disables the shared memory communications protocol that is used for same-machine communications, and starts the NamedPipes protocol.</p> <p>This option was implemented as part of an initiative to obtain security certification. It is unlikely to be of general use.</p>

-ta command-line option

Function	Set the polling period for disconnecting clients.
Syntax	[dbsrv6 dbeng6] -ta seconds...
Applies to	Windows 3.x, Windows NT, and Windows 95.
Description	<p>The database server periodically scans the connection list and disconnects any connections associated with terminated applications connected <i>directly</i> to the server. The scan period can be controlled using the -ta switch, and has a default value of 30 seconds.</p> <p>Set the value to zero to prevent scanning.</p>

-ti command-line option

Function	Disconnect inactive connections.
Syntax	[dbsrv6 dbeng6] -n minutes ...
Applies to	All operating systems and servers.
Description	<p>Disconnect connections that have not submitted a request for <i>minutes</i>. The default is 240 (4 hours). A client machine in the middle of a database transaction will hold locks until the transaction is ended or the connection is terminated. The -ti option is provided to disconnect inactive connections, freeing their locks.</p>

-tl command-line option

Function	Set the period at which to send liveness packets.
Syntax	[dbsrv6 dbeng6] -tl seconds ...

Applies to	Network database servers using TCP/IP or IPX.
Description	<p>A liveness packet is sent periodically across a client/server TCP/IP or IPX communications protocol to confirm that a connection is intact. If the server runs for a liveness timeout period (default 2 minutes) without detecting a liveness packet, the communication is severed. The server drops any connections associated with that client. UNIX clients do not do liveness checking. This switch applies only to the network server.</p> <p>The <code>-tl</code> switch on the server sets the liveness timeout for all clients that do not specify a liveness period.</p> <p>Liveness packets are sent at an interval of the (liveness timeout)/4.</p>

-tq time command-line option

Function	Shut down the server at a specified time.
Syntax	[dbsrv6 dbeng6] -tq [<i>datetime</i> <i>time</i>]...
Applies to	All operating systems and servers.
Description	This is useful for setting up automatic off-line backup procedures (see "Backup and Data Recovery" on page 553 of the book <i>Adaptive Server Anywhere User's Guide</i>). The format for the time is in <i>hh:mm</i> (24 hour clock), and can be preceded by an optional date. If a date is specified, the date and time must be enclosed in double quotes and be in the format <i>YYYY/MM/DD HH:MM</i> .

-u command-line option

Function	Open files using the operating system disk cache.
Syntax	[dbsrv6 dbeng6] -u ...
Applies to	Windows NT and Windows 95.
Description	<p>Files are opened using the operating system disk cache in addition to the database cache.</p> <p>While the operating system disk cache may improve performance in some cases, in general better performance is obtained without this switch, using the database cache only.</p>

If the server is running on a dedicated machine, you should not use the `-u` option, as the database cache itself is generally more efficient. You may want to use the `-u` option if the server is running on a machine with several other applications (so that a large database cache may interfere with other applications) and yet IO-intensive tasks are run intermittently on the server (so that a large cache will improve performance).

-ud command-line option

Function Run as a daemon.

Syntax [**dbsrv6** | **dbeng6**] **-ud** ...

Applies to UNIX

Description Using this option lets you run the server so that it continues running after the current operating system session ends.

-ut command-line option

Function Touch temporary files.

Syntax [**dbsrv6** | **dbeng6**] **-ut** *minutes* ...

Applies to UNIX

Description This switch causes the server to touch temporary files at specified intervals.

-v command-line option

Function Display the software version.

Syntax [**dbsrv6** | **dbeng6**] **-v**

Applies to All operating systems and servers.

Description Supplies the database server version in a message box, and then stops.

-x command-line option

Function Specify communications links.

Syntax [**dbsrv6** | **dbeng6**] **-x** { **all**
| **none**
| { **dde** | **ipx** | **namedpipes** | **netbios** | **tcPIP**] *parmlist*,...]
} ...

