# SFS Transport Adaptor Integration Guide

## Overview

The Simple FIX Socket Transport Adaptor (hereinafter SFS) is intended for communication with FIXEdge from third-part applications. The main goal of this adaptor is a quick and easy building of the network applications that may use full advantage of FIX Protocol.

## Installation

SFS adaptor is distributed as a zip-archive with the name SFSAdaptor_xx.zip, where xx stands for SFS adaptor version. To install SFS adaptor unpack the .zip file and copy SFSAddinDll.dll into the FIXEdge's \bin folder. See the sections Configuration in order to learn how to configure SFS adaptor. After the SFS adaptor is configured the FIXEdge needs to be started.

## Configuration

SFS adaptor is configured using the following properties:

| Property name | Description |
|---|---|
| TransportLayer.SFSAdaptorDLL.DllName | Contains path and name of the SFS adaptor dll. Property is required. |
| TransportLayer.SFSAdaptorDLL. Description | Name of adaptor. Property is required. |
| TransportLayer.SFSAdaptorDLL.Type | Type of the adaptor library, has contains value 'DLL'. Property is required. |
| TransportLayer.SFSAdaptorDLL.ListenPort | Listen port, that SFS adaptor use to accept client's connections. Integer value, should be > 0. Property is required. |
| TransportLayer.SFSAdaptorDLL. NumberOfWorkers | Amount of the workers threads that concurrently handle client's messages. Integer value, should be > 0. Property is required. |
| TransportLayer.SFSAdaptorDLL. LogEnableTimestamp | Enable timestamp in the messages logging. By default value is 'true'. |
| TransportLayer.SFSAdaptorDLL. LogUTCTimestamp | UTC format of timestamp in the messages logging. By default value is 'false', outputs in local time. |
| TransportLayer.SFSAdaptorDLL. AcceptConnectionsFromIP | Contains IP addresses of the acceptable connections. Property is optional. |
| TransportLayer.SFSAdaptorDLL.Sessions | Contains enumeration of registered SFS clients. Property is required. |
| TransportLayer.SFSAdaptorDLL. <ClientName>.LogDirectory | Absolute or relative path where incoming and outgoing messages will be logged to ".in" and ".out" files accordingly. All relative values of path will be added toFIXEdge.RootDir directory. |
| TransportLayer.SFSAdaptorDLL. <ClientName>.SmartXmlMessageHandling | Enables mode of FIXML messages handling; must equal 'true' or 'false'.<br><br>If mode enabled:<br><br>* For each outgoing FIX message type "n", <213=XML Data> tag of (XML message) will be extracted; only FIXML data will be sent to SFS client.<br><br>* For each incoming from SFS client data that represent as FIXML will be packed into 213 tag of "n" message. By default value is 'false'. |
| TransportLayer.SFSAdaptorDLL. <ClientName>.FileSession | For file output only. If parameter is 'true' then all outgoing messages will not be send to session. By default value is 'false'.<br><br>Note: Set SmartXmlMessageHandling to 'true' for logging of extracted XML data from outgoing "n" messages. |

| TransportLayer.SFSAdaptorDLL. <ClientName>.SplitLogRecordsToFiles | For file output only. If parameter is 'true' then each message will be logged into separate file with unique name. By default value is 'false'. |
| --- | --- |
| | Note: Set SmartXmlMessageHandling to 'true' for logging of extracted XML data from outgoing "n" messages. |

⚠ Note that all changes in properties file are applied only after FIXEdge restart.

To integrate SFS adaptor into the FIXEdge, the following steps have to be executed:

1. Open FIXEdge properties file (FIXEdge.properties by default).
2. Find 'TransportLayer.TransportAdapters' property
    a. Add 'TransportLayer.TransportAdapters' property in case it doesn't exist
3. Set 'TransportLayer.SFSAdaptorDLL' to the value of the 'TransportLayer.TransportAdapters' property:

```
TransportLayer.TransportAdapters = TransportLayer.SFSAdaptorDLL
```

    a. If 'TransportLayer.TransportAdapters' property already has value - append ',TransportLayer.SFSAdaptorDLL' to the value:

```
TransportLayer.TransportAdapters = ...,TransportLayer.SXSAdaptorDLL,TransportLayer.SFSAdaptorDLL
```

4. Add property 'TransportLayer.SFSAdaptorDLL.Description' with value - SFS adaptor name:

```
TransportLayer.SFSAdaptorDLL.Description = SFS Transport Adaptor DLL
```

5. Add property 'TransportLayer.SFSAdaptorDLL.DllName' with value - path to the SFS adaptor dll:

```
TransportLayer.SFSAdaptorDLL.DllName = bin/SFSAddinDll.dll
```

