Connection Server Installation Guide
10g Release 3 (10.1.3.3.0)

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Connection Server Installation Guide, 10g Release 3 (10.1.3.3.0)
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CHAPTER 1

Introduction

Connection Server provides the ability to pull content from multiple repositories and feed it into Content Server. It also provides the ability to route content stored in Content Server to other repositories as well as to partner sites or consumers and can perform functions such as routing catalog content to partner extranets so that partners automatically receive the content when they access the extranet.

Connection Server is a digital distribution/Syndication engine. It moves digital assets from one point to another point or to multiple points. Connection Server monitors a collection of assets defined as an ‘offer’ and it determines if an asset has been added, modified, or removed from the collection. Subscribers/Delivery points are designed to receive the offer with an associated delivery rule defined by a subscription.

Connection Server handles the distribution of dynamic offers (collection of assets). A dynamic offer is where content is being added, removed or changed within the collection. The value of Connection Server increases when you have many points that need to receive content feeds. Connection Server enforces the rules that users define for the Subscriptions.

Connection server is a Java based solution that allows content providers to control distribution and user access and provides solutions for integrating disconnected Islands of Information, deployment of content to Server Farms, and distribution of content to subscribers.

Connection Server utilizes industry standard ICE (Information & Content Exchange) protocol, supports SSL (Secure Socket Layer) 40-bit and 128-bit security, provides subscription based content delivery, and allows content metrics to measure page views, unique visitors, and track activity by content offer or by subscribers.

In this section:

- Installation requirements
- Deployment overview
- Default port assignments
- Firewall considerations
- Windows FTP Server configuration
- New features and changes
- Conventions used in this guide
- About the Help system
Installation requirements

Operating system, database, and JVM requirements must be met before installing Connection Server.

Operating system

Connection Server is supported on these operating systems:

- UNIX-based: Solaris and Linux.

Database

Connection Server requires one of these databases:

- Microsoft SQL Server 2000 with Service Pack 2 (SP2) or greater.
- IBM DB2 8.0.1 or greater.
- Oracle 9 or 10 database.

Java Virtual Machine

Connection Server requires that J2SE 1.4 SDK be installed on your machine. The latest patch release is recommended (J2SE v 1.4.2_10 or greater).

You can download a Java Virtual Machine from the http://java.sun.com/ web site. Download the version for your operating system and install it according to the installation instructions provided.

**Important:** Do not use Microsoft Jview or the JRE.

Notes

- For Windows platforms, if you will be distributing English-only content, download the US English version. If you need support for international character sets, download the Internationalized version.
- Make sure the JVM location (the fully-qualified path to its installed directory) is included in your computer’s PATH environment variable.
- For Windows platforms, refer to the Windows help system for information on editing the PATH variable. Also, set the JAVA_HOME environment variable to the JVM installation directory.

Setting the Max Heap Size

The Max Heap Size is the maximum amount of physical memory allocated to the Java Virtual Machine (JVM) running the Connection Server. The default configuration is 128 MB for the Connection Server. For some production implementations this setting is too low. A low memory setting will result in slower performance and ultimately out-of-memory messages in the log files.

If you need to increase the memory allocation, it is recommended that the default be changed to 256 MB. Changing the Max Heap Size setting must be done in two places:
- **cns.wrapper.conf file** — Change the value for the variable wrapper.java.maxmemory. This file is located in the Connection Server install root /conf/ directory.

- **cns.bat (or cns.sh)** — Change the value in the command line argument from -mx128m to -mx256m. This file is located in the Connection Server install root directory.

It is also recommended that the Max Heap Size for Subscription Client be changed to 128mb. The default is 64mb. Changing the Max Heap Size setting must be done in two places for the Subscription Client.

- **sub.wrapper.conf** — Change the value for the variable wrapper.java.maxmemory. This file is located in the Subscription Client install root /conf/ directory.

- **launch-program.bat (or launch-program.sh)** — Change the value in the command line argument from -mx64m to -mx128m. This file is located in the Subscription Client install root directory.

  For example:

  C:/j2sdk1.4.2_03/bin/java -mx128m -Djava.security.auth.login.config="./conf/cns_client_jaas.config" bootstrap.SubscriberStart $

### Deployment overview

This is a high-level overview for deploying Connection Server in a multi-site delivery configuration with Content Server.

