



TIBCO BusinessConnect™ Services Plug-in

User's Guide

*Software Release 6.3
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Contents

Figures	vii
Tables	ix
Preface	xi
Related Documentation	xii
TIBCO BusinessConnect™ Services Plug-in Documentation	xii
Other TIBCO Product Documentation	xii
Typographical Conventions	xiv
TIBCO Product Documentation and Support Services	xvi
How to Access TIBCO Documentation	xvi
How to Contact TIBCO Support	xvi
How to Join TIBCO Community	xvi
Chapter 1 Introduction	1
Overview	2
Protocol Features	3
Chapter 2 Tutorial	5
Overview	6
Prerequisites	7
Tutorial Steps	8
Importing the Tutorial	8
Configuring the Initiator TIBCO BusinessConnect	9
Configuring the Responder TIBCO BusinessConnect	13
Configuring Private Processes	17
Running the Tutorial	22
Chapter 3 Services Plug-in URIs	27
Exchanging URIs	28
Email Transport	28
File Transport	28
FTP Transport	29
HTTP/S Transport	29

Chapter 4 Managing Services Plug-in Operations	31
Overview	32
About Services Plug-in Operations	32
About Schema Validation in the Services Plug-in	32
Duplicate Message Detection	33
Notify Operation	35
Synchronous Request Response Operation	36
Asynchronous Request Response Operation	37
Configuring Services Plug-in Operations	39
Add New Category	39
Add New Version	40
Add New Operation	40
Chapter 5 Managing Properties	47
Managing Services Plug-in Properties	48
Chapter 6 Setting Up Trading Hosts and Partners	50
Configuring Services Plug-in for a Host	51
Configuring the Initiator Default Host	51
Assigning Default Host for Initiator	52
Configuring Services Plug-in for a Partner	53
Enabling Protocol for Initiator Partner	53
Chapter 7 Configuring Business Agreements	57
Adding a New Business Agreement	58
Configuring Agreement Protocol Binding for Services Plug-in	59
Operation Bindings Tab	59
Document Security Tab	63
Transports Tab	64
Show Advanced Tab	65
Chapter 8 Private Messages	68
Overview	69
About Private Messages	69
Initiator Messages	70
Responder Messages	76
General Messages	82
Multiple Attachments	83
Resending Services Plug-in Private Process Messages	84

Chapter 9 Viewing Logs	85
Audit Logs	86
Configure an Audit Log for the Services Plug-in	86
Non-Repudiation Logs	90
Configure a Non-Repudiation Log for the Services Plug-in	90
Resending Transactions	93
Resendable Transactions	93
Resend History	96
Chapter 10 File Pollers	99
Outbound File Pollers for the Services Plug-in	100
Inbound File Pollers for the Services Plug-in	101
Appendix A Troubleshooting	102
Troubleshooting the Services Plug-in	103
Appendix B FTP Script Examples	105
Overview	106
First Tutorial Example	107
Setting Up the First Tutorial	108
Running the First Tutorial Example	109
Expected Results	110
Second Tutorial Example	111
Setting Up the Second Tutorial	111
Running the Second Tutorial Example	112
Expected Results	112
Third Tutorial Example	113
Setting Up the Third Tutorial	114
Running the Third Tutorial Example	116
Expected Results	117
Fourth Tutorial Example	118
Fifth Tutorial Example	119
Index	121

Figures

Figure 1	Imported Operations Manage Widgets and Widget Inventory	9
Figure 2	TIBCO Designer: BusinessWorks Project	19
Figure 3	INITIATOR (BusinessConnect Connection)	20
Figure 4	Select Process to Load	23
Figure 5	SendRequest (Input)	24
Figure 6	Create Job for the Send ASyncRequest operation	25
Figure 7	Send INITIATOR.REQUEST and Receive INITIATOR.RESPONSE	25
Figure 8	Send Async Request	25
Figure 9	RESPONDER AsynchronousRequestResoponse Process	26
Figure 10	Notify Operation	35
Figure 11	Synchronous Request-Response Operation	36
Figure 12	Tutorial: Asynchronous Request Response Operation	37
Figure 13	Configure New Operation for the Services Plug-in.	39
Figure 14	New Operation Dialog	40

Tables

Table 1	General Typographical Conventions	xiv
Table 2	New Transport for the Partner	11
Table 3	New HTTP Transport	11
Table 4	Edit Protocol Binding: Operation Binding Tab	12
Table 5	Override Outbound Settings: Transports Tab	13
Table 6	New Transport for the Partner	15
Table 7	Edit Protocol Binding: Operation Binding Tab	16
Table 8	Override Inbound Settings: Transports Tab	17
Table 9	BusinessConnect Server Access Tab	19
Table 10	Synchronous/Asynchronous Request-Response Operation Tab	41
Table 11	Request Action Tab	41
Table 12	Response Action Tab	43
Table 13	Notify Operation Tab	44
Table 14	Request Action Tab	44
Table 15	Host Settings: General Tab	51
Table 16	Partner Settings: General Tab	54
Table 17	New Transport for the Partner	55
Table 18	Edit Protocol Binding: Operation Binding Tab	59
Table 19	Override Outbound Settings: Operation Settings Tab (All Operations)	60
Table 20	Override Outbound Settings: Actions Tab (Notify and Asynchronous Request-Response Operations) 61	
Table 21	Override Outbound Settings: Transports Tab (All Operations)	61
Table 22	Override Inbound Settings: Operation Settings Tab (All Operations).	62
Table 23	Override Inbound Settings: Actions Tab (Synchronous and Asynchronous Request Response)	63
Table 24	Override Inbound Settings: Transports Tab (All Operations)	63
Table 25	Configure Transports for the Host	64
Table 26	Edit Protocol Bindings: Advanced Settings for Host.	66
Table 27	Edit Protocol Binding: Advanced Settings for Partner	66

Table 28	Private Message: InitiatorRequest.	70
Table 29	Private Message: Initiator Response.	72
Table 30	Private Message: ResponderRequest.	76
Table 31	Private Message: Responder.Response.	79
Table 32	Private Message: Responder.Ack.	81
Table 33	Private Message: Error Message	82
Table 34	Audit Log: Search Filters	87
Table 35	Audit Log: Advanced Filters.	87
Table 36	Non-Repudiation Logs: Search Filters.	90
Table 37	Non-Repudiation Logs: Advanced Filters	91
Table 38	Resendable Transactions: Search Filters	94
Table 39	Resendable Transactions: Advanced Filters.	94
Table 40	Resend History: Search Filters	96
Table 41	Resend History: Advanced Filters	97

Preface

TIBCO BusinessConnect™ Services Plug-in is an easy-to-use data transfer protocol, which provides a secure data exchange over the Internet.

Topics

- [Related Documentation, page xii](#)
- [Typographical Conventions, page xiv](#)
- [TIBCO Product Documentation and Support Services, page xvi](#)

Related Documentation

This section lists documentation resources you may find useful.

TIBCO BusinessConnect™ Services Plug-in Documentation

The following documents form the TIBCO BusinessConnect Services Plug-in documentation set:

- *TIBCO BusinessConnect™ Services Plug-in Installation and Configuration*: Read this guide to install and configure TIBCO BusinessConnect Services Plug-in.
- *TIBCO BusinessConnect™ Services Plug-in User's Guide*: Read this guide to learn how to manage TIBCO BusinessConnect Services Plug-in.
- *TIBCO BusinessConnect™ Services Plug-in Release Notes*: Read the release notes for a list of new and changed features. This document also contains lists of known issues and closed issues for this release.

Other TIBCO Product Documentation

You may find it useful to read the documentation for the following TIBCO products, which may be used or integrated with BusinessConnect:

- **TIBCO Administrator™** software: The software allows you to manage users, machines and applications defined in a TIBCO Administration Domain. The TIBCO Administrator graphical user interface enables users to deploy, monitor, and start and stop TIBCO applications.
- **TIBCO ActiveMatrix BusinessWorks™** software: This software is a scalable, extensible, and easy to use integration platform that allows you to develop integration projects. TIBCO BusinessWorks includes a graphical user interface (GUI) for defining business processes and an engine that executes the process.
- **TIBCO Business Studio™** software: This graphical user interface is used for designing and creating integration project configurations and building an Enterprise Archive (EAR) for the project. The EAR can then be used by TIBCO Enterprise Administrator for deploying and running the application.
- **TIBCO Designer™** software: This graphical user interface is used for designing and creating integration project configurations and building an Enterprise Archive (EAR) for the project. The EAR can then be used by TIBCO Administrator for deploying and running the application.

- TIBCO Enterprise Message Service [™] software: This software provides a message service that enables integration of applications within an enterprise based on the Java Message Service (JMS) specifications.
- TIBCO Hawk [®] software: This software is a tool for monitoring and managing distributed applications and operating systems. The software is designed specifically for monitoring distributed systems, so there is no centralized console or frequent polling across the network.
- TIBCO Runtime Agent [™] software: This software suite is a prerequisite for other TIBCO software products. In addition to TIBCO Runtime Agent components, the software suite includes the third-party libraries used by other TIBCO products such as TIBCO Designer, Java Runtime Environment (JRE), TIBCO Hawk [®], and TIBCO Rendezvous [®].
- TIBCO Rendezvous [®] software: This software enables programs running on many different kinds of computers on a network to communicate seamlessly. It includes two main components: the Rendezvous programming language interface (API) in several languages, and the Rendezvous daemon.




Typographical Conventions

The following typographical conventions are used in this manual.

Table 1 General Typographical Conventions

Convention	Use
<i>ENV_NAME</i>	TIBCO products are installed into an installation environment. A product installed into an installation environment does not access components in other installation environments. Incompatible products and multiple instances of the same product must be installed into different installation environments.
<i>TIBCO_HOME</i>	
<i>EZCOMM_HOME</i>	
	<p>An installation environment consists of the following properties:</p> <ul style="list-style-type: none">• Name Identifies the installation environment. This name is referenced in documentation as <i>ENV_NAME</i>. On Microsoft Windows, the name is appended to the name of Windows services created by the installer and is a component of the path to the product shortcut in the Windows Start > All Programs menu.• Path The folder into which the product is installed. This folder is referenced in documentation as <i>TIBCO_HOME</i>. <p>TIBCO BusinessConnect Services Plug-in installs into a directory within a <i>TIBCO_HOME</i>. This directory is referenced in documentation as <i>EZCOMM_HOME</i>. The default value of <i>EZCOMM_HOME</i> depends on the operating system. For example on Windows systems, the default value is</p> <p>C:\tibco\bc\version\protocols\ezcomm.</p>
code font	<p>Code font identifies commands, code examples, filenames, pathnames, and output displayed in a command window. For example:</p> <p>Use MyCommand to start the foo process.</p>
bold code font	<p>Bold code font is used in the following ways:</p> <ul style="list-style-type: none">• In procedures, to indicate what a user types. For example: Type admin.• In large code samples, to indicate the parts of the sample that are of particular interest.• In command syntax, to indicate the default parameter for a command. For example, if no parameter is specified, MyCommand is enabled: MyCommand [enable disable]

Table 1 General Typographical Conventions (Cont'd)

Convention	Use
<i>italic font</i>	<p>Italic font is used in the following ways:</p> <ul style="list-style-type: none"> • To indicate a document title. For example: See <i>TIBCO ActiveMatrix BusinessWorks Concepts</i>. • To introduce new terms For example: A portal page may contain several portlets. <i>Portlets</i> are mini-applications that run in a portal. • To indicate a variable in a command or code syntax that you must replace. For example: MyCommand <i>PathName</i>
Key combinations	<p>Key name separated by a plus sign indicate keys pressed simultaneously. For example: Ctrl+C.</p> <p>Key names separated by a comma and space indicate keys pressed one after the other. For example: Esc, Ctrl+Q.</p>
	The note icon indicates information that is of special interest or importance, for example, an additional action required only in certain circumstances.
	The tip icon indicates an idea that could be useful, for example, a way to apply the information provided in the current section to achieve a specific result.
	The warning icon indicates the potential for a damaging situation, for example, data loss or corruption if certain steps are taken or not taken.

TIBCO Product Documentation and Support Services

For information about this product, you can read the documentation, contact TIBCO Support, or join TIBCO Community.

How to Access TIBCO Documentation

Documentation for TIBCO products is available on the TIBCO Product Documentation website mainly in the HTML and PDF formats.

The TIBCO Product Documentation website is updated frequently and is more current than any other documentation included with the product. To access the latest documentation, visit <https://docs.tibco.com>.

Documentation for TIBCO BusinessConnect Services Plug-in is available on the <https://docs.tibco.com/products/tibco-businessconnect-services-plug-in> Product Documentation page.

How to Contact TIBCO Support

You can contact TIBCO Support in the following ways:

- For an overview of TIBCO Support, and information about getting started with TIBCO Support, visit <http://www.tibco.com/services/support>
- For accessing the Support Knowledge Base and getting personalized content about products you are interested in, visit the TIBCO Support portal at <https://support.tibco.com>.
- For creating a Support case, you must have a valid maintenance or support contract with TIBCO. You also need a user name and password to log in to <https://support.tibco.com>. If you do not have a user name, you can request one by clicking Register on the website.

How to Join TIBCO Community

TIBCO Community is the official channel for TIBCO customers, partners, and employee subject matter experts to share and access their collective experience. TIBCO Community offers access to Q&A forums, product wikis, and best practices. It also offers access to extensions, adapters, solution accelerators, and tools that extend and enable customers to gain full value from TIBCO products. In addition, users can submit and vote on feature requests from within the [TIBCO Ideas Portal](#). For a free registration, go to <https://community.tibco.com>.

Chapter 1 **Introduction**

This chapter introduces TIBCO BusinessConnect™ Services Plug-in and its features.

Topics

- [Overview, page 2](#)
- [Protocol Features, page 3](#)

Overview

TIBCO BusinessConnect Services Plug-in (later in this document referred to as Services Plug-in) is an easy-to-use data transfer protocol, which allows you to securely exchange data over the Internet.

Trading partners managed by BusinessConnect can quickly and efficiently be configured to exchange documents securely with the BusinessConnect host over the Internet using this plug-in, without understanding or interpreting the document contents.

With the introduction to the Request/Response operation type, the Services Plug-in allows tracking of each document sent to or received from a trading partner, independent of the transport mechanism, and correlates the corresponding response document with the trading partner. The back office applications focus on the processing of the document contents sent to or received from BusinessConnect, which ensures that the response document is properly logged with the corresponding request document and delivered or received to or from the trading partner on time.

Protocol Features

The Services Plug-in has the following features:

Support for Public Transports

The basic transport connectivity includes the File, Email, HTTP/S, FTP/S, and SSHFTP transports. These transports follow industry transport protocol standards such as AS1, AS2, SMTP, POP, S/MIME, SSH, SSL to provide document security by encryption and document authenticity by digital signature.

To learn more about public transports and their configuration, see *TIBCO BusinessConnect Concepts*, Chapter 5, TIBCO BusinessConnect Transports and Protocols.

Support for Private Transports

The Services Plug-in supports the following private transports: TIBCO Rendezvous and JMS.

These private transports are explained in *TIBCO BusinessConnect Concepts*, Private Processes.

Support for Operations

The following operations are supported in the Services Plug-in:

- [Notify Operation, page 35](#)
Notify operation is a one way operation. It can send a document to the trading partner and receive the acknowledgement. It is not capable of receiving the response from the trading partner.
- [Synchronous Request Response Operation, page 36](#)
Synchronous Request Response operation sends the document to the trading partner and waits for the response until the response is received; it suspends any further processing for that request.
- [Asynchronous Request Response Operation, page 37](#)
Asynchronous Request Response operation sends the document to the trading partner and waits for the response, but it allows further processing irrespective of the response arrival from the partner.

XML Validation

The Services Plug-in supports XSD and DTD schema validation. To learn more about validating schemas, see [Configuring Services Plug-in Operations, page 39](#).

Support for Multiple Attachments

The Services Plug-in allows multiple attachments. Private process can send these attachments in a sequence and each Attachment has the following structure.

For more information, see [Multiple Attachments, page 83](#).

Duplicate Message Detection

The Services Plug-in allows both incoming and outgoing public messages to be verified for duplicates.

For more details, see [Duplicate Message Detection, page 33](#).

Other Supported Features

- Electronic signing and message encryption or decryption.
To learn more about security in BusinessConnect, see *TIBCO BusinessConnect Concepts*, Chapter 8, Security.
- Audit logging, including the user transactionID in the audit log.
To learn more about audit logging in TIBCO BusinessConnect Services Plug-in, see [Audit Logs, page 86](#).
- Exchange of notices with trading partners.
- XML, plain text, and binary data blobs.

Chapter 2 **Tutorial**

This chapter presents a complete tutorial on installing and configuring the Services Plug-in for the Asynchronous Request Response operation.

Topics

- [Overview, page 6](#)
- [Prerequisites, page 7](#)
- [Tutorial Steps, page 8](#)

Overview

This tutorial gives an example of an Asynchronous Request Response operation:

- How to create private processes on the Initiator and the Responder side.
- How to create and process an Asynchronous Request Response operation.

In this tutorial, the following two computers are required:

- The Initiator computer **Buyer**
- The Responder computer **Seller**

For an overview of the operation, see [Asynchronous Request Response Operation, page 37](#).

Prerequisites

Before starting this tutorial:

1. Install the following software packages:
 - a. TIBCO BusinessConnect, as described in *TIBCO BusinessConnect Installation and Configuration*.
 - b. TIBCO BusinessConnect Services Plug-in, as described in *TIBCO BusinessConnect Services Plug-in Installation and Configuration*.
2. Perform all pre-deployment and deployment configuration procedures described in *TIBCO BusinessConnect Interior Server Administration Guide*, Chapter 2, Interior Server Quick Start.

Import the pre-configured operations to use in the tutorial, as explained in [Importing the Tutorial, page 8](#).



These prerequisites are performed on both the Initiator and the Responder computers.

Tutorial Steps

This tutorial requires that you follow the following steps:

1. [Importing the Tutorial, page 8](#)
This step is performed on both the Initiator and the Responder computers.
2. [Configuring the Initiator TIBCO BusinessConnect, page 9](#)
This step is performed only on the Initiator computer.
3. [Configuring the Responder TIBCO BusinessConnect, page 13](#)
This step is performed only on the Responder computer.
4. [Configuring Private Processes, page 17](#)
This step is performed on both the Initiator and the Responder computers.
5. [Running the Tutorial, page 22](#)
This step is performed on both the Initiator and the Responder computers.

