

webMethods EntireX

System Management Hub

Version 9.6

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This document applies to webMethods EntireX Version 9.6.

Specifications contained herein are subject to change and these changes will be reported in subsequent release notes or new editions.

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System Management Hub for EntireX

<i>Introduction</i>	The System Management Hub's architecture permits plug-in integration of existing products, separation of implementation-specific management technologies and re-use as a product-independent, cross-platform framework.
<i>SNMP Support</i>	EntireX uses the SNMP (Simple Network Management Protocol) interface of the System Management Hub. The configuration of the SNMP interface is described in detail in the section <i>SNMP Interface</i> under <i>Add-on Interfaces</i> of the System Management Hub documentation.
<i>Batch Interface</i>	Describes how to use the System Management Hub's batch interface, <code>argbatch</code> , to run broker-specific routine jobs.
<i>Displaying Technical Information</i>	The System Management Hub Technical Information Agent provides information for EntireX.

Related Literature

The System Management Hub is available for a variety of EntireX components, each covered in separate documents.

- *Administering the EntireX RPC Servers using System Management Hub* in the UNIX and Windows administration documentation
- *Broker Administration using System Management Hub* in the UNIX and Windows administration documentation
- *EntireX Message Service Administration using System Management Hub*
- *Administering Authorization Rules using System Management Hub* in the UNIX and Windows administration documentation

1 Introduction to System Management Hub for EntireX

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The System Management Hub is Software AG's cross-product and cross-platform product management framework. Its platform-independent, XML-based architecture provides generic rendering engines for HTML, batch etc. and standard interfaces for application development (HTML, WML, native C/C++, native Java, etc.)

The System Management Hub's architecture permits plug-in integration of existing products, separation of implementation-specific management technologies and re-use as a product-independent, cross-platform framework.

UNIX users, see also *Startup Daemon 'etbsrv'* under *Post-installation Steps under UNIX*.

Initial Login Considerations

The EntireX-specific System Management Hub agents are installed automatically when the EntireX Administration component is installed. During installation, an initial administrator must be specified. The user ID and password of that administrator must be used at first login to the System Management Hub. That System Management Hub administrator can define additional administrators as required.



Important: When logging in under Windows on a domain-based PC, where the SMH administrator's initial login included the domain name, always specify this domain name (i.e. *myDomain\myUserId*). Logging in with user ID only will return an error.

Broker Stublog

▶ To produce and find the Broker stublog for SMH

- 1 Set `ETB_STUBLOG` in the system environment variables to "1", "2" or "3".
- 2 Reboot.
- 3 The log (trace) file will be called `*.etb` and will be in *Documents and Setting\SAGUSER\My Documents\Software AG\EntireX*.

For more information on the Broker stublog, see *Tracing for Broker Stubs* in the platform-specific administration documentation.

Functional Scope of System Management Hub

System Management Hub functionality is provided for managing the following EntireX components:

- [Managed Hosts and EntireX System Management Hub Agents](#)
- [Managing the Broker](#)
- [Managing the RPC Servers](#)
- [Managing Authorization Rules](#)
- [Managing the Java Message Service](#)

Managed Hosts and EntireX System Management Hub Agents

System Management Hub agents are installed on every host where an EntireX is installed. These hosts are called Managed Hosts in the System Management framework. Managed hosts form the top level list in the System Management Hub tree view. With the agents the local resources of the managed hosts are managed. For EntireX these resources are brokers, broker agents, RPC servers, and directories for authorization rules. There are two exceptions where these resources are not local resources.

- Brokers may be remote Brokers which do not reside on the managed host but elsewhere on the network.
- Directories for authorization rules may be somewhere on the network. This is true in particular for LDAP servers. For flat file directories, we recommend using the local file system of the managed host.

Managing the Broker

EntireX Broker instances are administered from the **EntireX Broker** System Management Hub node. The EntireX Broker node is located below the **EntireX** node in the System Management Hub tree view. Local broker instances are automatically defined to the System Management Hub and do not have to be defined by the user. When the **EntireX Broker** node is expanded, all of the user-defined remote Broker instances and all local Broker instances that are managed with the System Management Hub are listed. The list consists of all the Broker instances configured on the node running the System Management Hub (“local” brokers) and Broker instances configured on other nodes that the user has defined to the System Management Hub (“remote” brokers).

For more information, see *Broker Administration using System Management Hub* in the UNIX and Windows administration documentation.

Managing the RPC Servers

The System Management Hub RPC server agent provides a user-friendly interface for managing and monitoring the EntireX RPC servers.

For more information, see *Administering the EntireX RPC Servers using System Management Hub* in the UNIX and Windows administration documentation.

Managing Authorization Rules

An authorization rule is used to perform an access check for a particular Broker instance against an (authenticated) user ID and list of rules. Checks are performed on a UNIX or Windows Broker kernel, using standard EntireX Security on these platforms. Authorization rules can be stored within a repository. When an authorization call occurs, the security exit performs checks based on the values of Broker attributes `AUTHORIZATIONDEFAULT` and `AUTHORIZATIONRULE`.

See *Administering Authorization Rules using System Management Hub* in the UNIX and Windows administration documentation.

Managing the Java Message Service

EntireX Java Message Services are managed from the EntireX Java Message Service System Management Hub node. The EntireX Java Message Service node is located below the EntireX node in the System Management Hub tree view. Instances of Queue Connection Factories, Queues, Topic Connection Factories and Topics can be created, modified and deleted from the System Management Hub.

For more information see *EntireX Message Service Administration using System Management Hub*.

More Information

See the separate System Management Hub documentation.

2 SNMP Support for EntireX

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EntireX uses the SNMP (Simple Network Management Protocol) interface of the System Management Hub. The configuration of the SNMP interface is described in detail in the section *SNMP Add-on Interface* in the separate System Management Hub documentation.

Installation

The SNMP Add-on interface is installed while installing the System Management Hub. The System Management Hub is installed or updated with EntireX. The additional MIB files for EntireX will be installed into the EntireX installation directory. For the location of the MIB files, see [Loading EntireX MIBs](#) below. The SNMP interface will be setup on the default SMH SNMP port.



Notes:

1. See section *SNMP Add-on Interface* in the separate System Management Hub documentation for information on the default port and on how to change the settings of the SNMP interface.
2. As a minimum, the TRAP destination should be checked and set up for your environment.

SNMP Functionality

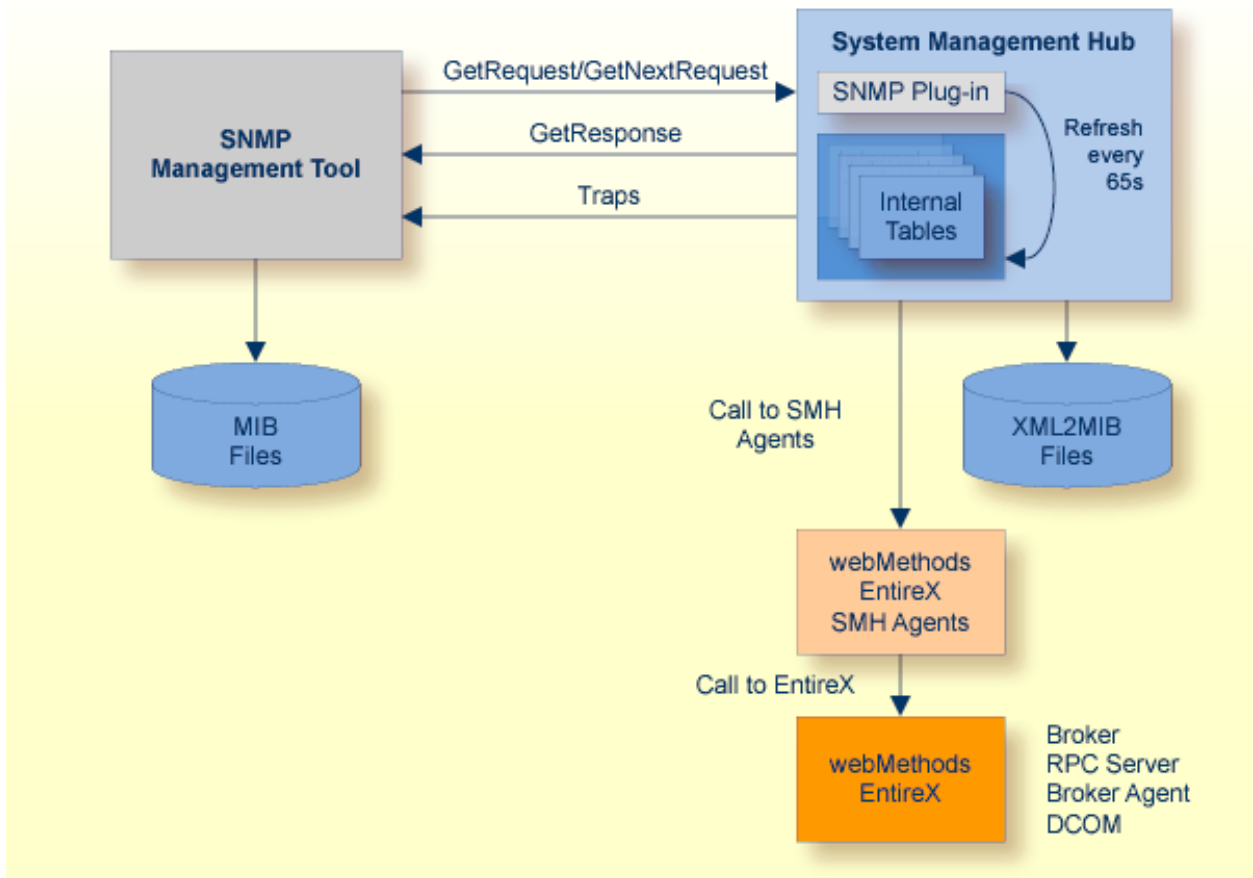
EntireX uses the System Management Hub, in particular the SNMP plug-in of the System Management Hub, to provide SNMP functionality. The two types of file required, MIB and XML2MIB, are located in the EntireX installation directory. See [Loading EntireX MIBs](#).

The MIB (Management Information Base) files contain the definitions required for the third-party SNMP Management Tool. The XML2MIB files contain the required definitions of the internal tables for the System Management Hub SNMP plug-in and are the SMH complements to the MIB files. The SMH internal tables are used to buffer the information temporarily.

The System Management Hub SNMP plug-in will refresh these internal tables by default every 65 seconds. The refresh timeout can be adjusted in the SMH settings. The internal tables are also required to generate a trap notification. The System Management Hub SNMP plug-in compares the values defined in the XML2MIB files with the changes to these values, and automatically generates a trap notification if a specified condition occurs.

During the refresh cycle, the SNMP plug-in calls the EntireX System Management Hub agents to retrieve the required information from the EntireX components. Currently SNMP functionality is provided for the following EntireX components.

- EntireX Broker
- EntireX RPC Servers
- EntireX Broker Agent



Currently only SNMP monitoring functionality is supported. Use of the SNMP command SetRequest to change an object value is not supported. See section *SNMP Add-on Interface* in the separate System Management Hub documentation for further information. Use the SMH GUI to set or change any properties for the managed component.

Activating SNMP Support for EntireX

▶ To activate SNMP support for EntireX

- 1 Import the Software AG EntireX MIB files to your SNMP Manager Tool.

Under Windows: `<drive>:\SoftwareAG\EntireX\smh\snmp\mib`

Under UNIX: `/opt/softwareag/EntireX/smh/snmp/mib`

- 2 Set up your SNMP Manager Tool (SMH uses UDP port 9903 by default).

The SNMP port may be changed by the user during installation. Verify these setting in the System Management Hub settings.

- 3 Switch on SNMP support for EntireX. See *Enabling SNMP Functionality*.
- 4 Restart SMH services/daemons.
- 5 For EntireX Broker only:

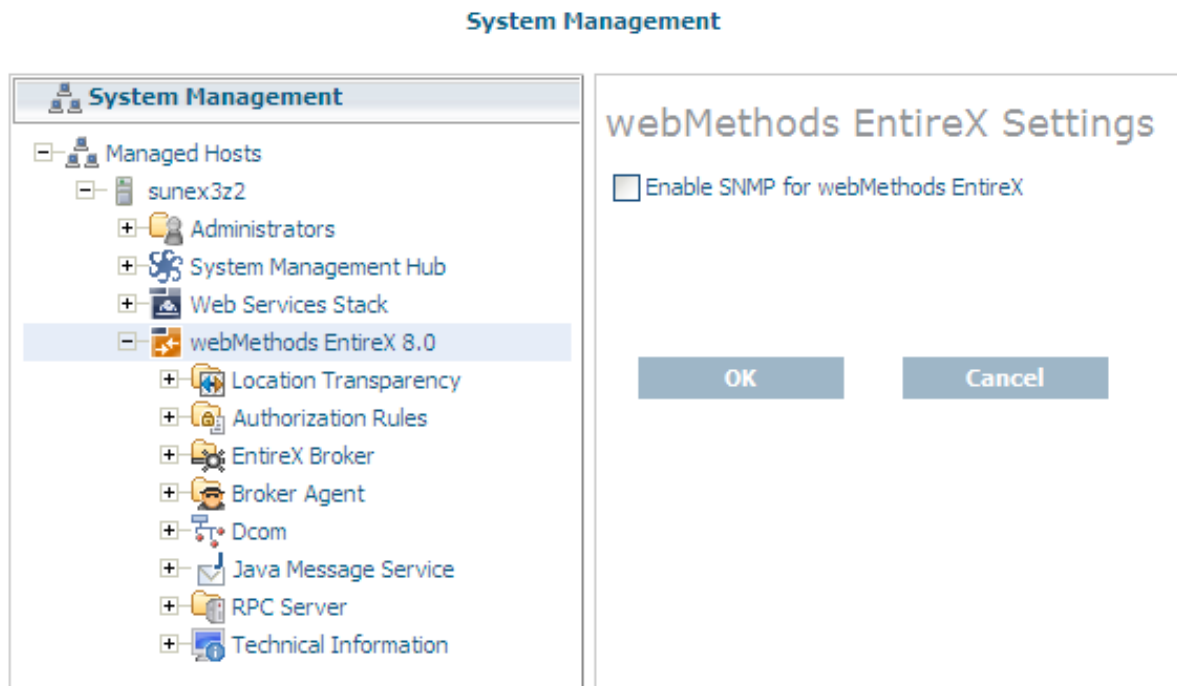
Enter a user and password for each broker for which SNMP support is to be enabled. See *Enabling the SNMP Plug-in in Broker Administration using System Management Hub* in the UNIX and Windows administration documentation.

Enabling SNMP Functionality

SNMP support for EntireX is switched off by default after the installation. If you need SNMP support, enable it using the steps below.

▶ To enable or disable SNMP support

- 1 Log on to the System Management Hub and select the root node of EntireX.
- 2 From the context menu, choose **Settings**.
- 3 Check the check box to enable SNMP support, and clear it to disable SNMP support.



- 4 Choose **OK** to submit changes. If the check box is not visible, check whether System Management Hub SNMP support has been enabled. (See note below).

- 5 For EntireX Broker, the SNMP plug-in must be enabled individually for each broker before it can be administered by SNMP. See *Enabling the SNMP Plug-in in Broker Administration using System Management Hub* in the UNIX and Windows administration documentation for more details.

Changes will become active when your system or System Management Hub services are restarted.



Note: If System Management Hub's SNMP support has been disabled, the EntireX's SNMP support will also be disabled. If this is the case, the message and check box **Enable SNMP for EntireX** in the screenshot above will be replaced by the message: "The SNMP features in SMH are disabled". See the separate System Management Hub documentation. Similarly, if you do not have a valid license, the message and check box above will be replaced by the message: "The EntireX XML license key file does not contain a license for SNMP".

Loading EntireX MIBs

EntireX MIBs are provided with the EntireX.

Under Windows: `<drive>:\SoftwareAG\EntireX\smh\snmp\mib`

Under UNIX: `/opt/softwareag/EntireX/smh/snmp/mib`

Compile and load the MIB files into your SNMP management tool. If required, copy these files into the directory of your SNMP management tool. The MIB file `SOFTWAREAG-EXXnnn-GLOBAL.MIB` has global definitions for all EntireX SNMP MIBs.



Note: In the example above, *nnn* in the global MIB file refers to the first three digits of the EntireX Version.

Object ID

The EntireX Object ID (OID) is below the public Software AG Object ID.

EntireX OID looks like this:

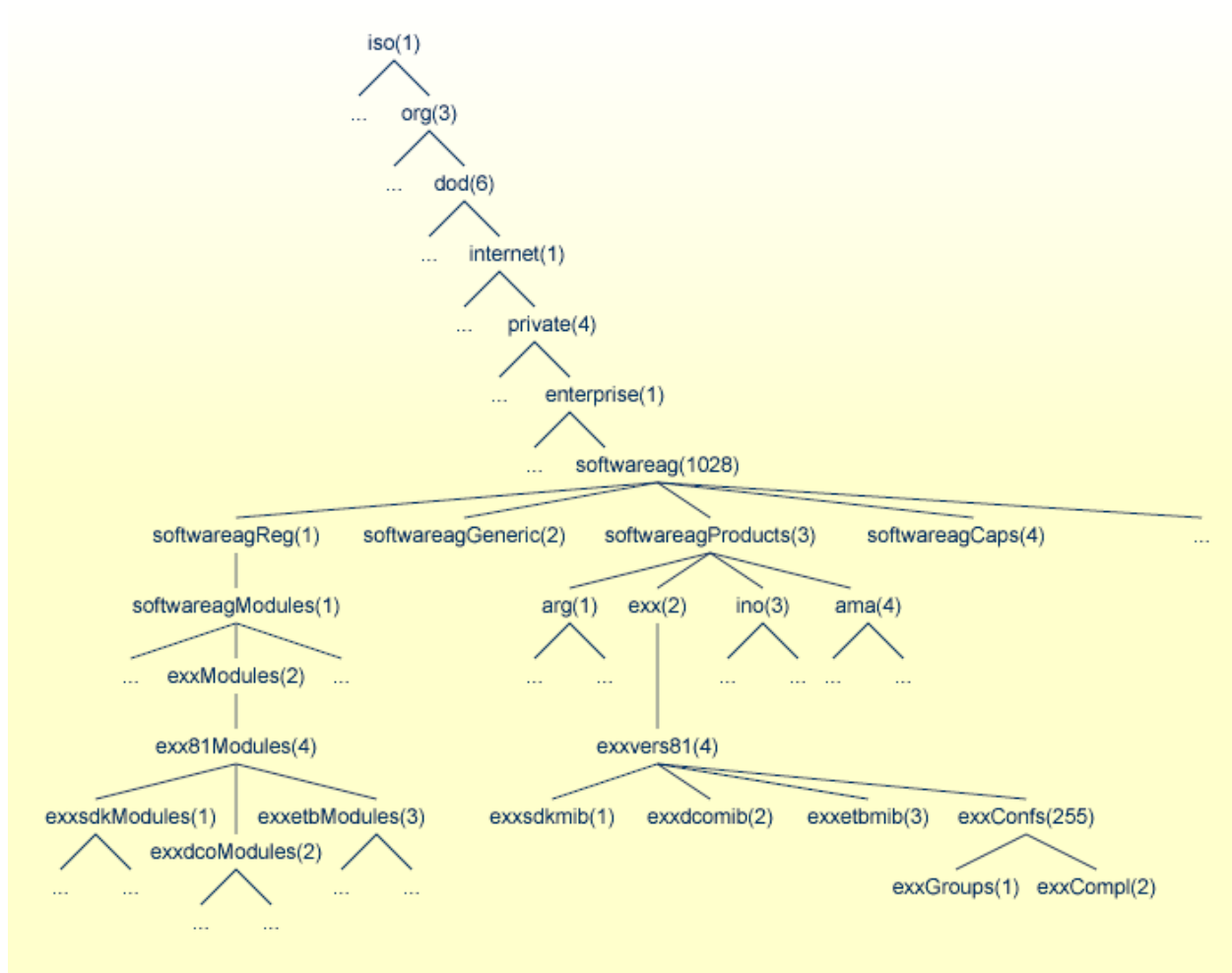
```
iso(1).org(3).dod(6).internet(1).private(4).enterprise(1).softwareag(1028).softwareag-Products(3).exx(2)
```

The following diagrams provide more detailed information on the OID tree. The MIB files provided for EntireX are designed for the Version 2c of the Simple Network Management Protocol (SNMPv2).

EntireX imports the following predefined standard definitions:

- SNMPv2-SMI from RFC1902 (MIB Structure)
- SNMPv2-TC from RFC1903 (Textual Conventions)
- SNMPv2-CONF from RFC1904 (Conformance Statements)

Your SNMP management tool must provide these standard definitions.



SNMP Support for Broker

The Broker SNMP MIB file defines some of the imported basic properties. The SNMP table shows these properties for each Broker that has been entered in the SMH GUI. For each table entry, the System Management Hub adds an extension to the OID prefix.