**To set up the deployment environment**

- Install and configure Connection Server to get files (an offer) from your Content Server instance.

- Install a Subscription Client (or FTP client) on each machine that needs to have these files copied to it. Each Subscription client subscribes to the set of files (the offer) that need to be deployed to that machine.

- The Connection Server administrator chooses when and how the files get sent to each subscriber machine.

**To set up the Connection Server**

- Create a Delivery Rule that describes when you want content to be deployed to the subscribers.

- Create an Offer: The Content Source Type should be **File System - Directory** and set the Advanced Delivery Options to **Synchronized**. Choose **Next** and pick the directory to deploy.

- Create a User for each subscriber machine. Choose the Delivery Method, and assign the role **Subscriber** to the user.

- Subscribe each User to the Offer.

**To set up a subscriber**

- Add the Connection Server as a Content Provider.

The Connection Server Password is the one entered when the User was created, and the Client UUID is automatically generated. It can be viewed on the Connection Server by logging in with the User ID and Password entered when the user was created.
Default port assignments

The default port numbers used by the Connection Server are:

<table>
<thead>
<tr>
<th>Port Number</th>
<th>Uses</th>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>8885</td>
<td>push server for SSL</td>
<td>Subscription Client</td>
</tr>
<tr>
<td>8886</td>
<td>push server</td>
<td>Subscription Client</td>
</tr>
<tr>
<td>8887</td>
<td>administration server</td>
<td>Subscription Client</td>
</tr>
<tr>
<td>8880</td>
<td>master server</td>
<td>Connection Server</td>
</tr>
<tr>
<td>8889</td>
<td>administration server (this is the Publish Server URL port number)</td>
<td>Connection Server</td>
</tr>
<tr>
<td>8890</td>
<td>ICE server</td>
<td>Connection Server</td>
</tr>
<tr>
<td>8891</td>
<td>file server</td>
<td>Connection Server</td>
</tr>
<tr>
<td>8893</td>
<td>ICE server for SSL</td>
<td>Connection Server</td>
</tr>
<tr>
<td>8894</td>
<td>file server for SSL</td>
<td>Connection Server</td>
</tr>
</tbody>
</table>

Firewall considerations

If your company intranet is protected by a firewall, one or more ports may need to be opened through the firewall to allow Subscription Client and Connection Server to communicate.

Connection server components may be placed outside or behind a firewall, depending on the requirements at your site. For example, you might place Content Server outside the firewall, but the ICE Server and the Administration Server/Package Generator combination behind the firewall.

Subscription Client communicates with both the ICE Server and Content Server. Under normal distribution operations, the Administration Server communicates only internally, not across the Internet, so this component can reside behind the firewall and its port can remain closed. If your site requires that the Administration Server be accessed from the Internet, then its port must be opened, as well. With a configuration that includes failover servers, ports to failover servers that reside behind a firewall must be opened, as well.

If you use push subscriptions, and the Subscription Clients receiving these subscriptions reside behind a firewall, the Subscription Client port must be opened through the firewall to receive the Connection Server ICE messages.

Windows FTP Server configuration

Connection Server supports Windows FTP Servers only in the UNIX Directory Listing Style, not with MS-DOS directory style.

1. Open IIS Manager and select FTP Sites.
2. Click Action > Properties from the main menu.
5. FTP Site Directory: enable the Write option.
6. Click OK and select the related child-nodes. The Default FTP Site must be set to writable.

7. Click OK and restart the FTP server.

New features and changes

These new features and changes are included in this release:

- Database Compaction — Allows the server to shrink the tables in the database that are used to track package updates (removes older redundant information from the database).
- Database driver upgrade for Oracle (we support 9i and above).
- Subscription Client can now be run as a service.

Conventions used in this guide

The User Guide contains the following conventions:

<table>
<thead>
<tr>
<th>Convention</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bold</strong></td>
<td>Indicates an item that you select in the interface, such as a button or menu, in order to perform a specific task: Click <strong>OK</strong> to confirm the deletion.</td>
</tr>
<tr>
<td>&gt;</td>
<td>Indicates a menu choice. For example, “Choose File &gt; Open” means “Click the File menu, and then click Open.”</td>
</tr>
<tr>
<td><strong>Code</strong></td>
<td>Indicates actual code.</td>
</tr>
</tbody>
</table>

