webMethods EntireX

About this Documentation

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WEBMETHODS

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1 About this Documentation

Document Conventions

Convention	Description
Bold	Identifies elements on a screen.
`Monospace font`	Identifies service names and locations in the format *`folder.subfolder.service`*, APIs, Java classes, methods, properties.
`Italic`	Identifies: Variables for which you must supply values specific to your own situation or environment. New terms the first time they occur in the text. References to other documentation sources.
`Monospace font`	Identifies: Text you must type in. Messages displayed by the system. Program code.
{ }	Indicates a set of choices from which you must choose one. Type only the information inside the curly braces. Do not type the { } symbols.
|	Separates two mutually exclusive choices in a syntax line. Type one of these choices. Do not type the | symbol.
[ ]	Indicates one or more options. Type only the information inside the square brackets. Do not type the [ ] symbols.
...	Indicates that you can type multiple options of the same type. Type only the information. Do not type the ellipsis (...).

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2 Post-installation Steps under Windows

Under UNIX and Windows, EntireX is now installed using the Software AG Installer, which you download from the Software AG Empower website at **Empower**. You can view the documentation for the Software AG Installer under ***http://documentation.softwareag.com*** > *Software AG Installer and Update Manager*.

This chapter assumes you have already installed EntireX using the Software AG Installer. It covers installation instructions for components not included in the Software AG Installer; instruction on how to verify the installation and set up EntireX Security.

Broker Instance Created Automatically during Installation

If check box **Turn on Autostart for default EntireX Broker** is checked, the installation starts the default broker ETB001. This broker instance listens on the TCP/IP and SSL ports defined in the custom panel during installation. Default port numbers are 1971 (TCP/IP) and 1958 (SSL).

To change the default port of the default broker

1 Stop the broker, using one of the following methods:

- Use Command Central to stop the broker, either from the Web user interface or with command `stopBroker`. See *Administering EntireX Broker with Command Central* in the EntireX documentation or the separate Command Central documentation and online help for details.
- Use the Windows start menu entry **Software AG > Stop Servers > Stop EntireX Default Broker**.

2 Edit the configuration file *config/entirex.config*and change the TCP/IP and SSL port numbers to a different value. For other broker instances, see `PORT` under *Broker Attributes*.

3 Start the broker.

- Use the Windows start menu entry **Software AG > Start Servers > Start EntireX Default Broker**.

Broker Service 'etbsrv'

The broker service *etbsrv.exe* must be active on every machine where a broker instance is running. The installation procedure installs it with startup type “automatic” and with status type “started”. *etbsrv.exe* is in the *bin* subdirectory of the EntireX installation directory.

Starting or Restarting the Administration Service

The Administration Service is started or stopped by the broker service `etbsrv`.

When the broker has been started successfully, the Administration Service waits for messages from other started brokers. This wait period lasts around 90 seconds.

After this wait period, all brokers are started that have an Autostart value of "yes" that have not already started.

When the Administration Service is restarted, it takes a maximum of 90 seconds until the current system status is displayed correctly.

Eclipse Considerations

Eclipse is an optional component of EntireX. For *EntireX Workbench*, it is required.

If you have not already installed Eclipse at your site, you can install Eclipse and the *EntireX Workbench* from the installation medium. If you wish to install the *EntireX Workbench* into an existing Eclipse environment, use the Eclipse update mechanism to deploy the EntireX feature.

Migrating from one EntireX Version to a Higher Version

When you migrate from one EntireX version to a higher version you have to change the license file setting to the new license file.

To set a new license file

- Go to the Preferences pages in Eclipse (**Window > Preferences**) and select the page **Software AG > EntireX > Installation**.

Installing the EntireX Workbench Plug-ins in Standalone Mode

If you want to install the Workbench plug-ins in standalone mode, that is, not as part of the full webMethods EntireX installation, see *Installing the EntireX Workbench Plug-ins in Standalone Mode*.

Verifying the EntireX Installation

This section describes how to verify the installation of the following EntireX components:

- EntireX Broker
- Client (convClt) and Server (convSrv)

EntireX Broker

To verify successful broker installation, you can use the `etbinfo` or `etbcmd` utility, the Natural tutorial or sample programs ***Client (`convClt`) and Server (`convSrv`)***.