Importing the Tutorial

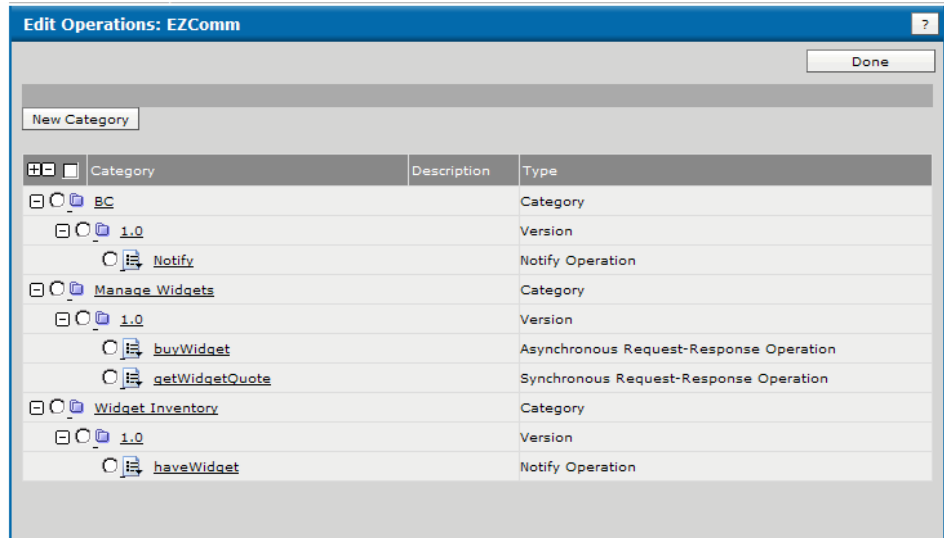
Before you can configure trading partners for the Services Plug-in transactions, you must first configure an operation as explained in [Configuring Services Plug-in Operations, page 39](#). This tutorial uses pre-configured operations, which are imported together with the tutorial.

To import the tutorial on both computers (Initiator and Responder):

1. In TIBCO Administrator, click **BusinessConnect > Operations Editor**.
2. Click **Import**.
3. Click the **change** link and upload the following file:
 - For TIBCO Designer:
`BC_HOME\protocols\ezcomm\samples\interfaces\ezcommtutorial-operations.csx`
 - For TIBCO Business Studio:
`BC_HOME\protocols\ezcomm\samples\interfaces\ezcommtutorial_for_bw6-operations.csx`
4. Enter a password if it is necessary.
5. Click **Import**.

It imports two operations named *Manage Widgets* and *Widget Inventory*. The default *Notify* operation and the two imported operations are displayed on the *Edit Operations* page:

Figure 1 Imported Operations Manage Widgets and Widget Inventory



6. Click **Done**.

Once the operations are imported, continue with configuring the computers.

Configuring the Initiator TIBCO BusinessConnect

In this tutorial, the hosts computer's name is **Buyer**, and the partner's computer name is **Seller**.

Follow the steps as described in these sections:

- [Configuring the Initiator Default Host, page 9](#)
- [Configuring the Initiator Partner, page 10](#)
- [Configuring the Initiator Business Agreement, page 11](#)

Configuring the Initiator Default Host



See [Configuring Services Plug-in for a Host](#) for more information about setting up a host in a business agreement.

1. Click **BusinessConnect > Participants**.
2. Click **New**.
3. Type **Buyer** in the **Name** field.

4. Select **Host** from the **Type** list.
5. Click **OK**.
6. On the New Host Participant page, select the **Active** check box.
7. Click **Apply**.



For this tutorial, you do not need to do the further edit of the protocols configuration.

8. Click **BusinessConnect > System Settings** on the left panel.
9. Click **General**.
10. Verify **Buyer** is selected from the **Default Host** list.
11. Click **Save**.

Configuring the Initiator Partner



See [Configuring Services Plug-in for a Partner](#) for more information about setting up a partner in a business agreement.

1. Click **BusinessConnect > Participants**.
2. Click **New**.
3. Type **Seller** in the **Name** field.
4. Select **Partner** in the **Type** list.
5. Click **OK**.
6. On the New Partner Participant page, select the **Active** check box.
7. Click **Apply**.

Enable Protocol
for the Initiator
Partner

8. On the Edit Partner Participant page, select the **Protocols** tab.
9. Click **Enable**.
10. Select the **EZComm** check box.
11. Click **OK**.

The EZComm protocol is now in the **Protocol Name** field.

Add Transport for
the Initiator
Partner

1. Click **EZComm** in the **Protocol Name** field.
2. Select the **Transports** tab.

3. Click **Add**.
4. On the New Transport page, enter data as explained in [Table 2](#).

Table 2 New Transport for the Partner

Field	Description
Name	Enter the name for the transport (required).
Type	Select the transport type from the Type list. For this tutorial, select HTTP .

5. Click **OK**.

Define URL 6. On the New HTTP Transport page, enter information as shown in [Table 3](#).

Table 3 New HTTP Transport

Field	Description
Transport Name	Enter a name for this transport (required).
URL	URL of the company (required): <code>www.hostname:6700/dmz/EZComm</code> .
Use HTTP Basic Authentication	Clear the check box Use HTTP Basic Authentication.
Username	No entry required for this tutorial.
Password	No entry required for this tutorial.
Retry Count	Leave the default (3).
Retry Interval	Leave the default (60).
Socket Timeout (seconds)	Leave the default (300).

7. Click **Save** three times.

Configuring the Initiator Business Agreement



This section contains only the steps necessary for this tutorial, see [Adding a New Business Agreement](#) for a complete explanation.

After both trading partners are configured, configure the business agreement.

1. Click **BusinessConnect > Business Agreements**.
2. Click **New**.

Verify that the plug-in is displayed in the Protocols column for both trading partners. If it is missing, return to [Enable Protocol for the Initiator Partner](#) and enable it.

- 3. Click **Buyer** in the **Host Party** area.
- 4. Click **Seller** in the **Partner Party** area.
- 5. Click **OK**.
- 6. Confirm that the **Valid** check box in the **General** tab is selected. This makes the agreement valid immediately.

The following steps shows how to add operation bindings for the Initiator Business Agreement



This section contains only the steps necessary for this tutorial, see [Configuring Agreement Protocol Binding for Services Plug-in](#) for a complete explanation.

To add a protocol binding for this business agreement:

- 1. Click **Add Protocol Bindings** on the **New Agreement** page.
- 2. Select the **EZComm** check box.
- 3. Click **OK**.

The Plug-in now is displayed in the **Agreement Protocol Binding** list.

- 4. Click **EZComm**.

The **Edit Protocol Binding** page is displayed with the **Operation Bindings** tab selected by default.

Operation
Bindings Tab

- 5. Enter information according to [Table 4](#).

Table 4 Edit Protocol Binding: Operation Binding Tab

Field	Description
Allow All Operations	For this tutorial, clear the Allow All Operations check box.
Non-Repudiation Logging	For this tutorial, select the Non-Repudiation Logging check box.

Add Binding for
the Host

- 6. On the **Host can initiate** panel, click **Add Operation Binding**.
For this tutorial, select the **Manage Widgets/1.0/buyWidgets** check box.
- 7. Click **OK**.

The selected operation is displayed in the **Operation Name** list.

To configure the Host can Initiate: Override Outbound Settings section:

1. Click **Manage Widgets/1.0/buyWidgets** in the **Host can initiate** section.
2. Click the **Transports** tab.

Transports Tab 3. Configure transport settings as shown in [Table 5](#).

Table 5 Override Outbound Settings: Transports Tab

Field	Description
Override Transports	For this tutorial, select the Override Transports check box.
Override Outbound Transports	
Primary Transport	For this tutorial, select HTTP .

4. Click **Save**.

This creates an operation binding for the `buyWidget` operation that overrides any outgoing request for this operation.

The same binding is used for the incoming response for this request; for example, if you want to override the schema validation for an incoming response, you can select the desired value in the **Operation Settings** tab for this binding.

Configuring the Responder TIBCO BusinessConnect

This section describes how to configure the Responder TIBCO BusinessConnect on another computer, where your previous host becomes a partner, and the previous partner is now the host. If the second computer does not contain a deployed version of TIBCO BusinessConnect, proceed as follows:

1. Repeat all pre-deployment and deployment steps for the second computer, as described in [Prerequisites, page 7](#) and [Importing the Tutorial, page 8](#).
2. Start TIBCO Administrator and click the **TIBCO BusinessConnect** link.
3. Follow the steps as described in these sections:
 - [Configuring the Responder Default Host, page 14](#)
 - [Configuring the Responder Partner, page 14](#)
 - [Configuring the Responder Business Agreement, page 15](#)

Configuring the Responder Default Host



See [Configuring Services Plug-in for a Host](#) for more information about setting up a host in a business agreement.

1. Click **BusinessConnect > Participants**.
2. Click **New**.
3. Type **Seller** in the **Name** field.
4. Select **Host** from the **Type** list.
5. Click **OK**.
6. On the **New Host Participant** page, select the **Active** check box.
7. Click **Apply**.



For this tutorial, there is no need to further edit protocol configuration.

8. Click **BusinessConnect > System Settings** on the left panel.
9. Click **General**.
10. Verify that **Seller** is selected from the **Default Host** list.
11. Click **Save**.

Configuring the Responder Partner



See [Configuring Services Plug-in for a Partner](#) for more information about setting up a partner in a business agreement.

1. Click **BusinessConnect > Participants**.
2. Click **New**.
3. Type **Buyer** in the **Name** field.
4. Select **Partner** from the **Type** list.
5. Click **OK**.
6. On the **New Partner Participant** page, select the **Active** check box.
7. Click **Apply**.

Enable Protocol
for the Responder
Partner

8. On the **Edit Partner Participant** page, click the **Protocols** tab.
9. Click **Enable**.
10. Select the **EZComm** check box.
11. Click **OK**.

The EZComm protocol is now in the **Protocol Name** list.



For this tutorial, there is no need to further edit protocol configuration.

Add Transport for
the Responder
Partner

1. Click the **EZComm** link.
2. Click the **Transports** tab.
3. Click **Add**.
4. On the **New Transport** page, enter data as explained in [Table 6](#).

Table 6 New Transport for the Partner

Field	Description
Name	Enter the name for the transport (required)
Type	Select the transport type from the dropdown list. For this tutorial, select HTTP .

5. Click **OK**. The **New HTTP Transport** page is displayed.
6. Enter the data related to this new transport, as explained in [Table 3](#):
`www.hostname.com:6700/dmz/EZComm`.
7. Click **Save** three times.

Configuring the Responder Business Agreement



This section only contains the steps that are necessary for this tutorial. See [Adding a New Business Agreement](#) for a complete explanation regarding this topic.

1. Click **BusinessConnect > Business Agreements**.
2. Click **New**.
3. Select **Seller** in the **Host Party** panel.
4. Select **Buyer** in the **Partner Party** panel.

- 5. Click **OK**.
- 6. Confirm that the **Valid** check box is selected. It makes the agreement valid immediately.
- 7. Click **Add Protocol Bindings**.
- 8. Select the **EZComm** check box.
- 9. Click **OK**.

EZComm now is displayed in the **Agreement Protocol Binding** list.

- 10. Click **Save**.

To add operation bindings for the Responder Business Agreement:



This section only contains the steps that are necessary for this tutorial. See [Configuring Agreement Protocol Binding for Services Plug-in, page 59](#) for a complete explanation regarding this topic.

- 1. Click the **Business Agreement** link.
- 2. On the **Edit Agreement** page, click the **EZComm** link.

The **Edit Protocol Binding** page is displayed with the **Operation Bindings** tab selected by default.

Operation Bindings Tab

- 3. Enter information according to [Table 7](#).

Table 7 Edit Protocol Binding: Operation Binding Tab

Field	Description
Allow All Operations	Clear the check box for this tutorial.
Non-Repudiation Logging	Select the check box for this tutorial.

Add Binding for the Partner

- 4. In the **Responding Operations** section, click **Add Operation Binding**.
For this tutorial, select **Manage Widgets/1.0/buyWidgets**.
 - 5. Click **OK**.
The selected operation is displayed in the **Operation Name** list.
- To configure the Partner can Initiate: Override Inbound Settings section:
- 1. Click **Manage Widgets/1.0/buyWidgets** in the **Responding Operations** panel.

2. Click the **Transports** tab.

Transports Tab 3. Configure transport settings as shown in [Table 8](#).

Table 8 *Override Inbound Settings: Transports Tab*

Field	Description
Override Transports	Check the check box for this tutorial.
Override Outbound Transports	
Primary Transport	For this tutorial, select HTTP.

4. Click **Save**.

This creates an operation binding for the `buyWidget` operation that overrides any incoming request for this operation.

The same binding is used for the outgoing response for this request; for example, if you want to override the schema validation for an outgoing response, you can select the desired value in the **Operation Settings** tab for this binding.

Configuring Private Processes

This section describes how to configure the private processes on the Initiator and Responder computers in the following ways:

- [Configuring Private Processes in TIBCO Designer, page 17](#)
- [Configuring Private Processes in TIBCO Business Studio, page 21](#)



To configure private processes, installing *TIBCO BusinessConnect Palette* in TIBCO Designer or *TIBCO ActiveMatrix BusinessWorks Plug-in for BusinessConnect* in TIBCO Business Studio are required.

To install TIBCO BusinessConnect Palette or TIBCO ActiveMatrix BusinessWorks Plug-in in BusinessConnect, see *TIBCO BusinessConnect Palette Installation* or *TIBCO ActiveMatrix BusinessWorks Plug-in for BusinessConnect Installation* for more details.


Configuring Private Processes in TIBCO Designer

To configure private processes in TIBCO Designer:


- [Task A, Open the BusinessWorks Project](#)
- [Task B, Configure Connections to Initiator TIBCO BusinessConnect](#)
- [Task C, Configure Connections to Responder TIBCO BusinessConnect](#)

Task A Open the BusinessWorks Project

To open the TIBCO ActiveMatrix BusinessWorks project in TIBCO Designer:

1. Start TIBCO Designer.
2. Click **New empty project**.
3. On the **Save Project** page, click **Cancel**.
4. Click **Project > Import Full Project**.
5. Click **Select a file from the file system**  next to the **File** field of the **ZIP Archive** tab to navigate to the `ezcomm.zip` file.

The sample is located in the `BC_HOME/protocols/ezcomm/samples/tutorial` directory.

6. Click **Open** and then click **OK**.
7. In the **Options** tab, click **Try rename in case of name conflict**.
8. Click **Apply**.
9. Click **Project > Save As**.
10. Click **Select a file from the file system**  next to the **Project Directory** field to navigate to a folder where you want to save the sample project.

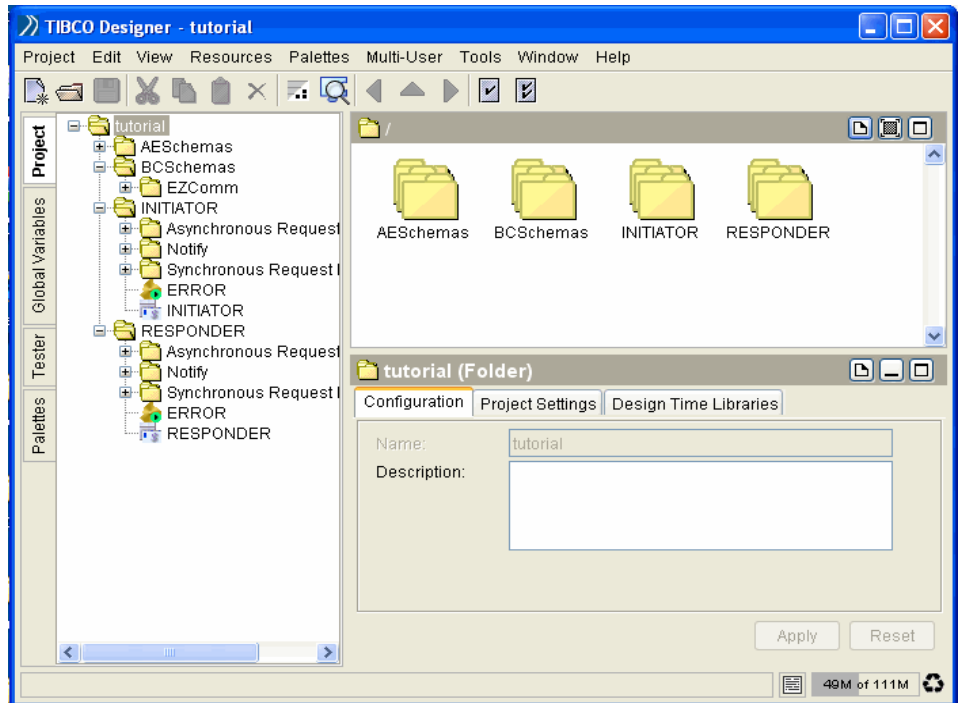


If you want to restore the project for later use, you must select a directory other than the `BC_HOME/protocols/ezcomm/samples/tutorial` directory.

If you select the same directory, the `.zip` file is deleted.

11. Select **ISO8859-1** from the **TIBCO Messaging Encoding** list.
Select **None** from the **Multi-User System** list.
12. Click **OK**.

Figure 2 TIBCO Designer: BusinessWorks Project



Task B Configure Connections to Initiator TIBCO BusinessConnect

To configure connections to TIBCO BusinessConnect on the Initiator computer:


1. In the expanded project tree, double-click the **Initiator**  connection icon.
2. Click the **BusinessConnect Server Access** tab.
3. Enter information as explained in [Table 9](#).

Table 9 BusinessConnect Server Access Tab

Field	Description
JDBC Driver Type	Select the JDBC driver that you use to communicate with the BusinessConnect configuration store from the JDBC Driver Type list.
JDBC Driver	Select the JDBC driver to use with the database.
JDBC URL	Type the URL for the configuration store.
DB User	Provide a valid user name for the database.

Table 9 BusinessConnect Server Access Tab

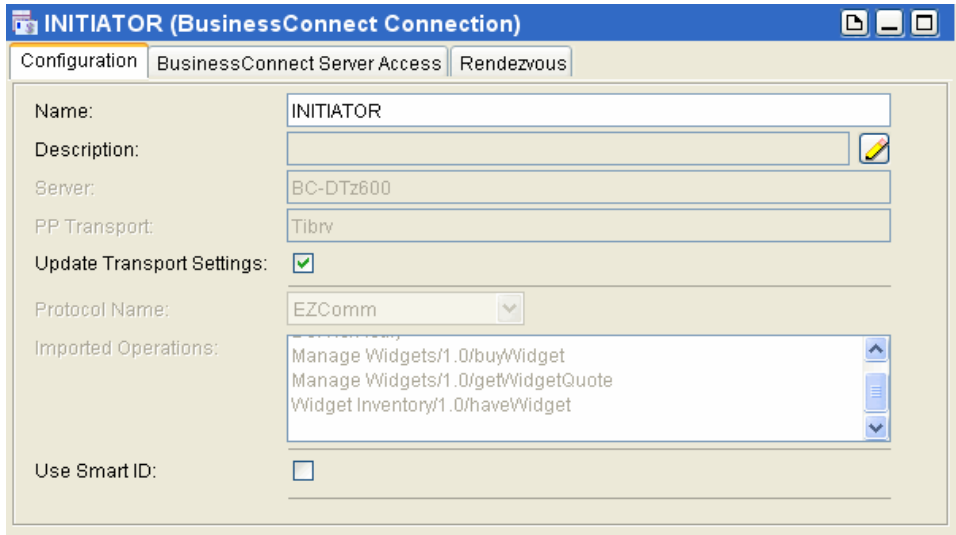
Field	Description
DB Password	The password associated with the database user name.