Notes

- The prefix CNS_HOME/ refers to the local directory in which Connection Server is installed. For example, if you installed on a Windows platform and accepted the installer’s default target directory, this directory would be something like: C:\Program Files\Stellent\Connection Server. If you installed on a UNIX platform, this might be: /stellent (or another arbitrarily named directory).
- The prefix Content_Server_path/ refers to the local directory in which Content Server is installed (not Connection Server). If you installed on a Windows platform and accepted the installation default directory, this directory would be something like: C:\Program Files\Stellent\Connection Server. If you installed on a Solaris platform, this might be: /stellent (or another named directory).
- The prefix Subscription_Client_path/ refers to the Subscription Client installation directory.
- The “Connection Server configuration file” refers to either cns.oracle.config or cns.sqlserver.config depending on your database.
- Forward slashes (/) are often used to separate the directory levels in a path name. Windows users should substitute backslashes (\) where appropriate.
About the Help system

Online Help is accessible from the Connection Server administration interface. After installation, you can launch the administration interface in your web browser (example: http://testserver:8889).
CHAPTER 2

Installation steps

This section describes how to install and configure Connection Server and Subscription Client. The Connection Server is the server side of the system and either a Subscription Client or an FTP server serves as the client side of the system. The Subscription Client is generally installed on every machine that hosts a web server (unless you choose to use an FTP server).

You will need to enter the provided license key as the Connection Server UUID when you first start up the Connection Server.

This section provides information on the installation of Connection Server and includes the following topics:

- Installing Connection Server
- Configure General Settings
- Installing the Subscription Client
- Configuring the Subscription Client
- Uninstalling Connection Server and Subscription Client

Installing Connection Server

Connection Server may be installed on the same machine as Content Server. However, we recommend that the Connection Server be installed on a dedicated server.

To install the Connection Server

1. Insert the DVD or unbundle the distribution ZIP file.
2. Navigate to the \win32\ directory and launch Setup.exe (for UNIX, run the /unix/install.sh executable).
3. When the Welcome screen displays, click Next.
4. Click Yes to accept the license agreement.
5. If this is a new installation, select Install a new Connection Server.
   If you are updating Connection Server, select Update Connection Server and follow the prompts, selecting the directory where your existing Connection Server is installed.
6. Click Next.
7. Accept the default directory (recommended) or enter a destination folder.
8. Click Next.
9. Enter the path to the Java Virtual Machine (J2SE v 1.4.2_10 or greater). See “Java Virtual Machine” on page 2 for more information.
10. Click Next.
11. Review the settings before copying the files and click Next.
12. Click Finish.
Setting up the database

This section explains how to configure or upgrade the Connection Server for each of the supported database management systems.

Configure Oracle driver

If you have not yet created an Oracle database for use with the Connection Server, create one first and then run the SQL script syn_server.oracle8.sql to create tables. The script can be found in your Connection Server\sql directory. Refer to your Oracle documentation for information about running SQL scripts.

Note: The database tables owned by the login associated with the Connection Server must be created in their own dedicated tablespace.

If your database is not set up properly, the following error messages will be returned:

database driver could not be loaded
failed to open the database

Configure Microsoft SQL Server driver

In SQL Server, create a database. In the new database, use SQL Query Analyzer to load and execute the syn_server.mssql2000.sql creation script located in your Connection Server\sql\ subdirectory. This script will create the tables within the database. Refer to your Microsoft SQL Server 2000 documentation for information about running SQL scripts.

If your database is not set up properly, the following error messages will be returned:

database driver could not be loaded
failed to open the database

Configure DB2 driver

DB2 driver is not included in the Connection Server CD or distribution zip file. You must copy syn_server.db2.sql from CNS_HOME/sql/ to a directory on your DB2 host. Then, copy the db2jcc.jar or db2jcc.zip file from the DB2 installation directory sqllib/java/ to the CNS_HOME/lib/ directory. And finally, create database and tables in DB2 (using the DB2 Command Window).

For example:

db2 CREATE DB <dbname> ALIAS <db alias>
db2 CONNECT TO <db alias> USER <user> USING <password>
db2 -tvf syn_server.db2.sql

Connect the Connection Server to your database

This section describes how to configure your Connection Server installation for the appropriate database.

