

Broker Command-line Utilities

EntireX Broker provides the following internal services: Command Service, Information Service and Administration Service, which can be used to administer and monitor brokers and RPC servers. Because these services are implemented internally, nothing has to be started or configured. You can use these services immediately after starting EntireX Broker. This chapter covers the following topics:

- `etbinfo`
- `etbcmd`
- `etbsrv`

etbinfo

Queries the Broker for different types of information, generating an output text string with basic formatting. This text output can be further processed by script languages. `etbinfo` uses data descriptions called profiles to control the type of data that is returned for a request. `etbinfo` is useful for monitoring and administering EntireX Broker efficiently, for example how many users can run concurrently and whether the number of specified message containers is large enough.

Although basic formatting of the output is available, it is usually formatted by script languages or other means external to the Broker.

- Running the Command-line Utility
- Command-line Parameters
- Command-line Parameters from File
- Profile
- Format String

Running the Command-line Utility

In a UNIX environment, run the command-line utility with `etbinfo`. If the environment variable `LOGNAME` is not set, you must use the `-x` option (see below) to provide a user ID if the Broker is running with EntireX Security. `etbinfo` is located in directory `/opt/softwareag/EntireX/bin`.

Command-line Parameters

The table below explains the command-line parameters. The format string and profile parameters are described in detail following the table. All entries in the Option column are case-sensitive.

Option	Command-line Parameter	Req/Opt	Explanation
<code>-b</code>	<code>brokerid</code>	R	Broker identifier, for example <code>localhost:1971:TCP</code> .
<code>-c</code>	<code>class</code>	O	Class as selection criterion.

Option	Command-line Parameter	Req/ Opt	Explanation																																																						
-C	csvoutput	O	Comma-separated values, suitable for input into a spreadsheet or other analysis tool. Any format string specified by means of format string or profile command-line parameters is ignored.																																																						
-d	object	R	<div>Possible values:</div> <table><tr><td>Object</td><td>Provides Info on</td></tr><tr><td>BROKER</td><td>Broker.</td></tr><tr><td>CLIENT</td><td>Client.</td></tr><tr><td>CMDLOG-FILTER</td><td>Command log filter.</td></tr><tr><td>CONVERSATION</td><td>Conversation.</td></tr><tr><td>NET</td><td>Entire Net-Work transport.</td></tr><tr><td>PARTICIPANT</td><td>Participant.</td></tr><tr><td>POOL-USAGE</td><td>Broker pool usage.</td></tr><tr><td>PSF</td><td>Unit-of-work status.</td></tr><tr><td>PSFADA</td><td>Adabas persistent store.</td></tr><tr><td>PSFCTREE</td><td>c-tree persistent store.</td></tr><tr><td>PSFDIV</td><td>DIV persistent store.</td></tr><tr><td>PSFFILE</td><td>FILE persistent store.</td></tr><tr><td>PUBLICATION</td><td>Publication.</td></tr><tr><td>PUBLISHER</td><td>Publisher.</td></tr><tr><td>RESOURCE-USAGE</td><td>Broker resource usage.</td></tr><tr><td>SECURITY</td><td>EntireX Security.</td></tr><tr><td>SERVER</td><td>Server.</td></tr><tr><td>SERVICE</td><td>Service.</td></tr><tr><td>SSL</td><td>SSL transport.</td></tr><tr><td>STATISTICS</td><td>Broker statistics.</td></tr><tr><td>SUBSCRIBER</td><td>Subscriber.</td></tr><tr><td>TCP</td><td>TCP transport.</td></tr><tr><td>TOPIC</td><td>Topic.</td></tr><tr><td>USER</td><td>Participant (short).</td></tr><tr><td>WORKER</td><td>Worker.</td></tr><tr><td>WORKER-USAGE</td><td>Worker usage.</td></tr></table>	Object	Provides Info on	BROKER	Broker.	CLIENT	Client.	CMDLOG-FILTER	Command log filter.	CONVERSATION	Conversation.	NET	Entire Net-Work transport.	PARTICIPANT	Participant.	POOL-USAGE	Broker pool usage.	PSF	Unit-of-work status.	PSFADA	Adabas persistent store.	PSFCTREE	c-tree persistent store.	PSFDIV	DIV persistent store.	PSFFILE	FILE persistent store.	PUBLICATION	Publication.	PUBLISHER	Publisher.	RESOURCE-USAGE	Broker resource usage.	SECURITY	EntireX Security.	SERVER	Server.	SERVICE	Service.	SSL	SSL transport.	STATISTICS	Broker statistics.	SUBSCRIBER	Subscriber.	TCP	TCP transport.	TOPIC	Topic.	USER	Participant (short).	WORKER	Worker.	WORKER-USAGE	Worker usage.
Object	Provides Info on																																																								
BROKER	Broker.																																																								
CLIENT	Client.																																																								
CMDLOG-FILTER	Command log filter.																																																								
CONVERSATION	Conversation.																																																								
NET	Entire Net-Work transport.																																																								
PARTICIPANT	Participant.																																																								
POOL-USAGE	Broker pool usage.																																																								
PSF	Unit-of-work status.																																																								
PSFADA	Adabas persistent store.																																																								
PSFCTREE	c-tree persistent store.																																																								
PSFDIV	DIV persistent store.																																																								
PSFFILE	FILE persistent store.																																																								
PUBLICATION	Publication.																																																								
PUBLISHER	Publisher.																																																								
RESOURCE-USAGE	Broker resource usage.																																																								
SECURITY	EntireX Security.																																																								
SERVER	Server.																																																								
SERVICE	Service.																																																								
SSL	SSL transport.																																																								
STATISTICS	Broker statistics.																																																								
SUBSCRIBER	Subscriber.																																																								
TCP	TCP transport.																																																								
TOPIC	Topic.																																																								
USER	Participant (short).																																																								
WORKER	Worker.																																																								
WORKER-USAGE	Worker usage.																																																								