4. Click **Apply**.
5. Click **Update from Configuration Store** in the **Configuration** tab.
6. Select **EZComm** from the **Protocol Name** list.

If you select the **Select Operations** check box, you could select any of the configured/imported operations. For this tutorial, select all operations and click **OK**.
7. Click **Import Selected Business Protocol**.

The INIATOR (BusinessConnect Connection) screen is displayed.

Figure 3 INIATOR (BusinessConnect Connection)



- In the **Imported Operations** field, you could see the operations that you have imported in [Importing the Tutorial](#), page 8.
- When you import the protocol, BusinessWorks retrieves information from the TIBCO BusinessConnect configuration store and puts it in the project folder.
8. Click **Apply**.
9. Click **Save**.

Task C Configure Connections to Responder TIBCO BusinessConnect

On the Responder computer, complete all steps explained in [Task B, Configure Connections to Initiator TIBCO BusinessConnect](#), page 19, replacing all instances of Initiator With Responder.

Configuring Private Processes in TIBCO Business Studio

To configure the private process in TIBCO Business Studio:

- [Task A, Open the BusinessWorks Project](#)
- [Task B, Configure Connections to Initiator TIBCO BusinessConnect](#)
- [Task C, Configure Connections to Responder TIBCO BusinessConnect](#)

Task A Open the BusinessWorks Project

To open the TIBCO ActiveMatrix BusinessWorks project in TIBCO Business Studio:

1. Start TIBCO Business Studio.
2. Click **File > Import**.
3. On the **Import** page, expand the **General** folder and select the **Existing Studio Projects into Workspace** item. Click **Next**.
4. Click **Browse** next to the **Select archive file** field to navigate to the `ezcomm_for_bw6.zip` file. Click **Finish**.

The sample project is located in the `BC_HOME/protocols/ezcomm/samples/tutorial` directory.

After importing the sample, you also need to do the following steps:

1. Expand **Module Descriptors** in the Project Explorer view.
2. Double-click **Module Properties**.

The the Module Properties editor is displayed.

3. In the **User** tab, change the default value of the **BC_HOME_DIR** property to your `BC_HOME`. By default, the vaule is `D:/tibco/bc/`.

Task B Configure Connections to Initiator TIBCO BusinessConnect

To configure connections to TIBCO BusinessConnect on the Initiator computer:

1. In the Project Explorer view, click **Resources > ezcomm_demo> INITIATOR.bcResource**.
2. Click the **Server Access** tab.
3. Enter information as explained in [Table 9](#).

4. Click **Update from Configuration Store** in the **Configuration** tab.
5. Select **EZComm** from the **Protocol Name** list.

If you select the **Select Operations** check box, you could select any of the configured/imported operations. For this tutorial, select all operations and click **OK**.

6. Click **Import Selected Business Protocol**.

When you import the protocol, BusinessWorks retrieves information from the TIBCO BusinessConnect configuration store and puts them in the project folder.

7. Click **Save**.

Task C Configure Connections to Responder TIBCO BusinessConnect

On the Responder computer, complete all steps explained in [Task B, Configure Connections to Initiator TIBCO BusinessConnect, page 21](#), replacing all instances of Initiator With Responder.


Running the Tutorial

To see the complete tutorial for the Asynchronous Request Response operation, you must run it on both computers, Buyer and Seller.



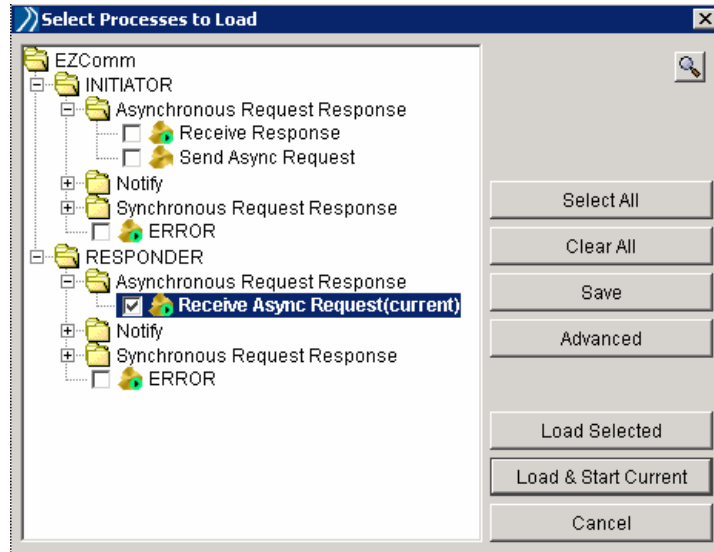
- You can also run the Synchronous Request Response and Notify transactions using the processes provided in this tutorial.
- The steps of how to load and run private processes in TIBCO Business Studio are similar to TIBCO Designer. See TIBCO ActiveMatrix BusinessWorks Documentation for more details.

Running the Tutorial on the Seller Computer

1. In TIBCO Designer, expand the **RESPONDER** folder.
2. Click **Asynchronous Request Response > Receive Async Request**.
3. Click **Read File > Input Tab > ReadActivityInput** and verify that the path given in the **fileName** field is valid.
4. Click the **Tester** tab.
5. Click **Start testing viewed process** .

The **Select Process to Load** page is displayed.

Figure 4 Select Process to Load

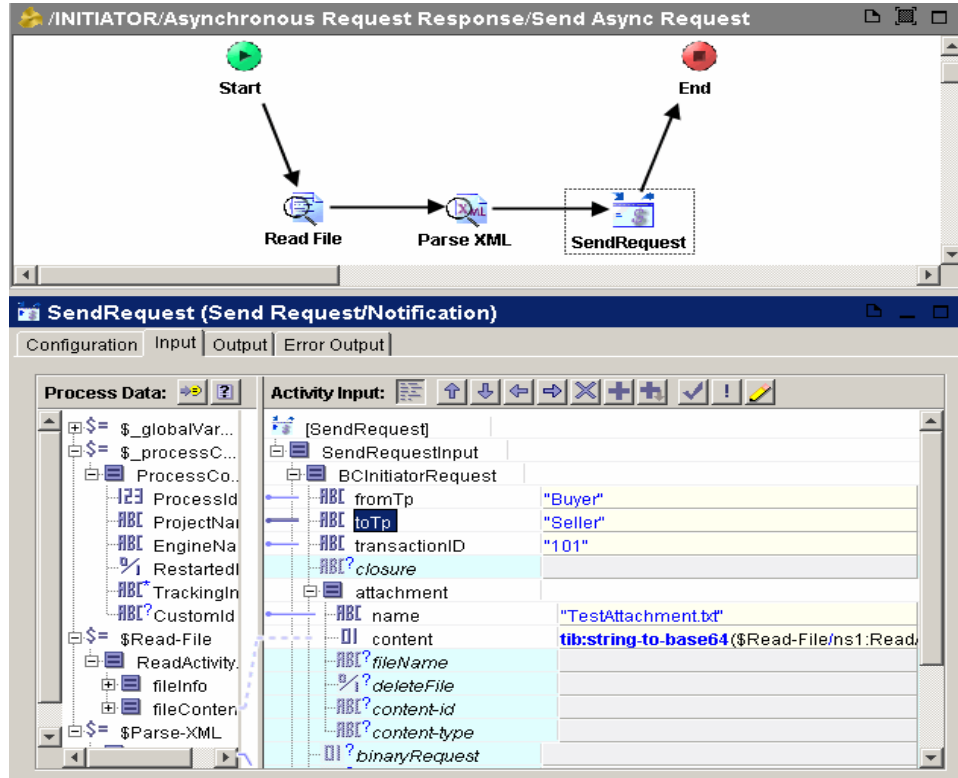


6. Select the **Receive Async Request(current)** check box.
7. Click **Load Selected**.

Once the request is received from the Buyer computer, this process receives the RESPONDER.REQUEST message and then send the RESPONDER.RESPONSE message to TIBCO BusinessConnect.

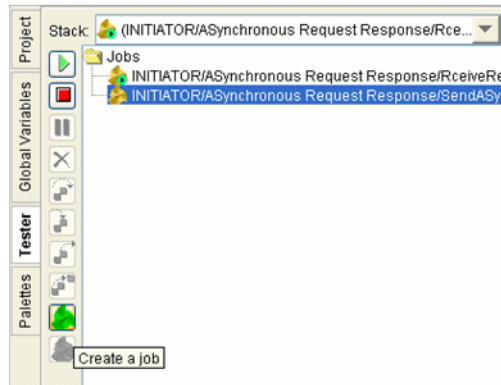
Running the Tutorial on the Buyer Computer

1. In TIBCO Designer, click **INITIATOR > Asynchronous Request Response**.
2. Click the Send ASync Request process.
3. Click the SendRequest activity.

Figure 5 *SendRequest (Input)*

4. Enter Buyer in the fromTP field and Seller in the toTP field in the **Input** Tab, as shown in Figure 5.
5. Click **Read File > Input Tab > ReadActivityInput** and verify that the path given in the fileName field is valid.
6. Click **Apply** and **Save**.
7. Click the **Tester** tab.
8. Select two processes:
 - INITIATOR/Asynchronous Request Response/Send Async Request
 - INITIATOR/Asynchronous Request Response/Receive Response processes.
9. Click **Load selected**.
10. On the Tester page, select the Send ASyncRequest operation and click **Create a job**.

Figure 6 Create Job for the Send ASyncRequest operation



It sends an INITIATOR.REQUEST to the INITIATOR TIBCO BusinessConnect. At the same time, the Receive Response activity receives the INITIATOR.RESPONSE message.

Figure 7 Send INITIATOR.REQUEST and Receive INITIATOR.RESPONSE

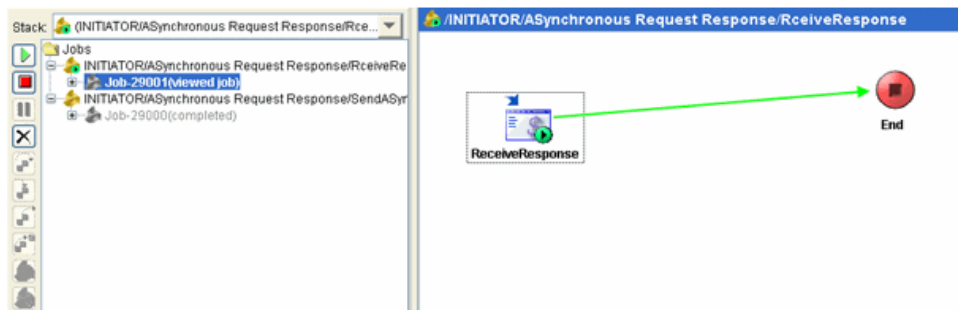


Figure 8 Send Async Request

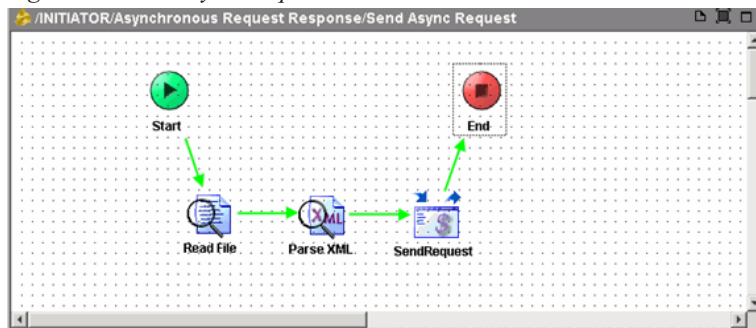
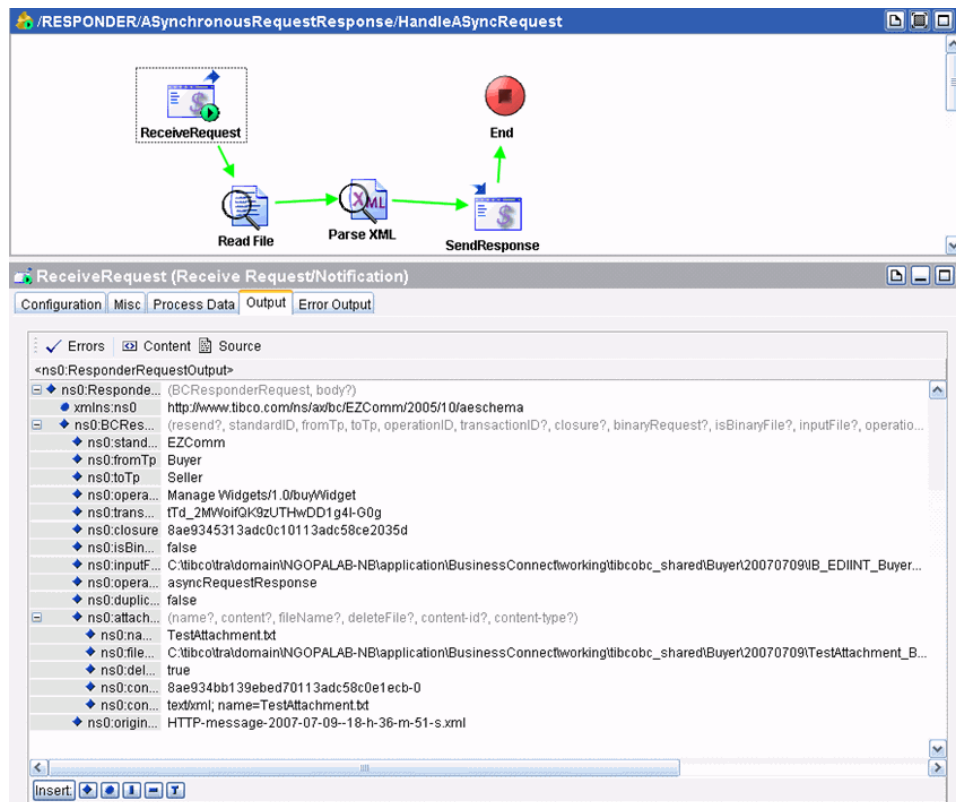


Figure 9 RESPONDER AsynchronousRequestResponse Process



Chapter 3 **Services Plug-in URIs**

This chapter provides more detailed information about the Services Plug-in URIs.

Topics

- [Exchanging URIs, page 28](#)

Exchanging URIs

Trading partners must exchange Uniform Resource Identifiers (URIs) as part of the business agreement before they can transact e-commerce.

For the Services Plug-in, the URI, the subject, and the headers can encode information about the from trading partner, to trading partner, and the operation ID of the transaction. For an outgoing HTTP message, Business Connect always populates these values in an HTTP URL. However, for an incoming HTTP message it can interpret these values from an HTTP header or an HTTP URL, in that order.



The Services Plug-in populates trading partner and operation information in the outgoing URI only if the URI ends with /EZComm.

Additional information in the URI, such as `toTP` and `fromTP`, is available only for transports other than AS1, AS2, or EMAIL, since the same information is derived from the internet headers such as AS2 TO/FROM ID and the EMAIL FROM/TO address. Such information becomes redundant and ambiguous if provided in the URI.

Available transports and their URI formats are listed in this section.

Email Transport

The URI format is `mailto://username@domain`, such as `mailto://john@acme.com`

When using Email transport, you have the option of specifying the mail subject. If the subject contains the string `operationID="category/version_number/operation_name"` then *OperationID* is taken as the operation ID for that transaction.

If the operation ID is not specified in the subject, then the value is what is sent by the private process.

File Transport

The URI format is `file://BaseDir/*.*`

This causes all directories under *BaseDir* to be checked for files. In order for the file to be handled by the Services Plug-in, the document must appear as follows:

- Default behavior, such as for the operation `BC/version/Notify`:

BaseDir/EZComm/TpName

- Non-default behavior, for other operations:

BaseDir/EZComm/TpName/Category_version_OperationID

where *BaseDir* is a user selected base directory, *TpName* is the name of the trading partner, *Category* is the operation category, *version* is the operation version, and *OperationID* is the operation ID.

If *OperationID* is not provided, then it defaults to *BC/version/Notify*.



A file name can be specified in the file mask field. See *TIBCO BusinessConnect Trading Partner Administration Guide*, Table 41, Outbound File Transport for information about how to specify the file mask field in File transport.

You should provide a file mask **.** for a file. Otherwise, the file is not picked up by the File transport.

FTP Transport

URI format *ftp://server:port/dir*. *dir* can be anything or absent.



A file name can be specified in the file mask field. See *TIBCO BusinessConnect Trading Partner Administration Guide* for information about how to specify the file mask field in FTP transport.

With the Services Plug-in, FTP inbound transactions always defaults to the *BC/version/Notify* operation.

You should provide a file mask **.** for a file. Otherwise, the file is not picked up by the FTP transport.

HTTP/S Transport

URI for the HTTP Transport

URI format: *http://server:port/dmz/EZComm*

Example: *http://www.gizmo.com:555/dmz/EZComm*

For HTTP transport, the partner name, host name, and operation ID can be specified as parameters in the request URI or as transport headers.

The parameters or headers that the Services Plug-in expects are as follows:

- **fromTp** This is a required field for the incoming message.
- **toTp** If this parameter is missing, it defaults to the default host.
- **operationID** If this parameter is missing, it defaults to *BC/version_number/Notify*.
- **fileName** If you specify the parameters in the URI, the format is:

`http://host:port/dmz/EZComm?fromTp=fromTP&toTp=toTP&operationID=opID&fileName=fileName`



The `fileName` feature is not supported for the AS2-HTTP transport.

URI for the HTTPS Transport

URI format: `https://server:port/dmz/EZComm`

Example: `https://www.gizmo.com:555/dmz/EZComm`



BusinessConnect 6.x still supports the older BusinessConnect 5.x URI format `http://server:port/EZComm` (or `https://server:port/EZComm`) for backward compatibility, but is deprecated starting with the BusinessConnect 6.0 release.

Populating URIs



The AS2 specification does not support custom headers.

URIs are populated as follows:

- On the outbound side, URI fields have precedence over the headers.
- On the inbound side, if values are specified in headers as well as URI places, the transport headers take precedence over the request URI values.

Chapter 4 **Managing Services Plug-in Operations**

This chapter describes how to manage the Services Plug-in operations.

Topics

- [Overview, page 32](#)
- [Notify Operation, page 35](#)
- [Synchronous Request Response Operation, page 36](#)
- [Asynchronous Request Response Operation, page 37](#)
- [Configuring Services Plug-in Operations, page 39](#)

Overview

The exchange of business documents is known as the *process flow*. In any BusinessConnect process flow, two types of messages are exchanged:

- Public messages or operations
- Private messages. See [Private Messages](#), page 68.