To connect to Oracle

1. Using a text-only editor, open the cns.oracle.config file located in the directory where your Connection Server is installed. This is the sample configuration file for Oracle (see below).

```xml
<database type="oracle">
<driver jdbcURL="jdbc:oracle:thin:@SERVER:1521:NAME"
driver="oracle.jdbc.driver.OracleDriver"/>
<user username="USER" password="PASSWORD"/>
</database>
```
2. Replace SERVER with the name of your Oracle server (e.g., “10.10.1.248” or “server7”).
3. The default port is 1521. Change this, if necessary.
4. Replace NAME with the name you have given the database on the server (e.g., “sspu”).
5. Replace USER and PASSWORD with the user name and password used to access the database.

For example:

```xml
<database type="oracle">
  <driver jdbcURL="jdbc:oracle:thin:@server7:1521:sspu" driver="oracle.jdbc.driver.OracleDriver"/>
  <user username="administrator" password="administrator"/>
</database>
```


**Note:** The default administrator user name and password is administrator / administrator.

**To connect to DB2**

1. Using a text-only editor, open the cns.db2.config file located in the directory where your Connection Server is installed. This is the sample configuration file for DB2 (see below).

```xml
<database type="db2">
  <driver jdbcURL="jdbc:db2://SERVER:50000/NAME" driver="com.ibm.db2.jcc.DB2Driver"/>
  <user username="USER" password="PASSWORD"/>
</database>
```

2. Replace SERVER with the name of your DB2 server (e.g., “10.10.1.248” or “server7”).
3. The default port is 50000. Change this, if necessary.
4. Replace NAME with the name you have given the database on the server (e.g., “sspu”).
5. Replace USER and PASSWORD with the user name and password used to access the database.

For example:

```xml
<database type="db2">
  <driver jdbcURL="jdbc:db2://server7:50000/sspu" driver="com.ibm.db2.jcc.DB2Driver"/>
  <user username="administrator" password="administrator"/>
</database>
```

6. Save and close the file.
7. Start Connection Server by executing the cns.db2.bat file.

**Note:** The default administrator user name and password is administrator / administrator.
To connect to MS SQL Server

1. Using a text-only editor, open the cns.sqlserver.config file located in the directory where your Connection Server is installed. This is the sample configuration file for SQL Server (see below).

```
<database type="mssql">
  <driver jdbcURL="jdbc:microsoft:sqlserver://SERVER:1433;DatabaseName=NAME; SelectMethod=cursor" driver="com.microsoft.jdbc.sqlserver.SQLServerDriver"/>
  <user username="USER" password="PASSWOORD"/>
</database>
```

2. Replace SERVER with the name of your SQL server (e.g., “10.10.1.248” or “server7”).
3. The default port is 1433. Change this, if necessary.
4. Replace NAME with the name you have given the database on the server (e.g., “sspu”).
   Refer to your Microsoft (SQL Server) JDBC driver’s documentation for more information on using the DatabaseName property in the connection string.
5. For the SelectMethod property, use the “cursor” select method.
6. Append the driver path.
   For example:
   ```
   com.microsoft.jdbc.sqlserver.SQLServerDriver
   ```
7. Replace USER and PASSWORD with the user name and password used to access the database.
   For example:
   ```
   <database type="mssql">
     <driver jdbcURL="jdbc:microsoft:sqlserver://server7:1433;DatabaseName=sspu; SelectMethod=cursor" driver="com.microsoft.jdbc.sqlserver.SQLServerDriver"/>
     <user username="administrator" password="administrator"/>
   </database>
   ```

**Note:** The default administrator user name and password is administrator / administrator.

### Installing as a Windows service

You can install the Connection Server as a service on Windows. This will allow you to keep the Connection Server running after you have logged out, and it will inhibit unauthorized users from tampering with the Connection Server’s operation.

**To install as a Windows service**

1. Make sure that you are logged into the machine with administrator rights.
2. Using a text-only editor, open the cns.wrapper.config file located in your Connection Server \conf\ subdirectory.
3. Edit the configuration file (make sure that you have the correct Connection Server configuration file specified in cns.wrapper.config):
Connection Server Installation Guide

Installation steps

- For MS SQL Server (default)
  wrapper.app.parameter.1=cns.sqlserver.config
- For Oracle
  wrapper.app.parameter.1=cns.oracle.config
- For DB2
  wrapper.app.parameter.1=cns.db2.config

4. Open a Command Prompt window:
   - In the Start menu, click Run.
   - In the Run dialog box, type cmd.
   - Click OK to open the Command Prompt window.

