Configuring Java CAPS Project Components for Communication Adapters

Sun Microsystems, Inc.
4150 Network Circle
Santa Clara, CA 95054
U.S.A.

Part No: 820–4408
June 2008

090911@22749

Contents

Configuring Java CAPS Project Components for Communication Adapters

What You Need to Know

All adapters contain a unique set of default configuration parameters. After the adapters are established and an External System is created in the Project's Environment, the adapter parameters are modified for your specific system. These topics describes how to set the connectivity map properties for Java CAPS Communication Adapters.

What You Need to Do

These topics, listed by type, describe the Connectivity Map component properties and Connectivity Map property values for Java CAPS Communication Adapters.

Configuring SNA Inbound Adapters

Configuring Batch Adapters

Configuring CICS Adapters

Configuring e-Mail Adapters

- "Configuring e-Mail Inbound Adapter Connectivity Map Properties" on page 115

Configuring File Adapters

- "Configuring File Adapter Inbound Connectivity Map Properties" on page 116
- "Configuring File Adapter Outbound Connectivity Map Properties" on page 118

Configuring HTTPS Adapters

- "Configuring HTTPS Adapter Connectivity Map Properties" on page 120

Configuring IMS Adapters

- "Configuring IMS Adapter Connectivity Map Properties" on page 122

Configuring LDAP Adapters

- "Configuring LDAP Adapter Connectivity Map Properties" on page 123

Configuring MSMQ Adapters

- "Configuring MSMQ Adapter Inbound Connectivity Map Properties" on page 137
- "Configuring MSMQ Adapter Outbound Connectivity Map Properties" on page 142

Configuring TCP/IP HL7V2, HL7V3 and TCP/IP Adapters

- "Configuring TCP/IP HL7 V2 Adapter Inbound Connectivity Map Properties" on page 147
- "Configuring TCP/IP HL7 V2 Adapter Outbound Connectivity Map Properties" on page 175
- "Configuring TCP/IP HL7 V3 Adapter Inbound Connectivity Map Properties" on page 198.
- "Configuring TCP/IP HL7 V3 Adapter Outbound Connectivity Map Properties" on page 221.
- "Configuring TCP/IP Adapter Inbound Connectivity Map Properties" on page 239.
- "Configuring TCP/IP Adapter Outbound Connectivity Map Properties" on page 255.

About Configuring Java CAPS Adapter Connectivity Map Properties

This topic describes how to set the connectivity map properties for Java CAPS Adapters.

Adapter configuration parameters are modified from the following locations:

- **Connectivity Map** parameters most commonly apply to a specific component adapter, and may vary from other adapters (of the same type) in the Project.
- **Environment Explorer** parameters are commonly global, applying to all adapters (of the same type) in the Project. The saved properties are shared by all adapters in the External System window.

- **Collaboration or Business Process** Adapter properties may also be set from your Collaboration or Business Process, in which case the settings will override the corresponding properties in the adapter's Connectivity Map configuration. Any properties that are not overridden retain their configured default settings.

Where to Go Next

"Configuring the Adapter Connectivity Map Properties" on page 11.

More Information

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters

Configuring the Adapter Connectivity Map Properties

When you connect an External Application to a Collaboration, Netbeans IDE automatically assigns the appropriate adapter to the link. Each adapter is supplied with a template containing default configuration properties that are accessible on the Connectivity Map.

Adapters can be configured for inbound and/or outbound modes in a Connectivity Map.

▼ To Configure the Inbound Adapter Properties

- **On the Connectivity Map, double-click the Adapter icon.**

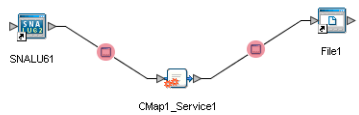


FIGURE 1 Connectivity Map with Components - Inbound

The adapter Properties window appears, displaying the default properties for the Inbound adapter.

▼ To Configure the Outbound Adapter Properties

- **On the Connectivity Map, double-click the Adapter icon.**

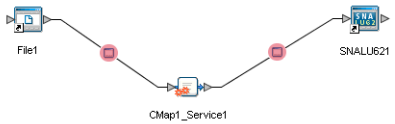


FIGURE 2 Connectivity Map with Components - Outbound

The adapter Properties window appears, displaying the default properties for the Outbound adapter.

Where to Go Next

To choose the Adapter type that you want to configure, go to Configuring Java CAPS Project Components for Communication Adapters.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters

Configuring SNA Inbound Adapter Connectivity Map Properties

The SNA Inbound adapter Connectivity Map consists of the following properties categories.

Connectivity Map Inbound Adapter General Settings

The Inbound Adapter General Settings are included in the table.

TABLE 1 Inbound Adapter—General Settings

Name	Description	Required Value
Scope of State	Defines the scope of the State object, which is an OTD sub-node.	The valid options for this parameter are: ■ **Connection Level**: The State has the same life cycle as the connection. ■ **Resource Adapter Level**: The State has the same life cycle as the resource adapter. The life terminates when the resource adapter is recycled. ■ **OTD Level**: The State has the same life cycle as the OTD object. This scope represents the life cycle of the State. The life terminates when the collaboration finishes. The default is Connection Level.

Where to Go Next

"Connectivity Map Inbound Adapter SNA Settings" on page 13.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Connectivity Map Inbound Adapter SNA Settings

The Inbound Adapter SNA Settings are included in the table.

TABLE 2 Inbound Adapter—SNA Settings

Name	Description	Required Value
Packet Size	The number of bytes per packet of data. This number also determines the size of the buffers.	A valid numeric value. The default is **1024**.
Timeout	Specifies the milliseconds of pause before receiving a response from a server following a sent request.	A valid numeric value. The default is **1000**.
Initialize Conversation	Specifies how the adapter will establish a SNA conversation. Options are: ■ **True**: The adapter will initialize SNA conversations as an invoking TP. ■ **False**: The adapter will accept SNA conversations as an invoking TP.	Select **True** or **False**. The default is **False**.
Deallocation Type	Specifies the type of deallocation required at the end of a conversation when a shutdown is issued. Please refer to your SNA documentation for more information.	Select one of the following four options: ■ **0 - SYNC_LEVEL**. ■ **1 - FLUSH** ■ **2 - CONFIRM** ■ **3 - ABEND** The default is **0 - SYNC_LEVEL**.
Synchroniza tion Level	Specifies the synchronization level parameter (CM_SYNC_LEVEL). Please refer to your SNA manual for more information. **0 - None** (Default) **1 - Confirm**	Select the following: ■ **0 - None** ■ **1 - Confirm** The default is **0 - None**..
Custom Handshake Class Name	Defines your SNA handshake logic (see Appendix B to deploy a custom handshake class).	A fully qualified class name such as **com.abc.MyClass**. The class must implement the interface **com.stc.connector.snalu62.api.snaCustomerHandshake**. No value (leaving the property blank) indicates that no SNA conversation handshake logic is defined. Instead, a built-in standard handshake logic is used.

Where to Go Next

"Connectivity Map Inbound Adapter Connection Establishment" on page 15.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Connectivity Map Inbound Adapter Connection Establishment

The Inbound Adapter Connection Establishment properties are included in the table.

TABLE 3 Inbound Adapter—Connection Establishment

Name	Description	Required Value
Max Connection Retry	Specifies the maximum number of retries to establish a connection upon failure to acquire one.	A valid numeric value. The default is **3**.
Retry Connection Interval	Specifies the milliseconds of pause before each attempt to reaccess the SNA LU62 destination. This setting is used in conjunction with the Max Connection Retry setting. For example, In the event that the adapter cannot connect to the SNA destination, the adapter will try to reconnect three times in 30 second intervals when the Connection Retries value is 3 and the Connection Retry Interval is 30000.	A valid numeric value. The default is **30000**.

Where to Go Next

"Connectivity Map Inbound Adapter Inbound Connection Management" on page 15.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Connectivity Map Inbound Adapter Inbound Connection Management

The Inbound Adapter Inbound Connection Management properties are included in the table.

TABLE 4 Inbound Adapter—Inbound Connection Management

Name	Description	Required Value
Max Connection Pool Size	Defines the maximum number of concurrent connections for the particular listener/monitor over the specified SNALU62 destination. 0 (zero) indicates that there is no maximum.	A valid numeric value. The default is **50**.
Scope of Connection	Defines the scope of the accepted connection used by the adapter. Options are: ■ **Collaboration Level**: The connection will be closed once the execution of the Collaboration is completed. The connection has the same life cycle as the Collaboration. ■ **Resource Adaptor Level**: The resource adapter will close the connection upon closure request. The connection may remain live across multiple executions of the Collaboration.	Select **Collaboration Level** or **Resource Adaptor Level**. The default is **Resource Adaptor Level**.

Where to Go Next

"Connectivity Map Inbound Adapter Inbound Schedules" on page 16.

- "Connectivity Map Inbound Adapter General Settings" on page 12
- "Connectivity Map Inbound Adapter SNA Settings" on page 13
- "Connectivity Map Inbound Adapter Connection Establishment" on page 15
- "Connectivity Map Outbound Adapter General Settings" on page 19
- "Connectivity Map Outbound Adapter SNA Settings" on page 20
- "Connectivity Map Outbound Adapter Connection Establishment" on page 22

Connectivity Map Inbound Adapter Inbound Schedules

This section describes the following,

- "Listener Schedule" on page 16.
- "Service Schedule" on page 18.

Listener Schedule

Listener Schedule properties specify the schedule that the server must wait for the new client connection establishment request. This schedule is for the listener/monitor. The Listener Schedule properties are included in the table.

TABLE 5 Inbound Schedules—Listener Schedule

Name	Description	Required Value
Scheduler	Specifies the scheduler type for this inbound communication. Options are: ■ **Timer Service**: The task is scheduled according to the **Schedule Type**, **Delay**, **Period**, and **At Fixed Rate** values. ■ **Work Manager**: The work is scheduled according to the **Schedule Type**, **Delay**, and **Period** values. If your container does not support JCA Work Management (prior to JCA1.5), select Timer Service.	Select **Timer Service** or **Work Manager**. The default is **Work Manager**.
Schedule Type	Defines the type of schedule for inbound communication. Repeated indicates a task is scheduled for repeated execution at regular intervals defined by the parameter Period.	The configured default is **Repeated**. **Note –** This value cannot be changed.
Delay	Specifies the delay in milliseconds before a task is executed. For further details, refer to the SNA Adapter Javadoc.	A valid numeric value. The default is **0**.
Period	Specifies the regular interval in milliseconds between successive task executions. This parameter is used in conjunction with the Schedule Type parameter when set to Repeated.	A valid numeric value. The default is **100**.
At Fixed Rate	Used in conjunction with the Repeated setting for the Schedule Type parameter and the Timer Service type of Scheduler. Options are: ■ **True**: Denotes a fixed rate. Each execution is scheduled relative to the scheduled time of the initial execution. If an execution is delayed for any reason, two or more executions will occur in rapid succession to return to the preset execution schedule. Overall, the frequency of executions will be exactly the reciprocal of the specified period. ■ **False**: Denotes a fixed delay. Each execution is scheduled relative to the actual execution time of the previous execution. If an execution is delayed for any reason, subsequent executions are delayed as well. Overall, the frequency of executions will generally be lower than the reciprocal of the specified period.	Select **True** or **False**. The default is **False**.

Service Schedule

The Inbound Adapter Service Schedule properties are included in the table.

TABLE 6 Inbound Schedules—Service Schedule

Name	Description	Required Value
Scheduler	Specifies the scheduler type for this inbound communication. Options are: ■ **Timer Service**: The task is scheduled according to the **Schedule Type**, **Delay**, **Period**, and **At Fixed Rate** values. ■ **Work Manager**: The work is scheduled according to the **Schedule Type**, **Delay**, and **Period** values. If your container does not support JCA Work Management (prior to JCA1.5), select Timer Service.	Select **Timer Service** or **Work Manager**. The default is **Work Manager**.
Schedule Type	Defines the type of schedule for inbound communication. Options are: ■ **One Time**: A task is scheduled for a one-time execution. ■ **Repeated**: A task is scheduled for repeated execution at regular intervals defined by the parameter Period.	Select **One Time** or **Repeated**. The default is **Repeated**.
Delay	Specifies the delay in milliseconds before a task is executed. For further details, refer to the *SNA Adapter Javadoc*.	A valid numeric value. The default is **0**.
Period	Specifies the regular interval in milliseconds between successive task executions. This parameter is used in conjunction with the Schedule Type parameter when set to Repeated.	A valid numeric value. The default is **100**.

TABLE 6 Inbound Schedules—Service Schedule *(Continued)*

Name	Description	Required Value
At Fixed Rate	Used in conjunction with the Repeated setting for the Schedule Type parameter and the Timer Service type of Scheduler. Options are: ■ **True**: Denotes a fixed rate. Each execution is scheduled relative to the scheduled time of the initial execution. If an execution is delayed for any reason, two or more executions will occur in rapid succession to return to the preset execution schedule. Overall, the frequency of executions will be exactly the reciprocal of the specified period. ■ **False**: Denotes a fixed delay. Each execution is scheduled relative to the actual execution time of the previous execution. If an execution is delayed for any reason, subsequent executions are delayed as well. Overall, the frequency of executions will generally be lower than the reciprocal of the specified period.	Select **True** or **False**. The default is **False**.

Where to Go Next

"Connectivity Map Outbound Adapter General Settings" on page 19.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Connectivity Map Outbound Adapter General Settings

The Outbound Adapter General Settings are included in the table.

TABLE 7 Outbound Adapter—General Settings

Name	Description	Required Value
Scope of State	Defines the scope of the State object, which is an OTD sub-node.	The valid options for this parameter are: ■ **Connection Level**: The State has the same life cycle as the connection. ■ **Resource Adapter Level**: The State has the same life cycle as the resource adapter. The life terminates when the resource adapter is recycled. ■ **OTD Level**: The State has the same life cycle as the OTD object. This scope represents the life cycle of the State. The life terminates when the collaboration finishes. The default is **Connection Level**.

Where to Go Next

"Connectivity Map Outbound Adapter SNA Settings" on page 20.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Connectivity Map Outbound Adapter SNA Settings

The Outbound Adapter SNA Settings are included in the table.

TABLE 8 Outbound Adapter—SNA Settings

Name	Description	Required Value
Packet Size	The number of bytes per packet of data. This number also determines the size of the buffers.	A valid numeric value. The default is **1024**.
Timeout	Specifies the milliseconds of pause before receiving a response from a server following a sent request.	A valid numeric value. The default is **1000**.
Initialize Conversation	Specifies how the adapter will establish a SNA conversation. Options are: ■ **True**: The adapter will initialize SNA conversations as an invoking TP. ■ **False**: The adapter will accept SNA conversations as an invokable TP.	Select **True** or **False**. The default is **True**.
Deallocation Type	Specifies the type of deallocation required at the end of a conversation when a shutdown is issued. Please refer to your SNA documentation for more information.	Select one of the following four options: ■ **0 - SYNC_LEVEL**. ■ **1 - FLUSH** ■ **2 - CONFIRM** ■ **3 - ABEND** The default is **0 - SYNC_LEVEL**.
Synchroniza-tion Level	Specifies the synchronization level parameter (CM_SYNC_LEVEL). Please refer to your *SNA manual* for more information. ■ **0 - None** (Default) ■ **1 - Confirm**	Select one of the following two options: ■ **0 - None** ■ **1 - Confirm**. The default is **0 - None**.
Custom Handshake Class Name	Defines your SNA handshake logic (see Appendix B to deploy a custom handshake class).	A fully qualified class name such as **com.abc.MyClass**. The class must implement the interface **com.stc.connector.snalu62.api.snaCustomerHandshake**. No value (leaving the property blank) indicates that no SNA conversation handshake logic is defined. Instead, a built-in standard handshake logic is used.

Where to Go Next

"Connectivity Map Outbound Adapter Connection Establishment" on page 22.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Connectivity Map Outbound Adapter Connection Establishment

The Outbound Adapter Connection Establishment properties are included in the table.

TABLE 9 Outbound Adapter—Connection Establishment

Name	Description	Required Value
Connection Mode	Specifies how or when a connection will become available. Options are: ■ **Automatic**: The adapter will establish a SNA conversation automatically. ■ **Manual**: The SNA conversation will become available to you only when you manually call the OTD function startConversation() from the Collaboration; the conversation will become unavailable when you call the OTD function endConversation(). **Note –** The OTD functions **startConversation()** and **endConversation()** are expected for Manual mode only. Automatic mode does not allow you to call them explicitly.	Select **Automatic** or **Manual**. The default is **Automatic**.
Max Connection Retry	Specifies the maximum number of retries to establish a connection upon failure to acquire one.	A valid numeric value. The default is **3**.
Retry Connection Interval	Specifies the milliseconds of pause before each attempt to reaccess the SNA LU62 destination. This setting is used in conjunction with the Max Connection Retry setting. For example, In the event that the adapter cannot connect to the SNA destination, the adapter will try to reconnect three times in 30 second intervals when the Connection Retries value is 3 and the Connection Retry Interval is 30000.	A valid numeric value. The default is **30000**.

TABLE 9 Outbound Adapter—Connection Establishment *(Continued)*

Name	Description	Required Value
Always Create New Connection	Specifies whether to ALWAYS attempt to create a new connection for a connection establishment request. Options are: ■ **True**: The adapter will always attempt to create a new connection without trying to match connection. ■ **False**: The adapter will attempt to match an existing connection.	Select **True** or **False**. The default is **False**.
Auto Reconnect Upon Matching Failure	Specifies whether or not to make an attempt to re-connect automatically after getting a matched connection from a container. Options are: ■ **True**: The adapter will discard the invalid matched connection and will attempt to establish another connection automatically. ■ **False**: The adapter will not attempt to establish a new connection automatically. Instead, control will be deferred to your business rules which will detect this type of failure and perform the desired operations accordingly.	Select **True** or **False**. The default is **True**.
Auto Disconnect Connection	Specifies whether the adapter disconnects automatically after the work on the connection is completed. Options are: ■ **True**: The adapter connection will be disconnected and it will not be re-used. ■ **False**: The connection will be left for reuse.	Select **True** or **False**. The default is **False**.

Where to Go Next

To choose the Adapter type that you want to configure, go toConfiguring Java CAPS Project Components for Communication Adapters.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Configuring Batch Adapter BatchRecord Connectivity Map Properties

This section explains the properties for the record-processing **BatchRecordOTD** Connectivity Map. The BatchRecord properties include these sections:

General Settings (BatchRecord Connectivity Map)

The General Settings section of the BatchRecord Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 10 Connectivity Map - BatchRecord - General Settings

Name	Description	Required Value
Parse or Create Mode	Specifies how this adapter Connection for the record-processing OTD is used. Set this parameter as follows: ■ **Parse**: To use the OTD for parsing an inbound payload. ■ **Create**: To use the OTD for creating an outbound payload. An instance of the OTD can be used for parsing an inbound payload (only) or for creating an outbound payload (only). A single OTD cannot be used for both purposes at the same time in the same Collaboration.	Select **Create** or **Parse**. The configured default is **Parse**.

TABLE 10 Connectivity Map - BatchRecord - General Settings *(Continued)*

Name	Description	Required Value
Synchronized	Specifically applies to legacy Batch adapter Projects. Provides backward compatibility to allow Projects that were created using the Batch adapter version 5.0.7 or earlier to be imported and deployed without a change in the adapters behavior. The selections are, ■ **Yes**: Provides backward compatibility for legacy (pre-5.0.8 Batch adapter) Projects. The adapter run in synchronized mode, one instance of the Collaboration after the other. ■ **No**: For use with new Batch adapter Projects. The adapter run in parallel, creating multiple instances of the Collaboration that run in parallel. **Note –** All OTD instances used in a Project should have the same value for this property.	Select **Yes** or **No.** The default setting is **Yes, simulating Projects created with** Batch adapter version 5.0.7 or earlier.

Where to Go Next

"Configuring Batch Adapter BatchRecord Connectivity Map Properties" on page 24.

More Information

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters

Related Topics

For link to other topics, go to *Related Topics for Sun Adapter for Batch/FTP*

Record (BatchRecord Connectivity Map)

This section allows you to configure the **Record** parameters, to specify the record characteristics you want the adapter to recognize.

The Record section of the BatchRecord Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 11 Connectivity Map - BatchRecord - Record

Name	Description	Required Value
Delimiter on Last Record	Allows you to supply the delimiter to be used with the final record. Use this parameter only when the **Record Type** is set to **Delimited**. Some message formats insist that the final message in a record set has no trailing delimiter. However, in most cases, you can safely leave this parameter set to **Yes**.	Select **Yes** or **No.** The configured default setting is **Yes**.
Record Delimiter	Specifies the delimiter to be used for records. Use this parameter when the **Record Type** is set to **Delimited**. The value entered is interpreted as a sequence of one or more bytes. If there are multiple bytes in the delimiter, each must be separated by a comma. You can enter the delimiters in the following formats: ■ **ASCII Characters**: The adapter supports all ASCII characters.**Example**: *,*,* (records separated by ***)**Example**: | (records separated by a |) ■ **Escaped ASCII**: The adapter supports \r, \n, \t, and \f.**Example**: \r,\n (records separated by CR NL)**Example**: \n (records separated by NL only) ■ **Hex**: The adapter supports 0x00 to 0x7E**Example**: \0x0D,\0x0A (records separated by CR NL) ■ **Octal**: The adapter supports 000 to 0177.**Example**: \015,\012 (same as \0x0D,\0x0A) **Note –** When using character delimiters with DBCS data, use single byte character, or equivalent hex values that do not coincide with either byte of the double byte characters. When using escaped ASCII, Hex, or Octal, the "\" character is required.	A valid character to use as data record delimiter.
Record Size	Specifies a number indicating the record size (byte count). Use this parameter when the **Record Type** is set to **Fixed**, and a number indicating length must be supplied.	A number from **1** to **2,147,483,647** indicating the record size (byte count).

TABLE 11 Connectivity Map - BatchRecord - Record *(Continued)*

Name	Description	Required Value
Record Type	Specifies the format of the records in the data payload in the Collaboration. Each payload contains zero or more records. Using this and related parameters, you can pass records individually to another component within the Service Bus. Available options: ■ **Delimited**: The records are separated by the delimiter specified under the **Record Delimiter** parameter. ■ **Fixed**: The records are all of a given size, specified by the **Record Size** parameter. ■ **Single Record**: If the payload is to be processed "as-is," select this option. ■ **User Defined**: This option is not supported.	Select **Delimited**, **Fixed**, **or Single Record**. The configured default is **Delimited.**

Where to Go Next

For information on BatchFTP Connectivity Map configuration, go to "Configuring Batch Adapter BatchFTP Connectivity Map Properties" on page 27.

More Information on Adapters

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- **Related Topics**

  For links to the other topics for this Adapter, go to *Related Topics for Sun Adapter for Batch/FTP*.

Configuring Batch Adapter BatchFTP Connectivity Map Properties

This topic describes the configuration parameters for the **BatchFTP OTD,** accessed from the Connectivity Map.

The BatchFTP Connectivity Map properties include these sections:

- "Pre Transfer (BatchFTP Connectivity Map)" on page 28.
- "SOCKS (BatchFTP Connectivity Map)" on page 31.
- "FTP (BatchFTP Connectivity Map)" on page 32.

- "FTP Raw Commands (BatchFTP Connectivity Map)" on page 35.
- "Sequence Numbering (BatchFTP Connectivity Map)" on page 37.
- "Post Transfer (BatchFTP Connectivity Map)" on page 37.
- "Target Location (BatchFTP Connectivity Map)" on page 40.
- "SSH Tunneling (BatchFTP Connectivity Map)" on page 41.
- "General Settings (BatchFTP Connectivity Map)" on page 45.

Caution – Several of these configuration options allow you to use regular expressions. This advanced feature is useful but must be used carefully. An improperly formed regular expression can cause the creation of undesired data or even the loss of data. You must have a clear understanding of regular-expression syntax and construction before attempting to use this feature. It is recommended that you test such configurations thoroughly before moving them to production.

Pre Transfer (BatchFTP Connectivity Map)

Pre-transfer operations are those performed before the file transfer.

The Pre Transfer section of the BatchFTP Connectivity Map properties contains the top-level parameters displayed in this table.

TABLE 12 Connectivity Map - BatchFTP - Pre Transfer

Name	Description	Required Value
Pre Directory Name	Specifies the directory name (path) on the external system to which a file is renamed or copied. The value can be a literal or a pattern name. This setting is only for the **Rename** or **Copy** operations of the **Pre Transfer Command** parameter. For outbound transfers, the directory is created if it does not already exist. See **Pre Directory Name Is Pattern** property. See **Using Name Patterns**.	Enter the exact name of the directory (with the path), enter a pattern name, or select one of the following values: ■ %f ■ %f.%y%y%y%y%M %M%d%d .%h%h%m%m%s%s %S%S%S ■ %f.copy ■ %f.rename

TABLE 12 Connectivity Map - BatchFTP - Pre Transfer *(Continued)*

Name	Description	Required Value
Pre Directory Name Is Pattern	Specifies whether the directory name is interpreted as literal or as a name pattern, as follows: ■ **Yes**: indicates that the name value you enter is assumed to be a name pattern. See **Pre Directory Name** property. ■ **No**: indicates that the name entered is a literal, an exact match.	Select **Yes** or **No**. The configured default is **Yes**.
Pre File Name	Specifies the file name on the external system, to which a file is renamed or copied. The value represents the file name. The value can be a literal or pattern name. This setting is only for the **Rename** or **Copy** operations of the **Pre Transfer Command** parameter. Special characters are allowed, for example, the pattern **%f** indicates the original working file name. See **Pre Directory Name Is Pattern** property. See **Using Name Patterns**.	Enter the exact name of the file, enter a pattern name, or select one of the following values: ■ %f ■ %f%# ■ %f.%y%y%y%y%M%M %d%d.%h%h %m%m%s%s%S%S%S ■ %f.copy ■ %f.rename
Pre File Name Is Pattern	Specifies whether the file name represents a literal or a name pattern, as follows: ■ **Yes**: indicates that the name value you enter is assumed to be a name pattern. See **Pre File Names**property. ■ **No**: indicates that the name entered is a literal, an exact match. No pattern matching or name expansion is done.	Select **Yes** or **No**. The configured default is **Yes**.

TABLE 12 Connectivity Map - BatchFTP - Pre Transfer *(Continued)*

Name	Description	Required Value
Pre Transfer Command	Allows you to execute a desired action directly before the actual file transfer. For an inbound transfer, the file can be made unavailable to other clients polling the target system with the same directory and file pattern or name. For an outbound transfer, you can perform an automatic backup or clean-up of the existing files. The options are: ■ **Rename**: Rename the target file for protection or recovery. ■ **Copy**: Copy the target file for backup or recovery. ■ **None**: Do nothing. To gain proper protection, backup, or recovery, you must choose the appropriate setting that serves your purpose. For example, to recover from failures on an outbound appending transfer, use the **Copy** setting. **Note –** When you are using **Rename** , if the destination file exists, different FTP servers can behave differently. For example, on some UNIX FTP servers, the destination file is overwritten without question. That is, no error or warning message is given. On other FTP servers, a Windows XP server for example, the system generates an error that results in exceptions being thrown in the called OTD method. Be sure you are familiar with the native behavior of the corresponding FTP server. If you are in doubt, try the action at the command prompt. If the action displays an error message, it may result in an exception being thrown in the Collaboration.	Select **Rename**, **Copy**, or **None**. The configured default is **None**. **Note –** The **Copy** option could slow system performance, especially if you are copying a large file.

Where to Go Next

For information on Batch FTP SOCKS configuration, go to "SOCKS (BatchFTP Connectivity Map)" on page 31.

More Information

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters

Related Topics

For links to the other topics for this Adapter, go to *Related Topics for Sun Adapter for Batch/FTP*.

SOCKS (BatchFTP Connectivity Map)

The BatchFTP SOCKS supports two negotiation methods: NO-AUTHENTICATION and USER/PASSWORD.

The SOCKS section of the BatchFTP Connectivity Map properties contains the top-level parameters displayed in this table.

TABLE 13 Connectivity Map - BatchFTP - SOCKS

Name	Description	Required Value
Socks Enabled	Specifies whether the FTP command connection goes through a SOCKS server. If you choose **No**, the adapter does not connect to a SOCKS server. In this case, all other parameters under the **SOCKS** section are ignored. **Note –** If this parameter is set to **Yes** , the host name under the **FTP** configuration could fail to resolve some names, such as **localhost** or **127.0.0.1** correctly. Use real IP or machine names to represent the hosts. See **Host Name** for more details.	Select **Yes** or **No**. The configured default is **No**.
Socks Version	Specifies the SOCKS server version. If you choose **Unknown**, the adapter detects the actual version for you. **Note –** For the best performance, specify the version number, 4 or 5.	Select **4**, **5**, or **Unknown.** The configured default is **Unknown**.

Where to Go Next

"SOCKS (BatchFTP Connectivity Map)" on page 31.

More Information

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters

Related Topics

For links to the other topics for this Adapter, go to *Related Topics for Sun Adapter for Batch/FTP*.

FTP (BatchFTP Connectivity Map)

The FTP section of the BatchFTP Connectivity Map properties contains the top-level parameters displayed in this table.

TABLE 14 Connectivity Map - BatchFTP - Pre Transfer

Name	Description	Required Value
Command Connection Timeout	Allows you to set the timeout of the FTP command/control connection socket. Normally, the larger the file you are transferring, the higher this value must be. Of course, the quality of the network connection also affects this setting. The value is in milliseconds. A timeout of zero is interpreted as an infinite timeout.	An integer from **0** to **2147483647**. The configured default is **45000**.
Data Connection Timeout	Allows you to set the timeout of the FTP data connection socket. Normally, a slow or busy network connection requires a higher timeout setting. The value is in milliseconds. A timeout of zero is interpreted as an infinite timeout. For setting the timeout of the command/control connection socket, see the parameter **Command Connection Timeout**.	An integer from **0** to **2147483647**. The configured default is **45000**.

TABLE 14 Connectivity Map - BatchFTP - Pre Transfer *(Continued)*

Name	Description	Required Value
Directory Listing Style	Specifies the system that reflects the remote host. This parameter is used to determine the format in which the **LIST** command returns file-listing information. The Directory Listing Style values include User Defined1 - User Defined10 values. These user defined properties allow you to create multiple user-defined FTP heuristic configurations, and make these selectable from the BatchFTP adapter properties. You can create corresponding heuristic configurations in the **FtpHeuristics.cfg** file under the User Defined sections. For more information on setting user defined FTP heuristic properties, see "To Modify the FTP Heuristics Configuration File" on page 95. **Note –** This property is superseded by any value specified in the User Defined Directory Listing Style property (see the **User Defined Directory Listing Style** property). The User Defined Directory Listing Style property value must be blank (empty) to enable the Directory Listing Style property.	One of the following values, ■ UNIX ■ AS400 ■ AS400-UNIX ■ HCLFTPD 6.0.1.3 ■ HCLFTPD 5.1 ■ HP NonStop/Tandem ■ MPE ■ MSFTPD 2.0 ■ MSP PDS (Fujitsu) ■ MSP PS (Fujitsu) ■ MVS GDG ■ MVS PDS ■ MVS Sequential ■ Netware 4.11 ■ NT 3.5 ■ NT 4.0 ■ UNIX ■ UNIX (EUC-JP ■ UNIX (SJIS) ■ User Defined ■ User Defined (1-10) ■ VM/ESA ■ VMS ■ VOS3 PDS (Hitachi) ■ VOS3 PS (Hitachi) ■ VOSK (Hitachi)

TABLE 14 Connectivity Map - BatchFTP - Pre Transfer *(Continued)*

Name	Description	Required Value
User Defined Directory Listing Style	Specifies the name of a user-defined directory listing style (heuristics) that is available in the user-created FTP heuristics configuration file located on the Application Server. This property works in conjunction with the **Directory Listing Style** and **User Defined Heuristics Configuration File** properties. For details on how to use the User Defined Directory Listing Style see "To Create a Custom Heuristics Configuration File" on page 94. **Note –** The BatchFTP OTD will generate an exception if a selected User Defined Directory Listing Style or the User Defined Heuristics Configuration File path is not defined correctly. If a User Defined Directory Listing Style is specified, a corresponding value must also be provided for the User Defined Heuristics Configuration File property.	A text string value (default to blank) representing the directory listing style (heuristics) name which is defined in a user supplied heuristics configuration file.
Use PASV	Allows you to prompt the adapter to enter either the passive or active mode. Normally, when you connect to an FTP site, the site establishes the data connection to your computer. However, some FTP sites allow passive transfers, meaning that your computer establishes the data connection. By default, the passive mode is used. It is recommended that you use this mode for transfers to and from FTP sites that support it. The passive mode can be required in the following situations: ■ For users on networks behind some types of router-based firewalls ■ For users on networks behind a gateway requiring passive transfers ■ If transfers are erratic ■ If data-channel errors are prevalent in your environment	Select **Yes** or **No**. The configured default is **Yes**.

TABLE 14 Connectivity Map - BatchFTP - Pre Transfer *(Continued)*

Name	Description	Required Value
Mode	Specifies the mode used to transfer data to or from the FTP server, using the **ASCII, Binary,** or **EBCDIC** mode. If you choose Ebcdic, make sure of the following: ■ Your FTP server supports the EBCDIC mode. ■ You are processing EBCDIC data.	Select **ASCII, Binary,** or **EBCDIC**. The configured default is **Binary**.

Where to Go Next

"FTP Raw Commands (BatchFTP Connectivity Map)" on page 35.

More Information

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters

Related Topics

For links to the other topics for this Adapter, go to *Related Topics for Sun Adapter for Batch/FTP*.

FTP Raw Commands (BatchFTP Connectivity Map)

FTP raw commands are commands that are sent directly to the FTP server.

The **FTP Raw Commands** section of the BatchFTP Connectivity Map properties contains the top-level parameters displayed in this table.

TABLE 15 Connectivity Map - BatchFTP - FTP Raw Commands

Name	Description	Required Value

Post Transfer Raw Commands	Specifies the FTP raw commands to be used directly after the file-transfer command. For example, some SITE commands use a ; (semi-colon) to separate the command set, as displayed in this example,
	`SITE RECFM=FB;SITE LRECL=50;SITE BLOCKSIZE=32750;SITE`
	`TRACKS;SITE PRI=5;SITE SEC=5`
	These commands are sent one by one, in the sequence they are listed.
	Note – Certain combinations of post-transfer raw commands can cause the loss of data if there is a failure on the FTP server. For example, if the inbound post-transfer command is **Delete** , and your post-transfer raw commands fail, the deleted file is not recoverable.
		One or more valid FTP raw commands.
		Note – These commands are sent to the FTP server directly and are not interpreted by the adapter in any way.

Pre Transfer Raw Commands	Specifies the FTP raw commands to be used directly before the file-transfer command. For example, some SITE commands use a ; (semi-colon) to separate the command set,
	`SITE RECFM=FB;SITE LRECL=50;SITE BLOCKSIZE=32750;SITE`
	`TRACKS;SITE PRI=5;SITE SEC=5`
	These commands are sent one by one, in the sequence they are listed.
		One or more valid FTP raw commands.
		Note – These commands are sent to the FTP server directly and are not interpreted by the adapter in any way.

Where to Go Next

"Sequence Numbering (BatchFTP Connectivity Map)" on page 37.

More Information

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters

Related Topics

For links to the other topics for this Adapter, go to *Related Topics for Sun Adapter for Batch/FTP*.

Sequence Numbering (BatchFTP Connectivity Map)

The Sequence Numbering section of the BatchFTP Connectivity Map properties contains the top-level parameters displayed in this table:

Note – The Synchronized property, under General Settings, must be set to **Yes** to use Sequence Numbering.

TABLE 16 Connectivity Map - BatchFTP - Sequence Numbering

Name	Description	Required Value
Max Sequence Number	Use this parameter when you have set up the target directory or file name to contain a sequence number. It tells the adapter that when this value (the **Max Sequence Number**) is reached, to reset the sequence number to the **Starting Sequence Number** value. This parameter is used for the name pattern **%#**.	An integer from **1** to **2147483647**. The value of **Max Sequence Number** must be greater than that of **Starting Sequence Number**.
Starting Sequence Number	Use this parameter when you have set up the target directory or file name to contain a sequence number. It tells the adapter which value to start with in the absence of a sequence number from the previous run. This parameter is used for the name pattern **%#**. When the **Max Sequence Number** value is reached, the sequence number rolls over to the **Starting Sequence Number** value.	An integer from **0** to **2147483647**. The value of the **Starting Sequence Number** must be less than the **Max Sequence Number** value.

Where to Go Next

"Post Transfer (BatchFTP Connectivity Map)" on page 37.

More Information

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters

Related Topics

For links to the other topics for this Adapter, go to *Related Topics for Sun Adapter for Batch/FTP*.

Post Transfer (BatchFTP Connectivity Map)

Post-transfer operations are those performed on remote (ftp) site after the real ftp transfer.

The Post Transfer section of the BatchFTP Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 17 Connectivity Map - BatchFTP - Post Transfer

Name	Description	Required Value
Post Directory Name	Specifies the directory name (path) on the external system to which a file is renamed. The value can be a literal or pattern name. For an outbound transfer (to destination), the directory is created if it does not already exist. This setting is only for the **Rename** operation of the **Post Transfer Command** parameter. Special characters are allowed, for example, the pattern **%f** indicates the original working directory name. The expansion of any special characters is carried out each time this parameter is used. See **Post Directory Name Is Pattern** property.	Enter the exact name of the directory (with the path), enter a pattern name, or select one of the following values, ■ %f ■ %f%# ■ %f.%y%y%y%y%M %M%d %d.%h%h%m%m%s%s %S%S%S ■ %f.rename
Post Directory Name Is Pattern	Specifies whether the pattern entered for the directory represents a literal or a name pattern, as follows, ■ **Yes**: indicates that the name value you enter is assumed to be a name pattern. ■ **No**: indicates that the name entered is a literal, an exact match.	Select **Yes** or **No**. The configured default is **Yes**.
Post File Name	Specifies the file name to which a file on an external system is renamed. The value represents the file name. The value can be a literal, or pattern name. This setting is only for **Rename** operation of **Post Transfer Command** parameter. Special characters are allowed. For example, the pattern **%f** indicates the original working file name. See **Post Directory Name Is Pattern** property.	Enter the exact name of the file, enter a pattern name, or select one of the following values, ■ %f ■ %f.%y%y%y%y%M %M%d%d. %h%h%m%m%s%s%S %S%S ■ %f.rename
Post File Name Is Pattern	Specifies whether the pattern entered for the file name is interpreted as literal or as a name pattern , as follows, ■ **Yes**: indicates that the name value you enter is a name pattern. See **Post File Name** property. ■ **No**: indicates that the name entered is literal, an exact match. No pattern matching or name expansion is done.	Select **Yes** or **No**. The configured default is **Yes**

TABLE 17 Connectivity Map - BatchFTP - Post Transfer *(Continued)*

Name	Description	Required Value
Post Transfer Command	Allows you to execute a desired action directly after the actual file transfer or during the **commit** phase. For an inbound transfer, you can mark the transferred file as **consumed** by making an automatic backup (**Rename**) or by destroying it permanently (**Delete**). For an outbound transfer, you can make the transferred file available to other clients by renaming it. The options are, ■ **Rename**: Rename the transferred file. ■ **Delete**: Delete the transferred file (inbound transfers only). ■ **None**: Do nothing. **Note –** When you are using **Rename** , if the destination file exists, different FTP servers can behave differently. For example, on some UNIX FTP servers, the destination file is overwritten without question. That is, no error or warning message is given. On other FTP servers, a Windows XP server for example, the system generates an error that results in exceptions being thrown in the called OTD method. Be sure you are familiar with the native behavior of the corresponding FTP server. If you are in doubt, try the action at the command prompt. If the action displays an error message, it is likely to result in an exceptions being thrown in the Collaboration.	Select **Rename**, **Delete**, or **None**. The configured default is **None**.

Where to Go Next

"Target Location (BatchFTP Connectivity Map)" on page 40.

More Information

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- **Related Topics**

  For links to the other topics for this Adapter, go to *Related Topics for Sun Adapter for Batch/FTP*.

Target Location (BatchFTP Connectivity Map)

The **Target Location** section allows you to configure the parameters for the **Target Location** (remote location) of the FTP directories and files.

The **Target Location** section of the BatchFTP Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 18 Connectivity Map - BatchFTP - Target Location

Name	Description	Required Value
Append	Specifies whether to overwrite or append the data to the existing file. Use this parameter for outbound FTP transfers only. Choose the appropriate setting as follows, ■ If you select **Yes** and the target file already exists, the data is appended to the existing file. ■ If you select **No**, the adapter overwrites the existing file on the remote system. If a file with the same name does not exist, both **Yes** and **No** create a new file on the external host.	Select **Yes** or **No.** The configured default is **No**.
Target Directory Name	Specifies the directory on the external system from which files are retrieved or sent. The directory name and path is preferred, otherwise, the path is relative to your home directory when you log on to the FTP server. The value can be a literal, regular expression (source), or pattern name (destination). For outbound FTP operations (destination), the directory is created if it does not already exist. See **Target Directory Name Is Pattern** property.	A directory name and path on the target external system.
Target Directory Name Is Pattern	Specifies whether the directory name is represented as literal, or as a regular expression or name pattern, as follows, ■ **Yes**: Indicates that the name value you enter is assumed to be a name pattern or regular expression. See **Target Directory Name** property. ■ **No**: Indicates that the name entered is a literal, an exact match.	Select **Yes** or **No.** The configured default is **No**.

TABLE 18 Connectivity Map - BatchFTP - Target Location *(Continued)*

Name	Description	Required Value
Target File Name	Specifies the name of the remote FTP file to be retrieved or sent. The value can be a literal, regular expression (get), or pattern name (put). For MVS GDG systems, the target file name can be the version of the data set, for example, ■ Target directory name = "**STC.SAMPLE.GDGSET**' ■ Target file name = (**0**) to indicate the current version See **Target Directory Name** property.	For inbound: a literal file name or a regular expression. For outbound: a literal file name or name pattern.
Target File Name Is Pattern	Specifies whether the target file name represents a literal, or as a regular expression or name pattern, as follows, ■ **Yes**: Indicates that the name value you enter is assumed to be a name pattern or regular expression. See **Target File Name** property. ■ **No**: Indicates that the name entered is a literal, an exact match.	Select **Yes** or **No.** The configured default is **Yes**.

Where to Go Next

"SSH Tunneling (BatchFTP Connectivity Map)" on page 41.

More Information

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters

Related Topics

For links to the other topics for this Adapter, go to *Related Topics for Sun Adapter for Batch/FTP*.

SSH Tunneling (BatchFTP Connectivity Map)

The SSH Tunneling section provides information for configuring the **SSH Tunneling** properties. If Secure FTP (FTP over SSH or FTP over SSL) is required, use the Secure FTP OTDs (BatchFTPOverSSL, BatchSFTP, and BatchSCP).

The SSH Tunneling section of the BatchFTP Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 19 Connectivity Map - BatchFTP - SSH Tunneling

Name	Description	Required Value
SSH Channel Established	Specifies whether the adapter needs to launch an SSH subprocess. Selecting **No** indicates that the SSH channel has not yet been established. The adapter spawns a subprocess internally then establishes the channel on your behalf. If you select **No**, you must set the following parameters, ■ **SSH Command Line** ■ **SSH Listen Port** (Environment property) If you select **No**, setting the following parameters is optional. ■ **SSH User Name** (Environment property) ■ **SSH Password** (Environment property) Selecting **Yes** indicates that an SSH channel has already been established. That is, the channel has already been started outside the adapter, and the adapter does not need to establish it. For example, you could have issued a command outside of the Service Bus, or you could know that another Batch Adapter instance has already established the channel by the time this adapter runs. If you select **Yes**, you must set the following parameters, ■ **SSH Listen Host** (Environment property) ■ **SSH Listen Port** (Environment property)	Select **Yes** or **No**. The configured default is **No**.