Applies to	<i>parmlist</i> { <i>keyword=value</i> ;...}
Description	<p>All operating systems and servers.</p> <p>For example,</p> <pre style="margin-left: 40px;">-x tcpip,ipx</pre> <p>allows only TCP/IP and IPX communications.</p> <p>A shared-memory protocol is provided for same-machine communications. It is always made available for both network server and personal server.</p> <p>The default set of communications links is to try all settings that are supported by the database server that you are running on your operating system. The Windows CE database server is an exception; the TCP/IP network link is not started unless it is explicitly requested.</p> <p>The <i>list</i> is a comma-separated list of settings taken from the following list:</p> <ul style="list-style-type: none"> ◆ ALL Start all communications links that are supported on this platform by the server that you are starting. This is the default. ◆ DDE Supported by Windows 95, for same-machine communication from Windows 3.x applications. ◆ IPX Supported by NetWare, Windows NT, and Windows 95 network servers. ◆ NamedPipes Supported on Windows NT, for same-machine communication from Windows 3.x applications. ◆ NetBIOS Supported by Windows NT and Windows 95 network database servers. ◆ NONE Do not start any communications links except for the shared memory link. ◆ TCPIP Supported by the network server on all operating systems. This communications link is also supported by the personal database server for same-machine communications. <p>For some protocols, additional parameters may be provided, in the format</p> <pre style="margin-left: 40px;">-x tcpip(PARM1=value1;PARM2=value2;...)</pre> <p>For UNIX, quotation marks are required if more than one parameter is supplied:</p> <pre style="margin-left: 40px;">-x "tcpip(PARM1=value1;PARM2=value2;...)"</pre> <p>☞ For a description of available parameters, see "Network communications parameters" on page 54.</p>

- y command-line option

Function	Run as a Windows 95 service.
Syntax	[dbsrv6 dbeng6] -y ...
Applies to	Windows 95
Description	If the server registered as a Windows 95 service, it continues to operate whether users log on or off, and shutdown commands are ignored.

- z command-line option


Function	Provide diagnostic information on communications links on startup.
Syntax	[dbsrv6 dbeng6] -z ...
Applies to	All operating systems and servers.
Description	This should only be used when tracking problems. The information is displayed in the database server window.

Recovery switches

These switches are for use in recovery situations only.

- a command-line option

Function	Apply the named transaction log.
Syntax	[dbsrv6 dbeng6] -a <i>log-filename...</i>
Applies to	All operating systems and servers.
Description	This is used to recover from media failure on the database file. When this option is specified, the database server applies the log and then terminate—it will not continue to run.

 For information on recovery, see "Backup and Data Recovery" on page 553 of the book *Adaptive Server Anywhere User's Guide*.

-f command-line option

Function	Force the database server to start after the transaction log has been lost.
Syntax	[dbsrv6 dbeng6] -f ...
Applies to	All operating systems and servers.

Description

If there is no transaction log, the database server carries out a checkpoint recovery of the database and then terminates—it does not continue to run. You can then restart the database server without the `-f` option for normal operation.

If there is a transaction log in the same directory as the database, the database server carries out a checkpoint recovery, and a recovery using the transaction log, and then terminates—it does not continue to run. You can then restart the database server without the `-f` option for normal operation.

☞ For more information see "Backup and Data Recovery" on page 553 of the book *Adaptive Server Anywhere User's Guide*.

Database switches

These switches are entered after the database name, and apply only to that database.

- m command-line option**Function**

Truncate the transaction log when a checkpoint is done.

Syntax

[`dbsrv6` | `dbeng6`] [`server-switches`] *database-file* `-m` ..

Applies to

All operating systems and servers.

Description

Truncate (delete) the transaction log when a checkpoint is done, either at shutdown or as a result of a checkpoint scheduled by the server. This provides a way to automatically limit the growth of the transaction log. Checkpoint frequency is still controlled by the `CHECKPOINT_TIME` and `RECOVERY_TIME` options (which you can also define on the command line).

The `-m` option is useful where high volume transactions requiring fast response times are being processed, and the contents of the transaction log are not being relied upon for recovery or replication. When this option is selected, there is no protection against media failure on the device that contains the database files.

To avoid database file fragmentation, it is recommended that where this option is used, the transaction log be placed on a separate device or partition from the database itself.