5. Change to the directory where you installed the Connection Server.

6. Type cns.service-install.bat.
   This process installs the service; it does not start it. You can start the service from the Control Panel Services applet or by rebooting.

Note: If you choose to remove the service, enter the following on a command line, from the same Connection Server installation directory: cns.service-uninstall.bat.

Configure General Settings

Follow these steps to configure the general settings:

1. Start Connection Server by running the startup file for your configuration cns.oracle.bat, cns.sqlserver.bat or cns.db2.bat depending on your database.

2. Launch the administration interface in your web browser (example: http://testserver7:8889).

3. Enter your administrator user name and password to access the administration interface, and click OK.

4. On the administration interface, click General Settings.

5. Enter the Connection Server Identity information.

  Connection Server Name (required): The name of this Connection Server—usually your company’s name.

  Connection Server UUID (required): The Universal Unique Identifier (UUID) for your Connection Server. You must provide a valid UUID the first time you start the Connection Server. Your Connection Server’s UUID is displayed on the Subscription Client Deployment Server, on the Change Profile page.

  Description: Information about your site—usually a description of your business or offers. This description is written to the configuration file of Subscription Client.

  Information URL: The URL of a web page that gives subscribing companies more information about you or your service.

6. When done, click Save.

7. On the settings confirmation screen click OK.
**Important Configuration Notes**

Please follow these configuration instructions:

- The description for Push Immediate is inaccurate; a delivery frequency must be specified for the delivery to function correctly. This option is on the “Delivery Rule” edit page.
- It is recommended that Needs Confirmation be selected for all subscriptions. This option is in the “Delivery Rule” section of the subscription details.
- It is recommended that Send Removals be used on all Filewatcher offers. This option is on the second Filewatcher page at the bottom, under the update schedule.
- It is recommended that the Purge Content Items field be left blank (thus disabling it) due to the limitations of database purging. This option is in the “Database Purge” section.

**Administration interface**

Most day-to-day usage and ordinary configuration tasks can be done using the browser-based Connection Server administration interface. This section provides information on the Connection Server administration page.

<table>
<thead>
<tr>
<th>Menu</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home</td>
<td>Returns you to the main Connection Server Menu page.</td>
</tr>
<tr>
<td>Offers</td>
<td>Offers are packages of content.</td>
</tr>
<tr>
<td>Subscriptions</td>
<td>Subscriptions link Offers, Users and delivery information.</td>
</tr>
<tr>
<td>Delivery Rules</td>
<td>Delivery Rules define the dates and times at which various actions, such as Subscription delivery, are executed.</td>
</tr>
<tr>
<td>Content Directories</td>
<td>Content Directories are web catalogs which display offers within categories.</td>
</tr>
<tr>
<td>Users</td>
<td>Users are assigned one or more roles, such as Subscriber or Administrator.</td>
</tr>
<tr>
<td>Roles</td>
<td>Roles are sets of permissions assigned to User Groups and Users.</td>
</tr>
<tr>
<td>User Groups</td>
<td>User Groups are groups available to Users and own Roles and Offers.</td>
</tr>
<tr>
<td>General Settings</td>
<td>General Settings set system options.</td>
</tr>
<tr>
<td>Help</td>
<td>Provides online help information:</td>
</tr>
<tr>
<td></td>
<td>- The Connection Server pages have help outlining what you can do on that page. Click the large help icon next to the title of the page to view page level help.</td>
</tr>
<tr>
<td></td>
<td>- Most Connection Server pages are divided into sections. To get help for a section and the individual fields in it, click the help icon in the section header.</td>
</tr>
<tr>
<td>About</td>
<td>The About Connection Server page provides this information:</td>
</tr>
<tr>
<td></td>
<td>- Connection Server version.</td>
</tr>
<tr>
<td></td>
<td>- Connection Server build date.</td>
</tr>
<tr>
<td></td>
<td>- Maximum subscribers allowed.</td>
</tr>
<tr>
<td></td>
<td>- Java Virtual Machine version.</td>
</tr>
</tbody>
</table>
Installing the Subscription Client

Subscription Client is the client-side component of the Connection Server. The Subscription Client is generally installed on every machine that hosts a web server (unless you choose to use an FTP server). This is the destination for publishing.