1. exxetbEntry (1.3.6.1.4.1.1028.3.2.4.3.1.1.1)

Property	Description	OID Prefix
exxetbBrokerName	The Name of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.1.1.1.1
exxetbBrokerStatus	Status of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.1.1.1.2
exxetbBrokerTCPPort	TCP Port of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.1.1.1.3
exxetbBrokerSSLPort	SSL Port of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.1.1.1.4
exxetbBrokerTransport	Transport of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.1.1.1.5
exxetbBrokerTraceLevel	Trace Level of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.1.1.1.6
exxetbBrokerSecurity	Security of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.1.1.1.7
exxetbBrokerAutoLogon	Auto Logon of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.1.1.1.8
exxetbBrokerServiceUpdate	Service Update of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.1.1.1.9
exxetbBrokerClientNonAct	Client Nonact of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.1.1.1.10

2. exxetbBrkrEntry (1.3.6.1.4.1.1028.3.2.4.3.2.1.1)

Property	Description	OID Prefix
exxetbBrkrBrokerName	Broker name of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.2
exxetbBrkrBrokerStatus	Broker status of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.3
exxetbBrkrPlatformName	Broker platform name of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.4
exxetbBrkrBrokerVersion	Broker version of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.5
exxetbBrkrRunTime	Broker runtime of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.6
exxetbBrkrNumWorker	Broker number of worker of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.7
exxetbBrkrTraceLevel	Broker trace level of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.8
exxetbBrkrLongMsgBufNum	Broker number of long message Buffer of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.9
exxetbBrkrLongMsgBufLen	Broker length of long message buffer of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.10
exxetbBrkrLongMsgBufActive	Broker active long message buffer of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.11

Property	Description	OID Prefix
exxetbBrkrLongMsgBufHigh	Broker high watermark of long message buffer of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.12
exxetbBrkrShortMsgBufNum	Broker number of short message buffer of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.13
exxetbBrkrShortMsgBufLen	Broker length of short message buffer of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.14
exxetbBrkrShortMsgBufActive	Broker active short message buffer of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.15
exxetbBrkrShortMsgBufHigh	Broker high watermark of short message buffer of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.16
exxetbBrkrServiceNum	Broker number of service of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.17
exxetbBrkrServiceActive	Broker active service of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.18
exxetbBrkrServerNum	Broker number of server of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.19
exxetbBrkrServerActive	Broker active server of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.20
exxetbBrkrServerHigh	Broker high watermark of server of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.21
exxetbBrkrClientsNum	Broker number of clients of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.22
exxetbBrkrClientsActive	Broker active clients of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.23
exxetbBrkrClientsHigh	Broker high watermark of clients of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.24
exxetbBrkrConversationNum	Broker number of conversation of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.25
exxetbBrkrConversationHigh	Broker high watermark of conversation of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.26
exxetbBrkrUOWMax	Broker maximum of unit of work of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.27
exxetbBrkrUOWMsgs	Broker unit of work messages of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.28
exxetbBrkrUOWTime	Broker unit of work time of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.29
exxetbBrkrUOWMaxMsg	Broker maximum message of unit of work of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.30
exxetbBrkrUOWActive	Broker number of active unit of work of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.31

Property	Description	OID Prefix
exxetbBrkrUOWStore	Broker unit of work store of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.32
exxetbBrkrUOWPStore	Broker unit of work persistence store of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.33
exxetbBrkrUOWStatP	Broker unit of work status of persistence of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.34
exxetbBrkrUOWDeferred	Broker unit of work deferred of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.35
exxetbBrkrUOWStatAddTime	Broker unit of work status additional time of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.36
exxetbBrkrAccounting	Broker accounting of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.37
exxetbBrkrNewUOWMsg	Broker new unit of work message of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.38
exxetbBrkrPStoreType	Broker persistence store type of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.39
exxetbBrkrPublishAndSubscribe	Broker publish and subscribe of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.40
exxetbBrkrTopic	Broker topic of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.41
exxetbBrkrTopicActive	Broker topic active of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.42
exxetbBrkrSubscriber	Broker subscriber of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.43
exxetbBrkrSubscriberActive	Broker subscriber active of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.44
exxetbBrkrSubscriberHigh	Broker subscriber high of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.45
exxetbBrkrPublisher	Broker publisher of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.46
exxetbBrkrPublisherActive	Broker publisher active of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.47
exxetbBrkrPublisherHigh	Broker publisher high of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.48
exxetbBrkrPublication	Broker publication of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.49
exxetbBrkrublicationHigh	Broker publication high of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.2.1.1.50

3. exxetbWrkr Entry (1.3.6.1.4.1.1028.3.2.4.3.3.1.1)

Property	Description	OID Prefix
exxetbWrkrBrokerName	Broker Name of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.3.1.1.2
exxetbWrkrBrokerStatus	Broker Status of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.3.1.1.3
exxetbWrkrNumber	Worker Number of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.3.1.1.4
exxetbWrkrStatus	Worker Status of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.3.1.1.5
exxetbWrkrCalls	Worker Calls of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.3.1.1.6
exxetbWrkrIdleTime	Worker Idle Time of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.3.1.1.7

4. exxetbSrvEntry (1.3.6.1.4.1.1028.3.2.4.3.4.1.1)

Property	Description	OID Prefix
exxetbSrvcBrokerName	Broker name of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.4.1.1.2
exxetbSrvcBrokerStatus	Broker status of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.4.1.1.3
exxetbSrvcServerName	Server Name of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.4.1.1.4
exxetbSrvcServerClass	Server Class of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.4.1.1.5
exxetbSrvcService	Service of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.4.1.1.6
exxetbSrvcTranslation	Service translation of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.4.1.1.7
exxetbSrvcActiveServers	Service active Servers of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.4.1.1.8
exxetbSrvcConvsActive	Service conversations (active) of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.4.1.1.9
exxetbSrvcConvsHigh	Service conversations (high) of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.4.1.1.10
exxetbSrvcServiceNonact	Service nonactive of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.4.1.1.11
exxetbSrvcLongBufsActive	Service long buffers (active) of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.4.1.1.12
exxetbSrvcLongBufsHigh	Service long buffers (high) of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.4.1.1.13
exxetbSrvcShortBufsActive	Service short buffers (active) of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.4.1.1.14
exxetbSrvcShortBufsHigh	Service short buffers (high) of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.4.1.1.15
exxetbSrvcWaits	Service waits of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.4.1.1.16
exxetbSrvcOccupied	Service occupied of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.4.1.1.17
exxetbSrvcConvPending	Service conversation pending of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.4.1.1.18

Property	Description	OID Prefix
exxetbSrvcConvPendHigh	Service conversion pending high of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.4.1.1.19
exxetbSrvcRequests	Service request of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.4.1.1.20
exxetbSrvcMaxUOWs	Service maximum UOWs of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.4.1.1.21
exxetbSrvcMaxMsg	Service maximum message of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.4.1.1.22
exxetbSrvcUOWLifeTime	Service UOW lifetime of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.4.1.1.23
exxetbSrvcMaxDelCount	Service maximum delivery count of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.4.1.1.24
exxetbSrvcMsgSize	Service maximum message size of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.4.1.1.25
exxetbSrvcActiveUOWs	Service active UOWs of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.4.1.1.26
exxetbSrvcStore	Service store of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.4.1.1.27
exxetbSrvcLifeTimeMult	Service lifetime multiple of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.4.1.1.28
exxetbSrvcDeferred	Service deferred of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.4.1.1.29
exxetbSrvcAttachManagersActive	Service attach managers active of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.4.1.1.30
exxetbSrvcUwStatAddTime	Service UOW status additionl time of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.4.1.1.31

5. exxetbSrvrEntry (1.3.6.1.4.1.1028.3.2.4.3.5.1.1)

Property	Description	OID Prefix
exxetbSrvrBrokerName	Broker name of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.5.1.1.2
exxetbSrvrBrokerStatus	Broker status of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.5.1.1.3
exxetbSrvrUserID	Server user ID of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.5.1.1.4
exxetbSrvrToken	Server class of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.5.1.1.5
exxetbSrvrInternalID	Server internal ID of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.5.1.1.6
exxetbSrvrStatus	Server status of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.5.1.1.7
exxetbSrvrConv	Server conversation of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.5.1.1.8
exxetbSrvrServerName	Server name of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.5.1.1.9
exxetbSrvrServerClass	Server class of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.5.1.1.10
exxetbSrvrService	Server Service of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.5.1.1.11
exxetbSrvrCharSet	Server character set of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.5.1.1.12

Property	Description	OID Prefix
exxetbSrvrActiveConv	Server active conversation of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.5.1.1.13
exxetbSrvrActiveServices	Server active services of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.5.1.1.14
exxetbSrvrLastActive	Server last active of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.5.1.1.15
exxetbSrvrServerNonact	Server nonactive of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.5.1.1.16
exxetbSrvrNew	Server new of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.5.1.1.17
exxetbSrvrNewTotal	Server new (total) of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.5.1.1.18
exxetbSrvrNewAvg	Server new (avg.) of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.5.1.1.19
exxetbSrvrOld	Server old of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.5.1.1.20
exxetbSrvrOldTotal	Server old (total) of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.5.1.1.21
exxetbSrvrOldAvg	Server old (avg.) of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.5.1.1.22
exxetbSrvrWaits	Server waits of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.5.1.1.23
exxetbSrvrWaitsTotal	Server waits (total) of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.5.1.1.24
exxetbSrvrWaitsAvg	Server waits (avg.) of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.5.1.1.25
exxetbSrvrSumConvs	Server sum conversations of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.5.1.1.26
exxetbSrvrActiveUOWs	Server active UOWs of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.5.1.1.27
exxetbSrvrRecvOption	Server receive option of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.5.1.1.28
exxetbSrvrAttachManager	Server attach manager of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.5.1.1.29
exxetbSrvrIpAddress	Server IP address of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.5.1.1.30
exxetbSrvrHostName	Server host name of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.5.1.1.31

6. exxetbClntEntry (1.3.6.1.4.1.1028.3.2.4.3.6.1.1)

Property	Description	OID Prefix
exxetbClntBrokerName	Broker name of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.6.1.1.2
exxetbClntBrokerStatus	Broker status of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.6.1.1.3
exxetbClntUserID	Client user ID of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.6.1.1.4
exxetbClntToken	Client token of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.6.1.1.5
exxetbClntInternalID	Client internal ID of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.6.1.1.6
exxetbClntStatus	Client status of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.6.1.1.7
exxetbClntConv	Client conversation of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.6.1.1.8
exxetbClntServerName	Client server name of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.6.1.1.9
exxetbClntServerClass	Client server class of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.6.1.1.10
exxetbClntService	Client Service of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.6.1.1.11
exxetbClntCharSet	Client character set of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.6.1.1.12
exxetbClntConvsActive	Client active conversation of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.6.1.1.13

Property	Description	OID Prefix
exxetbClntLastActive	Client last active of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.6.1.1.14
exxetbClntClientNonact	Client nonactive of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.6.1.1.15
exxetbClntWaits	Client waits of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.6.1.1.16
exxetbClntWaitsTotal	Client waits (total) of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.6.1.1.17
exxetbClntWaitsAvg	Client waits (avg.) of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.6.1.1.18
exxetbClntSumConvs	Client sum conversations of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.6.1.1.19
exxetbClntActiveUOWs	Client active UOWs of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.6.1.1.20

7. exxetbConvEntry (1.3.6.1.4.1.1028.3.2.4.3.7.1.1)

Property	Description	OID Prefix
exxetbConvBrokerName	Broker name of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.7.1.1.2
exxetbConvBrokerStatus	Broker status of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.7.1.1.3
exxetbConvNumbActiveConv	Number of EntireX Broker active conversations	1.3.6.1.4.1.1028.3.2.4.3.7.1.1.4

8. exxetbPsEntry (1.3.6.1.4.1.1028.3.2.4.3.8.1.1)

Property	Description	OID Prefix
exxetbPsBrokerName	Broker name of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.8.1.1.2
exxetbPsBrokerStatus	Broker status of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.8.1.1.3
exxetbPsNumReceived	Persistent store number of Received status of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.8.1.1.4
exxetbPsNumAccepted	Persistent store number of Accepted status of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.8.1.1.5
exxetbPsNumDelivered	Persistent store number of Delivered status of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.8.1.1.6
exxetbPsNumBackedOut	Persistent store number of Backed Out status of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.8.1.1.7
exxetbPsNumProcessed	Persistent store number of Processed status of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.8.1.1.8
exxetbPsNumCancelled	Persistent store number of Cancelled status of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.8.1.1.9
exxetbPsNumTimedOut	Persistent store number of Timed Out status of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.8.1.1.10
exxetbPsNumDiscarded	Persistent store number of Discarded status of the EntireX Broker	1.3.6.1.4.1.1028.3.2.4.3.8.1.1.11

SNMP TRAP for the Broker

The TRAPs will be sent to the TRAP destination which is setup in the SMH configuration.

The TRAP `exxetbBrokerStart` will be sent if the Broker changes its status from “Not Running” (DOWN) to another status. The TRAP OID for this event is 1.3.6.1.4.1.1028.3.2.4.3.1.255.0.1. The parameter is the name of the Broker for which this TRAP has been sent.

The TRAP `exxetbBrokerStop` will be sent if the Broker Agent changes its status from “Running” (UP) to another status. The TRAP OID for this event is 1.3.6.1.4.1.1028.3.2.4.3.1.255.0.2. The parameter is the name of the Broker for which this TRAP has been sent.

SNMP Support for RPC Server

The RPC SNMP MIB file defines some of the imported basic properties. The SNMP table shows these properties for each RPC Server that has been entered into the System Management Hub GUI. The values for the properties RPC Server Name and RPC Server Status are always significant. If the RPC server has the status Down, the values for the properties RPC Server Started, RPC Server Worker, RPC Server High, RPC Server Host and RPC Server Address are irrelevant. For each table entry, the System Management Hub adds an extension to the OID prefix.

Property	Description	OID Prefix
<code>exxsdkRPCServerName</code>	The Name of the RPC server, defined in SMH GUI	1.3.6.1.4.1.1028.3.2.4.1.2.1.2
<code>exxsdkRPCServerStatus</code>	Status of the Server Running, Down, Retry (see notes 1, 2)	1.3.6.1.4.1.1028.3.2.4.1.2.1.3
<code>exxsdkRPCServerStarted</code>	Start Time of the RPC Server	1.3.6.1.4.1.1028.3.2.4.1.2.1.4
<code>exxsdkRPCServerWorker</code>	Current number of worker threads	1.3.6.1.4.1.1028.3.2.4.1.2.1.5
<code>exxsdkRPCServerHigh</code>	Worker threads high watermark	1.3.6.1.4.1.1028.3.2.4.1.2.1.6
<code>exxsdkRPCServerName</code>	Host name /JES job name (see note 3)	1.3.6.1.4.1.1028.3.2.4.1.2.1.7
<code>exxsdkRPCServerAddress</code>	Network address (see note 4)	1.3.6.1.4.1.1028.3.2.4.1.2.1.8

Notes:

1. The status may be “Init” and “Shutdown” for the XML Servers. The status “Down” will be generated in the System Management Hub RPC server agent if communication with the RPC server is not available.

2. Status	Description
Running	The server is running normally.
Down	The server is not running or the RPC server was started without the System Management Hub control port option. The System Management Hub RPC server agent cannot connect to the RPC Server.
Retry	The RPC server has no connection to the Broker and is trying to connect or reconnect.
Init	The RPC server is just starting and is not yet ready on the RPC interface.
Shutdown	The RPC server is just shutting down and will be down in a moment.
Error	Any error that could not be recovered and leads to shutdown of the server, for example: 0021 0043: ATTR: Service definition not found.

3. This display depends on the RPC Server and the platform where the server is running. On UNIX and Windows (local servers) only the Hostname will be displayed. Under IBM i, the RPC Server will also display the JES job name if available.
4. This display shows the IP or Entire Net-Work address of the RPC Server where the server is running.

See also *Select Root Node of the RPC Server in Operating and Monitoring the RPC Servers using System Management Hub* in the UNIX and Windows administration documentation.

SNMP support for the RPC Server also provides SNMP TRAPs to indicate a status change from Down to another status, and a status change from any other status to Down.

SNMP TRAP for the RPC Server

TRAPs are sent to the TRAP destination which is setup in the SMH configuration.

The TRAP `exxSDKRPCServerStart` will be sent if the RPC server changes its status from Down to another status. The TRAP OID for this event is `1.3.6.1.4.1.1028.3.2.4.1.2.255.0.1`. The parameter is the name of the RPC Server for which this TRAP has been sent. The status of the RPC Server can also be something other than Running if this TRAP has been sent. The condition for this TRAP is satisfied if the status is not Down.

The TRAP `exxSDKRPCServerStop` will be sent if the RPC server changes its state from any status to the status Down. The TRAP OID for this event is `1.3.6.1.4.1.1028.3.2.4.1.2.255.0.2`. The parameter is the name of the RPC Server for which this TRAP has been sent.

3 The System Management Hub Batch Interface

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The System Management Hub supports a batch interface called `argbatch`, which can be used to create and run broker-specific routine jobs, for example, to list brokers, servers, and services and to start and stop broker. Help is provided in the batch interface. See the sections on the batch interface in the separate System Management Hub documentation for more information.

This chapter provides a short introduction to the System Management Hub batch interface to get you started.

Setting the `argbatch` Environment

Most of the `argbatch` commands require that you provide your user ID and password. To avoid typing your user ID and password for each command, we recommend that you first use the `argbatch set environment` command to set your user ID and password. Settings exceed session lifetime and are valid for the current user until they are overwritten with new values in a new `argbatch set environment` command, or until they are cleaned with the command

```
argbatch clear environment
```

▶ To set the environment

- Enter the `argbatch` command

```
argbatch set environment user=myuserid password=mypassword
```

Replace *myuserid* and *mypassword* with your own user ID and password.

Or:

Alternatively, you can also use the environment variables `ARGBATCH_USER` and `ARGBATCH_PASSWORD` to specify your user ID and password.

If these two environment variables have been defined, their values will be taken. Specifying a user ID and password directly as parameters in the `argbatch` command will override the values specified by the environment variables.

Define the product for your `argbatch` session with the command

```
argbatch set environment product="webMethods EntireX 9.6"
```

It is also possible to set the product version for the `argbatch` session, but this should be handled with care and only be done if necessary, observing the following rules:

- The product version should not be set if only one version of the product is installed. In this case, the version is used by default.
- The product version should not be set if more than one version is installed and the most frequently used version is the newest version (default).
- One good reason for setting the version in the environment is if you have two or more product versions installed and the most frequently used version is not the newest version. Then, it is helpful to set the version to the most frequently used version.

► **To define the product and, if necessary, the product version**

- 1 Display a list of available products by entering the command

```
argbatch show products
```

A list of available products will be displayed, among them the product `webMethods EntireX 9.6`.

- 2 Display a list of available versions by entering the command

```
argbatch show versions product="webMethods EntireX 9.6"
```

All installed versions of `webMethods EntireX 9.6` will be displayed.

If the product and version of the product you are using are not listed, set the environment to the product `"webMethods EntireX 9.6"` and the version you are using, e.g. `version 9.6`

```
argbatch set environment product="webMethods EntireX 9.6" version=9.6
```

Description of `argbatch` Commands

This section covers the following topics:

- [Displaying Information about Commands](#)
- [EntireX Broker - Root](#)
- [EntireX Broker - Admin](#)
- [EntireX Broker - Service](#)
- [Java Message Service](#)
- [RPC Server](#)

- [Technical Information](#)
- [Notes](#)

Displaying Information about Commands

▶ To display a list of available EntireX argbatch commands

- Enter the command

```
argbatch show commands
```

A list of all commands that are available for the installed EntireX version will be displayed.

▶ To display detailed online information on how to use a command

- Use the form "argbatch *commandname* help|ong" as in the following example:

```
argbatch start broker help|ong
```

EntireX Broker - Root

Commands for manipulating the list of brokers.

Batch Command	Description
show brokers	Displays the list of available brokers.
create localbroker brokerName=<broker name> tcpPort=<port> sslPort=<port>	Creates a local broker. Enter the corresponding port parameters, depending on the chosen transport method. Do not enter "Transport=[TCP SSL TCP-SSL]" as in earlier versions; this is now generated automatically in the broker's attribute file.
add remotebroker brokerName=<broker name> brokerId=<broker ID>	Creates a definition of a remote broker. The value of broker ID should be equal to the URL on which the broker can be found (see note 1).
delete broker broker=<broker name>	Deletes a local broker or removes the definition of a remote broker.

EntireX Broker - Admin

Administrative commands for a broker.

Batch Command	Description
<code>show brokerstatus broker=<broker name></code>	Displays the status information of a broker.
<code>show brokercommands broker=<broker name></code>	Displays a list with all administrative batch commands which can be executed over a broker.
<code>start broker broker=<broker name></code>	Starts a local broker.
<code>stop broker broker=<broker name></code>	Stops a local broker.
<code>restart broker broker=<broker name></code>	Stops and restarts a running local broker. In case of an already stopped broker, this command has the same effect as <code>start broker broker=<broker name></code> .
<code>set credentials broker=<broker name> userName=<user name> userPassword=<user password></code>	Sets the user credentials for a broker. If no value is specified for <code>userName</code> , credentials are cleared.
<code>set credentialssnmp broker=<broker name> userName=<user name> userPassword=<user password></code>	Sets the credentials needed to monitor a broker via the SNMP administrative interface. If no value is specified for <code>userName</code> , credentials are cleared (see note 2).
<code>set brokertrace broker=<broker name> level=[off 1 2 3 4]</code>	Sets the trace level of a broker.
<code>set newuows broker=<broker name> allowed=[yes no]</code>	Allows or forbids a broker to receive new UOW messages.
<code>set pstore broker=<broker name> connected=[yes no]</code>	Connects or disconnects a broker to/from its persistent store.
<code>set autostart broker=<broker name> autostart=[yes no]</code>	Enables or disables the automatic start of a broker when the operating system is booted.
<code>set sslparameters broker=<broker name> sslParameters=<SSL parameters></code>	Sets the SSL parameters of a broker. This parameter cannot be left unspecified.

EntireX Broker - Service

Command-line utilities for accessing CIS. See *Command-line Utilities* under *Broker Command and Information Services*.

Batch Command	Description
show brokerservices broker=<broker name>	Displays a list of Command and Information Services available to a broker.
show broker broker=<broker name>	Displays information from the Broker Information Services (IS), see <i>BROKER-OBJECT</i> in the <i>Broker CIS Data Structures</i> in the ACI Programming documentation.
show workers broker=<broker name>	Displays information from the Worker IS, see <i>WORKER-OBJECT</i> .
show services broker=<broker name>	Displays information from the Service IS, see <i>SERVICE-OBJECT</i> .
show servers broker=<broker name>	Displays information from the Server IS, see <i>CLIENT-SERVER-PARTICIPANT-OBJECT</i> .
show clients broker=<broker name>	Displays information from the Client IS, see <i>CLIENT-SERVER-PARTICIPANT-OBJECT</i> .
show participants broker=<broker name>	Displays information from the Participant IS, see <i>CLIENT-SERVER-PARTICIPANT-OBJECT</i> .
show conversations broker=<broker name>	Displays information from the Conversation IS, see <i>CONVERSATION-OBJECT</i> .
show security broker=<broker name>	Displays information from the Security IS, see <i>SECURITY-OBJECT</i> .
show tcp broker=<broker name>	Displays information from the TCP IS, see <i>TCP-OBJECT</i> .
show ssl broker=<broker name>	Displays information from the SSL IS, see <i>SSL-OBJECT</i> .
show network broker=<broker name>	Displays information from the Net-Work IS, see <i>NET-OBJECT</i> .
deregister service broker=<broker name> class=<class> server=<server> service=<service> option=[immed quiesce]	Shuts down all servers registered as <class>/<server>/<service> on a broker.
shutdown server broker=<broker name> class=<class> server=<server> service=<service> puid=<physical user ID> option=[immed quiesce]	Shuts down a server registered on a broker. Use the hexadecimal internal physical user ID as a value for puid. This guarantees successful results. In many cases, the translated physical user ID can be used with success, too (see <i>note 3</i>).
set securitytrace broker=<broker name> level=[off 1 2 3 4]	Sets the trace level for the security of a broker.