TABLE 19 Connectivity Map - BatchFTP - SSH Tunneling *(Continued)*

Name	Description	Required Value
SSH Command Line	Specifies the command line used to establish an SSH channel. This parameter is required only when you set the **SSH Channel Established** parameter to **No**. This entry must be the complete, correct command line required by the additional software application you are using to support SSH tunneling. This command line is executed as it is, so you must be sure of the following, ■ It contains all the necessary arguments ■ The syntax is correct ■ It is compliant with your SSH-environment To verify these requirements, test this command line manually outside of the Service Bus to make sure it works correctly. Execute the command line from the shell and ensure that it does not prompt for any additional user input. If it does, continue to add whatever additional parameters are required until it no longer prompts for additional input, then use that command line in the adapter's configuration. You can specify any other options that are based on your SSH-environment. However, if you do so, you must still be sure this command line is correct and complete. For example, port forwarding could be specified using the following command-line option. -L `ListenPort:FtpServerHost:FtpServerPort` In this example, **ListenPort** must be the same value as that given for the parameter **SSH Listen Port**. The value given for `FtpServerHost` overwrites the parameter setting for **Host Name** under the **FTP** parameters. The value given for `FtpServerPort` overwrites the parameter setting for **Server Port** under the **FTP** parameters. All other settings under the **FTP** parameters operate for the specified FTP server, **FtpServerHost:FtpServerPort**. If the SSH channel established by an SSH command line must be shared by other Batch Adapter instances located on different client hosts, you must configure SSH port forwarding to allow non-local connections from other hosts. For some SSH clients, you can use the option **-g**. **Note –** You can also specify port forwarding in your SSH configuration file.	A valid SSH command line.

TABLE 19 Connectivity Map - BatchFTP - SSH Tunneling *(Continued)*

Name	Description	Required Value
SSH Command Line	The command-line syntax can differ, depending on the type of SSH client implementation you are using. See your SSH-tunneling support software user documentation for details. For example, ssh -L 3456:ftp.sun.com:21 -o BatchMode=yes apple ssh -L 4567:apple:21 -o BatchMode=yes apple ssh -L 5678:orange:21 -o BatchMode=yes apple ssh -L 6789:orange:21 -g -o BatchMode=yes apple plink -L 4567:apple:21 apple plink -L 5678:orange:21 apple plink -L 6789:orange:21 -g apple	
SSH Tunneling Enabled	Specifies whether the FTP command connection is secured through an SSH tunnel. If you choose **No**, all other parameters in this section are ignored. **Note –** If you want to use the SSH port-forwarding feature, you may need to reconfigure your FTP server, depending on what kind of server you are using and how it is currently configured.	Select **Yes** or **No.** The configured default is **No**.

Additional SSH-Supporting Software

The adapter's SSH tunneling (also known as port forwarding) feature utilizes additional existing SSH-supporting software applications, for example, Plink on Windows or OpenSSH on UNIX (see **Additional Software Requirements**).

For different SSH client implementations, the command syntax and environment configuration may vary. See your SSH-supporting application's user guide for details.

Port-forwarding Configuration

SSH tunneling provides secure FTP command connections. This mechanism is based on an existing SSH port-forwarding configuration. You must configure SSH port forwarding on the **SSH listen host** before you configure the supporting Adapter Connection.

For example, on the App Server client host **localhost**, you can issue a command, such as,

```
ssh -L 4567:apple:21 -o BatchMode=yes apple
```

Under the adapter's configuration for the previous example, you must specify,

- **localhost** for the Environment parameter **SSH Listen Host**
- **4567** for the Environment parameter **SSH Listen Port**

In this case, the adapter connects to the FTP server **apple:21** through an SSH tunnel. For more information on SSH tunneling, see **SSH Tunneling Support**.

Note – It is possible to use SOCKS and SSH tunneling at the same time. However, this practice is not recommended.

Where to Go Next

"General Settings (BatchFTP Connectivity Map)" on page 45.

More Information

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters

Related Topics

For links to the other topics for this Adapter, go to *Related Topics for Sun Adapter for Batch/FTP*.

General Settings (BatchFTP Connectivity Map)

The General Settings section of the BatchFTP Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 20 Connectivity Map - BatchFTP - General Settings

Name	Description	Required Value
Synchronized	Specifically applies to legacy Batch adapter Projects. Provides backward compatibility to allow Projects that were created using the Batch adapter version 5.0.7 or earlier to be imported and deployed without a change in the adapters behavior. The selections are, ■ **Yes**: Provides backward compatibility for legacy (pre-5.0.8 Batch adapter) Projects. The adapter run in synchronized mode, one instance of the Collaboration after the other. ■ **No**: For use with new Batch adapter Projects. The adapter run in parallel, creating multiple instances of the Collaboration that run in parallel. All OTD instances used in a Project should have the same value for this property. **Note –** Synchronized must be set to **Yes** to use Sequence Numbering.	Select **Yes** or **No**. The default setting is **Yes, simulating Projects created with** Batch adapter version 5.0.7 or earlier.

Where to Go Next

For information on Batch Adapter BatchFTPOverSSL configuration, go to "Configuring Batch Adapter BatchFTPOverSSL Connectivity Map Properties" on page 46.

More Information

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters

Related Topics

For links to the other topics for this Adapter, go to *Related Topics for Sun Adapter for Batch/FTP*.

Configuring Batch Adapter BatchFTPOverSSL Connectivity Map Properties

The BatchFTPOverSSL Adapter Connectivity Map properties include the following topics:

- "Pre Transfer (BatchFTPOverSSL Connectivity Map)" on page 47.
- "FTP and SSL Settings (BatchFTPOverSSL Connectivity Map)" on page 51.
- "Post Transfer (BatchFTPOverSSL Connectivity Map)" on page 55.

- "Firewall Settings (BatchFTPOverSSL Connectivity Map)" on page 58.
- "Synchronization (BatchFTPOverSSL Connectivity Map)" on page 59.

Pre Transfer (BatchFTPOverSSL Connectivity Map)

The Pre Transfer topic allows user to customize the behaviors of protection/backup/recovery. This topic describes the operation that will be performed on remote end or locally before the real file transfer.

The Pre Transfer topic of the BatchFTPOverSSL Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 21 Connectivity Map - BatchFTPOverSSL - Pre Transfer

Name	Description	Required Value
Remote Dir Name	Specifies the directory and path on the remote external system where file the is renamed or copied. This is only for **Rename** or **Copy** of the **Remote Pre Command**. The value can be a literal, regular expression (source), or pattern name (destination). When specifying a destination directory, the directory is created if it doesn't already exist. Special characters are allowed. The expansion of any special characters is carried out each time this parameter is used. For example, the pattern **%f** means the original working directory name. See the **Remote Dir Name Is Pattern** property.	A directory name and path location on the target system. Special characters are allowed.
Remote Dir Name Is Pattern	Specifies whether the pattern entered for the directory represents a literal, or a name pattern or regular expression, as follows, ■ **Yes**: Indicates that the name value you enter is assumed to be a name pattern or regular expression. ■ **No**: Indicates that the name value entered represents a literal, an exact match. No pattern matching or name expansion is done. See the **Remote Dir Name** property.	Select **Yes** or **No**. The configured default is **Yes**.

TABLE 21 Connectivity Map - BatchFTPOverSSL - Pre Transfer *(Continued)*

Name	Description	Required Value
Remote File Name	Specifies the file name on the external system, to which a file is renamed or copied. The value represents the file name without the path. This setting is only for the **Rename** or **Copy** operations of **Pre Transfer Command** parameter. The value can be a literal, regular expression (get), or pattern name (put). Special characters are allowed, for example, the pattern **%f** indicates the original working file name. The expansion of any special characters is carried out each time this parameter is used. See the **Remote File Name Is Pattern** property.	A remote file name.
Remote File Name Is Pattern	Specifies whether the pattern entered for the file name represents a literal, or a name pattern or regular expression, as follows, ■ **Yes**: Indicates that the name value you enter is assumed to be a name pattern or regular expression. ■ **No**: Indicates that the name value entered is a literal, an exact match. No pattern matching or name expansion is done. See the **Remote File Name** property.	Select **Yes** or **No**. The configured default is **Yes**.

TABLE 21 Connectivity Map - BatchFTPOverSSL - Pre Transfer *(Continued)*

Name	Description	Required Value
Remote Pre Command	Allows you to execute a desired action directly before the actual file transfer. For an inbound transfer, the file can be made unavailable to other clients polling the target system with the same directory and file pattern or name. For an outbound transfer, you can perform an automatic backup and/or clean-up of the existing files. The options are, ■ **Rename**: Rename the target file for protection or recovery. ■ **Copy**: Copy the target file for backup or recovery. ■ **None**: Do nothing. To gain proper protection, backup, or recovery, you must choose the appropriate setting that serves your purpose. For example, to recover from failures on an outbound appending transfer, use the **Copy** setting. **Note –** When you are using **Rename**, if the destination file exists, different FTP servers can behave differently. For example, on some UNIX FTP servers, the destination file is overwritten without question. That is, no error or warning message is given. On other FTP servers, a Windows XP server for example, the system generates an error that results in exceptions being thrown in the called OTD method. Be sure you are familiar with the native behavior of the corresponding FTP server. If you are in doubt, try the action at the command prompt. If the action displays an error message, it may result in an exception being thrown in the Collaboration.	Select **Rename**, **Copy**, or **None**. The configured default is **None**. **Note –** The **Copy** option could slow system performance, especially if you are copying a large file.

TABLE 21 Connectivity Map - BatchFTPOverSSL - Pre Transfer *(Continued)*

Name	Description	Required Value
Local Dir Name	Specifies the directory name (path) to be used by **Rename** or **Copy**. The value can be a literal, regular expression (source), or pattern name (destination). Special characters are allowed (name pattern). The expansion of any special characters is carried out each time this parameter is used. See the **Remote File Name Is Pattern** property. **Note –** When entering a path separator, use the forward slash " / " instead of the back slash " \ ". The adapter interprets the back slash as a special character. For example, use `c:/temp/dir`.	A directory name.
Local Dir Name Is Pattern	Specifies whether the Local Directory Name represents a literal, or a regular expression or name pattern, as follows, ■ **Yes**: Indicates that the name value you enter is assumed to be a name pattern or regular expression. ■ **No**: Indicates that the name value entered is a literal, an exact match. No pattern matching or name expansion is done. See the **Local Dir Name** property.	Select **Yes** or **No**. The configured default is **No**.
Local File Name	Specifies the file name to be used by **Rename** or **Copy**. The value can be a literal, regular expression (get), or pattern name (put). Special characters are allowed. The expansion of any special characters is carried out each time this parameter is used. See the **Local File Name Is Pattern** property.	A file name.
Local File Name Is Pattern	Specifies whether the Local File Name represents a literal, or a regular expression or name pattern, as follows, ■ **Yes**: Indicates that the name value you enter is assumed to be a name pattern or regular expression. ■ **No**: Indicates that the name value entered is a literal, an exact match. See the **Local File Name** property.	Select **Yes** or **No**. The configured default is **No**.

TABLE 21 Connectivity Map - BatchFTPOverSSL - Pre Transfer *(Continued)*

Name	Description	Required Value
Local Pre Command	Allows you to execute a desired action directly before the actual file transfer. For an inbound transfer, the file can be made unavailable to other clients polling the target system with the same directory and file pattern or name. For an outbound transfer, you can perform an automatic backup of the existing files. The options are, ■ **Rename**: Rename the target file for protection or recovery. ■ **Copy**: Copy the target file for backup or recovery. ■ **None**: Do nothing. To gain proper protection, backup, or recovery, you must choose the appropriate setting that serves your purpose. For example, to recover from failures on an outbound appending transfer, use the **Copy** setting. **Note –** Rename and Copy overwrite the file specified by the Local Dir Name and Local File Name properties, if they exist.	Select **Rename**, **Copy**, or **None**. The configured default is **None**. **Note –** The **Copy** option could slow system performance, especially if you are copying a large file.

Where to Go Next

"FTP and SSL Settings (BatchFTPOverSSL Connectivity Map)" on page 51.

More Information

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters

Related Topics

For links to the other topics for this Adapter, go to *Related Topics for Sun Adapter for Batch/FTP*.

FTP and SSL Settings (BatchFTPOverSSL Connectivity Map)

The FTP and SSL Settings topic of the BatchFTPOverSSL Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 22 Connectivity Map - BatchFTPOverSSL - FTP and SSL Settings

Name	Description	Required Value
Secure Mode	Specifies the secure mode. Selections are, ■ **None:** FTP is in clear text. ■ **Implicit SSL:** The SSL handshake is started right after the socket connection is done. ■ **Explicit SSL:** The SSL handshake is started by the client sending `AUTH SSL/TLS FTP` command.	Select **None**, **Implicit SSL**, or **Explicit SSL**. **None** is the configured default.
Directory Listing Style	Specifies the directory listing style of the FTP Server as **UNIX**, **NT**, or **MVS**. This provides a "hint" to the client side for parsing the directory listing response from the FTP Server.	Leave as **UNIX**. Currently the only supported option is UNIX. The configured default is **UNIX**.
Enabled Passive Mode	Specifies whether FTP passive mode is enabled.	Select **Yes** or **No**. **Yes** indicates that FTP passive mode is enabled. The configured default is **Yes**.
Transfer Mode	Specifies whether the transfer is binary code or ASCII text.	Select **BINARY or ASCII.** The configured default is **BINARY**.
Append	Specifies whether new data transferred to a remote server is appended to data that was previously transferred.	Select **Yes** or **No**. **Yes** indicates that data will be appended. The configured default is **No**.
Required Server Authentication	Specifies whether server authentication is required. The selections are, ■ **Yes:** Indicates that server authentication is required, and that all parameters used for authentication (for example, **Key Store Location** , **Key Store Password**, **Key Store Type**, and so forth) must be set correctly so that the server certificate can be verified against the local trusted CA certificates. ■ **No:** Indicates that server authentication is not required.	Select **Yes** or **No**. The configured default is **Yes**.
Distinguished Name for User	Specifies the distinguished name (DN) for the login user. This is imported from a CSR reply, and used to configure client authentication.	The Distingusihed Name, as in X.509.

TABLE 22 Connectivity Map - BatchFTPOverSSL - FTP and SSL Settings *(Continued)*

Name	Description	Required Value
Alias in Key Store	Specifies the alias for a key pair in a JKS type Key Store. This value is used to configure client authentication.	The alias.
Alias Password	Specifies the password that protects the key pair entry in the keystore, identified by the alias.	The alias password.
Remote Directory	Specifies a directory on the FTP server where data is sent or received. The accessibility of the directory usually depends on the login user. The value can be a literal, regular expression (source), or pattern name (destination). See the **Remote Directory Name Is Pattern** property.	The name of the remote directory.
Remote Directory Name Is Pattern	Specifies whether the Remote Directory Name represents a literal, or a regular expression or name pattern, as follows, ■ **Yes**: Indicates that the name value you enter is assumed to be a name pattern or regular expression. ■ **No**: Indicates that the name value entered is a literal, an exact match. See the **Remote Directory** property.	Select **Yes** or **No.** The configured default is **No**.
Remote File	Specifies the file name on the remote server. The value can be a literal, regular expression (get), or pattern name (put). See the **Remote Directory Name Is Pattern** property.	The name of the remote file.
Remote File Name is Pattern	Specifies whether the Remote File Name represents a literal, or a regular expression or name pattern, as follows, ■ **Yes**: Indicates that the name value you enter is assumed to be a name pattern or regular expression. ■ **No**: Indicates that the name value entered is a literal, an exact match. See the **Remote File** property.	Select **Yes** or **No.** The configured default is **No**.
Local Directory	Specifies the local directory (path) for files that are sent to or received from a remote system. The value can be a literal, regular expression (source), or pattern name (destination). See the **Local Directory Name Is Pattern** property.	The local directory name.

TABLE 22 Connectivity Map - BatchFTPOverSSL - FTP and SSL Settings *(Continued)*

Name	Description	Required Value
Local Directory Name Is Pattern	Specifies whether the Local Directory name represents a literal, or a regular expression or name pattern, as follows, ■ **Yes**: Indicates that the name value you enter is assumed to be a name pattern or regular expression. ■ **No**: Indicates that the name value entered is a literal, an exact match. No pattern matching or name expansion is done. See the **Local Directory** property.	Select **Yes** or **No**. The configured default is **No**.
Local File	Specifies the local file name. The value can be a literal, regular expression (get), or pattern name (put). See the **Local File Name Is Pattern** property.	The local file name.
Local File Name is Pattern	Specifies whether the Local File name represents a literal, or a regular expression or name pattern, as follows, ■ **Yes**: Indicates that the name value you enter is assumed to be a name pattern or regular expression. ■ **No**: Indicates that the name value entered is a literal, an exact match. No pattern matching or name expansion is done. See the **Local File** property.	Select **Yes** or **No**. The configured default is **No**.
Local File Overwrite	Specifies whether new data downloaded from the remote will overwrite existing data.	Select **Yes** or **No**. The configured default is **No**.

Where to Go Next

"Post Transfer (BatchFTPOverSSL Connectivity Map)" on page 55.

More Information

■ "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
■ Configuring Java CAPS Project Components for Communication Adapters

Related Topics

For links to the other topics for this Adapter, go to *Related Topics for Sun Adapter for Batch/FTP*.

Post Transfer (BatchFTPOverSSL Connectivity Map)

The Post Transfer topic of the BatchFTPOverSSL Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 23 Connectivity Map - BatchFTPOverSSL - Post Transfer

Name	Description	Required Value
Remote Dir Name	Specifies the directory name (path) on the remote external system where the file the will be renamed or copied. This is only for **Rename** or **Copy** of the Post Transfer Command. The value can be a literal, regular expression (source), or pattern name (destination). For outbound (destination), the directory is created if it doesn't already exist. Special characters are allowed. For example, the pattern **%f** means the original working directory name. The expansion of any special characters is carried out each time this parameter is used. See the **Remote Dir Name Is Pattern** property.	A directory name and path on the external system. Special characters are allowed.
Remote Dir Name Is Pattern	Specifies whether the Remote Directory Name represents a literal, or a regular expression or name pattern, as follows, ■ **Yes**: Indicates that the name value you enter is assumed to be a name pattern or regular expression. ■ **No**: Indicates that the name value entered is a literal, an exact match. No pattern matching or name expansion is done. See the **Remote Dir Name** property.	Select **Yes** or **No**. The configured default is **Yes**.
Remote File Name	Specifies the file name on the external system, to which a file is renamed or copied. This setting is only for the **Rename** or **Copy** operations of **Post Transfer Command** parameter. The value can be a literal, regular expression (get), or pattern name (put). Special characters are allowed, for example, the pattern **%f** indicates the original working file name. The expansion of any special characters is carried out each time this parameter is used. See the **Remote File Name Is Pattern** property.	The file name.

TABLE 23 Connectivity Map - BatchFTPOverSSL - Post Transfer *(Continued)*

Name	Description	Required Value
Remote File Name Is Pattern	Specifies whether the Remote File Name represents a literal, or a regular expression or name pattern, as follows, ■ **Yes**: Indicates that the name value you enter is assumed to be a name pattern or regular expression. ■ **No**: Indicates that the name value entered is a literal, an exact match. See the **Remote File Name** property.	Select **Yes** or **No**. The configured default is **Yes**.
Remote Post Command	Allows you to execute a desired action directly after the actual file transfer. For an inbound transfer, it can be applied to mark the transferred file as consumed by making an automatic backup (**Rename**) or by destroying it permanently (**Delete**). For an outbound transfer, it can be applied to make the transferred file available to other clients by renaming it. ■ **Rename**: Rename the transferred file. ■ **Delete**: Delete the transferred file. ■ **None**: Do nothing. **Note –** For **Rename**, if the destination file exists, different FTP servers may behave differently. For example, on some UNIX FTP servers, the destination file will be overwritten without extra message. On an NT FTP server, this will fail and get an exception. It does not define unified behavior, rather, it follows the native behavior of the corresponding FTP server.	Select **Rename**, **Delete**, or **None**. The configured default is **None**.
Local Dir Name	Specifies the directory name (path) to be used by **Rename**. The value can be a literal, regular expression (source), or pattern name (destination). Special characters are allowed. The expansion of any special characters is carried out each time this parameter is used. **Note –** For path separator, use the forward slash " / " instead of the back slash " \ ". The adapter interprets the back slash as a special character. For example, use `c:/temp/dir`. See the **Local Dir Name Is Pattern** property.	The local directory name.

TABLE 23 Connectivity Map - BatchFTPOverSSL - Post Transfer *(Continued)*

Name	Description	Required Value
Local Dir Name Is Pattern	Specifies whether the Local Directory Name represents a literal, or a regular expression or name pattern, as follows, ■ **Yes**: Indicates that the name value you enter is assumed to be a name pattern or regular expression. ■ **No**: Indicates that the name value entered is a literal, an exact match. No pattern matching or name expansion is done. See the **Local Dir Name** property.	Select **Yes** or **No**. The configured default is **No**.
Local File Name	Specifies the file name to be used by **Rename**. The value can be a literal, regular expression (get), or pattern name (put). Special characters are allowed. The expansion of any special characters is carried out each time this parameter is used. **Note –** For path seperator, use the forward slash " / " instead of the back slash " \ ". The adapter interprets the back slash as a special character. For example, use `c:/temp/dir`. See the **Local File Name Is Pattern** property.	A file name.
Local File Name Is Pattern	Specifies whether the Local File Name represents a literal, or a regular expression or name pattern, as follows, ■ **Yes**: Indicates that the name value you enter is assumed to be a name pattern or regular expression. ■ **No**: Indicates that the name value entered is a literal, an exact match. No pattern matching or name expansion is done. See the **Local File Name** property.	Select **Yes** or **No**. The configured default is **No**.

TABLE 23 Connectivity Map - BatchFTPOverSSL - Post Transfer *(Continued)*

Name	Description	Required Value
Local Post Command	Allows you to execute a desired action directly after the actual file transfer. For an inbound transfer, the target file can be marked as **consumed** by making an automatic backup (**Rename**) or by destroying it permanently (**Delete**). For an outbound transfer the target file can be made available to other clients by renaming it. The options are, ■ **Rename**: Rename the target file. ■ **Delete**: Delete the target file (inbound transfers only). ■ **None**: Do nothing. **Note –** Rename overwrites the file specified by the Local Dir Name and Local File Name properties, if they exist.	Select **Rename**, **Delete**, or **None**. The configured default is **None**.

Where to Go Next

"Firewall Settings (BatchFTPOverSSL Connectivity Map)" on page 58.

More Information

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters

Related Topics

For links to the other topics for this Adapter, go to *Related Topics for Sun Adapter for Batch/FTP*.

Firewall Settings (BatchFTPOverSSL Connectivity Map)

The Firewall Settings topic of the BatchFTPOverSSL Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 24 Connectivity Map - BatchFTPOverSSL - Firewall Settings

Name	Description	Required Value
Use Firewall	Specifies whether you are using a firewall. If a firewall is used, supports **SOCKS 4** and **5**.	Select **Yes** or **No**. **Yes** indicates that you are using a firewall. The configured default is **No**.
SOCKS version	Specifies the SOCKS version of the firewall. The supported options are **4** for SOCKS version 4, or **5** for SOCKS version **5.**	Select **4** for **SOCKS version 4**, or **5** for **SOCKS version 5** .

Where to Go Next

"Synchronization (BatchFTPOverSSL Connectivity Map)" on page 59.

More Information

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters

Related Topics

For links to the other topics for this Adapter, go to *Related Topics for Sun Adapter for Batch/FTP*.

Synchronization (BatchFTPOverSSL Connectivity Map)

The Synchronization topic of the BatchFTPOverSSL Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 25 Connectivity Map - BatchFTPOverSSL - Synchronization

Name	Description	Required Value
Synchronized	Specifies whether the adapter simulates the pre-version 5.1 adapter behavior in which the adapter runs synchronized or in parallel. The selections are, ■ **Yes**: The adapter run in synchronized mode, one instance of the Collaboration after the other. ■ **No**: The adapter run in parallel, creating multiple instances of the Collaboration that run in parallel. **Note –** All OTD instances used in a Project should have the same value for this property.	Select **Yes** or **No**. The configured default is **No**.

Where to Go Next

"Configuring Batch Adapter BatchInbound Connectivity Map Properties" on page 60.

More Information

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters

Related Topics

For links to the other topics for this Adapter, go to *Related Topics for Sun Adapter for Batch/FTP*.

Configuring Batch Adapter BatchInbound Connectivity Map Properties

This topic explains the configuration parameters for the **BatchInbound Adapter (OTD)**, accessed from the Connectivity Map (there are no Environment properties for BatchInbound).

Settings (BatchInbound Connectivity Map)

The BatchInbound Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 26 Connectivity Map - BatchInbound- Settings

Name	Description	Required Value
Directory Name	Specifies the input directory name (path). It indicates the directory that the BatchInbound adapter polls for trigger or data files. The value can be a literal or a regular expression. **Note –** For path separator, use the forward slash " / " instead of the back slash " \ ". The adapter interprets the back slash as a special character. For example, use `c:/temp/dir`. See the **Directory Name is Pattern** property.	The directory name.
Directory Name is Pattern	Specifies whether the Directory Name represents a literal, or a regular expression, as follows: ■ **True**: Indicates that the name value you enter is assumed to be a regular expression ■ **False**: Indicates that the name value entered is a literal, an exact match. No pattern matching or name expansion is done. **Note –** Improper use may cause recursive matching. See the **Directory Name** property.	Select **True** or **False.** The configured default is **False.**
File Name	Specifies the input filename. The value can be a literal or a regular expression. See the **File Name Is Pattern** property.	A file name.
File Name Is Pattern	Specifies whether the target file name represents a literal or a regular expression, as follows, ■ **True**: Indicates that the name value you enter is assumed to be a name pattern or regular expression. ■ **False**: Indicates that the name value entered is a literal, an exact match. No pattern matching or name expansion is done. See the **File Name** property.	Select **True** or **False.** The configured default is **True**.
Schedule Interval	Specifies the polling interval, or number of milliseconds between each poll of the input directory by the adapter for input files.	A number indicating the length of time in Milliseconds between adapter polls of the directory. The configured default is **5000** (or 5 seconds).

Where to Go Next

For information on Batch Adapter BatchLocalFile configuration, go to "Configuring Batch Adapter BatchInbound Connectivity Map Properties" on page 60.

More Information

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters

Related Topics

For links to the other topics for this Adapter, go to *Related Topics for Sun Adapter for Batch/FTP*.

Configuring Batch Adapter BatchLocalFile Connectivity Map Properties

This topic explains the properties for the **BatchLocalFile OTD** accessed from the Connectivity Map.

The BatchLocalFile properties include the following sections,

- "Pre Transfer (BatchLocalFile Connectivity Map)" on page 62.
- "Sequence Numbering (BatchLocalFile Connectivity Map)" on page 64.
- "Post Transfer (BatchLocalFile Connectivity Map)" on page 65.
- "General Settings (BatchLocalFile Connectivity Map)" on page 67.
- "Target Location (BatchLocalFile Connectivity Map)" on page 69.

Caution – Several of these configuration options allow regular expressions to be used. This advanced feature is useful but must be used carefully. An improperly formed regular expression can cause undesired data or loss of data. You must have a clear understanding of regular-expression syntax and construction before attempting to use this feature. It is recommended that you test such configurations thoroughly before moving them to production.

Pre Transfer (BatchLocalFile Connectivity Map)

This section provides information about configuring the **Pre Transfer** parameters. Pre-transfer operations are those operations executed right before the actual data transfer.

The Pre Transfer section of the BatchLocalFile Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 27 Connectivity Map - BatchLocalFile - Pre Transfer

Name	Description	Required Value
Pre Directory Name	Specifies the directory name (path) on the external system in which a file is renamed or copied. This setting is only for the **Rename** or **Copy** operations of **Pre Transfer Command** parameter. The value can be a literal, or pattern name. For outbound transfers, the directory is created if it does not already exist. Special characters are allowed. For example, the pattern **%f** indicates the original working directory name. The expansion of any special characters is carried out each time this parameter is used. **Note –** For path separator, use the forward slash " / " instead of the back slash " \ ". The adapter interprets the back slash as a special character. For example, use `c:/temp/dir`. See the **Pre Directory Name Is Pattern** property.	Enter the exact name of the directory (with the path), enter a pattern name, or select one of the following values: ■ %f ■ %f.%y%y%y%y%M %M%d%d. %h%h%m%m%s%s %S%S%S ■ %f.copy ■ %f.rename
Pre Directory Name Is Pattern	Specifies whether the Pre Directory Name represents a literal or a name pattern, as follows: ■ **Yes**: Indicates that the name value you enter is assumed to be a name pattern. ■ **No**: Indicates that the name value entered is a literal, an exact match. No pattern matching or name expansion is done. See the **Pre Directory Name Is Pattern** property.	Select **Yes** or **No**. The configured default is **No**.
Pre File Name	Specifies the file name on the external system, to which a file is renamed or copied. This setting is only for the **Rename** or **Copy** operations of **Pre Transfer Command** parameter. The value can be a literal or pattern name. Special characters are allowed, for example, the pattern **%f** indicates the original working file name. The expansion of any special characters is carried out each time this parameter is used. See the **Pre File Name Is Pattern** property.	Enter the exact name of the file, enter a pattern name, or select one of the following values: ■ %f ■ %f%# ■ %f.%y%y%y%y%M%M %d%d.%h %h%m%m%s%s %S%S%S ■ %f.copy ■ %f.rename

TABLE 27 Connectivity Map - BatchLocalFile - Pre Transfer *(Continued)*

Name	Description	Required Value
Pre File Name Is Pattern	Specifies whether the Pre File Name represents a literal or a name pattern, as follows: ■ **Yes**: Indicates that the name value you enter is assumed to be a name pattern. ■ **No**: Indicates that the name value entered is a literal, an exact match. No pattern matching or name expansion is done. See the **Pre File Name** property.	Select **Yes** or **No**. The configured default is **No**.
Pre Transfer Command	Allows you to determine the action executed directly before the actual file transfer. In the case of an inbound file transfer, you can make the file unavailable to other clients polling the target system through the same directory and file pattern or name. In the case of an outbound transfer, you can make an automatic backup of the existing file. The options are as follows: ■ **Rename**: Rename the target file. ■ **Copy**: Copy the target file. ■ **None**: Do nothing.	Select **Rename**, **Copy**, or **None**; the default is **None**. **Note – Rename** and **Copy** overwrite the file or directory specified by the **Pre Directory Name** and **Pre Transfer Name** parameter, if it exists.

Where to Go Next

For information on BatchLocalFile Sequence Numbering configuration, go to "Sequence Numbering (BatchLocalFile Connectivity Map)" on page 64.

More Information

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters

Related Topics

For links to the other topics for this Adapter, go to *Related Topics for Sun Adapter for Batch/FTP*.

Sequence Numbering (BatchLocalFile Connectivity Map)

The **Sequence Numbering** section of the BatchLocalFile Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 28 Connectivity Map - BatchLocalFile - Sequence Numbering

Name	Description	Required Value
Max Sequence Number	Use this parameter when you have set up the target file name to contain a sequence number. It tells the adapter that when this value (the **Max Sequence Number**) is reached, to reset the sequence number to the **Starting Sequence Number** value. This parameter is used for the name pattern %#. See **Using Name Patterns**.	An integer from **1** to **2147483647**. The value of **Max Sequence Number** *must* be greater than that of **Starting Sequence Number**. The configured default value is **999999**.
Starting Sequence Number	Use this parameter when you have set up the target file name to contain a sequence number. It tells the adapter which value to start with in the absence of a sequence number from a previous run. Also, when the **Max Sequence Number** value is reached, the sequence number rolls over to the **Starting Sequence Number** value. This parameter is used for the name pattern %#.	An integer from **0** to **2147483647**. The value of the **Starting Sequence Number** *must* be less than the **Max Sequence Number**. The configured default value is **1**.

Where to Go Next

"Post Transfer (BatchLocalFile Connectivity Map)" on page 65.

More Information

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters

Related Topics

For links to the other topics for this Adapter, go to *Related Topics for Sun Adapter for Batch/FTP*.

Note – The Synchronized property, under General Settings, must be set to **Yes** to use Sequence Numbering.

Post Transfer (BatchLocalFile Connectivity Map)

Post-transfer operations are those performed after the data transfer.

The Post Transfer section of the BatchLocalFile Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 29 Connectivity Map - BatchLocalFile - Post Transfer

Name	Description	Required Value
Post Directory Name	Specifies the directory name (path) on the external system in which a file is renamed. This setting is only for the **Rename** operation of the **Post Transfer Command** parameter. The value can be a literal or pattern name. For outbound transfers, the directory is created if it does not already exist. Special characters are allowed, for example, the pattern **%f** indicates the original working directory name. The expansion of any special characters is carried out each time this parameter is used. **Note –** For path separator, use the forward slash " / " instead of the back slash " \ ". The adapter interprets the back slash as a special character. For example, use `c:/temp/dir`. See the **Post Directory Name Is Pattern** property.	Enter the exact name of the directory (with the path), enter a pattern name, or select one of the following values: ■ %f ■ %f%# ■ %f.%y%y%y%y%M %M%d%d. %h%h%m%m%s%s %S%S%S ■ %f.copy ■ %f.rename
Post Directory Name Is Pattern	Specifies whether the Post Directory Name represents a literal or a name pattern, as follows: ■ **Yes**: Indicates that the name value you enter is assumed to be a name pattern. ■ **No**: Indicates that the name value entered is a literal, an exact match. No pattern matching or name expansion is done. See the **Post Directory Name** property.	Select **Yes** or **No.** The configured default is **No**.
Post File Name	Specifies either the name of the file that the transferred file is renamed to (Rename) or the directory it is moved to (Move), depending on the setting in the parameter **Post Transfer Command**. The value can be a literal or pattern name. Special characters are allowed. The expansion of any special characters are carried out each time this parameter is used. See the **Post File Name Is Pattern** property.	Enter the exact name of the file, enter a pattern name, or select one of the following values: ■ %f ■ %f.%y%y%y%y%M %M%d%d. %h%h%m%m%s%s %S%S%S ■ %f.copy ■ %f.rename

TABLE 29 Connectivity Map - BatchLocalFile - Post Transfer *(Continued)*

Name	Description	Required Value
Post File Name Is Pattern	Specifies whether the Post File Name represents a literal or a name pattern, as follows: ■ **Yes**: Indicates that the name value you enter is assumed to be a name pattern. ■ **No**: Indicates that the name value entered is a literal, an exact match. No pattern matching or name expansion is done. See **Post File Name** property.	Select **Yes** or **No**. The configured default is **No**.
Post Transfer Command	Allows you to execute a desired action directly after the actual file transfer. For an inbound transfer, you can mark the transferred file as **consumed** by making an automatic backup (**Rename**) or by destroying it permanently (**Delete**). For an outbound transfer, you can make the transferred file available to other clients by renaming it. The options are as follows: ■ **Rename**: Rename the target file. **Rename** overwrites the file specified by the **Post File Name** and **Post Directory Name**, if it exists ■ **Copy**: Copy the target file. ■ **Delete**: Delete the target file (inbound transfers only). ■ **None**: Do nothing.	Select **Rename**, **Copy**, **Delete**, or **None**. The configured default is **None**.

Where to Go Next

"General Settings (BatchLocalFile Connectivity Map)" on page 67.

More Information

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters

Related Topics

For links to the other topics for this Adapter, go to *Related Topics for Sun Adapter for Batch/FTP*.

General Settings (BatchLocalFile Connectivity Map)

The General Settings section of the BatchLocalFile Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 30 Connectivity Map - BatchLocalFile - General Settings

Name	Description	Required Value
Resume Reading Enabled	Specifies whether the OTD handles the Resume Reading feature as follows: ■ **Yes**: Enables the OTD to store any state information necessary to resume reading from the current file in a subsequent execution of the Collaboration Rule. ■ **No**: Indicates that the file is considered "consumed" even if the streaming consumer did *not* read until the end of file.	Select **Yes** or **No** The configured default is **No**. **Note –** Synchronized must be set to **Yes** to use Resume Reading.
Synchronized	Specifically applies to legacy Batch adapter Projects. Provides backward compatibility to allow Projects that were created using the Batch adapter version 5.0.7 or earlier to be imported and deployed without a change in the adapters behavior. The selections are: ■ **Yes**: Provides backward compatibility for legacy (pre-5.0.8 Batch adapter) Projects. The adapter run in synchronized mode, one instance of the Collaboration after the other. ■ **No**: For use with new Batch adapter Projects. The adapter run in parallel, creating multiple instances of the Collaboration that run in parallel. **Note –** All OTD instances used in a Project should have the same value for this property.	Select **Yes** or **No.** The default setting is **Yes, simulating Projects created with** Batch adapter version 5.0.7 or earlier. **Note –** Synchronized must be set to **Yes** to use Sequence Numbering or Resume Reading.

Where to Go Next

"Target Location (BatchLocalFile Connectivity Map)" on page 69.

More Information

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters

Related Topics

For links to the other topics for this Adapter, go to *Related Topics for Sun Adapter for Batch/FTP*.

Target Location (BatchLocalFile Connectivity Map)

The Target Location section of the BatchLocalFile Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 31 Connectivity Map - BatchLocalFile - Target Location

Name	Description	Required Value
Append	Specifies whether to overwrite or append the data to the existing file. Use this parameter for outbound file transfers only. Choose the appropriate setting as follows: ■ **Yes:** If the target file already exists, the data is appended to the existing file. ■ **No:** The adapter overwrites the existing file on the remote system. If a file with the same name does not exist, both **Yes** and **No** create a new file on the external host.	Select **Yes** or **No** The configured default is **No**.
Target Directory Name	Specifies the directory name (path) on the local system from which files are retrieved or where they are sent. The value can be a literal, regular expression (source), or pattern name (destination). For outbound transfer (destination), the directory is created if it does not already exist. **Note –** For path separator, use the forward slash " / " instead of the back slash " \ ". The adapter interprets the back slash as a special character. For example, use `c:/temp/dir`. See the **Target Directory Name Is Pattern** property.	The directory name.
Target Directory Name Is Pattern	Specifies whether the Target Directory Name represents a literal, or a regular expression or name pattern, as follows: ■ **Yes**: Indicates that the name value you enter is assumed to be a name pattern or regular expression. ■ **No**: Indicates that the name value entered is a literal, an exact match. No pattern matching or name expansion is done. See the **Target Directory Name** property.	Select **Yes** or **No** The configured default is **Yes**.

TABLE 31 Connectivity Map - BatchLocalFile - Target Location *(Continued)*

Name	Description	Required Value
Target File Name	Specifies the name of the file on the local system either to be retrieved or sent. The value can be a literal, regular expression (get), or pattern name (put). See the **Target Directory Name Is Pattern** property.	A file name.
Target File Name Is Pattern	Specifies whether the Target File Name represents a literal, or a regular expression or name pattern, as follows: ■ **Yes**: Indicates that the name value you enter is assumed to be a name pattern or regular expression. ■ **No**: Indicates that the name value entered is a literal, an exact match. See the **Target File Name Is Pattern** property.	Select **Yes** or **No**. The configured default is **No**.

Where to Go Next

For information on BatchSCP Adapter Connectivity Map configuration, go to "Configuring Batch Adapter BatchSCP Adapter Connectivity Map Properties" on page 70.

More Information

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters

Related Topics

For links to the other topics for this Adapter, go to *Related Topics for Sun Adapter for Batch/FTP*.

Configuring Batch Adapter BatchSCP Adapter Connectivity Map Properties

This topic describes the configuration properties for the **BatchSCP OTD,** accessed from the Connectivity Map.

The BatchSCP Adapter Connectivity Map properties include the following sections:

- "SCP Settings (BatchSCP Connectivity Map)" on page 71.
- "Firewall Settings (BatchSCP Connectivity Map)" on page 72.
- "Synchronization (BatchSCP Connectivity Map)" on page 72.

SCP Settings (BatchSCP Connectivity Map)

The SCP Settings section of the BatchSCP Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 32 Connectivity Map - BatchSCP - SCP Settings

Name	Description	Required Value
Authentication Type	Specifies the client authentication type. The options are: ■ PASSWORD ■ HOSTBASED ■ PUBLICKEY Refer to your specific SSH server documentation for information regarding your authentication type.	Select **PASSWORD**, **HOST BASED**, or **PUBLICKEY**. The configured default is **PASSWORD**.
Do Host Key Verification	Specifies whether SSH server authentication by verification of the public key, is enabled.	Select **Yes** or **No**. **Yes** enables SSH server authentication by verifying the public key. The configured default is **Yes**.
Remote Directory	Specifies the directory on the SSH (with SFTP sub-system) server where data is sent or received. The accessibility of the directory is usually dependent upon the login user.	The remote directory.
Remote File	Specifies the name of a file on the remote server used to either receive published data, or hold data to be retrieved.	The remote file.
Local Directory	Specifies the local directory for files be sent to the remote server, or received from remote server.	A local directory.
Local File	Specifies the local file under local directory to be sent to remote, or receive data from remote.	The local file.
Is Copy Recursive	Specifies whether the copy is recursive (for example, copy all sub directories).	Select **Yes** or **No**. **Yes** indicates that the copy is recursive. The configured default is **No**.

Where to Go Next

"Firewall Settings (BatchSCP Connectivity Map)" on page 72.

More Information

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters

Related Topics

For links to the other topics for this Adapter, go to *Related Topics for Sun Adapter for Batch/FTP*.

Firewall Settings (BatchSCP Connectivity Map)

The Firewall Settings section of the BatchSCP Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 33 Connectivity Map - BatchSCP - Firewall Settings

Name	Description	Required Value
Use Firewall	Specifies whether a firewall is used.	Select **Yes** or **No**. **Yes** indicates that you are using a firewall. The configured default is **No**.
SOCKS Version	Specifies the SOCKS version required by the firewall. The supported options are **4** for SOCKS version **4**, or **5** for SOCKS version **5**	Select **4** for SOCKS version 4, or **5** for SOCKS version **5**. The configured default is **5**.

Where to Go Next

"Synchronization (BatchSCP Connectivity Map)" on page 72.

More Information

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters

Related Topics

For links to the other topics for this Adapter, go to *Related Topics for Sun Adapter for Batch/FTP*.

Synchronization (BatchSCP Connectivity Map)

The **Synchronization** section of the BatchSCP Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 34 Connectivity Map - BatchSCP - Synchronization

Name	Description	Required Value
Synchronized	Specifies whether the adapter simulates the pre- version 5.1 adapter behavior in which the adapter runs synchronized or in parallel. The selections are: ■ **Yes**: The adapter run in synchronized mode, one instance of the Collaboration after the other. ■ **No**: The adapter run in parallel, creating multiple instances of the Collaboration that run in parallel. **Note –** All OTD instances used in a Project should have the same value for this property.	Select **Yes** or **No.** The default setting is **No**.

Where to Go Next

For information on Batch Adapter BatchSFTP configuration, go to "Configuring Batch Adapter BatchSFTP Adapter Connectivity Map Properties" on page 73.

More Information

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters

Related Topics

For links to the other topics for this Adapter, go to *Related Topics for Sun Adapter for Batch/FTP*.

