IBM Sterling Connect:Direct Application Interface for Java

Technical Overview

This edition applies to the 1.1 Version of IBM® Sterling Connect:Direct® Application Interface for Java and to all subsequent releases and modifications until otherwise indicated in new editions.

Before using this information and the product it supports, read the information in **Notices** on page 9.

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Introduction

The IBM® Sterling Connect:Direct® Application Interface for Java enables a Java application to directly invoke the services of Sterling Connect:Direct from within the application. The Sterling Connect:Direct Java Application Interface is a collection of Java classes that provide an API to Sterling Connect:Direct.   The API corresponds to the Sterling Connect:Direct command set which is available through user interfaces and/or the Sterling Connect:Direct Process Language.   It allows applications to submit, manage and monitor file transfer requests without external scripting. Because the capabilities of Sterling Connect:Direct servers may have slight variations, some of the capabilities of the AIJ have server-specific restrictions. These restrictions are noted in the sections to which they apply.

The Sterling Connect:Direct Application Interface for Java classes also provide methods for connecting to a Sterling Connect:Direct server, collecting process data, and handling any Java exceptions that might occur during execution of your program. An overview of the major AIJ classes is also provided in this document.

The Sterling Connect:Direct Application Interface for Java is licensed for the specific Sterling Connect:Direct server(s) called by the applications. The Sterling Connect:Direct server(s) may be running on Unix, Windows or z/OS. There is no limit on the number of applications or number of programmer seats that may use the AIJ.

Sterling Connect:Direct Application Interface for Java Features

The Sterling Connect:Direct Application Interface for Java allows applications to submit file transfer requests, monitor the progress of such requests and manage the file transfer environment on behalf of the application. These functions are accomplished through a series of commands issued to the Sterling Connect:Direct server.

Managing Server Configuration Parameters

Command	Purpose
change initparms	Alter the initialization parameters of the Sterling Connect:Direct server
	Sterling Connect:Direct for UNIX and Sterling Connect:Direct for Microsoft Windows only
select initparms	Retrieve current settings of initialization parameters of the server
change transtable	Alter the specified character set translation table used for files being transferred
select transtable	Retrieve the contents of the specified translation table

Managing Netmaps

Command	Purpose
`add netmap type=node` `change netmap type=node`	Add or change a netmap node definition
	Specify the following parameters for any node: appc mode, default class, IP address, short- and long-term retry count, short- and long-term retry interval, max pnode sessions, max snode sessions, network id, network name, operating system type, partner lu name, pnode lu names, snode lu names, supported Plexclasses, TCP mode name, path for this entry
	Additionally, for Sterling Connect:Direct for z/OS servers, specify adjacent node name, alternate communications path, applids, batch applids, TSO applids, CICS applids, buffer size, environment, logmode, long DNS name, parallel session limit, TCP API connection, server node setting
`delete netmap type=node`	Remove a node definition from the netmap
`select netmap type=node`	Retrieve specifications for a specified netmap node entry or for all netmap node entries

`add netmap    type=`
`change netmap type=`
`select netmap type=`
`delete netmap type=`
	These commands may also be used with three additional types that are supported on Sterling Connect:Direct for Microsoft Windows only: `mode`, `descr` and `path`. The commands allow you to add, change, view or delete settings for these three types of netmap objects.
	Sterling Connect:Direct for Microsoft Windows only

Managing Users

Command	Purpose
`add userauth` `change userauth`	Add or change access permissions within the Sterling Connect:Direct server for a specified userid
	Specify the following **user information**: user contact name and phone number, directories for upload, download, Processes and programs, maximum sign-on attempts, password, passticket data, security id and password
	Set user's permissions for each of the following:
	Administrative functions: update ACL records, add, read, change or delete TYPE records, add, read, change or delete USER records, update netmap entries, update initparms, update proxies, view or change translation tables, reset user sign-on attempts, stop the Sterling Connect:Direct server
	Process management functions: change processes, delete processes, change process execution priorities, flush processes, select process data, select statistics data
	Diagnostic functions: trace, view netmap information, view long message text
	File transfer operations: copy files, send files, receive files, include conditional logic in a pre-defined Process, submit Processes, submit nested Processes, change file attributes, perform pre- and post-processing within a Process (Run Task/Run Job)
`delete userauth`	Remove a user authorization