Java Message Service

Commands specific to EntireX MSP.

Batch Command	Description
show jmsproperties	Displays general settings for webMethods EntireX MSP.
show jmsqueueconnectionfactory	Displays the list of queue connection factories.
show jmsqueue	Displays the list of queues.
show jmstopicconnectionfactory	Displays the list of topic connection factories.
show jmstopic	Displays the list of topics.

RPC Server

Commands specific to RPC servers.

Batch Command	Description
show rpcserverlist	Displays the list of available RPC servers.
show rpcserver name=<rpc server name>	Displays detailed information on a particular RPC server.
start rpcserver name=<rpc server name>	Starts an RPC server (see note 4).
stop rpcserver name=<rpc server name>	Stops an RPC server (see note 4).

Technical Information

Commands providing technical information.

Batch Command	Description
show technicalinformation	Displays general technical information about the product.
show versioninformation	Displays the version of each file which is included in the product.
show windowssettinginformation	Displays the Windows environment of the product.
show exxenvinformation	Displays the SMH environment of the product.
show javainformation	Displays the Java environment of the product.
show licenseinformation	Displays the information contained in the license file.

Notes

1. A Broker ID can be given in two different formats:

- `host:port[:TCP|SSL][?sslparameters]`

Examples:

`host1:1971`

`host1:1971:TCP`

`host1:2971:SSL?VERIFY_SERVER=N&TRUST_STORE=/opt/softwareag/EntireX/config/etb/ETB001/ExxCACert.pem`

- `<tcpip|ssl>://host:port[?sslparameters]`

Examples:

`tcpip://host1:1971`

`ssl://host1:2971?VERIFY_SERVER=N&TRUST_STORE=/opt/softwareag/EntireX/config/etb/ETB001/ExxCACert.pem`

See *Using the Broker ID in Applications* in the ACI Programming documentation.

2. See [SNMP Support for EntireX](#).
3. The hexadecimal internal physical user ID is the 56-character string which is shown as the value of the property `Internal ID` in the server's detailed information. The translated physical user ID is the 28-character string which is shown as the value of the property `Internal ID Char` in the server's detailed information. See the fields `P-USER-ID` and `P-USER-ID-CHAR` in *CLIENT-SERVER-PARTICIPANT-OBJECT*.
4. Only local RPC servers can be started or stopped with this command. Attempts to start and stop remote RPC servers will fail.

argbatch Command Examples

This section provides examples of the `argbatch` command.

▶ **To list the brokers configured for EntireX**

- Enter command:

```
argbatch show brokers
```

▶ **To start a broker**

- Use the command:

```
argbatch start broker broker=<brokername>
```

where <brokername> is the name of the broker you want to start.



Note: Each batch command consists of two words. Enter these in the exact order at the beginning of the command. The available parameters can be entered in any order.

4 Displaying Technical Information with System Management

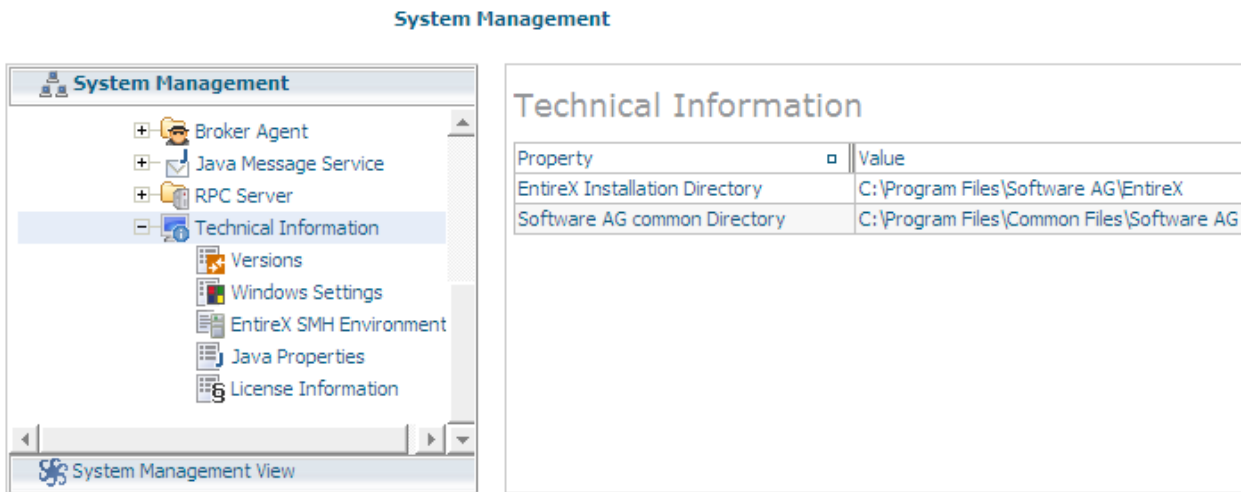
Hub for EntireX

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▪ Windows Settings	33
▪ Environment Variables	33
▪ Java Properties	34
▪ License Information	34
▪ Batch Interface	35

The System Management Hub Technical Information Agent provides information for EntireX.

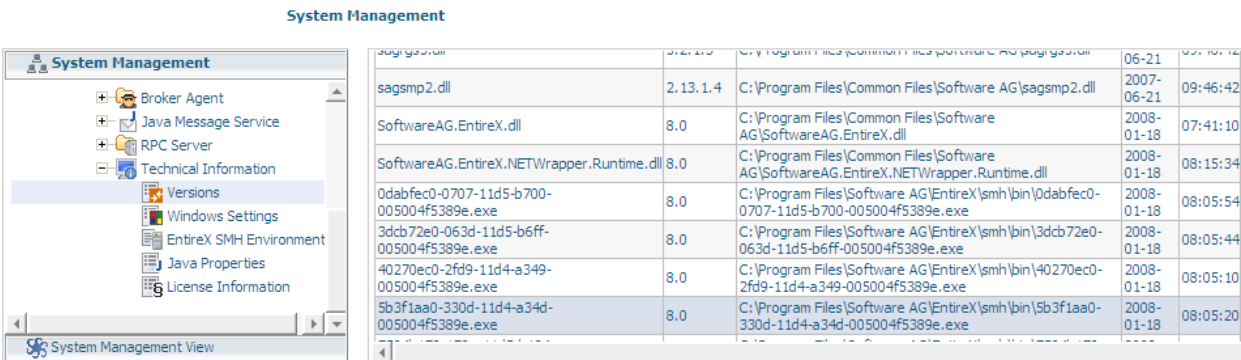
Technical Information

The root node of the Technical Information Agent displays the EntireX installation directories.



Versions

The Versions node provides information on the internal versions of the EntireX modules (executables, shared libraries and .jar files) which are installed in the EntireX bin directory and in the Software AG common directory.

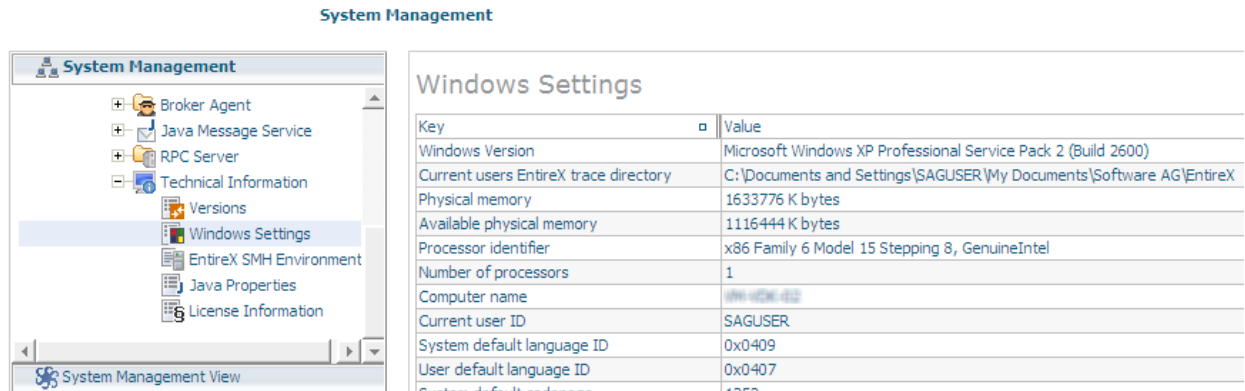


With this tool, all EntireX files will be scanned for version information. It may therefore take a moment before the information is displayed.

Windows Settings

The Windows Settings node displays some important information on the common Windows system settings. It will also display some important hardware properties.

This node is not visible on a UNIX installation.



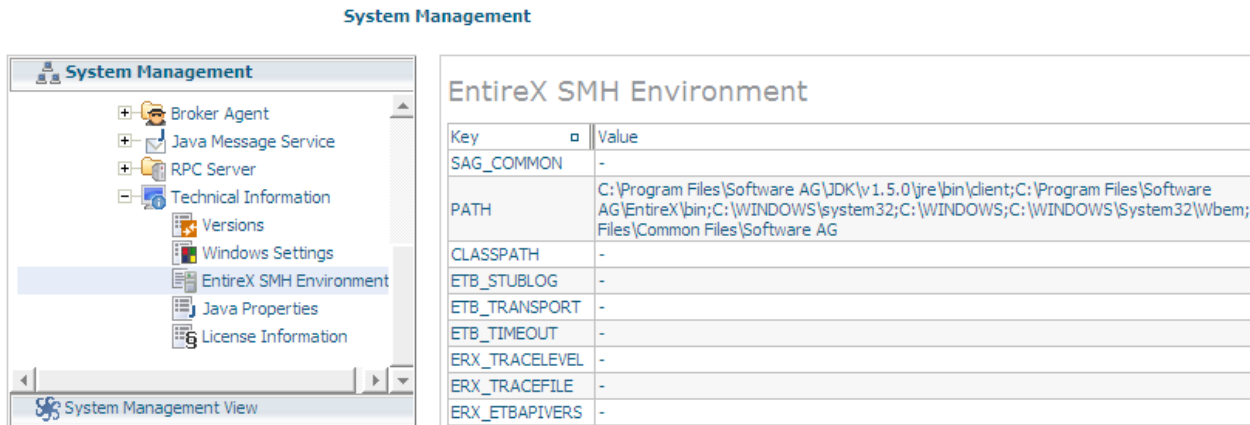
Environment Variables

The Environment Variables node displays the official environment variables that are documented in the EntireX documentation and are used in part by the EntireX modules.

The environment variables displayed are the ones that are defined as system variables and the environment variables of the user SAGUSER. The user variables of the current user will not be visible.

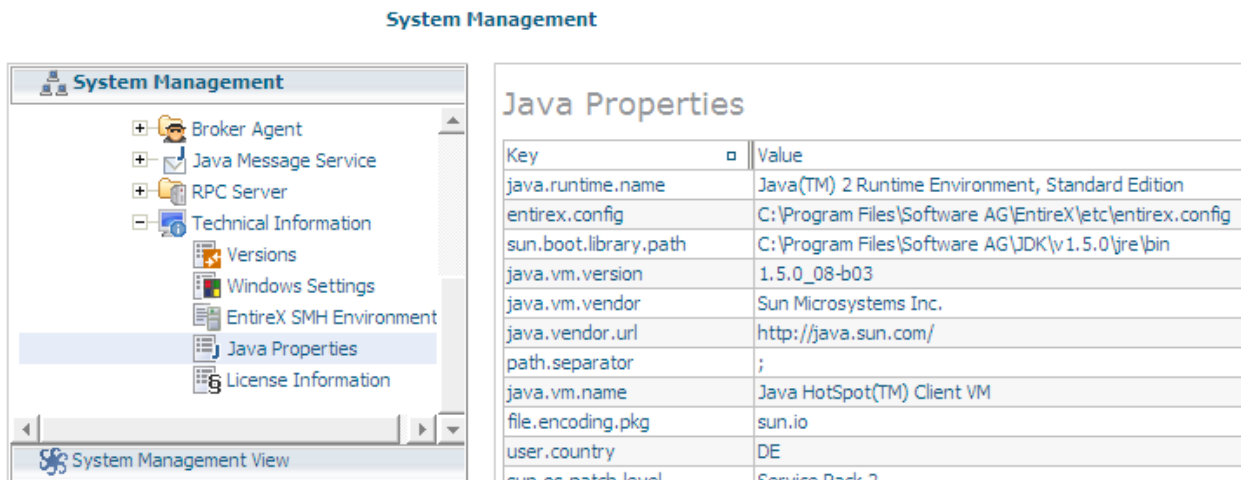
The environment variables depend on the operating system.

See also *Environment Variables in EntireX* in the general administration documentation.



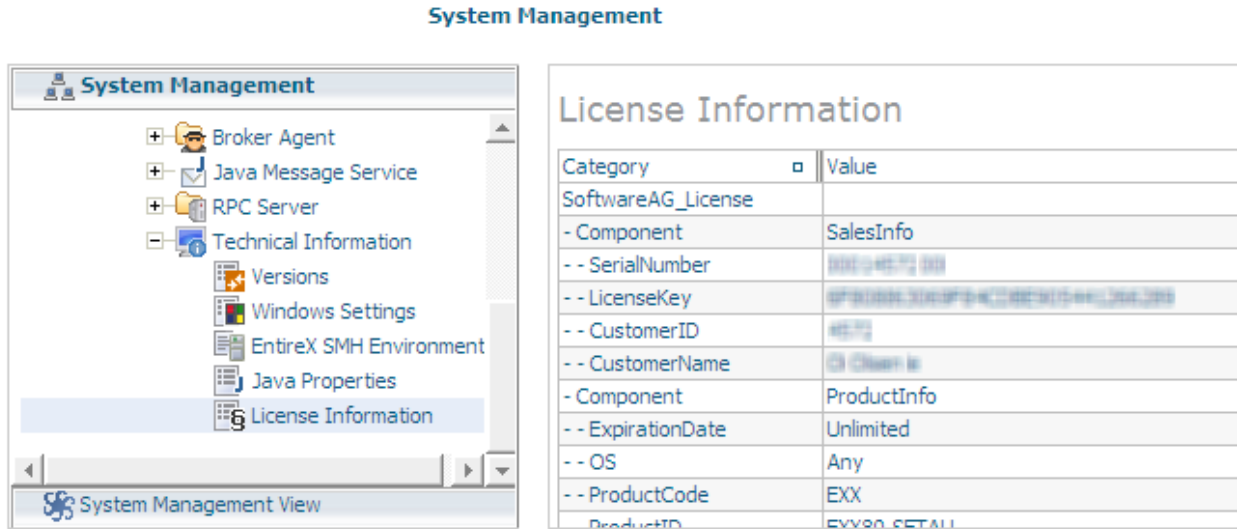
Java Properties

The Java Properties node displays all available Java system properties. The displayed Java properties may depend on the Java version.



License Information

The License Information node shows the content of the installed EntireX license file.



Batch Interface

The Technical Information Agent supports the System Management Hub's batch interface. The table below contains the corresponding batch commands.

Node Name	Batch Command
Technical Information	show technicalinformation
Versions	show versioninformation
Windows Settings	show windowssettinginformation
Environment Information	show exxenvinformation
Java Properties	show javainformation
License Information	show licenseinformation

Example:

Enter the `argbatch` command with the following parameters to execute the batch command to retrieve the Technical Information node properties.

```
argbatch show versioninformation user=[userid] password=[passwd] target=[managed host name] "product=webMethods EntireX 9.6"
```

Note: `argbatch` is part of the System Management Hub software. It is located in the `bin` directory of the System Management Hub installation.

See also *Batch Interface* in the separate System Management Hub documentation.

5 Administering the EntireX RPC Servers using System

Management Hub

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The System Management Hub RPC server agent provides a user-friendly interface for managing and monitoring the EntireX RPC servers.

The System Management Hub is Software AG's cross-product and cross-platform product management framework. This section assumes that you are familiar with the System Management Hub software. The basic concepts of this product, its installation and the System Management Hub features common to all Software AG products are described in the separate System Management Hub documentation.

Introduction

The RPC server agent distinguishes between two kinds of RPC server, based on their locations:

Local

A local RPC server needs to run on a machine where the SMH is installed. In addition to starting and stopping RPC servers, the RPC agent provides support for editing the configuration file and monitoring the server data.

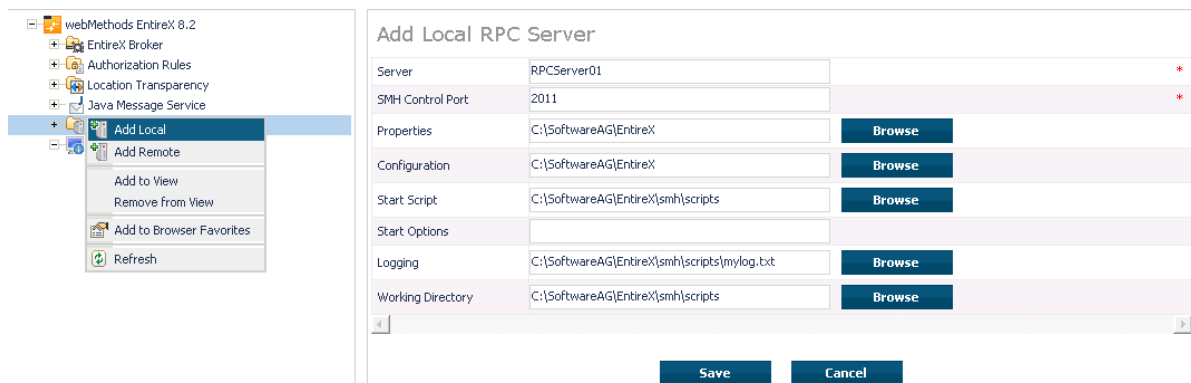
Remote

Remote RPC server functionality is only available for RPC server platforms where the SMH is not available, such as z/OS and IBM i. For remote RPC servers the System Management Hub RPC server agent provides monitoring functionality only. Starting and stopping RPC servers and editing an RPC server's configuration file are not supported.

Adding a Local RPC Server

To add a local RPC server

- 1 Select the root node of the RPC server tree in the tree-view frame.
- 2 From the context menu, choose **Add Local**. The following dialog window will be displayed.



Server

This name will be displayed in the RPC server tree.

SMH Control Port

Set an SMH Control Port for the RPC server configuration port. This TCP/IP port must be unused on your machine and unique to the RPC server settings. This port is required for intercommunication between the RPC server and the RPC server agent. The C RPC Server as well as the Java RPC-based server has a corresponding parameter in the configuration/property file. The SMH Control Port option in the Add Local RPC Server dialog will be used as command-line parameter while starting the RPC Server.

Since the command-line parameters have higher priority, the configuration/property file settings will be ignored if command-line parameters are used. See *Customizing the Java RPC Server* in the UNIX and Windows administration documentation and *Setting Server Parameters for the RPC Server* in the UNIX and Windows administration documentation.

Properties, Configuration

Enter the full path name of your RPC server's configuration file and/or property file. The System Management Hub agent requires this file name to open it in the editor. See also [Command Functions for Local RPC Servers](#) under [Operating and Monitoring the RPC Servers using System Management Hub](#). For example: the EntireX XML/SOAP RPC Server requires a configuration file as well as a property file. It is useful to enter both names to edit and view these files. The edit command buttons will only be available if the corresponding field is filled. See *EntireX\config* directory for some examples of configuration and property files.



Note: Use an absolute path for the file name. See also [Working Directory](#).

Start Script

The start script will be called when the RPC server is started.

The SMH RPC server agent uses the execute script in the Start Script line to start the RPC server. Only a batch or command script file under Windows and a shell script file under UNIX to start the RPC server, where other settings will be made, such as the CLASSPATH setting for the Java server or Configuration file settings for the C RPC Server, are allowed. Some example files are provided in the directory `<EntireX installation Directory>\SMH\scripts`.

The SMH RPC server agent only allows files with the file extensions in the table below to start scripts. Other file extensions will cause a starting error. If the file extension is changed, the RPC server agent does not check the contents of the file to determine whether the file format matches the file extension.

Operating System	File Extension
Windows	.bat .cmd
UNIX	.sh .csh .bsh .ksh

The start script option may only contain the name of the batch or shell script for starting the RPC Server. If additional parameters are required, use the Start Option line to submit these to the start script.

This start script line will be extended with the parameter `-smhport port number` (from the SMH Control Port option) as the first parameter when starting the RPC server.



Note: Use an absolute path for the file name. See also [Working Directory](#).

Start Options

The start options will be connected to the start script as a start parameter.

For example: use the start option `cfg=path\server.cfg` to start the rpcserver with a configuration file. The entries on the Configuration and Property files will not be used automatically as start parameters.

For the corresponding start parameters of the RPC Server, see *Customizing the Java RPC Server* in the UNIX and Windows administration documentation and *Setting Server Parameters for the RPC Server* in the UNIX and Windows administration documentation.



Note: If the `path` includes blank spaces, the entire option must be enclosed in quotation marks. All path names used must be absolute path names. The RPC server agent does not try to resolve relative path names.

Logging

If the Logging option has been entered, the Start script line will be extended with a pipe to redirect the standard out and standard error to these files. These log files can be viewed with the SMH's built-in viewer.