About Services Plug-in Operations

Public messages are exchanged over the Internet between BusinessConnect and another B2B installation. The following message types are supported in the Services Plug-in:

- [Notify Operation](#), page 35
- [Synchronous Request Response Operation](#), page 36
- [Asynchronous Request Response Operation](#), page 37

About Schema Validation in the Services Plug-in

Schema validation in the Services Plug-in is performed based on the following:

- Schema type: XSD or DTD
- Direction of messages
- Whether the validation is done for a request or for a response

Caching of Schemas

The referenced schema is updated in the validator cache during runtime validation, in the same way as if it was saved through the GUI.

When a schema is used by reference, you do not observe any schema changes in the referenced object but you could see the change on the reference instead. This means that the TIBCO BusinessConnect configuration store does not scan the referenced object each time the validation occurs, but it instead indicates if there is a change in the uploaded file object. You need to update the reference in the GUI — re-save the schema reference — and the new referenced object is updated in the cache.

See also [Validation Schema Name](#), page 42 for more information about how to choose which schema to use: XSD or DTD.

Duplicate Message Detection

The Services Plug-in allows both incoming and outgoing public messages to be verified for duplicates. A message is determined to be a duplicate based on the certain message field values such as `transactionID`, `operationID`, and so on.

For each message, a message digest from the predetermined fields is created and stored in a table. If any subsequent message has the same message digest, it is considered to be a duplicate message. If requested by the user, all incoming requests are checked for duplicates.

Both the inbound and outbound requests for a trading partner can be configured for the duplicate detection.

If the duplicate detection for the outbound messages is enabled, all the incoming private process messages are checked for duplicate detection. If a request is found to be a duplicate, the transaction is terminated and an error advisory is sent to the private process.

For the inbound requests, the private process is notified by setting the duplicate field to `true`, while it is up to the private process to take further action.

Outbound Duplicate Detection Criteria



For asynchronous and synchronous responses, outbound duplicate detection is not supported (only inbound duplicate detection is supported).

The following fields from the private process are used in calculating the message digest for duplicate detection for outbound requests:

- `TransactionID` received from the user



When the outbound File poller initiates a transaction, the `transactionID` element is used for calculating the message digest.

- Payload: `plainRequest`, `binaryRequest`, `inputFileName` (file content)
- Trading partner host name
- Operation ID
- Host name

Inbound Duplicate Detection Criteria



For asynchronous and synchronous responses, only inbound duplicate detection is supported.

The following values from the incoming request are used in calculating the message digest for duplicate detection for inbound requests.

- Payload
- Trading partner name
- Operation ID

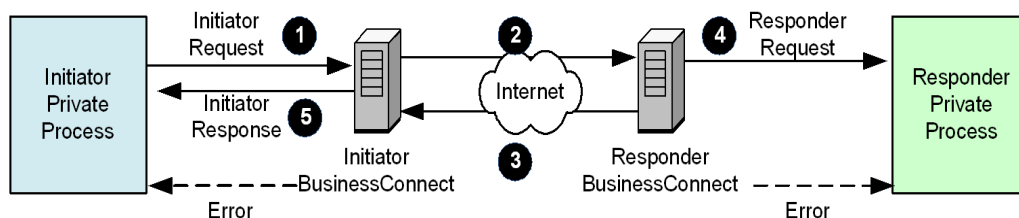
If an error occurs during the transaction processing, the duplicate detection entry from the table BC_DUP is deleted.

Notify Operation

Notify is a one way operation that simply sends a document to the trading partner and receives an acknowledgement: it is not capable of receiving a response from the trading partner.

The operation flow in a Notify operation is shown in [Figure 10](#).

Figure 10 Notify Operation



The following process flow occurs with the Notify operation:

1. The Initiator private process sends a message to the Initiator TIBCO BusinessConnect.
2. The Initiator TIBCO BusinessConnect retrieves relevant information and sends the message to the Responder TIBCO BusinessConnect.
3. The Responder TIBCO BusinessConnect immediately sends a transport response (acknowledgment) to the Initiator TIBCO BusinessConnect on the *same channel* as the Initiator business request.

4. The Responder TIBCO BusinessConnect then forwards the message to the local private process.

See [Responder Inbound Request — BusinessConnect to Private Process](#). The Responder TIBCO BusinessConnect considers the operation as complete.

5. The Initiator TIBCO BusinessConnect sends an INITIATOR.RESPONSE message to the private process.

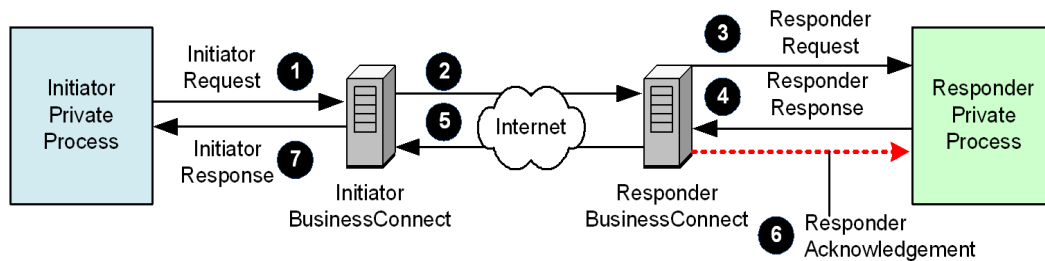
See [Initiator Inbound Response — BusinessConnect to Private Process](#). This message is sent independently from the Responder TIBCO BusinessConnect, which sends a RESPONDER.REQUEST message to the Responder private process.

Supported Transports for the Notify Operation are: HTTP, HTTPS, HTTPSCA, File, FTP, FTPS, SSHFTP, Email, AS1, and AS2.

Synchronous Request Response Operation

The Synchronous Request Response operation can send a document to the trading partner and wait for a response. It waits until the response is received and suspends any further processing for that request. This operation is used to send documents to trading partners and require response for further processing to proceed. The operation flow is presented in Figure 11.

Figure 11 Synchronous Request-Response Operation



1. The Initiator private process sends the request to the Initiator.
2. The Initiator sends the request to the Responder and waits for the response until the timeout specified in the appropriate transport has expired.
3. The Responder TIBCO BusinessConnect sends the request to the Responder private process.
4. The Responder private process send a response. If the private process does not respond on time, the Responder TIBCO BusinessConnect times out and ends the transaction. If the response from the private process arrives after this time out, the message is rejected and an error is thrown.
5. The response is forwarded to the Initiator TIBCO BusinessConnect.
6. The Responder acknowledgement is sent to the private process indicating whether the response has been forwarded to the trading partner. It does not indicate whether the trading partner has received it or not.
7. Upon receiving the response from the Responder, the Initiator sends the Initiator Response message. If the Initiator times out, an audit log entry is generated, a timeout error advisory is sent, and the connection is closed.



Resending of Responder.Request and Responder.Response for the Synchronous Request Response operation is not supported for the Services Plug-in.

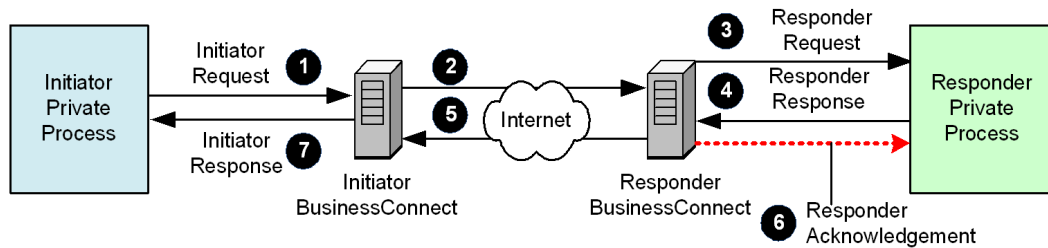
Supported transports are: HTTP, HTTPS, and HTTPSCA.

Asynchronous Request Response Operation

The asynchronous Request Response operation can send a document to the trading partner and wait for a response. It allows further processing, irrespective of the arrival of the response from the partner.

Figure 12 shows what happens when you run an asynchronous Request Response operation.

Figure 12 Tutorial: Asynchronous Request Response Operation



The following process flow occurs:

1. The Initiator private process sends a request to the Initiator TIBCO BusinessConnect.
2. The Initiator TIBCO BusinessConnect sends the request to the Responder and waits for the response until the timeout specified in the operation has expired.
3. The Responder TIBCO BusinessConnect sends a request to the Responder private process.
4. The Responder private process sends the response. If the private process does not respond on time, the Responder TIBCO BusinessConnect would time out and end the transaction.

If the response from the Responder private process arrives after the timeout, the message is rejected and an error advisory is sent.

5. If the response from Responder private process is received on time, the response is forwarded to the Initiator TIBCO BusinessConnect.
6. A Responder acknowledgement is sent to the Responder private process indicating whether the response has been forwarded to the trading partner.
7. After receiving the response from the Responder, the Initiator sends the Initiator Response message.

If the Initiator TIBCO BusinessConnect times out, an audit log entry is generated and a timeout error advisory is sent out. In this case, the request is cancelled. When the response arrives at a later time, there is not any corresponding request present, the

advisory is rejected, an error advisory is published, and an internal system error is sent to the partner.



Resending of `Responder.Response` is not supported for the asynchronous Request Response operation.

Resending of `Responder.Request` is supported for the asynchronous Request Response operation. It can generate a response from the private process that is not sent to the trading partner. In this case, a proper error message and an audit log is generated.

Supported transports are: HTTP, HTTPS, HTTPSCA, AS2_HTTP, Email, and AS1_EMAIL.

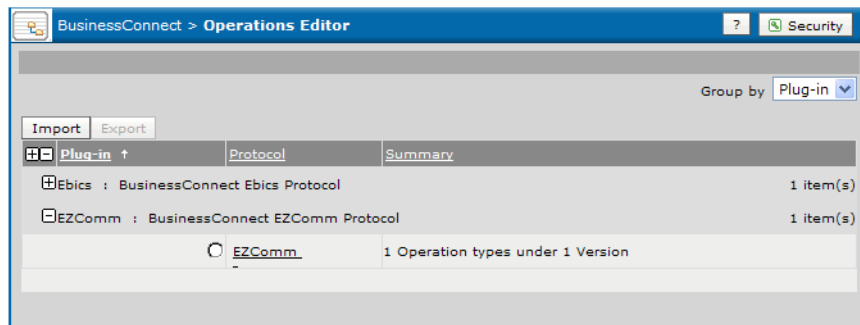
Configuring Services Plug-in Operations

To configure a Services Plug-in operation:

1. Start TIBCO Administrator.
2. Click **BusinessConnect > Operations Editor**.

On the Operations Editor page, group the available installed protocols (plug-ins) by **Plug-in** or **None**.

Figure 13 Configure New Operation for the Services Plug-in



Using this page to:

- **Import** a new operation by clicking **Import**.
- **Export** the existing operations, by selecting the radio button next to the plug-in and clicking **Export**.

Add New Category

Category is used to group operations based on their type.

1. Click the **EZComm** link.
The Edit Operations: EZComm page is displayed.
2. Click **New Category**.
3. On the New Category page:
 - In the **Name** field, type a category name (required).
 - In the **Description** field, type a brief description for this category (optional).
4. Click **Save**.

Add New Version

Version is used to allow various subgroups of operations, such as Notify only, or Notify and Synchronous Request Response, and so on.

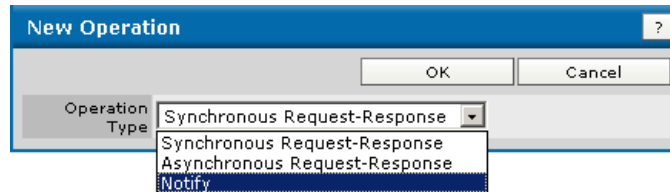
1. Click **New Version** with the category selected.
2. On the New Version page:
 - In the **Name** field, type a version name (required)
 - In the **Description** field, type a brief description for this version (optional).
3. Click **Save**.

Add New Operation

Operations are added to a specific version. Each version can contain the same or different operation sets.

1. Click **New Operation** with the a version selected.
The New Operation page is displayed.

Figure 14 New Operation Dialog



2. Select one operation from the **Operation Type** list:
 - [Synchronous/Asynchronous Request-Response Operation Tab](#)
 - [Notify](#)
3. Click **OK**.

Synchronous/Asynchronous Request-Response Operation

The two operations are configure in a similar way, with small differences that are pointed out in the instructions.

To configure the Synchronous Request-Response operation, the following tabs are used:

- [Synchronous/Asynchronous Request-Response Operation Tab](#)
- [Request Action Tab](#)

- [Response Action Tab](#)

Synchronous/Asynchronous Request-Response Operation Tab

In the Synchronous Request-Response Operation tab, enter information according to [Table 10](#).

Table 10 Synchronous/Asynchronous Request-Response Operation Tab

Field	Enter/Select
Name	Name of the operation (required).
Description	Brief description for the operation.
Inbound	
Validate Message	When selected, any inbound messages (either request or response), are validated. This should be selected in the following cases: <ul style="list-style-type: none"> • If the Initiator needs the response from the partner to be validated. • If the Responder needs the request to be validated.
Outbound	
Validate Message	When selected, either the request or response is validated. This check box should be selected in the following cases: <ul style="list-style-type: none"> • Initiator needs that the request to the partner be validated. • Responder needs that the response be validated.

Click **Save**.

Request Action Tab

In the Request Action tab, enter information according to [Table 11](#).

Table 11 Request Action Tab

Field	Enter/Select
Name	Name of the request action.
Description	Brief description for the request action.
Direction	Initiator to Responder (pre-defined).

Table 11 Request Action Tab (Cont'd)

Field	Enter/Select
Validation Schema Name	<p>Either XSD or DTD schema can be defined. The file selected here should match the validation type selected in the field XML Document Validation.</p> <p>To select a schema document:</p> <ol style="list-style-type: none">Click the change link.On the Change File page, select one of the following two from the Type list: File Reference If you select File Reference, enter the path to the .xsd file you want to use. Uploaded File If you select Uploaded File:<ol style="list-style-type: none">Click Browse and navigate to the schema file. In this tutorial, it is located in the directory <i>BC_HOME</i>\protocols\ezcomm\samples\sampleXML\xsd. Note: The Services Plug-in supports XSD and DTD schema validation. In this tutorial, the XSD validation is used.Click Open.Click OK.
Require Digital Signature	Used for both HTTP and HTTPS transports. If selected, this option signs the outgoing messages and force the incoming messages to be signed.
Require Content Encryption	Used for both HTTP and HTTPS transports. If selected, this option encrypts the outgoing messages and force the incoming messages to be encrypted.
Wait time for Response (seconds)	<p>This field is available only for the asynchronous Request-Response operation.</p> <p>The default is 3600 seconds.</p>
For BC Palette use only	
XML Document Validation	Select XSD or DTD from the XML Document Validation list.
Root XML Element Name	Root XML element name, which is the top-level XML element in the document. It is only required if you are going to use the TIBCO BusinessConnect palette.

Click **Save**.

Response Action Tab



This tab is not available for the Notify operation.

On the Edit Operation page, enter information according to [Table 12](#).

Table 12 Response Action Tab

Field	Enter/Select
Name	Name of the response action.
Description	Brief description for the response action.
Direction	Responder to Initiator (pre-defined).
Validation Schema Name	<p>Either XSD or DTD schema can be defined. File selected here must match the validation type selected in the field XML Document Validation.</p> <p>For more information about how to select the schema document, see Validation Schema Name, page 42.</p>
Require Digital Signature	Used for both HTTP and HTTPS transports. If selected, this option signs the outgoing messages and force the incoming messages to be signed.
Require Content Encryption	Used for both HTTP and HTTPS transports. If selected, this option encrypts the outgoing messages and force the incoming messages to be encrypted.
Private Process Wait (seconds)	<p>Specifies the amount of time that the Responder waits for the response from the private process.</p> <p>The default is 3600 seconds (60 minutes).</p>
For BC Palette use only	
XML Document Validation	Select XSD or DTD from the XML Document Validation list.
Root XML Element Name	Root XML element name, which is the top-level XML element in the document. It is only required if you are going to use the TIBCO BusinessConnect palette.

Click **Save**.

Notify Operation

To configure the Notify operation, the following tabs are used:

- [Notify Operation Tab](#)
- [Notify Request Action Tab](#)

Notify Operation Tab

In the Notify Operation tab, enter information according to [Table 13](#).

Table 13 *Notify Operation Tab*

Field	Enter/Select
Name	Name of the operation (required).
Description	Brief description for the operation.
Inbound	
Validate Message	<div>When selected, any inbound messages (either request or response), are validated. This should be selected in the following cases:</div> <ul style="list-style-type: none">• If the Initiator needs the response from the partner to be validated.• If the Responder needs the request to be validated.
Outbound	
Validate Message	<div>When selected, either the request or response is validated. This check box should be selected in the following cases:</div> <ul style="list-style-type: none">• The initiator needs that the request to the partner be validated.• The responder needs that the response be validated.

Click **Save**.

Notify Request Action Tab

In the Request Action tab, enter information according to [Table 14](#).

Table 14 *Request Action Tab*

Field	Enter/Select
Name	Name of the request action.

Table 14 Request Action Tab (Cont'd)

Field	Enter/Select
Description	Brief description for the request action.
Direction	Initiator to Responder (pre-defined).
Validation Schema Name	<p>Either XSD or DTD schema can be defined. The file selected here should match the validation type selected in the field XML Document Validation.</p> <p>To select the schema document:</p> <ol style="list-style-type: none"> 1. Click the change link. 2. On the Change File page, select one of the following from the Type list: <ul style="list-style-type: none"> • File Reference If you select File Reference, enter the path to the .xsd file you wish to use. • Uploaded File If you select Uploaded File: <ol style="list-style-type: none"> a. Click Browse and navigate to the schema file. In this tutorial, it is located in the <code>BC_HOME\protocols\ezcomm\samples\sampleXML\xsd</code> directory. <p>Note: The Services Plug-in supports XSD and DTD schema validation. In this tutorial, the XSD validation is used.</p> b. Click Open. c. Click OK.
Require Digital Signature	Used for both HTTP and HTTPS transports. If selected, this option signs the outgoing messages and force the incoming messages to be signed.
Require Content Encryption	Used for both HTTP and HTTPS transports. If selected, this option encrypts the outgoing messages and force the incoming messages to be encrypted.
Wait time for Response (seconds)	<p>This field is available only for the asynchronous Request-Response operation.</p> <p>The default is 3600 seconds.</p>
For BC Palette use only	
XML Document Validation	Select XSD or DTD from the XML Document Validation list.
Root XML Element Name	Root XML element name, which is the top-level XML element in the document. It is only required if you are going to use the TIBCO BusinessConnect palette.

Click **Save**.