To verify the broker installation

1. If you have not already created a default broker, create one using `etbsrv` or Command Central. See *Adding a Broker Instance* under *Administering EntireX Broker using the Command Central Graphical User Interface* in the Command Central documentation.
2. Start the broker using `etbsrv` or Command Central. See Controlling the EntireX Broker with Lifecycle Actions under *Administering EntireX Broker using the Command Central Command Line*.
3. Use one of the following methods to check if the broker is running:

   - Run `etbinfo` to query the broker for information. Start a Command Prompt session, change your directory to the EntireX *bin* directory and use the following command:

     ```
     etbinfo -blocalhost -dBROKER -pbroker.pro
     ```

     This assumes that you use the default port 1971. Otherwise use the command:

     ```
     etbinfo -blocalhost:port -dBROKER -pbroker.pro
     ```

     where *`port`* is the port number of your broker.

     This should display a formatted report with information about the broker. If the broker is not active, you get response 02150148 “EntireX Broker not active”.
   - Run the `etbcmd` utility.

```
etbcmd -bETB048 -cPING -dBROKER
```

The broker ID is ETB0248. If successful, the message `PING broker ETB048 successfully performed` is returned. If the broker is not active, you get response 02150148 "EntireX Broker not active".

- In a Natural environment, you can also verify the correct installation by installing the EntireX Broker Tutorial. See *Installing the EntireX Broker Tutorial* in the platform-specific installation documentation.
- Use the client program `convClt` and server program `convSrv` to test broker request and replies. See ***Client (convClt) and Server (convSrv)***.

  The broker ID is ETB048 and the `number_of_messages` is 100. The parameters are described under ***Client (convClt) and Server (convSrv)***. If the broker is not active, you ge response 02150148 "EntireX Broker not active".

  - For the server, start a Command Prompt session, change your directory to the EntireX *examples/installation_verification/conversational/C* folder and enter the following command:

    ```
    convSrv -i100 -bETB048
    ```

  - For the client, start another Command Prompt session, change your directory also to the EntireX *examples/installation_verification/conversational/C* folder and enter the following command:

    ```
    convClt -i100 -bETB048
    ```

Client (convClt) and Server (convSrv)

The programs `convClt` and `convSrv` are client and server programs provided for test purposes. They are delivered as executables in the in the *examples/installation_verification/conversational/C* folder.

If the broker is not active, you get 02150148 "EntireX Broker not active".

convClt Parameters

Parameter	Description	ACI Field
`-a`*`locale`*	*`locale_string,environment`*	`LOCALE-STRING, ENVIRONMENT`
`-b`*`broker_id`*	Broker ID (same as the database ID). This is an EntireX Broker configuration parameter. Example: `convClt -bETB045`	`BROKER-ID`

Parameter	Description	ACI Field
-c*class*	Server class (part of the server definition). Value must be configured in EntireX Broker.	SERVER-CLASS
-g*input_file_name*	Use a file as send buffer.	
-h	Display usage information.	
-i*repeats*	The number of requests that are accepted by the example program before it deregisters. Example: convSrv -i10	
-l	Silent mode. Suppress output for every incoming request.	
-n*token*	Specify the security token, if desired.	TOKEN
-p*packet_size*	convClt only. The size, in bytes, of the packets that will be transmitted. Example: convClt -p10000	
-r*compression_level*	Compression level. Values: N|Y|0-9.	COMPRESSLEVEL
-s*server*	Name of server. Values must be configured in EntireX Broker.	SERVER-NAME
-u*user_id*	User ID. With a secure broker, this will be used to perform authentication.	USER-ID
-v*service*	Name of service (part of the server definition). The fully qualified server name used by the example program to register. Default is ACLASS,ASERVER,ASERVICE. Values must be configured in EntireX Broker.	SERVER-NAME
-w*password*	Password. With a secure broker, this will be used to perform authentication.	PASSWORD
-x*ssl_parms*	SSL parameters. For example: -x"TRUST_STORE=C:\SoftwareAG\EntireX\etc\ExxCACert.pem&VERIFY_SERVER=NO" See also *SSL/TLS Parameters for SSL Clients*.	
-1..9	By default, if omitted, the highest possible ACI version is used. Note that if you specify the ACI version, certain features might depend on a minimum ACI version.	API-VERSION

convSrv Parameters

Most convClt parameters apply to convSrv, too. The following table lists additional parameters or parameters that have a different meaning.