Working Directory

The working directory will be set by the RPC Agent when the start script is called. Relative filenames in the option Properties, Configuration, Start script and Logging will be extended with the working directory while saving. If the working directory line is empty, the path of the SMH service (Windows) / daemons (UNIX) will be used as default.

Save

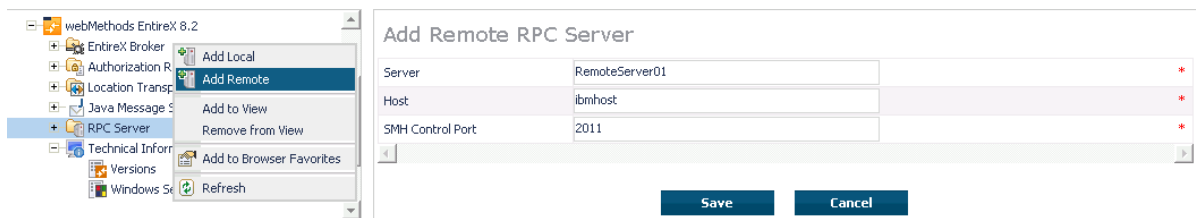
After confirming the settings for the new RPC Server Item with Save, the server is ready for use with the System Management Hub.

Adding a Remote RPC Server

Remotely configured servers can only run on platforms where SMH is not available. Therefore the RPC server needs to be started and stopped by the owner of the RPC server. The RPC server does not have the monitoring functionality enabled automatically. It must be started with the start parameter `-smhport unique tcp/ip port` to enable the monitoring functionality.

▶ To add a remote RPC server

- 1 Select the root node of the RPC server tree in the tree-view frame.
- 2 From the context menu, choose **Add Remote**. The following dialog window will be displayed.



Server

This name will be displayed in the RPC server tree.

Host

This is the network name or the IP address of the host system where RPC server runs.

SMH Control Port

System Management Hub Control port on which the RPC server listens. The owner of the server must configure the RPC server on this TCP/IP port. Please see the corresponding RPC server documentation. See also *Customizing the Java RPC Server* in the UNIX and Windows administration documentation and *Setting Server Parameters for the RPC Server* in the UNIX and Windows administration documentation.



Note: The hostname and TCP/IP port will not be checked for validation. The user is responsible for the input in these fields. If the same hostname and port are used for server entries twice or more, the same status will be displayed for each server.

Operating and Monitoring the RPC Servers using System Management Hub

The System Management Hub RPC server agent distinguishes between local and remote RPC servers. The functionality changes depending on the location. For local RPC servers, the System Management Hub GUI environment provides full control. For remote RPC servers, only monitoring functionality is provided.

This section covers the following topics:

- [Select Root Node of the RPC Server](#)
- [Select an RPC Server](#)
- [Command Functions for Local RPC Servers](#)
- [Command Functions for Remote RPC Servers](#)
- [Tracing Hints](#)
- [Batch Interface](#)

Select Root Node of the RPC Server

Once the root node of the RPC server has been selected, the RPC server agent retrieves the following information and displays it in a table. This information is available for both locally and remotely monitored RPC servers regardless of the RPC server type. See [SNMP Support for EntireX](#) and [SNMP Interface](#) in the separate System Management Hub documentation.

Property	Description	Note
Server	Name of the Server. This is the name of the server in the SMH interface which was entered when the RPC Server was added.	
Status	Status of the server. Running, Down, Retry.	1,2
Started	Start-time of the server.	
Worker	Current number of worker threads.	
High	Worker threads high watermark.	
Name	Host name / JES job name.	3
Address	Network address.	4

Notes:

1. The status may be "Init" and "Shutdown" for the XML Servers. The status "Down" will be generated in the System Management Hub RPC server agent if communication with the RPC server is not available.

2. Status

Status	Description
Running	The server is running normally.
Down	The server is not running or the RPC server was started without the System Management Hub control port option. The System Management Hub RPC server agent cannot connect to the RPC Server.
Retry	The RPC Server has no connection to the Broker and is trying to connect or reconnect.
Init	The RPC server is just starting and is not yet ready on the RPC interface.
Shutdown	The RPC server is just shutting down and will be down in a moment.
Error	Any error that could not be recovered and leads to shutdown of the server, for example: 0021 0043: ATTR: Service definition not found.

3. This display depends on the RPC Server and the platform where the server is running. On UNIX and Windows (local servers) only the Hostname will be displayed. Under IBM i, the RPC Server will also display the JES job name if available.
4. This display shows the IP or Net-Work address of the RPC Server where the server is running.

Select an RPC Server

Each RPC server has a common, scalable part and a server-specific part. Therefore the property information may differ for each server type.

For local servers, the top of the display in the right-hand panel is generated by the System Management Hub RPC server agent and represents the input made when the RPC server was added. For remote RPC servers, the first three lines are generated by the System Management Hub RPC server agent and also represent the input made when the RPC server was added.

The subsequent empty line separates the information generated by System Management Hub RPC server agent from the retrieved information.

See also *EntireX RPC Servers*.

Each RPC server may also have subtables which depend on the RPC Server type and the platform where the RPC server is running. If the RPC servers have subtables, the RPC server node is expandable and shows a “+” (plus sign) in front of the node name.

Command Functions for Local RPC Servers

Once a local RPC server has been selected in the SMH tree view, the following RPC Server control commands will be available:

Function	Description
Modify	Opens a dialog window to modify the selected RPC server settings which were made when the local RPC server was added to the SMH environment. (See note below.)
Delete	Removes the name of the selected RPC server from the RPC server tree. No files will be removed with this action. (See note below.)
Start	Starts the selected RPC server. This function calls the entry from the Start script input line. (See note below.)
Stop	Sends a terminate command to the selected RPC server. (See note below.)
Edit Properties	Opens the properties file of the selected RPC server which was entered in the Property File line. (See note below.)
Edit Configuration	Opens the configuration file of the selected RPC server which was entered in the Configuration File line. (See note below.)
Edit Start Procedure	Opens the file which was entered in the Start script line for the selected RPC server, if this file was an editable file. (See note below.)
Tracelevel	Opens a dialog window to select the trace level and sends a change trace level command with the selected trace level to the RPC server.



Note: The System Management Hub employs the multi-user concept. If more than one user modifies, deletes or edits the same RPC Server Item at the same time, the data of the user who saves last will overwrite the modifications of any previous user(s). Start and Stop

commands may also be used by multiple users. We recommend using the Refresh command to update the status of the RPC Server before starting or stopping it.

Command Functions for Remote RPC Servers

Once a remote RPC server has been selected in the SMH tree view, the following RPC Server control commands are available:

Function	Description
Modify	Opens a dialog window to modify the selected RPC server settings which were made when the remote RPC server was added to the SMH environment. (See note below.)
Delete	Removes the name of the selected RPC server from the RPC server tree. No files will be removed with this action. (See note below.)
Tracelevel	Opens a dialog window to select the trace level and sends a change trace level command with the selected trace level to the RPC server.

The commands `Start` and `Stop` for the RPC server are not available for remotely managed RPC servers. The System Management Hub RPC server agent provides only monitoring functionality for this kind of server; it does not provide the Edit and View Configuration functions or the Start Batch Files function.



Note: The System Management Hub employs the multi-user concept. If more than one user modifies, deletes or edits the same RPC Server Item at the same time, the data of the user who saves last will overwrite the modifications of any previous user(s).

Tracing Hints

UNIX

The trace will work under UNIX as usual.

Windows

If the C RPC Server under Windows was used, the trace destination may change. If the TraceDestination option was not defined in the configuration file, the C RPC Server under Windows will write its trace file for the user SAGUSER. The System Management Hub will start the RPC Servers on behalf of the user SAGUSER.

For more information on the tracing location, see table entry Trace File/Location on the corresponding RPC server. The table entry will only be available if the RPC server is running.

See also *Activating Tracing for the RPC Server* in the respective sections of the documentation.

Batch Interface

The RPC server agent supports the System Management Hub's batch interface. The table below contains the corresponding batch commands.

Task	Batch Command	Note
List all defined RPC servers on the managed host.	show rpcserverlist	
Show detailed information on the <rpc server>	show rpcserver name=<rpc server name>	
Start the <rpc server>	start rpcserver name=<rpc server name>	1
Stop the <rpc server>	stop rpcserver name=<rpc server name>	1



Note:

⁽¹⁾ Only local RPC server can be started or stopped with this command. Attempts to start and stop remote RPC servers will fail.

Example:

Assume that your RPC Server is defined with the node name "RPC Server1" in your SMH environment. Enter the `argbatch` command with the following parameters to execute the batch command.

```
argbatch show rpcserver user=[userid] password=[passwd] target=[managed host name]
"product=webMethods EntireX 8.1" "name=RPC Server1"
```



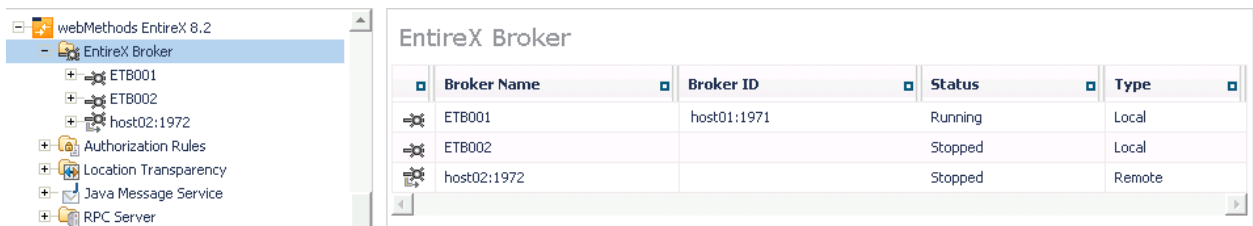
Note: `argbatch` is part of the System Management Hub software. It is located in the `bin` directory of the System Management Hub installation.

See [The System Management Hub Batch Interface](#) in the *System Management Hub for EntireX* documentation.

6 Introduction to Broker Administration using SMH

Before you log in to the System Management Hub for the first time, see [Initial Login Considerations](#). See also *Startup Daemon 'etbsrv'* in the UNIX administration documentation *Broker Service 'etbsrv'* under *Post-installation Steps under Windows*.

EntireX Broker instances are administered from the EntireX Broker System Management Hub node. The **EntireX Broker** node is located below the EntireX node in the System Management Hub tree view. When the **EntireX Broker** node is expanded, all of the brokers that are known to the current System Management Hub host are listed. The list consists of all the broker instances configured on the host running the System Management Hub (“local” brokers) and broker instances configured on other hosts that the user has defined to the System Management Hub (“remote” brokers). The node of a broker instance can be expanded if its broker is currently running. Below the node you can see the list of all Command and Information Services. The broker stub nodes allow a detailed runtime administration of the broker.



Broker Name	Broker ID	Status	Type
ETB001	host01:1971	Running	Local
ETB002		Stopped	Local
host02:1972		Stopped	Remote

Note: The list of the known brokers is maintained by a special administrative service. The SMH agents communicate with it or directly with the listed brokers to perform all necessary actions. For more information see [Configuring the Administration Service](#).

7 Managing the List of Brokers with SMH

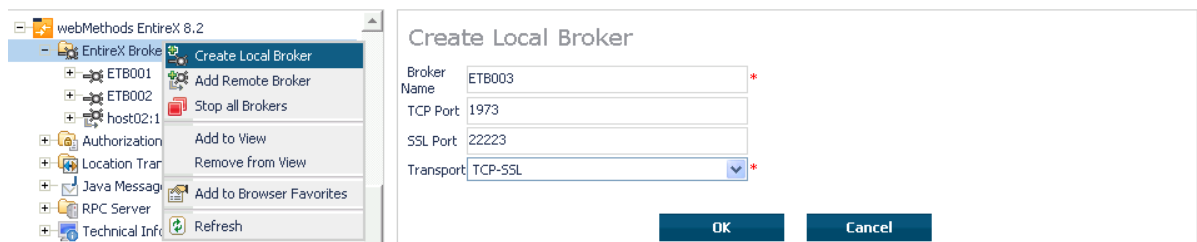
- Creating a Local Broker 51
- Deleting a Local Broker 51
- Adding a Remote Broker Instance to System Management Hub 53
- Removing a Remote Broker Instance from System Management Hub 53
- Stopping All Local Brokers from System Management Hub 55
- Setting the User Credentials for a Broker Instance 56
- Clearing the User Credentials for a Broker Instance 57
- Setting SSL or TLS Parameters 57

See also *Administration Service Messages* under *Error Messages and Codes*.

Creating a Local Broker

▶ To create a local broker

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 From the context menu, choose **Create Local Broker**.
- 3 Enter **Broker ID**, **TCP Port Number**, and **SSL Port Number**. The valid port number range is 1024 - 65535.
- 4 Select a transport method.
- 5 Choose **OK**.



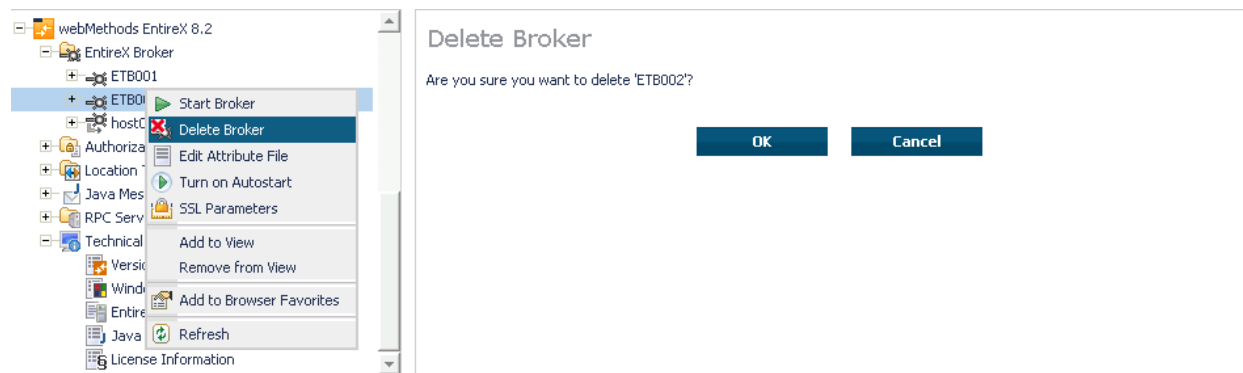
When a local broker is added using SMH, a working directory is created for the new broker in the EntireX directory *config/etb*. This directory contains an attribute file, and the SSL certificates from the EntireX directory *config/etb* are also copied to this directory. If the broker is to use its own SSL certificates, these must be replaced or the attribute file modified accordingly.

The attributes of the new broker are checked. If, for example, a broker already exists with the specified port, a corresponding error message is given.

Deleting a Local Broker

▶ To delete a local broker

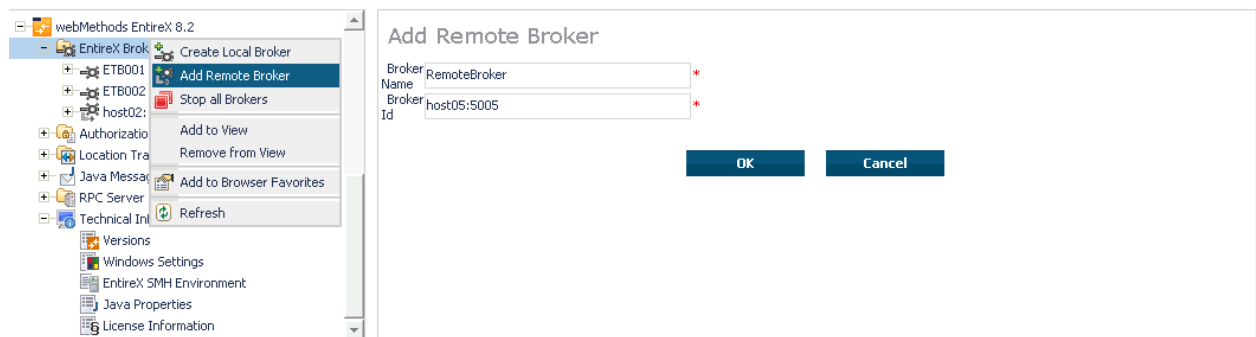
- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the broker name to be deleted.
- 3 From the context menu, choose **Delete Broker**.
- 4 Choose **OK**.



Adding a Remote Broker Instance to System Management Hub

▶ To add a remote broker instance to System Management Hub

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 From the context menu, choose **Add Remote Broker**.
- 3 In the field **Broker Name**, enter a valid name. Permitted characters are A-Z, a-z, 0-9.
- 4 In the field **Broker ID**, enter the ID of an existing broker. Permitted formats: host:port[:protocol], protocol://host:port[?sslparameters].
- 5 Choose **OK**.



Function **Add Remote Broker** creates a directory for a remote broker. The working directories for a remote broker start with "RB". This directory contains an attribute file with the URL of the remote broker. This directory will also be used for transferring the log and attribute files to or from the remote broker. If the broker can only be addressed using the SSL protocol, the SSL certificates should also be stored in this directory. When a remote broker is added, the default SSL certificates from the EntireX *config/etb* directory are copied to the working directory of the remote broker. If this broker is to use other certificates, replace them manually.

Removing a Remote Broker Instance from System Management Hub

▶ To remove a remote broker instance from System Management Hub

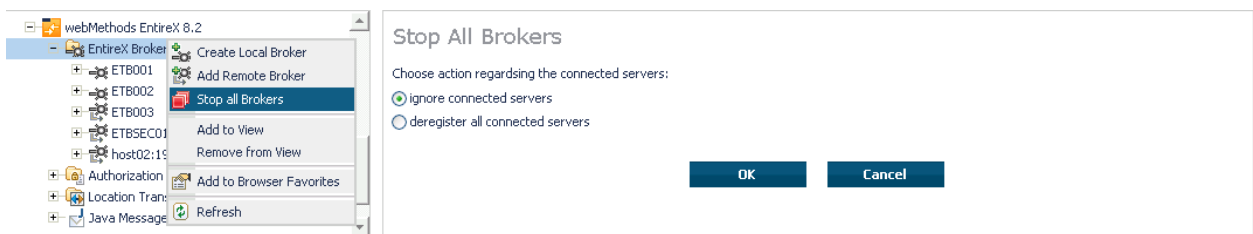
- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the remote broker instance to be removed.
- 3 From the context menu, choose **Remove Definition**.
- 4 Choose **OK**.



Stopping All Local Brokers from System Management Hub

▶ To stop all local brokers from System Management Hub

- 1 Select the **EntireX Broker** node below the **EntireX** node in **System Management**.
- 2 From the context menu, choose **Stop All Brokers**.
- 3 Choose the stop mode.
- 4 Choose **OK** to confirm deregistration.

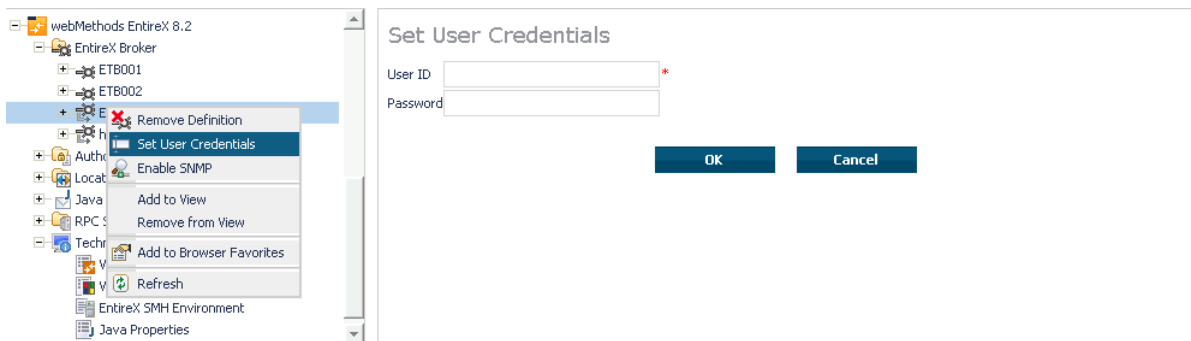


Setting the User Credentials for a Broker Instance

Before a remote broker instance or instance of a local broker that uses LDAP authentication can be administered, user credentials (user ID and password) must be set.

▶ **To set user credentials**

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the broker instance.
- 3 From the context menu, choose **Set User Credentials**.
- 4 Enter a **User ID** and **Password** that are valid for the broker instance.
- 5 Choose **OK**.
- 6 Choose **OK** when the success message is displayed.



Clearing the User Credentials for a Broker Instance

Once a remote broker instance has been administered, the user credentials should be cleared.

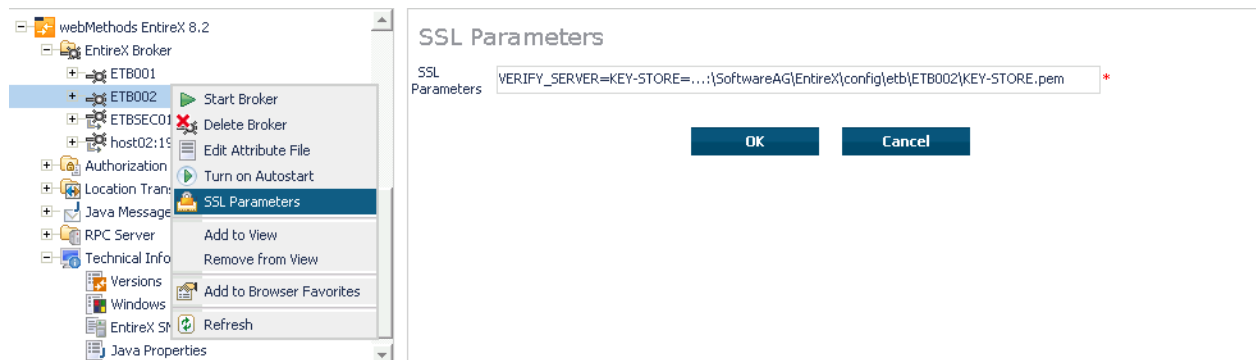
▶ To clear user credentials

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the broker instance.
- 3 From the context menu, choose **Clear User Credentials**. A confirmation screen will appear.
- 4 Choose **OK** or **Cancel**.
- 5 Choose **OK** when the success message is displayed.