Chapter 5 **Managing Properties**

This chapter explains how to add and remove the Services Plug-in properties.

Topics

- [Managing Services Plug-in Properties, page 48](#)

Managing Services Plug-in Properties



You can remove only user defined properties; the default properties should not be removed.

You can add, change, or remove Services Plug-in properties using the Edit Plug-in Properties dialog.

To view, add, or delete a property:

1. In TIBCO Administrator, click **BusinessConnect > System Settings > Activated Protocol Plug-ins and Properties**.
2. Click **EZComm**.

The following Services Plug-in properties are displayed:

- **ezcomm.notify.email.preserveSubject** Preserve Email Subject specified by the user.

When sending email messages for EMAIL and AS1 transports, TIBCO BusinessConnect Services Plug-in generates the email subject based on operation and transaction IDs. However, it is possible to preserve the subject specified by the user on EMAIL and AS1 transports by enabling the property `ezcomm.notify.email.preserveSubject`. By setting this property to true, users can send their own email subject to trading partners.

- **ezcomm.interior.pp.threshold** Private Process SkipContent Threshold (KB)

Enter the threshold value. The default is 10000 KB.

- **ezcomm.outbound.ftp.write.payload.to file** Preserve Payload to be written to file for FTP Puts.

Select the check box to preserve payload. The default is unchecked.

Add a Property

1. Click **Add**.
2. Type a name for the property in the **Property Name** field.
3. Select a data type from the **Property Type** list: **boolean**, **string** or **integer**.
4. Type a description of the new property in the **Description** field.
5. Click **Save**.

Delete a Property

1. Click **Delete**.

2. Type the name of the property you want to delete and click **OK**.

Chapter 6 **Setting Up Trading Hosts and Partners**

This chapter explains how to set up trading hosts and partners for TIBCO BusinessConnect Services Plug-in.

Topics

- [Configuring Services Plug-in for a Host, page 51](#)
- [Configuring Services Plug-in for a Partner, page 53](#)

Configuring Services Plug-in for a Host

To configure the default host in a business agreement:

- [Configuring the Initiator Default Host, page 51](#)
- [Assigning Default Host for Initiator, page 52](#)

Configuring the Initiator Default Host

1. Click **BusinessConnect > Participants**.
2. Click **New**.
3. On the New Participant page, type the host's name in the **Name** field.
4. Select **Host** in the **Type** list.
5. Click **OK**.
6. Click the host link.
7. On the Edit Host Participant page, select the **Active** check box.
8. Click **Apply**.
9. On the Edit Host Participant page, click the **Protocols** tab.
10. Click the **EZComm** link.

Select or enter the information according to [Table 15](#).

Table 15 Host Settings: General Tab

Field	Description
AS2 Identifier	An identifier to use in the AS2-From header field of the HTTP message. This identifier should be mutually agreed upon between trading partners. For more information about AS2 Identifiers, see <i>TIBCO BusinessConnect Server Administrator's Guide</i> , Disabling Session Cache for HTTPS.
Valid Email Address List	Enter the list of valid email addresses for this participant, separated by a semicolon or comma. For details, see <i>TIBCO BusinessConnect Trading Partner Administration Guide</i> .

11. Click **Save**.

Assigning Default Host for Initiator

1. Click **BusinessConnect > System Settings**.
2. Click the **General** link.
3. On the **General** page, select the appropriate host in the **Default Host** list.
4. Click **Save**.

Configuring Services Plug-in for a Partner

To configure a partner in a business agreement:

1. Click **BusinessConnect > Participants**.
2. Click **New**.
3. On the New Participant page, type a partner's name in the **Name** field.
4. Select **Partner** in the **Type** list.
5. Click **OK**.

Both the Buyer (Host) and Seller (Partner) now are displayed on the Participants panel.

6. Click the partner link.
7. On the Edit Host Participant page, select the **Active** check box.
8. Click **Apply**.

Enabling Protocol for Initiator Partner

1. On the Edit Partner Participant page, click the **Protocols** tab.
2. Click **Enable**.

The Enable page with installed protocols is displayed.

3. Select the **EZComm** check box.
4. Click **OK**.

The EZComm protocol is now in the **Protocol Name** list.

5. Click the **EZComm** link.

The Edit Enabled Protocol: EZComm page is displayed with the following tabs:

- [General Tab](#)
- [Transports Tab](#)

General Tab

Select or enter information as explained in [Table 16](#).

Table 16 Partner Settings: General Tab

Field	Description
AS2 Identifier	<p>An identifier to use in the AS2-To header field of the HTTP message. This identifier should be mutually agreed upon between trading partners.</p> <p>For more information about AS2 Identifiers, see <i>TIBCO BusinessConnect Trading Partner Administration Guide</i>, Disabling Session Cache for HTTPS.</p>
Valid Email Address List	<p>Enter the list of valid email addresses for this participant, separated by a semicolon or comma.</p> <p>For details, see <i>TIBCO BusinessConnect Trading Partner Administration Guide</i>, Table 28, Configuring HTTP/S for a Trading Partner: General Tab.</p>
Allow override of filename via HTTP parameter	<p>If this check box is selected, and a file reference is being passed from the private process, then the name of the file is passed on to the Responder in an HTTP header called <code>filename</code>.</p> <p>This property also applies for the Inbound transports, specifically, when AS2 headers have the filename embedded that are sent to the private process.</p> <p>For more information, see Allow override of filename via HTTP parameter (applies only to HTTP/S transports).</p>
Duplicate Detection for Outbound	<p>If selected, all incoming private process messages and the outgoing responses are checked for duplicate detection.</p> <p>If a request is found to be a duplicate, the transaction is terminated and an error advisory is sent.</p>
Duplicate Detection for Inbound	<p>All incoming requests for Responder and Initiator are checked for duplicates.</p> <p>If any duplicates are found, the duplicate field in the private process message is set to <code>true</code>.</p>

Click **Save**.

Transports Tab

To add a transport for the partner:

- 1. Click the **Transports** tab.
- 2. Click **Add**.

Enter data for the new transport as explained in [Table 17](#).

Table 17 New Transport for the Partner

Field	Description
Name	Enter the name for the transport (required).
Type	Select the transport type from the Type list. To configure a specific transport for the partner, see <i>TIBCO BusinessConnect Trading Partner Administration Guide</i> , and then refer to the appropriate chapter for the transport .

- 3. Click **OK**.

Define URL

To define the URL for the partner, enter the following information:

URL (required): `www.hostname:6700/dmz/EZComm`.

Chapter 7

Configuring Business Agreements

This chapter explains how to configure business agreements and protocol bindings for the Services Plug-in.

Topics

- [Adding a New Business Agreement, page 58](#)
- [Configuring Agreement Protocol Binding for Services Plug-in, page 59](#)

Adding a New Business Agreement

After both trading partners are configured, you can now configure their business agreement:

1. Click **BusinessConnect > Business Agreements**.
2. Click **New**.

The New Agreement page is displayed.

Verify that the plug-in is displayed in the Protocols column for both trading partners between which you want to configure a business agreement. If it is missing, return back to [Enabling Protocol for Initiator Partner, page 53](#) and enable it.

3. Select a host from the **Host Party** list.
4. Select a partner from the **Partner Party** list
5. Click **OK**.

The New Agreement page is displayed.

6. Confirm that the **Valid** check box is selected. It makes the agreement valid immediately.

If you want to make the agreement valid for a certain time period, do the following:

- Use the **Start Date** lists to specify the start date.
- Use the **End Date** lists to specify the stop date. This date has to be later than the start date.

Configuring Agreement Protocol Binding for Services Plug-in

To configure Services Plug-in agreement protocol bindings:

- 1. On the New Agreement page, click **Add Protocol Bindings**.
- 2. On the Select Protocol page, select the **EZComm** check box.
- 3. Click **OK**.

The New Agreement page is displayed.

- 4. Click the **EZComm** link in the **Agreement Protocol Binding** list.

The following tabs for configuring protocol binding options are available:

- [Operation Bindings Tab](#)
- [Document Security Tab](#)
- [Transports Tab](#)
- [Show Advanced Tab](#)

Operation Bindings Tab

Use the Operations Binding tab to configure the Services Plug-in operations that each participant in a business agreement can initiate and respond to.

The Host 'X' Can Initiate and Partner 'Y' Can Initiate areas list the activities that the host/partner can initiate and the partner/host can respond to.

- 1. Enter information according to [Table 18](#).

Table 18 Edit Protocol Binding: Operation Binding Tab

Field	Description
Allow All Operations	If the check box is selected, you do not need to specify operation bindings that the host or partner can initiate. If the check box is cleared, you need to define the specific operation bindings.
Non-Repudiation Logging	The non-repudiation log is used to provide proof of the delivery of messages. For details, see <i>TIBCO BusinessConnect Concepts</i> , Non-Repudiation.

- 2. In the **Initiating Operations** section, click **Add Operation Binding**.
- 3. Expand the operation tree and select the operation.
- 4. Click **OK**.

The selected operation is displayed in the **Operation Name** list.

Edit Operation Bindings for the Host

Click the operation in the **Initiating Operations** section. The following tabs for configuring options are available:

- [Operation Settings Tab](#)
- [Action Settings Tab](#)
- [Transports Tab](#)

Operation Settings Tab

Override the operation settings as shown in [Table 19](#).

Table 19 Override Outbound Settings: Operation Settings Tab (All Operations)

Field	Description
Override Operation Settings	<p>Select the check box to override the operation settings for this operation. These settings have been previously configured, as explained in Importing the Tutorial.</p> <p>Note When a BusinessConnect server acts as the Initiator, the transport for sending an outbound document can be overridden for all operation types bound in this section. Such overriding does not apply to the outbound responses of an Asynchronous Request Response operation in cases when the BusinessConnect server acts as the Responder.</p>
Inbound	
Validate Message	<p>When selected, an inbound messages (either request or response) are validated. This should be selected in the following cases:</p> <ul style="list-style-type: none">• If the Initiator needs the response from the partner to be validated.• If the Responder needs the request to be validated.
Outbound	
Validate Message	<p>When selected, either the request or response is validated.</p> <p>This check box should be selected in the following cases:</p> <ul style="list-style-type: none">• Initiator needs that the request to the partner be validated• Responder needs that the response be validated

Click **Save** or **Cancel** (if no changes have been made).

Action Settings Tab.

Override the action settings using [Table 20](#).

Table 20 Override Outbound Settings: Actions Tab (Notify and Asynchronous Request-Response Operations)

Field	Description
Override Action Settings	Select the check box to override the originally configured action settings for the host.
Require Digital Signature	(Notify operation with HTTP and HTTPS transports only) Select to override the originally configured signature settings for the host.
Require Content Encryption	(Notify operation with HTTP and HTTPS transports only) Select to override the originally configured encryption settings for the host.
Wait Time for Response (seconds)	(Asynchronous Request-Response operation only) Select to override the originally configured Wait time for the Initiator. The default is 3600 seconds (60 minutes).

Click **Save** or **Cancel** (if no changes have been made).

Transports Tab

Configure transport settings as shown in [Table 21](#).

Table 21 Override Outbound Settings: Transports Tab (All Operations)

Field	Description
Override Transports	Select the check box to override the originally configured transport for the host.
Override Outbound Transports	
Primary Transport	Select any of the transports previously configured for the partner. See Add Transport for the Initiator Partner , page 10 for details.

Click **Save** or **Cancel** (if no changes have been made).

Edit Operation Bindings for a Partner



When a BusinessConnect sever acts as the Responder, the transport for sending an outbound document can only be overridden when sending the response for asynchronous operation types bound in this section.

Click the operation in the **Responding Operations** section. The following tabs for configuring options are available:

- [Operation Settings Tab](#)
- [Action Settings Tab](#)
- [Transports Tab](#)

Operation Settings Tab

Override the operation settings as shown in [Table 22](#).

Table 22 Override Inbound Settings: Operation Settings Tab (All Operations)

Field	Description
Override Operation Settings	Select the check box to override the operation settings for this operation. These settings have been previously configured, as explained in Importing the TutorialI .
Inbound	
Validate Message	When selected, an inbound messages (either request or response) are validated. This should be selected in the following cases: <ul style="list-style-type: none">• If the Initiator needs the response from the partner to be validated.• If the Responder needs the request to be validated.
Outbound	
Validate Message	When selected, either the request or response is validated. This check box should be selected in the following cases: <ul style="list-style-type: none">• Initiator needs that the request to the partner be validated• Responder needs that the response be validated

Click **Save** or **Cancel** (if no changes have been made).

Action Settings Tab

To configure either the Synchronous or Asynchronous Request Response operation, click the **Action Settings** tab and override the action settings as shown in [Table 23](#).

Table 23 Override Inbound Settings: Actions Tab (Synchronous and Asynchronous Request Response)

Field	Description
Override Action Settings	Select to override the originally configured action settings for the partner.
Private Process Wait (seconds)	Select to override the originally configured Wait time (amount of time the Responder waits for the response from the private process). The default is 3600 seconds (60 minutes).

Click **Save** or **Cancel** (if no changes have been made).

Transports Tab

Override transport settings as shown in [Table 24](#).

Table 24 Override Inbound Settings: Transports Tab (All Operations)

Field	Description
Override Transports	Select the check box to override the originally configured transport for the partner. Note For the Synchronous Request Response operation, this option is invalid.
Override Outbound Transports	
Primary Transport	Select any of the transports previously configured for the partner.

Click **Save** or **Cancel** (if no changes have been made).

Document Security Tab

To learn how to edit this tab, see *TIBCO BusinessConnect Trading Partner Administration Guide*, Document Security Tab.

See also *TIBCO BusinessConnect Concepts*, Chapter 8, Security.

Shadow Credential Usage for the Services Plug-in

Sending Signed or Encrypted Messages

When sending signed or encrypted messages over HTTP, HTTPS, or HTTPSCA transports, you can use shadow credentials during overlay and shadow credential period to sign or encrypt these messages.

Receiving Signed or Encrypted Messages

When receiving signed or encrypted messages from a trading partner over HTTP, HTTPS, or HTTPSCA transports, credentials are picked during the overlay period in the following order:

- a. Shadow credential is tried for authentication or decryption.
- b. If this fails, the original credential is tried.

For the shadow credential period, only the shadow credential is tried.

Transports Tab

The Transports tab is divided in two sections as follows:

- The top section is used for specifying transport information for the outbound, or host to trading partner, direction.
- The bottom section is used for specifying transport information for the inbound, or trading partner to host, direction.

Configure transports for the host according to [Table 25](#).

Table 25 Configure Transports for the Host

Field	Description
Outbound Transports for Host	
Primary Transport	Select the outbound transport that was previously configured. See Add Transport for the Initiator Partner for more details.
AS2 MDN Async Reply Transport	Select any of the configured transports. For more information, see <i>TIBCO BusinessConnect Trading Partner Administration Guide</i> .

Table 25 Configure Transports for the Host (Cont'd)

Field	Description
AS2 Async MDN Remote Server Certificate	For more information, see <i>TIBCO BusinessConnect Trading Partner Administration Guide</i> .
Client Authentication Identity for HTTPS, FTPS, HTTPSCA	For more information, see <i>TIBCO BusinessConnect Trading Partner Administration Guide</i> .
Client Authentication Identity for SSHFTP	For more information, see <i>TIBCO BusinessConnect Trading Partner Administration Guide</i> , Edit Protocol Bindings: Transports Tab.
Allowed Inbound Transports for Partner	
(list of configured partner transports)	Select the appropriate check boxes to allow certain inbound transports for the partner.

Click **Save** twice.

Show Advanced Tab

The **Show Advanced** tab on the Edit Protocol Bindings page allows you to configure additional settings for the host in a business agreement.

1. Click **Show Advanced**.
The Edit Protocol Bindings page is displayed with two additional tabs: Host's Configuration and Partner's Configuration.
2. To hide the Host's and Partner's Configuration tabs, click **Hide Advanced**.

Override Settings for the Host

To override general settings for the host:

1. Select the tab representing the host.

2. Enter or select information according to [Table 26](#).

Table 26 *Edit Protocol Bindings: Advanced Settings for Host*

Field	Description
Override Settings	<p>If you select the Override Settings check box, it overrides the values set on the host level: the AS2 Identity selected from the AS2 Identifier list is used to override the default AS2 identity for the host configured by using the procedure described in the following sections:</p> <ul style="list-style-type: none">• <i>TIBCO BusinessConnect Trading Partner Administration Guide</i>, Set the Host’s AS2 Identifier for a Protocol.• <i>TIBCO BusinessConnect Trading Partner Administration Guide</i>, Disabling Session Cache for HTTPS. <p>If you clear the Override Settings check box, the default AS2 identity for the host remains valid.</p>
AS2 Identifier	Select an AS2 identity that is used to override the default AS2 identity.

3. Click **Save**.

Override Settings for the Partner

To override general settings for the partner:

1. Select the tab representing the partner.
2. Enter or select information according to [Table 27](#).

Table 27 *Edit Protocol Binding: Advanced Settings for Partner*

Field	Description
Override Settings	<p>If you select the Override Settings check box, this overrides the values set on the partner level: the AS2 Identity selected from the AS2 Identifier list is used to override the default AS2 identity for the host configured using the procedure described in the following sections:</p> <ul style="list-style-type: none">• <i>TIBCO BusinessConnect Trading Partner Administration Guide</i>, Set the Host’s AS2 Identifier for a Protocol.• <i>TIBCO BusinessConnect Trading Partner Administration Guide</i>, Disabling Session Cache for HTTPS. <p>If you clear the Override Settings check box, the default AS2 identity for the partner remains valid.</p>

Table 27 *Edit Protocol Binding: Advanced Settings for Partner (Cont'd)*

Field	Description
AS2 Identifier	Select an AS2 identity that is used to override the default AS2 identity.
Allow override of filename via HTTP parameter (applies only to HTTP/S transports)	<p>If this check box is selected, and a file reference is being passed from the private process, then the name of the file is passed on to the Responder in an HTTP header called <code>filename</code>.</p> <p>Each partner has this check box. If it is selected and there is a <code>fileName</code> field in the HTTP message header or in <code>QueryString</code> (in that order), the message is written to a <code>fileName</code> file. This file is created in the shared directory located under the partner's name directory. The file size is irrelevant in this case.</p> <p>Note This feature is fully supported for the Notify and Asynchronous Request Response operations. For the Synchronous Request Response operations, only request can send the filename to the partner while the partner cannot send the filename on the response: a synchronous response cannot be written to the file that the partner wants.</p>

3. Click **Save**.

Chapter 8 **Private Messages**

This chapter describes how to configure the private messages for the Services Plug-in.

Topics

- [Overview, page 69](#)
- [Initiator Messages, page 70](#)
- [Responder Messages, page 76](#)
- [General Messages, page 82](#)
- [Multiple Attachments, page 83](#)

Overview

The exchange of business documents is known as the *process flow*. In any TIBCO BusinessConnect process flow, two types of messages are exchanged:

- Private messages
- Public messages See [Managing Services Plug-in Operations, page 31](#).