Configuring Batch Adapter BatchSFTP Adapter Connectivity Map Properties

This topic describes the configuration properties for the **BatchSFTP OTD,** accessed from the Connectivity Map.

The BatchSFTP Adapter Connectivity Map properties include the following sections:

- "Pre Transfer (BatchSFTP Connectivity Map)" on page 74.
- "SFTP Settings (BatchSFTP Connectivity Map)" on page 78.
- "Post Transfer (BatchSFTP Connectivity Map)" on page 82.
- "Firewall Settings (BatchSFTP Connectivity Map)" on page 85.
- "Synchronization (BatchSFTP Connectivity Map)" on page 86.

Pre Transfer (BatchSFTP Connectivity Map)

The Pre Transfer properties allows the user to customize the behaviors of protection/backup/recovery. This section describes the operation that will be performed on remote end or locally before the real file transfer.

The Pre Transfer section of the BatchSFTP Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 35 Connectivity Map - BatchSFTP - Pre Transfer

Name	Description	Required Value
Remote Dir Name	Specifies the directory name (path) on the remote external system where the file the is renamed or copied. This is only for **Rename** or **Copy** of the Remote Pre Command. The value can be a literal, regular expression (source), or pattern name (destination). For outbound (destination), the directory is created if it doesn't already exist. Special characters are allowed. The expansion of any special characters is carried out each time this parameter is used. For example, the pattern **%f** means the original working directory name. See the **Remote Dir Name Is Pattern** property.	A directory name.
Remote Dir Name Is Pattern	Specifies whether the Remote Directory Name represents a literal, or a regular expression or name pattern, as follows: ■ **Yes**: Indicates that the name value you enter is assumed to be a name pattern or regular expression. ■ **No**: Indicates that the name value entered is a literal, an exact match. No pattern matching or name expansion is done. See the **Remote Dir Name** property.	Select **Yes** or **No**. The configured default is **Yes**.

TABLE 35 Connectivity Map - BatchSFTP - Pre Transfer *(Continued)*

Name	Description	Required Value
Remote File Name	Specifies the file name on the external system, to which a file is renamed or copied. This setting is only for the **Rename** or **Copy** operations of **Pre Transfer Command** parameter. The value can be a literal, regular expression (get), or pattern name (put). Special characters are allowed, for example, the pattern **%f** indicates the original working file name. The expansion of any special characters is carried out each time this parameter is used. See the **Remote File Name Is Pattern** property.	The file name.
Remote File Name Is Pattern	Specifies whether the Remote File Name represents a literal, or a regular expression or name pattern, as follows: ■ **Yes**: Indicates that the name value you enter is assumed to be a name pattern or regular expression. ■ **No**: Indicates that the name value entered is a literal, an exact match. No pattern matching or name expansion is done. See the **Remote File Name** property.	Select **Yes** or **No**. The configured default is **Yes**.

TABLE 35 Connectivity Map - BatchSFTP - Pre Transfer *(Continued)*

Name	Description	Required Value
Remote Pre Command	Allows you to execute a desired action directly before the actual file transfer. For an inbound transfer, the file can be made unavailable to other clients polling the target system with the same directory and file pattern or name. For an outbound transfer, you can perform an automatic backup/clean-up of the existing files. The options are: ■ **Rename**: Rename the target file for protection or recovery. ■ **Copy**: Copy the target file for backup or recovery. ■ **None**: Do nothing. To gain proper protection, backup, or recovery, you must choose the appropriate setting that serves your purpose. For example, to recover from failures on an outbound appending transfer, use the **Copy** setting. **Note –** When you are using **Rename**, if the destination file exists, different FTP servers can behave differently. For example, on some UNIX FTP servers, the destination file is overwritten without question. That is, no error or warning message is given. On other FTP servers, a Windows XP server for example, the system generates an error that results in exceptions being thrown in the called OTD method. Be sure you are familiar with the native behavior of the corresponding FTP server. If you are in doubt, try the action at the command prompt. If the action displays an error message, it may result in an exception being thrown in the Collaboration.	Select **Rename**, **Copy**, or **None**. The configured default is **None**. **Note –** The **Copy** option could slow system performance, especially if you are copying a large file.

TABLE 35 Connectivity Map - BatchSFTP - Pre Transfer *(Continued)*

Name	Description	Required Value
Local Dir Name	Specifies the local directory name (path) to be used by **Rename** or **Copy**. The value can be a literal, regular expression (source), or pattern name (destination). Special characters are allowed. The expansion of any special characters is carried out each time this parameter is used. See the **Local Dir Name Is Pattern** property. **Note –** When entering a path separator, use the forward slash " / " instead of the back slash " \ ". The adapter interprets the back slash as a special character. For example, use `c:/temp/dir`.	A directory name.
Local Dir Name Is Pattern	Specifies whether the Local Directory Name represents a literal, or a regular expression or name pattern, as follows: ■ **Yes**: Indicates that the name value you enter is assumed to be a name pattern or regular expression. ■ **No**: Indicates that the name value entered is a literal, an exact match. See the **Local Dir Name** property.	Select **Yes** or **No**. The configured default is **No**.
Local File Name	Specifies the local file name to be used by **Rename** or **Copy**. The value can be a literal, regular expression (get), or pattern name (put). Special characters are allowed. The expansion of any special characters is carried out each time this parameter is used. See the **Local File Name Is Pattern** property.	A file name.
Local File Name Is Pattern	Specifies whether the Local File Name represents a literal, or a regular expression or name pattern, as follows: ■ **Yes**: Indicates that the name value you enter is assumed to be a name pattern or regular expression. ■ **No**: Indicates that the name value entered is a literal, an exact match. No pattern matching or name expansion is done. See the **Local File Name** property.	Select **Yes** or **No**. The configured default is **No**.

TABLE 35 Connectivity Map - BatchSFTP - Pre Transfer *(Continued)*

Name	Description	Required Value
Local Pre Command	Allows you to execute a desired action directly before the actual file transfer. For an inbound transfer, the file can be made unavailable to other clients polling the target system with the same directory and file pattern or name. For an outbound transfer, you can perform an automatic backup of the existing files. The options are: ■ **Rename**: Rename the target file for protection or recovery. ■ **Copy**: Copy the target file for backup or recovery. ■ **None**: Do nothing. To gain proper protection, backup, or recovery, you must choose the appropriate setting that serves your purpose. For example, to recover from failures on an outbound appending transfer, use the **Copy** setting. **Note –** Rename and Copy overwrite the file specified by the Local Dir Name and Local File Name properties, if they exist. See the **Using Name Patterns**.	Select **Rename**, **Copy**, or **None**. The configured default is **None**. **Note –** The **Copy** option could slow system performance, especially if you are copying a large file.

Where to Go Next

"SFTP Settings (BatchSFTP Connectivity Map)" on page 78.

More Information

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters

Related Topics

For links to the other topics for this Adapter, go to *Related Topics for Sun Adapter for Batch/FTP*.

SFTP Settings (BatchSFTP Connectivity Map)

The SFTP Settings section of the BatchSFTP Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 36 Connectivity Map - BatchSFTP - SFTP Settings

Name	Description	Required Value
Transfer Mode	Specifies whether the transfer is binary code or ASCII text.	Select **BINARY or ASCII.** The configured default is **BINARY**.
Remote EOL	Specifies the remote server - end of line. Options are **CR**, **LF**, **CRLF**.	Select **CR**, **LF**, or **CRLF**. **CRLF** is the configured default.
Transfer Block Size	Specifies the block size used when transferring files. Do not increase the default, as the remote server may not be able to support higher blocksizes.	An integer indicating the block size used when transferring files. The configured default is **32768**.
Local Read Buffer Size	Specifies the size (in bytes) of the buffer which is used to read from the local file system.	An integer indicating the size (in bytes) of the local read buffer. A value of **-1** indicates that the whole local file is read at once.
Authentication Type	Specifies the client authentication type. The options are as follows: ■ PASSWORD ■ HOSTBASED ■ PUBLICKEY Refer to your specific SSH server documentation for information regarding your authentication type.	Select **PASSWORD**, **HOST BASED**, or **PUBLICKEY**. The configured default is **PASSWORD**.
Do Host Key Verification	Specifies whether SSH server authentication by verification of the public key, is enabled.	Select **Yes** or **No**. **Yes** enables SSH server authentication by verifying the public key. The configured default is **Yes**.
Remote Directory	Specifies the directoryname (path) on the SSH (with SFTP sub-system) server where data is sent or received. The accessibility of the directory usually depends on the login user. The value can be a literal, regular expression (source), or pattern name (destination). See the **Remote Directory Name is Pattern** property.	The remote directory name.

TABLE 36 Connectivity Map - BatchSFTP - SFTP Settings *(Continued)*

Name	Description	Required Value
Remote Directory Name is Pattern	Specifies whether the Remote Directory Name represents a literal, or a regular expression or name pattern, as follows: ■ **Yes**: Indicates that the name value you enter is assumed to be a name pattern or regular expression. ■ **No**: Indicates that the name value entered is a literal, an exact match. No pattern matching or name expansion is done. See the **Remote Directory** property.	Select **Yes** or **No.** The configured default is **No**.
Remote File	Specifies the name of a file on the remote server. The value can be a literal, regular expression (get), or pattern name (put). See the **Remote File Name Is Pattern** property.	The remote file.
Remote File Name Is Pattern	Specifies whether the Remote File Name represents a literal, or a regular expression or name pattern, as follows: ■ **Yes**: Indicates that the name value you enter is assumed to be a name pattern or regular expression. ■ **No**: Indicates that the name value entered is a literal, an exact match. No pattern matching or name expansion is done. See the **Remote File** property.	Select **Yes** or **No**. The configured default is **No.**
Local Directory	Specifies the local directory name (path) for sending or recieve files on the remote server. The value can be a literal, regular expression (source), or pattern name (destination). See the **Local Directory Name Is Pattern** property.	A local directory.

TABLE 36 Connectivity Map - BatchSFTP - SFTP Settings *(Continued)*

Name	Description	Required Value
Local Directory Name Is Pattern	Specifies the meaning of the **Local Directory Name** property as follows: ■ **Yes**: indicates that the name value you enter is assumed to be a name pattern or regular expression. ■ **No**: indicates that the name value entered is a literal, an exact match. No pattern matching or name expansion is done. See the **Local Directory** property.	Select **Yes** or **No.** The configured default is **No**.
Local File	Specifies the local file to be sent or received on the remote server. The value can be a literal, regular expression (get), or pattern name (put). See the **Local File Name Is Pattern** property.	The local file.
Local File Name Is Pattern	Specifies whether the local file name represents a literal, or a regular expression or name pattern, as follows: ■ **Yes**: Indicates that the name value you enter is assumed to be a name pattern or regular expression. ■ **No**: Indicates that the name value entered is a literal, an exact match. No pattern matching or name expansion is done. See the **Local File** property.	Select **Yes** or **No.** The configured default is **No**.

Where to Go Next

"Post Transfer (BatchSFTP Connectivity Map)" on page 82.

More Information

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters

Related Topics

For links to the other topics for this Adapter, go to *Related Topics for Sun Adapter for Batch/FTP*.

Post Transfer (BatchSFTP Connectivity Map)

The Post Transfer section of the BatchSFTP Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 37 Connectivity Map - BatchSFTP - Post Transfer

Name	Description	Required Value
Remote Dir Name	Specifies the directory name (path) on the remote system where the file the will be renamed or copied. T This is only for **Rename** or **Copy** of the Post Transfer Command. The value can be a literal, regular expression (source), or pattern name (destination). For outbound (destination), the directory is created if it doesn't already exist. Special characters are allowed. For example, the pattern **%f** means the original working directory name. The expansion of any special characters is carried out each time this parameter is used. See the **Remote Dir Name Is Pattern** property.	A directory name.
Remote Dir Name Is Pattern	Specifies whether the Remote Directory Name represents a literal, or a regular expression or name pattern, as follows: ■ **Yes**: Indicates that the name value you enter is assumed to be a name pattern or regular expression. ■ **No**: Indicates that the name value entered is a literal, an exact match. No pattern matching or name expansion is done. See the **Remote Dir Name Is Pattern** property.	Select **Yes** or **No**. The configured default is **Yes**.
Remote File Name	Specifies the file name on the external system. This setting is only for the **Rename** or **Copy** operations of **Post Transfer Command** parameter. The value can be a literal, regular expression (get), or pattern name (put). Special characters are allowed, for example, the pattern **%f** indicates the original working file name. The expansion of any special characters is carried out each time this parameter is used. See the **Remote File Name Is Pattern** property.	A file name.

TABLE 37 Connectivity Map - BatchSFTP - Post Transfer *(Continued)*

Name	Description	Required Value
Remote File Name Is Pattern	Specifies whether the Remote File Name represents a literal, or a regular expression or name pattern, as follows: ■ **Yes**: Indicates that the name value you enter is assumed to be a name pattern or regular expression. ■ **No**: Indicates that the name value entered is a literal, an exact match. No pattern matching or name expansion is done. See the **Remote File Name** property.	Select **Yes** or **No**. The configured default is **Yes**.
Remote Post Command	Allows you to execute a desired action directly after the actual file transfer. For an inbound transfer, it can be applied to mark the transferred file as consumed by making an automatic backup (**Rename**) or by destroying it permanently (**Delete**). For an outbound transfer, it can be applied to make the transferred file available to other clients by renaming it. ■ **Rename**: Rename the transferred file. ■ **Delete**: Delete the transferred file. ■ **None**: Do nothing. **Note –** For **Rename** , if the destination file exists, different FTP servers may behave differently. For example, on some UNIX FTP servers, the destination file will be overwritten without extra message. On an NT FTP server, this will fail and get an exception. It does not define unified behavior, rather, it follows the native behavior of the corresponding FTP server.	Select **Rename**, **Delete**, or **None**. The configured default is **None**.
Local Dir Name	Specifies the local directory name (path) to be used by **Rename**. The value can be a literal, regular expression (source), or pattern name (destination). Special characters are allowed. The expansion of any special characters is carried out each time this parameter is used. See the **Local Dir Name Is Pattern** property. When entering a path separator, use the forward slash "/" instead of the back slash "\". The adapter interprets the back slash as a special character. For example, use `c:/temp/dir`.	A directory name.

TABLE 37 Connectivity Map - BatchSFTP - Post Transfer *(Continued)*

Name	Description	Required Value
Local Dir Name Is Pattern	Specifies whether the Local Directory Name represents a literal, or a regular expression or name pattern, as follows: ■ **Yes**: Indicates that the name value you enter is assumed to be a name pattern or regular expression. ■ **No**: Indicates that the name value entered is a literal, an exact match. No pattern matching or name expansion is done. See the **Local Dir Name** property.	Select **Yes** or **No**. The configured default is **No**.
Local File Name	Specifies the local file name to be used by **Rename**. The value can be a literal, regular expression (get), or pattern name (put). Special characters are allowed. The expansion of any special characters is carried out each time this parameter is used. See the **Local File Name Is Pattern** property.	A file name.
Local File Name Is Pattern	Specifies whether the Local File Name represents a literal, or a regular expression or name pattern, as follows: ■ **Yes**: Indicates that the name value you enter is assumed to be a name pattern or regular expression. ■ **No**: Indicates that the name value entered is a literal, an exact match. No pattern matching or name expansion is done. See the **Local File Name** property.	Select **Yes** or **No**. The configured default is **No**.

TABLE 37 Connectivity Map - BatchSFTP - Post Transfer *(Continued)*

Name	Description	Required Value
Local Post Command	Allows you to execute a desired action directly after the actual file transfer. For an inbound transfer, the target file can be marked as consumed by making an automatic backup (**Rename**) or by destroying it permanently (**Delete**). For an outbound transfer the target file can be made available to other clients by renaming it. The options are: ■ **Rename**: Rename the target file. ■ **Delete**: Delete the target file (inbound transfers only). ■ **None**: Do nothing. **Note –** Rename overwrites the file specified by the Local Dir Name and Local File Name properties, if they exist.	Select **Rename**, **Delete**, or **None**. The configured default is **None**.

Where to Go Next

"Firewall Settings (BatchSFTP Connectivity Map)" on page 85.

More Information

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters

Related Topics

For links to the other topics for this Adapter, go to *Related Topics for Sun Adapter for Batch/FTP*.

Firewall Settings (BatchSFTP Connectivity Map)

The Firewall Settings section of the BatchSFTP Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 38 Connectivity Map - BatchSFTP - Firewall Settings

Name	Description	Required Value
Use Firewall	Specifies whether a firewall is used.	Select **Yes** or **No**. **Yes** indicates that you are using a firewall. The configured default is **No**.
SOCKS Version	Specifies the SOCKS version of the firewall. The supported options are **4** for SOCKS version **4**, or **5** for SOCKS version **5**.	Select **4** for SOCKS version 4, or **5** for SOCKS version **5**. The configured default is **5**

Synchronization (BatchSFTP Connectivity Map)

The **Synchronization** section of the BatchSFTP Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 39 Connectivity Map - BatchSFTP - Synchronization

Name	Description	Required Value
Synchronized	Specifies whether the adapter simulates the pre- version 5.1 adapter behavior in which the adapter runs synchronized or in parallel. The selections are: ■ **Yes**: The adapter run in synchronized mode, one instance of the Collaboration after the other. ■ **No**: The adapter run in parallel, creating multiple instances of the Collaboration that run in parallel. **Note –** All OTD instances used in a Project should have the same value for this property.	Select **Yes** or **No.** The default setting is **No**.

Where to Go Next

"Configuring Batch Adapter Dynamic Configuration" on page 87.

More Information

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters

Related Topics

For links to the other topics for this Adapter, go to *Related Topics for Sun Adapter for Batch/FTP*.

Configuring Batch Adapter Dynamic Configuration

The **BatchFTP**, **BatchFTPOverSSL**, **BatchSCP** and **BatchSFTP** OTDs support automatic connection during initialization. Each of these OTDs require a number of properties to be set with valid values when Connection Mode is set to Automatic. This includes, but is not limited to the following:

This topic describes the configuration properties for the Batch Adapter Dynamic Configuration.

The Batch Adapter Dynamic Configuration include the following section: "Dynamic Configurable Parameters for Secure FTP OTDs" on page 89.

Environment Properties

- Host Name
- Server Port
- User Name
- Password
- Any additional properties that are required for a successful connection.

These parameters must be set to valid values prior to using the BatchFTP OTD to allow the Adapter to initialize successfully. After the initialization is successful, the parameters can be reconfigured from within the Collaboration Rule.

Dynamic configuration allows you to change configuration settings (based on the data input or Collaboration Rule logic) on the fly. Changes are made to the Collaboration using the Collaboration Editor. Make any necessary changes to the configuration settings and perform the **put** or **get**. The Project disconnects, reconnects with the new configuration settings, and performs the transfer.

▼ To Perform a Simple File Transfer

The following sample code demonstrates how to dynamically configure the Adapter and perform a simple file transfer.

1. **From BatchLocalFile, set the TargetDirectoryName.**

```
//@map:Copy "InDir" to TargetDirectoryName

BatchLocalFile_1.getConfiguration().setTargetDirectoryName( "InDir" );
```

2. **From BatchFTP, Disconnect the Adapter.**

```
//@map:Client.disconnect

BatchFTP_1.getClient().disconnect();
```

3 **Set the TargetDirectoryName.**

```
//@map:Copy "OutDir" to TargetDirectoryName

BatchFTP_1.getConfiguration().setTargetDirectoryName( "OutDir" );
```

4 **Set the HostName**

```
//@map:Copy "myftphostname" to HostName

BatchFTP_1.getConfiguration().setHostName( "myftphostname" );
```

5 **Connect the Adapter.**

```
//@map:Client.connect

BatchFTP_1.getClient().connect();
```

6 **Perform a simple file transfer:**

Get a local file

```
//@map:

BatchLocalFile_1.getClient().get();
```

7 **Assign the Payload.**

```
//@map:Copy Payload to Payload

BatchFTP_1.getClient().setPayload(BatchLocalFile_1.getClient().getPay
load() );
```

8 **Put a file on the FTP server.**

```
//@map:Client.put

BatchFTP_1.getClient().put();
```

To view the Collaboration Editor's Java Source Editor, click the **Advance mode** or **Source Code mode** icon, available on the Collaboration Editor toolbar.

Where to Go Next

"Dynamic Configurable Parameters for Secure FTP OTDs" on page 89.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Dynamic Configurable Parameters for Secure FTP OTDs

The secure Batch FTP OTDs contain several dynamic configurable parameters , which include (but are not limited to) the following:

TABLE 40 CM Link Configuration ⇒ BatchFTPOverSSL⇒ *Value*

Name	Description	Required Value
Remote Directory	Specifies the virtual directory server where data is published or subscribed.	The remote directory name
Remote Directory Name Is Pattern	Specifies the meaning of the remote directory name. **Yes**: Indicates that the remote directory name represents a pattern to be used as a regular expression for pattern matching. **No**: Indicates that the remote directory name represents the exact name to be used, without pattern matching	Select **Yes** or **No**.
Remote File	Specifies the name of a file on the remote server used to receive or hold data for retrieval.	The remote file name.
Remote File Name Is Pattern	Specifies the meaning of the remote file name: **Yes** Indicates that the remote file name represents a pattern to be used as a regular expression for pattern matching. **No**indicates that the remote file name represents the exact name to be used, without pattern matching	Select **Yes** or **No**.
Local Directory	Specifies the local directory for files to be sent to or received from, the remote server.	The local directory name
Local Directory Name Is Pattern	Specifies the meaning of the local directory name: **Yes**: Indicates that the local directory name represents a pattern to be used as a regular expression for pattern matching. **No**: Indicates that the local directory name represents the exact name to be used, without pattern matching.	Select **Yes** or **No**.
Local File	Specifies the local file name for files to be sent to or received from, the remote server.	The local file name

TABLE 40 CM Link Configuration ⇒ BatchFTPOverSSL⇒ *Value* *(Continued)*

Name	Description	Required Value
Local File Name Is Pattern	Specifies the meaning of the local file name: **Yes**: Indicates that the local file name represents a pattern to be used as a regular expression for pattern matching. **No**: Indicates that the local file name represents the exact name to be used, without pattern matching	Select **Yes** or **No**.
Transfer Mode	Specifies whether the transfer is binary code or ASCII	Select **Binary** or **ASCII**.
Append	Specifies whether to overwrite or append the data to the existing file. **Yes**: Means the data will be appended to an existing file. **No**: Overwrites the existing file on the remote system. If a file with the same name does not exist, both **Yes** and **No** create a new file on the external host.	Select **Yes** or **No**.
Local File Overwrite	Specifies whether new data downloaded from the remote server will overwrite existing data.	Select **Yes** or **No**.

TABLE 41 CM Link Configuration ⇒BatchSCP⇒ *Value*

Name	Description	Required Value
Remote Directory	Specifies the virtual directory server where data is published or subscribed.	The remote directory name
Remote File	Specifies the name of a file on the remote server used to receive or hold data for retrieval.	The remote file name.
Local Directory	Specifies the local directory for files to be sent to or received from, the remote server.	The local directory name
Local File	Specifies the local file name for files to be sent to or received from, the remote server.	The local file name
Transfer Mode	Specifies whether the transfer is binary code or ASCII	Select **Binary** or **ASCII**.
Copy Recursive	Specifies whether the copy is recursive (copied to all subdirectories)	Select **Yes** or **No**.

TABLE 42 CM Link Configuration ⇒ BatchSFTP ⇒ *Value*

Name	Description	Required Value
Remote Directory	Specifies the virtual directory server where data is published or subscribed.	The remote directory name
Remote Directory Name Is Pattern	Specifies the meaning of the remote directory name. **Yes**: Indicates that the remote directory name represents a pattern to be used as a regular expression for pattern matching. **No**: Indicates that the remote directory name represents the exact name to be used, without pattern matching	Select **Yes** or **No**.
Remote File	Specifies the name of a file on the remote server used to receive or hold data for retrieval.	The remote file name.
Remote File Name Is Pattern	Specifies the meaning of the remote file name: **Yes**: Indicates that the remote file name represents a pattern to be used as a regular expression for pattern matching. **No**: Indicates that the remote file name represents the exact name to be used, without pattern matching	Select **Yes** or **No**.
Local Directory	Specifies the local directory for files to be sent to or received from, the remote server.	The local directory name.
Local Directory Name Is Pattern	Specifies the meaning of the local directory name: **Yes**: Indicates that the local directory name represents a pattern to be used as a regular expression for pattern matching. **No**: Indicates that the local directory name represents the exact name to be used, without pattern matching.	Select **Yes** or **No**.
Local File	Specifies the local file name for files to be sent to or received from, the remote server.	The local file name.
Local File Name Is Pattern	Specifies the meaning of the local file name: **Yes**: Indicates that the local file name represents a pattern to be used as a regular expression for pattern matching. **No**: Indicates that the local file name represents the exact name to be used, without pattern matching	Select **Yes** or **No**.
Transfer Mode	Specifies whether the transfer is binary code or ASCII.	Select **Binary** or **ASCII**.

Configuration Parameters that Accept Integer Values

The configuration parameters listed below can be configured from the Collaboration Editor by entering the specified integer values in the method parameters. The classes, **com.stc.connect.ssl.FTPSSLConstants** and **com.stc.connect.ssh.SSHConstants**, do not allow **incremental completion**, that is, you must enter the value using the fully qualified name to access the constant.

For example, to set the BatchFTPOverSSL **Secure Mode** to **Explicit SSL**, from the Collaboration Editor, do the following:

1. From the Collaboration Editor toolbar, click **Source Code Mode**. The Collaboration Editor's **Java Source Editor** opens.
2. From the Business Rules tree (Business Rules pane) select the rule that contains the parameter or method that you want to configure. Selecting the rule highlights the corresponding code in the Java Source Editor. Find the code you wish to modify.
3. From the Java Source Editor, enter the value for the setting you require. For example, to set the BatchFTPOverSSL **SecureType** method to **Explicit SSL**, type **com.stc.connector.ssl.FTPSSLConstants.FTP_SECURE_TYPE_SSL_EXPLICIT** as the parameter value (see example below):

```
public void receive( com.stc.connector.appconn.file.FileTextMessage input,
 com.stc.connector.batchadapter.appconn.ftps.FTPOverSSL BatchFTPOverSSL_1 )

        throws Throwable

    {

        if (!BatchFTPOverSSL_1.getClient().isConnected()) {

            logger.error( "Collab Start NOT CONNECTED ============ DO CONNECT" );

            BatchFTPOverSSL_1.getClient().connect();

            BatchFTPOverSSL_1.getConfiguration().setSecureType(
com.stc.connector.ssl.FTPSSLConstants.FTP_SECURE_TYPE_SSL_EXPLICIT );

        }

        BatchFTPOverSSL_1.getClient().get();

        if (BatchFTPOverSSL_1.getClient().isConnected()) {

            logger.error( "Collab End IS CONNECTED ============ DO DISCONNECT" );

            BatchFTPOverSSL_1.getClient().disconnect();
```

```
        }

    }
```

4. Once you have made your changes to the Collaboration, click the Commit Changes icon (from the Java Source Editor toolbar).

The OTD parameters listed below accept the following specified values:

- **BatchFTPOverSSL**
  - CM Link configuration ⇒ FTP and SSL Settings ⇒ SecureType
    - None: **com.stc.connector.ssl.FTPSSLConstants.FTP_SECURE_TYPE_NONE**
    - Implicit SSL:**com.stc.connector.ssl.FTPSSLConstants.FTP_SECURE_TYPE_IMPLICIT**
    - Explicit SSL:**com.stc.connector.ssl.FTPSSLConstants.FTP_SECURE_TYPE_SSL_EXPLICIT**
  - Environment Link configuration ⇒ FTP and SSL Settings ⇒ KeyStoreType
    - JKS:**com.stc.connector.ssl.FTPSSLConstants.KEY_STORE_TYPE_JKS** (only one valid choice)
    - Other: (this is a place holder - reserved for future enhancement)
  - CM Link configuration ⇒ FTP and SSL Settings ⇒ TransferMode
    - ASCII:**com.stc.connector.ssl.FTPSSLConstants.FTP_TRANS_MODE_ASCII**
    - BINARY:**com.stc.connector.ssl.FTPSSLConstants.FTP_TRANS_MODE_BINARY**
- **BatchSFTP**
  - CM Link configuration ⇒ SFTP Settings ⇒ TransferMode
    - ASCII: **com.stc.connector.ssh.SSHConstants.TRANS_MODE_ASCII**
    - BINARY: **com.stc.connector.ssh.SSHConstants.TRANS_MODE_BINARY**

Where to Go Next

"Configuring Batch Adapter Heuristic Properties" on page 94.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Configuring Batch Adapter Heuristic Properties

Creating User Defined Heuristic Directory Listing Styles

You can create **user defined** heuristic configurations that allow you to interface with other platforms that are not listed in the Directory Listing Styles. The Batch Adapter includes a mechanism that allows you to configure a set of heuristic properties so that the underlying parser can parse the LIST command result correctly. These properties are described under "FTP Heuristics Configuration Parameters" on page 99.

The Batch Adapter Heuristic Properties include the following section:

There are two methods for creating custom user defined directory listing styles:

- **Create a Custom Heuristics Configuration File**: You can create a custom user defined heuristics configuration file, listing the style names and parameters in the same format as the `FtpHeuristics.cfg` file. This file is then located on the app server. The configuration file location and the style name are then specified in the BatchFTP configuration properties (see "To Create a Custom Heuristics Configuration File" on page 94).
- **Modify the FTP Heuristics Configuration File**: You can open `FtpHeuristics.cfg` file, add your user-defined style, and repackage the file. This method requires you to unzip a JAR file, add your custom style, and repackage the files (see "To Modify the FTP Heuristics Configuration File" on page 95). In many cases, this method may be more intrusive and cumbersome than the method listed above.

▼ To Create a Custom Heuristics Configuration File

1. **Using a text editor, create a user defined configuration file containing the property settings required to interface with your target platform. You can do this by copying a section (style) from the FtpHeuristics.cfg file that is similar to the style (platform parameter settings) that you are creating, or you can copy the format provided under "Heuristics Configuration File Format" on page 96.**

2. **Save your user defined configuration, as a CFG file, to a safe location on the application server.**

3. **From the BatchFTP Environment properties, select the FTP ⇒ User Defined Heuristics Configuration File property, and enter the location and name of your user defined heuristics configuration file (for example `C:\USER_DEFINED_HEURISTICS\UDH.cfg`).**

4 **From the BatchFTP Connectivity Map properties, select FTP ⇒ User Defined Directory Listing Style, and enter the name of your user-named style (for example MY AS400-UNIX). You are allowed to list one user-named style. This style is now the configured Directory Listing Style, superseding the value of the Directory Listing Style property.**

You can use this method to create multiple user-named styles by adding the styles to your user defined configuration file, and entering the different user defined style names in the Connectivity Map properties for each of your various FTPBatch component Adapters.

You can also create multiple user defined configuration files if necessary, but this requires the creation of additional BatchFTP External Systems in the Environment. If you chose this method, you must copy your Environment components (drag-and-drop) to the correct BatchFTP External System before applying Automap.

Considerations

If you decide to use this method for creating custom user defined heuristic configurations, take note of the following:

- The BatchFTP Connectivity Map property, **User Defined Directory Listing Style,** supersedes the **Directory Listing Style** property. When a **User Defined Directory Listing Style** is specified, it is used as the heuristic configuration for the corresponding BatchFTP Adapter (OTD). To use the **Directory Listing Style** property value as the applied heuristic style, the **User Defined Listing Style** property value must be left blank.
- Setting the **User Defined Directory Listing Style** property value to blank (no value) makes the selected **Directory Listing Style** property value (built-in heuristic configuration) the current enabled style.
- At runtime, the user defined heuristics configuration file must exist on the app server, and possess appropriate permission settings to allow the heuristic configuration parameters to be accessed by the deployed application.
- An error message is generated by the BatchFTP OTD when a **User Defined Directory Listing Style** is specified, but the **User Defined Heuristics Configuration File** property value is blank, or associated the user defined heuristics configuration file is not accessible or does not contain a corresponding style configuration.
- Setting the value of the **User Defined Directory Listing Style** triggers the loading of the corresponding heuristics configuration file specified by the **User Defined Heuristics Configuration File** property. If you make changes to the heuristics configuration file, set the **User Defined Heuristics Configuration File** property before setting the **User Defined Directory Listing Style**.

▼ To Modify the FTP Heuristics Configuration File

To modify the `FtpHeuristics.cfg` file to include your user defined heuristic configuration styles, do the following:

1. **The `FtpHeuristics.cfg` file is contained by the `stcbatch.jar` file, which is found in the following location:**

   ```
   <JavaCAPS6>\netbeans\usrdir\modules\ext\batcheway\
   stcbatch.jar
   ```

   where *JavaCAPS6* is the Sun Java Composite Application Platform Suite install directory.

2. **Unzip `stcbatch.jar` and locate the `FtpHeuristics.cfg` file.**

3. **Open `FtpHeuristics.cfg` with a text editor and add your user defined heuristic configuration styles.**

▼ To Add User Defined Heuristic Configuration Styles

1. **Copy the User Defined section (or any other section), and paste it to the bottom of `FtpHeuristics.cfg`.**

2. **Rename the section and each property name with your user-defined name or one of the available listings (User Defined1, User Defined2, and so forth). See the example provided under "Heuristics Configuration File Format" on page 96. In this example, the user defined name is MY AS400-UNIX). Only one style with a user-defined name can be specified, but 10 configuration styles can be named as User Defined1-10.**

3. **Modify the new section's properties for your target platform. See "FTP Heuristics Configuration Parameters" on page 99 for property descriptions.**

4. **Repeat steps 2-4 above to create additional User Defined configurations.**

▼ To Repackage the `FtpHeuristics.cfg` File

1. **Zip the `stcbatch.jar` file (including the updated `FtpHeuristics.cfg` file) and copy `stcbatch.jar` back to it's original location.**

2. **From the BatchFTP Configuration Map properties, select FTP ⇒ User Defined ⇒ Directory Listing Style, and enter the name of your user-named style (for example MY AS400-UNIX), or you can select any one of the 10 User Defined properties from the Directory Listing Style dropdown list (see "Creating User Defined Heuristic Directory Listing Styles" on page 94).**

3. **Your configuration changes will be applied to any Projects that are built and deployed with this Netbeans IDE.**

Heuristics Configuration File Format

This example includes two user-named styles (MY AS400-UNIX, and UDH NT 4.0).

```
#

# ------------------------------------------------------------------------

#   Section:    MY AS400-UNIX

# ------------------------------------------------------------------------

#

MY AS400-UNIX!Commands Supported By FTP
Server!value=APPE%CWD%DELE%LIST%MKD%NOOP%PASS%QUIT%RETR%RNFR%RNTO
%SITE%STOR%TYPE%USER!set=APPE%CWD%DELE%LIST%MKD%NOOP%PASS%QUIT%RETR
%RNFR%RNTO%SITE%STOR%TYPE%USER

MY AS400-UNIX!Header Lines To Skip!value=0!set=0

MY AS400-UNIX!Header Indication Regex Expression!value=!set=

MY AS400-UNIX!Trailer Lines To Skip!value=0!set=0

MY AS400-UNIX!Trailer Indication Regex Expression!value=!set=

MY AS400-UNIX!Directory Indication Regex Expression!value=!set=

MY AS400-UNIX!File Link Real Data Available!value=No!set=No%Yes

MY AS400-UNIX!File Link Indication Regex Expression!value=!set=

MY AS400-UNIX!File Link Symbol Regex Expression!value=!set=

MY AS400-UNIX!List Line Format!value=Fixed!set=Blank Delimited%Fixed

MY AS400-UNIX!Valid File Line Minimum Position!value=52!set=52

MY AS400-UNIX!File Name Is Last Entity!value=Yes!set=No%Yes

MY AS400-UNIX!File Name Position!value=52!set=52

MY AS400-UNIX!File Name Length!value=0!set=0

MY AS400-UNIX!File Extension Position!value=0!set=0

MY AS400-UNIX!File Extension Length!value=0!set=0

MY AS400-UNIX!File Size Verifiable!value=No!set=No%Yes

MY AS400-UNIX!File Size Position!value=0!set=0
```

```
MY AS400-UNIX!File Size Length!value=0!set=0

MY AS400-UNIX!Special Envelope For Absolute Pathname!value=!set=”

MY AS400-UNIX!Listing Directory Yields Absolute Pathnames!value=No!set=No%Yes

MY AS400-UNIX!Absolute Pathname Delimiter Set!value=///!set=///

MY AS400-UNIX!Change Directory Before Listing!value=Yes!set=No%Yes

MY AS400-UNIX!Directory Name Requires Terminator!value=No!set=No%Yes

#

#

# ------------------------------------------------------------------------

#   Section:   UDH NT 4.0

# ------------------------------------------------------------------------

#

UDH NT 4.0!Commands Supported By FTP
 Server!value=APPE%CWD%DELE%LIST%MKD%NOOP%PASS%QUIT%RETR%RNFR%RNTO%SITE%
STOR%TYPE%USER!set=APPE%CWD%DELE%LIST%MKD%NOOP%PASS%QUIT%RETR%RNFR%RNTO%SITE%
STOR%TYPE%USER

UDH NT 4.0!Header Lines To Skip!value=0!set=0

UDH NT 4.0!Header Indication Regex Expression!value=!set=

UDH NT 4.0!Trailer Lines To Skip!value=0!set=0

UDH NT 4.0!Trailer Indication Regex Expression!value=!set=

UDH NT 4.0!Directory Indication Regex Expression!value=<DIR>!set=<DIR>

UDH NT 4.0!File Link Real Data Available!value=No!set=No%Yes

UDH NT 4.0!File Link Indication Regex Expression!value=\.lnk$!set=\.lnk$

UDH NT 4.0!File Link Symbol Regex Expression!value=!set=

UDH NT 4.0!List Line Format!value=Blank Delimited!set=Blank Delimited%Fixed
```

```
UDH NT 4.0!Valid File Line Minimum Position!value=4!set=4

UDH NT 4.0!File Name Is Last Entity!value=Yes!set=No%Yes

UDH NT 4.0!File Name Position!value=4!set=4

UDH NT 4.0!File Name Length!value=0!set=0

UDH NT 4.0!File Extension Position!value=0!set=0

UDH NT 4.0!File Extension Length!value=0!set=0

UDH NT 4.0!File Size Verifiable!value=Yes!set=No%Yes

UDH NT 4.0!File Size Position!value=3!set=3

UDH NT 4.0!File Size Length!value=0!set=0

UDH NT 4.0!Special Envelope For Absolute Pathname!value=!set=

UDH NT 4.0!Listing Directory Yields Absolute Pathnames!value=No!set=No%Yes

UDH NT 4.0!Absolute Pathname Delimiter Set!value=\\\\\\!set=\\\\\\

UDH NT 4.0!Change Directory Before Listing!value=No!set=No%Yes

UDH NT 4.0!Directory Name Requires Terminator!value=No!set=No%Yes
```

Where to Go Next

"FTP Heuristics Configuration Parameters" on page 99.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

FTP Heuristics Configuration Parameters

This topic describes the configuration parameters for the Batch FTP Heuristics located in the `FtpHeuristics.cfg` file. The Batch FTP Heuristics configuration file, `FtpHeuristics.cfg`, contains the full set of parameters for each of the platforms listed under Platform Selection.

The FTP Heuristics configuration parameters are described in the table.

TABLE 43 FTP Heuristics Configuration Parameters

Name	Description	Required Values
Commands Supported by FTP Server	Specifies the commands that the FTP server on the given host supports.	One or more FTP commands as selected from the list.
Header Lines To Skip	Specifies the number of beginning lines from a **LIST** command to be considered as a potential header (subject to the **Header Indication Regex Expression** configuration parameter, discussed below) and skipped.	A non-negative integer. Enter zero if there are no headers. For an example, see **Header Lines To Skip**.
Header Indication Regex Expression	Specifies a regular expression used to help identify lines which comprise the header in the output of a LIST command. All the declared lines of the header (see **Header Lines To Skip**, above) must match the regular expression.	A regular expression. The default varies based on the FTP server's operating system. If there is no reliable way of identifying the header lines in the **LIST** command's output, leave this parameter undefined. **Additional Information** The regular expression "^ *total" indicates that each line in the header starts with "total," possibly preceded by blanks. For an example, see **Header Indication Regex Expression**. If the regular expression is undefined, then the header is solely determined by the value of the configuration parameter **Header Lines To Skip**.
Trailer Lines To Skip	Specifies the number of ending lines from a **LIST** command that are to be considered as a potential Trailer (subject to the **Trailer Indication Regex Expression**) and skipped.	A non-negative integer. Enter zero if there are no trailers.

TABLE 43 FTP Heuristics Configuration Parameters *(Continued)*

Name	Description	Required Values
Trailer Indication Regex Expression	Specifies the regular expression used to help identify lines which comprise the trailer in the output of a **LIST** command. All the declared lines of the trailer (see **Trailer Lines To Skip**) must match the regular expression.	A regular expression. If there is no reliable way of identifying the trailer lines in the **LIST** output, then leave this parameter undefined. If the regular expression is undefined, then the header is determined solely by the value of the **Trailer Lines To Skip** configuration parameter.
Directory Indication Regex Expression	Specifies a regular expression used to identify external directories in the output of a **LIST** command. Directories cannot be retrieved and must be filtered out of the file list.	A regular expression. If there is no reliable way of identifying the directory in the **LIST** output, then leave this parameter undefined. The regular expression "^ *d" specifies that a directory is indicated by a line starting with the lowercase "d,' possibly preceded by blanks.
File Link Real Data Available	Specifies whether a file may be a file link (a pointer to a file) on those operating systems whereon an FTP server will return the data for the real file as opposed to the content of the link itself.	Select **Yes** or **No**.
File Link Indication Regex Expression	Specifies a regular expression that identifies external file links in the output of a **LIST** command. File links are pointers to the real file and usually have some visual symbol, such as- >, mixed in with the file name in the output of the **LIST** command. Only the link name is desired within the returned list.	A regular expression. If there is no reliable way of identifying a file link within a **LIST** output, then leave this parameter undefined. **Additional Information** The regular expression "^ *l" specifies that a file link is indicated by a line starting with the lowercase "l," preceded possibly by blanks.

TABLE 43 FTP Heuristics Configuration Parameters *(Continued)*

Name	Description	Required Values
File Link Symbol Regex Expression	Specifies a regular expression that parses the external file link name in the output of a **LIST** command. Only the link name is required for the file list to be returned.	A regular expression. If there is no reliable way of identifying a file link within a **LIST** output, then leave this parameter undefined. The regular expression "[ ] ->[ ]" defines that a file link symbol is represented by an arrow surrounded by spaces (" -> "). When parsed, only the file name to the right of the symbol is used. In the example, **File Link Symbol Regex Expression**, only the **public_html** would be used, not the "p" character:
List Line Format	Specifies whether fields in each line are blank delimited or fixed, that is, whether information always appears at certain columns.	Select **Blank Delimited** or **Fixed**. For a **Fixed** list line format, enter a value equal to the number of columns, counting the first column at the far left as column 1. For a **Blank Delimited** list line format, enter a value equal to the number of fields, counting the first field on the far left as field 1. For either case, if no minimum can be determined, set this value to zero (0). **Additional Information** In the **Blank Delimited** line in the example in **List Line Format**, the minimum number of fields is 9:
Valid File Line Minimum Position	Specifies the minimum number of positions (inclusive) a listing line must have in order to be considered as a possible valid file name line.	**Note –** The URL FTP Proxy will fail on ascertaining file names that have leading blanks, trailing blanks, or both.
File Name Is Last Entity	Specifies whether the file name is the last entity on each line. This allows the file name to have imbedded blanks (however, leading or trailing blanks are not supported).	Select **Yes** or **No**.