Setting SSL or TLS Parameters

▶ To edit a broker SSL file

- 1 Select the **EntireX Broker** node below the **webMethods EntireX** node in System Management Hub.
- 2 Select the broker name to be administered.
- 3 Choose **SSL Parameters**.
- 4 Make your changes.
- 5 Choose **Save**.



8

Configuring a Single Broker with SMH

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Starting a Local Broker

▶ To start a local broker

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the broker name to be started.
- 3 From the context menu, choose **Start Broker**.



Note: Before you start a local Broker, make sure that the Broker's `etbsrv` service or daemon is running and try again. See *Broker Service 'etbsrv'* under *Post-installation Steps under Windows*. See *Broker Instance Created Automatically during Installation* under *Post-installation Steps under UNIX* and *Startup Daemon 'etbsrv'* in the UNIX administration documentation.

A broker process is started in its working directory. The started broker establishes a connection to the local Administration Service and provides information such as the used and activated ports. The information is updated every 60 seconds. If an attribute file is modified after a broker has been started, this does not result in incorrect information. If a broker is started manually by a local user and the attribute file is not in the working directory under the EntireX directory `config/etb`, the broker can be administered only to a limited extent. It is only possible to stop this broker. Each local broker is displayed by the Administration Service in SMH. The brokers that were started manually have the status "Running: unmanaged Broker with restricted access" in SMH. If the broker is to be administered without restrictions, the working directory and attribute file must be located under the EntireX directory `config/etb`.

Restarting a Local Broker

▶ **To restart a local broker**

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the broker name to be administered.
- 3 From the context menu, choose **Restart Broker**.

Stopping a Local Broker

▶ **To stop a local broker**

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the broker name to be administered.
- 3 From the context menu, choose **Stop Broker**.
- 4 Choose **OK**.

Administering a Broker Attribute File

This section covers the following topics:

- Editing an Attribute File
- Uploading an Attribute File
- Downloading an Attribute File

Editing an Attribute File

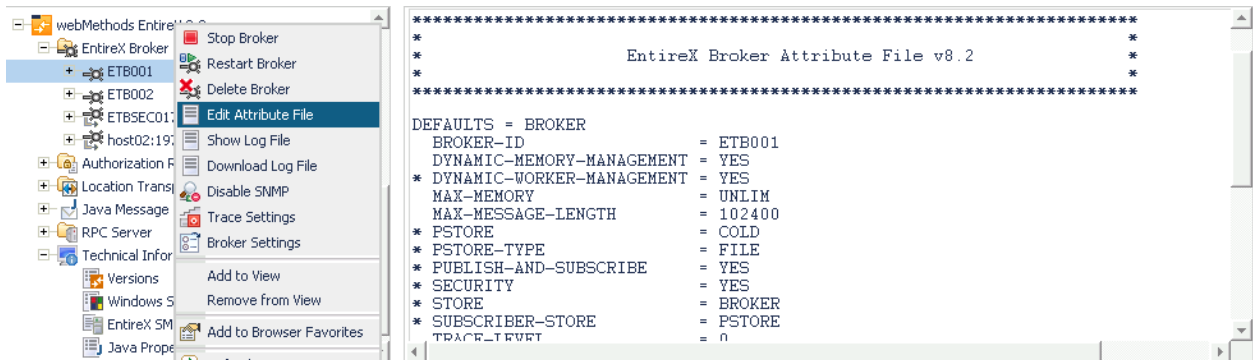
▶ To edit a broker attribute file

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the broker name to be administered.
- 3 From the context menu, choose **Edit Attribute File**.



Note: There is another vertical scrollbar for the editor itself. Scroll the horizontal scrollbar to the right in order to see it. In addition, you can use Ctrl Home and Ctrl End to get the first and the last pages, respectively.

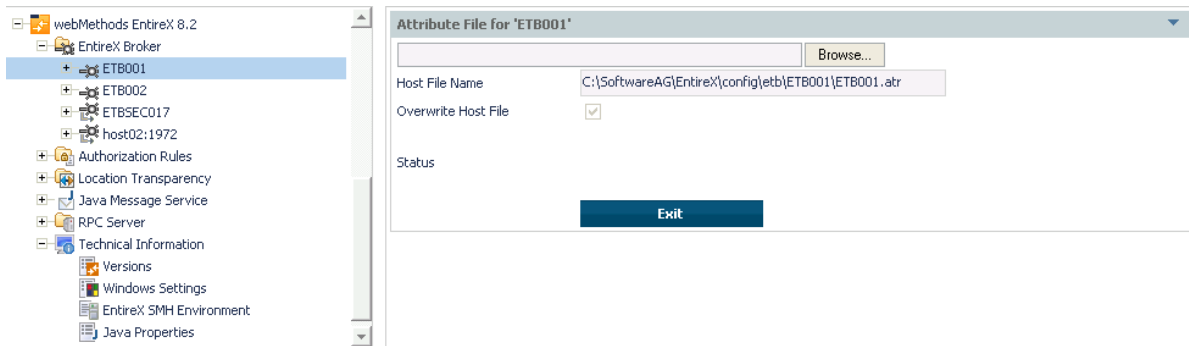
- 4 Edit your changes.
- 5 Choose **Save**.
- 6 Choose **Restart** for the changes to take effect.



Uploading an Attribute File

▶ To upload a broker attribute file

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the broker name to be administered.
- 3 From the context menu, choose **Edit Attribute File**.
- 4 Choose **Upload**.
- 5 Choose **Browse** and select the local attribute file.



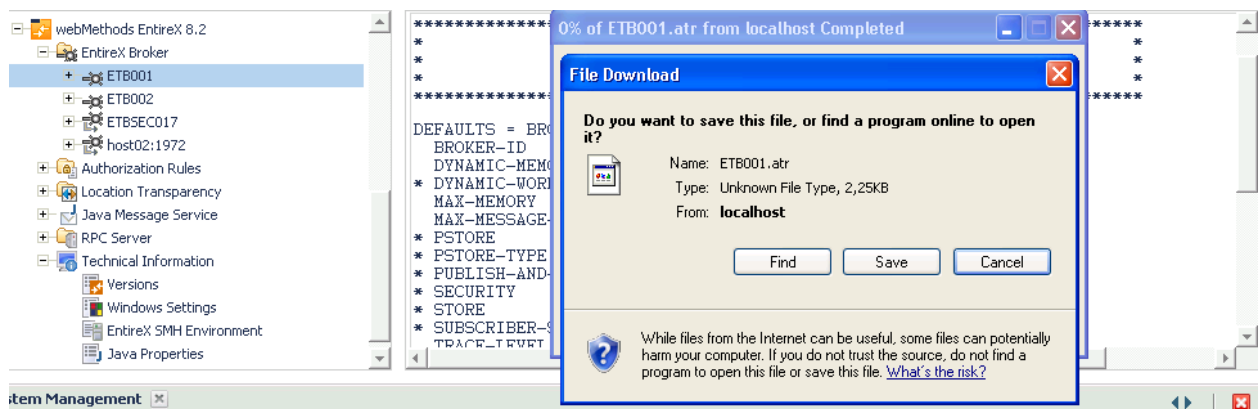
As a result, the upload starts automatically followed by a message "Upload completed!".

Downloading an Attribute File

▶ To download a broker attribute file

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the broker name to be administered.
- 3 From the context menu, choose **Edit Attribute File**.
- 4 Choose **Download**.

In the ensuing dialog box, choose **Save**.



Administering a Log File

This section covers the following topics:

- [Showing a Log File](#)
- [Downloading a Log File](#)

Showing a Log File

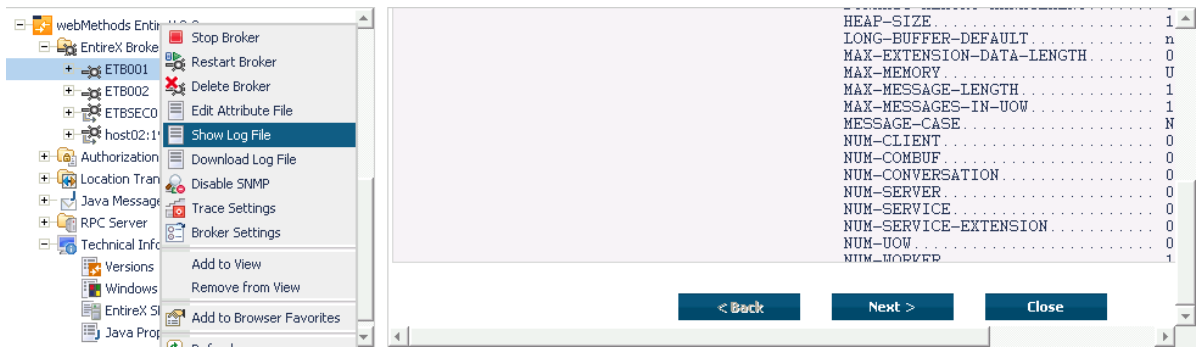
▶ To show a broker log file

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the broker name to be administered.
- 3 From the context menu, choose **Show Log File**.



Note: There is another vertical scrollbar for the editor itself. Scroll the horizontal scrollbar to the right in order to see it. In addition, you can use **Ctrl Home** and **Ctrl End** to get the first and the last pages, respectively.

4 Choose **Close**.



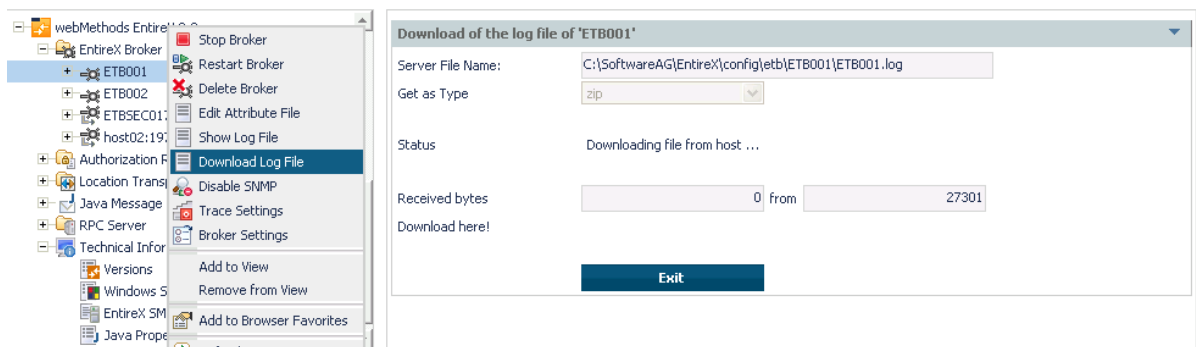
Downloading a Log File

▶ To download a broker log file

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the broker name to be administered.
- 3 From the context menu, choose **Download Log File**.

A message "Download file from host" appears and after it a hyperlink labeled **Download**.

- 4 Follow the hyperlink **Download**.



- 5 Use the ensuing dialog box to save the log file on the local machine.

Setting the Local Broker Autostart Value

The autostart value of a broker instance determines whether it will be started when the computer is restarted.

▶ To set the Autostart value

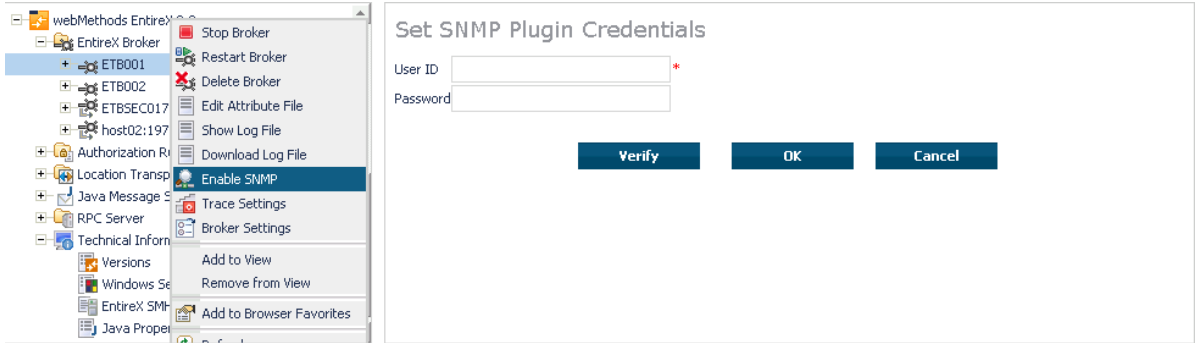
- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the broker name to be administered.
- 3 If the broker instance is currently started automatically, only the **Turn off Autostart** command is visible; if the broker instance is currently *not* started automatically, the **Turn on Autostart** command is visible.
- 4 Choose either **Turn on Autostart** or **Turn off Autostart**.

Enabling the SNMP Plug-in

Before a broker can be administered by SNMP, the SNMP plug-in must be enabled. In addition, the SNMP Plug-in credentials (user ID and password) must be set.

▶ To enable the SNMP plug-in

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the broker.
- 3 From the context menu, choose **Enable SNMP**.
- 4 Enter a user ID and password that are valid for the broker instance.
- 5 Choose **Verify** to check if a logon to the broker is okay with the SNMP plug-in credentials, or click **OK** to save the SNMP plug-in credentials without any verification.
- 6 Choose **Close** when the Success message is displayed.



Disabling the SNMP Plug-in

▶ To disable the SNMP plug-in

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the broker.
- 3 From the context menu, choose **Disable SNMP**.
- 4 Choose **Close** when the Success message is displayed.

9 Using the Broker Information Service with SMH

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Administering a Broker Instance

▶ To administer a broker instance

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the broker instance to be administered.
- 3 If the broker instance is a remote broker instance (running on another node), see [Setting the User Credentials for a Broker Instance](#).
- 4 Expand the broker instance node to view and administer the properties for the following objects:

Object	Information Reply Structure	Summary View	Filter Results
Broker	<i>BROKER-OBJECT</i>		
Worker	<i>WORKER-OBJECT</i>		
Service	<i>SERVICE-OBJECT</i>	x	x
Server	<i>CLIENT-SERVER-PARTICIPANT-OBJECT</i>	x	x
Client	<i>CLIENT-SERVER-PARTICIPANT-OBJECT</i>	x	x
Participant	<i>CLIENT-SERVER-PARTICIPANT-OBJECT</i>	x	
Conversation	<i>CONVERSATION-OBJECT</i>	x	
Persistent Store	<i>PSF-OBJECT</i>	x	x
Persistent Store DIV	<i>PSFDIV-OBJECT</i>		
Persistent Store Adabas	<i>PSFADA-OBJECT</i>		
Persistent Store File	<i>PSFFILE-OBJECT</i>		
Persistent Store c-tree	<i>PSFCTREE-OBJECT</i>		
Topic	<i>TOPIC-OBJECT</i>		x
Subscriber	<i>SUBSCRIBER-OBJECT</i>	x	x
Publisher	<i>PUBLISHER-OBJECT</i>	x	x
Publication	<i>PUBLICATION-OBJECT</i>		x
Cmdlog Filter	<i>CMDLOG_FILTER-OBJECT</i>		
Security	<i>SECURITY-OBJECT</i>		
TCP	<i>TCP-OBJECT</i>		
SSL	<i>SSL-OBJECT</i>		
Net-Work	<i>NET-OBJECT</i>		
Pool-Usage	<i>POOL-USAGE-OBJECT</i>		
Resource-Usage	<i>RESOURCE-USAGE-OBJECT</i>		
Statistics	<i>STATISTICS-OBJECT</i>		

Object	Information Reply Structure	Summary View	Filter Results
User	USER-OBJECT	x	x
Worker-Usage	WORKER-USAGE-OBJECT		

Notes

- For a summary view, expand the node and select the required object:

The screenshot shows the 'Service' summary view. On the left, a tree view shows the hierarchy: webMethods EntireX 8.2 > EntireX Broker > ETB001 > Service. The 'Service' node is selected. The main pane displays a table with the following data:

Class/Server/Service	Deregister Service	Active servers	Attach managers	Active conv
SAG/ETBCIS/INFO		1	0	1
SAG/ETBCIS/USER-INFO		1	0	0
SAG/ETBCIS/CMD		1	0	0
SAG/ETBCIS/PARTICIPANT-SHUTDOWN		1	0	0
SAG/ETBCIS/SECURITY-CMD		1	0	0
SAG/ETBCIS/RPCCIS		1	0	0
RPC/RPCCIS/CALLNAT		1	0	2

- For detailed information, select an item from the summary view:

The screenshot shows the 'Service Details' view. On the left, the tree view is the same as in the previous screenshot, but the 'Service' node is expanded to show its sub-items. The main pane displays a table with the following data:

Property	Value
Server Class	SAG
Server Name	ETBCIS
Service	INFO
Translation	
Active Servers	1
Conversations (active)	1
Conversations (high)	7
Conversation timeout	0d 00h 00m 35s
Long Buffers (active)	1

- The items can be filtered. For an example, see [Filtering Services](#).


The screenshot displays the 'Service' console in System Management Hub. On the left is a tree view showing the hierarchy: webMethods EntireX 8.2 > EntireX Broker > ETB001 > Broker > Worker > Service. The 'Service' node is selected. The main area shows a table with the following data:

Class/Server/Service	Deregister Service	Active servers	Attach managers	Active conv
SAG/ETBCIS/INFO		1	0	1
SAG/ETBCIS/USER-INFO		1	0	0
SAG/ETBCIS/CMD		1	0	0
SAG/ETBCIS/PARTICIPANT-SHUTDOWN		1	0	0
SAG/ETBCIS/SECURITY-CMD		1	0	0
SAG/ETBCIS/RPCCIS		1	0	0
RPC/RPCCIS/CALLNAT		1	0	2

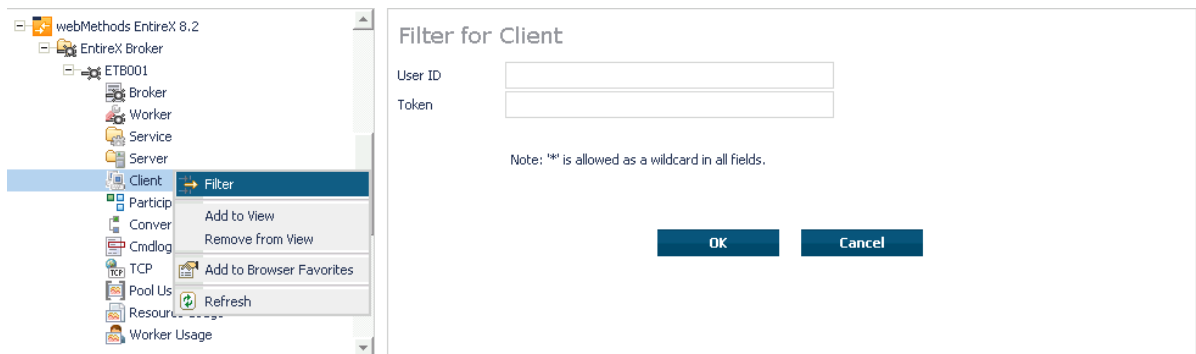
Filtering Clients

▶ To filter clients

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Click on the “+” sign of the broker name to be administered.

 **Note:** The broker must be running in order to display the Client subtree.


- 3 Select **Client**.
- 4 From the context menu, choose **Filter**.
- 5 Enter the data for **UserID** or **Token** that you would like to filter.
- 6 Choose **OK**.



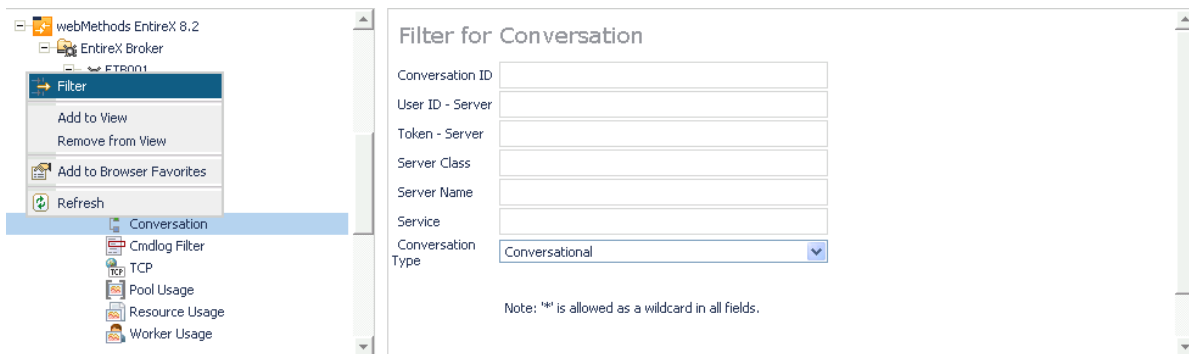
Filtering Conversations

▶ To filter conversations

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Click on the “+” sign of the broker name to be administered.

 **Note:** The broker must be running in order to display the Client subtree.


- 3 Select **Conversation**.
- 4 From the context menu, choose **Filter**.
- 5 Enter the data for **UserID** or **Token** that you would like to filter.
- 6 Choose **OK**.



Filtering the User

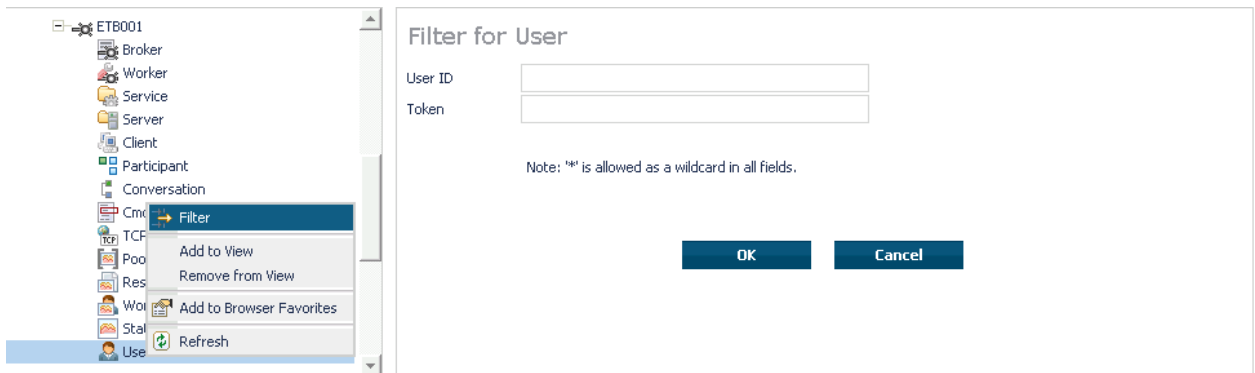
▶ To filter the user

- 1 Select the **EntireX Broker** node below the **EntireX** node in System Management.
- 2 Select the Broker instance on which the user is present.