About Private Messages

Private messages are exchanged between a private process and the local TIBCO BusinessConnect installation. Private messages can contain a request, response, or notification document. The private process handles conversion from internal to public data and back.

- On the Initiator side, the private process converts internal data to a notification document.
- On the Responder side, the private process receives a request and converts it to internal company format.

You can generate private messages from TIBCO ActiveMatrix BusinessWorks private processes that use the TIBCO BusinessConnect Palette.

The TIBCO BusinessConnect server has two major roles:

- **Initiator** This role receives request messages from private processes and transmits the Services Plug-in documents to your trading partners.
- **Responder** This role receives Services Plug-in documents from trading partners and submits the converted request messages to their private processes.

The following sections describe the messages used for private request and response document exchange in the Services Plug-in. The message fields are packaged in the ^{data} control tag as part of the aeRvMsg format.

See *TIBCO BusinessConnect Trading Partner Administration Guide*, Chapter 7, Private Process Configuration for more information.

Initiator Messages

Initiator Outbound Request — Private Process to TIBCO BusinessConnect

The Initiator private process uses this message to handle outbound requests. Data that is sent is in a string or in binary form.



- If both plainRequest and inputFile are passed, the plainRequest node is used.
- If both binaryRequest and inputFile are passed, the binaryRequest node is used.

Subject Name *prefix.installation.EZComm.INITIATOR.REQUEST*
External example: AX.BC.BC-ACME.EZComm.INITIATOR.REQUEST

Table 28 Private Message: InitiatorRequest

Field	Type	Required	Description
fromTp	String	No	Name of the trading partner initiating the transaction.
toTp	String	Yes	Name of the trading partner receiving the transaction.
transactionID	String	Yes	An ID unique within Initiator private processes environment for this transaction. The private process creates this ID.
closure	String	No	The private process generates the closure message and sends it to TIBCO BusinessConnect, which is required to return this closure contents back in the InitiatorResponse to ensure that the private process can match it with the original Initiator.Request.
binaryRequest	base64 Binary	No	Private processes use the binaryRequest field to send binary data to TIBCO BusinessConnect.
as2-subject	String	No	A short string identifying the topic of the AS2 message. The value in the as2-subject element overrides the value in the MIME Subject field.
content-type	String	No	Content type of the passed data.
content-disposition	String	No	Maps to MIME's content-disposition. This value, if provided, is set in the MIME Internet headers.

Table 28 Private Message: InitiatorRequest (Cont'd)

Field	Type	Required	Description
inputFile	String	No	If a file reference is being passed to TIBCO BusinessConnect, this field is used.
httpAttributes			
name	String	No	Name of the httpAttribute. Note : It works only with Request_Response operations.
value	String	No	Value assigned to the httpAttribute. Note : It works only with Request_Response operations.
Attachment			
name	String	No	Name of the attachment file. For more information, see Multiple Attachments, page 83 .
content	Base64 Binary	No	Content for the attachment.
fileName	String	No	A file reference can be sent as an attachment. For more information, see Multiple Attachments, page 83 .
deleteFile	Boolean	No	If set to <code>true</code> , the file reference specified in the filename field is deleted after the completion (successful or otherwise) of the transaction processing.
content-id	String	No	Represents the content Id for the attachment. It must be specified and enforcement is performed at the BusinessWorks palette level. If this field is not specified, it is populated as <i>transactionID-sequence number</i> .
content-type	String	No	Represents the content type of the message content. For more information, see Multiple Attachments, page 83 .

Initiator Inbound Response — BusinessConnect to Private Process

The Initiator private process uses this message to handle inbound responses.

Subject Name *prefix.installation.EZComm.INITIATOR.RESPONSE*

External example: AX.BC.ACME.EZComm.INITIATOR.RESPONSE

Table 29 Private Message: Initiator Response (Sheet 1 of 4)

Field	Type	Required	Description
resend	Boolean	No	A boolean value indicating whether a message is resent.
standardID	String	Yes	Protocol name.
fromTp	String	No	Name of the trading partner initiating the transaction.
toTp	String	Yes	Name of the trading partner receiving the transaction.
operationID	String	No	A three-part ID of the form: <i>category/version_number/operation_Name</i> .
transactionID	String	No	An ID unique within Initiator private processes environment for this transaction. The private process creates this ID.
statusCode	String	No	Code indicating the status of the message. 200 for success. Otherwise, a code that represents the type of error.
statusMsg	String	No	OK or a description of the cause of the error.
closure	String	No	The private process generates the closure message and sends it to TIBCO BusinessConnect. TIBCO BusinessConnect is required to return this closure contents back in the <i>InitiatorResponse</i> to ensure that the private process can match it with the original <i>InitiatorRequest</i> .
duplicate	Boolean	No	Specifies whether the incoming response is a duplicate.
binaryResponse	String	No	Response is sent to this field if it contains binary data.
responseFile	String	No	File name containing the response.

Table 29 Private Message: Initiator Response (Sheet 2 of 4)

Field	Type	Required	Description
originalFileName	String	No	<p>This field contains the filename of the original response file in an Asynchronous request response operation:</p> <ul style="list-style-type: none"> If a response is received over the FILE or FTP transport, this is the actual filename that is in the directory or on the FTP server. For HTTP/s transports, this is the filename that is sent as a file reference from the private process when the Allow override of filename via HTTP parameter check box for the partner is selected. <p>See Allow override of filename via HTTP parameter (applies only to HTTP/S transports).</p>
as2-subject	String	No	A short string identifying the topic of the AS2 message.
as2-to	String	No	<p>A short string aiding the receiving system in identifying the sending system.</p> <p>The as2-to and as2-from headers are used.</p>
as2-from	String	No	<p>A short string aiding the receiving system in identifying the sending system.</p> <p>The as2-to and as2-from headers are used.</p>
email-subject	String	No	A string receiving an email subject by the EMAIL or AS1-EMAIL transport.
Attachment			
name	String	No	<p>Name of the attachment file.</p> <p>For more information, see Multiple Attachments, page 83.</p>
content	any	No	Content for the attachment.
fileName	String	No	<p>A file reference can be sent as an attachment.</p> <p>For more information, see Multiple Attachments, page 83.</p>
deleteFile	Boolean	No	If set to true, then the private process can decide to delete the inbound attachment file.

Table 29 Private Message: Initiator Response (Sheet 3 of 4)

Field	Type	Required	Description
content-id	String	No	Represents the content Id for the attachment. It must be specified and enforcement is performed at the BusinessWorks palette level. If this field is not specified, it is populated as <i>transactionID-sequence number</i> .
content-type	String	No	Represents the content type of the message content. For more information, see Multiple Attachments , page 83.

Table 29 Private Message: Initiator Response (Sheet 4 of 4)

Field	Type	Required	Description
Body			
stringData (plainResponse)	String	No	Response is sent to this field if it contains string data.

Responder Messages

Responder Inbound Request — BusinessConnect to Private Process

The Responder private process uses this message to handle inbound requests.

Subject Name *prefix.installation.EZComm.RESPONDER.REQUEST*

External example: AX.BC.BC-ACME.EZComm.RESPONDER.REQUEST

Table 30 Private Message: ResponderRequest (Sheet 1 of 3)

Field	Type	Required	Description
resend	Boolean	No	A boolean value indicating whether a message is resent.
standardID	String	Yes	Protocol name.
fromTp	String	Yes	Name of the trading partner who initiated the transaction.
toTP	String	Yes	Name of the trading partner who received the transaction.
operationID	String	No	A three-part ID of the form: <i>category/version_number/operation_Name</i> .
transactionID	String	Yes	A unique ID generated by TIBCO BusinessConnect when publishing the transaction to the private process's environment.
closure	String	No	A closure message generated by the private process and sent to TIBCO BusinessConnect.
binaryRequest	base64Binary	No	Used by TIBCO BusinessConnect to send data when binary data is being passed to a partner.
isBinaryFile	Boolean	No	This field shows whether the file specified in the field <i>inputFile</i> is a binary file.
inputFile	String	No	Used for a file reference that was passed to TIBCO BusinessConnect.
operationType	String	No	Represents the type of the operation, such as Notify, Synchronous Request Response, or Asynchronous Request Response.
duplicate	Boolean	No	Specifies whether the incoming request is a duplicate.

Table 30 Private Message: ResponderRequest (Sheet 2 of 3)

Field	Type	Required	Description
originalFileName	String	No	<p>This field contains the filename of the original request file:</p> <ul style="list-style-type: none"> For the FILE and FTP transports, this is the actual filename that is in the directory or on the FTP server, For HTTP/s transports, this is the filename that is sent as a file reference from the private process when the Allow override of filename via HTTP parameter check box for the partner is selected. <p>See Allow override of filename via HTTP parameter (applies only to HTTP/S transports)</p>
as2-subject	String	No	A short string identifying the topic of the AS2 message.
as2-to	String	No	<p>A short string aiding the receiving system in identifying the sending system.</p> <p>The as2-to and as2-from headers are used.</p>
as2-from	String	No	<p>A short string aiding the receiving system in identifying the sending system.</p> <p>The as2-to and as2-from headers are used.</p>
email-subject	String	No	A string receiving an email subject by the EMAIL or AS1-EMAIL transport.
Attachment			
name	String	No	<p>Name of the attachment file.</p> <p>For more information, see Multiple Attachments, page 83.</p>
content	any	No	Content for the attachment.
fileName	String	No	<p>A file reference can be sent as an attachment.</p> <p>For more information, see Multiple Attachments, page 83.</p>
deleteFile	Boolean	No	If sets to true, then the private process can decide to delete the inbound attachment file.

Table 30 Private Message: ResponderRequest (Sheet 3 of 3)

Field	Type	Required	Description
content-id	String	No	Represents the content Id for the attachment. It must be specified and enforcement is performed at the BusinessWorks palette level. If this field is not specified, it is populated as <code>transactionID-sequence number</code> .
content-type	String	No	Represents the content type of the message content. For more information, see Multiple Attachments, page 83 .

Responder Outbound Response — Private Process to BusinessConnect

The Responder private process uses this message to handle outbound responses.

Subject Name *prefix.installation.EZComm.RESPONDER.RESPONSE*

External example: AX.BC.BC-ACME.EZComm.RESPONDER.RESPONSE

Table 31 Private Message: Responder.Response

Field	Type	Required	Description
statusCode	Integer	Yes	Code indicating the status of the message (200 for success). Otherwise, a code that represents the type of error.
statusMsg	String	Yes	OK or a description of the cause of the error.
binaryResponse	Base64Binary	No	Response is sent to this field if it contains binary data.
responseFile	String	No	This is the name of the file that contains the response.
deleteResponseFile	Boolean		Deletes the response file if the value is true.
closure	String	Yes	This is the closure that is received from the Responder Request Based on this value, this response is correlated to the request.
content-type	String	No	Content type of the response. If not specified, TIBCO BusinessConnect interprets this value.
content-disposition	String	No	Maps to MIME's content-disposition. This value, if provided, is set in the MIME Internet headers.
as2-subject	String	No	A short string identifying the topic of the AS2 message. By default, the value in the as2-subject element is the same with the one in the MIME Subject field.
Attachment			
name	String	No	Name of the attachment file. For more information, see Multiple Attachments , page 83.
content	Any	No	Content for the attachment.

Table 31 Private Message: Responder.Response (Cont'd)

Field	Type	Required	Description
fileName	String	No	A file reference can be sent as an attachment. For more information, see Multiple Attachments, page 83 .
deleteFile	Boolean	No	If set to true, the file reference specified in the filename field is deleted after the completion (successful or otherwise) of the transaction processing.
content-id	String	No	Represents the content Id for the attachment. It must be specified and enforcement is performed at the BusinessWorks palette level. If this field is not specified, it is populated as <i>transactionID-sequence number</i> .
content-type	String	No	Represents the content type of the message content. For more information, see Multiple Attachments, page 83 .
Body			
stringData (plainResponse)	String	No	Response is sent to this field if it contains string data.

Responder Acknowledgement — Private Process to BusinessConnect

The Responder TIBCO BusinessConnect sends this acknowledgement after it receives the Responder Response. The acknowledgement indicates whether the Responder Response has been forwarded to the trading partner.

Subject Name *prefix.installation.EZComm.RESPONDER.ACK*

External example: AX.BC.BC-ACME.EZComm.RESPONDER.ACK

Table 32 Private Message: Responder.Ack

Field	Type	Required	Description
statusCode	String	Yes	Code indicating the status of the message (200 for success). Otherwise, a code that represents the type of error.
statusMsg	String	Yes	OK or a description of the cause of the error.
operationType	String	No	Represents the type of the operation. In this case it is ack, indicating that the message is of the type Acknowledgement.
closure	String	Yes	A closure sent by the Responder Response message.

General Messages

Error Messages

TIBCO BusinessConnect uses the error message to publish status information.

Subject Name *prefix.installation.EZComm.ERROR*
Example: AX.BC.BC-ACME.EZComm.ERROR

Table 33 Private Message: Error Message

Field	Type	Required	Description
statusCode	String	No	One of the private party-defined status and error codes.
statusMsg	String	No	The string representing the cause of one of the private party-defined status or error codes.
details	String	No	Additional information.
msgDirection	String	No	The flow of the message, either inbound or outbound.
closure	String	No	Reserved.
operationID	String	No	A three-part ID of the form: <i>category/version_number/operation_Name</i> .
transactionID	String	No	A unique ID generated by TIBCO BusinessConnect when publishing the transaction to the private process's environment.
standardID	String	Yes	Protocol name.
timestamp	String	No	Time stamp for this message.
host	String	No	Host name.
tpName	String	No	Trading partner name.
extraInfo	String	No	This field contains the originalFileName when available.
Body			
stringData	String	No	

Multiple Attachments

The Services Plug-in allows you to send attachments to the trading partner. The current private process schema accommodates attachments so that the attachment field represents a sequence which allows any number of attachments to be specified.

The fields available for configuring an attachment are as follows:

- **name** This represents the name of the attachment. If none is specified, it is named *AttachmentSequenceNumber.second part of the content type*.

For example, if you are sending an .xml file, the content type is `text/xml` and the attachment name is `Attachment0.xml`. (1 is the sequence number for the first element of the attachment sequence).
- **content** Content of the attachment.
- **fileName** A file reference can be sent as an attachment. The content of this file is read and set to the content of the attachment.
 - If both the `content` and `fileName` fields are specified, then `content` is set as the attachment data.
 - If neither the `content` nor the `fileName` fields are specified, then this attachment element is not processed.

Specifying of these fields is not enforced by the private process.

- **deleteFile** This is a Boolean field. If set to `true`, the file reference specified in the **filename** field is deleted after the completion (successful or otherwise) of the transaction processing.
- **contentID** Represents the content Id for the attachment. It must be specified and enforcement is performed at the BusinessWorks palette level. If this field is not specified, it is populated as *transactionID-sequence number*.
- **contentType** Represents the content type of the message content. If not specified, it is inferred by the protocol. If this field is set to `text/foo`, the `content` field must hold a `java.lang.String` object. If this field is not set and the `content` field holds a `java.lang.String` object, the `contentType` field defaults to `text/plain`. If `contentType` is not set and the `content` field does not hold a `java.lang.String` object, the `contentType` defaults to `application/octet-stream`.



If there is no `contentType` field specified, such as when neither `content` nor the `fileName` fields are specified, the attachment is not processed.

Resending Services Plug-in Private Process Messages

The Services Plug-in can resend the private process messages that are in audit states `RECEIVED_FROM_PP` and `SEND_TO_PP`.

The following is the relationship between the audit states and private process message types:

- On the Initiator side

`RECEIVED_FROM_PPINITIATOR.REQUEST`

`SEND_TO_PPINITIATOR.RESPONSE`

- On the Responder side

`RECEIVED_FROM_PPRESPONDER.RESPONSE`

`SEND_TO_PPRESPONDER.REQUEST`

The message `RESPONDER.REQUEST` is not resendable for the synchronous transactions: it is only resendable for the Notify and asynchronous transactions.

The message `RESPONDER.RESPONSE` is not resendable for any transaction type.



Once a message is sent in the Services Plug-in format, the resent message is also in the same format.

Chapter 9 **Viewing Logs**

This chapter explains the use of logs in the Services Plug-in.

Topics

- [Audit Logs, page 86](#)
- [Non-Repudiation Logs, page 90](#)
- [Resending Transactions, page 93](#)

Audit Logs

The audit log is used to store information about the messages and documents processed by TIBCO BusinessConnect Services Plug-in.



The entire AESchema is stored in the fields REQUEST_FROM_PP and SEND_TO_PP fields in the audit log, since this is required for the resend.

You can use the audit log to follow the processing states of inbound or outbound documents. Some of the types of information stored in the audit log include: sent and received documents; document originator; trading partner name; processing status; and validation errors.

For more information about audit logs, see *TIBCO BusinessConnect Trading Partner Administration Guide*, Audit Logs.



- When doing searches, remember that the asterisk (*) is not considered to work as a wildcard, but represents a part of a name.
- TIBCO BusinessConnect Services Plug-in does not record advisory messages, such as the Responder Acknowledgement, in the audit log.

Configure an Audit Log for the Services Plug-in

To configure an audit log for the Services Plug-in:

1. Click **BusinessConnect > Log Viewer**.
2. On the Log Viewer page, click radio button next to **EZComm**.
3. Click the **Audit** tab, and configure the audit log search.

Table 34 lists the options to select for the audit log.

Table 34 Audit Log: Search Filters

Column Name	Definition
Status	Select a specific status: <ul style="list-style-type: none"> • ANY • CANCELED • COMPLETED • ERROR • ERROR SECURITY • PENDING • RECEIPT PENDING
Connection	Select the database which you have connected to.
Date Range	From the Date Range list, you can select the period to search: <ul style="list-style-type: none"> • One Day • One Week • One Month • One Year • Custom If Custom is selected from the Date Range list, additional editable fields for Start and End of the search period become available.

Advanced Filters 4. Click **Add**, the **Advanced Filters** page is displayed.

Table 35 lists the options to select in the **Advanced** section of the audit log.

Table 35 Audit Log: Advanced Filters

Column	Definition
Save as Query	Enter the name under which you want to save the query you define in this page.
Gateway Instance Information	Gateway Instance Information. Boolean search using: is , contains , is not , is not like .