Command	Purpose
select userauth	Retrieve user authorization information for a specified userid or all userids
add proxies	Add or change a proxy definition
change proxies	Specify the permissions granted to this proxy user for sending files, receiving files, access to local file system for files, Processes or programs, and the local userid and password
delete proxies	Remove a specified proxy definition
select proxies	Retrieve specifications for a specified proxy definition or for all proxy definitions

Managing Processes

Command	Purpose
change process	Alter the characteristics of one or more non-executing Processes in the Sterling Connect:Direct processing queue
	Settings that may be changed include class, HOLD= value, destination node, priority, restart conditions, retain value
	Additionally, for Sterling Connect:Direct for z/OS servers, settings that may be changed include debug settings, plexclass, STARTT value
delete process	Delete one or more Processes in the Sterling Connect:Direct processing queue; must specify "force=yes" to delete an executing process
	Parameters uniquely identify the process to be deleted and specify whether or not the process should be placed on the hold queue
select process	Retrieve the characteristics of one or more Processes in the Sterling Connect:Direct processing queue
	Parameters uniquely identify the process(es) to be retrieved
submit process	Submit a pre-defined Process to the Sterling Connect:Direct server
	Parameters identify the process to be submitted and the following submission options: snode name, class, priority, HOLD value, RETAIN value, MAXDELAY value, pnode userid/pw, notification userid, snode userid/pw, pnode and snode accounting information, STARTT value
suspend process	Stop the execution of one or more Processes and optionally place the process(es) on the HOLD queue

Managing and Auditing File Transfer Activity

Command	Purpose
select statistics	Retrieve statistical information from Sterling Connect:Direct logs
	Records retrieved can be uniquely identified or bracketed using the following parameters: number of records, specific process name or number, specific record types or record-ids, snode(s), start or stop time, submitter, specific log file, file name to capture retrieved statistics

Diagnostic Tools

Command	Purpose
select message	Retrieve short and long message text associated with a specified message id
change tracing	Change the value of the following tracing parameters: filename to capture trace output, max size of trace file, trace file wrap on/off, level of client/console trace, level of communications trace, request a configuration report, debug settings, trace on/off for a specific node, process name(s) to trace, process number(s) to trace, unique C:D/Plex server name to trace, session manager trace, quiesce data, snode(s) to trace,
select tracing	Retrieve the current trace settings
tracing off	Turn tracing off or turn on one of 3 possible levels of tracing
tracing basic tracing inter tracing full	Specify what to trace: client connections and the console, communication responses, initialization and termination, process changes, session manager traces, execution/communication actions, statistics activity

Native Commands

Command	Purpose
native command	Execute any valid server command *Sterling Connect:Direct for z/OS only*

Sterling Connect:Direct Application Interface for Java Classes

The major classes described in the following sections provide support for connecting to a Sterling Connect:Direct server, executing commands, retrieving processing data and handling run-time exceptions.

Node

The Node class handles connections to Sterling Connect:Direct servers. Each instance of the Node class represents a connection to a single server. Multiple instances of Node (representing connections to one or more Sterling Connect:Direct servers) may exist in a single Java application.

Methods in the Node class give you the ability to initiate or terminate connection to a server and to execute commands (as described in the previous section) on that server.

MediatorEnum

This class is a Sterling Connect:Direct-specific implementation of the Java Enumerator class. It contains zero or more objects that represent results returned from execution of a command. The type of objects returned depends on the command that was executed.

CDProcess

An object of this type contains information from a single Sterling Connect:Direct Process.

CDStatistic

An object of this type contains information from a single Sterling Connect:Direct statistics record.

Sterling Connect:Direct Application Interface for Java Exception Handling

The AIJ uses normal Java exception handling for all errors occurring during communication with the Sterling Connect:Direct Server. This section describes the exceptions that may be thrown when run-time errors are detected.

MsgException

This is the class for most run-time exception handling.

ConnectionException

This exception is thrown when a connection to a server cannot be established.

LogonException

This exception is thrown when an invalid userid or password is detected by the server.

KqvException

This exception is thrown when an internal error is detected in communications with the server.

ParseException

This class handles command syntax errors. If the command string and arguments to be passed to the Sterling Connect:Direct server are not valid for that server, this exception is raised.

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