TABLE 43 FTP Heuristics Configuration Parameters *(Continued)*

Name	Description	Required Values
File Name Position	Specifies the starting position (inclusive) of a file name.	For **Fixed** list line format, enter the column number, counting the first column on the far left as column 1. For **Blank Delimited** list line format, enter the field number, counting the first field on the extreme left as field 1. **Additional Information** For **Blank Delimited** List Line Format only, if the file name has imbedded blanks, then it can span over several fields. For an example, see **File Name Position**.

TABLE 43 FTP Heuristics Configuration Parameters *(Continued)*

Name	Description	Required Values
File Name Length	Represents the maximum width of a file name; valid only for **Fixed** list line format.	Enter any one of the following: ■ **An Integer:** Positive lengths imply that the file name is right-justified within the maximum field width, and thus leading-blanks are discarded. ■ **Negative Lengths:** That is, compared to the absolute length, imply that the file name is left-justified and trailing-blanks are discarded. ■ **Zero (0) Value Length:** If the file name is at the end of a file listing line, this value implies that the file name field extends to the end of the line. **Note –** For Blank Delimited list line format, this value is usually zero (0). However, if the File Name Length parameter is supplied even though a Blank Delimited list line format is specified, this implies that if the file name field exceeds the given length, then the rest of the List Line data occurs on the following line.

TABLE 43 FTP Heuristics Configuration Parameters *(Continued)*

Name	Description	Required Values
File Extension Position	Specifies the left-most position of the file extension for those operating systems that present the file name extension separated from the main file name.	For **Fixed** list line format, enter the column number, counting the first column at the extreme left as column 1. For **Blank Delimited** list line format, enter the field number, counting the first field at the far left as field 1. If there is no file extension (as on UNIX systems) set the value to zero (0).
File Extension Length	Specifies the maximum width of the file extension; valid only for **Fixed** list line format.	Enter any one of the following: **An Integer** ■ **Positive Lengths:** Imply that the file extension is right-justified within the maximum field width and therefore leading-blanks are discarded. ■ **Negative Lengths:** Imply that the file extension is left-justified and trailing-blanks are discarded (the absolute length is used). ■ **Value of Zero (0):** *Always* for the **Blank Delimited** list line format.

TABLE 43 FTP Heuristics Configuration Parameters *(Continued)*

Name	Description	Required Values
File Size Verifiable	Specifies whether the file size is verifiable, significant, and accurate within a directory listing.	Select **Yes** or **No**. The **File Size Stability Check** configurable parameter must also be enabled. **Additional Information** Even if the file size field of a listing line is not significant (that is, it is there but only represents an approximate value), the value of this parameter must be **No**. However, the file size location must still be declared in the **File Size Position** to assist determining which line of listing represents a valid file name. For an example, see **File Size Verifiable**. **Note –** Use of this parameter does not guarantee that the file is actually stable. As this feature is intended only for backward compatibility with previous FTP implementations, we do not recommend that you rely on this functionality for critical data.
File Size Position	Specifies the left-most position in the listing line that represents the size of the file. Even though for some operating systems the value shown might not truly reflect the file size, this position is still important in ascertaining that the line contains a valid file name.	A non-negative integer. For **Fixed** list line format, the position value is the column number (starting with one (1) on the far left). For **Blank Delimited**, this value represents the field number (starting with one (1) on the far left). If the **LIST** line does not have a size field, set this parameter to zero (0). For an example, see **File Size Position**.
File Size Length	Specifies the maximum width (number of columns) of the file size field, only valid for **Fixed** List Line Format.	A non-negative integer. For **Blank Delimited** list line format, set this value to zero (0).

TABLE 43 FTP Heuristics Configuration Parameters *(Continued)*

Name	Description	Required Values
Special Envelope For Absolute Path Name	Specifies special enveloping characters required to surround an absolute path name (for example, single quotes are used in MVS). Only use a single quote at the start of the directory name.	A pair of enveloping characters. Even if the leading and trailing character is identical, enter it twice. If no enveloping characters are required for an operating system, leave this parameter undefined. **Note –** On UNIX, this parameter is always undefined.
Listing Directory Yields Absolute Path Names	Specifies whether, when the **DIR** command is used on a directory name, the resulting file names are absolute.	Select **Yes** or **No**. **Note –** On UNIX, this character is always set to **No**.
Absolute Path Name Delimiter Set	Specifies any absolute path requiring certain delimiters to separate directory names (or their equivalent) from each other and from the file name.	Enter the delimiters for the absolute path, starting from the left, for: ■ Initial (left-most) directory delimiter ■ Intermediate directory delimiters ■ Initial (left-most) file name delimiter ■ Optionally, the ending (right-most) file name delimiter Wherever there is no specific delimiter, use "\0" (backslash zero) to act as a placeholder. Delimiters that are backslashes need to be escaped with another backslash.
Change Directory Before Listing	Determines whether a change directory (`cd`) command needs to be done before issuing the `DIR` command to get a listing of files under the desired directory.	Select **Yes** or **No**. **Note –** The current Batch Adapter implementation does not rely on this parameter.
Directory Name Requires Terminator	Determines whether a directory name that is not followed immediately by a file name requires the ending directory delimiter as a terminator (for example, as on VMS).	Select **Yes** or **No**.

TABLE 44 Examples of Configuration Parameters for Batch FTP Heuristics

Name	Example

Header Lines To Skip	`total 6`
	`-rw-r-----  1 ed  usr  110 Apr 15 13:43 AAA`
	`-rw-r--r--  1 ed  usr  110 Apr 15 13:33 aaa`

Header Indication Regex Expression	`total 6`
	`-rw-r-----  1 ed  usr  110 Apr 15 13:43 AAA`
	`-rw-r--r--  1 ed  usr  110 Apr 15 13:33 aaa`

Directory Indication Regex Expression	`drwxr-xr-x  2 ed  usr  2048 Apr 17 17:43 public_html`
File Link Indication Regex Expression	`lrwxr-xr-x  2 ed  usr  2048 Apr 17 17:43 p ->  public_html`
File Link Symbol Regex Expression	`lrwxrwxrwx  2 ed  usr  4 Apr 17 17:43 p -> public_html`

List Line Format	`-rw-r--r--  1 ed  usr  110 Apr 15 13:33 aaa`
	`^^^^^^^^^^  ^ ^^  ^^^  ^^^ ^^^ ^^ ^^^^^ ^^^`
	`1  2 3  4  5 6 7  8  9`
	`File Name`

Directory Indication Regex Expression	`drwxr-xr-x  2 ed  usr  2048 Apr 17 17:43 public_html`

File Name Position	`-rw-r--r--  1 ed  usr  110 Apr 15 13:33 aaa`
	`^^^^^^^^^^  ^ ^^  ^^^  ^^^ ^^^ ^^ ^^^^^ ^^^`
	`1  2 3  4  5 6 7  8  9`
	`File Name`

File Size Verifiable	`-rw-r--r--  1 ed  usr  110 Apr 15 13:33 aaa`
	`^^^`
	`File Size`

TABLE 44 Examples of Configuration Parameters for Batch FTP Heuristics *(Continued)*

Name	Example

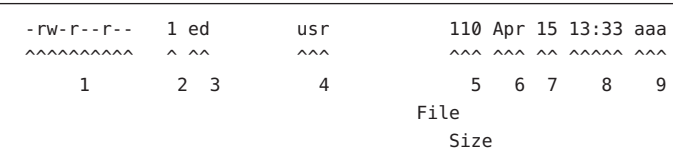
File Size Position	
	The following text represents valid number representations of file sizes:
	`1234 or 1,234,567 or -12345 or +12345 or ' 1234 ' or 12/34 or 1,234/56`
	The following text represents invalid number representations of file sizes (the ^ indicates where the error occurs):
	`'12 34' or 123,45,678 or 123-456-789 or --123 or 123-`
	`^ ^ ^ ^ ^`
	`or 12345678901 or any number > 4294967295 or < -2147483647`
	`^ (too large)`
	`or 123.45 or 12AB34 or 0x45 or ,123,456 or 12//34`
	`^ ^ ^ ^ ^`
	`or /123 or 123/ or 12,3/45`
	`^ ^ ^`

TABLE 45 Delimiters and Path Naming by Platform

OS	Path Name Format	Delimiter Set				
		1	2	3	4	Enter
UNIX	`/dir1/dir2/file.ext`	/	/	/		///
Windows	`C:\dir1\dir2\file.ext`	\\	\\	\\		\\\\\\
VMS	`disk1:[dir1.dir2]file.ext;1`	[	.	]	;	[.];
MVS PDS	`dir1.dir2(member)`	\0	.	(	)	\0.()
MVS Sequential	`dir1.dir2.filename`	\0	.	.		\0..
MVS GDG	`dir1.dir2.file(version#)` (see Note)	\0	.	.		\0..
AS400	`dir1/file.ext`	\0	/	.		\0/.

Above, version # = 0 for current, +1 for new, -1 (-2, -3, and so on.) for previous generations.

Where to Go Next

"Configuring CICS Adapter Connectivity Map Properties" on page 110.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Configuring CICS Adapter Connectivity Map Properties

The CICS Adapter configuration parameters, accessed from the Connectivity Map, are organized into the following sections:

CICS Connector

The Connector section of the CICS Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 46 Connectivity Map - Connector Properties

Name	Description	Required Value
Type	Specifies the connector type.	**Enter CICS**. The value always defaults to CICS for CICS connections.
Connection Transport	Specifies the underlying connection transport used by the CICS Adapter to send requests to and get responses from a CICS region.	Select one of the following underlying connection transports: ■ **Sun CICS Listener** ■ **CICS Transaction Gateway (specifies the IBM CICS Transaction Gateway)** **Sun CICS Listener**is the configured default.

TABLE 46 Connectivity Map - Connector Properties *(Continued)*

Name	Description	Required Value
Class	Specifies the class name of the CICS Client connector object.	The (class) package name for the CICS Client connector object. The default is **com.stc.adapters.cics.CicsClient Connector**.
Property.Tag	Specifies the data source identity. This parameter is required by the current **EBobConnectorFactory**.	The data source package name.

Where to Go Next

"CICS Client" on page 111.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

CICS Client

The **CICS Client** section of the CICS Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 47 CICS Client Connectivity Map Properties

Name	Description	Required Value
ECI call type	Specifies whether the ECI call type is Synchronous. Synchronous calls wait for the transaction to complete, then return the contents of the COMMAREA. Only Synchronous calls are supported.	**Synchronous** is the configured default.
CICS Program	Specifies the CICS program to be run on the server. Maximum length is eight characters.	A CICS program name, eight characters or less.

TABLE 47 CICS Client Connectivity Map Properties *(Continued)*

Name	Description	Required Value
CICS TransId	CTG specific. Specifies the ID of a CICS transaction. Maximum length is four characters. Attributes are dependent upon the value set for **Use TransId as ECI_TPN**, as follows: ■ If **EciTPN** is set to **FALSE**, the value of the transid is stored in EIBTRNID for the duration of the LINK to the program specified in the Program parameter. The called program runs under the mirror transaction **CPMI**, but is linked to under the Transid transaction name. This name is available to the called program for querying the transaction ID. Some servers use the transaction ID to determine security and performance attributes for the called program. ■ If **EciTPN** is set to **TRUE**, the Transid will be interpreted as the **ECI_TPN** transid, a transaction that will be used in the server to process the ECI request. This transaction must be defined in the server as a CICS mirror transaction. If the ECI request is extended, this parameter has a meaning only for the first request.	A CICS transaction ID of four characters or less.
Use TransId as ECI_TPN	**CTG** specific. Specifies whether the TransId is interpreted as ECI_TPN or if the called program runs under the default mirror transaction CPMI. Options are: ■ **True**: Indicates that the TransId is interpreted as ECI_TPN. ■ **False**: Indicates that the called program runs under the default mirror transaction CPMI, and is linked to under the TransId (if present).	Select **True** or **False**. **False** is the configured default.
COMMAREA Length	Specifies the length (in bytes) of the COMMAREA passed to the ECI.	A number indicating the byte length of the COMMAREA. **Note –** When using the CICS Transaction Gateway transport, data sent to CICS must be padded with spaces, if necessary, to match the full size of the commarea.

TABLE 47 CICS Client Connectivity Map Properties *(Continued)*

Name	Description	Required Value
ECI extend mode	Specifies whether a logical unit of work is terminated at the end of a call.	Select **Yes** or **No**. **Yes** indicates that the work unit is terminated at the end of a call. The configured default is **No**.
ECI LUW Token	CTG specific. Specifies an integer used to identify the logical unit of work (LUW) to which a call belongs. This must be set to **0** (zero) at the start of an LUW, even if the LUW is to be extended. The ECI updates the value upon the first (or only) call of the LUW. If the LUW is to be extended, this value is used as input to any subsequent calls associated with the same LUW. If the return code is not ECI_NO_ERROR, and a call is ending or continuing an existing LUW, then this field is used to report the state of the LUW as follows: ■ A code of 0 (zero) indicates that the LUW has ended and its updates have been backed out. ■ Any non-zero code indicates the current input value. It also indicates that the LUW is continuing, and updates are still pending. See the **Logical units of work in ECI** table in the **CICS Transaction Gateway: Programming Guide** for more information.	An integer used to identify the ECI logical unit of work.
Encoding	Specifies the canonical name for the encoding set.	The canonical name for any encoding set supported by Sun's Java Runtime Environment 1.1.8 (contained in rt.jar and i18n.jar). Examples are ASCII and **Cp500** (EBCDIC). When running the CICS Adapter on a **z/OS** platform, set the Encoding value to **Cp500**.

Where to Go Next

"Connection Mode" on page 114.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters

- Configuring Java CAPS Environment Components for Communications Adapters

Connection Mode

The **Connection Mode** section of the CICS Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 48 Connectivity Map Properties - Connection Mode Section

Name	Description	Required Value
CICS Connection Mode	Specifies whether a physical connection is established when an external connection is instantiated. The options are, **Automatic:** Establishes a physical connection when an external connection is instantiated. **Manual:**Does not automatically establish a physical connection when an external connection is instantiated. If a physical connection is not automatically established, a physical connection must be established from the Collaboration (for example, by calling the **connect()** method).	Select **Automatic** or **Manual**. The configured default is **Automatic**.

Where to Go Next

"Configuring e-Mail Inbound Adapter Connectivity Map Properties" on page 115.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Configuring e-Mail Inbound Adapter Connectivity Map Properties

The e-Mail adapter configuration parameters, accessed from the Connectivity Map, are organized into the section:.

Note – Some e-Mail adapter properties can also be set from your Collaboration. Properties set from the Collaboration override the corresponding properties in the adapter's configuration file. Any properties that are not set from the Collaboration retain their configured default settings.

Polling Setting

The Polling Setting section of the e-Mail adapter Connectivity Map properties contains the top-level parameter displayed in this table:

TABLE 49 Connectivity Map - Polling Setting

Name	Description	Required Value
Polling Interval	Specifies the interval (in milliseconds) at which the e-mail source file is polled for new incoming e-mail messages.	A number indicating the polling interval in milliseconds. The configured default is **5000** (5 seconds).

Where to Go Next

"Configuring File Adapter Inbound Connectivity Map Properties" on page 116.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Configuring File Adapter Inbound Connectivity Map Properties

The inbound File Adapter configuration properties, accessed from the Connectivity Map, are organized into the following section:

Parameter Settings — File Adapter Inbound

The Parameter Settings section of the inbound File Adapter Connectivity Map properties contains the top level parameters displayed in this table:

TABLE 50 Inbound File Adapter Connectivity Map Properties - Parameter Settings

Name	Description	Required Value
Input file name	Specifies the file mask for input data files.	A file mask. The default is `input*.txt`. You can provide only an extension with an asterisk (), for example, `*.txt`, to allow all files with that extension. An input file's extension is renamed to `.~in` after it is picked up. **Note –** If a file with the same name as the rename name exists, for example, `input1.txt.~in` , picking up the input file fails. You must ensure no files with the rename names exist before the files are processed by the inbound file poller.
Polling interval	The number of milliseconds the adapter waits between poll attempts of the input directory. The polling interval and the MDB pool size can be "tuned" based on the expected volume and frequency of incoming messages.	An integer; the acceptable range is an integer from **2** to **99999**, inclusive, and the default is **5000** (5000 milliseconds or 5 seconds). It is not advised to enter a value less than 5 seconds. **Caution –** There is no error message if you enter an incorrect value.
Input type	Specifies the type of input file, for example, bytes.	A file type. The default is **Bytes**, the only valid value.

TABLE 50 Inbound File Adapter Connectivity Map Properties - Parameter Settings *(Continued)*

Name	Description	Required Value
Remove EOL	Specifies whether the adapter excludes the terminating End-Of-Line (EOL) characters from records (messages) sent to a subscriber. This property only applies if the **Multiple records per file** property is set to **True**.	Select **True** or **False** ■ **True**: Enables the feature. ■ **False**: Disables the feature. The default is **False**.
Multiple records per file	Specifies whether multiple records (messages) are obtained per file. If this property is set to **True**, multiple records (messages) are generated per line, up to the number specified in the **Maximum bytes per record** property. Any data exceeding the maximum bytes per record size is sent in subsequent messages.	Select **True** or **False**. ■ **True**: Enables the feature. ■ **False**: Disables the feature. The default is **False**.
Maximum bytes per record	Specifies the maximum number of bytes per record (message) sent to a subscriber. This property only applies if the **Multiple records per file** property is set to **True**.	An integer; the acceptable range is an integer from **2** to **99999**, inclusive, and the default is **4096**. **Caution –** There is no error message if you enter an incorrect value.
Encoding	Specifies the valid encoding names. For more information on Java encoding, refer to the following site: `http://java.sun.com/j2se/1.3/docs/api/java/lang/package-summary.html`	The encoding names.
SerialMode	Specifies whether messages will be handled in serial mode (one after the other) or concurrently.	Select **True** or **False**. ■ **True:** Indicates that messages are handled in serial mode. ■ **False:** Indicates that messages handled concurrently. The configured default is **True.**

Where to Go Next

"Configuring File Adapter Outbound Connectivity Map Properties" on page 118.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Configuring File Adapter Outbound Connectivity Map Properties

The Outbound File Adapter configuration properties, accessed from the Connectivity Map, are organized into the following section:

Parameter Settings

The Parameter Settings section of the outbound File Adapter Connectivity Map properties contains the top level parameters displayed in this table:

TABLE 51 Outbound File Adapter Connectivity Map Properties - Parameter Settings

Name	Description	Required Value
Output file name	Specifies the file mask for output data files.	An appropriate file name. The default is `output%d.dat`. The `%d` in the file name is a counter and increments for each new file. Instead of `%d`, you can use any other printf style that takes an integer or long value. For example, you can specify `1%d` or `%012d` In cases where the **Multiple records per file** property is set to False: ■ If no output file exists at the time of the first execution, a new output file is created for each record. ■ If an output file already exists at the time of the first execution, messages are appended to it. **Note –** For more information regarding the printf feature, see the appropriate C language documentation.

TABLE 51 Outbound File Adapter Connectivity Map Properties - Parameter Settings *(Continued)*

Name	Description	Required Value
Add EOL	Specifies whether the system adds an end-of-line character to each record the adapter sends to the output file.	Select **True** or **False**. ■ **True**: Indicates that the system will add an EOL to each record. ■ **False**: Indicates otherwise. The configured default is **False**.
Multiple records per file	Specifies whether multiple records (messages) can be written to the output file. New messages are appended to the output file.	Select **True** or **False**. ■ **True**: Indicates that the output file will contain multiple records (messages). ■ **False**: Indicates that each output file contains a single record (message). The configured default is **True**.
Encoding	Specifies the valid encoding names. For all valid encodings, please refer to the following site: `http://java.sun.com/j2se/1.3/docs/api/java/lang/package-summary.html`	The encoding names.

Where to Go Next

"Configuring IMS Adapter Connectivity Map Properties" on page 122.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Configuring HTTPS Adapter Connectivity Map Properties

The HTTPS Adapter Connectivity Map consists of the following categories:

- "HTTPS Adapter Connectivity Map Properties" on page 120.
- "HTTPS Server Adapter Connectivity Map Properties" on page 120.

HTTPS Adapter Connectivity Map Properties

The HTTPS Adapter Properties include parameters used by the external system.

TABLE 52 HTTP Adapter—HTTP Settings

Name	Description	Required Value
Allow Cookies	Specifies whether cookies sent from servers are allowed to be stored and sent on subsequent requests. If cookies are not allowed, sessions are not supported.	Select **True** or **False**. The default is **True**.
Accept Type	The default **Accept type** header value to include when sending a request to the server.	A string. For example: **text/html, text/plain, text/xml,** and so on. The default is **text/***.

Where to Go Next

"HTTPS Server Adapter Connectivity Map Properties" on page 120.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

HTTPS Server Adapter Connectivity Map Properties

The HTTPS Server Adapter Properties include parameters used by the external system.

TABLE 53 HTTP Server Adapter—HTTP Server External Configuration

Name	Description	Required Value
servlet-url	Specifies the last path component of the HTTPS server servlet URL. The client uses this URL value to access the server. The property value must be the servlet name (for example, **HttpServerServlet**). An example of a valid servlet URL is `http://localhost:18001/Deployment1_servlet_HttpServerServlet/HttpServerServlet`, where, the URL value comprises several components as follows: ■ **App Server**: The name of the machine on which your current Application Server is running. ■ **18001**: The port number (in this case, the Sun Server port number). ■ **Deployment1_servlet_HttpServerServlet**: The name of your current Project's Deployment Profile concatenated with **_servlet_HttpServerServlet**. ■ **HttpServerServlet**: The servlet name (equivalent to the **servlet_url** property). **Note –** Set the port number based on the Sun Enterprise Service Bus properties. By default, it is 18001, but it can be modified by the user. Set the Sun Enterprise Service Bus properties using the **Environment Explorer**. The `servlet-url` property does not support LDAP values.	A valid URL.

Where to Go Next

"Configuring HTTPS Adapter Connectivity Map Properties" on page 120.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Configuring IMS Adapter Connectivity Map Properties

The IMS Adapter's configuration properties, accessed from the Connectivity Map, is organized within the following section:

IMS Adapter Outbound Connectivity Map Properties

The Outbound configuration properties, accessed from the Connectivity Map, are organized into the following sections,

- "Connector — IMS Adapter Outbound" on page 122.
- "Connector — IMS Adapter Outbound" on page 122

Connector — IMS Adapter Outbound

The Connector section contains the top level parameters contained in this table:

TABLE 54 IMS Adapter connector Parameter Settings

Name	Description	Required Value
Type	Specifies the connector type.	Connection type is IMSClientETD, by default for IMSClientETD connections.
Class	Specifies the class name of the ETD connector object.	A valid package name.. The default is **com.stc.adapters.ims.IMSClientETDConnector**

Where to Go Next

"Connection Mode — IMS Adapter Outbound" on page 123

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Connection Mode — IMS Adapter Outbound

The Connection Mode section contains the top level parameters contained in this table:

TABLE 55 IMS Adapter Connection Mode Parameter Settings

Name	Description	Required Value
IMS Connection Mode	Specifies how a connection with the external system is established and closed. ■ **Automatic**: Indicates that the connection is automatically established when the collaboration is started, and it keeps the connection alive as needed. OnDemand indicates that the connection will be established on demand, as business rules requiring a connection to the external system are performed. The connection will be closed after the methods are completed. ■ **Manual**: Indicates that the user will explicitly call the connect and disconnect connection methods in their collaboration as business rules. Default is Automatic.	Either a **Manual** or **Automatic** setting. Default setting is **Manual**.

Where to Go Next

"Configuring LDAP Adapter Connectivity Map Properties" on page 123

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Configuring LDAP Adapter Connectivity Map Properties

The LDAP Adapter configuration parameters, accessed from the Connectivity Map, are organized into the following sections:

- "Connector Section Properties" on page 124
- "Connection Section Properties" on page 124
- "Referrals Section Properties" on page 125
- "Security/SSL Section Properties" on page 132

Connector Section Properties

The LDAP Adapter Connector Section Properties include the following parameters.

TABLE 56 LDAP Adapter— Connector Settings

Name	Description	Required Value
Connector Type	Lists the type of connector	The default is **LDAP Connector**.
Connector Class	Lists the Connector class.	The default connector class is **com.stc.connector.ldapadapter.LDAPadapterConnection**.

Where to Go Next

"Connection Section Properties" on page 124

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Connection Section Properties

The LDAP Adapter Connection Section Properties allow you to define the connection to the LDAP system.

TABLE 57 LDAP Adapter— Connection Settings

Name	Description	Required Value
Authentication	Allows you to select the authentication to be used (none or simple). Select the desired authentication as follows: ■ **None:** No authentication, that is, an anonymous log-on. If you use this setting, ensure that the LDAP server supports anonymous log-ons. ■ **Simple:** Authentication is based on a user name and password. You must provide the user name and password in the appropriate fields (Principal and Credentials).	Select **none** or **simple**. The default is **none**.

TABLE 57 LDAP Adapter— Connection Settings *(Continued)*

Name	Description	Required Value
Credentials	Allows you to enter the credentials needed when using an authentication mechanism other than anonymous log-in (authentication = **none**).	The appropriate credentials, in the form of a valid password.
InitialContext Factory	Allows you to enter the factory to be used for creating the initial context for the LDAP server. By default the LDAP service provider provided by Sun, as part of the Java Software Developers' Kit (SDK), is used.	A valid Java factory name; the default is: **com.sun.jndi.ldap.LdapCtxFactory**. It is recommended that you do not change this value unless you want to use an LDAP service provider other than the one provided by Sun.
Principal	Allows you to specify the principal needed when using an authentication mechanism other than anonymous log-in (authentication = **none**).	The fully qualified Distinguished Name (DN) of the user, for example: `CN=Administrator,CN=Users, DC=stc,dc=com`
ProviderURL	Allows you to specify the URL of the LDAP Server.	A valid URL with the protocol as **ldap**.

Where to Go Next

"Referrals Section Properties" on page 125

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Referrals Section Properties

The LDAP Adapter Referrals Section Properties allow you to enter LDAP referral information.

TABLE 58 LDAP Adapter— Referrals Settings

Name	Description	Required Value
Credentials	Allows you to specify the credentials file to be used when following any referrals in the directory. The credentials file is created using the RCF command-line utility.	A valid file and path name available to the Service Bus.
Follow	Allows you to select whether referrals returned by an LDAP server must be followed.	Select **Yes** or **No**.. The default is **Yes**. Enter the desired value as follows: ■ **Yes**: Follow referrals. ■ **No**: Referrals are not followed.

Where to Go Next

"Additional Referrals Section Notes" on page 126

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Additional Referrals Section Notes

Following are additional notes related to the properties found in the Referrals section.

A referral is an entity used to redirect a client's request to another server. A referral contains the names and locations of other objects. It is sent by the server to indicate that the information the client has requested can be found at another location (or locations), possibly at another server or several servers.

When you execute a search operation, you may encounter a referral entry, which is just a pointer to where that information can be found. The pointer is usually in a form similar to the **Provider URL** configuration of the Adapter.

It consists of the following components:

- Host name
- Port number
- Context name (optional)

You have the following options when you encounter a referral:

- **Ignore**: Ignore the referral.
- **Follow**: Follow the referral, that is, connect to the referred system and continue the search operation.
- **Throw**: Throw a referral exception, which can be caught by the client and action taken as needed.

With the LDAP Adapter, you have the following properties you must set to work with referrals:

- **Credentials File**: Enter a fully qualified path to a file. This file must contain the appropriate referral credentials information (this file has to be generated using the RCF command line utility as explained later in this section).
- **Follow**: It is either **Yes** or **No**. Default is **Yes**.

The scenarios shown in the following table can arise depending on the properties provided for the referrals and the behavior of the Adapter, as explained for each of these scenarios.

TABLE 59 Referral Scenarios

Follow Setting	Credentials File	Adapter Operation
Follow is set to **Yes**.	The credentials file is **not** provided.	The Adapter uses the original credentials (user name and password) provided for the initial server and tries to connect to the referred system. The connection may fail if the referred system does not have the same credentials.
	The credentials file is provided and has the credentials entry for the referred host.	The connection to the initial server is configured to throw **LdapReferralException** when a referral is encountered which is subsequently caught by Adapter. The Adapter then establishes the connection to the referred system using the credentials information provided in the credentials file.
	The credentials file provided does **not** have the credentials entry for the referred host.	The connection to the initial server is configured to throw **LdapReferralException** when a referral is encountered, which is subsequently caught by the Adapter. The Adapter then establishes the connection to the referred system using an anonymous login. The connection may fail if the referred system does not allow an anonymous log-in.
Follow is set to **No**.	There is no credentials file.	Referrals are not followed, that is, the Adapter ignores any referral.

To create a credentials file, you can use the Referral Credentials File (RCF) command-line utility.

Note – Running the RCF utility on the command line without any parameters displays how to use the utility.

▼ To Create a Credentials File Using the RCF Utility

1 The file to be used for the RCF utility are located at the following locations:

netbeans_home`\usrdir\modules\ext\ldapadapter\stcldap13.jar`

or

```
<netbeans_home>\usrdir\modules\ext\ldapadapter\
stcldap14.jar
```

2 Copy and paste one of the above files to a folder and run the utility from this folder as follows:

netbeans_home`\jdk\bin\java -cp ./stcldap13.jar com.stc.connector.ldapadapter.utils.RCFUtil`

The following menu displays:

```
C:\temp>java -cp ./stcldap13.jar
com.stc.connector.ldapadapter.utils.RCFUtil

Please specify the operation.

---+ RCFUtil +---

Interactive command line utility for creating and managing
file(s) containing credentials information to follow LDAP
referrals. File(s) generated can be used by the Java LDAP Adapter
for following referrals that required credentials different
from those used to create the connection to the initial LDAP
server.

Usage : java com.stc.connector.ldapadapter.utils.RCFUtilOPTIONS       -- <filename>

OPTIONS:

--create Create a new referral credentials file.
--add Add an entry to the referral credentials file.
--list Print a list of entries in the referral credentials file.
--remove Remove an entry from the referral credentials file.
--modify Modify an entry in the referral credentials file.
--decrypt When displaying credentials, decrypt the credentials.
--username <username>  Specify the username; if not specified,
it'll be prompted.
--password <password>  Specify the password; if not specified,
it'll be prompted.
--help Print this usage.

filename:

The full path to the referral credentials file.
```

3 **To create a new referral file called `samplercf.txt`, enter the following parameters on the command line:**

```
netbeans_home\jdk\bin\java -cp ./stcldap13.jar
com.stc.connector.ldapadapter.utils.RCFUtil --create -- samplercf.txt
```

This action requests a user name and password. Enter the user name and password. This user name and password is for protecting the file itself, because the file contains sensitive credential information about other LDAP servers. For example:

```
      C:\temp>c:\JavaCAPS6\netbeans\jdk\bin\java -cp .\stcldap13.jar
com.stc.connector.ldapadapter.utils.RCFUtil
      --create -- samplercf.txt
      Creating file samplercf.txt...
      Enter username >> test
      Enter password >> test
      File created!
```

A message "File created!" appears. The file name here is `samplercf.txt`. The extension does not matter.

▼ To Add Credentials Information To the File

1 **To add LDAP Server connection info to a referral file called `samplercf.txt`, enter the following parameters on the command line:**

```
netbeans_home\jdk\bin\java -cp ./stcldap13.jar
com.stc.connector.ldapadapter.utils.RCFUtil --add --
 samplercf.txt
```

2 **Username and Password are required to access the file. Provide the user name and password given for creating the file previously.**

3 **When the following prompts appear, enter the following information, as indicated:**

4 **Prompts for the host name: Enter the host name.**

5 **Prompts for the port number: Enter the LDAP port number.**

6 **Prompts for the principal: Enter the fully qualified DN of the user.**

7 **Prompts for the password: Enter the password for the DN specified previously.**

For example:

```
C:\temp>c:\JavaCAPS6\netbeans\jdk\bin\java -cp .\stcldap13.jar
 com.stc.connector.ldapadapter.utils.RCFUtil --add --
 samplercf.txt
Adding a referral credentials entry...
```

```
Enter username >> test
Enter password >> test
Enter LDAP Host >> localhost.stc.com
Enter LDAP Port >> 389
Enter the Principal >> cn=Manager,dc=stc,dc=com
Enter the Credentials >> secret

Done.
```

▼ To View the Contents of the Credentials File

1. **To view LDAP Server connection info in a referral file called samplercf.txt, enter the following parameters on the command line:**

   ```
   <netbeans_home>\jdk\bin\java -cp ./stcldap13.jar
   com.stc.connector.ldapadapter.utils.RCFUtil --list --
    samplercf.txt
   ```

2. **Username and Password are required to access the file. Provide the user name and password given for creating the file previously.**

3. **The entries in the file are listed as shown in the following single-entry example:**

   ```
   1> localhost.stc.com | 389 | cn=Manager,dc=stc,dc=com | l/
   ZRt1cfNKc=
   ```

4. **The password is encrypted. To display the password in its decrypted form add --decrypt to the previous command. The output is as follows:**

   ```
   1> localhost.stc.com | 389 | cn=Manager,dc=stc,dc=com | secret
   ```

   For example:

   ```
   C:\temp>c:\JavaCAPS6\netbeans\jdk\bin\java -cp .\stcldap13.jar
    com.stc.connector.ldapadapter.utils.RCFUtil --list --
    samplercf.txt
   Listing entries in the referral credentials file...
   Enter username >> test
   Enter password >> test
   1> localhost.stc.com | 389 | cn=Manager,dc=stc,dc=com | l/
   ZRt1cfNKc=

   C:\temp>c:\JavaCAPS6\netbeans\jdk\bin\java -cp .\stcldap13.jar
    com.stc.connector.ldapadapter.utils.RCFUtil --list --decrypt --
    samplercf.txt
   Listing entries in the referral credentials file...
   Enter username >> test
   Enter password >> test
   1> localhost.stc.com | 389 | cn=Manager,dc=stc,dc=com | secret
   ```

Other operations, such as removing a credential entry and modifying a credential entry for an entry, can be done using the RCF utility in the same way.

The following example shows the content of a credentials file, `samplercf.txt`, with explanatory comments:

```
###This properties file was generated by
#com.stc.connector.ldapadapter.utils.RCFUtil.
#Do NOT modify this file "by hand" if you don't understand the
 nature
#or format of this file. Use the utility to create and
#manage this file.
#
#Tue Feb 14 17:49:17 PST 2006
password=P9He6eCUY6Q\=
localhost.stc.com\:389=test;P9He6eCUY6Q\=
username=test
#New credentials entry that was created.
```

Where to Go Next

"Security/SSL Section Properties" on page 132.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Security/SSL Section Properties

The LDAP Adapter Security/SSL Section Properties are used to set the basic security features for SSL.

TABLE 60 LDAP Adapter— Security/SSL Settings

Name	Description	Required Value
JSSE Provider Class	Specifies the fully qualified name of the JSSE provider class. For more information, see the Sun Microsystems Java site at: `http://java.sun.com`	The name of a valid JSSE provider class; the default is: **com.sun.net.ssl.internal.ssl.Provider** If you are running the Integration Server on AIX, specify: **com.ibm.jsse.IBMJSSEProvider**
KeyStore	Specifies the default KeyStore file. The keystore is used for key/certificate management when establishing SSL connections.	A valid package location. There is no default value. It is recommended to use *c:\JavaCAPS*`\appserver\is\domains\`*MyDomain*`\config\keystore.jks` where, *c:\JavaCAPS* is the directory where the Sun Java Composite Application Platform Suite is installed and *MyDomain* is the name of your domain.
KeyStore password	Specifies the default KeyStore password. The password is used to access the KeyStore used for key/certificate management when establishing SSL connections; there is no default.	A valid **KeyStore** password. There is no default value.
KeyStore type	Allows you to specify the default KeyStore type. The keystore type is used for key/certificate management when establishing SSL connections. If the KeyStore type is not specified, the default KeyStore type, JKS, is used.	A valid **KeyStore** type.
KeyStore username	The user name for accessing the keystore used for key/certificate management when establishing SSL connections. **Note –** If the keystore type is PKCS12 or JKS, the keystore user name property is not used. PKCS12 and JKS keystore types require passwords for access but do not require user names. If you enter a value for this property, it is ignored for PKCS12 and JKS.	A valid KeyStore user name.

TABLE 60 LDAP Adapter— Security/SSL Settings *(Continued)*

Name	Description	Required Value
SSL Connection Type	Allows you to specify the type of SSL connection to be used.	Select **None**, **Enable SSL**, or **TLS On Demand**. Enter the desired value as follows: ■ **None:** No SSL, simple plain connection. ■ **Enable SSL:** SSL is enabled. All communication to the LDAP server uses a secure communication channel. **Note –** If you are using the Enable SSL option, the ProviderURL property must point to a secure LDAP port (the default is 636). For additional information on required values for this property, see **SSL Connection Type**.
SSL Protocol	The SSL protocol to use when establishing an SSL connection with the LDAP server. See your JSSE documentation for information on your App Server's platform.	Select **TLS**, **TLSv1**, **SSLv3**, **SSLv2**, or **SSL**.
TrustStore	Specifies the default TrustStore. The TrustStore is used for CA certificate management when establishing SSL connections.	A valid TrustStore file; there is no default.
TrustStore password	Allows you to specify the default TrustStore password. The password is for accessing the TrustStore used for CA certificate management when establishing SSL connections.	A valid TrustStore password; there is no default.
TrustStore type	Allows you to specify the TrustStore type of the TrustStore used for CA certificate management when establishing an SSL connection. If the TrustStore type is not specified, the default TrustStore type, JKS, is used.	A valid TrustStore type.
Verify hostname	Determines whether the host name verification is done on the server certificate during the SSL handshake. You can use this property to enforce strict checking of the server host name in the request URL and the host name in the received server certificate.	Select **True** or **False**. The default is **False**. For additional information on required values for this property, see **Verify hostname**.

TABLE 60 LDAP Adapter— Security/SSL Settings *(Continued)*

Name	Description	Required Value
X509 Algorithm Name	Specifies the X509 algorithm name to use for the trust and key manager factories.	The name of a valid **X509** algorithm; the default is SunX509. If you are running the Integration Server on AIX, specify **IbmX509**.

Where to Go Next

"Additional Security/SSL Property Notes" on page 135

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Additional Security/SSL Property Notes

Listed are the additional notes for the following Security/SSL section properties:

- "SSL Connection Type" on page 135.
- "Verify Hostname" on page 136.

SSL Connection Type

Make sure that the SSL properties, including security certificate installation, port number, and so on, are set correctly for the current LDAP server.

Transport Layer Security (TLS) is a protocol that guarantees privacy and data integrity between client/server applications communicating over the Internet. The TLS operation for this Adapter supports both secure and nonsecure communication on the same connection.

However, some LDAP servers are required to start on a configured nonsecure port and cannot start on a secure port. For details, see the appropriate documentation for the LDAP server.

- **TLS on Demand**: A feature of LDAP version 3 (**StartTLS** extended operation), which is supported in Java SDK version 1.4 and later. Selecting this option allows you to establish an SSL connection on demand programmatically.

Note – If you are using the **TLS on Demand** option, the **ProviderURL** property must point to a nonsecure LDAP port (the default is 389).

After selecting this option, whenever secure communication is required, you must place any method call to the LDAP server between **startTLS** and **stopTLS** calls, which can be accessed through the LDAP OTD.

In the following example, the call to **performAddEntry** goes through a secure communication channel, but the call to **performRename** goes through a nonsecure plain-communication channel:

```
startTLS();
performAddEntry();
stopTLS();

performRename();
```

Make sure that the TLS settings (in addition to the SSL settings) are configured correctly for the current LDAP server.

Note – Using the stopTLS method may cause unexpected behavior with some LDAP servers. You may need to remove the use of this method in your Collaboration Definitions. For example, you cannot use the stopTLS method when connecting to a Sun ONE Directory server. For details, see the appropriate documentation for the LDAP server.

Active Directory does not release the context, when you iteratively add a single attribute with multiple values using TLS connection. But, with the workaround of starting the TLS, adding the attribute operations and then stopping the TLS will release the context.

For information on how to use this feature with the LDAP OTD, see **TLSExtension Node**.

Verify Hostname

Under some circumstances, you can get different Java exceptions, depending on whether you set this property to **True** or **False**. This section explains what causes these exceptions.

For example, suppose the host name in the URL is `localhost`, and the host name in the server certificate is `localhost.stc.com`. Then, the following conditions apply:

- If **Verify hostname** is set to **False**:

  Host name checking between the requested URL and the server certificate is turned *off*.

You can use an incomplete domain host name, for example, `https://localhost:444`, or a complete domain host name, for example, `https://localhost.stc.com:444`, and get a positive response in each case.

- If **Verify hostname** is set to **True**:

  Host name checking between the requested URL and the server certificate is turned *on*.

Note – If you use an incomplete domain host name, for example, `https://localhost:444`, you can get the exception java.io.IOException: HTTPS hostname wrong.

You must use a complete domain host name, for example, `https://localhost.stc.com:444`.

Note – If the Java SDK version used by the Application Server and the corresponding Application Server property setting do not match, you can get the exception **java.lang.ClassCastException**.

Where to Go Next

"Configuring MSMQ Adapter Inbound Connectivity Map Properties" on page 137.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Configuring MSMQ Adapter Inbound Connectivity Map Properties

Inbound MSMQ Adapter configuration information is organized into the following topics:

MSMQ Adapter Inbound Connectivity Map Properties

When use one of these properties, for example **Format Name**, to identify a queue, recommend that you leave the value for the other two properties blank (in this case, you would leave the **MSMQ Queue Alias** and **MSMQ Queue Name** properties blank). This ensures that only the queue identification method you specify is used.

The **MSMQ Configuration** section of the **inbound MSMQ** Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 61 Connectivity Map - Inbound - MSMQ Configuration

Name	Description	Required Value
MSMQ Queue Alias	Specifies the queue alias. A queue alias associates an ADs path and a user-defined string (alias) with a public, private, or direct single-element format name. To send or receive messages using a queue alias, **MSMQ** and the **Active Directory** service must be installed on the same computer as the Application Server.	The queue alias. See "Identifying an MSMQ Queue" on page 141 for more information.

TABLE 61 Connectivity Map - Inbound - MSMQ Configuration *(Continued)*

Name	Description	Required Value
MSMQ Format Name	Specifies the format name of the queue. The format name is a string that uniquely identifies a queue by providing some connection details and the queue's path. Different types of format names can be used to specify the way messages are routed, the type of destination, and the type of operation for which the queue is being opened. Configure your MQ security attributes to accept TCP and HTTP protocol.	The public or private format name in the following manner: ■ For **public** queues use the following: DIRECT=TCP: *IPAddress**QueueName* DIRECT=OS: *ComputerName**QueueName* DIRECT=HTTP: *//Host/msmq/QueueName* ■ For **private** queues use the following: DIRECT=TCP: *IPAddress**private$*\ *QueueName* DIRECT=*OS:ComputerName*\ *private$**QueueName* Configure your MQ security attributes to accept TCP and HTTP protocol. For examples of both public and private MSMQ Format Names, see "Pre Transfer (BatchFTP Connectivity Map)" on page 28. **Note –** If the *ComputerName* or *Host* name contains more than 15 characters, MSMQ will truncate the name. In this case, you must use the truncated ComputerName. refer to the queue Properties, General tab to see the specific ComputerName for your system. See "Pre Transfer (BatchFTP Connectivity Map)" on page 28 for more information. See "Identifying an MSMQ Queue" on page 141 for more information.