 **Note:** The broker must be running in order to display the User subtree.

- 3 Select the user.
- 4 From the context menu, choose **Filter**.


- 5 Enter the data for User ID and Token that you would like to filter.
- 6 Choose **OK**.



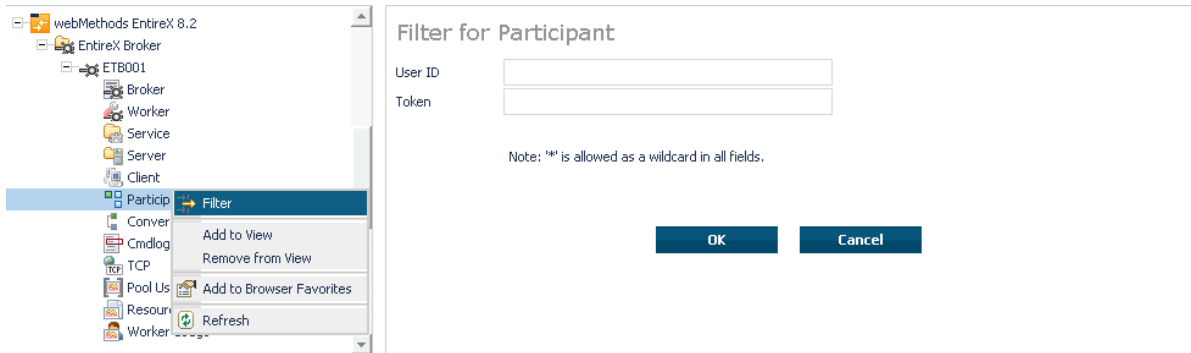
Filtering Participants

▶ **To filter participants**

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Click on the “+” sign of the broker name to be administered.

 **Note:** The broker must be running in order to display the Client subtree.


- 3 Select **Participant**.
- 4 From the context menu, choose **Filter**.
- 5 Enter the data for **UserID** or **Token** that you would like to filter.
- 6 Choose **OK**.



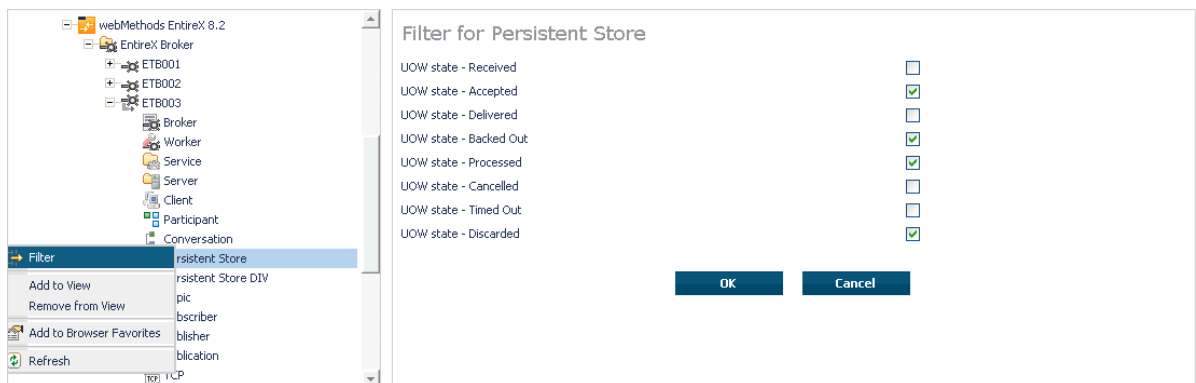
Filtering the Persistent Store

▶ To filter the persistent store

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the broker instance on which the unit of work is present. The persistent store attributes (such as PSTORE, PSTORE-TYPE, STORE, DEFERRED, and UWSTATP etc.) must be configured and the broker must be running in order to display the **Persistent Store**.
- 3 Select the **Persistent Store** node to display a summary list of units of work.

 **Note:** A message box will pop up if the table is larger than 3,000 rows. You may prefer to apply a filter to your UOW table. See the filter command in the command menu. It might take several minutes to display all of the contents if you choose not to use the filter.


- 4 Choose **Filter**.
- 5 Click the check boxes for **Received**, **Accepted**, **Delivered**, **Backed Out**, **Processed**, **Cancelled**, **Timed Out** or **Discarded** that you would like to filter.
- 6 Choose **OK**.



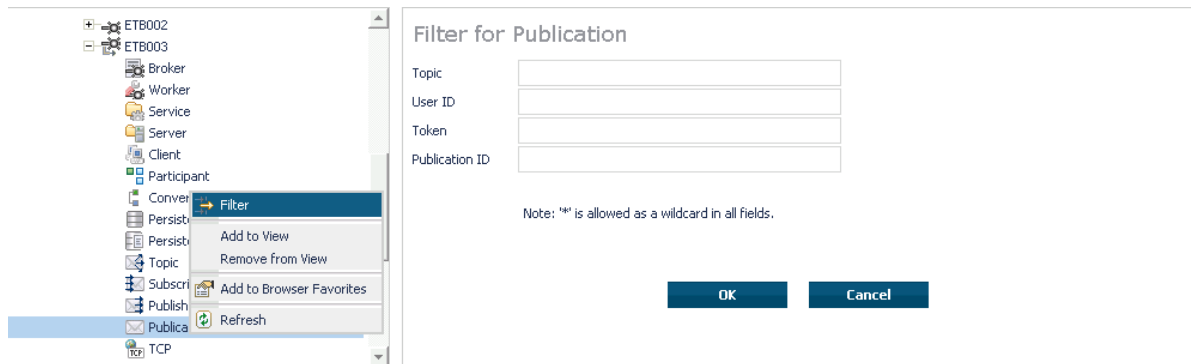
Filtering the Publication

▶ To filter the publication

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the Broker instance on which the publication is present.

 **Note:** Pub/Sub must be enabled in the Broker attribute file, a license file for Pub/Sub must be installed, the Broker must be running, and a user must be published for a topic in order to display the data for the publication.


- 3 Select **Publication**.
- 4 From the context menu, choose **Filter**.
- 5 Enter the data for **Topic**, **User ID** or **Token** and **Publication ID**.
- 6 Choose **OK**.



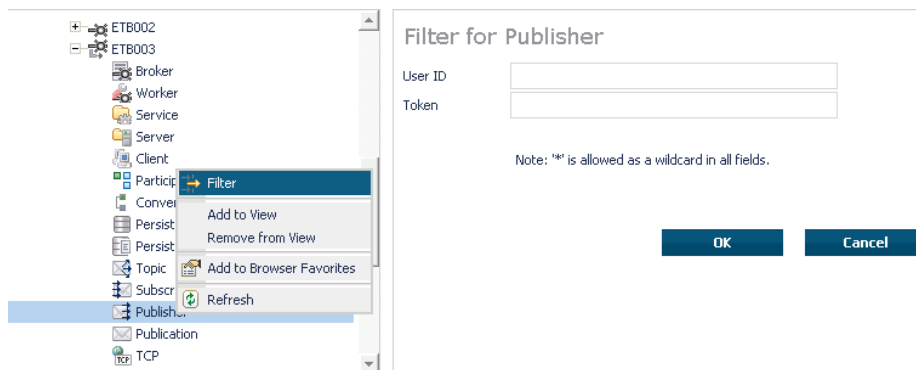
Filtering the Publisher

▶ To filter the publisher

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the Broker instance on which the publisher is present.

 **Note:** Pub/Sub must be enabled in the Broker attribute file, a license file for Pub/Sub must be installed, the Broker must be running, and a user must be published for a topic in order to display the data for the publisher.


- 3 Select **Publisher**.
- 4 From the context menu, choose **Filter**.
- 5 Enter the data for **User ID** and **Token** that you would like to filter.
- 6 Choose **OK**.



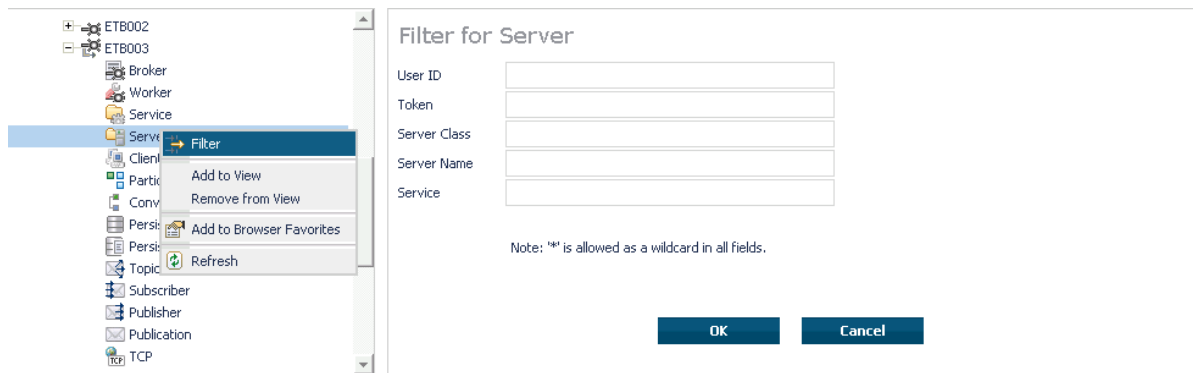
Filtering Servers

▶ **To filter servers**

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Click on the “+” sign of the broker name to be administered.

 **Note:** The broker must be running in order to display the Server subtree.


- 3 Select **Server**.
- 4 From the context menu, choose **Filter**.
- 5 Enter the data for **UserID,Token,Server Class,Server Name** or **Service**.
- 6 Choose **OK**.



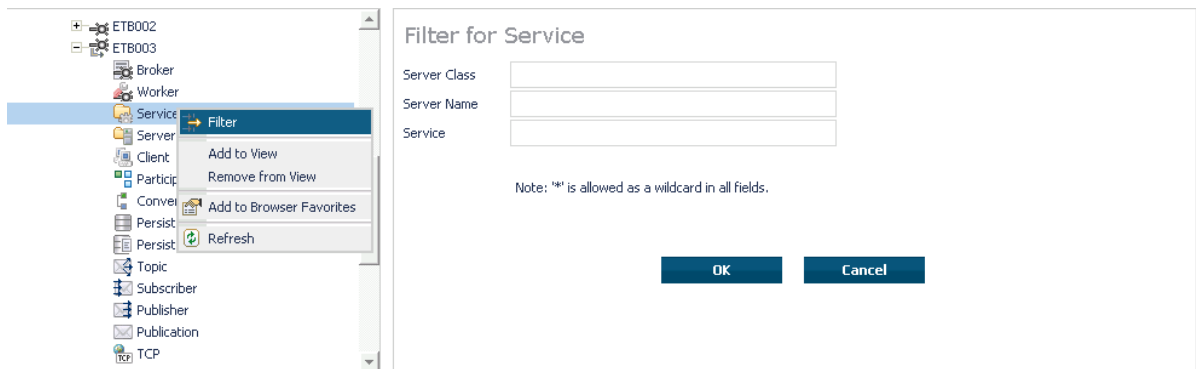
Filtering Services

▶ To filter services

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Click on the “+” sign of the broker name to be administered.


 **Note:** The broker must be running in order to display the Service subtree.

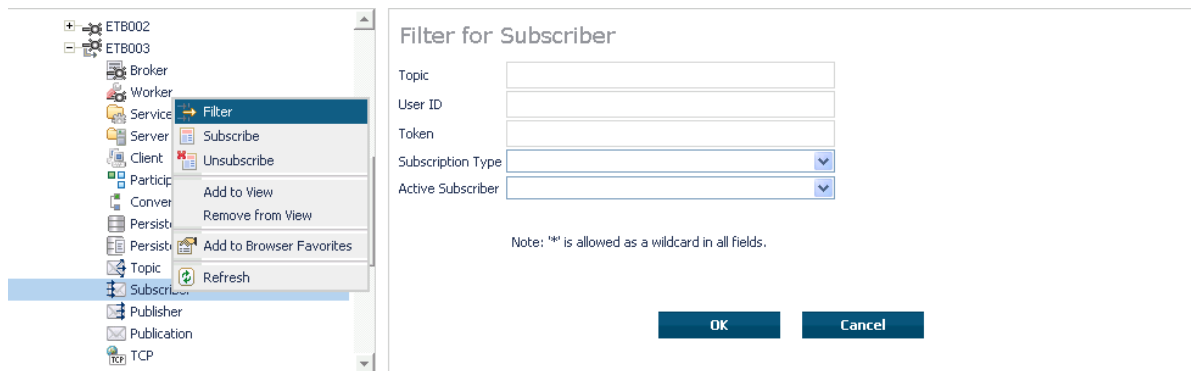
- 3 Select **Service**.
- 4 From the context menu, choose **Filter**.
- 5 Enter the data for **Server Class**, **Server Name** and **Service**.
- 6 Choose **OK**.



Filtering the Subscriber

▶ **To filter the subscriber**


- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the Broker instance on which the subscriber is present.
 **Note:** Pub/Sub must be enabled in the Broker attribute file, a license file for Pub/Sub must be installed, the Broker must be running, and a user must be subscribed to a topic in order to display the data for the subscriber.
- 3 Select **Subscriber**.
- 4 From the context menu, choose **Filter**.
- 5 Enter the data for **Topic, User ID, Token**; select **Subscription Type, Active Subscriber** and **Swapped Out** that you would like to filter.
- 6 Choose **OK**.



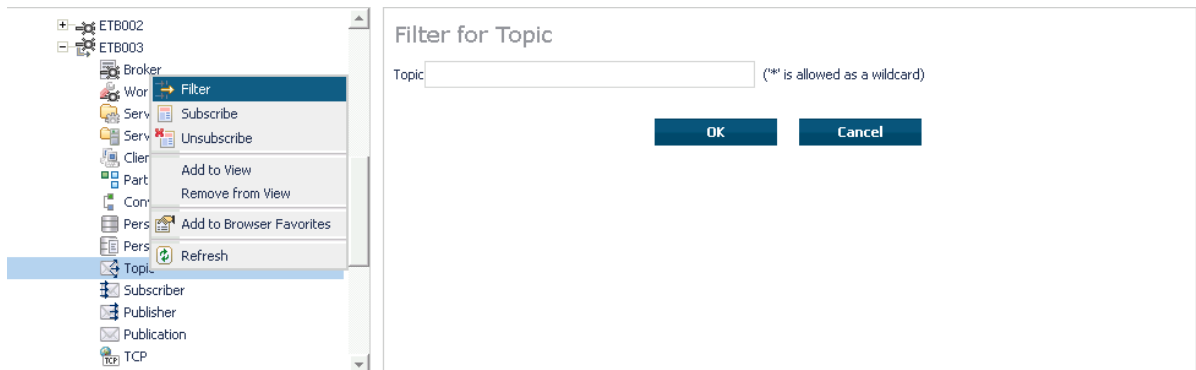
Filtering the Topic

▶ To filter the topic

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the Broker instance on which the topic is present.

 **Note:** Pub/Sub must be enabled in the Broker attribute file, a license file for Pub/Sub must be installed, the Broker must be running, and a user must be subscribed to a topic in order to display the data for the topic.

- 3 Select **Topic**.
- 4 From the context menu, choose **Filter**.
- 5 Enter the data for the **Topic** that you would like to filter.
- 6 Choose **OK**.



10 Using the Broker Command Service with SMH

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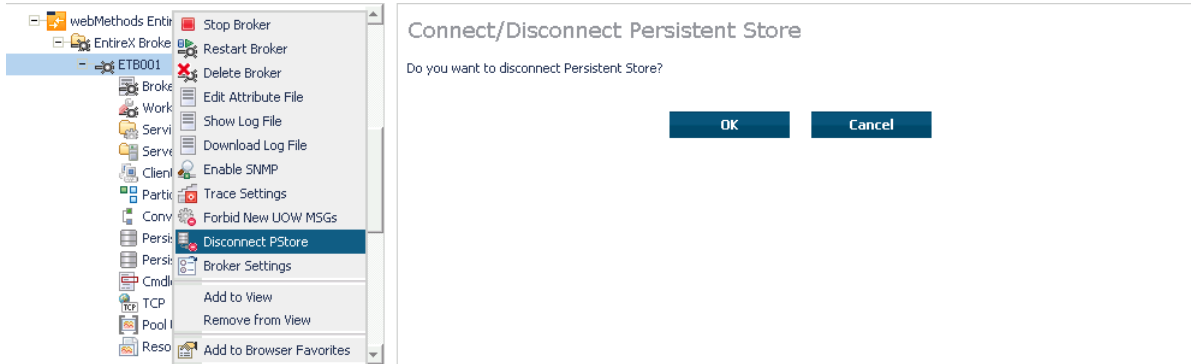
Connecting/Disconnecting Persistent Store

▶ **To connect or disconnect a Persistent Store**

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the broker instance to be administered.
- 3 To connect a persistent store, select **Connect PStore**.
- 4 To disconnect a persistent store, select **Disconnect PStore**.

As a result, a confirmation screen will appear.

- 5 Choose **OK** or **Cancel**.



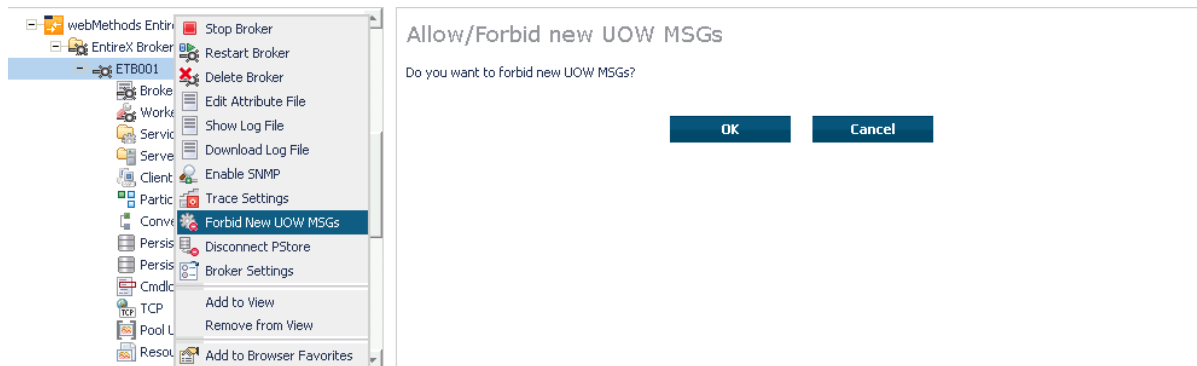
Allowing and Forbidding new UOW Messages

▶ To allow or forbid a Broker instance to accept new unit-of-work messages

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the broker instance to be administered.
- 3 To allow new unit-of-work messages, select **Allow new UOW MSGs**.
- 4 To forbid new unit-of-work messages, select **Forbid new UOW MSGs**.

As a result, a confirmation screen will appear.

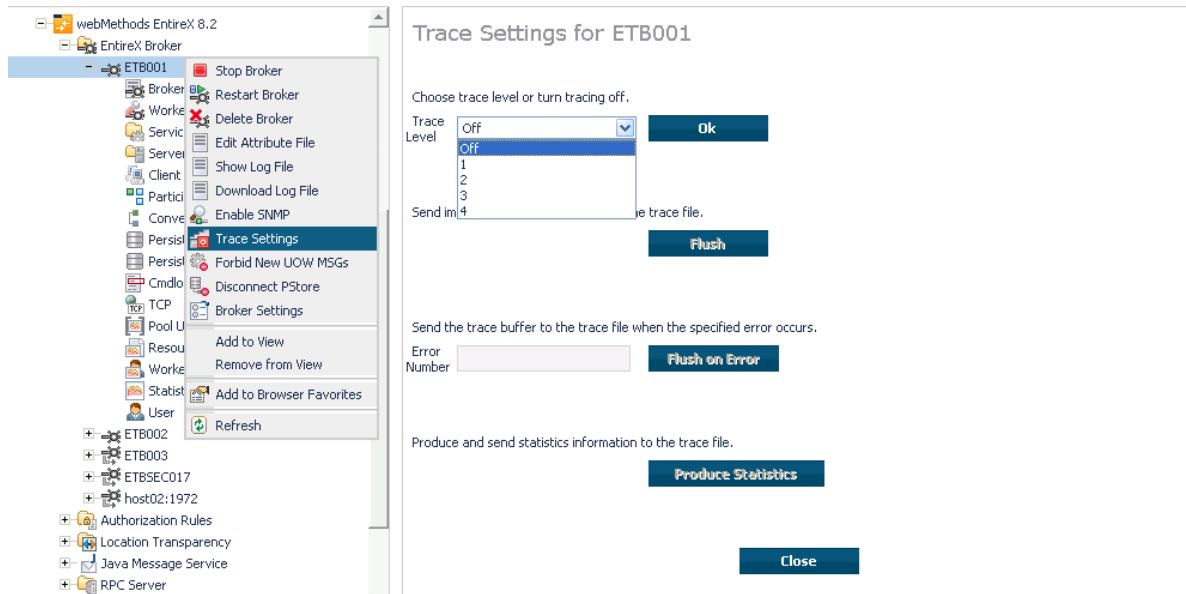
- 5 Choose **OK** or **Cancel**.



Setting a Broker Instance's Trace Level

▶ To set a broker instance's trace level

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the broker instance to be administered.
- 3 Choose **Trace Settings**.
- 4 Select a **Trace Level** between 1 and 4 or off.
- 5 Choose **OK**.