Option	Command-line Parameter	Req/ Opt	Explanation
-e	recv class	O	Receiver's class name. This selection criterion is valid only for object PSF.
-f	<i>Format String</i>	O	Format string how you expect the output. See <i>Profile</i> .
-g	recv service	O	Receiver's service name. This selection criterion is valid only for object PSF.
-h	help	O	Prints help information.
-i	conv id	O	Conversation ID as selection criterion. Only valid for object CONVERSATION.
-I	conv type	O	Conversation's type.
-j	recv server	O	Receiver's server name. This selection criterion is valid only for object PSF.
-k	recv token	O	Receiver's token. This selection criterion is valid only for object PSF.
-l	level	O	The amount of information displayed: FULL All information. SHORT User-specific information.
-m	recv userid	O	Receiver's user ID. This selection criterion is valid only for object PSF.
-n	server name	O	Server name. This selection criterion is valid only for the objects SERVER, SERVICE or CONVERSATION.
-p	file	O	Here you can specify a file that defines the layout of the output. There are default files you can modify or you can use your own. The default files are: BROKER CLIENT CLOGFLT CONV NET POOL PSF PSFADA PSFCTREE PSFDIV PSFFILE PUBLIC PUBSHR RESOURCE SECURITY SERVER SERVICE SSL STATIS SUBSCBR TCP TOPIC USER WORKER WKRUSAGE <i>See Profile.</i>
-q	puserid	O	Physical user ID. This selection criterion is valid only for objects CLIENT, SERVER, CONVERSATION, SUBSCRIBER, PUBLISHER or PUBLICATION. Note: Must be a hex value.