TABLE 61 Connectivity Map - Inbound - MSMQ Configuration *(Continued)*

Name	Description	Required Value
MSMQ Queue Name	Specifies the Microsoft Message Queue Name.	The string name that identifies the queue. This is associated with the host name, so the value is entered as `queuename`, where *queuename* is the queue name. See "Identifying an MSMQ Queue" on page 141 for more information.
MSMQ Share Mode	Specifies the MSMQ share mode (**DENY_NONE** or **DENY_RECEIVE_SHARE**).	Select **DENY_NONE** or **DENY_RECEIVE_SHARE**. **DENY_NONE** is the configured default.
MSMQ Access Mode	Specifies the MSMQ Access Mode. Only RECEIVE_ACCESS is supported for inbound mode.	RECEIVE_ACCESS
MSMQ Receive Interval	Specifies the polling interval or frequency at which the adapter checks the queue for incoming messages (in milliseconds).	A number indicating the polling interval in milliseconds. The configured default is **5000** (5 seconds).
MSMQ Receive Action Code	Specifies the MSMQ Receive Action code. Only ACTION_RECEIVE is supported for inbound mode.	ACTION_RECEIVE
MSMQ Transaction Type	Specifies the Microsoft Message Transaction Type.	The string name that identifies the queue. This is associated with the host name, so the value is entered as `queuename`, where **queuename** is the queue name.

Where to Go Next

"Identifying an MSMQ Queue" on page 141

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Identifying an MSMQ Queue

The MSMQ Adapter identifies an MSMQ Queue using the first available value of these three properties, in the following order:

1. MSMQ Queue Alias
2. MSMQ Format Name
3. MSMQ Queue Name

Where to Go Next

"MSMQ Format Name and Host Name" on page 141.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

MSMQ Format Name and Host Name

The format name is a string that uniquely identifies a queue using connection details and the queue's path. Different types of format names can be used to specify how messages are routed, the type of destination, and the type of operation for which the queue is being opened.

The public or private format name property value is entered in the following manner:

For **public** queues use the following:

- DIRECT=TCP:*IPAddress**QueueName*

  for example: DIRECT=TCP:192.168.100.100\testmsmq
  - DIRECT=OS:*ComputerName**QueueName*

    for example: DIRECT=OS:mypc-gx600\testmsmq
  - DIRECT=HTTP://*Host*/msmq/*QueueName*

    for example: DIRECT=HTTP://mypc-gx600/msmq/testmsmq

    For **private** queues use the following:
  - DIRECT=TCP:*IPAddress*\private$*QueueName*for example: DIRECT=TCP:192.168.100.100\private$\privateqnxa
  - DIRECT=OS:*ComputerName*\private$*QueueName*

    for example: DIRECT=OS:mypc-gx600\private$\privateqnxa

Configure your MQ security attributes to accept TCP and HTTP protocol. If you specify an **MSMQ Format Name**, the **MSMQ Queue Name** and **MSMQ Queue Alias** properties must be left blank.

To find the *ComputerName*, right-click **My Computer** and click **Manage**. From the **Computer Management** dialog box, select **Computer Management** ⇒ **Services and Applications** ⇒ **Message Queueing** ⇒ **Public Queues**. Right-click your queue and select **Properties**. From the General tab of the Properties dialog box, you can see the computer name and queue name used by MSMQ.

Note – The ComputerName and Host Name is limited to 15 characters by MSMQ. If the Host Name contains more than 15 characters, MSMQ will truncate the name. In this case, you must use the truncated Host Name. Refer to the queue Properties, General tab to see the specific Host Name for your system (see "Pre Transfer (BatchFTP Connectivity Map)" on page 28).

Where to Go Next

"Configuring MSMQ Adapter Outbound Connectivity Map Properties" on page 142.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Configuring MSMQ Adapter Outbound Connectivity Map Properties

Outbound MSMQ Adapter configuration information is organized into the following topics:

- "MSMQ Adapter Outbound Connectivity Map Properties" on page 142.
- "Identifying an MSMQ Queue" on page 147.

MSMQ Adapter Outbound Connectivity Map Properties

When use one of these properties, for example Format Name, to identify a queue, recommend that you leave the value for the other two properties blank (in this case, you would leave the

MSMQ Queue Alias and MSMQ Queue Name properties blank). This ensures that only the queue identification method you specify is used.

The **MSMQ Configuration** section of the outbound **MSMQ Adapter Connectivity Map properties** contains the top-level properties displayed in this table:

TABLE 62 Connectivity Map - Outbound - MSMQ Configuration

Name	Description	Required Value
MSMQ Queue Alias	Specifies the queue alias. A queue alias associates an ADs path and a user-defined string (alias) with a public, private, or direct single-element format name. To send or receive messages using a queue alias, **MSMQ** and the **Active Directory** service must be installed on the same computer as the Application Server.	The queue alias. See "SOCKS (BatchFTP Connectivity Map)" on page 31 for more information.

TABLE 62 Connectivity Map - Outbound - MSMQ Configuration *(Continued)*

Name	Description	Required Value
MSMQ Format Name	Specifies the format name of the queue. The format name is a string that uniquely identifies a queue using connection details and the queue's path. Different types of format names can be used to specify how messages are routed, the type of destination, and the type of operation for which the queue is being opened. Configure your MQ security attributes to accept TCP and HTTP protocol.	The public or private format name in the following manner: ■ For **public** queues use the following: DIRECT=TCP: *IPAddress**QueueName* DIRECT=OS: *ComputerName**QueueName* DIRECT=HTTP: *//Host/msmq/QueueName* ■ For **private** queues use the following: DIRECT=TCP: *IPAddress*\ *private$**QueueName* DIRECT=OS: *ComputerName**private$*\ *QueueName* Configure your MQ security attributes to accept TCP and HTTP protocol. For examples of both public and private MSMQ Format Names, see "Pre Transfer (BatchFTP Connectivity Map)" on page 28. If the *ComputerName* or *Host* name contains more than 15 characters, MSMQ will truncate the name. In this case, you must use the truncated ComputerName. refer to the queue Properties, General tab to see the specific ComputerName for your system. See "Pre Transfer (BatchFTP Connectivity Map)" on page 28 for more information. See "SOCKS (BatchFTP Connectivity Map)" on page 31 for more information.

TABLE 62 Connectivity Map - Outbound - MSMQ Configuration *(Continued)*

Name	Description	Required Value
MSMQ Queue Name	Specifies the Microsoft Message queue name.	The string name that identifies the queue. This is associated with the host name, so the value is entered as `host/queue`, where *host* is the host name and *queue* is the queue name. See "SOCKS (BatchFTP Connectivity Map)" on page 31 for more information.
MSMQ Transaction Type	Specifies the outbound transaction type. The options are: ■ **MQ_NO_TRANSACTION**: Select this value when sending messages to a non-transactional queue. ■ **MQ_XA_TRANSACTION**: Select this value when sending messages to an XA-transactional queue. ■ **MQ_SINGLE_MESSAGE**: Select this value when sending messages to a transactional queue. This value does not apply to or affect inbound messages from a transactional queue.	Select **MQ_NO_TRANSACTION**, **MQ_XA_TRANSACTION**, or **MQ_SINGLE_MESSAGE** as the transaction type. Use the default value, **MQ_NO_TRANSACTION**. For more information,see *MSMQ user documentation*.
MSMQ Share Mode	Specifies the MSMQ share mode as one of the following: ■ **DENY_NONE**: Grants everyone full access to send, peek at, or retrieve messages from the queue while it is open. ■ **DENY_RECEIVE_SHARE**: You alone can peek at or retrieve messages until the queue is closed. Other applications are still able to send messages to the queue, but they may not delete messages while you have the queue open.	Select **DENY_NONE** or **DENY_RECEIVE_SHARE**. ■ **DENY_NONE** is the configured default. ■ **Error Conditions** An error message occurs if you or anyone tries to open the queue with **RECEIVE_ACCESS** or **PEEK_ACCESS** after Message Queuing opens the queue. If you attempt to open a queue with **DENY_RECEIVE_SHARE** when the queue is already open with **RECEIVE_ACCESS** or **PEEK_ACCESS**, the call will fail.

TABLE 62 Connectivity Map - Outbound - MSMQ Configuration *(Continued)*

Name	Description	Required Value
Message Priority	Specifies the message priority level for all messages. Priorities range from level 0 (low priority) to 7 (high priority). Messages are stored in descending order in the queue, with higher priority messages first. Priority is only valid when **MSMQ Access Mode** is set to **SEND_ACCESS** .	A number between **0** and **7** indicating the message priority. The configured default is **3**.
MSMQ Receive Action Code	Specifies the MSMQ receive action code as one of the following: ■ **ACTION_RECEIVE**: Reads the message at the current cursor location and removes it from the queue. ■ **ACTION_PEEK_CURRENT**: "Peeks" for last message in the queue. You can use this functionality when there are several messages coming in and going out of queue, and you want to peek (look) and get the latest message.	Select **ACTION_RECEIVE** or **ACTION_PEEK_CURRENT**. **ACTION_RECEIVE** is the configured default.
MSMQ Access Mode	Specifies whether Message Queuing opens the queue with peek, send, or receive access. ■ **RECEIVE_ACCESS**: Allows messages to be retrieved from a queue when they are read. This is used when the receiving application opens a queue to remove messages. ■ **SEND_ACCESS**: Allows messages to be sent to a queue. This is used when the sending application opens a queue to send messages. ■ **PEEK_ACCESS**: Allows messages to be read from a queue without removing them. This is used when the receiving application opens a queue to read message.	Select **RECEIVE_ACCESS**, **SEND_ACCESS**, or **PEEK_ACCESS**. You must set Access Mode to **SEND ACCESS** to use Message Priority.
Connection Mode	Specifies whether a physical connection is established when an external connection is instantiated. The options are: ■ **Automatic:** Establishes a physical connection when an external connection is instantiated. ■ **Manual:** Does not connect to the external system on startup, and instead expects the user to initiate the connection from the Collaboration (for example, by calling the `connect()` method).	Select **Automatic** or **Manual** (dynamic). The configured default is **Automatic**.

Identifying an MSMQ Queue

The MSMQ Adapter identifies an MSMQ Queue using the first available value of these three properties, in the following order:

1. MSMQ Queue Alias
2. MSMQ Format Name
3. MSMQ Queue Name

Where to Go Next

"Configuring TCP/IP HL7 V2 Adapter Inbound Connectivity Map Properties" on page 147.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Configuring TCP/IP HL7 V2 Adapter Inbound Connectivity Map Properties

The TCP/IP HL7 V2 Server Inbound adapter configuration properties, accessed from the Connectivity Map, are organized into the following sections:

- "Communication Control — TCP/IP HL7 V2 Inbound Adapter" on page 170.
- "HL7 Recourse Action — TCP/IP HL7 V2 Inbound Adapter" on page 172.

General Inbound Settings — TCP/IP HL7 V2 Inbound Adapter

The **General Inbound Settings** section of the TCP/IP HL7 V2 inbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 63 Connectivity Map - General Inbound Settings

Name	Description	Required Value
Max Data Size	Specifies the maximum amount of data that the programs can hold internally. The valid range is from **1** to **2GB** (which is the maximum value of a Java integer).	A number indicating the maximum amount of data. The valid range is from **1** to **2147483647** (bytes). The configured default is **2147483647**.
Scope Of State	Defines the scope of State object, which is an OTD node. The options for this parameter are: ■ **Resource Adapter Level**: The State has the same life cycle as the resource adapter. ■ **Connection Level**: The State has the same life cycle as the connection. ■ **OTD Level**: The State has the same life cycle as the OTD object. This scope represents the life cycle of the State.	Select one of the following: ■ **Resource Adapter Level** ■ **Connection Level** ■ **OTD Level** The configured default is **Resource Adapter Level**.
Dedicated Session Mode	Specifies whether the server Dedicated Session Mode is enabled or disabled. When the server Dedicated Session Mode is enabled, the current client's request exclusively holds the server port to which it connects. The next client's request to the same port is blocked or rejected until the previous request concludes and releases the connection.	Select **True** or **False**. **True** indicates that Dedicated Session Mode is enabled. The configured default is **False**.

Where to Go Next

"TCPIP Inbound Settings — TCP/IP HL7 V2 Inbound Adapter" on page 149

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10

- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

TCPIP Inbound Settings — TCP/IP HL7 V2 Inbound Adapter

The **TCPIP Inbound Settings** section presents the java Socket and ServerSocket options. This section of the TCP/IP HL7 V2 inbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 64 Connectivity Map - TCPIP Inbound Settings

Name	Description	Required Value
Connection Type	Specifies how the adapter establishes the TCP/IP connection: ■ **Client**: The adapter connects to an external server (host/port) to establish the connection. The adapter is in active mode. ■ **Server**: The adapter waits/listens on a certain port for an incoming connection request from an external client. Once the request is received, the adapter accepts the request and establishes the connection. The adapter is in passive mode.	Select **Client** or **Server**. Server is the default setting. Unless you specifically require Client mode, leave this value as the default: **Server**.
ServerSO Timeout	Sets or gets the value of the **SO_TIMEOUT** for **ServerSocket**, in milliseconds. Used for `ServerSocket.accept()`. When this option is set to a non-zero timeout, calling `accept()` for this ServerSocket will block for the configured length of time. If the timeout expires, a `java.net.SocketTimeoutException` (or `java.net.InterruptedIOException`) is thrown, but the ServerSocket remains valid. Enable this option prior to entering the blocking operation. This parameter is only used when the **Connection Type** is set as **Server**	The a number indicating the **Server SO Timeout** in milliseconds. The timeout must be greater than zero (**0**). A timeout of zero is interpreted as an infinite timeout. The configured default is **60000** (60 seconds).

TABLE 64 Connectivity Map - TCPIP Inbound Settings *(Continued)*

Name	Description	Required Value
Server Socket Factory Implementation Class Name	Specifies the name of the Java class that implements the server socket factory. This class is used to create the server socket. If you have provided your own server socket implementation, enter the name of the Java class that contains this implementation here. The factory implementation class must implement the following interface: `com.stc.connector.tcpip.model.factory.TCPIPSocketFactory`	A valid Java class name; the default is: `com.stc.connector.tcpip.model.factory.TCPIPSocketFactoryImpl`
Keep Alive	Specifies whether the client's SO_KEEPALIVE option is enabled or disabled. When the option is set for a TCP socket and no data has been exchanged across the socket in either direction for 2 hours, TCP automatically sends a KEEPALIVE probe to the peer (the actual value is implementation dependent). This probe is a TCP segment to which the peer must respond. One of three responses is expected: 1. The peer responds with the expected ACK. The application is not notified (since everything is OK). TCP will send another probe following another 2 hours of inactivity. 2. The peer responds with an RST, which tells the local TCP that the peer host has crashed and rebooted. The socket is closed. 3. There is no response from the peer. The socket is closed. The purpose of this option is to detect if the peer host has crashed. This is used for the accepted client Socket.	Select **True** or **False**. **True** indicates that server **SO_KEEPALIVE** option is enabled. **Note –** For some properties, the server socket itself does not have direct properties settings associated with it. Instead, the properties map to the accepted client socket.
Receive Buffer Size	Sets or gets the value of the **SO_RCVBUF** option for the current socket, that is the buffer size used by the operating system for input on this socket. It provides an estimate of the size of the underlying buffers used by the platform for incoming network I/O. When used in set, this is a suggestion for the kernel from the application regarding the size of buffers to use for the data to be received over the socket. When used in get, this must return the actual size of the buffer used by the platform when receiving data on this socket.	A number indicating the receive buffer size. The configured default is **8192**.

TABLE 64 Connectivity Map - TCPIP Inbound Settings *(Continued)*

Name	Description	Required Value
Send Buffer Size	Sets or gets the value of the **SO_SNDBUF** option for the current socket, that is the buffer size used by the operating system for output on this socket. It provides an estimate of the size of the underlying buffers used by the platform for outgoing network I/O. When used in set, this is a suggestion for the kernel from the application regarding the size of buffers to use for the data to be sent over the socket. When used in get, this must return the actual size of the buffer used by the platform when sending out data on this socket.	A number indicating the send buffer size. The configured default is **8192**.
SoLinger	Specifies whether the adapter performs a linger-on-close timeout. This option disables/enables immediate return from a `close()` of a TCP Socket. This parameter is used in conjunction with **SoLinger Timeout**. ■ **True with SoLinger Timeout set to a non-zero integer timeout**: This means that a `close()` will block, pending the transmission and acknowledgement of all data written to the peer, at which point the socket is closed gracefully. Upon reaching the linger timeout, the socket is closed forcefully with a TCP RST. ■ **True with SoLinger Timeout set to a timeout of zero**: Indicates that a forceful close is done immediately. See the **SoLinger Timeout** the property.	Select **True** or **False**. **True** enables the SO_Linger option.

TABLE 64 Connectivity Map - TCPIP Inbound Settings *(Continued)*

Name	Description	Required Value
SoLinger Timeout	Specifies the server's **SoLinger** time-out in seconds. **SoLinger Timeout** is used in conjunction with **SoLinger** (see the **SoLinger**property value to configure the "linger-on-close" timeout. When **SoLinger** is set to **true** (enabled), the **SoLinger Timeout** value indicates the following: ■ **A non-zero integer** means that calling `close()` will block, pending the transmission and acknowledgement of all data written to the peer, at which point the socket is closed gracefully. Upon reaching the linger timeout, the socket is closed forcefully with a TCP RST. If the specified timeout value exceeds 65,535 it will be reduced to 65,535. ■ **A zero integer** indicates that a forceful close is done immediately.	An integer between **-1** and **65535**. The default is -1 seconds, which indicates that the **SoLinger** option is disabled (set as false). Zero (**0**) indicates that SoLinger immediately performs a forceful close. An integer of **1** to **65535** indicates the number of seconds for the time-out.
SoTimeout	Sets or gets the value of the SoTimeout in milliseconds. Used for the accepted client socket. With this option set to a non-zero timeout, calling `read()` on the **InputStream** associated with this socket will block for only the configured length of time. If the timeout expires, a `java.io.InterruptedIOException` (or `java.net.SocketTimeoutException`) is thrown, but the Socket remains valid. Enable this option prior to entering the blocking operation.	The **SoTimeout** value in milliseconds. The configured default is **10000** (10 seconds). The timeout must be greater than **0** (zero). A timeout of zero is interpreted as an infinite timeout.
TcpNoDelay	Specifies whether the server's **TcpNoDelay** option (that is, Nagle's algorithm) is enabled or disabled. ■ **True**: Indicates that the server allows data packets that are less than the maximum transfer unit (MTU) size to be sent out immediately over the network. A setting of True may improve performance for higher-speed networks. ■ **False**: Indicates that the server does not allow data packets that are less than the MTU size be sent out immediately over the network. This is used for the accepted client socket.	Select **True** or **False**. The configured default is **False**.

Where to Go Next

"TCPIP Inbound Settings - Server Port Binding — TCP/IP HL7 V2 Inbound Adapter" on page 153.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

TCPIP Inbound Settings - Server Port Binding — TCP/IP HL7 V2 Inbound Adapter

The **TCPIP Inbound Settings - Server Port Binding** section defines the parameters used for controlling the server port binding. This section is only used when the Connection Type is set as Server.

This section of the TCP/IP HL7 V2 inbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

Note – This section is only used when the Connection Type is set as Server.

TABLE 65 Connectivity Map - TCPIP Inbound Settings - Server Port Binding

Name	Description	Required Value
Max Binding Retry	Specifies the maximum number of times the adapter will attempt to bind to the specified TCP/IP port on the localhost.	An integer indicating the number of bind attempts. The configured default is **3**.
Retry Binding Interval	Specifies the length of time (in milliseconds) the adapter waits between attempts to bind to the specified TCP/IP port on the localhost.	An integer indicating the length of time in milliseconds that the adapter waits between attempts. The configured default is **30000** (30 seconds).

Where to Go Next

"TCPIP Inbound Settings - Client Connection Establishment — TCP/IP HL7 V2 Inbound Adapter" on page 154

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

TCPIP Inbound Settings - Client Connection Establishment — TCP/IP HL7 V2 Inbound Adapter

The **TCPIP Inbound Settings - Client Connection Establishment** section defines some configuration parameters used for controlling the connection establishment. This section is only used when the Connection Type is set as Client.

This section of the TCP/IP HL7 V2 inbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

Note – This section is only used when the Connection Type is set as Client.

TABLE 66 Connectivity Map - TCPIP Inbound Settings - Client Connection Establishment

Name	Description	Required Value
Time to Wait Before Attempting Connection	Specifies the length of time (in milliseconds) that the adapter waits before attempting to connect to the external system.	A number indicating the amount of time (in milliseconds) to wait before attempting to connect to an external system. The configured default is **30000** (30 seconds).

Where to Go Next

"TCPIP Inbound Settings - Inbound Connection Management — TCP/IP HL7 V2 Inbound Adapter" on page 155.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

TCPIP Inbound Settings - Inbound Connection Management — TCP/IP HL7 V2 Inbound Adapter

The **TCPIP Inbound Settings - Inbound Connection Management** section defines the parameters used for inbound Server Connection Management. For example, the connection pool and the life cycle of the accepted connection.

This section of the TCP/IP HL7 V2 inbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 67 Connectivity Map - TCPIP Inbound Settings - Inbound Connection Management

Name	Description	Required Value
Max Connection Pool Size	Specifies the maximum number of concurrent connections allowed for the specific listener/monitor which is listening on, or monitoring a specified TCP/IP port. This represents the capability or availability of this server's services. Each connect-request from a client gains one concurrent connection. This parameter also represents the maximum number of clients who can concurrently connect to this server's services, and get served by the specific listener/monitor at the same time.	A number indicating the maximum number of concurrent connections available from a listener/monitor for a specific TCP/IP port. **0** indicates that there is no limit. The configured default is **50**.
Scope Of Connection	Specifies the scope of the accepted connection which is used by the adapter. The two options are: ■ **Resource Adapter Level**: The resource adapter will close the connection upon closure request (by way of ClosureCommandMessage), so the connection may "keep alive" during multiple executions of the Collaboration. ■ **Collaboration Level**: The connection is closed once the Collaboration has been executed, so the connection has the same life cycle as the Collaboration.	Select **Resource Adapter Level** or **Collaboration Level**. The configured default value is **Resource Adapter Level**.
Close Notification	Specifies the close notification value. When the server receives a notification with content that matches this parameter's value, the server safely closes the connection and cancels any corresponding schedules.	A String indicating the trigger value that notifies the server to close the connection. The configured default is **QUIT**.

TABLE 67 Connectivity Map - TCPIP Inbound Settings - Inbound Connection Management *(Continued)*

Name	Description	Required Value
Idle Timeout	Specifies the length of time (in milliseconds) for inactivity of the requestor (client). The adapter attempts to detect activity on client side (the other side of the connection). If no client activity (no i/o request comes over the connection from the client) for a specified time period, then the connection is closed from the server side to release the resource. The value is in milliseconds. If you want to disable this IdleTimeout checking, just specify 0 for this parameter.	An integer that indicates the length of time in milliseconds. A value of **0** disables IdleTimeout. The configured default is **60000**.

Where to Go Next

"TCPIP Inbound Schedules - Listener Schedule — TCP/IP HL7 V2 Inbound Adapter" on page 156.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

TCPIP Inbound Schedules - Listener Schedule — TCP/IP HL7 V2 Inbound Adapter

This section configures the scheduler used by the inbound TCP/IP Server. The server waits for a new client connection establishment request. These parameters are used to configure the listener/monitor that listens on the specified port.

Two J2EE schedulers are available (see the table below):

- Timer Service: available for J2EE. This scheduler is configured using the At Fixed Rate, Delay, and Period properties.
- Work Manager: available for **J2EE** (JCA 1.5 and above). This scheduler is configured using the Delay and Period properties.

Both schedulers provide the functionality required by the inbound TCP/IP Server.

This section of the TCP/IP HL7 V2 inbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 68 Connectivity Map - TCPIP Inbound Schedules - Listener Schedule

Name	Description	Required Value
Scheduler	Specifies the scheduler type for this inbound communication. There are two options: ■ **Timer Service**: The task is scheduled through the J2EE Timer Service. Timer Service is supported by **J2EE**. ■ **Work Manager**: The task is scheduled through the J2EE Work Manager. Work Manager is supported by **J2EE** (JCA 1.5 and above).	Select **Timer Service** or **Work Manager**. If your container doesn't support JCA Work Manager, select **Timer Service**.
Schedule Type	This property configuration, though visible from the Properties Editor, is disabled. The only available schedule type is Repeated, indicating that the task is scheduled for repeated execution at regular intervals defined by the **Period** property in this section (see the **Period** property).	This field is not enabled.
Delay	Applies to both the **Timer Service** or the **Work Manager**. Specifies, in milliseconds, the length of delay time before the task is executed.	An integer indicating the length of time before the task is executed, in milliseconds.
Period	Applies to both the **Timer Service** or the **Work Manager**. Specifies the regular interval, in milliseconds, between successive task executions.	An integer indicating the length of time between successive task executions, in milliseconds.

TABLE 68 Connectivity Map - TCPIP Inbound Schedules - Listener Schedule *(Continued)*

Name	Description	Required Value
At Fixed Rate	Specific to the **Timer Service** configuration only. Specifies whether a **Fixed-Rate** execution or Fixed-Delay execution is used. ■ **Fixed-Rate**: A fixed-rate execution means that each execution is scheduled relative to the scheduled time of the initial execution. If an execution is delayed for any reason (such as garbage collection or other background activity), two or more executions will occur in rapid succession to "catch up." In the long run, the frequency of execution will be exactly the reciprocal of the specified period (assuming the system clock underlying Object.wait(long) is accurate). ■ **Fixed-Delay**: A fixed-delay execution means that each execution is scheduled relative to the actual time of the previous execution. If an execution is delayed for any reason (such as garbage collection or other background activity), subsequent executions will be delayed as well. As a result, the frequency of execution will generally be slightly lower than the reciprocal of the specified period, assuming the system clock underlying Object.wait(long) is accurate.	Select **True** or **False**. **True** indicates that a fixed-rate execution is used. **False** indicates that a fixed-delay execution is used.

Where to Go Next

"TCPIP Inbound Schedules - Service Schedule TCP/IP HL7 V2 Inbound Adapter" on page 159.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

TCPIP Inbound Schedules - Service Schedule TCP/IP HL7 V2 Inbound Adapter

This section configures the scheduler used by the TCP/IP Server that executes the business tasks (Collaboration Rules) over the existing connection. This scheduler affects the actual Business Rules defined by the user.

Two J2EE schedulers are available (see the Table 68):

- **Timer Service:** available for **J2EE**. This scheduler is configured using the **At Fixed Rate**, **Delay**, **Period**, and **Schedule Type**, properties.
- **Work Manager:** available for **J2EE** (JCA 1.5 and above). This scheduler is configured using the **Delay**, **Period**, and **Schedule Type**, properties.

Both schedulers provide the functionality required by the inbound TCP/IP Server.

This section of the TCP/IP HL7 V2 inbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 69 Connectivity Map - TCPIP Inbound Schedules - Service Schedule

Name	Description	Required Value
Scheduler	Specifies the scheduler type for this inbound communication. There are two options: ■ **Timer Service**: The task is scheduled through the J2EE Timer Service. Timer Service is supported by J2EE. ■ **Work Manager**: The task is scheduled through the J2EE Work Manager. Work Manager is supported by **J2EE** (JCA 1.5 and above).	Select **Timer Service** or **Work Manager**. If your container doesn't support JCA Work Manager, select Timer Service.
Schedule Type	Applies to both the **Timer Service** or the **Work Manager**. Specifies whether the task is scheduled to occur once or be repeated. ■ **OneTime**: The task will be scheduled for one-time execution. ■ **Repeated**: The task will be scheduled for repeated execution at regular intervals defined by **Period** property (see the **Period** property in the Table 68).	Select **OneTime** or **Repeated**.
Delay	Applies to both the **Timer Service** or the **Work Manager**. Specifies, in milliseconds, the length of delay time before the task is executed.	An integer indicating the length of time, in milliseconds, before the task is executed.

TABLE 69 Connectivity Map - TCPIP Inbound Schedules - Service Schedule *(Continued)*

Name	Description	Required Value
Period	Applies to both the **Timer Service** or the **Work Manager**. Specifies the regular interval, in milliseconds, between successive task executions. This is used for the **Repeated** schedule type (see the **Schedule Type** property in the Table 68)	An integer indicating the length of time, in milliseconds, between successive task executions.
At Fixed Rate	Specific to the **Timer Service** configuration only. Specifies whether a **Fixed-Rate** execution or Fixed-Delay execution is used. This is used for the "Repeated" schedule type by the "Timer Service" scheduler. ■ **Fixed-Rate**: A fixed-rate execution means that each execution is scheduled relative to the scheduled time of the initial execution. If an execution is delayed for any reason (such as garbage collection or other background activity), two or more executions will occur in rapid succession to "catch up." In the long run, the frequency of execution will be exactly the reciprocal of the specified period (assuming the system clock underlying Object.wait(long) is accurate). ■ **Fixed-Delay**: A fixed-delay execution means that each execution is scheduled relative to the actual time of the previous execution. If an execution is delayed for any reason (such as garbage collection or other background activity), subsequent executions will be delayed as well. As a result, the frequency of execution will generally be slightly lower than the reciprocal of the specified period, assuming the system clock underlying Object.wait(long) is accurate.	Select **True** or **False**. **True** indicates that a fixed-rate execution is used. **False** indicates that a fixed-delay execution is used.

Where to Go Next

"HL7 Acknowledgment — TCP/IP HL7 V2 Inbound Adapter" on page 161.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

HL7 Acknowledgment — TCP/IP HL7 V2 Inbound Adapter

Specifies how the application acknowledgment Events are handled. This section of the TCP/IP HL7 V2 inbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 70 Connectivity Map - HL7 Acknowledgment

Name	Description	Required Value
Acknowledgment Level	Specifies whether the external application sends an HL7 application Acknowledgement after successfully receiving a message, or after the message has been successfully committed to the application database. The options are: ■ **A**: Application acknowledgment. The acknowledgement is sent after the message is successfully and functionally processed by one receiving system. ■ **C**: Commit (accept) acknowledgment. The acknowledgement is sent when the message is successfully received.	Select **A** or **C**. The configured default is **A**.
eGate Sends App Acks	Specifies whether the HL7 application acknowledgment sent to the external system is generated by the adapter or forwarded from the application server. ■ **True** indicates that the app server receives or creates the HL7 application acknowledgment and sends it to the adapter, which in turn forwards it to the external system. ■ **False** indicates that the adapter creates and sends the HL7 application acknowledgment directly to the external system. This parameter is used for inbound Collaboration code.	Select **True** or **False**. The configured default is **False**.

TABLE 70 Connectivity Map - HL7 Acknowledgment *(Continued)*

Name	Description	Required Value
Forward External Acks	Specifies whether the HL7 application acknowledgment is forwarded to the app server. When an HL7 application acknowledgment is received, it is sometimes necessary to forward the contents of the HL7 application acknowledgment to the app server (as data). ■ **True** indicates that adapter forwards HL7 application acknowledgments from the external system to the app server for processing. ■ **False** indicates that HL7 application acknowledgments from the external system are not forwarded to the app server by the adapter. This parameter is used for inbound Collaboration code.	Select **True** or **False**. The configured default is **False**.
Timeout For Delayed Ack	Specifies the timeout value for delayed ACK in milliseconds. This parameter is used for the inbound Collaboration code.	A number indicating the timeout in milliseconds. The configured default is **30000** (30 seconds).

Where to Go Next

"Lower Layer Protocol — TCP/IP HL7 V2 Inbound Adapter" on page 162.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Lower Layer Protocol — TCP/IP HL7 V2 Inbound Adapter

Provides Lower Layer Protocol (LLP) configuration settings.

This section of the TCP/IP HL7 V2 inbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 71 Connectivity Map - Lower Layer Protocol

Name	Description	Required Value
LLP Type	Specifies the LLP (Lower Layer Protocol) type. The valid types are: ■ **MLLP** (Minimal Lower Layer Protocol) ■ **HLLP** (Hybrid Lower Layer Protocol) For more information on the available envelope types see **Lower Layer Protocol in TCP/IP HL7 adapter Operation**. ■ **MLLP v2.0** (Minimal Lower Layer Protocol v2.0)	Select **MLLP** or **HLLP** or **MLLP v2.0**. **MLLP** is the configured default value.
Start Block Character	Specifies the **Start Block Character** (the first envelope marker character in the HL7 envelope) as a decimal ASCII number.	A decimal within the range of **1** to **127**. Unless there is a conflict, the value should be ASCII VT (decimal 11). The default value is **11**.
End Data Character	Specifies the **End Data Character** (The second to the last envelope marker character in the HL7 envelope) as a decimal ASCII number. The allowed range is 1 to 127.	A decimal within the range of **1** to **127**. Unless there is a conflict, the value should be ASCII FS (decimal 28). The default value is **28**.
End Block Character	Specifies the **End Block Character** (the last envelope marker character in the HL7 envelope) as a decimal ASCII number.	A decimal within the range of **1** to **127**. To be strictly compliant with the HL7 Standard, this parameter MUST be set to a Carriage Return (decimal 13). The default value is **13**.
HLLP Checksum Enabled	Specifies whether the **HLLP (Hybrid Lower Level Protocol) Checksum** is enabled or disabled.	Select **True** or **False**. **True** indicates that the HLLP Checksum is enabled.
Max Number of Retries	The maximum number of times the adapter will try sending the message upon receiving the MLLP v2.0 Negative Commit Acknowledgement from the peer before giving up. This parameter is used by HL7 adapter in outbound mode.	An integer indicating the number of times the adapter will try sending the message upon receiving the MLLP v2.0 Negative Commit Acknowledgement from the peer. The configured default value is **5**.

Where to Go Next

"Sequence Number Protocol — TCP/IP HL7 V2 Inbound Adapter" on page 164.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Sequence Number Protocol — TCP/IP HL7 V2 Inbound Adapter

Provides sequence number protocol configuration settings. HL7 sequence numbering is used to help prevent duplication of data.

This section of the TCP/IP HL7 V2 inbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 72 Connectivity Map - Sequence Number Protocol

Name	Description	Required Value
Sequence Number Enabled	Specifies whether Sequence Number Protocol is enabled or disabled. HL7 sequence numbering is used to help prevent duplication of data. **True** indicates that sequence numbering is enabled.	Select **True** or **False**. The configured default is **True**.

Where to Go Next

"HL7 MSH Segment — TCP/IP HL7 V2 Inbound Adapter" on page 164.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

HL7 MSH Segment — TCP/IP HL7 V2 Inbound Adapter

Provides HL7 MSH Header segment configuration settings.

This section of the TCP/IP HL7 V2 inbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 73 Connectivity Map - HL7 MSH Segment

Name	Description	Required Value
Field Separator	Specifies the separator between the segment ID and the first real field. This value defines the character that is used as a separator for the rest of the message. This is the first field in the HL7 MSH segment (MSH-01).	Field Separator character value as a decimal ASCII number. The allowed range is **1** to **127**. The default setting is **124** which is the character '|'.
Encoding Characters	Specifies four encoding characters in the following order: ■ Component separator ■ Repetition separator ■ Escape character ■ Subcomponent separator This is the second field in the HL7 MSH segment (MSH-02).	HL7 encoding characters in the respective order. The configured default is: **^~\& (ASCII 94, 126, 92, and 38) respectively**.
Sending Application	Specifies the sending application among other applications within the network enterprise. The network enterprise consists of the applications that participate in the exchange of HL7 messages within the enterprise. This is the third field in the HL7 MSH segment (MSH-03).	User defined value for the HL7 sending application. The Configured default is **Sun HL7 adapter**.
Sending Facility	Specifies (further identifies) the sending application among multiple identical instances of the application running on behalf of different organizations. This is the forth field in the HL7 MSH segment (MSH-04).	User defined value for the HL7 sending facility. The Configured default is **Sun HL7 adapter**.
Receiving Application	Specifies the receiving application among other applications within the network enterprise. The network enterprise consists of the applications that participate in the exchange of HL7 messages within the enterprise. This is the fifth field in the HL7 MSH segment (MSH-05).	User defined value for the HL7 receiving application. The Configured default is **Sun HL7 adapter**.

TABLE 73 Connectivity Map - HL7 MSH Segment *(Continued)*

Name	Description	Required Value
Receiving Facility	Specifies (further identifies) the receiving application among multiple identical instances of the application running on behalf of different organizations. This is the sixth field in the HL7 MSH segment (MSH-06).	User defined value for the HL7 receiving facility. The Configured default is **Sun HL7 adapter**.
Security	Specifies the implemented application level security features. This is the eighth field in the HL7 MSH segment (MSH-08).	Under development by HL7.
Processing ID	Specifies the sub-component Processing ID of MSH-11. MSH-11 is used to indicate whether a message is processed as defined in the HL7 Application (level 7) Processing rules.	Requires one of the following: ■ **D** - For Debugging ■ **P** - For Production ■ **T** - For Training In some cases there may be an additional sub-component "Processing Mode" following the initial value. The configured default is **P**.
Version ID	Specifies the particular HL7 version to be matched by the receiving system to its own version. This is the 12th field in the HL7 MSH segment (MSH-12).	The HL7 Standard version value as displayed in HL7 Table 0104 - Version ID. The configured default value is **2.5**.
Country Code	Specifies a code that indicates the country of origin for the message (see HL7 Table 0399). Used to specify default elements in a message, such as currency. This is the 17th field in the HL7 MSH segment (MSH-17).	The Country Code value uses the 3-character (alphabetic) form of ISO 3166. The default value is **USA**.
Character Set	Specifies the character set(s) in use by the messages (see HL7 Table 0211). If the field is left blank, the character set in use is understood to be the 7-bit ASCII set. This is the 18th field in the HL7 MSH segment (MSH-18).	The configured default is **8859/1** (printable 7-bit ASCII character set).

TABLE 73 Connectivity Map - HL7 MSH Segment *(Continued)*

Name	Description	Required Value
Principal Language of Message	Specifies the principal language of the message. Codes come from ISO 639. This is the 19th field in the HL7 MSH segment (MSH-19).	The 2-character ISO 639 alphabetic code.
Alternate Character Set Handling Scheme	Specifies the value for the alternate character set handling scheme to be used when any alternative character sets are used and a special handling scheme is necessary (see HL7 Table 0356). This is the 20th field in the HL7 MSH segment (MSH-20).	Available values include **ISO 2022-1994**, 2.3, or **<null>** (blank). Leaving the field blank indicates that no character set switching will occur.
Conformance Statement ID	The Conformance Statement ID (Message Profile Identifier in V2.5) is a unique identifier that applies to a query's Conformance Statement, or as a Message Profile Identifier, asserts constancy with a message profile (grammar, syntax, usage, and so forth). This is the 21st field in the HL7 MSH segment (MSH-21).	An HL7 Conformance Statement ID value or leave blank.
Validate MSH	Specifies whether to validate the MSH segment of the data message (for inbound) and the MSH segment of the ACK (for outbound). This parameter is used for inbound Collaboration code. **Note –** This property does not affect structural validation of the whole HL7 message itself. Structural validation is always performed.	Select **True** or **False**. **True** indicates that the Collaboration validates the MSH segment. The configured default is **True**.

Where to Go Next

"HL7 SFT Segment — TCP/IP HL7 V2 Inbound Adapter" on page 168.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

HL7 SFT Segment — TCP/IP HL7 V2 Inbound Adapter

Provides the HL7 SFT Segment configuration settings. The SFT segment is available starting with HL7 version 2.5. This segment provides additional information about one or more software products used as sending applications. The primary purpose of this segment is for diagnostic use. There may be additional uses per site-specific agreements.

This section of the TCP/IP HL7 V2 inbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 74 Connectivity Map - HL7 SFT Segment

Name	Description	Required Value
Enable	Specifies whether the SFT optional segment is enabled in the ACK. **Note –** If enable is set to true, and the HL7 version is not configured as 2.5, the adapter will error upon startup.	Select **True** or **False**. **True** indicates that the SFT segment is enabled in the ACK. **Note –** This property applies to HL7 version 2.5 or HL7 version 2.5.1.
Software Vendor Organization	Specifies HL7 segment SFT-01, the name of the company that publishes and/or distributes the sending software that created the transaction. The purpose of this field, along with the remaining fields in this segment, is to provide a more complete profile of the sending applications. The Software Vendor Organization field identifies the vendor who is responsible for maintaining the application.	The name of the sending software publisher or vendor. The configured default is **Sun Microsystems, Inc**. **Note –** This property applies to HL7 version 2.5 or HL7 version 2.5.1.
Software Certified Version or Release Number	Specifies HL7 segment SFT-02, the Software Certified Version or Release Number. The latest software version number or release number for the sending system, helps to provide a more complete profile of the application that is sending or receiving HL7 messages. Version numbers are important in identifying the specific release of an application. In some situations, the receiving application validates the software certified version or release number against a list of "certified" versions or releases of the particular software. This helps determine whether the sending application adheres to specific Business Rules required by the receiving application. Alternatively, the software may perform different processing, depending on the version of the sending software.	The software certified version or release number. The configured default is **6.0.0**. **Note –** This property applies to HL7 version 2.5 or HL7 version 2.5.1.

TABLE 74 Connectivity Map - HL7 SFT Segment *(Continued)*

Name	Description	Required Value
Software Product Name	Specifies HL7 segment SFT-03, the name of the software product that submitted the transaction. The software product name is a key component for identifying the sending application.	The sending software product name. The default value is **Sun TCP/IP HL7 adapter Intelligent Adapter**. **Note –** This property applies to HL7 version 2.5 or HL7 version 2.5.1.
Software Binary ID	Specifies HL7 segment **SFT-04**, the Software Binary ID. This property is available starting with HL7 version 2.5. Software Binary IDs are issued by a vendor for each unique software version instance. These IDs are used to differentiate between differing versions of the same software. Identical Primary IDs indicate that the software is identical at the binary level, but configuration settings may differ.	The unique Software Binary ID. The configured default is **6.0.0**. **Note –** This property applies to HL7 version 2.5 or HL7 version 2.5.1..
Software Product Information	Specifies HL7 segment **SFT-05**, software product identification information. This may include a description of the software application, configuration settings, modifications made to the software, and so forth. This field can contain any additional information about the sending application, with the transaction it has submitted. The information is used for diagnostic purposes and may provide greater flexibility for identifying the application software.	Information that may help to identify the specific sending software. This field should only be used when performing diagnostics. The default value is "I**t is a JCA adapter for HL7 over TCP/IP connection**." **Note –** This property applies to HL7 version 2.5 or HL7 version 2.5.1.
Software Install Date	Specifies HL7 segment **SFT-06**, the Software Install Date. This is the date on which the submitting software was installed at the sending site. the software install date on its own can often provide key information about the behavior of the application. This is necessary for providing a more complete profile of the sending application.	The date of installation for the sending application software. **Note –** This property applies to HL7 version 2.5 or HL7 version 2.5.1.

Where to Go Next

"Communication Control — TCP/IP HL7 V2 Inbound Adapter" on page 170.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters

- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Communication Control — TCP/IP HL7 V2 Inbound Adapter

The **Communication Control** section controls data transferring (sending/receiving) over the TCP/IP connection.