Flushing a Broker Instance's Trace Buffer

▶ To flush a broker instance's trace buffer

- 1 Select the **EntireX Broker** node below the **EntireX** node in **System Management**.
- 2 Select the broker instance to be administered.
- 3 Choose **Trace Settings**.
- 4 **Trace Level** must be between 1 and 4. Press **Flush** to confirm.

Flushing a Broker Instance's Trace Buffer on Error

▶ To flush a broker instance's trace buffer

- 1 Select the **EntireX Broker** node below the **EntireX** node in **System Management**.
- 2 Select the broker instance to be administered.
- 3 Choose **Trace Settings**.
- 4 **Trace Level** must be between 1 and 4. Enter a number between 1 and 9999 in the **Error Number** field and press **Flush on Error**.

Producing Statistics of a Broker Instance

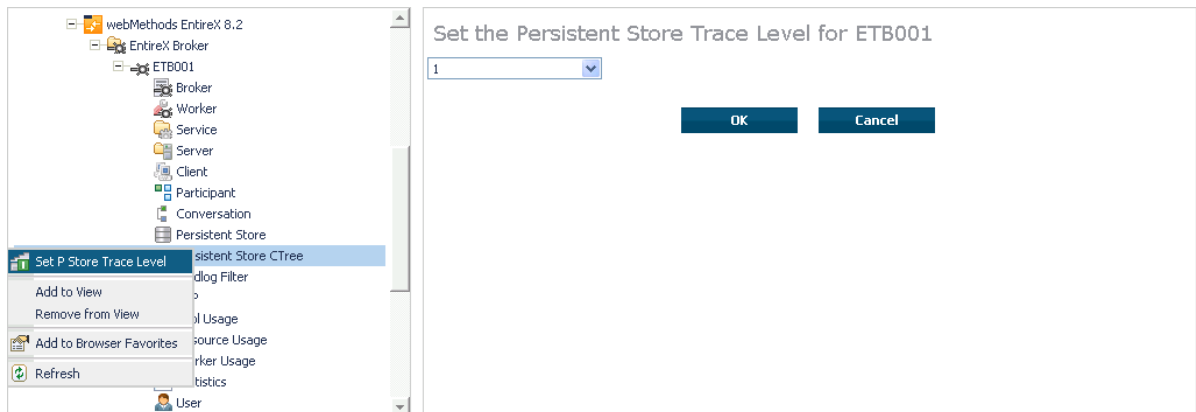
▶ To produce statistics of a broker instance

- 1 Select the **EntireX Broker** node below the **EntireX** node in **System Management**.
- 2 Select the broker instance to be administered.
- 3 Choose **Trace Settings**.
- 4 **Trace Level** must be between 1 and 4. Press **Produce Statistics**.

Setting the Persistent Store Trace Level

▶ To set the persistent store trace level

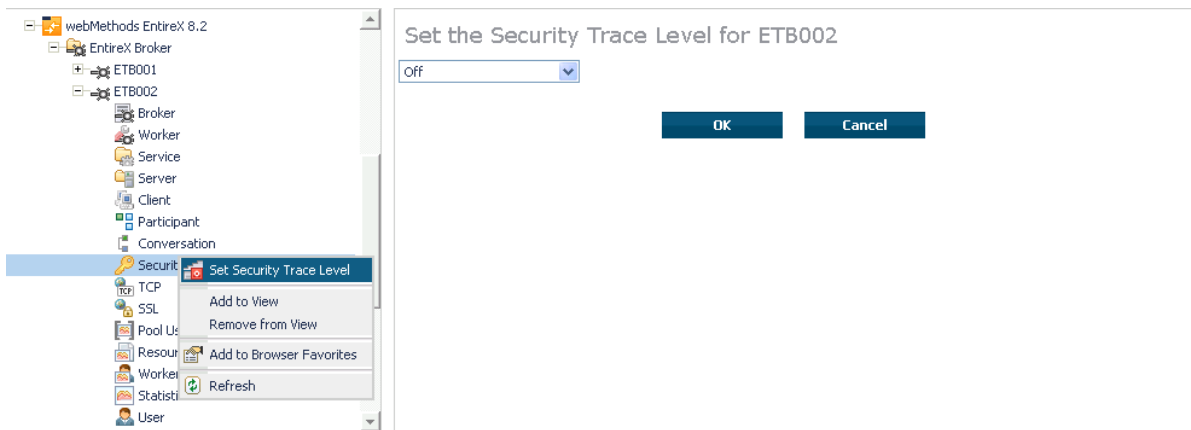
- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the broker instance to be administered.
- 3 Select a subnode of **Persistent Store** (either **Persistent Store ADA** or **Persistent Store CTree**).
- 4 Choose **Set Trace Level**.
- 5 Select a **Trace Level** between 1 and 4 or off.
- 6 Choose **OK**.



Setting the Security Trace Level

▶ **To set the security trace level**

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the broker instance to be administered.
- 3 Select **Security**.
- 4 Set the security trace level by selecting a value between 1 and 4 in the **Set the Trace Level** box.
- 5 Choose **OK**.



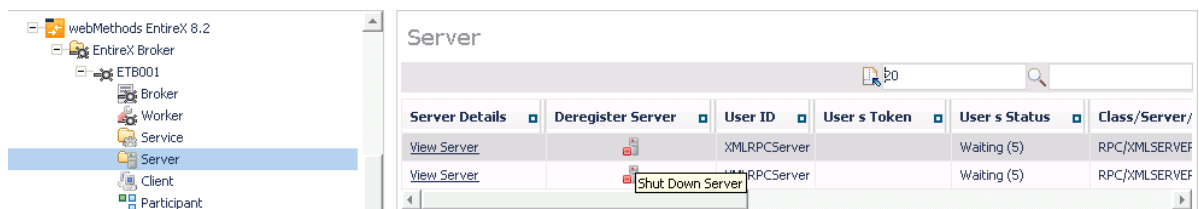
Deregistering a Server

▶ To deregister a server

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the broker instance on which the server is running.
- 3 Select the **Server** node to display a summary list of servers.
- 4 From the column **Deregister Server**, choose icon **Shut Down Server**.
- 5 Choose the deregistration mode.

For deregister immediately, a server process will only be terminated if the server status is wait.

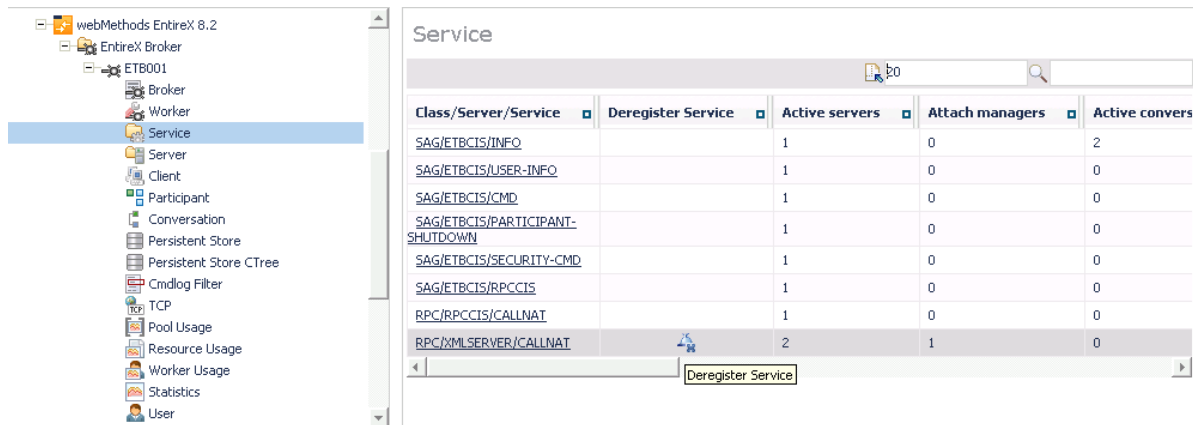
- 6 Confirm the deregistration by choosing **OK**.



Deregistering a Service

▶ To deregister a service


- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the broker instance on which the server is running.
- 3 Select the Service node to display a summary list of servers.
- 4 From the column **Deregister Service**, choose icon **Deregister Service**.
- 5 Choose the deregistration mode.
- 6 Confirm the deregistration by choosing **OK**.



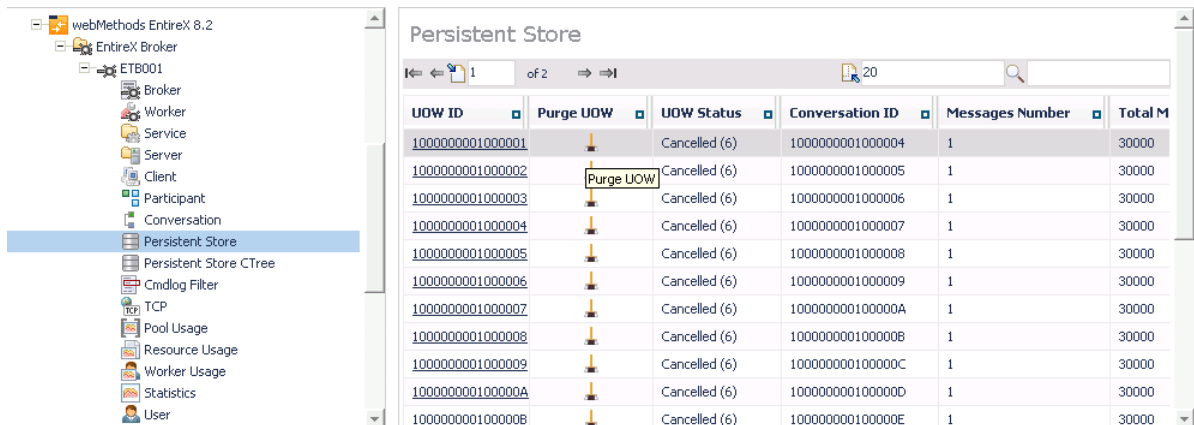
Purging Unit(s) of Work

▶ To purge a unit of work

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the broker instance on which the unit of work is present.
- 3 Select the **Persistent Store** node to display a summary list of units of work.

 **Note:** A message box will pop up if the table is larger than 3,000 rows. You may prefer to apply a filter to your UOW table. See the filter command in the command menu. It might take several minutes to display all of the contents if you choose not to use the filter.

- 4 Choose **Purge**.
- 5 Choose **OK**.




The screenshot shows the System Management console with the 'Persistent Store' table selected. The table contains the following data:

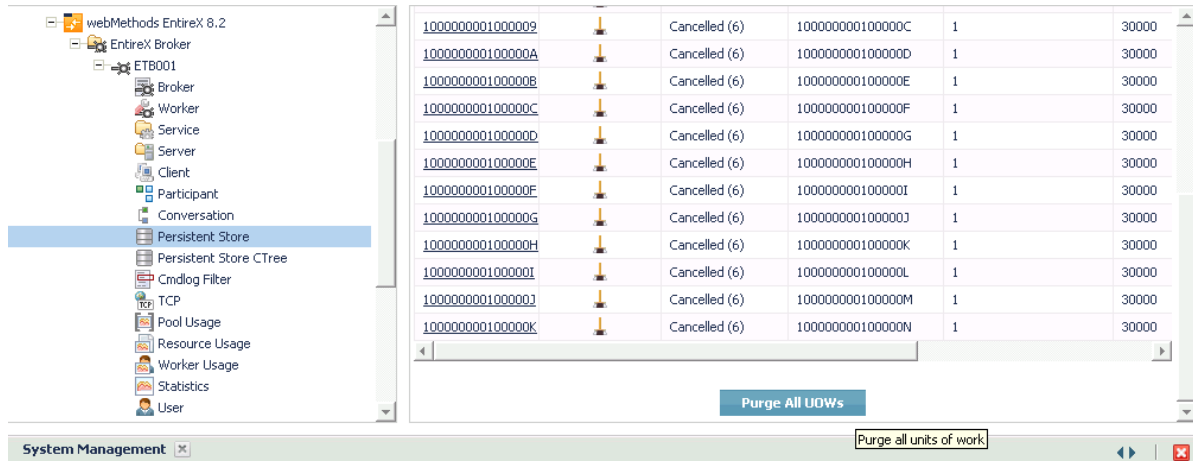
UOW ID	Purge UOW	UOW Status	Conversation ID	Messages Number	Total M
1000000001000001		Cancelled (6)	1000000001000004	1	30000
1000000001000002		Cancelled (6)	1000000001000005	1	30000
1000000001000003		Cancelled (6)	1000000001000006	1	30000
1000000001000004		Cancelled (6)	1000000001000007	1	30000
1000000001000005		Cancelled (6)	1000000001000008	1	30000
1000000001000006		Cancelled (6)	1000000001000009	1	30000
1000000001000007		Cancelled (6)	100000000100000A	1	30000
1000000001000008		Cancelled (6)	100000000100000B	1	30000
1000000001000009		Cancelled (6)	100000000100000C	1	30000
100000000100000A		Cancelled (6)	100000000100000D	1	30000
100000000100000E		Cancelled (6)	100000000100000E	1	30000

▶ To purge all units of work

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the broker instance on which the units of work are present.
- 3 Select the **Persistent Store** node to display a summary list of units of work.

 **Note:** A message box will pop up if the table is larger than 3,000 rows. You may prefer to apply a filter to your UOW table. See the filter command in the command menu. It might take several minutes to display all of the contents if you choose not to use the filter.

- 4 Choose **Purge All UOWs** at the bottom of the table. A confirmation message will appear.
- 5 Choose **OK** or **Cancel**.




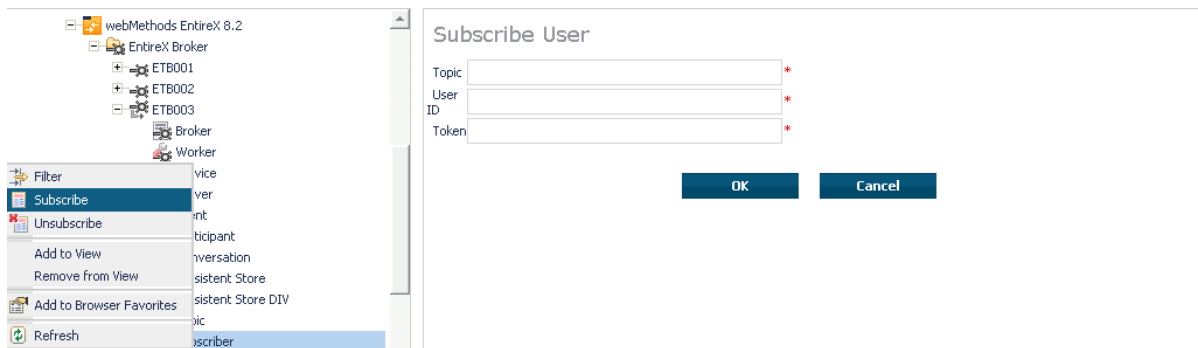
All units of work will be purged. The number of purged UOWs is reported in a screen similar to the one below.



Subscribing a User


▶ To subscribe a user

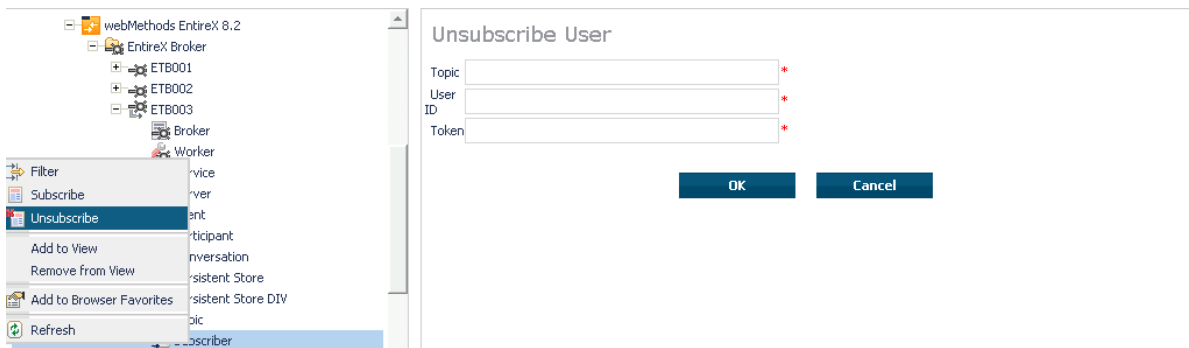
- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the Broker instance on which the topic (or subscriber) is present.
 -  **Note:** Pub/Sub must be enabled in the Broker attribute file, a license file for Pub/Sub must be installed, and the Broker must be running in order to display the topic (or subscriber).
- 3 Select **Topic** (or **Subscriber**).
- 4 From the context menu, choose **Subscribe**.
- 5 If you are on the **Topic** node, enter the data for **User ID** and **Token**; if you are on the **Subscriber** node, specify the topic that you would like to subscribe to.
- 6 Choose **OK**.



Unsubscribing a User

▶ **To unsubscribe a user**


- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the Broker instance on which the topic (or subscriber) is present.
 **Note:** Pub/Sub must be enabled in the Broker attribute file, a license file for Pub/Sub must be installed, and the Broker must be running in order to display the topic (or subscriber).
- 3 Select **Topic** (or **Subscriber**).
- 4 From the context menu, choose **Unsubscribe**.
- 5 If you are on the **Topic** node, enter the data for **User ID** and **Token**; if you are on the **Subscriber** node, specify the topic that you would like to unsubscribe from.
- 6 Choose **OK**.



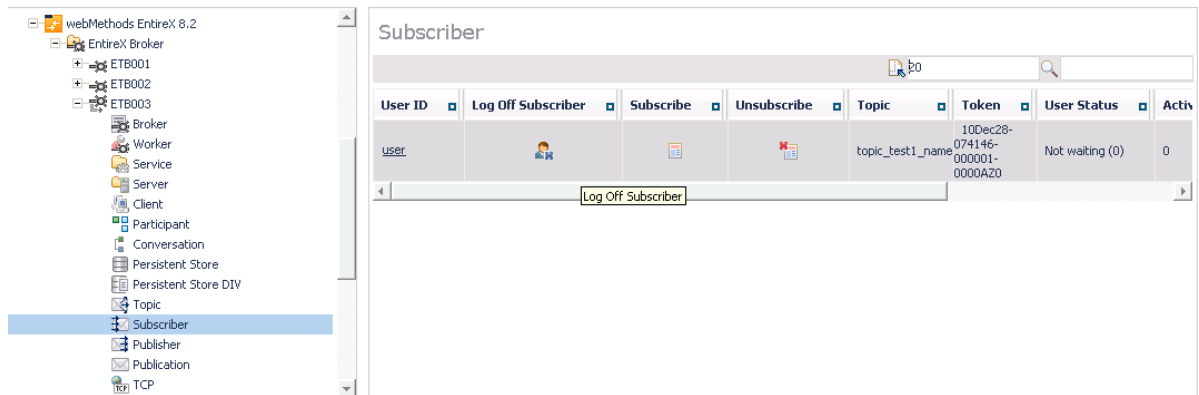
Logging Off a Subscriber

▶ To log off a subscriber

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the Broker instance on which the subscriber is present.

 **Note:** Pub/Sub must be enabled in the Broker attribute file, a license file for Pub/Sub must be installed, the Broker must be running, and a user must be subscribed to a topic in order to display the data for the subscriber.


- 3 Select **Subscriber**.
- 4 From the context menu, choose **Logoff**.
- 5 Choose the logoff mode.
- 6 Choose **OK**.



Logging Off a Publisher

▶ To log off a publisher

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the broker instance on which the Publisher is present.

 **Note:** Pub/Sub must be enabled in the broker attribute file, a license file for Pub/Sub must be installed, the broker must be running, and a user must be published from a topic in order to display the data for the Publisher.

- 3 Select **Publisher**.
- 4 Choose **Logoff**.
- 5 Choose the logoff mode.
- 6 Choose **OK**.
- 7 After a Publisher is shut down successfully, it will be removed from the list.

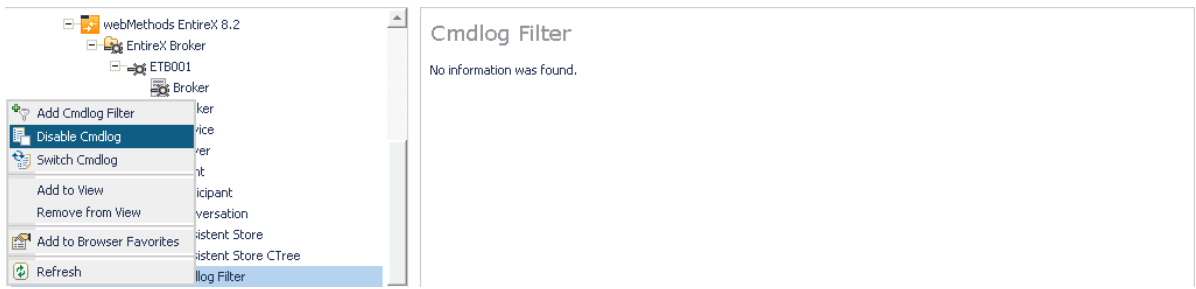


Enabling/Disabling Cmdlog

▶ To enable/disable cmdlog

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the broker instance on which the Cmdlog filter is present. Cmdlog must be enabled in the broker attribute file and the broker must be running.
- 3 From the context menu, choose **Cmdlog Filter**.

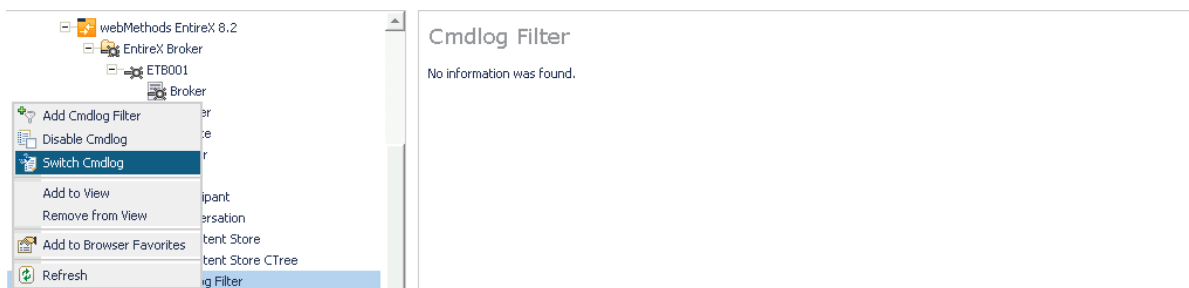
4 Choose **Enable Cmdlog** or **Disable Cmdlog**.