Table 35 Audit Log: Advanced Filters (Cont'd)

Column	Definition
AS2 Message ID	AS2 Message ID. Boolean search using: is, contains, is not, is not like.
Gateway Instance Information	Gateway Instance Information. Boolean search using: is, contains, is not, is not like.
Host	Host name. Boolean search using: is, contains, is not, is not like.
Trading Partner	Trading Partner name. Boolean search using: is, contains, is not, is not like.
Operation ID	Operation ID. Boolean search using: is, contains, is not, is not like.
DocumentID	Document ID (This is always a unique name). Boolean search using: is, contains, is not, is not like.
Host Initiates	For the Initiator, this value is <code>true</code> for any type of transaction (Notify , Synchronous Request Response, or Asynchronous Request Response). For the Responder, this value is always <code>false</code> . This value is <code>true</code> for outgoing requests, while for incoming requests and for outgoing responses this value is <code>false</code> . Boolean search using: is, contains, is not, is not like.
User TranID	The user <code>transactionID</code> column displays the transaction ID received from the private process on the Initiator side. Initiator forwards this ID to the Responder and at the same displays it in this column. This way, a transaction initiated by the Initiator can be cross-referenced on the Responder side. This feature works only for HTTP/S and Email transports. For File and FTP/S transports, this column is left blank. Boolean search using: is, contains, is not, is not like.

Table 35 Audit Log: Advanced Filters (Cont'd)

Column	Definition
Transaction Type	Type of the transaction you are searching. The valid values for the field are as follows: <ul style="list-style-type: none">• EZComm-Notify (Notify operation for EZComm)• EZComm-Async (Async operation for EZComm)• EZComm-Sync (Sync operation for EZComm) Boolean search using: is, contains, is not, is not like.

5. After defining the filters, click **Save**.
6. You can search the audit logs by grouping them according to the selected criteria. Select any of the available criteria from the **Group by** list:
- **None**
 - **Date Group**
 - **Host**
 - **Trading Partner**
 - **Operation ID**
 - **Document ID**
 - **Host Initiates**
 - **User TranID**
 - **Transaction Type**
- To learn more about these options, see *TIBCO BusinessConnect Trading Partner Administration Guide*.

Non-Repudiation Logs

The non-repudiation log is used to provide proof of the delivery of messages. Non-repudiation depends on authentication using digital signatures. Incoming messages which have been digitally signed are authenticated and stored in the non-repudiation database. Outbound messages that have been digitally signed are also stored in the database.

For more information about non-repudiation logs, see *TIBCO BusinessConnect Concepts, Non-Repudiation*.

Configure a Non-Repudiation Log for the Services Plug-in

To configure a non-repudiation log for the Services Plug-in:

1. Click **BusinessConnect > Log Viewer**.
2. On the Log Viewer page, click radio button next to **EZComm**.
3. Click **Non-Repudiation**.

Filters 4. Configure transactions to search.

Table 36 lists the options to select in the Filters section of the non-repudiation log.

Table 36 Non-Repudiation Logs: Search Filters

Column Name	Definition
Status	Select a specific status: <ul style="list-style-type: none">• ANY• CANCELED• COMPLETED• ERROR• ERROR SECURITY• PENDING• RECEIPT PENDING
Connection	Select the database which you connect to.

Table 36 Non-Repudiation Logs: Search Filters (Cont'd)

Column Name	Definition
Date Range	<p>Select the period to search from the Date Range list:</p> <ul style="list-style-type: none"> • One Day • One Week • One Month • One Year • Custom <p>If Custom is selected from the Date Range list, additional editable fields for Start and End of the search period become available.</p>

- Advanced Filters 5. Click **Add** to configure the advanced search filters.
- [Table 37](#) lists the options to select in the **Advanced** section of the non-repudiation log.

Table 37 Non-Repudiation Logs: Advanced Filters

Column	Definition
Save as Query	Enter the name under which you want to save the query you define in this dialog.
Trading Partner	<p>Name of the Trading Partner.</p> <p>Boolean search using: is, contains, is not, is not like.</p>
Operation ID	<p>Operation ID.</p> <p>Boolean search using: is, contains, is not, is not like.</p>
Document ID	<p>Document ID.</p> <p>Boolean search using: is, contains, is not, is not like.</p>
User TranID	<p>The user <code>transactionID</code> column displays the transaction ID received from the private process on the Initiator side.</p> <p>Boolean search using: is, contains, is not, is not like.</p>
Transaction Type	<p>Type of the transaction you are searching.</p> <p>Boolean search using: is, contains, is not, is not like</p>

6. After defining the filters, click **Save**.

7. You can search the non-repudiation logs by grouping them according to the selected criteria.

Select any of the available criteria from the **Group by** list:

- **None**
- **Host**
- **Date Group**
- **Trading Partner**
- **Operation ID**
- **Document ID**
- **User TranID**
- **Transaction Type**

To learn more about these options, see *TIBCO BusinessConnect Trading Partner Administration Guide*.

Resending Transactions



For the state `RECEIVED_FROM_PP`, the Outbound File Poller messages cannot appear in the list of resendable transactions and therefore cannot be resent.

For the state `SEND_TO_PP`, the Outbound File Poller messages can appear in the list of resendable transactions.

The resend log provides two views into the audit log:

- **Resendable Transactions** Search for resendable and resend transactions.
- **Resend History** View transactions that have been resent.

For more information about resend logs, see *TIBCO BusinessConnect Trading Partner Administration Guide*.

Resendable Transactions

To configure a resendable transaction for the Services Plug-in:

1. Click **BusinessConnect > Log Viewer**.
2. On the Log Viewer page, click radio button next to **EZComm**.
3. Click **Resendable Transactions**.

Filters

4. Configure transactions to search.

[Table 36](#) lists the options to select in the Filters section of the non-repudiation log.



The resendable transactions that are shown on the screen depend on the Private Processes that are configured.

If TIBCO Rendezvous (or JMS) is configured for Private Process communication, only the messages sent over or received from Rendezvous (or JMS) transport is displayed.

Table 38 lists the options to select in the Filters section for Resendable Transactions.

Table 38 Resendable Transactions: Search Filters

Column Name	Definition
Status	Select a specific status: <ul style="list-style-type: none">• ANY• CANCELED• COMPLETED• ERROR• ERROR SECURITY• PENDING• RECEIPT PENDING
Connection	Select the database which you connect to.
Date Range	Select the period to search from the Date Range list: <ul style="list-style-type: none">• One Day• One Week• One Month• One Year• Custom <p>If Custom is selected from the Date Range list, additional editable fields for Start and End of the search period become available.</p>

Advanced Filters 5. Click **Add** to configure the advanced search filters.

Table 39 lists the options to select in the **Advanced** section of the non-repudiation log.

Table 39 Resendable Transactions: Advanced Filters

Column	Definition
Trading Partner	Boolean search using: is, contains, is not, is not like.
Operation ID	Operation ID. Boolean search using: is, contains, is not, is not like.
Document ID	Boolean search using: is, contains, is not, is not like.

Table 39 Resendable Transactions: Advanced Filters (Cont'd)

Column	Definition
User TranID	<p>Boolean search using: is, contains, is not, is not like.</p> <p>The user transactionID column displays the transaction ID received from the private process on the Initiator side.</p> <p>Initiator forwards this ID to the Responder and at the same displays it in this column. This way, a transaction initiated by the Initiator can be cross-referenced on the Responder side. This feature works only for HTTP/S and Email transports.</p> <p>For File and FTP/S transports, this column is left blank.</p>
Transaction Type	<p>Boolean search using: is, contains, is not, is not like.</p> <p>Type of the transaction you are searching.</p>
Host Initiates	<p>Boolean search using: is, contains, is not, is not like.</p> <ul style="list-style-type: none"> For the Initiator, this field is true for any type of transaction (Notify, Synchronous Request Response, or Asynchronous Request Response). For the Responder, it is always false. <p>This value is true for outgoing requests, while for incoming requests and for outgoing responses this value is false.</p>

- After defining the filters, click **Save**.
- You can search the non-repudiation logs by grouping them according to the selected criteria.
Select any of the available criteria from the **Group by** list:
 - **None**
 - **Date Group**
 - **Host**
 - **Trading Partner**
 - **Operation ID**
 - **Document ID**
 - **Host Initiates**
 - **User TranID**
 - **Transaction Type**

To learn more about these options, see *TIBCO BusinessConnect Trading Partner Administration Guide*.

Resend History

To view the resend history for the Services Plug-in:

1. Click **BusinessConnect > Log Viewer**.
2. On the Log Viewer page, select radio button next to **EZComm**.
3. Click **Resend History**.

[Table 40](#) lists the options to select in the Filters section of the Resend history log.

Table 40 Resend History: Search Filters

Column Name	Definition
Status	Select a specific status: <ul style="list-style-type: none">• ANY• CANCELED• COMPLETED• ERROR• ERROR SECURITY• PENDING• RECEIPT PENDING
Connection	Select the database which you connect to.
Date Range	From the Date Range list, you can select the period to search: <ul style="list-style-type: none">• One Day• One Week• One Month• One Year• Custom <p>If Custom is selected from the Date Range list, additional editable fields for Start and End of the search period become available.</p>

- Advanced Filters
4. Click **Add** to configure the advanced search filters.

Table 41 lists the options to select in the **Advanced** section of the non-repudiation log.

Table 41 Resend History: Advanced Filters

Column	Definition
Host	Host name. Boolean search using: is, contains, is not, is not like.
Trading Partner	Boolean search using: is, contains, is not, is not like.
Operation ID	Boolean search using: is, contains, is not, is not like.
Document ID	Boolean search using: is, contains, is not, is not like.
Host Initiates	Boolean search using: is, contains, is not, is not like. <ul style="list-style-type: none">For the Initiator, this field is set to <code>true</code> for any type of transaction (Notify , Synchronous Request Response, or Asynchronous Request Response).For the Responder, it is always <code>false</code>. <p>This value is <code>true</code> for outgoing requests, while for incoming requests and for outgoing responses this value is <code>false</code>.</p>
User TranID	Boolean search using: is, contains, is not, is not like. <p>The User TranID column displays the transaction ID received from the private process on the Initiator side.</p> <p>The initiator forwards this ID to the Responder and at the same displays it in this column. This way, a transaction initiated by the Initiator can be cross-referenced on the Responder side. This feature works only for HTTP/S and Email transports.</p> <p>For File and FTP/S transports, this column is left blank.</p>
Transaction Type	Boolean search using: is, contains, is not, is not like. Type of the transaction you are searching.

- Click **Save**.
- You can search the non-repudiation logs by grouping them according to the selected criteria.

Select any of the available criteria from the **Group by** list:

- **None**
- **Date Group**
- **Host**
- **Trading Partner**
- **Operation ID**
- **Document ID**
- **Host Initiates**
- **User TranID**
- **Transaction Type**

To learn more about these options, see *TIBCO BusinessConnect Trading Partner Administration Guide*.

Chapter 10 **File Pollers**

This chapter explains outbound and inbound File pollers for the Services Plug-in.

Topics

- [Outbound File Pollers for the Services Plug-in, page 100](#)
- [Inbound File Pollers for the Services Plug-in, page 101](#)

Outbound File Pollers for the Services Plug-in

The outbound File poller provides a simple way for private processes to transmit documents to TIBCO BusinessConnect. This contrasts with the other transports, which are used for communication between trading partners.



The sending partner for outbound File pollers is assumed to be the default host.

Outbound File pollers are used by enterprises that do not want to use TIBCO Rendezvous to transfer documents to TIBCO BusinessConnect.

URI Format for Outbound File Pollers

For the File transport, URI format is as follows: `file://BaseDir/*.*`

This causes all directories under *BaseDir* to be checked for files.

In order for the file to be handled by the Services Plug-in, the document must appear as follows:

- Default behavior, such as for the operation `BC/1.0/Notify`:

BaseDir/TPName

- Non-default behavior, for other operations:

BaseDir/TPName/Category_Version_OperationID

where

- *BaseDir* is a user selected base directory
- *TPName* is the name of the trading partner
- *Category* is the operation category
- *Version* is the operation version
- *OperationID* is the operation ID

If *Category_Version_OperationID* is not provided, then it defaults to `BC/1.0/Notify`.

Since the default operation has changed from `BC/Notify` to `BC/1.0/Notify`, files in the `Category_operationID` directory are treated as `Category_Empty_operationID`; for example, TIBCO BusinessConnect looks for an operation *Category/Empty/operationID* in the configuration store. To read general information on how to enable an outbound File poller, see *TIBCO BusinessConnect Trading Partner Administration Guide*, Outbound File Pollers.

Inbound File Pollers for the Services Plug-in

When File outbound is used as a transport, the trading partner uses an inbound File poller to check for the documents.



For the inbound File pollers, the receiving partner is assumed to be the default host.

To read general information on how to enable an inbound File poller, see *TIBCO BusinessConnect Trading Partner Administration Guide*, Inbound File Pollers.

Appendix A **Troubleshooting**

This appendix offers troubleshooting advice for the Services Plug-in.

Topics

- [Troubleshooting the Services Plug-in, page 103](#)

Troubleshooting the Services Plug-in

ORIG_FILE_NAME and ORIG_FILE_PATH are not populated when using outbound File poller to send files from private processes

When using outbound File poller to send files from private processes, the file slots ORIG_FILE_NAME and ORIG_FILE_PATH may not be populated. The ORIG_FILE_NAME and ORIG_FILE_PATH properties are populated by the protocol to indicate the original source of data, if any. When you use outbound File poller in EZComm, these properties are not set but the location of the source file is set on the OUTPUT_SOURCE_DIR and SRC_FILE_NAME properties instead.

Outbound transactions for HTTP are not entered in the non-repudiation log

Non-repudiation logs, in general, are used for signed messages to avoid disputes between trading partners. When using HTTP with the the Services Plug-in, there are two types of signed messages that can be exchanged:

- **Inbound signed messages** These messages are posted to the non-repudiation log. Since the trading partner already signed such message and the signature can be verified, there can be no dispute that the message came from this specific trading partner.
- **Outbound signed messages** When a signed message is sent using HTTP outbound, there is no ability to request a receipt. The trading partner's HTTP server can officially acknowledge that the message was received, but it cannot verify the signature on the message. The acknowledgement from the HTTP server about the message arrival is not the same as the acknowledgement from the trading partner who actually received and processed the message.

Therefore, if TIBCO BusinessConnect would post such outbound signed message into the non-repudiation log, the other trading partner could still dispute that they received the message. For that reason, HTTP transport in the the Services Plug-in does not enter outbound signed messages in the non-repudiation log.

When I import the whole configuration, the operation is not imported

When an operation in a .csx file already exists in the BusinessConnect system, upon importing the .csx file this operation is not imported.

For example, if you try to import the operation *BC/version/operation*, which exists by default, you need to rename the existing *BC/version/operation* (such as *BC/6.0/operation1*) in order to import a new operation with the same name. The exception is the default operation *BC/1.0/Notify*, which cannot be renamed or deleted: this operation has to be updated manually.

Appendix B FTP Script Examples

This appendix contains some sample scripts for the Services Plug-in.



To use scripts you must install the FESI EcmaScript Interpreter as described in *TIBCO BusinessConnect Installation and Configuration*, Installing FESI EcmaScript Interpreter to Support Custom Scripts.

Topics

- [Overview, page 106](#)
- [First Tutorial Example, page 107](#)
- [Second Tutorial Example, page 111](#)
- [Third Tutorial Example, page 113](#)
- [Fourth Tutorial Example, page 118](#)
- [Fifth Tutorial Example, page 119](#)

Overview

The following script examples are included with TIBCO BusinessConnect:

- [First Tutorial Example](#) shows simple FTP file transfers using the FTP API provided with TIBCO BusinessConnect.
- [Second Tutorial Example](#) shows how to call Java methods from inside the FTP scripts and how to execute a batch/shell program before sending the file to the FTP server.
- [Third Tutorial Example](#) shows how to connect the SSHFTPClient object to the SSHFTP server.
- [Fourth Tutorial Example](#) shows simple FTP file transfers messages using the PGP API provided with TIBCO BusinessConnect.
- [Fifth Tutorial Example](#) shows messages from or to SSHFTP server are processed using the PGP API provided with TIBCO BusinessConnect.

First Tutorial Example

The `putexample.txt` script puts the document on the FTP server. The `mgetexample.txt` script does an `mget` from the FTP server of all files that match a particular search filter, which in this example is the trading host name.

How `putexample.txt` Works

This script gets the `FTPClient` object from the `job` variable that is created at runtime by `BusinessConnect`. The `FTPClient` object is used to connect to the FTP server. (This works only in non-proxy mode.) It checks if the `examples/BC` directory is available. If it is, it puts the file created by the Initiator's outbound process. If the `examples/BC` directory is not present, that directory is created before the file is actually stored in the FTP server.

If there are connection failures, a flag called `retryScripts` is set to `true` and passed on to `TIBCO BusinessConnect` to retry the execution when retry of the outbound process occurs.

How `mgetexample.txt` Works

This script gets the `FTPClient` object from the `job` variable that is created at runtime by `TIBCO BusinessConnect`. `FTPClient` object is used to connect to the FTP server. It checks if the `examples/BC` directory is available. If it is, the script calls `executeMgetCmd` to get all the files from the FTP Server.

Once the files are successfully retrieved, the `examples/BC` directory is deleted. If the files could not be retrieved for some reason, for example, if a put is happening at the same time and the file descriptor is being locked by another process, then the `examples/BC` directory is not removed.

Tutorial Files

The following files are part of this tutorial:

- `BC_HOME\samples\bc\ftpscripts\putexample.txt`
- `BC_HOME\samples\bc\ftpscripts\mgetexample.txt`

These are both EcmaScript files.

How to Send Files

To send a document using BusinessWorks process, see [File Pollers](#).

Setting Up the First Tutorial

Steps to Perform on the Initiator Computer

The following steps must be performed on the Initiator computer:

1. Configure trading partners and a business agreement as described in [Importing the Tutorial, page 8](#).
2. For the participant Seller, click the **Transports** tab for the EZComm protocol.
3. Click **Add**.
4. Enter a name for the transport in the **Name** field.
5. Select **FTP** in the **Type** list.
6. Click **OK**.
7. Enter other information as needed.

See *TIBCO BusinessConnect Trading Partner Administration Guide*, FTP/S Outbound for details.

8. Select **Script** in the **File Processing** list.
9. Click **change** in the **Scripts** area.
10. Select **Uploaded File** from the **Type** list.
11. Click **Browse** to navigate to the `BC_HOME\samples\bc\ftpscripts` directory.
12. Select the `putexample.txt` file and then click **Open**.
13. Click **OK**.
14. Click **Save**.
15. Click **TIBCO BusinessConnect > BusinessAgreements > Buyer-Seller**.
16. Click **EZComm** in the **Agreement Protocol Binding** list.
17. Click the **Transports** tab.
18. Select **FTP** from the **Primary Transport** list.
19. Click **Save** twice.

Steps to Perform on the Responder Computer

The following steps must be performed on the Responder computer:

1. Configure trading partners and a business agreement as described in [Configuring the Responder TIBCO BusinessConnect](#).
2. Click **TIBCO BusinessConnect > BusinessAgreements > Buyer-Seller**.