This section of the TCP/IP HL7 V2 inbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 75 Connectivity Map - Communication Control

Name	Description	Required Value
Time To Wait For A Response	Specifies the amount of time (in milliseconds) that the adapter waits for a response from the external system before taking recourse action (see **Action on No Response** in the Table 76). Any data from the external system is considered a response. This property corresponds to the initial read/receive operation timeout. Once a response is received, the following read/receive operation uses the **SoTimeout** specified timeout (see **So Timeout** in Table 64). Value **0** is interpreted as an infinite timeout.	An integer indicating the length of time in milliseconds that the adapter waits for a response to arrive from the external system. A value of **0** (zero) is interpreted as an infinite timeout. The configured default is **30000** (30 seconds).
Max Empty Read Retry	Specifies the maximum number of times the adapter attempts to read data from the external system after the read/receive operation returns nothing. This applies to the read or receive operation after a response starts to arrive. **Empty Read** means that a timeout occurs on the read/receive operation, which takes the **SoTimeout** parameter in the **TCPIP Server Base Settings** section as the applied timeout setting (see **So Timeout** in Table 64). The corresponding recourse action is specified by the **Action on Max Failed Read Retry** in the Table 76.	A number indicating the maximum number or retries. The configured default is **5**.

TABLE 75 Connectivity Map - Communication Control *(Continued)*

Name	Description	Required Value
Max No Response	Specifies the maximum number of response timeouts the adapter allows, while waiting for data from the external system, before taking recourse action (see **Action on Max No Response** in the Table 76). This parameter is used for the inbound Collaboration code. This parameter is only used by outbound adapters and works in conjunction with the **Resend** option of the **Recourse Action** parameter **Action on No Response** (see **Action on No Response** in the Table 76 table). It configures the adapter to resend the last message for the specified maximum number of times before the subsequent recourse action is taken.	An integer indicating the appropriate number of timeouts that may occur before taking recourse action. The configured default is **30**.
Max NAK Receive Retry	Specifies the maximum number of negative acknowledgments the adapter receives before taking recourse action (see **Action on Max Nak Received** in the Table 76). This parameter is used for the inbound Collaboration code.	A number indicating the appropriate maximum number of NAKs received before taking recourse action. The default value is **30**.
Max NAK Send Retry	Specifies the maximum number of negative acknowledgments the adapter sends before taking recourse action (see **Action on Max Nak Sent** in the Table 76). This parameter is used for the inbound Collaboration code.	An integer indicating the appropriate maximum number of NAKs sent by the adapter before recourse action is taken. The default value is **30**.
Max Canned NAK Send Retry	Specifies the maximum number of canned negative acknowledgments that the adapter sends before taking recourse action (see **Action on Max Nak Sent** in the Table 76).	The appropriate maximum number of canned NAK to send before taking recourse action. **0** indicates that the adapter will not attempt to create or send a canned NAK. The configured default is **3**.
Enable Journaling	Specifies whether message journaling is enabled. This parameter is used for inbound Collaboration code.	Select **True** or **False**. **True** indicates that journaling is enabled. The configured default is **True**.

Where to Go Next

"HL7 Recourse Action — TCP/IP HL7 V2 Inbound Adapter" on page 172.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

HL7 Recourse Action — TCP/IP HL7 V2 Inbound Adapter

The **HL7 Recourse Action** section determines the actions the adapter takes when operations occur outside the configured constraints.

This section of the TCP/IP HL7 V2 inbound adapter Connectivity Map properties contains the top-level parameters displayed in the table.

TABLE 76 Connectivity Map - HL7 Recourse Action

Name	Description	Required Value
Action on No Response	Specifies the action taken by the adapter when no ACK is received from the external system in the allotted time. The amount of time is determined by the **Time To Wait For A Response** parameter (see **Time To Wait For A Response** in the Table 75). The options are: ■ **Exit**: The adapter terminates its connection with the external system and shuts down. ■ **Resend**: The adapter attempts to resend the message to the external system. The Resend option is only allowed when sequence numbering is in effect. ■ **Reset**: The adapter closes its connection with the external system and goes through the connection scenario. This parameter is used for inbound Collaboration code.	Select **Exit**, **Resend**, or **Reset**. The configured default is **Reset**.

TABLE 76 Connectivity Map - HL7 Recourse Action *(Continued)*

Name	Description	Required Value
Action on Max No Response	Specifies the action the adapter takes when it attempts to send a message to the external system the maximum allowed number of times, and does not receive any response (HL7 Application Acknowledgement) from the external system. The maximum number times the adapter sends a message without receiving a response is determined by the **Max No Response** parameter (see **Max No Response** in the Table 75). The options are: ■ **Exit**: The adapter terminates its connection with the external system and shuts down. ■ **Reset**: The adapter closes its connection with the external system and goes through the connection scenario. This parameter is used for inbound Collaboration code.	Select **Exit** or **Reset**. The default value is **Reset**.
Action on Max Failed Read Retry	Specifies the action the adapter takes after it has reached the empty read limit set by the **Max Empty Read Retry** parameter. This parameter is used by inbound adapters only. The recourse options are: ■ **Exit**: The adapter terminates its connection with the external system and shuts down. ■ **Reset**: The adapter closes its connection with the external system and goes through the connection scenario. This parameter is used for inbound Collaboration code.	Select **Exit** or **Reset**. The configured default is **Reset**.

TABLE 76 Connectivity Map - HL7 Recourse Action *(Continued)*

Name	Description	Required Value
Action on Nak Received	Specifies the action taken by the adapter when it receives an HL7 Application NAK from the external system. The options are: ■ **Resend**: The adapter attempts to resend the message to the external system. ■ **Reset**: The adapter closes its connection with the external system and goes through the connection scenario. ■ **Skip Message**: The adapter remains connected, but writes the message to an error queue. **Note –** Do not set both the "Action On NAK Received" and "Action On Max NAK Received" parameters to "Skip Message." This parameter is used for inbound Collaboration code.	Select **Resend**, **Reset**, or **Skip Message**. The configured default is **Resend**.
Action on Max Nak Received	Specifies the action the adapter takes when the maximum number of HL7 Application NAKs have been received from the external system, as set by the **Max NAK Receive Retry** parameter (see **Max NAK Receive Retry** in the Table 75). The options are: ■ **Exit**: The adapter terminates its connection with the external system and shuts down. ■ **Reset**: The adapter closes its connection with the external system and goes through the connection scenario. ■ **Skip Message**: The adapter remains connected, but writes the message to an error queue. This parameter is used for inbound Collaboration code. **Note –** Do not set both "Action On NAK Received" and "Action On Max NAK Received" parameters to "Skip Message."	Select **Exit**, **Reset**, or Skip Message. The configured default is **Skip Message**.

TABLE 76 Connectivity Map - HL7 Recourse Action *(Continued)*

Name	Description	Required Value
Action on Max Nak Sent	Specifies the action taken by the adapter when it has sent the maximum allowed number of NAKs to the external system, as set by the **Max NAK Send Retry** parameter (see **Max NAK Send Retry** in the Table 75). The options are: ■ **Exit**: The adapter terminates its connection with the external system and shuts down. ■ **Reset**: The adapter closes its connection with the external system and goes through the connection scenario. This parameter is used for inbound Collaboration code.	Select **Exit** or **Reset**. The default value is **Exit**.

Configuring TCP/IP HL7 V2 Adapter Outbound Connectivity Map Properties

The TCP/IP HL7 V2 Server Outbound adapter configuration properties, accessed from the Connectivity Map, are organized into the following sections:

General Outbound Settings — TCP/IP HL7 V2 Outbound Adapter

Provides the general HL7 outbound configuration settings. This section of the TCP/IP HL7 V2 outbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 77 Connectivity Map - General Outbound Settings

Name	Description	Required Value
Max Data Size	Specifies the maximum size of data that the programs can hold internally. The valid range is from 1 to 2GB (which is the max value of java integer).	An integer indication the maximum data size in bytes, ranging from **1** to **2147483647** (2GB). The configured default is **2147483647**.
Scope Of State	It is used to define the scope of State object, which is an OTD node. The valid options for this parameter are: ■ **Resource Adapter Level**: The State has the same life cycle as the resource adapter. ■ **Connection Level**: The State has the same life cycle as the connection. ■ **OTD Level**: The State has the same life cycle as the OTD object. This scope represents the life cycle of the State.	Select **Resource Adapter Level**, **Connection Level**, or **OTD Level**. The configured default is **Resource Adapter Level**.

Where to Go Next

"TCPIP Outbound Settings — TCP/IP HL7 V2 Outbound Adapter" on page 176.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

TCPIP Outbound Settings — TCP/IP HL7 V2 Outbound Adapter

Presents the java Socket options. For more information see the JDK Javadoc. This section of the TCP/IP HL7 V2 outbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 78 Connectivity Map - TCPIP Outbound Settings

Name	Description	Required Value
Connection Type	Specifies how the adapter establishes the TCP/IP connection: ■ **Client**: The adapter connects to an external server (host/port) to establish the connection. The adapter is in active mode. ■ **Server**: The adapter waits/listens on a particular port for an incoming connection request from an external client. Once the request is received, the adapter accepts the request and establishes the connection. The adapter is in passive mode.	Select **Client** or **Server**. Unless you specifically require Server mode, leave this value as the default, **Client**.
ServerSo Timeout	Sets or gets the value of the SoTimeout for the ServerSocket, in milliseconds. Used for `ServerSocket.accept()`. When this option is set to a non-zero timeout, calling `accept()` for ServerSocket will block for only this period of time. If the timeout expires, a `java.net.SocketTimeoutException` (or `java.net.InterruptedIOException`) is thrown, though the ServerSocket remains valid. Enable this option prior to entering the blocking operation. This parameter is only used when the **Connection Type** is set as **Server**.	The SoTimeout value in milliseconds. The timeout must be greater than **0** (zero). A timeout of zero is interpreted as an infinite timeout. The configured default is **60000** (60 seconds).

TABLE 78 Connectivity Map - TCPIP Outbound Settings *(Continued)*

Name	Description	Required Value
Keep Alive	Specifies whether the client's **SO_KEEPALIVE** option is enabled or disabled. When the option is set for a TCP socket and no data has been exchanged across the socket in either direction for 2 hours, TCP automatically sends a KEEPALIVE probe to the peer (the actual value is implementation dependent). This probe is a TCP segment to which the peer must respond. One of three responses is expected: 1. The peer responds with the expected ACK. The application is not notified (since everything is OK). TCP will send another probe following another 2 hours of inactivity. 2. The peer responds with an RST, which tells the local TCP that the peer host has crashed and rebooted. The socket is closed. 3. There is no response from the peer. The socket is closed. The purpose of this option is to detect if the peer host has crashed. This is used for the accepted client Socket.	Select **True** or **False**. **True** indicates that the SO_KEEPALIVE option is enabled.
Receive Buffer Size	Sets or gets the value of the **SO_RCVBUF** option for the current socket, that is the buffer size used by the operating system for input on this socket. It provides an estimate of the size of the underlying buffers used by the platform for incoming network I/O. When used in **set**, this is a suggestion for the kernel from the application regarding the size of buffers to use for the data to be received over the socket. When used in **get**, this must return the actual size of the buffer used by the platform when receiving data on this socket.	A number indicating the receive buffer size. The configured default is **8192**.
Send Buffer Size	Sets or gets the value of the **SO_SNDBUF** option for the current socket, that is the buffer size used by the operating system for output on this socket. It provides an estimate of the size of the underlying buffers used by the platform for outgoing network I/O. When used in **set**, this is a suggestion for the kernel from the application regarding the size of buffers to use for the data to be sent over the socket. When used in **get**, this must return the actual size of the buffer used by the platform when sending out data on this socket.	A number indicating the send buffer size. The configured default is **8192**.

TABLE 78 Connectivity Map - TCPIP Outbound Settings *(Continued)*

Name	Description	Required Value
SoLinger	Specifies whether the adapter performs a linger-on-close timeout. This option disables/enables immediate return from a `close()` of a TCP Socket. This parameter is used in conjunction with **SoLinger Timeout**. ■ **True with SoLinger Timeout set to a non-zero integer timeout:** This means that a `close()` will block, pending the transmission and acknowledgement of all data written to the peer, at which point the socket is closed gracefully. Upon reaching the linger timeout, the socket is closed forcefully with a TCP RST. ■ **True with SoLinger Timeout set to a timeout of zero:** Indicates that a forceful close is done immediately. See the **SoLinger Timeout** propertry.	Select **True** or **False**. **True** enables the SO_Linger option.
SoLinger Timeout	Specifies the server's **SoLinger** time-out in seconds. **SoLinger Timeout** is used in conjunction with **SoLinger** (see the **SoLinger** property) to configure the "linger-on-close" timeout. When **SoLinger** is set to **true** (enabled), the **SoLinger Timeout** value indicates the following: ■ **A non-zero integer** means that calling `close()` will block, pending the transmission and acknowledgement of all data written to the peer, at which point the socket is closed gracefully. Upon reaching the linger timeout, the socket is closed forcefully with a TCP RST. If the specified timeout value exceeds 65,535 it will be reduced to 65,535. ■ **A zero integer** indicates that a forceful close is done immediately.	An integer between **-1** and **65535**. A value of **-1** seconds indicates that the **SoLinger** option is disabled (set as false). A value of **0** (zero) indicates that SoLinger immediately performs a forceful close. An value of **1** to **65535** indicates the number of seconds for the time-out. The configured default is `-1` seconds.
SoTimeout	Sets or gets the value of the **SoTimeout** in milliseconds. When this option is set to a non-zero timeout, calling `read()` on the **InputStream** associated with this socket will block for only this configured length of time. If the timeout expires, a `java.io.InterruptedIOException` (or `java.net.SocketTimeoutException`) is thrown, but the Socket remains valid. Enable this option prior to entering the blocking operation.	The SoTimeout value in milliseconds. The timeout must be greater than zero (0). A timeout of zero is interpreted as an infinite timeout. The configured default is **10000** (10 seconds).

TABLE 78 Connectivity Map - TCPIP Outbound Settings *(Continued)*

Name	Description	Required Value
TcpNoDelay	Specifies whether the server's **TcpNoDelay** option (that is, Nagle's algorithm) is enabled or disabled. ■ **True**: Indicates that the server allows data packets that are less than the maximum transfer unit (MTU) size to be sent out immediately over the network. A setting of True may improve performance for higher-speed networks. ■ **False**: Indicates that the server does not allow data packets that are less than the MTU size be sent out immediately over the network. This is used for the accepted client socket.	Select **True** or **False**. The configured default is **False**.
Socket Factory Implementation Class Name	Specifies the name of the Java class that implements the socket factory. This class is used to create the socket. If you have provided your own socket implementation, enter the name of the Java class that contains this implementation here. The factory implementation class must implement the following interface: com.stc.connector.tcpip.model.factory.TCPIPSocketFactory	A Java class name. The default value is `com.stc.connector.tcpip.model.factory.TCPIPSocketFactoryImpl`

Where to Go Next

"TCPIP Outbound Settings - Client Connection Establishment — TCP/IP HL7 V2 Outbound Adapter" on page 180.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

TCPIP Outbound Settings - Client Connection Establishment — TCP/IP HL7 V2 Outbound Adapter

The **TCPIP OUTbound Settings - Client Connection Establishment** section defines configuration parameters used for controlling the connection establishment. These properties are only used when the **Connection Type** is set to Client.

This section of the TCP/IP HL7 V2 outbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 79 Connectivity Map - TCPIP Outbound Settings - Client Connection Establishment

Name	Description	Required Value
Time To Wait Before Attempting Connection	Specifies the length of time (in milliseconds) the adapter waits before attempting to connect to the external system.	An integer indicating the length of time (in milliseconds) that the adapter waits before attempts to connect. The configured default is **0**.
Always Create New Connection	Specifies whether the adapter always attempts to create a new connection when a connection establishment request is received. ■ **True** indicates that the adapter always attempts to create a new connection without attempting to match an existing connection. ■ **False** indicates that the adapter attempts to match an existing connection (managed by the container).	Select **True** or **False**. The configured default is **False**.
Auto Reconnect Upon Matching Failure	Specifies whether to attempt to re-connect automatically when the adapter gets a matching connection from a container, even though this connection is not valid due to various reasons: for example, the external side of the connection is closed/reset due to the external application's logic. ■ **True** indicates that the adapter discards the invalid matching connection and automatically attempts to reconnect using a new connection. ■ **False** indicates that the adapter does not automatically attempt to reconnect using a new connection: instead, the adapter defers the reconnect control to the user Business Rules. The user must detect this type of failure and act appropriately.	Select **True** or **False**. The configured default is **True**.
Max Connection Retry	Specifies the maximum number of times the adapter attempts to connect to a specific external TCP/IP destination (host/port) before giving up.	An integer indicating the number of times the adapter will attempt to connect. The configured default is **3**.

TABLE 79 Connectivity Map - TCPIP Outbound Settings - Client Connection Establishment *(Continued)*

Name	Description	Required Value
Retry Connection Interval	Specifies the length of time (in milliseconds) the adapter waits between attempts to connect to a specific external TCP/IP destination (host/port).	An integer indicating the length of time (in milliseconds) that the adapter waits between attempts to connect. The configured default is **30000** (or 30 seconds).

Where to Go Next

"TCPIP Outbound Settings - Server Port Binding — TCP/IP HL7 V2 Outbound Adapter" on page 182.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

TCPIP Outbound Settings - Server Port Binding — TCP/IP HL7 V2 Outbound Adapter

Specifies configuration parameters used for controlling server port binding. These properties are only used when the Connection Type is set to Server.

This section of the TCP/IP HL7 V2 outbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 80 Connectivity Map - TCPIP Outbound Settings - Server Port Binding

Name	Description	Required Value
Max Binding Retry	Specifies the maximum number of times the adapter will attempt to bind to the specified TCP/IP port on the localhost before giving up.	An integer indicating the number of times the adapter will attempt to bind to the specified TCP/IP port on the localhost. The configured default is **3**.

TABLE 80 Connectivity Map - TCPIP Outbound Settings - Server Port Binding *(Continued)*

Name	Description	Required Value
Retry Binding Interval	Specifies the amount of time (in milliseconds) that the adapter waits between attempts to bind to the specified TCP/IP port on the localhost.	An integer indicating the length of times, in milliseconds, between attempts to bind to the specified TCP/IP port. The configured default is **30000** (30 seconds).

Where to Go Next

"HL7 Acknowledgment — TCP/IP HL7 V2 Outbound Adapter" on page 183.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

HL7 Acknowledgment — TCP/IP HL7 V2 Outbound Adapter

Provides HL7 acknowledgment configuration settings that control how the application acknowledgment Events are handled.

This section of the TCP/IP HL7 V2 outbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 81 Connectivity Map - HL7 Acknowledgement

Name	Description	Required Value
Acknowledgment Level	Specifies whether the external application is configured to send an HL7 application acknowledgement after successfully receiving the message or after the message has been successfully committed to the application database. The valid levels are: ■ **A**: Application acknowledgment. The acknowledgement is sent after the message is successfully and functionally processed by one receiving system. ■ **C**: Commit (accept) acknowledgment. The acknowledgement is sent when the message is successfully received.	Select **A** or **C**. The configured default is **A**.
eGate Sends App Acks	Used by both the inbound and outbound Collaboration. ■ **Inbound**: Specifies whether the HL7 application acknowledgment sent to the external system is generated by the adapter or forwarded from the app server. ■ **True** indicates that the adapter receives the external receiving HL7 application acknowledgment from the app server and sends it to the external system. ■ **False** indicates that the adapter creates and sends the HL7 application acknowledgment directly to the external system. ■ **Outbound:** Specifies whether the outbound Collaboration is in outbound Delayed ACK role; that is, the outbound adapter is connecting to an external system that communicates as a Delayed ACK receiver and is sending two ACKs to the adapter. ■ **True** indicates that the adapter is expecting a Delayed ACK (2 ACKS). ■ **False** indicates that the adapter does not expect a Delayed ACK.	Select **True** or **False**. The configured default is **False**.

TABLE 81 Connectivity Map - HL7 Acknowledgement *(Continued)*

Name	Description	Required Value
Forward External Acks	Specifies whether the HL7 application acknowledgment is forwarded to the app server. When an HL7 application acknowledgment is received, it is sometimes necessary to forward the contents of the HL7 application acknowledgment to the app server (as data). ■ **True** indicates that adapter forwards HL7 application acknowledgments from the external system to the app server for processing. ■ **False** indicates that HL7 application acknowledgments from the external system are not forwarded to by the adapter. This parameter is used for the outbound Collaboration code.	Select **True** or **False**. The configured default is **False**.
Timeout For Delayed Ack	Specifies the timeout value for delayed ACK in milliseconds. This parameter is used for outbound Collaboration code.	An integer indicating the timeout in milliseconds. The configured default is **30000**

Where to Go Next

"Lower Layer Protocol — TCP/IP HL7 V2 Outbound Adapter" on page 185.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Lower Layer Protocol — TCP/IP HL7 V2 Outbound Adapter

Provides Lower Layer Protocol (LLP) configuration settings.

This section of the TCP/IP HL7 V2 outbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 82 Connectivity Map - Lower Layer Protocol

Name	Description	Required Value
LLP Type	Specifies the **LLP** (Lower Layer Protocol) type. The valid types are: ■ **MLLP** (Minimal Lower Layer Protocol) ■ **HLLP** (Hybrid Lower Layer Protocol) For more information on the available envelope types, see **Lower Layer Protocol in TCP/IP HL7 adapter Operation**. ■ **MLLP v2.0** (Minimal Lower Layer Protocol v2.0)	Select **MLLP** or **HLLP** or **MLLP v2.0**. **MLLP** is the configured default value.
Start Block Character	Specifies the **Start Block Character** (the first envelope marker character in the HL7 envelope) as a decimal ASCII number.	A decimal within the range of **1** to **127**. Unless there is a conflict, the value should be ASCII VT (decimal **11**). The default value is **11**.
End Data Character	Specifies the **End Data Character** (the second to the last envelope marker character in the HL7 envelope) as a decimal ASCII number. The allowed range is **1** to **127**.	A decimal within the range of **1** to **127**. Unless there is a conflict, the value should be ASCII FS (decimal **28**). The default value is **28**.
End Block Character	Specifies the **End Block Character** (the last envelope marker character in the HL7 envelope) as a decimal ASCII number.	A decimal within the range of **1** to **127**. To be strictly compliant with the HL7 Standard, this parameter MUST be set to a Carriage Return (decimal **13**). The default value is **13**.
HLLP Checksum Enabled	Specifies whether the **HLLP** (**Hybrid Lower Level Protocol)** checksum is enabled or disabled.	Select **True** or **False**. **True** indicates that the HLLP Checksum is enabled. The configured default is **True**.
Max Number of Retries	The maximum number of times the adapter will try sending the message upon receiving the MLLP v2.0 Negative Commit Acknowledgement from the peer before giving up. This parameter is used by HL7 adapter in outbound mode.	An integer indicating the number of times the adapter will try sending the message upon receiving the MLLP v2.0 Negative Commit Acknowledgement from the peer. The configured default value is **5**.

Where to Go Next

"Sequence Number Protocol — TCP/IP HL7 V2 Outbound Adapter" on page 187.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Sequence Number Protocol — TCP/IP HL7 V2 Outbound Adapter

Provides sequence number protocol configuration settings.

Note – Many of the parameters for the adapter are specific to the direction the data is travelling, that is whether the adapter is Inbound or Outbound to the application server.

This section of the TCP/IP HL7 V2 outbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 83 Connectivity Map - Sequence Number Protocol

Name	Description	Required Value
Sequence Number Enabled	Specifies whether **Sequence Number Protocol** is enabled or disabled. HL7 sequence numbering is used to help prevent duplication of data. **True indicates that sequence numbering is enabled.**	Select **True** or **False**. The configured default is **True**.

Where to Go Next

"HL7 MSH Segment — TCP/IP HL7 V2 Outbound Adapter" on page 188.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters

- Configuring Java CAPS Environment Components for Communications Adapters

HL7 MSH Segment — TCP/IP HL7 V2 Outbound Adapter

Provides HL7 MSH Header segment configuration settings.

This section of the TCP/IP HL7 V2 outbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 84 Connectivity Map - HL7 Acknowledgement

Name	Description	Required Value
Field Separator	Specifies the separator between the segment ID and the first real field. This value defines the character that is used as a aspirator for the rest of the message. This is the first field in the HL7 MSH segment (MSH-01).	Field Separator character value as a decimal ASCII number. The allowed range is **1** to **127**. The default setting is **124** which is character '|'.
Encoding Characters	Specifies four encoding characters in the following order: ■ Component separator ■ Repetition separator ■ Escape character ■ Subcomponent separator This is the second field in the HL7 MSH segment (MSH-02).	HL7 encoding characters in the respective order. The configured default is: **^~\& (ASCII 94, 126, 92, and 38, respectively).**
Sending Application	Specifies the sending application among other applications within the network enterprise. The network enterprise consists of the applications that participate in the exchange of HL7 messages within the enterprise. This is the third field in the HL7 MSH segment (MSH-03).	User defined value for the HL7 sending application. The configured default is **Sun HL7 adapter**.
Sending Facility	Specifies (further identifies) the sending application among multiple identical instances of the application running on behalf of different organizations. This is the forth field in the HL7 MSH segment (MSH-04).	User defined value for the HL7 sending facility. The configured default is **Sun HL7 adapter**.

TABLE 84 Connectivity Map - HL7 Acknowledgement *(Continued)*

Name	Description	Required Value
Receiving Application	Specifies the receiving application among other applications within the network enterprise. The network enterprise consists of the applications that participate in the exchange of HL7 messages within the enterprise. This is the fifth field in the HL7 MSH segment (MSH-05).	User defined value for the HL7 receiving application. The configured default is **Sun HL7 adapter**.
Receiving Facility	Specifies (further identifies) the receiving application among multiple identical instances of the application running on behalf of different organizations. This is the sixth field in the HL7 MSH segment (MSH-06).	User defined value for the HL7 receiving facility. The configured default is **Sun HL7 adapter**.
Security	Specifies the implemented application level security features. This is the eighth field in the HL7 MSH segment (MSH-08).	Under development by HL7.
Processing ID	Specifies the sub-component Processing ID of MSH-11. MSH-11 is used to indicate whether a message is processed as defined in the HL7 Application (level 7) Processing rules.	Enter one of the following: ■ **D** (for Debugging) ■ **P** (for Production) ■ **T** (for Training) In some cases there may be an additional sub-component "Processing Mode" following the initial value. **P** is the configured default.
Version ID	Specifies the particular HL7 version to be matched by the receiving system to its own version. This is the 12th field in the HL7 MSH segment (MSH-12).	The HL7 Standard version value as displayed in HL7 Table 0104 - Version ID. The default value is **2.5**.
Country Code	Specifies a code that indicates the country of origin for the message (see HL7 Table 0399). Used to specify default elements in a message, such as currency. This is the 17th field in the HL7 MSH segment (MSH-17).	The Country Code value uses the 3-character (alphabetic) form of ISO 3166. The default value is **USA**.

TABLE 84 Connectivity Map - HL7 Acknowledgement *(Continued)*

Name	Description	Required Value
Character Set	Specifies the character set(s) in use by the messages (see HL7 Table 0211). If the field is left blank, the character set in use is understood to be the 7-bit ASCII set. This is the 18th field in the HL7 MSH segment (MSH-18).	The configured default is **8859/1** (printable 7-bit ASCII character set). See HL7 Table 0211 for available values and descriptions.
Principal Language of Message	Specifies the principal language of the message. Codes come from ISO 639. This is the 19th field in the HL7 MSH segment (MSH-19).	The 2-character ISO 639 alphabetic code.
Alternate Character Set Handling Scheme	Specifies the value for the Alternate character set handling scheme to be used when any alternative character sets are used and a special handling scheme is necessary (see HL7 Table 0356). This is the 20th field in the HL7 MSH segment (MSH-20).	Available values include **ISO 2022-1994**, **2.3**, or <null> (blank). Leaving the field blank indicates that no character set switching will occur.
Conformance Statement ID	The Conformance Statement ID (Message Profile Identifier in V2.5) is a unique identifier that applies to a query's Conformance Statement, or as a Message Profile Identifier, asserts constancy with a message profile (grammar, syntax, usage, and so forth). This is the 21st field in the HL7 MSH segment (MSH-21).	An HL7 Conformance Statement ID value or leave blank.
Validate MSH	Specifies whether to validate the MSH segment of the data message (for inbound) and the MSH segment of the ACK (for outbound). This parameter is used for outbound Collaboration code. **Note –** This property does not affect structural validation of the whole HL7 message itself. Structural validation is always performed.	Select **True** or **False**. **True** indicates that the Collaboration validates the MSH segment. The configured default is **True**.

Where to Go Next

"HL7 SFT Segment — TCP/IP HL7 V2 Outbound Adapter" on page 191.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters

- Configuring Java CAPS Environment Components for Communications Adapters

HL7 SFT Segment — TCP/IP HL7 V2 Outbound Adapter

Provides HL7 SFT Segment configuration settings. The SFT segment is available starting with HL7 version 2.5. This segment provides additional information about one or more software product used as sending applications. The primary purpose of this segment is for diagnostic use. There may be additional uses per site-specific agreements.

This section of the TCP/IP HL7 V2 outbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 85 Connectivity Map - HL7 SFT Segment

Name	Description	Required Value
Enable	Specifies whether the optional SFT segment is enabled in the ACK message. **Note –** If enable is set to true, and the HL7 version is not configured as 2.5, the adapter will error upon startup.	Select **True** or **False**. **True** indicates that the SFT segment is enabled. The configured default is **True**.
Software Vendor Organization	Specifies HL7 segment **SFT-01**, the name of the company that publishes and/or distributes the sending software that created the transaction. The purpose of this field, along with the remaining fields in this segment, is to provide a more complete profile of the sending applications. The Software Vendor Organization field identifies the vendor who is responsible for maintaining the application.	The name of the sending software publisher or vendor. The configured default is **Sun Microsystems, Inc**. **Note –** This property applies to HL7 version 2.5 or HL7 version 2.5.1.

TABLE 85 Connectivity Map - HL7 SFT Segment *(Continued)*

Name	Description	Required Value
Software Certified Version or Release Number	Specifies HL7 segment **SFT-02**, the **Software Certified Version or Release Number**: the latest software version number or release number for the sending system. This helps to provide a more complete profile of the application that is sending or receiving HL7 messages. Version numbers are important in identifying the specific _release_ of an application. In some situations, the receiving application validates the software certified version or release number against a list of "certified" versions or releases of the particular software. This helps determine whether the sending application adheres to specific Business Rules required by the receiving application. Alternatively, the software may perform different processing, depending on the version of the sending software.	The software certified version or release number. The configured default is **6.0.0**. **Note –** This property applies to HL7 version 2.5 or HL7 version 2.5.1.
Software Product Name	Specifies HL7 segment **SFT-03**, the name of the software product that submitted the transaction. The software product name is a key component for identifying the sending application.	The sending software product name. The default value is HL7 adapter. The configured default is **Sun TCP/IP HL7 adapter Intelligent Adapter**. **Note –** This property applies to HL7 version 2.5 or HL7 version 2.5.1.
Software Binary ID	Specifies HL7 segment **SFT-04**, the Software Binary ID. This property is available starting with HL7 version 2.5. Software Binary IDs are issued by a vendor for each unique software version instance. These IDs are used to differentiate between differing versions of the same software. Software IDs are issued for each unique software version instance. Identical Primary IDs indicate that the software is identical at the binary level, but configuration settings may differ.	The unique Software Binary ID. The configured default is **6.0.0**. **Note –** This property applies to HL7 version 2.5 or HL7 version 2.5.1.

TABLE 85 Connectivity Map - HL7 SFT Segment *(Continued)*

Name	Description	Required Value
Software Product Information	Specifies HL7 segment **SFT-05**, software product identification information. This may include a description of the software application, configuration settings, modifications made to the software, and so forth. This field can contain any additional information about the sending application, with the transaction it has submitted. This information is used for diagnostic purposes and may provide greater flexibility for identifying the application software.	Information that may help to identify the specific sending software. This field should only be used when performing diagnostics. The default value is **It is a JCA adapter for HL7 over TCP/IP connection**. **Note –** This property applies to HL7 version 2.5 or HL7 version 2.5.1.
S*oftware Install Date*	Specifies HL7 segment **SFT-06**, the Software Install Date. This is the date on which the submitting software was installed at the sending site. the software install date on its own can often provide key information about the behavior of the application. This is necessary for providing a more complete profile of the sending application.	The date of installation for the sending application software. **Note –** This property applies to HL7 version 2.5 or HL7 version 2.5.1.

Where to Go Next

"Communication Control — TCP/IP HL7 V2 Outbound Adapter" on page 193.

Related Topics

Communication Control — TCP/IP HL7 V2 Outbound Adapter

Controls data transferring (sending/receiving) over TCP/IP connection.

This section of the TCP/IP HL7 V2 outbound adapter Connectivity Map properties contains the top-level parameters displayed in following table.

TABLE 86 Connectivity Map - Communication Control

Name	Description	Required Value
Time To Wait For A Response	Specifies the amount of time (in milliseconds) that the adapter waits for a response from the external system before taking recourse action (see **Action on No Response** in the Table 87). Any data from the external system is considered a response. This property corresponds to the initial read/receive operation timeout. Once a response is received, the subsequent read/receive operation uses the **SoTimeout** specified timeout (see **So Timeout** in the Table 78).	An integer indicating the length of time in milliseconds that the adapter waits for a response from the external system. A value of **0** (zero) is interpreted as an infinite timeout. The configured default is **30000** (30 seconds).
Max Empty Read Retry	Specifies the maximum number of times the adapter attempts to read data from the external system after the read/receive operation returns nothing. This applies to the read or receive operation after a response starts to arrive. **Empty Read** means that a timeout occurs on the read/receive operation, which takes the **SoTimeout** parameter in the **TCPIP Server Base Settings** section as the applied timeout setting (see **So Timeout** in the Table 78). The corresponding recourse action is specified by the **Action on Max Failed Read Retry** in the Table 87 .	An integer indicating the maximum number or retries. The configured default is **5**.
Max No Response	Specifies the maximum number of response timeouts the adapter allows, while waiting for data from the external system, before taking recourse action. This parameter is only used by outbound adapters (outbound Collaboration code) and works in conjunction with the **Resend** option of the Recourse Action parameter **Action on Max No Response** in the Table 87. It configures the adapter to resend the last message for the specified maximum number of times before the subsequent recourse action is taken.	An integer indicating the appropriate number of timeouts that may occur before taking recourse action. The default value is **5**.
Max NAK Receive Retry	Specifies the maximum number of negative acknowledgments the adapter receives before taking recourse action (see **Action on Max Nak Received** in the Table 87). This parameter is used for outbound Collaboration code.	An integer indicating the appropriate maximum number of NAKs received before taking recourse action. The default value is **5**.

TABLE 86 Connectivity Map - Communication Control *(Continued)*

Name	Description	Required Value
Max NAK Send Retry	Specifies the maximum number of negative acknowledgments the adapter sends before taking recourse action (see **Action on Max Nak Sent** in the Table 87).	An integer that indicates the appropriate maximum number of NAKs sent by the adapter before recourse action is taken. The default value is **5**.
Max Canned NAK Send Retry	Specifies the maximum number of canned negative acknowledgments that the adapter sends before taking recourse action (see **Action on Max Nak Sent** in the Table 87).	The appropriate maximum number of canned NAK to send before taking recourse action. **0** indicates that the adapter will not attempt to create or send a canned NAK. The default value is **3**.
Enable Journaling	Specifies whether message journaling is enabled. This parameter is used for outbound Collaboration code.	Select **True** or **False**. **True** indicates that journaling is enabled. The default value is **False**.

Where to Go Next

"HL7 Recourse Action — TCP/IP HL7 V2 Outbound Adapter" on page 195.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

HL7 Recourse Action — TCP/IP HL7 V2 Outbound Adapter

Determines the actions the adapter takes when operations occur outside the configured constraints.

This section of the TCP/IP HL7 V2 outbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 87 Connectivity Map - HL7 Recourse Action

Name	Description	Required Value
Action on No Response	Specifies the action taken by the adapter when no ACK is received from the external system in the allotted time. The amount of time is determined by the **Time To Wait For A Response** parameter (see **Time To Wait For A Response** in the Table 86). The options are: ■ **Exit**: The adapter terminates its connection with the external system and shuts down. ■ **Resend**: The adapter attempts to resend the message to the external system. The Resend option is only allowed when sequence numbering is in effect. ■ **Reset**: The adapter closes its connection with the external system and goes through the connection scenario. This parameter is used for outbound Collaboration code.	Select **Exit**, **Resend**, or **Reset**. The configured default is **Reset**.
Action on Max No Response	Specifies the action the adapter takes when it attempts to send a message to the external system the maximum allowed number of times, and does not receive any response (HL7 Application Acknowledgement) from the external system. The maximum number times the adapter sends a message without receiving a response is determined by the **Max No Response** parameter (see **Max No Response** in the Table 86). The options are: ■ **Exit**: The adapter terminates its connection with the external system and shuts down. ■ **Reset**: The adapter closes its connection with the external system and goes through the connection scenario. This parameter is used for outbound Collaboration code.	Select **Exit** or **Reset**. The default value is **Reset**.
Action on Max Failed Read Retry	Specifies the action the adapter takes after it has reached the empty read limit set by the **Max Empty Read Retry** parameter. The recourse options are: ■ **Exit**: The adapter terminates its connection with the external system and shuts down. ■ **Reset**: The adapter closes its connection with the external system and goes through the connection scenario. This parameter is used for outbound Collaboration code.	Select **Exit** or **Reset**. The configured default is **Reset**.

TABLE 87 Connectivity Map - HL7 Recourse Action *(Continued)*

Name	Description	Required Value
Action on Nak Received	Specifies the action taken by the adapter when it receives an HL7 Application NAK from the external system. The options are: ■ **Resend**: The adapter attempts to resend the message to the external system. ■ **Reset**: The adapter closes its connection with the external system and goes through the connection scenario. ■ **Skip Message**: The adapter remains connected, but writes the message to an error queue. **Note –** Do not set both the "Action On NAK Received" and "Action On Max NAK Received" parameters to "Skip Message." This parameter is used for outbound Collaboration code.	Select **Resend**, **Reset**, or **Skip Message**. The configured default is **Resend**.
Action on Max Nak Received	Specifies the action the adapter takes when the maximum number of HL7 Application NAKs have been received from the external system, as set by the **Max NAK Receive Retry** parameter (see **Max NAK Receive Retry** in the Table 86). The options are: ■ **Exit**: The adapter terminates its connection with the external system and shuts down. ■ **Reset**: The adapter closes its connection with the external system and goes through the connection scenario. ■ **Skip Message**: The adapter remains connected, but writes the message to an error queue. This parameter is used for outbound Collaboration code. **Note –** Do not set both "Action On NAK Received" and "Action On Max NAK Received" parameters to "Skip Message."	Select **Exit**, **Reset**, or **Skip Message**. The configured default is **Skip Message**.
Action on Max Nak Sent	Specifies the action taken by the adapter when it has sent the maximum allowed number of NAKs to the external system, as set by the **Max NAK Send Retry** parameter (see **Max NAK Receive Retry** in the Table 86). The options are: ■ **Exit**: The adapter terminates its connection with the external system and shuts down. ■ **Reset**: The adapter closes its connection with the external system and goes through the connection scenario.	Select **Exit** or **Reset**. The default value is **Exit**.

Configuring TCP/IP HL7 V3 Adapter Inbound Connectivity Map Properties

The TCP/IP HL7 V3 Server Inbound adapter configuration properties, accessed from the Connectivity Map, are organized into the following sections:

Where to Go Next

"General Inbound Settings — TCP/IP HL7 V3 Inbound Adapter" on page 198.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

General Inbound Settings — TCP/IP HL7 V3 Inbound Adapter

The **General Inbound Settings** section of the TCP/IP HL7 V3 inbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 88 Connectivity Map - General Inbound Settings

Name	Description	Required Value
Max Data Size	Specifies the maximum amount of data that the programs can hold internally. The valid range is from **1** to **2GB** (which is the maximum value of a Java integer).	A number indicating the maximum amount of data. The valid range is from **1** to **2147483647** (bytes). The configured default is **2147483647**.
Scope Of State	Defines the scope of State object, which is an OTD node. The options for this parameter are: ■ **Resource Adapter Level**: The State has the same life cycle as the resource adapter. ■ **Connection Level**: The State has the same life cycle as the connection. ■ **OTD Level**: The State has the same life cycle as the OTD object. This scope represents the life cycle of the State.	Select one of the following: ■ **Resource Adapter Level** ■ **Connection Level** ■ **OTD Level** The configured default is **Resource Adapter Level**.
Dedicated Session Mode	Specifies whether the server Dedicated Session Mode is enabled or disabled. When the server Dedicated Session Mode is enabled, the current client's request exclusively holds the server port to which it connects. The next client's request to the same port is blocked or rejected until the previous request concludes and releases the connection.	Select **True** or **False**. **True** indicates that Dedicated Session Mode is enabled. The configured default is **False**.

Where to Go Next

"TCPIP Inbound Settings — TCP/IP HL7 V3 Inbound Adapter" on page 200.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

TCPIP Inbound Settings — TCP/IP HL7 V3 Inbound Adapter

The **TCPIP Inbound Settings** section presents the java Socket and ServerSocket options. This section of the TCP/IP HL7 V3 inbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 89 Connectivity Map - TCPIP Inbound Settings

Name	Description	Required Value
Connection Type	Specifies how the adapter establishes the TCP/IP connection: ■ **Client**: The adapter connects to an external server (host/port) to establish the connection. The adapter is in active mode. ■ **Server**: The adapter waits/listens on a certain port for an incoming connection request from an external client. Once the request is received, the adapter accepts the request and establishes the connection. The adapter is in passive mode.	Select **Client** or **Server**. **Server** is the default setting. Unless you specifically require Client mode, leave this value as the default: **Server**.
ServerSO Timeout	Sets or gets the value of the **SO_TIMEOUT** for **ServerSocket**, in milliseconds. Used for `ServerSocket.accept()`. When this option is set to a non-zero timeout, calling `accept()` for this ServerSocket will block for the configured length of time. If the timeout expires, a `java.net.SocketTimeoutException` (or `java.net.InterruptedIOException`) is thrown, but the ServerSocket remains valid. Enable this option prior to entering the blocking operation. This parameter is only used when the **Connection Type** is set as **Server**	The number indicating the **Server SO Timeout** is in milliseconds. The timeout must be greater than zero (**0**). A timeout of zero is interpreted as an infinite timeout. The configured default is **60000** (60 seconds).

TABLE 89 Connectivity Map - TCPIP Inbound Settings *(Continued)*

Name	Description	Required Value
Server Socket Factory Implementation Class Name	Specifies the name of the Java class that implements the server socket factory. This class is used to create the server socket. If you have provided your own server socket implementation, enter the name of the Java class that contains this implementation here. The factory implementation class must implement the following interface: `com.stc.connector.tcpip.model.factory.TCPIPSocketFactory`	A valid Java class name; the default is: `com.stc.connector.tcpip.model.factory.TCPIPSocketFactoryImpl`
Keep Alive	Specifies whether the client's SO_KEEPALIVE option is enabled or disabled. When the option is set for a TCP socket and no data has been exchanged across the socket in either direction for 2 hours, TCP automatically sends a KEEPALIVE probe to the peer (the actual value is implementation dependent). This probe is a TCP segment to which the peer must respond. One of three responses is expected: 1. The peer responds with the expected ACK. The application is not notified (since everything is OK). TCP will send another probe following another 2 hours of inactivity. 2. The peer responds with an RST, which tells the local TCP that the peer host has crashed and rebooted. The socket is closed. 3. There is no response from the peer. The socket is closed. The purpose of this option is to detect if the peer host has crashed. This is used for the accepted client Socket.	Select **True** or **False**. **True** indicates that server **SO_KEEPALIVE** option is enabled. **Note –** For some properties, the server socket itself does not have direct properties settings associated with it. Instead, the properties map to the accepted client socket.