Option	Command-line Parameter	Req/ Opt	Explanation
-P	publication id	O	Publication ID. This selection criterion is valid only for object PUBLICATION.
-r	sec	O	Refresh information after seconds.
-s	service	O	Service. This selection criterion is valid only for objects SERVER, SERVICE or CONVERSATION.
-S	"sslparms"	O	When using SSL transport.
-t	token	O	This selection criterion is valid only for objects CLIENT, SERVER, SERVICE, CONVERSATION, SUBSCRIBER, PUBLISHER, PUBLICATION or TOPIC.
-T	topic	O	Topic name. This selection criterion is valid only for objects PUBLICATION, SUBSCRIBER, PUBLISHER, or TOPIC.
-u	userid	O	User ID. This selection criterion is only valid for the display types CLIENT, SERVER, SERVICE, CONVERSATION, SUBSCRIBER, PUBLISHER, PUBLICATION or TOPIC.
-U	subscr type	O	Subscriber's subscription type. This selection criterion is valid only for object SUBSCRIBER.
-v	UOW status	O	Unit of work status. This selection criterion is valid only for object PSF.
-w	UOW ID	O	Unit of work ID. This selection criterion is valid only for object PSF.
-x	userid	O	User ID. For security purposes.
-y	password	O	Password. For security purposes.
-z	token	O	Used with userid to uniquely identify a caller to Command and Information Services.
--longmsg		O	If an error occurs, delivers the long text of an error message, corresponding to <i>Error Messages and Codes</i> . Output is generated as with the <i>exxmsg</i> utility. See <i>EXXMSG - Command-line Tool for Displaying Error Messages</i> in the Error Messages and Codes documentation.
--external		O	Reduces the output of SERVICE objects to external services. Broker-internal services are not displayed.
--internal		O	Reduces the output of SERVICE objects to Broker-internal services. The external user-specific services are not displayed.
--pingrpc		O	Executes an RPC ping to a specified RPC service. The parameters -c <class_name>, -n <server_name> and -s <service> are also required. If the service is running, return code 0 and a corresponding text are returned. If the service is not running, a return code other than 0 is given. If you do not want text output, use the utility of Broker Administration Service (etbsrv) with parameters BROKER PINGRPC <broker_id>. This returns the return code without text output.

Command-line Parameters from File

etbinfo supports an alternative method of passing command-line parameters.

If the environment variable `INF_ATTR` is set, the content is interpreted as a file name. If no command-line parameters are given, the command `etbinfo` evaluates the content of the file. Example:

```
-blocalhost:3930:TCP
-dBROKER
```

Profile

If you do not use the profile option or a format string, your output will be an unformatted list with all columns of that display type. To display specific columns, specify a profile that includes only those columns.

The following default sample profiles include all the columns defined for each display type:

- | | | |
|-----------|------------|------------|
| ● BROKER | ● PSFCTREE | ● SERVICE |
| ● CLIENT | ● PSFDIV | ● SSL |
| ● CLOGFLT | ● PSFFILE | ● STATIS |
| ● CONV | ● PUBLIC | ● SUBSCBR |
| ● NET | ● PUBSHR | ● TCP |
| ● POOL | ● RESOURCE | ● TOPIC |
| ● PSF | ● SECURITY | ● USER |
| ● PSFADA | ● SERVER | ● WKRUSAGE |
| | | ● WORKER |

You can either delete the columns not required or copy the default profile and modify the order of the columns. Ensure that the column names have a leading "%". Column names can be written in one line or on separate lines. The output is always written side by side. With profile parameters `%DATE` and `%TIME` you can provide a timestamp for the command-line query.

Location of Profiles

On UNIX, the profiles are contained in directory `/opt/softwareag/EntireX/etc` and are named *broker.pro*, *client.pro* etc.

Example 1

Profile for object SERVICE: SERVICE.

```
etbinfo -b ETB001 -d SERVICE -p service.pro -l FULL
```

The following list is displayed:

SAG	ETBCIS	INFO
1 0 16 86400 0 31647 0 00 00 00 00 0 0		
SAG	ETBCIS	USER-INFO
2 0 16 86400 0 31647 0 00 00 00 00 0 0		
SAG	ETBCIS	CMD
6 0 16 86400 0 31647 0 00 00 00 00 0 0		

Example 2

Your own profile: MYPROF

```
etbinfo -b ETB001 -d SERVICE -p my_service.pro
```

Note:

In this case, `my_service.pro` contains: `%4.4SERVERCLASS %SERVERNAME`

The following list is displayed:

```
ACLA    ASERVER
BCLA    BSERVER
CCLA    CSERVER
```

Sample Profiles for etbinfo

You can find the sample profiles for `etbinfo` in your `/opt/softwareag/EntireX/config` directory.