Switching Cmdlog

▶ **To switch cmdlog**

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the broker instance on which the Cmdlog filter is present. Cmdlog must be enabled in the broker attribute file and the broker must be running.
- 3 From the context menu, choose **Cmdlog Filter**.
- 4 Choose **Switch Cmdlog**.



Adding Cmdlog Filter

▶ To add a cmdlog filter

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the broker instance on which the Cmdlog filter is present. Cmdlog must be enabled in the broker attribute file and the broker must be running.
- 3 From the context menu, choose **Cmdlog Filter**.
- 4 Choose **Add Cmdlog Filter**.
- 5 Enter the data for user ID and Class/Server/Service or Topic you would like to filter.
- 6 Choose **OK** to add a Cmdlog filter to the list.



Enabling/Disabling Cmdlog Filter

▶ To enable/disable a cmdlog filter

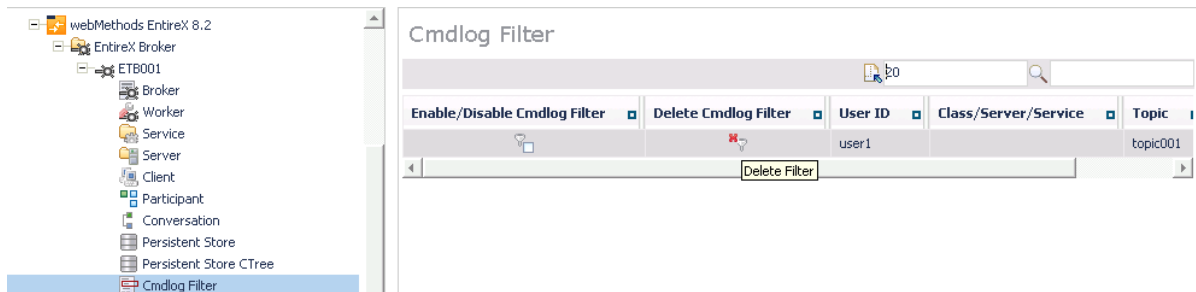
- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the broker instance on which the Cmdlog filter is present. Cmdlog must be enabled in the broker attribute file and the broker must be running.
- 3 From the context menu, choose **Cmdlog Filter**.
- 4 Choose **Enable Cmdlog Filter** or **Disable Cmdlog Filter**.



Deleting Cmdlog Filter

▶ To delete a cmdlog filter

- 1 Select the **EntireX Broker** node below the EntireX node in **System Management**.
- 2 Select the broker instance on which the Cmdlog filter is present. Cmdlog must be enabled in the broker attribute file and the broker must be running.
- 3 From the context menu, choose **Cmdlog Filter**.
- 4 Choose **Delete Cmdlog Filter** to remove a Cmdlog filter from the list.



11 Message Service Administration using System

Management Hub

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▪ Batch Interface	111

EntireX MSP can be administered using Software AG's System Management Hub. The System Management Hub is Software AG's cross-product and cross-platform product management framework. This chapter assumes that you are familiar with the System Management Hub software. The basic concepts of this product, its installation and System Management Hub features common to all Software AG products are described in the separate System Management Hub documentation.



Note: This was the most recent System Management Hub documentation when this version of EntireX was released. As System Management Hub release cycles are independent of EntireX, a more recent version of System Management Hub may be available.

Introduction

JMS-based Message Services are administered from the EntireX Message Service SMH node, which is located below the EntireX node in the System Management Hub tree view. Instances of Queue Connection Factories, Queues, Topic Connection Factories and Topics can be created, modified and deleted from the System Management Hub.

The JNDI properties are listed in the detail view of the Message Service root. These properties are configured in the file *jndi.properties* in the subfolder *config* of the installation folder.

Queue Connection Factory

▶ To define a queue connection factory instance to System Management Hub

- 1 Select the **Queue Connection Factory** node below the Message Service node.
- 2 Choose **Add**.
- 3 In the field **Queue Connection Factory**, enter the queue connection factory name.
- 4 In the field **Broker ID**, enter a Broker identifier.
- 5 Choose **SAVE**.

▶ To modify a queue connection factory instance

- 1 Select the queue connection factory instance node below the **Queue Connection Factory** node.
- 2 Choose **Modify**.
- 3 The queue connection factory instance name can be modified in the field **Queue Connection Factory**.
- 4 The broker identifier can be modified in the field **Broker ID**.

- 5 Choose **SAVE**.

▶ **To delete a queue connection factory instance**

- 1 Select the queue connection factory instance node below the **Queue Connection Factory** node.
- 2 Choose **Delete**.

Queue

▶ **To define a queue instance to System Management Hub**

- 1 Select the **Queue** node below the **Message Service** node.
- 2 Choose **Add**.
- 3 Enter the queue name in the field **Queue**.
- 4 Enter a service name in the field **Service**.
- 5 In the (optional) **Formatter** field, you can either enter a custom name in the space provided, or choose one of the other options.
- 6 Choose **SAVE**.

▶ **To modify a queue instance**

- 1 Select the queue instance node below the **Queue** node.
- 2 Choose **Modify**.
- 3 The queue instance name can be modified in the field **Queue**.
- 4 The service name can be modified in the field **Service**.
- 5 The formatter name can be modified in the field **Formatter**.
- 6 Choose **SAVE**.

▶ **To delete a queue connection factory instance**

- 1 Select the queue instance node below the **Queue Connection Factory** node.
- 2 Choose **Delete**.

Topic Connection Factory

▶ To define a topic connection factory instance to System Management Hub

- 1 Select the **Topic Connection Factory** node below the **Message Service** node.
- 2 Choose **Add**.
- 3 Enter the topic connection factory name in the field **Topic Connection Factory**.
- 4 Enter a broker identifier in the field **Broker ID**.
- 5 Choose **SAVE**.

▶ To modify a topic connection factory instance

- 1 Select the topic connection factory instance node below the Topic Connection Factory node.
- 2 Choose **Modify**.
- 3 The topic connection factory instance name can be modified in the field **Topic Connection Factory**.
- 4 The broker identifier can be modified in the field **Broker ID**.
- 5 Choose **SAVE**.

▶ To delete a topic connection factory instance

- 1 Select the **Topic Connection Factory Instance** node below the **Topic Connection Factory** node.
- 2 Choose **Delete**.

Topic

▶ To define a topic instance to System Management Hub

- 1 Select the **Topic** node below the **Message Service** node.
- 2 Choose **Add**.
- 3 Enter the topic name in the field **Topic**.
- 4 Enter a service name in the field **Service**.
- 5 In the (optional) **Formatter** field, you can either enter a custom name in the space provided, or choose one of the other options.

6 Choose **SAVE**.

▶ **To modify a topic instance**

- 1 Select the **Topic Instance** node below the **Topic** node.
- 2 Choose **Modify**.
- 3 The topic instance name can be modified in the field **Topic**.
- 4 The service name can be modified in the field **Service**.
- 5 The formatter name can be modified in the field **Formatter**.
- 6 Choose **SAVE**.

▶ **To delete a topic instance**

- 1 Select the **Topic Instance** node below the **Topic** node.
- 2 Choose **Delete**.

Batch Interface

The EntireX Message Service agent supports the System Management Hub's batch interface. The table below contains the corresponding batch commands.

Description	Batch Command
Show information about the Message Service properties.	show jmsproperties
List the Message Service Queue Connection Factories.	show jmsqueueconnectionfactory
List the Message Service Queues	show jmsqueue
List the Message Service Topic Connection Factories	show jmstopicconnectionfactory
List the Message Service Topics	show jmstopic

Example:

Enter the `argbatch` command with the following parameters to execute the batch command.

```
argbatch show jmsqueue user=[userid] password=[passwd]  
target=[managed host name] "product=webMethods EntireX 8.2" "name=RPC Server1"
```



Note: `argbatch` is part of the System Management Hub software. It is located in the *bin* directory of the System Management Hub installation.

See *System Management Hub Batch Interface* (under *User Interfaces*) in the separate System Management Hub documentation.

12 Administering Authorization Rules using System

Management Hub

▪ Adding a Rule	114
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▪ Adding a Topic	116
▪ Adding/Modifying Users	117

An authorization rule is used to perform an access check for a particular Broker instance against an (authenticated) user ID and list of rules. Checks are performed on a UNIX or Windows Broker kernel, using standard EntireX Security on these platforms. Authorization rules can be stored within a repository. When an authorization call occurs, the security exit performs checks based on the values of Broker attributes `AUTHORIZATIONDEFAULT` and `AUTHORIZATIONRULE`.

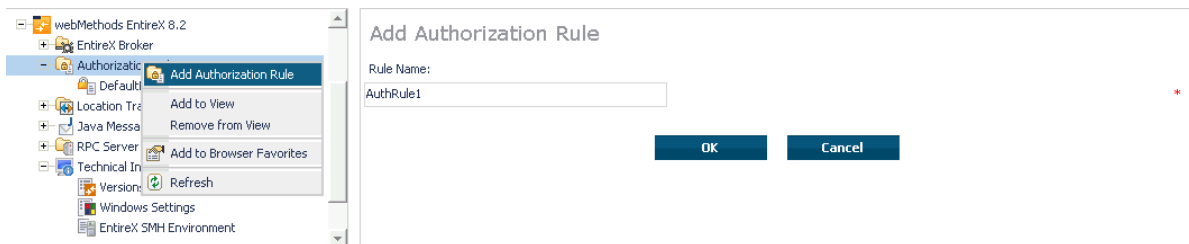
In the System Management Hub, the Authorization Rules agent is found directly under EntireX, which itself is found under a particular managed host where EntireX version 6.1 or above has been installed.

Before you log in to the System Management Hub for the first time, see [Initial Login Considerations](#). See also [System Management Hub for EntireX | Configuring Authorization Rules](#).

Adding a Rule

▶ To add a new authorization rule

- 1 Click on the "+" next to Authorization Rules in the tree view of the System Management Hub window. If no rule has been defined, an empty rule, "DefaultRule", is created. You can modify this default rule, or create a new rule and delete the default.
- 2 Select **Authorization Rules** in the tree view. From the context menu, choose **Add Authorization Rule**. A screen similar to the one below appears.



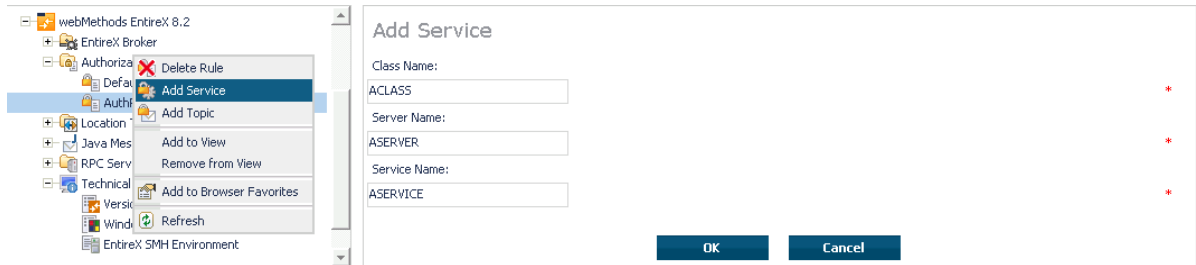
- 3 Enter the name of the rule in the field provided. This field corresponds to Broker attribute `AUTHORIZATIONRULE`.
- 4 Choose **OK**.

This new rule will appear in the tree view in the left frame of the System Management Hub window. If necessary, click the "+" next to **Authorization Rules** in the tree view. You can now add a service to the rule created.

Adding a Service

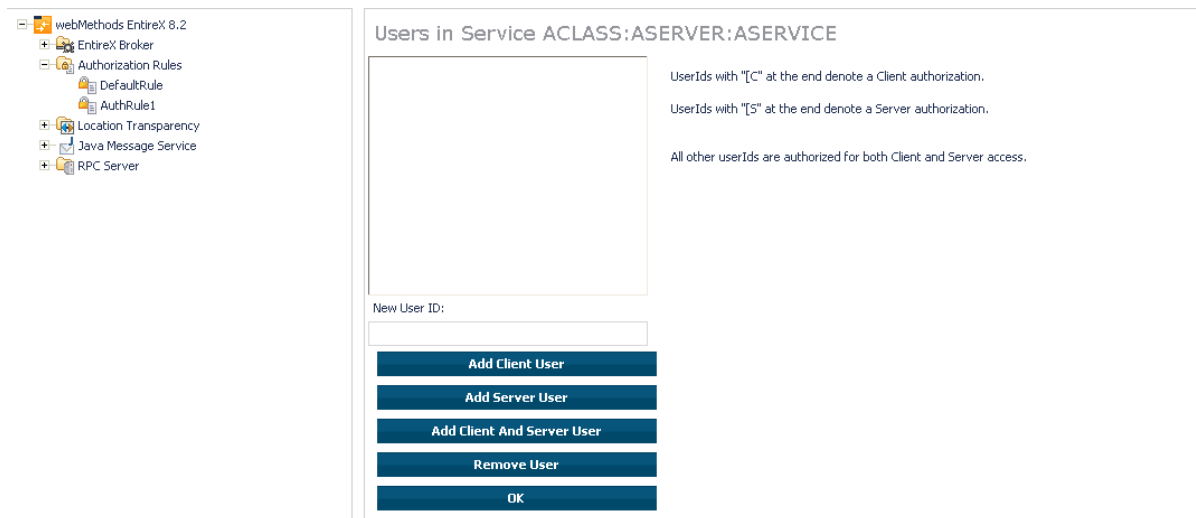
▶ To add a service

- 1 Select a rule in the tree view of the System Management Hub.
- 2 From the context menu, choose **Add Service**. A screen similar to the one below appears.



- 3 Enter the information required for the fields Class Name, Server Name, Service Name. These fields correspond to the service-specific Broker attributes CLASS, SERVER, SERVICE.
- 4 Choose **OK** to confirm.

As a result, the following screen appears:

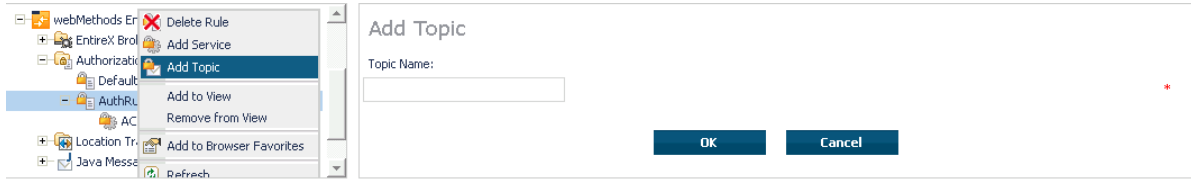


- 5 Enter the users required for the new Service (see [Adding/Modifying Users](#)).
- 6 Click **OK** to confirm.

Adding a Topic

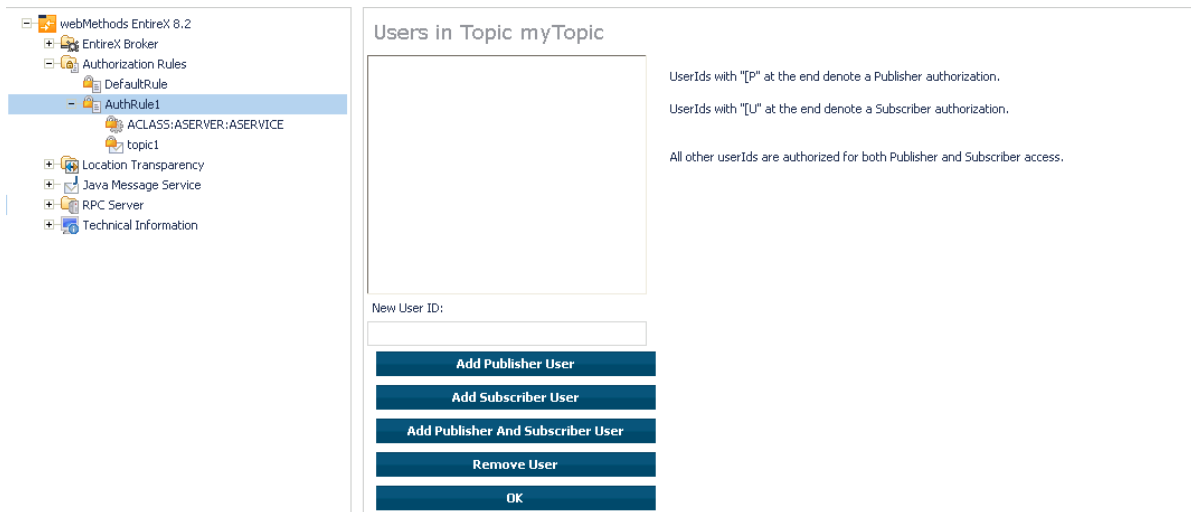
▶ To add a topic

- 1 Select a rule in the tree view of the System Management Hub.
- 2 From the context menu, choose **Add Topic**. A screen similar to the one below appears.



- 3 Enter the information required for the filed Topic Name. This field corresponds to topic-specific Broker attribute TOPIC.
- 4 Choose **OK** to confirm.

As a result, the following screen appears:

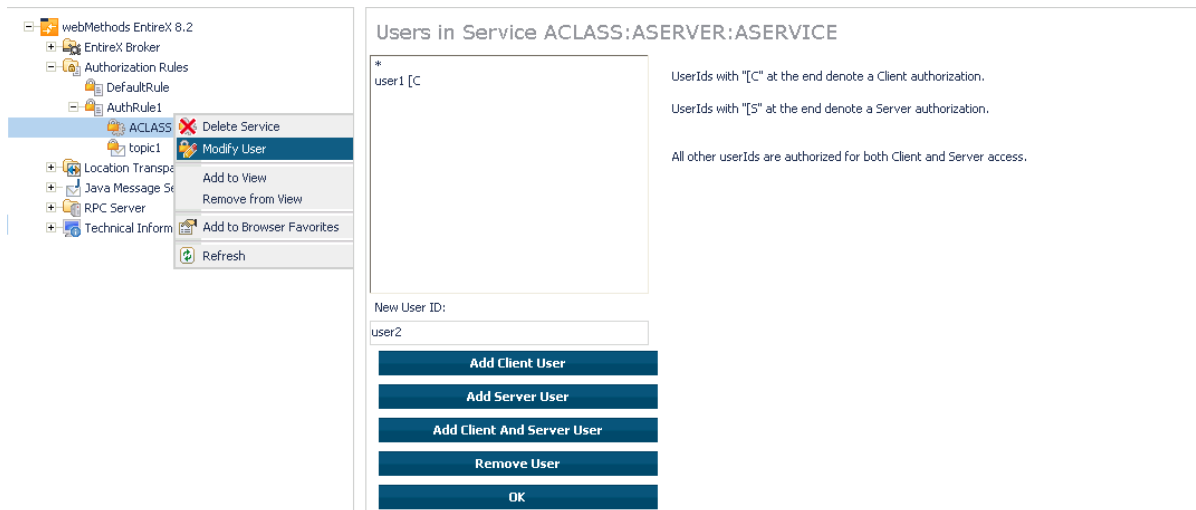


- 5 Enter the rules required for the new Service (see [Adding/Modifying Users](#)).
- 6 Click OK to confirm.

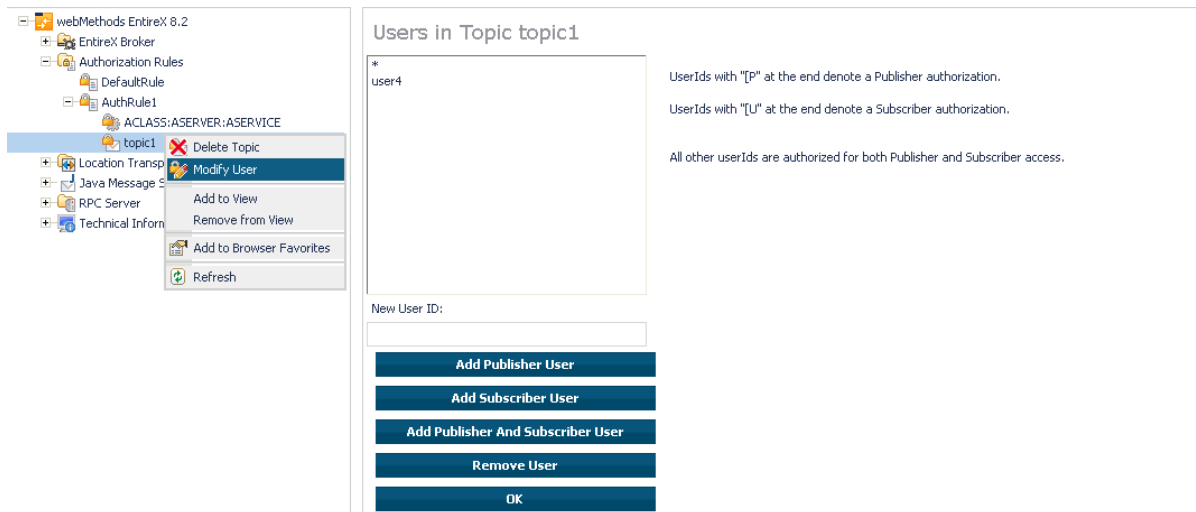
Adding/Modifying Users

▶ To modify users

- 1 Select a service or topic in the tree view of the System Management Hub.
- 2 From the context menu, choose **Modify User**. If a service was selected, a screen similar to the following appears:



- 3 If a topic was selected, a screen similar to the following appears:



- 4 Enter a user ID in the single-line field provided and click **Add** for the desired user type (client, server, publisher or subscriber).

Or:

Remove a user from an existing list by selecting the user and clicking **Remove User**.

5 When the user list is complete, choose **OK** to confirm.



Note: User names are not case-sensitive. Use asterisk notation to define a range of users. For example: user ID "USA*" represents all users whose ID starts with "USA" (including user "USA").