TABLE 89 Connectivity Map - TCPIP Inbound Settings *(Continued)*

Name	Description	Required Value
Receive Buffer Size	Sets or gets the value of the **SO_RCVBUF** option for the current socket, that is the buffer size used by the operating system for input on this socket. It provides an estimate of the size of the underlying buffers used by the platform for incoming network I/O. When used in set, this is a suggestion for the kernel from the application regarding the size of buffers to use for the data to be received over the socket. When used in get, this must return the actual size of the buffer used by the platform when receiving data on this socket.	A number indicating the receive buffer size. The configured default is **8192**.
Send Buffer Size	Sets or gets the value of the **SO_SNDBUF** option for the current socket, that is the buffer size used by the operating system for output on this socket. It provides an estimate of the size of the underlying buffers used by the platform for outgoing network I/O. When used in set, this is a suggestion for the kernel from the application regarding the size of buffers to use for the data to be sent over the socket. When used in get, this must return the actual size of the buffer used by the platform when sending out data on this socket.	A number indicating the send buffer size. The configured default is **8192**.

TABLE 89 Connectivity Map - TCPIP Inbound Settings *(Continued)*

Name	Description	Required Value
SoLinger	Specifies whether the adapter performs a linger-on-close timeout. This option disables/enables immediate return from a `close()` of a TCP Socket. This parameter is used in conjunction with **SoLinger Timeout**. ■ **True with SoLinger Timeout set to a non-zero integer timeout:** This means that a `close()` will block, pending the transmission and acknowledgement of all data written to the peer, at which point the socket is closed gracefully. Upon reaching the linger timeout, the socket is closed forcefully with a TCP RST. ■ **True with SoLinger Timeout set to a timeout of zero:** Indicates that a forceful close is done immediately. See the **SoLinger Timeout** the property.	Select **True** or **False**. **True** enables the SO_Linger option.
SoLinger Timeout	Specifies the server's **SoLinger** time-out in seconds. **SoLinger Timeout** is used in conjunction with **SoLinger** (see the **SoLinger**property value to configure the "linger-on-close" timeout. When **SoLinger** is set to **true** (enabled), the **SoLinger Timeout** value indicates the following: ■ **A non-zero integer** means that calling`close()` will block, pending the transmission and acknowledgement of all data written to the peer, at which point the socket is closed gracefully. Upon reaching the linger timeout, the socket is closed forcefully with a TCP RST. If the specified timeout value exceeds 65,535 it will be reduced to 65,535. ■ **A zero integer** indicates that a forceful close is done immediately.	An integer between **-1** and **65535**. The default is -1 seconds, which indicates that the **SoLinger** option is disabled (set as false). The configured default is **30** (30 seconds). Zero (**0**) indicates that SoLinger immediately performs a forceful close. An integer of **1** to **65535** indicates the number of seconds for the time-out.

TABLE 89 Connectivity Map - TCPIP Inbound Settings *(Continued)*

Name	Description	Required Value
SoTimeout	Sets or gets the value of the SoTimeout in milliseconds. Used for the accepted client socket. With this option set to a non-zero timeout, calling `read()` on the **InputStream** associated with this socket will block for only the configured length of time. If the timeout expires, a `java.io.InterruptedIOException` (or `java.net.SocketTimeoutException`) is thrown, but the Socket remains valid. Enable this option prior to entering the blocking operation.	The **SoTimeout** value in milliseconds. The configured default is **10000** (10 seconds). The timeout must be greater than **0** (zero). A timeout of zero is interpreted as an infinite timeout.
TcpNoDelay	Specifies whether the server's **TcpNoDelay** option (that is, Nagle's algorithm) is enabled or disabled. ■ **True**: Indicates that the server allows data packets that are less than the maximum transfer unit (MTU) size to be sent out immediately over the network. A setting of True may improve performance for higher-speed networks. ■ **False**: Indicates that the server does not allow data packets that are less than the MTU size be sent out immediately over the network. This is used for the accepted client socket.	Select **True** or **False**. The configured default is **False**.

Where to Go Next

"TCPIP Inbound Settings - Server Port Binding — TCP/IP HL7 V3 Inbound Adapter" on page 205.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

TCPIP Inbound Settings - Server Port Binding — TCP/IP HL7 V3 Inbound Adapter

The **TCPIP Inbound Settings - Server Port Binding** section defines the parameters used for controlling the server port binding. This section is only used when the Connection Type is set as Server.

This section of the TCP/IP HL7 V3 inbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

Note – This section is only used when the Connection Type is set as Server.

TABLE 90 Connectivity Map - TCPIP Inbound Settings - Server Port Binding

Name	Description	Required Value
Max Binding Retry	Specifies the maximum number of times the adapter will attempt to bind to the specified TCP/IP port on the localhost.	An integer indicating the number of bind attempts. The configured default is **3**.
Retry Binding Interval	Specifies the length of time (in milliseconds) the adapter waits between attempts to bind to the specified TCP/IP port on the localhost.	An integer indicating the length of time in milliseconds that the adapter waits between attempts. The configured default is **30000** (30 seconds).

Where to Go Next

"TCPIP Inbound Settings - Client Connection Establishment — TCP/IP HL7 V3 Inbound Adapter" on page 206.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

TCPIP Inbound Settings - Client Connection Establishment — TCP/IP HL7 V3 Inbound Adapter

The **TCPIP Inbound Settings - Client Connection Establishment** section defines some configuration parameters used for controlling the connection establishment. This section is only used when the Connection Type is set as Client.

This section of the TCP/IP HL7 V3 inbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

Note – This section is only used when the Connection Type is set as Client.

TABLE 91 Connectivity Map - TCPIP Inbound Settings - Client Connection Establishment

Name	Description	Required Value
Time to Wait Before Attempting Connection	Specifies the length of time (in milliseconds) that the adapter waits before attempting to connect to the external system.	A number indicating the amount of time (in milliseconds) to wait before attempting to connect to an external system. The configured default is **30000** (30 seconds).

Where to Go Next

"TCPIP Inbound Settings - Inbound Connection Management — TCP/IP HL7 V3 Inbound Adapter" on page 206.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

TCPIP Inbound Settings - Inbound Connection Management — TCP/IP HL7 V3 Inbound Adapter

The **TCPIP Inbound Settings - Inbound Connection Management** section defines the parameters used for inbound Server Connection Management. For example, the connection pool and the life cycle of the accepted connection.

This section of the TCP/IP HL7 V3 inbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 92 Connectivity Map - TCPIP Inbound Settings - Inbound Connection Management

Name	Description	Required Value
Max Connection Pool Size	Specifies the maximum number of concurrent connections allowed for the specific listener/monitor which is listening on, or monitoring a specified TCP/IP port. This represents the capability or availability of this server's services. Each connect-request from a client gains one concurrent connection. This parameter also represents the maximum number of clients who can concurrently connect to this server's services, and get served by the specific listener/monitor at the same time.	A number indicating the maximum number of concurrent connections available from a listener/monitor for a specific TCP/IP port. **0** indicates that there is no limit. The configured default is **50**.
Scope Of Connection	Specifies the scope of the accepted connection which is used by the adapter. The two options are: ■ **Resource Adapter Level**: The resource adapter will close the connection upon closure request (by way of ClosureCommandMessage), so the connection may "keep alive" during multiple executions of the Collaboration. **Collaboration Level**: The connection is closed once the Collaboration has been executed, so the connection has the same life cycle as the Collaboration.	Select **Resource Adapter Level** or **Collaboration Level**. The configured default value is **Resource Adapter Level**.
Close Notification	Specifies the close notification value. When the server receives a notification with content that matches this parameter's value, the server safely closes the connection and cancels any corresponding schedules.	A String indicating the trigger value that notifies the server to close the connection. The configured default is **QUIT**.
Idle Timeout	Specifies the length of time (in milliseconds) for inactivity of the requestor (client). The adapter attempts to detect activity on client side (the other side of the connection). If no client activity (no i/o request comes over the connection from the client) for a specified time period, then the connection is closed from the server side to release the resource. The value is in milliseconds. If you want to disable this IdleTimeout checking, just specify 0 for this parameter.	An integer that indicates the length of time in milliseconds. A value of **0** disables IdleTimeout. The configured default is **60000**.

Where to Go Next

"TCPIP Inbound Schedules - Listener Schedule — TCP/IP HL7 V3 Inbound Adapter" on page 208.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

TCPIP Inbound Schedules - Listener Schedule — TCP/IP HL7 V3 Inbound Adapter

This section configures the scheduler used by the inbound TCP/IP Server. The server waits for a new client connection establishment request. These parameters are used to configure the listener/monitor that listens on the specified port.

Two J2EE schedulers are available:

- Timer Service: available for J2EE. This scheduler is configured using the At Fixed Rate, Delay, and Period properties.
- Work Manager: available for **J2EE** (JCA 1.5 and above). This scheduler is configured using the Delay and Period properties.

Both schedulers provide the functionality required by the inbound TCP/IP Server.

This section of the TCP/IP HL7 V3 inbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 93 Connectivity Map - TCPIP Inbound Schedules - Listener Schedule

Name	Description	Required Value
Scheduler	Specifies the scheduler type for this inbound communication. There are two options: ■ **Timer Service**: The task is scheduled through the J2EE Timer Service. Timer Service is supported by **J2EE**. ■ **Work Manager**: The task is scheduled through the J2EE Work Manager. Work Manager is supported by **J2EE** (JCA 1.5 and above).	Select **Timer Service** or **Work Manager**. If your container doesn't support JCA Work Manager, select **Timer Service**.

TABLE 93 Connectivity Map - TCPIP Inbound Schedules - Listener Schedule *(Continued)*

Name	Description	Required Value
Schedule Type	This property configuration, though visible from the Properties Editor, is disabled. The only available schedule type is Repeated, indicating that the task is scheduled for repeated execution at regular intervals defined by the **Period** property in this section (see the **Period** property).	This field is not enabled.
Delay	Applies to both the **Timer Service** or the **Work Manager**. Specifies, in milliseconds, the length of delay time before the task is executed.	An integer indicating the length of time before the task is executed, in milliseconds.
Period	Applies to both the **Timer Service** or the **Work Manager**. Specifies the regular interval, in milliseconds, between successive task executions.	An integer indicating the length of time between successive task executions, in milliseconds.
At Fixed Rate	Specific to the **Timer Service** configuration only. Specifies whether a **Fixed-Rate** execution or **Fixed-Delay** execution is used. ■ **Fixed-Rate**: A fixed-rate execution means that each execution is scheduled relative to the scheduled time of the initial execution. If an execution is delayed for any reason (such as garbage collection or other background activity), two or more executions will occur in rapid succession to "catch up." In the long run, the frequency of execution will be exactly the reciprocal of the specified period, assuming the system clock underlying Object.wait(long) is accurate. ■ **Fixed-Delay**: A fixed-delay execution means that each execution is scheduled relative to the actual time of the previous execution. If an execution is delayed for any reason (such as garbage collection or other background activity), subsequent executions will be delayed as well. As a result, the frequency of execution will generally be slightly lower than the reciprocal of the specified period, assuming the system clock underlying Object.wait(long) is accurate.	Select **True** or **False**. **True** indicates that a fixed-rate execution is used. **False** indicates that a fixed-delay execution is used.

Where to Go Next

"TCPIP Inbound Schedules - Service Schedule — TCP/IP HL7 V3 Inbound Adapter" on page 210.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

TCPIP Inbound Schedules - Service Schedule — TCP/IP HL7 V3 Inbound Adapter

This section configures the scheduler used by the TCP/IP Server that executes the business tasks (Collaboration Rules) over the existing connection. This scheduler affects the actual Business Rules defined by the user.

Two J2EE schedulers are available (see the Table 68).

- **Timer Service**: Available for **J2EE**. This scheduler is configured using the **At Fixed Rate**, **Delay**, **Period**, and **Schedule Type** properties.
- **Work Manager**: Available for **J2EE** (JCA 1.5 and above). This scheduler is configured using the **Delay**, **Period**, and **Schedule Type** properties.

Both schedulers provide the functionality required by the inbound TCP/IP Server.

This section of the TCP/IP HL7 V3 inbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 94 Connectivity Map - TCPIP Inbound Schedules - Service Schedule

Name	Description	Required Value
Scheduler	Specifies the scheduler type for this inbound communication. There are two options: ■ **Timer Service**: The task is scheduled through the J2EE Timer Service. Timer Service is supported by J2EE. ■ **Work Manager**: The task is scheduled through the J2EE Work Manager. Work Manager is supported by **J2EE** (JCA 1.5 and above).	Select **Timer Service** or **Work Manager**. I f your container doesn't support JCA Work Manager, select Timer Service.

TABLE 94 Connectivity Map - TCPIP Inbound Schedules - Service Schedule *(Continued)*

Name	Description	Required Value
Schedule Type	Applies to both the **Timer Service** or the **Work Manager**. Specifies whether the task is scheduled to occur once or be repeated. ■ **OneTime**: The task will be scheduled for one-time execution. ■ **Repeated**: The task will be scheduled for repeated execution at regular intervals defined by **Period** property.	Select **OneTime** or **Repeated**.
Delay	Applies to both the **Timer Service** or the **Work Manager**. Specifies, in milliseconds, the length of delay time before the task is executed.	An integer indicating the length of time, in milliseconds, before the task is executed. The configured default is **0**.
Period	Applies to both the **Timer Service** or the **Work Manager**. Specifies the regular interval, in milliseconds, between successive task executions. This is used for the **Repeated** schedule type (see the **Schedule Type** property in the Table 68)	An integer indicating the length of time, in milliseconds, between successive task executions. The configured default is **1**.

TABLE 94 Connectivity Map - TCPIP Inbound Schedules - Service Schedule *(Continued)*

Name	Description	Required Value
At Fixed Rate	Specific to the **Timer Service** configuration only. Specifies whether a **Fixed-Rate** execution or **Fixed-Delay** execution is used. This is used for the "Repeated" schedule type by the "Timer Service" scheduler. ■ **Fixed-Rate**: A fixed-rate execution means that each execution is scheduled relative to the scheduled time of the initial execution. If an execution is delayed for any reason (such as garbage collection or other background activity), two or more executions will occur in rapid succession to "catch up." In the long run, the frequency of execution will be exactly the reciprocal of the specified period, assuming the system clock underlying Object.wait(long) is accurate. ■ **Fixed-Delay**: A fixed-delay execution means that each execution is scheduled relative to the actual time of the previous execution. If an execution is delayed for any reason (such as garbage collection or other background activity), subsequent executions will be delayed as well. As a result, the frequency of execution will generally be slightly lower than the reciprocal of the specified period, assuming the system clock underlying Object.wait(long) is accurate.	Select **True** or **False**. **True** indicates that a fixed-rate execution is used. **False** indicates that a fixed-delay execution is used.

Where to Go Next

"HL7 Acknowledgment — TCP/IP HL7 V3 Inbound Adapter" on page 213.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

HL7 Acknowledgment — TCP/IP HL7 V3 Inbound Adapter

Specifies how the acknowledgments are handled in Java Collaboration Definition (JCD). This section of the TCP/IP HL7 V3 inbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 95 Connectivity Map - HL7 Acknowledgment

Name	Description	Required Value
Acknowledgment Type	Specifies what type of acknowledgments are provided by the JCD. They are: ■ **Immediate** ■ **Deferred** ■ **Queued**	The configured default is **Immediate**.

Lower Layer Protocol — TCP/IP HL7 V3 Inbound Adapter

Provides Lower Layer Protocol (LLP) configuration settings.

This section of the TCP/IP HL7 V3 inbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 96 Connectivity Map - Lower Layer Protocol

Name	Description	Required Value
LLP Type	Specifies the LLP (Lower Layer Protocol) type. The valid type is: **MLLPV2.0** (Minimal Lower Layer Protocol V2.0)	**MLLPV2.0** is the configured default value.
Start Block Character	Specifies the **Start Block Character** (the first envelope marker character in the HL7 envelope) as a decimal ASCII number.	A decimal within the range of **1** to **127**. Unless there is a conflict, the value should be ASCII VT (decimal 11). The default value is **11**.

TABLE 96 Connectivity Map - Lower Layer Protocol *(Continued)*

Name	Description	Required Value
End Data Character	Specifies the **End Data Character** (The second to the last envelope marker character in the HL7 envelope) as a decimal ASCII number. The allowed range is 1 to 127.	A decimal within the range of **1** to **127**. Unless there is a conflict, the value should be ASCII FS (decimal 28). The default value is **28**.
End Block Character	Specifies the **End Block Character** (the last envelope marker character in the HL7 envelope) as a decimal ASCII number.	A decimal within the range of **1** to **127**. To be strictly compliant with the HL7 Standard, this parameter MUST be set to a Carriage Return (decimal 13). The default value is **13**.
Max Number of Retries	The maximum number of times the adapter will try sending the message upon receiving the MLLPV2.0 Negative Commit Acknowledgement from the peer before giving up. This parameter is used by HL7 adapter in outbound mode.	An integer indicating the number of times the adapter will try sending the message upon receiving the MLLPV2.0 Negative Commit Acknowledgement from the peer. The configured default value is **5**.

Where to Go Next

"Sequence Number Protocol — TCP/IP HL7 V3 Inbound Adapter" on page 214.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Sequence Number Protocol — TCP/IP HL7 V3 Inbound Adapter

Provides sequence number protocol configuration settings. HL7 sequence numbering is used to help prevent duplication of data.

This section of the TCP/IP HL7 V3 inbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 97 Connectivity Map - Sequence Number Protocol

Name	Description	Required Value
Sequence Number Enabled	Specifies whether Sequence Number Protocol is enabled or disabled. HL7 sequence numbering is used to help prevent duplication of data. **True** indicates that sequence numbering is enabled.	Select **True** or **False**. The configured default is **False**.

Where to Go Next

"HL7v3 Transmission Wrapper — TCP/IP HL7 V3 Inbound Adapter" on page 215.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

HL7v3 Transmission Wrapper — TCP/IP HL7 V3 Inbound Adapter

Provides HL7v3 Transmission Wrapper configuration settings. The HL7 Transmission Wrapper includes information needed by a sending application or message handling service to package and route the V3 Composite Message to the designated receiving application(s) and/or message handling service(s). The Transmission Wrapper is a cluster of classes, routed at Message, identifies the sender and receiver of the message and the particular kind of message being communicated.

This section of the TCP/IP HL7 V3 inbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 98 Connectivity Map - HL7v3 Transmission Wrapper

Name	Description	Required Value
Interaction ID	The identification of the unique information interchange. The attribute values are derived from the HL7 MDF interaction names. For example, **POLB_INI00100** and **COMT_IN300652**.	

TABLE 98 Connectivity Map - HL7v3 Transmission Wrapper *(Continued)*

Name	Description	Required Value
Processing Code	Defines whether the message being received is part of the following: ■ P — Production ■ T — Training ■ D — Debugging System	The configured default is **D**
Processing Mode Code	Defines whether the message is being received is of the following: ■ T — Current Processing ■ A — Archive Mode ■ I — Initial Mode ■ R — Restore from Archive Mode	The Configured default is **T**.
Version Code	This attribute is matched by the receiving system to its own version to be sure the message will be interrupted correctly.	The Configured default is **v3.0**.
Validate Transmission Wrapper	Includes whether to validate Transmission Wrapper of data message (for inbound case) and Transmission Wrapper of ACK (for outbound case). This parameter will be used in collaboration code.	The Configured default is **false**.

Where to Go Next

"Communication Control — TCP/IP HL7 V3 Inbound Adapter" on page 216.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Communication Control — TCP/IP HL7 V3 Inbound Adapter

The **Communication Control** section controls data transferring (sending/receiving) over the TCP/IP connection.

This section of the TCP/IP HL7 V3 inbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 99 Connectivity Map - Communication Control

Name	Description	Required Value
Time To Wait For A Response	Specifies the amount of time (in milliseconds) that the adapter waits for a response from the external system before taking recourse action (see **Action on No Response** in the Table 76). Any data from the external system is considered a response. This property corresponds to the initial read/receive operation timeout. Once a response is received, the following read/receive operation uses the **SoTimeout** specified timeout (see **So Timeout** in Table 64). Value **0** is interpreted as an infinite timeout.	An integer indicating the length of time in milliseconds that the adapter waits for a response to arrive from the external system. A value of **0** (zero) is interpreted as an infinite timeout. The configured default is **30000**.
Max Empty Read Retry	The corresponding recourse action is specified by the **Action on Max Failed Read Retry** in Table 64).	A number indicating the maximum number or retries. The configured default is **5**.
Max No Response	Specifies the maximum number of response timeouts the adapter allows, while waiting for data from the external system, before taking recourse action (see **Action on Max No Response** in the Table 76). This parameter is used for the inbound Collaboration code.	An integer indicating the appropriate number of timeouts that may occur before taking recourse action. The configured default is **30**.
Max NAK Receive Retry	Specifies the maximum number of negative acknowledgments the adapter receives before taking recourse action (see **Action on Max Nak Received** in the Table 76). This parameter is used for the inbound Collaboration code.	A number indicating the appropriate maximum number of NAKs received before taking recourse action. The default value is **30**.
Max NAK Send Retry	Specifies the maximum number of acknowledgments the adapter sends before taking recourse action (see **Action on Max Nak Sent** in the Table 76). This parameter is used for the inbound Collaboration code.	An integer indicating the appropriate maximum number of NAKs sent by the adapter before recourse action is taken. The default value is **30**.
Max Canned NAK Send Retry	Specifies the maximum number of canned negative acknowledgments that the adapter sends before taking recourse action (see **Action on Max Nak Sent** in the Table 76).	The appropriate maximum number of canned NAK to send before taking recourse action. **0** indicates that the adapter will not attempt to create or send a canned NAK. The configured default is **0**.

TABLE 99 Connectivity Map - Communication Control *(Continued)*

Name	Description	Required Value
Enable Journaling	Specifies whether message journaling is enabled. This parameter is used for inbound Collaboration code.	Select **True** or **False**. **True** indicates that journaling is enabled. The configured default is **True**.

Where to Go Next

"HL7 Recourse Action — TCP/IP HL7 V3 Inbound Adapter" on page 218.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

HL7 Recourse Action — TCP/IP HL7 V3 Inbound Adapter

The **HL7 Recourse Action** section determines the actions the adapter takes when operations occur outside the configured constraints.

This section of the TCP/IP HL7 V3 inbound adapter Connectivity Map properties contains the top-level parameters as displayed in the table.

TABLE 100 Connectivity Map - HL7 Recourse Action

Name	Description	Required Value
Action on No Response	Specifies the action taken by the adapter when no ACK is received from the external system in the allotted time. The amount of time is determined by the **Time To Wait For A Response** parameter (see **Time To Wait For A Response** in the Table 75). The options are: ■ **Exit**: The adapter terminates its connection with the external system and shuts down. ■ **Resend**: The adapter attempts to resend the message to the external system. The Resend option is only allowed when sequence numbering is in effect. ■ **Reset**: The adapter closes its connection with the external system and goes through the connection scenario. This parameter is used for inbound Collaboration code.	Select **Exit**, or **Resend**, or **Reset**. The configured default is **Reset**.
Action on Max No Response	Specifies the action the adapter takes when it attempts to send an Event to the external system the maximum number of times, and does not receive any response (HL7 Application Acknowledgement) from the external system. The maximum number of times the adapter sends an Event without receiving a response is determined by the **Max No Response** parameter (see **Max No Response** in the Table 75). The options are: ■ **Exit**: The adapter terminates its connection with the external system and shuts down. ■ **Reset**: The adapter closes its connection with the external system and goes through the connection scenario. This parameter is used for inbound Collaboration code.	Select **Exit** or **Reset**. The default value is **Reset**.

TABLE 100 Connectivity Map - HL7 Recourse Action *(Continued)*

Name	Description	Required Value
Action on Max Failed Read Retry	Specifies the action the adapter takes after it has reached the empty read limit set by the **Max Empty Read Retry** parameter. This parameter is used by inbound adapters only. The recourse options are: ■ **Exit**: The adapter terminates its connection with the external system and shuts down. ■ **Reset**: The adapter closes its connection with the external system and goes through the connection scenario. This parameter is used for inbound Collaboration code.	Select **Exit** or **Reset**. The configured default is **Reset**.
Action on Nak Received	Specifies the action taken by the adapter when it receives an HL7 Application NAK from the external system. The options are: ■ **Resend**: The adapter attempts to resend the message to the external system. ■ **Reset**: The adapter closes its connection with the external system and goes through the connection scenario. ■ **Skip Message**: The adapter remains connected, but writes the message to an error queue. **Note –** Do not set both the "Action On NAK Received" and "Action On Max NAK Received" parameters to "Skip Message." This parameter is used for inbound Collaboration code.	Select **Resend**, or **Reset**, or **Skip Message**. The configured default is **Resend**.

TABLE 100 Connectivity Map - HL7 Recourse Action *(Continued)*

Name	Description	Required Value
Action on Max Nak Received	Specifies the action the adapter takes when the maximum number of HL7 Application NAKs have been received from the external system, as set by the **Max NAK Receive Retry** parameter (see **Max NAK Receive Retry** in the Table 75). The options are: ■ **Exit**: The adapter terminates its connection with the external system and shuts down. ■ **Reset**: The adapter closes its connection with the external system and goes through the connection scenario. ■ **Skip Message**: The adapter remains connected, but writes the message to an error queue. This parameter is used for inbound Collaboration code. **Note –** Do not set both "Action On NAK Received" and "Action On Max NAK Received" parameters to "Skip Message."	Select **Exit**, or **Reset**, or **Skip Message**. The configured default is **Skip Message**.
Action on Max Nak Sent	Specifies the action taken by the adapter when it has sent the maximum allowed number of NAKs to the external system, as set by the **Max NAK Send Retry** parameter (see **Max NAK Send Retry** in the Table 75). The options are: ■ **Exit**: The adapter terminates its connection with the external system and shuts down. ■ **Reset**: The adapter closes its connection with the external system and goes through the connection scenario. This parameter is used for inbound Collaboration code.	Select **Exit** or **Reset**. The default value is **Exit**.

Configuring TCP/IP HL7 V3 Adapter Outbound Connectivity Map Properties

The TCP/IP HL7 V3 Server Outbound adapter configuration properties, accessed from the Connectivity Map, are organized into the following sections:

- "General Outbound Settings — TCP/IP HL7 V3 Outbound Adapter" on page 222.
- "TCPIP Outbound Settings — TCP/IP HL7 V3 Outbound Adapter" on page 223.
- "TCPIP Outbound Settings - Client Connection Establishment — TCP/IP HL7 V3 Outbound Adapter" on page 228.

- "TCPIP Outbound Settings - Server Port Binding — TCP/IP HL7 V3 Outbound Adapter" on page 230.
- "HL7 Acknowledgment — TCP/IP HL7 V3 Outbound Adapter" on page 230.
- "Lower Layer Protocol — TCP/IP HL7 V3 Outbound Adapter" on page 231.
- "Sequence Number Protocol — TCP/IP HL7 V3 Outbound Adapter" on page 232.
- "HL7v3 Transmission Wrapper — TCP/IP HL7 V3 Outbound Adapter" on page 233.
- "Communication Control — TCP/IP HL7 V3 Outbound Adapter" on page 234.
- "HL7 Recourse Action — TCP/IP HL7 V3 Outbound Adapter" on page 236.

Where to Go Next

"General Outbound Settings — TCP/IP HL7 V3 Outbound Adapter" on page 222.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

General Outbound Settings — TCP/IP HL7 V3 Outbound Adapter

Provides the general HL7 outbound configuration settings. This section of the TCP/IP HL7 V3 outbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 101 Connectivity Map - General Outbound Settings

Name	Description	Required Value
Max Data Size	Specifies the maximum size of data that the programs can hold internally. The valid range is from 1 to 2GB (which is the max value of java integer).	An integer indication the maximum data size in bytes, ranging from **1** to **2147483647** (2GB). The configured default is **2147483647**.

TABLE 101 Connectivity Map - General Outbound Settings *(Continued)*

Name	Description	Required Value
Scope Of State	It is used to define the scope of State object, which is an OTD node. The valid options for this parameter are: ■ **Resource Adapter Level**: The State has the same life cycle as the resource adapter. ■ **Connection Level**: The State has the same life cycle as the connection. ■ **OTD Level**: The State has the same life cycle as the OTD object. This scope represents the life cycle of the State.	Select **Resource Adapter Level**, **Connection Level**, or **OTD Level**. The configured default is **Resource Adapter Level**.

Where to Go Next

Table 102.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

TCPIP Outbound Settings — TCP/IP HL7 V3 Outbound Adapter

Presents the java Socket options. For more information see the JDK Javadoc. This section of the TCP/IP HL7 V3 outbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 102 Connectivity Map - TCPIP Outbound Settings

Name	Description	Required Value
Connection Type	Specifies how the adapter establishes the TCP/IP connection: ■ **Client**: The adapter connects to an external server (host/port) to establish the connection. The adapter is in active mode. ■ **Server**: The adapter waits/listens on certain port for an incoming connection request from an external client. Once the request is received, the adapter accepts the request and establishes the connection. The adapter is in passive mode.	Select **Client** or **Server**. Unless you specifically require Server mode, leave this value as the default, **Client**.
ServerSo Timeout	Sets or Gets the value of the **SO_TIMEOUT** for the ServerSocket, in milliseconds. Used for `ServerSocket.accept()`. When this option is set to a non-zero timeout, calling `accept()` for ServerSocket will block for only this amount of time. If the timeout expires, a `java.net.SocketTimeoutException` (or `java.net.InterruptedIOException`) is raised, though the ServerSocket remains valid. Enable this option prior to entering the blocking operation. This parameter is only used when the **Connection Type** is set as **Server**.	The **SO_TIMEOUT** value in milliseconds. The timeout must be greater than **0** (zero). A timeout of zero is interpreted as an infinite timeout. The configured default is **60000** (60 seconds).

TABLE 102 Connectivity Map - TCPIP Outbound Settings *(Continued)*

Name	Description	Required Value
Keep Alive	Specifies whether the client's **SO_KEEPALIVE** option is enabled or disabled. When the option is set for a TCP socket and no data has been exchanged across the socket in either direction for 2 hours (the actual value is implementation dependent), TCP automatically sends a KEEPALIVE probe to the peer (the actual value is implementation dependent). This probe is a TCP segment to which the peer must respond. One of three responses is expected: 1. The peer responds with the expected ACK. The application is not notified (since everything is OK). TCP will send another probe following another 2 hours of inactivity. 2. The peer responds with an RST, which tells the local TCP that the peer host has crashed and rebooted. The socket is closed. 3. There is no response from the peer. The socket is closed. The purpose of this option is to detect if the peer host has crashed. This is used for the accepted client Socket.	Select **True** or **False**. **True** indicates that the SO_KEEPALIVE option is enabled.
Receive Buffer Size	Sets or Gets the value of the **SO_RCVBUF** option for the current socket, that is the buffer size used by the operating system for input on this socket. It provides an estimate of the size of the underlying buffers used by the platform for incoming network I/O. When used in **set**, this is a suggestion to the kernel from the application regarding the size of buffers to use for the data to be received over the socket. When used in **get**, this must return the actual size of the buffer used by the platform when receiving data on this socket.	A number indicating the receive buffer size. The configured default is **8192**.
Send Buffer Size	Sets or Gets the value of the **SO_SNDBUF** option for the current socket, that is the buffer size used by the operating system for output on this socket. It provides an estimate of the size of the underlying buffers used by the platform for outgoing network I/O. When used in **set**, this is a suggestion to the kernel from the application regarding the size of buffers to use for the data to be sent over the socket. When used in **get**, this must return the actual size of the buffer used by the platform when sending out data on this socket.	A number indicating the send buffer size. The configured default is **8192**.

TABLE 102 Connectivity Map - TCPIP Outbound Settings *(Continued)*

Name	Description	Required Value
SoLinger	Specifies whether the adapter performs a linger-on-close timeout. This option disables/enables immediate return from a `close()` of a TCP Socket. This parameter is used in conjunction with **SoLinger Timeout**. ■ **True with SoLinger Timeout set to a non-zero integer timeout**: This means that a `close()` will block, pending the transmission and acknowledgement of all data written to the peer, at which point the socket is closed gracefully. Upon reaching the linger timeout, the socket is closed forcefully with a TCP RST. ■ **True with SoLinger Timeout set to a timeout of zero**: Indicates that a forceful close is done immediately. If the specified value exceeds 65,535 it will be reduced to 65,535. See the **SoLinger Timeout** property.	Select **True** or **False**. **True** enables the SO_Linger option.
SoLinger Timeout	Specifies the server's **SoLinger** time in seconds. **SoLinger Timeout** is used in conjunction with **SoLinger** (see the **SoLinger** property) to configure the "linger-on-close" timeout. This option disables or enables immediate return from a close() of a TCP Socket. When **SoLinger** is set to **true** (enabled), the **SoLinger Timeout** value indicates the following: ■ **A non-zero integer** means that calling `close()` will block pending the transmission and acknowledgement of all data written to the peer, at which point the socket is closed gracefully. Upon reaching the linger timeout, the socket is closed forcefully, with a TCP RST. If the specified timeout value exceeds 65,535 it will be reduced to 65,535. ■ **A zero integer** indicates that a forceful close is done immediately.	The configured default is `30` seconds.

TABLE 102 Connectivity Map - TCPIP Outbound Settings *(Continued)*

Name	Description	Required Value
SoTimeout	Sets or Gets the value of the **SO_TIMEOUT** in milliseconds. When this option is set to a non-zero timeout, calling `read()` on the **InputStream** associated with this socket will block for only this configured length of time. If the timeout expires, a `java.io.InterruptedIOException` (or `java.net.SocketTimeoutException`) is raised, but the Socket remains valid. Enable this option prior to entering the blocking operation.	The SoTimeout value in milliseconds. The timeout must be greater than zero (0). A timeout of zero is interpreted as an infinite timeout. The configured default is **10000** (10 seconds).
TcpNoDelay	Specifies whether the server's **TCP_NODELAY** option (that is, Nagle's algorithm) is enabled or disabled. Written data to the network is not buffered pending acknowledgement of previously written data. ■ **True**: Indicates that the server allows data packets that are less than the maximum transmission unit (MTU) size to be sent out immediately over the network. A setting of True may improve performance for higher-speed networks. ■ **False**: Indicates that the server does not allow data packets that are less than the MTU size be sent out immediately over the network.	Select **True** or **False**. The configured default is **False**.
Socket Factory Implementation Class Name	Specifies the name of the Java class that implements the socket factory. This class is used to create the socket. If you have provided your own socket implementation, enter the name of the Java class that contains this implementation here. The factory implementation class must implement the following interface: com.stc.connector.tcpip.model.factory.TCPIPSocketFactory	A Java class name. The default value is `com.stc.connector.tcpip.model.factory.TCPIPSocketFactoryImpl`

Where to Go Next

"TCPIP Outbound Settings - Client Connection Establishment — TCP/IP HL7 V3 Outbound Adapter" on page 228.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters

- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

TCPIP Outbound Settings - Client Connection Establishment — TCP/IP HL7 V3 Outbound Adapter

The **TCPIP OUTbound Settings - Client Connection Establishment** section defines configuration parameters used for controlling the connection establishment. These properties are only used when the **Connection Type** is set to **Client**.

This section of the TCP/IP HL7 V3 outbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 103 Connectivity Map - TCPIP Outbound Settings - Client Connection Establishment

Name	Description	Required Value
Time To Wait Before Attempting Connection	Specifies the length of time (in milliseconds) the adapter waits before attempting to connect to the external system.	An integer indicating the length of time (in milliseconds) that the adapter waits before attempting to connect. The configured default is **0**.
Always Create New Connection	Specifies whether the adapter always attempts to create a new connection when a connection establishment request is received. ■ **True** indicates that the adapter always attempts to create a new connection without attempting to match an existing connection. ■ **False** indicates that the adapter attempts to match an existing connection (managed by the container).	Select **True** or **False**. The configured default is **False**.

TABLE 103 Connectivity Map - TCPIP Outbound Settings - Client Connection Establishment *(Continued)*

Name	Description	Required Value
Auto Reconnect Upon Matching Failure	Specifies whether to attempt to re-connect automatically when the adapter gets a matching connection from a container, even though this connection is not valid due to various reasons, for example, the external side of the connection is closed/reset due to the external application's logic. ■ **True** indicates that the adapter discards the invalid matching connection and automatically attempts to reconnect using a new connection. ■ **False** indicates that the adapter does not automatically attempt to reconnect using a new connection: instead, the adapter defers the reconnect control to the user Business Rules. The user must detect this type of failure and act appropriately.	Select **True** or **False**. The configured default is **True**.
Max Connection Retry	Specifies the maximum number of times the adapter attempts to connect to a specific external TCP/IP destination (host/port) before giving up.	An integer indicating the number of times the adapter will attempt to connect. The configured default is **3**.
Retry Connection Interval	Specifies the length of time (in milliseconds) the adapter waits between attempts to connect to a specific external TCP/IP destination (host/port).	An integer indicating the length of time (in milliseconds) that the adapter waits between attempts to connect. The configured default is **30000** (or 30 seconds).

Where to Go Next

"TCPIP Outbound Settings - Server Port Binding — TCP/IP HL7 V3 Outbound Adapter" on page 230.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

TCPIP Outbound Settings - Server Port Binding — TCP/IP HL7 V3 Outbound Adapter

Specifies configuration parameters used for controlling server port binding. These properties are only used when the **Connection Type** is set to **Server**.

This section of the TCP/IP HL7 V3 outbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 104 Connectivity Map - TCPIP Outbound Settings - Server Port Binding

Name	Description	Required Value
Max Binding Retry	Specifies the maximum number of times the adapter will attempt to bind to the specified TCP/IP port on the localhost before giving up.	An integer indicating the number of times the adapter will attempt to bind to the specified TCP/IP port on the localhost. The configured default is **3**.
Retry Binding Interval	Specifies the amount of time (in milliseconds) that the adapter waits between attempts to bind to the specified TCP/IP port on the localhost.	An integer indicating the length of times, in milliseconds, between attempts to bind to the specified TCP/IP port. The configured default is **30000** (30 seconds).

Where to Go Next

"HL7 Acknowledgment — TCP/IP HL7 V3 Outbound Adapter" on page 230.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

HL7 Acknowledgment — TCP/IP HL7 V3 Outbound Adapter

Provides HL7 acknowledgment configuration settings that control how the application acknowledgments are handled in Java Collaboration Definition (JCD).

This section of the TCP/IP HL7 V3 outbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 105 Connectivity Map - HL7 Acknowledgement

Name	Description	Required Value
Acknowledgment Level	Specifies what type of acknowledgments are provided by the JCD. The valid levels are: ■ **Immediate** ■ **Deferred** ■ **Queued**	Select **Immediate** or **Deferred** or **Queued** The configured default is **Immediate**.

Where to Go Next

"Lower Layer Protocol — TCP/IP HL7 V3 Outbound Adapter" on page 231.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Lower Layer Protocol — TCP/IP HL7 V3 Outbound Adapter

Provides Lower Layer Protocol (LLP) configuration settings.

This section of the TCP/IP HL7 V3 outbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 106 Connectivity Map - Lower Layer Protocol

Name	Description	Required Value
LLP Type	Specifies the **LLP** (Lower Layer Protocol) type. The valid types are: **MLLPV2.0** (Minimal Lower Layer Protocol V2.0)	**MLLPV2.0** is the configured default value.
Start Block Character	Specifies the **Start Block Character** (the first envelope marker character in the HL7 envelope) as a decimal ASCII number.	A decimal within the range of **1** to **127**. Unless there is a conflict, the value should be ASCII VT (decimal **11**). The default value is **11**.

TABLE 106 Connectivity Map - Lower Layer Protocol *(Continued)*

Name	Description	Required Value
End Data Character	Specifies the **End Data Character** (the second to the last envelope marker character in the HL7 envelope) as a decimal ASCII number. The allowed range is **1** to **127**.	A decimal within the range of **1** to **127**. Unless there is a conflict, the value should be ASCII FS (decimal **28**). The default value is **28**.
End Block Character	Specifies the **End Block Character** (the last envelope marker character in the HL7 envelope) as a decimal ASCII number.	A decimal within the range of **1** to **127**. To be strictly compliant with the HL7 Standard, this parameter MUST be set to a Carriage Return (decimal **13**). The default value is **13**.
Max Number of Retries	The maximum number of times the adapter will try sending the message upon receiving the MLLP v2.0 Negative Commit Acknowledgement from the peer before giving up. This parameter is used by HL7 adapter in outbound mode.	An integer indicating the number of times the adapter will try sending the message upon receiving the MLLP v2.0 Negative Commit Acknowledgement from the peer. The configured default value is **5**.

Where to Go Next

Table 107.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Sequence Number Protocol — TCP/IP HL7 V3 Outbound Adapter

Provides sequence number protocol configuration settings.

Note – Many of the parameters for the adapter are specific to the direction the data is travelling, that is whether the adapter is Inbound or Outbound to the application server.

This section of the TCP/IP HL7 V3 outbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 107 Connectivity Map - Sequence Number Protocol

Name	Description	Required Value
Sequence Number Enabled	Specifies whether **Sequence Number Protocol** is enabled or disabled. HL7 sequence numbering is used to help prevent duplication of data.	The configured default is **False.**

Where to Go Next

"HL7v3 Transmission Wrapper — TCP/IP HL7 V3 Outbound Adapter" on page 233.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

HL7v3 Transmission Wrapper — TCP/IP HL7 V3 Outbound Adapter

Provides HL7v3 Transmission Wrapper configuration settings. The HL7 Transmission Wrapper includes information needed by a sending application or message handling service to package and route the V3 Composite Message to the designated receiving application(s) and/or message handling service(s). The Transmission Wrapper is a cluster of classes, routed at Message, identifies the sender and receiver of the message and the particular kind of message being communicated.

This section of the TCP/IP HL7 V3 outbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 108 Connectivity Map - HL7v3 Transmission Wrapper

Name	Description	Required Value
Interaction ID	The identification of the unique information interchange. The attribute values are derived from the HL7 MDF interaction names. For example, POLB_IN100100 and COMT_IN300652.	
Processing Code	Defines whether the message being sent is part of the following values: ■ P — Production ■ T — Training ■ D — Debugging System	The configured default is **D**.
Processing Mode Code	Defines whether the message being sent is: ■ T — Current Processing ■ A — Archive Mode ■ T — Initial Load Mode ■ R — Restore from Archive Mode	The configured default is **T**.
Version Code	This attribute is matched by the receiving system to its own version to be sure the message will be interpreted correctly.	The configured default is **V3PR1**.
Validate Transmission Wrapper	Indicates whether to validate Transmission Wrapper of data message (for inbound case) and Transmission Wrapper of ACK (for outbound case). This parameter will be used in Collaboration Code.	The configured default is **False**.

Where to Go Next

"Communication Control — TCP/IP HL7 V3 Outbound Adapter" on page 234.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Communication Control — TCP/IP HL7 V3 Outbound Adapter

Controls data transferring (sending/receiving) over TCP/IP connection.

This section of the TCP/IP HL7 V3 outbound adapter Connectivity Map properties contains the top-level parameters displayed in following table.