Format String

The format string, if specified, will override the use of a profile. The format string is built like a `printf()` in C language. The string must be enclosed in quotation marks. You can specify the columns by using a "%" and the column name. The column name must contain letters only. Numeric characters are not allowed. You can specify the length of column output by using a format precision, as in the ANSI-C `printf()` function. The column name must be followed by a blank. For example:

```
etbinfo -b ETB001 -d BROKER -f "%12.12CPLATNAME    %NUM-SERVER        %NUM-CLIENT"
```

which produces the following output, for example:

```
MVS/SP 7.04 30 100
```

You can also use an arbitrary column separator, which can be any character other than "%". You can use `\n` for a new line in the output and `\t` for a tabulator in the format string or profile. For example:

```
etbinfo -b ETB001 -d SERVER -f "UserID: %5.5USER-ID Token: %5.5TOKEN"
```

which produces:

```
UserID: HUGO  Token: MYTOK
UserID: EGON  Token:
UserID: HELMU Token: Helmu
```

If you want to structure your output a little more, you can operate with the `\n` or `\t` character. For example:

```
etbinfo -b ETB001 -d SERVICE -f "Class:%5.5SERVER-CLASS \n\tName:%5.5SERVER-NAME \n\tService:%5.5SERVICE"
```

which produces:

```
Class:DATAB
  Name:DB10
  Service:Admin
Class:PRINT
  Name:LPT1
  Service:PRINT
...
```

You can also add a timestamp to the query:

```
etbinfo -b ETB001 -d BROKER -f "%DATE %TIME"
```

which produces:

```
2014-08-19 10:00:00.234
```

etbcmd

Allows the user to take actions - for example purge a unit of work, stop a server, shut down a Broker - against EntireX Broker.

- Running the Command-line Utility
- Command-line Parameters
- Command-line Parameters from File
- List of Commands and Objects
- Examples

Running the Command-line Utility

In a UNIX environment, run the command-line utility with `etbcmd`. If the environment variable `LOGNAME` is not set, you must use the `-x` option (see below) to provide a user ID if the Broker is running with EntireX Security. `etbcmd` is located in the directory `/opt/softwareag/EntireX/bin`.

Command-line Parameters

The table below explains the command-line parameters. All entries in the **Option** column are case-sensitive.

Command-line Parameter	Option	Parameter	Req/ Opt	Explanation
brokerid	-b	e.g. ETB001	R	Broker ID.

Command-line Parameter	Option	Parameter	Req/ Opt	Explanation
command	-c	<ul style="list-style-type: none"> ● ALLOW-NEWUOWMSGs ● CLEAR-CMDLOG-FILTER ● CONNECT-PSTORE ● DISABLE-ACCOUNTING ● DISABLE-CMDLOG-FILTER ● DISABLE-CMDLOG ● DISABLE-DYN-WORKER ● DISCONNECT-PSTORE ● ENABLE-ACCOUNTING ● ENABLE-CMDLOG-FILTER ● ENABLE-CMDLOG ● ENABLE-DYN-WORKER ● FORBID-NEWUOWMSGs ● PING ● PRODUCE-STATISTICS ● PURGE ● RESET-USER ● RESUME ● SET-CMDLOG-FILTER ● SHUTDOWN ● START ● STATUS ● STOP ● SUBSCRIBE ● SUSPEND ● SWITCH-CMDLOG ● TRACE-FLUSH ● TRACE-OFF ● TRACE-ON ● TRAP-ERROR ● UNSUBSCRIBE 	R	Command to be performed. See <i>List of Commands and Objects</i> below.