3. Click the **EZComm** protocol binding.
4. Click the **Transports** tab.
5. Click **Edit FTP Settings** in the Inbound Transports for Partner 'Buyer' area.
6. Configure FTP. If you need help, see *TIBCO BusinessConnect Trading Partner Administration Guide*, Select and Configure FTP/S Inbound.
7. Select **Script** in the **File Processing** list.
8. Click **change** in the **Scripts** field.
9. Select **Uploaded File** from the **Type** list.
10. Click **Browse** to navigate to the `BC_HOME\samples\bc\ftpscripts` directory.
11. Select the `mgetexample.txt` file. Click **Open**.
12. Click **OK**.
13. Select the **Delete File** check box.
14. Click **Save** twice.

Running the First Tutorial Example

To run the first tutorial example:

1. Start TIBCO BusinessConnect on the Initiator and Responder computers.
2. Send a document by using the outbound File poller.

To configure TIBCO BusinessConnect to poll a directory:

- a. Create a directory in which you put the document that is transmitted using the FTP script. This directory needs to be named according to the conventions explained in

TIBCO BusinessConnect Trading Partner Administration Guide, field Directory to Monitor.

- b. Specify Seller for the TpName directory. If your base directory is BaseDir, the directory path should be BaseDir/Seller.
 - c. In TIBCO Administrator, click **Application Management > BusinessConnect > Configuration**.
 - d. Click the **BusinessConnect** link.
 - e. Click the **Private Process Configuration** tab.
 - f. Click the **EZComm** link in the Outbound File Poller Configuration section.
 - g. Select the **Enable** check box.
 - h. Type BaseDir/Seller/*. * in the **Directory to Monitor** field.
 - i. Click **Save** twice.
 - j. Click **Deploy**.
 - k. Click **OK**.
 - l. Restart the BusinessConnect server if it was not started when you clicked **Deploy**.
3. Copy the *BC_HOME\protocols\ezcomm\samples\sampleXML\WidgetAvailable.xml* file into BaseDir/Seller.

Expected Results

After the Initiator BusinessConnect receives the file from the TIBCO ActiveMatrix BusinessWorks process or picks up the file from the outbound file poller directory, the following situations happen:

- BusinessConnect establishes contact with the FTP server, passing the user name and password specified in the FTP transport configuration for Seller.
- BusinessConnect then invokes the putexample.txt script. The script looks for the directory examples/BC in the FTP root directory and creates them if they do not exist.
- Finally, the file is written to examples/BC.

On the Responder, BusinessConnect polls the directory specified in the inbound FTP configuration in the business agreement. When a file is detected, BusinessConnect runs the mgetexample.txt script, which looks for all the files in the examples/BC directory.

Second Tutorial Example

The `modifyexample.txt` script shows how to call Java methods from inside the FTP scripts and how to execute a batch/shell program before sending the file to the FTP server. The batch/shell program calls a Java program that modifies the document by adding CRLF (`\r\n`) at the end of the document. The `executePutCmd` method is then executed to store the file at the FTP server.

This example is a demonstration that Java classes can be called from scripts at runtime and external programs can be called by using the Java runtime class.

How `modifyexample.txt` Works

This script is the same as `putexample.txt` except for one minor change. Before connecting to the FTP server, the source file name, which is a reference to the file that is stored locally before the script execution takes place, is sent to the `executeProgram` method in the `RunProgram` class. This method sends the `fileName` reference to a batch/shell program `BC_HOME\samples\bc\ftpcripts\bcfilemodifier.bat`. The batch file/shell program calls the Java class `ModifyFile`, which adds a CRLF at the end of the document file that is being transferred to the FTP server. Once the file is modified it is stored on the FTP server that is available to the trading partner.

If you want to perform a full round trip of your transaction, you can upload `mgetexample.txt` from the first example to retrieve the files from the FTP server so that the Responder trading partner can process the document that was uploaded after the modification.

Tutorial Files

The following files are part of this tutorial:

- `BC_HOME\samples\bc\ftpcripts\modifyexample.txt`
- `BC_HOME\samples\bc\ftpcripts\ftpexample.jar`

Setting Up the Second Tutorial

The following steps are necessary to set up this tutorial:

1. Configure the participants and business agreement on the Initiator following the procedure described in [Setting Up the First Tutorial](#).

Note, however, that in Step 11 when selecting the uploaded script file for the file processing, you must select the `BC_HOME\samples\bc\ftpcripts\modifyexample.txt` file.

2. Stop the BusinessConnect server.
3. Copy `ftpexample.jar` to `BC_HOME/hotfix/lib`.

4. Add these two properties in the .tra file in the directory *TIBCO_HOME/tra/domain/domain/application/BusinessConnect* directory. There is a .tra file for every BusinessConnect engine.

- `java.property.bc.user.execProgramName=bcfilemodifier`
- `java.property.bc.user.execProgramDir= %BC_HOME%\samples\bc\ftpscripts`

Running the Second Tutorial Example

To run modifyexample:

1. Start the BusinessConnect server.
2. Send a document using one of the mechanisms described in [Running the First Tutorial Example](#).

Expected Results

You can notice that the file that is transferred to the FTP server location contains the extra CRLF. If you are trying to process this document on the Responder, there is extra CRLF at the end of the file.

Third Tutorial Example

Two scripts are used for the third tutorial example:

- The `ssh_putexample.txt` script, which puts the document to the SSHFTP server.
- The `ssh_mgetexample.txt` script, which retrieves multiple files from the SSHFTP server. These files match a particular search filter, which in this example is the extension of the filename as well as the size of the file.

How `ssh_putexample.txt` Works

The `ssh_putexample.txt` script gets the `SSHFTPClient` object from the job variable that is created at runtime by `BusinessConnect`.

The `SSHFTPClient` object is used to connect to the SSHFTP server, both in proxy or non-proxy mode. It checks whether the `examples1` directory is available and proceeds as follows:

- If the `examples1` directory is present, the script puts in the file created by the Initiator's outbound process.
- If the `examples1` directory is not present, it is created before the file is actually stored on the SSHFTP server.

If there are connection failures, a flag called `retryScripts` (with the constant name defined in the API `com.tibco.ax.fw.runtime.transport.sshftp.SSHFTPClient.RETRY_SLOT`) may be used to set the value as `true`, and passed on to `BusinessConnect` to retry the execution when retry of the outbound process occurs.

How `ssh_mgetexample.txt` Works

The `ssh_mgetexample.txt` script gets the `SSHFTPClient` object from the job variable that is created at runtime by `BusinessConnect`.

The `SSHFTPClient` object is used to connect to the SSHFTP server. It checks whether the `examples1` directory is available. If it is, the script calls `executeMgetCmd` to get all the files from the SSHFTP Server.

Once the files are successfully retrieved, the files from the `examples1` directory are deleted. If the files could not be retrieved for some reason (such as when a communication failure happens), the corresponding tracing and auditing entries are created. In such case, the script retrieves all files from the `examples2` directory whose extension is `*.bin` and whose size is greater than or equal to 200 KB. Upon successful retrieval, the retrieved files are deleted.

Tutorial Files

The following files are part of this tutorial:

- `BC_HOME\samples\bc\sshftpscripts\ssh_putexample.txt`
- `BC_HOME\samples\bc\sshftpscripts\ssh_mgetexample.txt`

These are both EcmaScript files.

How to Send Files

For this example, send a document using BusinessWorks process as described in [File Pollers](#).

Setting Up the Third Tutorial

Steps to Perform on the Initiator Computer

The following steps must be performed on the Initiator computer:

1. Configure trading partners and a business agreement as described in [Configuring the Initiator TIBCO BusinessConnect](#).
2. For the participant Seller, click the **Transports** tab for the EZComm protocol.
3. Click **Add**.
4. Enter the transport name in the **Name** field.
5. Select **SSHFTP** in the **Type** list.
6. Click **OK**.
7. Enter other information as needed.

See *TIBCO BusinessConnect Trading Partner Administration Guide*, Configure SSHFTP Outbound for more information.

8. Select **Script** in the **File Processing** list.
9. Click **change** in the **Scripts** field.
10. Select **Uploaded File** from the **Type** list.
11. Click **Browse** to navigate to the `BC_HOME\samples\bc\sshftpscripts` directory.
12. Click the `ssh_putexample.txt` file.
13. Click **Open**.
14. Click **OK**.
15. Click **Save**.

16. Click **BusinessConnect > BusinessAgreements > Buyer-Seller**.
17. Click **EZComm** in the Agreement Protocol Binding list.
18. Click the **Transports** tab.
19. Select **SSHFTP** from the **Primary Transport** list in the Outbound Transports for the Host 'Buyer' area.
20. Click **Save** twice.

Steps to Perform on the Responder Computer

The following steps must be performed on the Responder computer:

1. Configure trading partners and a business agreement as described in [Configuring the Responder TIBCO BusinessConnect](#).
2. Click **BusinessConnect > BusinessAgreements > Buyer-Seller**.
3. Click **EZComm** in the Agreement Protocol Binding list.
4. Click the **Transports** tab.
5. Click **Edit SSHFTP Settings** in the Allowed Inbound Transports for Partner 'Buyer' area.

6. Configure FTP.

For more information, see the *TIBCO BusinessConnect Trading Partner Administration Guide*, Select and Configure SSHFTP Inbound.

7. Select **Script** in the **File Processing** list.
8. Click **change** in the **Scripts** field.
9. Select **Uploaded File** from the **Type** list.
10. Click **Browse** to navigate to the `BC_HOME\samples\bc\sshftpscripts` directory.
11. Click the `ssh_mgetexample.txt` file.
12. Click **Open**.
13. Click **OK**.
14. Select the **Delete File** check box.
15. Click **Save** twice.

Running the Third Tutorial Example

To run the third tutorial example:

1. Start BusinessConnect on the Initiator and Responder computers.
2. Send a document using the outbound File poller.

To configure BusinessConnect to poll a directory:

- a. Create a directory in which you put the document that is transmitted using the FTP script. This directory must be named according to the conventions explained in the *TIBCO BusinessConnect Trading Partner Administration Guide*, in the **Directory to Monitor** field.
 - b. Specify **Seller** for the TpName directory. If your base directory is BaseDir, the directory path should be BaseDir/Seller.
 - c. In TIBCO Administrator, click **Application Management > BusinessConnect > Configuration**.
 - d. Click **BusinessConnect**.
 - e. Click the **Private Process Configuration** tab.
 - f. Click **EZComm** in the Outbound File Poller Configuration area.
 - g. Select the **Enable** check box.
 - h. Type BaseDir/Seller/*. * in the **Directory to Monitor** field.
 - i. Click **Save** twice.
 - j. Click **Deploy**.
 - k. Click **OK**.
 - l. Restart the BusinessConnect server if it was not started when you clicked Deploy.
3. Copy the `BC_HOME\protocols\ezcomm\samples\sampleXML\xsd\ WidgetAvailable.xml` file into BaseDir/Seller.

Expected Results

After the Initiator BusinessConnect receives the file from the BusinessWorks process, or picks up the file from the outbound File poller directory, the following situations happen:

- BusinessConnect establishes contact with the SSHFTP server and authenticates with the selected authentication method specified in the SSHFTP transport configuration for Seller (either rsa/dsa public key or user name/password).
- BusinessConnect then invokes the `ssh_putexample.txt` script. The script looks for the directory `examples1` in the SSHFTP root directory, and creates it if it does not exist.
- Finally, the file is written to the directory `examples1`.

On the Responder computer, BusinessConnect runs the configured script that polls the specified directories.

When a file is detected, BusinessConnect retrieves this file through the script `ssh_mgetexample.txt`. This script looks for files in the `examples1` and `examples2` directories as described above.

Fourth Tutorial Example

The `putencrypted.txt` script uses PGP API to process messages, and then puts them on the FTP server.

The `getdecrypted.txt` script receives files and then processes them using the PGP API. These files match a particular search filter, which in this example is the trading host name.

How `putencrypted.txt` Works

This script gets the `FTPClient` object from the `job` variable that is created at runtime by `BusinessConnect`. The `FTPClient` object is used to connect to the FTP server. (This works only in non-proxy mode.) It checks if the `BCFTP/in` directory is available. If it is, it puts the file created by the Initiator's outbound process and processed by PGP API. If the `BCFTP/in` directory is not present, that directory is created before the file is actually stored in the FTP server.

If there are connection failures, a flag called `retryScripts` is set to `true` and passed on to `TIBCO BusinessConnect` to retry the execution when retry of the outbound process occurs.

How `getdecrypted.txt` Works

This script gets the `FTPClient` object from the `job` variable that is created at runtime by `TIBCO BusinessConnect`. `FTPClient` object is used to connect to the FTP server. It checks if the `testBC/out/BC` directory is available. If it is, the script calls `executeMgetCmd` to get all the files from the FTP Server.

Once the files are successfully retrieved and then processed by PGP API, the files from the `testBC/out/BC` directory is deleted. If the files could not be retrieved for some reason, for example, if a put is happening at the same time and the file descriptor is being locked by another process, then the files from the `testBC/out/BC` directory is not removed.

Tutorial Files

The following files are part of this tutorial:

- `BC_HOME\samples\bc\ftp_bcp\putencrypted.txt`
- `BC_HOME\samples\bc\ftp_bcp\getdecrypted.txt`

How to Send Files

To send a document using `BusinessWorks` process, see [File Pollers](#).



The steps of setting up and running the fourth tutorial example are similar to [First Tutorial Example](#).

Fifth Tutorial Example

Two scripts are used for the fifth tutorial example:

- The `ssh_putencrypted.txt` script, which uses the PGP API to process documents and then puts them on the SSHFTP server.
- The `ssh_getdecrypted.txt` script, which receives files from the SSHFTP server and then processes them using the PGP API. These files match a particular search filter.

How `ssh_putencrypted.txt` Works

The `ssh_putencrypted.txt` script gets the `SSHFTPClient` object from the job variable that is created at runtime by `BusinessConnect`.

The `SSHFTPClient` object is used to connect to the SSHFTP server, both in proxy or non-proxy mode. It checks whether the `examples1` directory is available and proceeds as follows:

- If the `examples1` directory is present, the script puts in the file created by the Initiator's outbound process and processed using the PGP API.
- If the `examples1` directory is not present, it is created before the file is actually stored on the SSHFTP server.

If there are connection failures, a flag called `retryScripts` (with the constant name defined in the API `com.tibco.ax.fw.runtime.transport.sshftp.SSHFTPClient.RETRY_SLOT`) may be used to set the value as `true`, and passed on to `BusinessConnect` to retry the execution when retry of the outbound process occurs.

How `ssh_getdecrypted.txt` Works

The `ssh_getdecrypted.txt` script gets the `SSHFTPClient` object from the job variable that is created at runtime by `BusinessConnect`.

The `SSHFTPClient` object is used to connect to the SSHFTP server. It checks whether the `examples1` directory is available. If it is, the script calls `executeMgetCmd` to get all the files from the SSHFTP Server.

Once the files are successfully retrieved and then processed by the PGP API, the files from the `examples1` directory are deleted. If the files could not be retrieved for some reason (such as when a communication failure happens), the corresponding tracing and auditing entries are created. In such case, the script retrieves all files from the `examples2` directory whose extension is `*.bin` and whose size is greater than or equal to 200 KB. Upon successful retrieval, the retrieved files are deleted.

How to Send Files

For this example, send a document using BusinessWorks process as described in [File Pollers](#).

Tutorial Files

The following files are part of this tutorial:

- *BC_HOME*\samples\bc\sshftp_bcp\ssh_putencrypted.txt
- *BC_HOME*\samples\bc\sshftp_bcp\ssh_getdecrypted.txt



The steps of setting up and running the fourth tutorial example are similar to [Third Tutorial Example](#).

Index

A

- about public messages [32](#)
- about the Services Plug-in [2](#)
- add binding for the host [59](#)
- add new category [39](#)
- add new operation [40](#)
- add new version [40](#)
- add properties [48](#)
- Asynchronous Request Response operation [37](#)
- audit logs [86](#)

C

- caching of schemas [32](#)
- configure agreement protocol binding [59](#)
- customer support [xvi](#)

D

- delete properties [48](#)
- Document Security for Business Agreements [63](#)
- duplicate message detection [4, 33](#)

E

- edit agreement for Initiator
 - Show Advanced [65](#)
- error messages [82](#)

- exchanging URIs [28](#)
 - Email transport [28](#)
 - File transport [28](#)
 - FTP transport [29](#)
 - HTTP transport [29](#)

F

- File transport [101](#)
- first tutorial example [107](#)

G

- general messages [82](#)

H

- Host can Initiate
 - Override Outbound Settings [60](#)

I

- inbound duplicate detection criteria [34](#)
- Initiator Inbound Response [72](#)
- Initiator messages [70](#)
- Initiator Outbound Request [70](#)

M

managing properties 48
 mgetexample.txt example 107
 modifyexample.txt example 111

N

non-repudiation logs 90
 Notify operation 35

O

Operation tab 41, 44
 origFileName 54
 outbound duplicate detection criteria 33
 outbound File Pollers 100

P

Partner Can Initiate
 Override Inbound Settings 62
 public messages overview 32
 putexample.txt example 107

R

Request Action tab 41, 44
 resending private process messages 84
 Responder Acknowledgement 81
 Responder Inbound Request 76
 Responder messages 76
 Responder Outbound Response 79
 Response Action tab 43
 run the first tutorial example 109
 run the third tutorial example 116
 running the tutorial 22

S

schema validation 32
 second tutorial example 111
 Services Plug-in
 features 3
 operation support 3
 support for multiple attachments 4
 support for private transports 3
 support for public transports 3
 set up the first tutorial 108
 set up the property ezcomm.interior.pp.threshold 50
 set up the property
 ezcomm.notify.email.preserveSubject 50
 set up the second tutorial 111
 set up the third tutorial 114
 shadow credential usage 64
 support, contacting xvi
 Synchronous Request Response operation 36

T

technical support xvi
 third tutorial example 113
 expected results 117
 how to send files 114, 120
 ssh_mgetexample.txt 113, 119
 ssh_putexample.txt 113, 119
 steps on the Initiator machine 114
 steps on the Responder machine 115
 tutorial files 114
 TIBCO support
 TIBCommunity xvi
 TIBCO_HOME xiv
 Transports for Business Agreements 64
 troubleshooting 103

tutorial

- about 6
- configure connections to Initiator BusinessConnect 19
- configure connections to Responder BusinessConnect 21
- configure Initiator business agreement 11
- configure Responder business agreement 15
- configure Responder default host 14
- configure Responder partner 14
- configure the Initiator default host 9
- configure the Initiator partner 10
- configuring Initiator BusinessConnect 9
- configuring Responder BusinessConnect 13
- configuring the private processes 17
- import operation 8
- open the BusinessWorks project 18
- operation bindings for Responder business agreement 16
- override transport for Initiator business agreement 13
- override transport for Responder business agreement 16

U

- using shadow credentials to receive signed or encrypted messages 64
- using shadow credentials to send signed or encrypted messages 64