This switch is the same as the `-m` server switch, but applies only to the current database or the database identified by the *database-file* command-line variable.

Replicated databases

Do not use the `-m` option with databases that are being replicated. Replication inherently relies on transaction log information.

-n command-line option

Function Set the name of the database.

Syntax [`dbsrv6` | `dbeng6`] [**server-switches**]. *database-file* `-n string` ..

Applies to All operating systems and servers.

Description Both database servers and databases can be named. Since a database server can load several databases, the database name is used to distinguish the different databases.

By default, the database receives the name of the database file with the path and extension removed. For example, if the database is started on `c:\asa6\asademo.db` and no `-n` switch is specified, the name of the database is **asademo**.

The client compatibility executable

Syntax

dbcli6 [*switches*] *server-name*

Windows 3.x syntax

dbcli6w [*switches*] *server-name*

Switch	Description
-e	Encrypt all network packets
-ga	Automatically shut down after the last connection is closed
-o <i>filename</i>	Output messages to a file
-p <i>packet_size</i>	Set the maximum network packet size
-r	Disable multiple-row fetching
-s	Memory for buffers in K
-tl <i>seconds</i>	Client liveness timeout in seconds—default is server setting, which defaults to 120 seconds
-x <i>list</i>	Comma-separated list of communication links to try, with any parameters
-z	Display debugging information

See also

"The database server" on page 12.

Description

Compatibility only

The database client executable is provided for compatibility with SQL Anywhere Version 5 installations only. If you do not have an existing SQL Anywhere 5.0 installation that you wish to upgrade to Adaptive Server Anywhere, you do not need to use *dbcli6.exe*.

In SQL Anywhere Version 5, the database client executable handled connections from client applications to a network database server. In Adaptive Server Anywhere, no separate executable is required: all connections are handled by a client library. The database client executable for Adaptive Server Anywhere simply creates an ODBC data source (for use by the client library) and then terminates.

Switches

-e Encrypt all packets that this client transmits over the network. By default, packets are not encrypted. If you are concerned about the security of network packets, use the **-e** switch. Encryption does affect performance marginally.

Using the `-e` switch on the database server command line will encrypt packets for all clients regardless of whether the `-e` switch is used on the client command line.

-ga Automatically shut down the client after the last connection to a server is closed.

-o filename Output all error messages and debugging messages (see `-Z`) to a file instead of the console. Normally, there are no messages.

-p packet-size Set the maximum size of communication packets. The default is 1000 bytes. The minimum value is 200 bytes. If the specified packet size is larger than that of the database server, the server's packet size is used.

-r Fetch one row per network request. By default, when the database server gets a simple fetch request, it fills one network packet with several rows so that subsequent sequential fetches do not require network traffic. This is often referred to as **blocking** of fetches. This switch disables multiple-row fetching.

-s Set the memory allowed for buffers, in K. The value must be at least 10 and at most 1000. The default is 100.

-tl seconds (Lower case TL.) A liveness packet is sent periodically across a client/server TCP/IP or IPX communications protocol to confirm that a connection is intact. If the client runs for a liveness timeout period (default 120 seconds) without detecting a liveness packet, the communication is severed. The client forgets about the address of the server and looks it up the next time a connection is made. UNIX clients do not do liveness checking.

If no `-tl` switch is set, the liveness timeout is controlled by the setting on the server, which defaults to 120 seconds.

Liveness packets are sent at an interval of the (liveness timeout)/4.

-x list Use only the listed communications links (IPX, TCPIP, NetBIOS). The default is to try all communication links supported by the version of *dbcli6*.

Named Pipes and Windows links are for local communications only.


By default, the Client tries to use IPX, TCP/IP, and then NetBIOS when locating a server. The Client starts slightly faster if unnecessary network drivers are not started.

Additional parameters may be provided, in the format

```
-x tcpip{PARAM1=value1;PARAM2=value2;...}
```

```
-x "tcpip{PARM1=value1;PARM2=value2;...}"
```

The quotation marks are required for the UNIX client and server only, and only if more than one parameter is supplied.

 For a description of available parameters, see "Network communications parameters" on page 54.

-z Provides diagnostic information on communications links on startup. This is useful if **-o** is also specified.