Command-line Parameter	Option	Parameter	Req/ Opt	Explanation
object type	-d	<ul style="list-style-type: none"> ● BROKER ● CONVERSATION ● PARTICIPANT ● PSF ● SUBSCRIBER ● SECURITY ● SERVER ● SERVICE ● TRANSPORT 	R	<p>The object type to be operated on. See <i>List of Commands and Objects</i> below.</p> <p>Within EntireX Broker nomenclature, a participant is an application implicitly or explicitly logged on to the Broker as a specific user. A participant could act as client, server, publisher or subscriber.</p>
	-e	errornumber	O	Error number being trapped.
	-E		O	Exclude attach servers from service shutdown.
help	-h		O	Prints help information.
class/server/service	-n	class/server/service	O	Service triplet.
option	-o	<ul style="list-style-type: none"> ● IMMED ● QUIESCE ● LEVELn, where n=1-8 	O	Command option.
puserid	-p	puserid	O	Physical User ID. For SERVER and PARTICIPANT objects only. This must be a hex value.
sslparms	-s	SSL parameters	O	When using SSL transport.
seqno	-S	sequence number	O	Sequence number of participant.
token	-t	token	O	Token. For PARTICIPANT and SUBSCRIBER objects only.
topic	-T	topic	O	Topic name. For SUBSCRIBER object only.
uowid	-u	uowid	O	Unit of work ID. For PSF object only.
userid	-U	userid	O	User ID. For PARTICIPANT and SUBSCRIBER objects only.
secuserid	-x	userid	O	User ID for security purposes.
transportid	-X	Transport ID	O	One of the following: COM NET SSL Snn TCP Tnn. See table below.
secpassword	-y	password	O	Password for security purposes.

Transport ID Values

This table explains the possible values for parameter transportid:

Transport ID	Explanation
COM	all communicators
NET	NET transport communicator
SSL	all SSL communicators
S00	SSL communicator 1
S01	SSL communicator 2
S02	SSL communicator 3
S03	SSL communicator 4
S04	SSL communicator 5
TCP	all TCP/IP communicators
T00	TCP/IP communicator 1
T01	TCP/IP communicator 2
T02	TCP/IP communicator 3
T03	TCP/IP communicator 4
T04	TCP/IP communicator 5

Command-line Parameters from File

etbcmd supports an alternative method of passing command-line parameters.

If the environment variable CMD_ATTR is set, the content is interpreted as a file name. If no command-line parameters are given, the command etbcmd evaluates the content of the file. Example:

```
-blocalhost:3930:TCP
-cPRODUCE-STATISTICS
-dBROKER
```

List of Commands and Objects

This table lists the available commands and the objects to which they can be applied.

Command	Object								
	BROKER	CONVERSATION	PARTICIPANT	PSF	SECURITY	SERVER	SERVICE	SUBSCRIBER	TRANSPORT
ALLOW-NEWUOWMSGS				x					
CLEAR-CMDLOG-FILTER	x								
CONNECT-PSTORE				x					
DISABLE-ACCOUNTING	x								
DISABLE-CMDLOG-FILTER	x								
DISABLE-CMDLOG	x								
DISCONNECT-PSTORE				x					
ENABLE-ACCOUNTING	x								
ENABLE-CMDLOG-FILTER	x								
ENABLE-CMDLOG	x								
FORBID-NEWUOWMSGS				x					
PING	x								
PRODUCE-STATISTICS	x								
PURGE				x					
RESET-USER					x				
SET-CMDLOG-FILTER	x								
SHUTDOWN	x	x	x			x	x		
START									x
STATUS									x

Command	Object								
	BROKER	CONVERSATION	PARTICIPANT	PSF	SECURITY	SERVER	SERVICE	SUBSCRIBER	TRANSPORT
STOP									X
SUBSCRIBE								X	
SWITCH-CMDLOG	X								
TRACE-OFF	X			X	X				
TRACE-ON	X			X	X				
UNSUBSCRIBE								X	

Note:

Object type TRANSPORT applies to operating systems z/OS and z/VSE only.