TABLE 109 Connectivity Map - Communication Control

Name	Description	Required Value
Time To Wait For A Response	Specifies the amount of time (in milliseconds) that the adapter waits for a response from the external system before taking recourse action (see **Action on No Response** in the Table 87). Any data from the external system is considered a response. This property corresponds to the initial read/receive operation timeout. Once a response is received, the subsequent read/receive operation uses the **SoTimeout** specified timeout (see **So Timeout** in the Table 78).	An integer indicating the length of time in milliseconds that the adapter waits for a response from the external system. A value of **0** (zero) is interpreted as an infinite timeout. The configured default is **30000** (30 seconds).
Max Empty Read Retry	Specifies the maximum number of times the adapter attempts to read data from the external system after the read/receive operation returns nothing. This applies to the read or receive operation after a response starts to arrive. **Empty Read** means that a timeout occurs on the read/receive operation, which takes the **SoTimeout** parameter in the **TCPIP Server Base Settings** section as the applied timeout setting (see **So Timeout** in the Table 78). The corresponding recourse action is specified by the **Action on Max Failed Read Retry** in the Table 87.	An integer indicating the maximum number or retries. The configured default is **5**.
Max No Response	Specifies the maximum number of response timeouts the adapter allows, while waiting for data from the external system, before taking recourse action. This parameter will be used in collaboration code.	An integer indicating the appropriate number of timeouts that may occur before taking recourse action. The default value is **30**.
Max NAK Receive Retry	Specifies the maximum number of negative acknowledgments the adapter receives before taking recourse action (see **Action on Max Nak Received** in the Table 87). This parameter is used for outbound Collaboration code.	An integer indicating the appropriate maximum number of NAKs received before taking recourse action. The default value is **5**.

TABLE 109 Connectivity Map - Communication Control *(Continued)*

Name	Description	Required Value
Max NAK Send Retry	Specifies the maximum number of negative acknowledgments the adapter sends before taking recourse action (see **Action on Max Nak Sent** in the Table 87.	An integer that indicates the appropriate maximum number of NAKs sent by the adapter before recourse action is taken. The default value is **30**.
Max Canned NAK Send Retry	Specifies the maximum number of canned negative acknowledgments that the adapter sends before taking recourse action (see **Action on Max Nak Sent** in the Table 87).	The appropriate maximum number of canned NAK to send before taking recourse action. **0** indicates that the adapter will not attempt to create or send a canned NAK. The default value is **3**.
Enable Journaling	Specifies whether message journaling is enabled. This parameter is used for outbound Collaboration code.	Select **True** or **False**. **True** indicates that journaling is enabled. The default value is **True**.

Where to Go Next

"HL7 Recourse Action — TCP/IP HL7 V3 Outbound Adapter" on page 236.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

HL7 Recourse Action — TCP/IP HL7 V3 Outbound Adapter

Determines the actions the adapter takes when operations occur outside the configured constraints.

This section of the TCP/IP HL7 V3 outbound adapter Connectivity Map properties contains the top-level parameters displayed in this table:

TABLE 110 Connectivity Map - HL7 Recourse Action

Name	Description	Required Value
Action on No Response	Specifies the action the adapter will take if no ACK is received from the external system in the allotted time. The amount of time is determined by the **Time To Wait For A Response** parameter (see **Time To Wait For A Response** in the Table 86). The options are: ■ **Exit**: The adapter terminates its connection with the external system and shuts down. ■ **Resend**: The adapter attempts to resend the message to the external system. The Resend option is only allowed when sequence numbering is in effect. ■ **Reset**: The adapter closes its connection with the external system and goes through the connection scenario. This parameter is used for outbound Collaboration code.	Select **Exit**, **Resend**, or **Reset**. The configured default is **Reset**.
Action on Max No Response	Specifies the action the adapter takes when it attempts to send an Event to the external system the maximum allowed number of times, and does not receive any response (HL7 Application Acknowledgement) from the external system. The maximum number times the adapter sends an Event without receiving a response is determined by the **Max No Response** parameter (see **Max No Response** in the Table 86). The options are: ■ **Exit**: The adapter terminates its connection with the external system and shuts down. ■ **Reset**: The adapter closes its connection with the external system and goes through the connection scenario. This parameter is used for outbound Collaboration code.	Select **Exit** or **Reset**. The default value is **Reset**.

TABLE 110 Connectivity Map - HL7 Recourse Action *(Continued)*

Name	Description	Required Value
Action on Max Failed Read Retry	Specifies the action the adapter takes after it has reached the empty read limit set by the **Max Empty Read Retry** parameter. The recourse options are: ■ **Exit**: The adapter terminates its connection with the external system and shuts down. ■ **Reset**: The adapter closes its connection with the external system and goes through the connection scenario. This parameter is used for outbound Collaboration code.	Select **Exit** or **Reset**. The configured default is **Reset**.
Action on Nak Received	Specifies the action the adapter takes when it receives an HL7 Application NAK from the external system. The options are: ■ **Resend**: The adapter attempts to resend the message to the external system. ■ **Reset**: The adapter closes its connection with the external system and goes through the connection scenario. ■ **Skip Message**: The adapter remains connected, but writes the message to an error queue. **Note –** Do not set both the "Action On NAK Received" and "Action On Max NAK Received" parameters to "Skip Message." This parameter is used for outbound Collaboration code.	Select **Resend**, **Reset**, or **Skip Message**. The configured default is **Resend**.

TABLE 110 Connectivity Map - HL7 Recourse Action *(Continued)*

Name	Description	Required Value
Action on Max Nak Received	Specifies the action the adapter takes when the maximum number of HL7 Application NAKs have been received from the external system, as set by the **Max NAK Receive Retry** parameter (see **Max NAK Receive Retry** in the Table 86). The options are: ■ **Exit**: The adapter terminates its connection with the external system and shuts down. ■ **Reset**: The adapter closes its connection with the external system and goes through the connection scenario. ■ **Skip Message**: The adapter remains connected, but writes the message to an error queue. **Note –** Do not set both "Action On NAK Received" and "Action On Max NAK Received" parameters to "Skip Message." This parameter is used for outbound Collaboration code.	Select **Exit**, **Reset**, or **Skip Message**. The configured default is **Skip Message**.
Action on Max Nak Sent	Specifies the action the adapter takes when it has sent the maximum allowed number of NAKs to the external system, as set by the **Max NAK Send Retry** parameter (see **Max NAK Receive Retry** in the Table 86). The options are: ■ **Exit**: The adapter terminates its connection with the external system and shuts down. ■ **Reset**: The adapter closes its connection with the external system and goes through the connection scenario. ■ This parameter is used for outbound Collaboration code.	Select **Exit** or **Reset**. The default value is **Exit**.

Configuring TCP/IP Adapter Inbound Connectivity Map Properties

The inbound property settings determine the adapter's behavior for input operations.

The TCP/IP inbound adapter configuration parameters, accessed from the Connectivity Map, are organized into the following sections:

- "General Inbound Settings — TCP/IP Adapter Inbound" on page 240.

- "TCPIP Inbound Settings — TCP/IP Adapter Inbound" on page 241.
- "TCPIP Inbound Settings - Server Port Binding — TCP/IP Adapter Inbound" on page 244.
- "TCPIP Inbound Settings - Client Connection Establishment — TCP/IP Adapter Inbound" on page 244.
- "TCPIP Inbound Settings - Inbound Connection Management — TCP/IP Adapter Inbound" on page 245.
- "TCPIP Inbound Schedules - Listener Schedule — TCP/IP Adapter Inbound" on page 247.
- "TCPIP Inbound Settings - Service Schedule — TCP/IP Adapter Inbound" on page 250.
- "TCPIP Inbound Settings - Envelope Message — TCP/IP Adapter Inbound" on page 252.

Where to Go Next

"General Inbound Settings — TCP/IP Adapter Inbound" on page 240.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

The following section contains a brief description on upgrading the adapter "Java CAPS 5.1.x to 6 Upgrade Procedure" on page 254.

General Inbound Settings — TCP/IP Adapter Inbound

The **General Inbound Settings** properties provide the dedicated session mode and maximum data size message settings for the server. This section contains the top-level parameters as displayed in the table.

TABLE 111 Connectivity Map - General Inbound Settings

Name	Description	Required Value
Max Data Size	Allows you to define the maximum size of the data that the programs can hold internally.	The valid range is from 1 to 2 GB (the maximum value of the Java integer). The configured default is **2147483647.**.

TABLE 111 Connectivity Map - General Inbound Settings *(Continued)*

Name	Description	Required Value
Scope Of State	Defines the scope of State object, which is an OTD node. The options for this parameter are: ■ **Resource Adapter Level**: The State has the same life cycle as the resource adapter. ■ **Persistence**: The State is persisted in the storage media like file or DB (**Persistence State File Location** must be specified if this option is selected). ■ **Connection Level**: The State has the same life cycle as the connection. ■ **OTD Level**: The State has the same life cycle as the OTD object. This scope represents the life cycle of the State.	Select one of the following: ■ **Resource Adapter Level** ■ **Connection Level** ■ **OTD Level** The configured default is **Resource Adapter Level**.
Dedicated Session Mode	Allows you to enable or disable the adapter's Dedicated Session Mode. When the Dedicated Session Mode is enabled in a server, the current client's request can exclusively hold the server port to which it connects. For example, if this property is enabled, and the client is connected to a server, it only serves the client until the work is completed, and the session is disconnected. If another client tries to connect to the server during this time, it cannot until the session is completed.	Select **True** or **False**. True indicates that Dedicated Session Mode is enabled. The configured default is **False**.

Where to Go Next

"TCPIP Inbound Settings — TCP/IP Adapter Inbound" on page 241.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

TCPIP Inbound Settings — TCP/IP Adapter Inbound

The **TCPIP Inbound Settings** properties provide the basic TCP/IP values for the server. The TCP/IP Inbound Settings properties contain the top-level parameters as displayed in the table.

TABLE 112 Connectivity Map - TCPIP Inbound Settings

Name	Description	Required Value
Connection Type	Specifies how the adapter establishes the TCP/IP connection: ■ **Client**: The adapter connects to an external server (host/port) to establish the connection. The adapter is in active mode. ■ **Server**: The adapter waits/listens on a certain port for an incoming connection request from an external client. Once the request is received, the adapter accepts the request and establishes the connection. The adapter is in passive mode.	Select **Client** or **Server**. **Server** is the default setting. Unless you specifically require Client mode, leave this value as the default: **Server**.
ServerSO Timeout	Allows you to set or get the server **SO_TIMEOUT** value, in milliseconds.	The server's **SO_TIMEOUT** value is in milliseconds. The default value is **10000** milliseconds (10 seconds).
Server Socket Factory Implementation Class Name	Enter the name of the Java class that implements the server socket factory. This class is used to create the server socket. If you have provided your own server socket implementation, enter the name of the Java class that contains this implementation. The factory implementation class must implement the following interface: `com.stc.connector.tcpip.model.factory.TCPIPSocketFactory`	A valid Java class name; the default is: `com.stc.connector.tcpip.model.factory.TCPIPSocketFactoryImpl`
Keep Alive	Specifies whether the server's **SO_KEEPALIVE** option is enabled or disabled. It is used for the accepted client socket. **Note –** For some properties, the server socket itself does not have direct properties settings associated with it. Instead, the properties map have direct properties settings associated to the accepted client socket.	Select **True** or **False**. **True** indicates that the server **SO_KEEPALIVE** option is enabled. The configured default is **True**.
Receive Buffer Size	Allows you to set or get the value of the server's **SO_RCVBUF** option for the current socket, that is, the buffer size used by the operating system for input on this socket. It is used for the accepted client socket.	A number indicating the receive buffer size. The configured default is **8192**.
Send Buffer Size	Allows you to set or get the value of the server's **SO_SNDBUF** option for the current socket, that is, the buffer size used by the operating system for output on this socket. It is used for the accepted client socket.	A number indicating the send buffer size. The configured default is **8192**.

TABLE 112 Connectivity Map - TCPIP Inbound Settings *(Continued)*

Name	Description	Required Value
SoLinger	Specifies whether the server's **SO_LINGER** option is enabled or disabled; used for the accepted client socket.	Select **True** or **False**. **True** enables the **SO_LINGER** option. The configured default value is **True**.
SoLinger Timeout	Specifies the server's linger time-out in seconds. The maximum time-out value is platform specific. The setting only affects the socket close; used for the accepted client socket.	The linger time-out in seconds. The configured default is **30** seconds, indicating that the **SO_LINGER** option is disabled.
SoTimeout	Allows you to set or get the value of the server's **SO_TIMEOUT** value, in milliseconds. Used for the accepted client socket. A time-out of 0 (zero) is an infinite time-out. If you specify this value, the adapter goes into an infinite read. If this action happens, it is recorded in the adapter's log file.	The **SO_TIMEOUT** value in milliseconds. The configured default value is **10000** milliseconds (10 seconds).
TcpNoDelay	Specifies whether the server's **TCP_NODELAY** option (that is, Nagle's algorithm) is enabled or disabled. Used for the accepted client socket.	Select **True** or **False**. **True** enables the **TCP_NODELAY** option. The configured default value is **False**.

Where to Go Next

"TCPIP Inbound Settings - Server Port Binding — TCP/IP Adapter Inbound" on page 244.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

TCPIP Inbound Settings - Server Port Binding — TCP/IP Adapter Inbound

The **Server Port Binding** section defines the configuration parameters used for controlling the server port binding. The TCP/IP Inbound Settings — Server Port Binding properties contain the top-level parameters as displayed in the table.

TABLE 113 Connectivity Map - TCPIP Inbound Settings - Server Port Binding

Name	Description	Required Value
Max Binding Retry	Specifies the maximum number of times the adapter attempts to bind to the specified TCP/IP port on the localhost.	An integer indicating the number of bind attempts. The configured default is **3**.
Retry Binding Interval	Specifies the amount of time (in milliseconds) the adapter waits between attempts to bind to the specified TCP/IP port on the localhost.	An integer indicating the amount of time in milliseconds that the adapter waits between attempts. The configured default is **30000** (30 seconds).

Where to Go Next

"TCPIP Inbound Settings - Client Connection Establishment — TCP/IP Adapter Inbound" on page 244.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

TCPIP Inbound Settings - Client Connection Establishment — TCP/IP Adapter Inbound

The **Client Connection Establishment** properties define some of the configuration parameters used for controlling the connection establishment. This section is used only when the Connection Type is set as Client.

This section of the TCP/IP inbound adapter Connectivity Map properties contains the top-level parameters as displayed in the table.

TABLE 114 Connectivity Map - TCPIP Inbound Settings - Client Connection Establishment

Name	Description	Required Value
Time to Wait Before Attempting Connection	Specifies the amount of time (in milliseconds) the adapter waits before attempting to connect to the external system.	A number indicating the amount of time (in milliseconds) the adapter waits before attempting to connect to an external system. The configured default is **30000** (30 seconds).

Where to Go Next

"TCPIP Inbound Settings - Inbound Connection Management — TCP/IP Adapter Inbound" on page 245.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

TCPIP Inbound Settings - Inbound Connection Management — TCP/IP Adapter Inbound

The **Inbound Connection Management** properties define the parameters used for inbound Server Connection Management. For example, the connection pool and the life cycle of the accepted connection.

This section of the TCP/IP HL7 inbound adapter Connectivity Map properties contains the top-level parameters is as displayed in the table.

TABLE 115 Connectivity Map - TCPIP Inbound Settings - Inbound Connection Management

Name	Description	Required Value
Max Connection Pool Size	Specifies the maximum number of concurrent connections allowed for the specific listener/monitor which is listening or monitoring a specified TCP/IP port. This represents the capability or availability of this server's services. Each connect-request from a client gains one concurrent connection. This parameter also represents the maximum number of clients who can concurrently connect to this server's services, and get served by the specific listener/monitor at the same time.	A number indicating the maximum number of concurrent connections available from a listener/monitor for a specific TCP/IP port. **0** indicates that there is no limit. The configured default is **50**.
Scope Of Connection	Specifies the scope of the accepted connection which is used by the adapter. The two options are: ■ **Resource Adapter Level**: The resource adapter will close the connection upon receiving a closure request, so the connection may **keep alive** during multiple executions of the Collaboration. ■ **Collaboration Level**: The connection is closed once the Collaboration has been executed, so the connection has the same life cycle as the Collaboration.	Select **Resource Adapter Level** or **Collaboration Level**. The configured default value is **Resource Adapter Level**.
Close Notification	Specifies the close notification value. When the server receives a notification with content that matches this parameter's value, the server safely closes the connection and cancels any corresponding schedules.	A String indicating the trigger value that notifies the server to close the connection. The configured default is **QUIT**.
Idle Timeout	Specifies the length of time (in milliseconds) for inactivity of the requestor (client). The adapter attempts to detect activity on client side (the other side of the connection). If no client activity (no i/o request comes over the connection from the client) for a specified time period, then the connection is closed from the server side to release the resource. The value is in milliseconds.	An integer that indicates the amount of time (in milliseconds) for inactivity of the requestor (client) before the connection is closed from the server side to release the resource. A value of **0** disables IdleTimeout. The configured default is **60000** (1 minute).

Where to Go Next

"TCPIP Inbound Schedules - Listener Schedule — TCP/IP Adapter Inbound" on page 247.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

TCPIP Inbound Schedules - Listener Schedule — TCP/IP Adapter Inbound

This section configures the scheduler used by the inbound TCP/IP Server. The server waits for a new client connection establishment request. These parameters are used to configure the listener/monitor that listens on the specified port.

Two J2EE schedulers are available (see Scheduler):

- **Timer Service**: This scheduler is configured using the At Fixed Rate, Delay, and Period properties.
- **Work Manager**: Available for **J2EE** (JCA 1.5 and above). This scheduler is configured using the Delay and Period properties.

Both schedulers provide the functionality required by the inbound TCP/IP Server.

This section of the TCP/IP HL7 inbound adapter Connectivity Map properties contains the top-level parameters is as displayed in the table.

TABLE 116 Connectivity Map - TCPIP Inbound Schedules - Listener Schedule

Name	Description	Required Value
Scheduler	Specifies the scheduler type for this inbound communication. There are two options: ■ **Timer Service**: The scheduler is configured using the At **Fixed Rate**, **Delay** and **Period** properties. ■ **Work Manager**: The task is scheduled through the J2EE Work Manager. Work Manager is supported by **J2EE** (JCA 1.5 and above). This scheduler is configured using the **Delay** and **Period** properties	Select **Timer Service** or **Work Manager**. If your container doesn't support JCA Work Manager, select **Timer Service**.

TABLE 116 Connectivity Map - TCPIP Inbound Schedules - Listener Schedule *(Continued)*

Name	Description	Required Value
Schedule Type	This property configuration, though visible from the Properties Editor, is disabled. The only available schedule type is **Repeated**, indicating that the task is scheduled for repeated execution at regular intervals defined by the **Period** property in this section (see **Period**).	This property is disabled.
Delay	Applies to both the **Timer Service** or the **Work Manager**. Specifies, in milliseconds, the length of delay time before the task is executed.	An integer indicating the amount of time before the task is executed, in milliseconds (1000 milliseconds is equal to 1 second).
Period	Specifies the regular interval, in milliseconds, between successive repeated task executions. This is used for the **Repeated** Schedule Type. See **Schedule Type**. Applies to both the **Timer Service** or the **Work Manager**.	An integer indicating the amount of time between successive task executions, in milliseconds. Enter a positive integer. The configured default is **100**. Lowering this value may increase the number of transactions per second.

TABLE 116 Connectivity Map - TCPIP Inbound Schedules - Listener Schedule *(Continued)*

Name	Description	Required Value
At Fixed Rate	Specific to the **Timer Service** configuration only. Specifies whether a **Fixed-Rate** execution or **Fixed-Delay** execution is used. ■ **Fixed-Rate**: A fixed-rate execution means that each execution is scheduled relative to the scheduled time of the initial execution. If an execution is delayed for any reason (such as garbage collection or other background activity), two or more executions will occur in rapid succession to **catch up**. In the long run, the frequency of execution will be exactly the reciprocal of the specified period (assuming the system clock underlying Object.wait(long) is accurate). ■ **Fixed-Delay**: A fixed-delay execution means that each execution is scheduled relative to the actual time of the previous execution. If an execution is delayed for any reason (such as garbage collection or other background activity), subsequent executions will be delayed as well. As a result, the frequency of execution will generally be slightly lower than the reciprocal of the specified period, assuming the system clock underlying Object.wait(long) is accurate.	Select **True** or **False**. **True** indicates that a fixed-rate execution is used. **False** indicates that a fixed-delay execution is used.

Where to Go Next

"TCPIP Inbound Settings - Service Schedule — TCP/IP Adapter Inbound" on page 250.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

TCPIP Inbound Settings - Service Schedule — TCP/IP Adapter Inbound

This section configures the scheduler used by the TCP/IP Server that executes the business tasks (Collaboration Rules) over the existing connection. This scheduler affects the actual Business Rules defined by the user.

Two J2EE schedulers are available (see **Scheduler**):

- **Timer Service**: This scheduler is configured using the **At Fixed Rate**, **Delay**, **Period**, and **Schedule Type** properties.
- **Work Manager**: Available for **J2EE** (JCA 1.5 and above). This scheduler is configured using the **Delay**, **Period**, and **Schedule Type** properties.

Both schedulers provide the functionality required by the inbound TCP/IP Server.

This section of the TCP/IP inbound adapter Connectivity Map properties contains the top-level parameters as displayed in the table.

TABLE 117 Connectivity Map - TCPIP Inbound Settings - Server Schedule

Name	Description	Required Value
Scheduler	Specifies the scheduler type for this inbound communication. There are two options: ■ **Timer Service**: This scheduler is configured using the **At Fixed Rate**, **Delay**, and **Period properties**. ■ **Work Manager**: The task is scheduled through the J2EE Work Manager. Work Manager is supported by **J2EE** (JCA 1.5 and above). This scheduler is configured using the **Delay** and **Period** properties.	Select **Timer Service** or **Work Manager**. If your container doesn't support JCA Work Manager, select **Timer Service** .
Schedule Type	Applies to both the **Timer Service** or the **Work Manager**. Specifies whether the task is scheduled to occur once or be repeated. ■ **OneTime**: The task will be scheduled for one-time execution. ■ **Repeated**: The task will be scheduled for repeated execution at regular intervals defined by **Period** property in this section (see **Period**).	Select **OneTime** or **Repeated**.
Delay	Applies to both the **Timer Service** or the **Work Manager**. Specifies, in milliseconds, the length of delay time before the task is executed.	An integer indicating the amount of time, in milliseconds, before the task is executed (1000 milliseconds is equal to 1 second).

TABLE 117 Connectivity Map - TCPIP Inbound Settings - Server Schedule *(Continued)*

Name	Description	Required Value
Period	Specifies the wait interval in milliseconds between successive repeated task executions. This is used for the **Repeated** Schedule Type (see **Schedule Type**). Applies to both the **Timer Service** or the **Work Manager**.	An integer indicating the amount of time, in milliseconds, between successive task executions (1000 milliseconds is equal to 1 second). Enter a positive integer. The configured default is **100**. Lowering this value may increase the number of transactions per second.
At Fixed Rate	Specific to the **Timer Service** configuration only. Specifies whether a **Fixed-Rate** execution or **Fixed-Delay** execution is used. This is used for the "Repeated" schedule type by the "Timer Service" scheduler. ■ **Fixed-Rate**: A fixed-rate execution means that each execution is scheduled relative to the scheduled time of the initial execution. If an execution is delayed for any reason (such as garbage collection or other background activity), two or more executions will occur in rapid succession to **catch up**. In the long run, the frequency of execution will be exactly the reciprocal of the specified period (assuming the system clock underlying Object.wait(long) is accurate). ■ **Fixed-Delay**: A fixed-delay execution means that each execution is scheduled relative to the actual time of the previous execution. If an execution is delayed for any reason (such as garbage collection or other background activity), subsequent executions will be delayed as well. As a result, the frequency of execution will generally be slightly lower than the reciprocal of the specified period (assuming the system clock underlying Object.wait(long) is accurate).	Select **True** or **False**. **True** indicates that a fixed-rate execution is used. **False** indicates that a fixed-delay execution is used.

Where to Go Next

"TCPIP Inbound Settings - Envelope Message — TCP/IP Adapter Inbound" on page 252.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters

- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

TCPIP Inbound Settings - Envelope Message — TCP/IP Adapter Inbound

This section of the Inbound TCP/IP adapter Connectivity Map properties contains the top-level parameters is as displayed in the table.

TABLE 118 Connectivity Map - TCPIP Inbound Settings - Envelope Message

Name	Description	Required Value
Envelope Type	Specifies the envelope type. The envelope type defines where a message starts and stops.	Enter one of the following properties denoting the envelope type: ■ **BeginEndMarked** ■ **EndMarked** ■ **FixedLength** ■ **LengthPrefixed** ■ **MarkedAndFixed** ■ **PerActiveConnection** ■ **Custom** The default is **BeginEndMarked**.
	BeginEndMarked is supported by the properties **Bytes to Read**, **Ignore Until Char Value**, and **Store Until Char Value**.	
	EndMarked is supported by the property **Store Until Char Value**.	
	FixedLength is supported by the properties **Bytes to Read**.	
	LengthPrefixed is supported by the property **Width of Length** and **Numeric Representation**.	
	MarkedAndFixed is supported by the property **Bytes to Read**, **Ignore Until Char Value**, and **Store Until Value**.	
	PerActiveConnection is supported by the property **PerActiveConnection**.	
	Custom is supported by the properties **Custom Enveloped Class Name** and **Custom Defined Property**. **Note –** For all envelope types, except **MarkedAndFixed**, the data is just the payload. See **MarkedAndFixed** for an explanation of how the data is handled by that envelope type.	

TABLE 118 Connectivity Map - TCPIP Inbound Settings - Envelope Message *(Continued)*

Name	Description	Required Value

Custom Enveloped Class Name	Specifies the Java class name to be used when the **Envelope Type** property is set to **Custom**.
	
	If you are using a custom envelope you have created, using a Java Class, you can import the Java JAR file containing the class into any desired Collaboration, using the Collaboration Editor's file import feature.
	
	The class name should be a full qualified class name, such as **com.abc.MyClass**. The class must implement interfaces
	
	`com.stc.connector.tcpip.ext.msg.EnvelopedMsgReceiver`
	
	and
	
	`com.stc.connector.tcpip.ext.msg.EnvelopedMsgSender`
	
	For more details, see **Customized Enveloping**.
		A full Java class name.
		
		A full qualified class name, or **None** if Custom is not the Envelope Type.
		
		The configured default is **None**.

Customer Defined Property	Used when the Envelope Type value is set to **Custom**. Specifies a list of user-defined parameters. You can parse this information, such as delimiters, into your customized envelope message implementation.	A text string.
Bytes to Read	Used with the following Envelope Types: ■ **FixedLength** ■ **MarkedAndFixed** Specifies the number of bytes to read. It is assumed that all Events received by the adapter have the same length.	An integer indicating the number of bytes. The configured default is **1**.
Width of Length	Used for Envelope Type value **LengthPrefixed**. Specifies the width of the envelope length. In other words, it dictates the number of digits to be used to represent the length field.	An integer, the range is 1 to 10. This property must be set to **2** for **Network short** and **4** for **Network long**. The configured default value is **1**.
Numeric Representation	Used for Envelope Type value **LengthPrefixed**. Specifies how the number representation of the prefixed length is expressed. This value is expressed in one of the following formats: ■ Decimal ■ Hexadecimal ■ Octal ■ Network Short ■ Network Long	Select one of the following: ■ Decimal ■ Hexadecimal ■ Octal ■ Network Short ■ Network Long The configured default is **Decimal**.

TABLE 118 Connectivity Map - TCPIP Inbound Settings - Envelope Message *(Continued)*

Name	Description	Required Value
Ignore Until Char Value	Used for the Envelope Types **BeginEndMarked** and **MarkedAndFixed**. Specifies the value for the ignore-until (same as begin block) character. All incoming characters are ignored until this character is encountered.	A decimal ascii number. The allowed range is 1 to 127. The configured default is **11**.
Store Until Char Value	Used for Envelope Types **BeginEndMarked**, **EndMarked**, and **MarkedAndFixed**. Specifies the character in the End Block or Marker position of the envelope. All incoming characters are stored until this character is encountered.	A decimal ASCII number. The allowed range is 1 to 127. The configured default is **12**.

Where to Go Next

"Java CAPS 5.1.x to 6 Upgrade Procedure" on page 254.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

Java CAPS 5.1.x to 6 Upgrade Procedure

There are new versions of the Configuration templates used in version 6. For previous 5.1.x projects that are imported or going through an "in-place upgrade" to the latest version, the Configuration template will be upgraded during design time or build time.

At design time when you open the Connectivity Map or Environment properties window, a warning window appears (as shown in the figure below), and the Configuration template automatically upgrades. You can now update the Environment properties with any necessary change, and run the project.

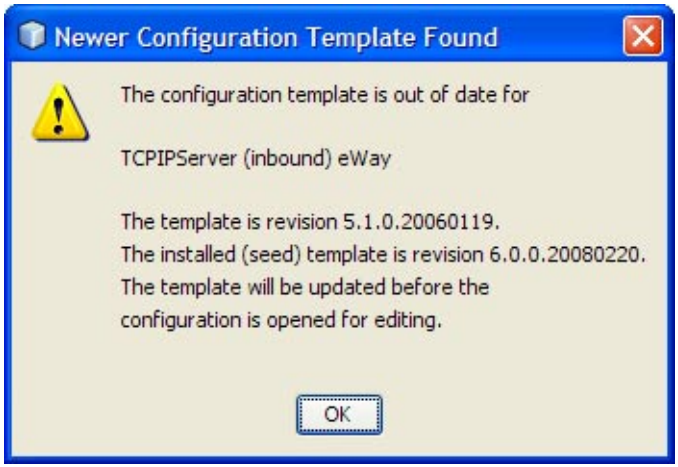


FIGURE 3 Configuration Template Warning Window

If you attempt to build a project without first opening either the Connectivity Map or Environment property window, code generation will automatically upgrade the Configuration template. Once this build-time upgrade scenario is complete, you will not see the warning window anymore.

Configuring TCP/IP Adapter Outbound Connectivity Map Properties

The outbound TCP/IP adapter properties determine the adapters behavior for output operations. The outbound TCP/IP Adapter Connectivity Map properties are organized into the following sections:

- "General Outbound Settings — TCP/IP Adapter Outbound" on page 255.
- "TCPIP Outbound Settings — TCP/IP Adapter Outbound" on page 256.
- "TCPIP Outbound Settings - Connection Establishment — TCP/IP Adapter Outbound" on page 259.
- "TCPIP Outbound Settings - Server Port Binding" on page 261.
- "TCPIP Outbound Settings - Envelope Message" on page 261.

General Outbound Settings — TCP/IP Adapter Outbound

The **General Outbound Settings** properties provides a general TCP/IP outbound configuration information. This section contains the top-level parameters as displayed in the table.

TABLE 119 Connectivity Map - General Outbound Settings

Name	Description	Required Value
Max Data Size	Specifies the maximum amount of data that the programs can hold internally.	The valid range is from 1 to 2147483647 bytes (2 GB — the maximum value of the Java integer). The configured default is **2147483647**.
Scope Of State	Specifies the scope of State object, which is an OTD node. The options for this parameter are: ■ **Resource Adapter Level**: The State has the same life cycle as the resource adapter. ■ **Persistence**: The State is persisted in the storage media like file or DB (**Persistence State File Location** must be specified if this option is selected). ■ **Connection Level**: The State has the same life cycle as the connection. ■ **OTD Level**: The State has the same life cycle as the OTD object. This scope represents the life cycle of the State.	Select one of the following: ■ **Resource Adapter Level** ■ **Connection Level** ■ **OTD Level** The configured default is **Resource Adapter Level**.

Where to Go Next

"TCPIP Outbound Settings — TCP/IP Adapter Outbound" on page 256.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

TCPIP Outbound Settings — TCP/IP Adapter Outbound

The **TCPIP Outbound Settings** properties presents the java Socket options. For more information, see the JDK Javadoc.. The TCP/IP Outbound Settings properties contain the top-level parameters as displayed in the table.

Note – For complete information on options referred to by these base settings, for example, **SO_KEEPALIVE**, see the appropriate Sun Microsystems Java documentation.

TABLE 120 Connectivity Map - TCPIP Outbound Settings

Name	Description	Required Value
Connection Type	Specifies how the adapter establishes the TCP/IP connection: ■ **Client**: The adapter connects to an external server (host/port) to establish the connection. The adapter is in active mode. ■ **Server**: The adapter waits/listens on a particular port for an incoming connection request from an external client. Once the request is received, the adapter accepts the request and establishes the connection. The adapter is in passive mode.	Select **Client** or **Server**. Server is the default setting. Unless you specifically require Server mode, leave this value as the default: **Client**.
ServerSO Timeout	Sets or gets the value of the SoTimeout for the ServerSocket, in milliseconds. Used for **ServerSocket.accept()**. When you set this option to a non-zero timeout, calling **accept()** for **ServerSocket** will block for only this period of time. If the timeout expires, a **java.net.SocketTimeoutException** (or **java.net.InterruptedIOException**) is thrown, though the ServerSocket remains valid. Enable this option prior to entering the blocking operation. This parameter is used only when the **Connection Type** is set as **Server**.	An integer that indicates the **SoTimeout** value in milliseconds. The default value is **60000** milliseconds (60 seconds). The timeout must be greater than **0** (zero). A timeout value of **0** is interpreted as an infinite timeout.
Keep Alive	Specifies whether the client's **SO_KEEPALIVE** option is enabled or disabled.	Select **True** or **False**. **True** indicates that the server **SO_KEEPALIVE** option is enabled. The configured default is **True**.

TABLE 120 Connectivity Map - TCPIP Outbound Settings *(Continued)*

Name	Description	Required Value
Receive Buffer Size	Allows you to set or get the value of the client **SO_RCVBUF** option for the current socket, that is, the buffer size used by the operating system for input on this socket. It sets a **hint** as to the size of the underlying buffers used by the platform for incoming network I/O. When used in **set**, this is a suggestion to the kernel, from the application, regarding the buffer sizes to use for the data that will be received over the socket. When used in **get**, this must return the size of the buffer actually used by the platform when receiving in data on this socket.	An integer indicating the receive buffer size. The configured default is **8192**.
Send Buffer Size	Allows you to set or get the value of the client's **SO_SNDBUF** option for the current socket, that is, the buffer size used by the operating system for output on this socket.	A number indicating the send buffer size. The configured default is **8192**.
SoLinger	Specifies whether the client's **SO_LINGER** option is enabled or disabled.	Select **True** or **False**. **True** enables the **SO_LINGER** option.
SoLinger Timeout	Specifies the client's linger time-out in seconds. The maximum time-out value is platform specific. The setting only affects the socket close.	The linger time-out in seconds. The configured default is **30** seconds, indicating that the **SO_LINGER** option is disabled.
SoTimeout	Allows you to set or get the value of the client's **SO_TIMEOUT** value, in milliseconds.	The **SO_TIMEOUT** value in milliseconds. The configured default value is **10000** milliseconds (10 seconds).
TcpNoDelay	Specifies whether the client's **TCP_NODELAY** option (that is, Nagle's algorithm) is enabled or disabled.	Select **True** or **False**. **True** enables the **TCP_NODELAY** option.
Socket Factory Implementation Class Name	Enter the name of the Java class that implements the client socket factory. This class is used to create the client socket. If you have provided your own client socket implementation, enter the name of the Java class that contains this implementation. The factory implementation class must implement the following interface: `com.stc.connector.tcpip.model.factory.TCPIPSocketFactory`	A valid Java class name; the default is: `com.stc.connector.tcpip.model.factory.TCPIPSocketFactoryImpl`

Where to Go Next

"TCPIP Outbound Settings - Connection Establishment — TCP/IP Adapter Outbound" on page 259.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

TCPIP Outbound Settings - Connection Establishment — TCP/IP Adapter Outbound

The **Client Connection Establishment** properties define some of the configuration parameters used to control the connection establishment.

This section of the TCP/IP Outbound Adapter Connectivity Map properties contains the top-level parameters as displayed in the table.

Note – This section is used only when the Connection Type is set as Client.

TABLE 121 Connectivity Map - TCPIP Outbound Settings - Client Connection Establishment

Name	Description	Required Value
Time to Wait Before Attempting Connection	Specifies the length of time (in milliseconds) the adapter waits before attempting to connect to the external system.	A number indicating the amount of time (in milliseconds) the adapter waits before attempting to connect. The configured default is **0**.
Always Create New Connection	Specifies whether the adapter always attempts to create a new connection when a connection establishment request is received. ■ **True** indicates that the adapter always attempts to create a new connection without attempting to match an existing connection. ■ **False** indicates that the adapter attempts to match an existing connection (managed by the container).	Select **True** or **False**. The configured default is **False**.

TABLE 121 Connectivity Map - TCPIP Outbound Settings - Client Connection Establishment *(Continued)*

Name	Description	Required Value
Auto Reconnect Upon Matching Failure	Specifies whether to attempt to re-connect automatically when the adapter gets a matching connection from a container, even though this connection is not valid due to various reasons: for example, the external side of the connection is closed/reset due to the external application's logic. This property only takes effect when the Integration Server has an existing connection in its connection pool, not during an initial triggering when the pool is empty. ■ **True** indicates that the adapter discards the invalid matching connection and automatically attempts to reconnect using a new connection. ■ **False** indicates that the adapter does not automatically attempt to reconnect using a new connection: instead, a exception is thrown and the adapter raises the appropriate alert. The user must detect this type of failure and act appropriately.	Select **True** or **False**. The configured default is **True**.
Max Connection Retry	Specifies the maximum number of times the adapter attempts to connect to a specific external TCP/IP destination (host/port) before giving up.	An integer indicating the number of times the adapter attempts to connect.
Retry Connection Interval	Specifies the amount of time (in milliseconds) the adapter waits between attempts to connect to a specific external TCP/IP destination (host/port).	An integer indicating the amount of time (in milliseconds) the adapter waits between attempts to connect. The configured default is **30000** (or 30 seconds).

Where to Go Next

"TCPIP Outbound Settings - Server Port Binding" on page 261.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

TCPIP Outbound Settings - Server Port Binding

The **Server Port Binding** section defines the configuration parameters used for controlling the server port binding. This parameter is used only when the **Connection Type** is set as **Server**. The TCP/IP Outbound Settings — Server Port Binding properties contain the top-level parameters as displayed in the table.

TABLE 122 Connectivity Map - TCPIP Outbound Settings - Server Port Binding

Name	Description	Required Value
Max Binding Retry	Specifies the maximum number of times the adapter attempts to bind to the specified TCP/IP port on the localhost.	An integer indicating the number of bind attempts to the specified TCP/IP port on the localhost.
Retry Binding Interval	Specifies the amount of time (in milliseconds) the adapter waits between attempts to bind to the specified TCP/IP port on the localhost.	An integer indicating the amount of time in milliseconds that the adapter attempts to bind to the specified TCP/IP port. The configured default is **30000** (30 seconds).

Where to Go Next

"TCPIP Outbound Settings - Envelope Message" on page 261.

Related Topics

- "About Configuring Java CAPS Adapter Connectivity Map Properties" on page 10
- Configuring Java CAPS Project Components for Communication Adapters
- About Communication Adapters
- Designing with Communication Adapters
- Developing OTDs for Communication Adapters
- Configuring Java CAPS Environment Components for Communications Adapters

TCPIP Outbound Settings - Envelope Message

These properties are the envelope message format settings for the Outbound adapter. These properties operate in the same way as those for the inbound adapter

This section explains the envelope message format properties for the server. These properties are all associated with TCP/IP enveloping. This section of the Outbound TCP/IP adapter Connectivity Map properties contains the top-level parameters as displayed in the table.

TABLE 123 Connectivity Map - TCPIP Outbound Settings - Envelope Message

Name	Description	Required Value
Envelope Type	Specifies the envelope type. The envelope type defines where a message starts and stops.	Enter one of the following properties denoting the envelope type: ■ **BeginEndMarked** ■ **EndMarked** ■ **FixedLength** ■ **LengthPrefixed** ■ **MarkedAndFixed** ■ **PerActiveConnection** ■ **Custom** The default is **BeginEndMarked**.
	BeginEndMarked is supported by the properties. **Bytes to Read**, **Ignore Until Char Value**, and **Store Until Char Value**.	
	EndMarked is supported by the property **Store Until Char Value**.	
	FixedLength is supported by the properties **Bytes to Read**.	
	LengthPrefixed is supported by the property **Width of Length** and **Numeric Representation**.	
	MarkedAndFixed is supported by the property **Bytes to Read**, **Ignore Until Char Value**, and **Store Until Value**.	
	PerActiveConnection is supported by the property **PerActiveConnection**.	
	Custom is supported by the properties **Custom Enveloped Class Name** and **Custom Defined Property**. For optimum performance, use the method **receiveEnvelopedMsg()** with any enveloped messages. This method uses the envelope as its ending condition, while the other receiving methods, **receiveBytes()** and **receiveString()**, use a time-out as their ending condition. **Note –** For all envelope types, except **MarkedAndFixed**, the data is just the payload. See **MarkedAndFixed** for an explanation of how the data is handled by that envelope type.	

TABLE 123 Connectivity Map - TCPIP Outbound Settings - Envelope Message *(Continued)*

Name	Description	Required Value

Custom Enveloped Class Name	Specifies the Java class name to be used when the **Envelope Type** property is set to **Custom**.
	
	If you are using a custom envelope you have created, using a Java Class, you can import the Java JAR file containing the class into any desired Collaboration, using the Collaboration Editor's file import feature.
	
	The class name should be a full qualified class name, such as **com.abc.MyClass**. The class must implement interfaces
	
	`com.stc.connector.tcpip.ext.msg.EnvelopedMsgReceiver`
	
	and
	
	`com.stc.connector.tcpip.ext.msg.EnvelopedMsgSender`
	
	For more details, see **Customized Enveloping**.
		A full Java class name.
		
		A full qualified class name, or **None** if Custom is not the Envelope Type.
		
		The configured default is **None**.

Customer Defined Property	Used when the Envelope Type value is set to **Custom**. Specifies a list of user-defined parameters. You can parse this information, such as delimiters, into your customized envelope message implementation.	A text string.
Bytes to Read	Used with the following Envelope Types: ■ **FixedLength** ■ **MarkedAndFixed** Specifies the number of bytes to read. It is assumed that all Events received by the adapter have the same length.	An integer indicating the number of bytes. The configured default is **1**.
Width of Length	Used for Envelope Type value **LengthPrefixed**. Specifies the width of the envelope length. In other words, it dictates the number of digits to be used to represent the length field.	An integer, the range is 1 to 10. This property must be set to **2** for **Network short** and **4** for **Network long**. The configured default value is **1**.

TABLE 123 Connectivity Map - TCPIP Outbound Settings - Envelope Message *(Continued)*

Name	Description	Required Value
Numeric Representation	Used for Envelope Type value **LengthPrefixed**. Specifies how the number representation of the prefixed length is expressed. This value is expressed in one of the following formats: ■ Decimal ■ Hexadecimal ■ Octal ■ Network Short ■ Network Long	Select one of the following: ■ Decimal ■ Hexadecimal ■ Octal ■ Network Short ■ Network Long The configured default is **Decimal**.
Ignore Until Char Value	Used for the Envelope Types **BeginEndMarked** and **MarkedAndFixed**. Specifies the value for the ignore-until (same as begin block) character. All incoming characters are ignored until this character is encountered.	A decimal ASCII number. The allowed range is 1 to 127. The configured default is **11**.
Store Until Char Value	Used for Envelope Types **BeginEndMarked**, **EndMarked**, and **MarkedAndFixed**. Specifies the character in the End Block or Marker position of the envelope. All incoming characters are stored until this character is encountered.	A decimal ASCII number. The allowed range is 1 to 127. The configured default is **12**.