Parameter	Description	ACI Field
`-goutput-file-name`	Name of output file for receive buffer (if not running in silent mode).	
`-inum_messages[,num_uows]`	If *num_uows* is not specified, the number of messages that are accepted before deregistration. If *num_uows* is specified, the number of UOWs and messages therein that are accepted before deregistration. Example: `bcos -i10`	

Setting up EntireX Security under Windows

- Setting up EntireX Security for Broker Kernel
- Setting up EntireX Security for Broker Stubs

Note: You must set up EntireX Security for broker kernel and - if your application(s) use API version 7 or below - also for broker stubs.

Setting up EntireX Security for Broker Kernel

To set up EntireX Security for broker kernel under Windows

1 Determine that all prerequisites for EntireX components have been met before setting up EntireX Security. See *Windows Prerequisites*.

2 Insert the following statement into the broker-specific section of the attribute file. See *Broker-specific Attributes*.

- `SECURITY=YES`

3 Modify the security-specific section of the broker attribute file according to your requirements. See *Security-specific Attributes*. These parameters are used to determine whether you will use Windows local security or LDAP-based authentication. If you are using LDAP-based authentication, authorization rules are not available to you.

Note: Authentication: Windows authentication calls `LogonUser()` with the flag `LOGON32_LOGON_INTERACTIVE`.

Setting up EntireX Security for Broker Stubs

Note: If you are running your application(s) at ACI version 7 or below, the following steps are required to install EntireX Security for the Broker stubs in all environments where applications execute either as clients or servers. See *List of Components per Platform* for where EntireX Security for broker stubs is supported.
These steps are not required if you are running your application(s) at ACI version 8 or above.

To install EntireX Security for broker stubs on Windows

- When requested to specify the installation type, choose **Custom** and check the **Security** box.

  (The required directories including *secuexit.dll* are copied to your computer during installation.)

  Notes:

  1. *Secuexit.dll* is needed for backward compatibility if your applications issue any commands using ACI version 7 or below. Applications using ACI version 8 do not require this additional component in the stub.
  2. For encrypted transport we strongly recommend using the Secure Sockets Layer/Transport Layer Security protocol. See *SSL/TLS and Certificates with EntireX*.

Caution: If stub tracing level is > 1, unencrypted contents of the send/receive buffers are exposed in the trace.

Installation of EntireX Security for Broker stubs is now complete. Now you can install the security components for the Broker stubs on the remaining operating systems where your application components are located.

EntireX Mini Runtime Considerations

The EntireX Mini Runtime is a set of components that can be used for the deployment of applications using the Broker ACI, the Broker RPC, and - under Windows only - DCOM Wrapper objects and the Broker ActiveX Control. Unlike the full EntireX Runtime, the Mini Runtime does not include Java capabilities. The EntireX Mini Runtime is provided as a separate package in the Software AG Installer.

If you need the EntireX Mini Runtime with your application, you may have to extend the `PATH` variable to *<inst_root>\EntireX\bin* before starting your application.

Natural Considerations

Installing the Natural-based EntireX Broker Tutorial under Windows

To install the Tutorial

1. Load all objects of *SYSETB.TRA* in the *ETC* subdirectory, using the Natural utility SYSOBJH. See *Object Handler* in the Natural Tools and Utilities documentation for more information.
2. Logon to Natural library *SYSETB* and issue the `CATALL` command to catalog all the programs in the library.

Broker ActiveX Control and TOR Editor

Before you can use the Broker ActiveX Control (file *ebx.dll*) and/or the TOR Editor (file *toredit.exe*) you have to register the Broker ActiveX Control as a COM component. Start the program `regsvr32` with "Run as Administrator":

```
regsvr32 <path>\ebx.dll
```

Files *ebx.dll* and *toredit.exe* are located in the *<inst_root>\EntireX\bin\x86* directory of the installation.

Note: Only program *ebx.dll* needs to be registered as a COM component. See *Calling the Transaction Object Editor*.