6. Add property 'TransportLayer.SFSAdaptorDLL.Type' with value 'DLL':

```
TransportLayer.SFSAdaptorDLL.Type = DLL
```

7. Add property 'TransportLayer.SFSAdaptorDLL.ListenPort' with value - port where SFS adaptor will accept incoming connections:

```
TransportLayer.SFSAdaptorDLL.ListenPort = 8145
```

8. Add property 'TransportLayer.SFSAdaptorDLL.NumberOfWorkers' with value - thread's amount that handles connections:

```
TransportLayer.SFSAdaptorDLL.NumberOfWorkers = 10
```

9. Add property 'TransportLayer.SFSAdaptorDLL.SFSClientName.LogDirectory ' with value – path to incoming and outgoing messages logging:

```
TransportLayer.SFSAdaptorDLL.SFSClientName.LogDirectory =FixEdge1/log
```

10. Restart FIXEdge to apply changes

After changes the FIXEdge properties file may look like this:

```
....
#-----------------------------------------------------------
# Transport Layer Section
#-----------------------------------------------------------
TransportLayer.TransportAdapters = TransportLayer.SFSAdaptorDLL


....
#-----------------------------------------------------------
# SFS Adaptor settings
#-----------------------------------------------------------
# SFS adaptor name
TransportLayer.SFSAdaptorDLL.Description = SFS Transport Adaptor DLL
# Contains path and name of the SFS adaptor dll. Property is required
TransportLayer.SFSAdaptorDLL.DllName = ./SFSAddinDll.dll
# Type of the adaptor library, has contains value 'DLL'. Property is required
TransportLayer.SFSAdaptorDLL.Type = DLL
# Listen port, that SFS adaptor use to accept client's connections. Integer value, should be > 0. Property is
required
TransportLayer.SFSAdaptorDLL.ListenPort = 8444
# Amount of the workers threads that concurrently handle client's messages. Integer value, should be > 0.
Property is required
TransportLayer.SFSAdaptorDLL.NumberOfWorkers = 10
# Absolute or relative path where incoming and outgoing messages will be logged to "*.in" and ".out"
files accordingly. All relative values of path will be added to FIXEdge.RootDir directory. Property is
optional. By default accept value of FIXEdge.RootDir
TransportLayer.SFSAdaptorDLL.NumberOfWorkers = 10
....
```

# Administration

SFS adaptor supports Administrative interface with action 'close_session':

Cases of XML commands using:

```
<?xml version="1.0" encoding="UTF-8"?>
<Action Name="CLOSE_SESSION" Target="FixEdge:Transport:ADMFIXED">
<Params>
<Param Name="ADAPTOR" Value="SFSAdaptorDLL"/>
<Param Name="CLIENT " Value="SFSClient"/>
</Params>
</Action>
```

FEAdminConsole command line example:

```
FEAdminConsole -ADAPTOR_EXEC -adaptor SFSAdaptorDLL -command CLOSE_SESSION -client SFSClient
```

# Monitoring (viewing logs)

SFS adaptor puts log messages into the FIXEdge log. Besides adaptor always creates "SFSClientName-*.in" and "SFSClientName-*.out" files for logging of incoming or outgoing messages accordingly. Adaptor creates log files in the directory that is specified in *LogDirectory* parameter, it may be absolute or relative path in the *FIXEdge.RootDir* parameter.

Each record in the log is separated by linefeed and timestamp in form "YYYYMMDD-HH:MM:SS.sss : ". But timestamp may be disabled in the records by option *LogEnableTimestamp* = false. Timestamp has local time by default. Use *LogUTCTimestamp* to enable UTC time format.

SFS adaptor can create a simple file session without message sending into socket by specifying parameter *FileSession* = true. All outgoing messages will be logged in "SFSClientName-*.out", but not sent to SFS client. If *SmartXmlMessageHandling* mode is enabled then XML data will be extracted from FIXML messages (MsgType = "n", tag 213) into outgoing log.

1. Open FIXEdge property file
2. Add property 'SFSAdaptor.SFSClientName.LogDirectory' with value - path to incoming and outgoing messages logging:

```
TransportLayer.SFSAdaptor.SFSClient.LogDirectory = FIXEdge1/log
```

3. Add property 'SFSAdaptor.SFSClientName.FileSession' with value – 'true' to enable file session mode:

```
TransportLayer.SFSAdaptor.SFSClient.FileSession = true
```

4. Add property 'SFSAdaptor.SFSClientName.SmartXmlMessageHandling' with value – 'true' to enable the XML data extracting from FIXML messages (MsgType = "n"):

```
TransportLayer.SFSAdaptor.SFSClient.SmartXmlMessageHandling = true
```

5. Restart FIXEdge

When SFS adaptor starts successfully the following record will be written into the log file (xxx - the version of the SFS adaptor):

```
[NOTE] 20070215-11:20:12.437 - SFS Adaptor v.xxx started.
```