Examples

Example	Description
etbcmd -b etb001 -h	Displays ETBCMD help text.
etbcmd -b etb001 -d BROKER -c TRACE-OFF	Turns Broker tracing off.
etbcmd -b etb001 -d BROKER -c TRACE-ON -o LEVEL2	Sets Broker trace level to 2.
etbcmd -b etb001 -d BROKER -c SHUTDOWN	Performs Broker shutdown.
etbcmd -b etb001 -d SERVICE -c SHUTDOWN -o IMMED -n AClass/AServer/AService	Shutdown service CLASS=AClass , SERVER=AServer , SERVICE=AService. See also SHUTDOWN SERVICE for more information on shutdown options.
	Create list of servers and shutdown specific server in two steps (first step uses etbinfo). See also SHUTDOWN SERVER.
etbinfo -b etb001 -d SERVER -l FULL -f"%USER-ID %SEQNO"	1. Determine a list of all servers with sequence numbers.
etbcmd -b etb001 -d SERVER -c SHUTDOWN -o IMMED -S32	2. Shutdown server with sequence number 32.
etbcmd -b etb001 -d BROKER -c PING	Performs an EntireX ping against the Broker.

Example	Description
<code>etbcmd -b etb001 -d PSF -c DISCONNECT-PSTORE</code>	Disconnects the Broker PSTORE.
<code>etbcmd -b etb001 -d PSF -c CONNECT-PSTORE</code>	Connects the Broker PSTORE.
<code>etbcmd -b etb001 -d PSF -c PURGE -u 1000000000U00001A</code>	Purges a unit of work.
<code>etbcmd -b etb001 -d PSF -c ALLOW-NEWUOWMSGs</code>	Allows new units of work to be stored.
<code>etbcmd -b etb001 -d PSF -c FORBID-NEWUOWMSGs</code>	Disallows new units of work to be stored.
<code>etbcmd -b etb001 -d SUBSCRIBER -c SUBSCRIBE -U U1 -t t1 -T NYSE</code>	Subscribes subscriber to topic NYSE.
<code>etbcmd -b etb001 -d SUBSCRIBER -c UNSUBSCRIBE -U U1 -t t1 -T NYSE</code>	Unsubscribes subscriber from topic NYSE.

etbsrv

The broker command-line utility `etbsrv` monitors and controls all local brokers; remote brokers can also be monitored.

- Starting a Broker
- Pinging a Broker
- Pinging an RPC Server
- Restarting a Broker
- Stopping a Broker
- Enabling EntireX Security
- Disabling EntireX Security

Starting a Broker

Use command `BROKER START` to start a specified broker:

```
etbsrv BROKER START "ETB001"
```

Pinging a Broker

Use command `BROKER PING` to display the status of a specified local or remote broker. Return code 0 means the broker is running; any other value means the broker has stopped. See *Component Return Codes in EntireX*. Example:

```
etbsrv BROKER PING "ETB001"
```

Enter the command without specifying a broker to display the status of all brokers.

The information is the same as displayed using System Management Hub.

Pinging an RPC Server

Use command `BROKER PINGRPC <brokerid> <class/server/service>` to display the status of a specified RPC server. Return code 0 means the RPC server is running; any other value means the RPC server has stopped. See *Component Return Codes in EntireX*. Example:

```
etbsrv BROKER PINGRPC "ETB001" "SAG/ETBCIS/RPCCIS"
```

The information is the same as displayed using System Management Hub.

Restarting a Broker

Use command `etbsrv BROKER RESTART` to stop and restart a specified broker. Example:

```
BROKER RESTART "ETB001"
```

Stopping a Broker

Use command `BROKER STOP` to stop a local broker. Example:

```
etbsrv BROKER STOP "ETB001"
```

Enabling EntireX Security

Activate security with command `etbsrv SECURITY ENABLE`; once activated, security can only be deactivated with command `SECURITY DISABLE`.

To enable automatic scripts to execute administration service commands without having to enter a password, set the option `TRUSTED-USER=YES` when administration service security is activated.

```
etbsrv SECURITY ENABLE TRUSTED-USER=YES
```

Disabling EntireX Security

Disable security with command `etbsrv SECURITY DISABLE`.