To install the Subscription Client

1. Insert the DVD or unbundle the distribution Zip file.
2. Navigate to your Subscription Client \win32\ subdirectory and launch Setup.exe (for UNIX, run the /unix/install.sh executable).
3. When the InstallShield Wizard displays, click Next.
4. Click Yes to accept the license agreement.
5. If this is a new installation, select Install a new Subscription Client. If you are updating Subscription Client, select Update Subscription Client and follow the prompts, selecting the directory where your existing Subscription Client is installed.
6. Click Next.
7. Accept the default directory (recommended) or enter a destination folder.
8. Click Next.
9. Enter the path to the Java Virtual Machine (J2SE v 1.4.2_10 or greater). See “Java Virtual Machine” on page 2 for more information.
10. Click Next.
11. Review the settings before copying the files and click Next.
12. Click Finish.

Configuring the Subscription Client

Follow these steps to configure the Subscription Client to communicate with the Connection Server.

To configure the Subscription Client

1. Start the Subscription Client by running the startup file for your configuration. The batch file sub_agent.bat (for Windows) and the shell script sub_agent.sh (for UNIX) are located in the directory where the Subscription Client is installed.
2. Access the Subscription Client Administration interface (e.g., http://localhost:8887) and log in as an administrator (the default user name and password is administrator / administrator).
3. On the Subscription Client Administration interface, click Content Providers.
4. Click Add Content Provider.
5. Enter these values:
   - **Connection Server URL**: The URL for your Connection Server instance (e.g., http://mainserver).
   - **Subscription Client UUID**: The UUID can be found on the Connection Server administration interface by clicking Users.
   - **Connection Server Password**: Enter your Connection Server password. This password can be found on the Connection Server administration interface by clicking Users and then clicking the destination name (for example, “Server7”).
   - **Local Directory**: Enter a directory (or browse to a location) where the delivered content will reside.

6. Click **Save**.

**Uninstalling Connection Server and Subscription Client**

If you no longer want to use Connection Server or Subscription Client, you can uninstall them by following the steps below.

**To uninstall Connection Server**

1. Insert the Connection Server DVD.
2. Navigate to the Connection Server \win32\ directory.
3. Double click **Setup.exe**.
   - **Note**: For UNIX, run the /unix/install.sh executable.
4. Choose the **Remove a Connection Server** option.
5. Follow the instructions on the screen to uninstall the Connection Server.

**To uninstall Subscription Client**

1. Insert the Connection Server DVD.
2. Navigate to your Subscription Client \win32\ subdirectory.
3. Double click **Setup.exe**.
   - **Note**: For UNIX, run the /unix/install.sh executable.
4. Choose the **Remove a Subscription Client** option.
5. Follow the instructions on the screen to uninstall Subscription Client.
CHAPTER 3

Subscription Client administration

Subscription Client is the client-side component of the Connection Server. The Subscription Client is generally installed on every machine that hosts a web server (unless you choose to use an FTP server).

In this section:

- Subscription Client administration interface
- Subscription Client general settings
- Subscription Client configuration file

Subscription Client administration interface

Start the Subscription Client by running the startup file for your configuration. The batch file sub_agent.bat (for Windows) and the shell script sub_agent.sh (for UNIX) are located in the directory where the Subscription Client is installed.

Access the Subscription Client Administration interface (e.g., http://localserver:8887) and log in as an administrator (the default user name and password is administrator / administrator).

Controlling the browser display

**Important:** The software must be shut down for any edits to the configuration file to take effect. If you edit while the software is running, a warning dialog will display the next time you shut down, stating that the changes you made to the file will be overwritten.

You can control whether the Status window or the Subscription Client administration interface displays at startup by changing the Startup Options in the Settings page of the administration interface, or by changing the following `<options>` elements in the Subscription Client configuration file (siclone.config):

- **run-interactive:** To display the Status Window at startup, set to true; to prevent it from displaying at startup, set to false.
- **start-browser:** To display the administration interface at startup, set to true; to prevent the interface from displaying at startup, set to false

Example:

```xml
<options run-interactive="true" start-browser="true">```

Stopping the Subscription Client

When you stop the Subscription Client, you may shut it down completely or you may shut it down and immediately restart it. If you are using the administration interface and Status Window, always close Subscription Client using the Shutdown option in the Subscription Client navigation bar.
Subscription Client general settings

The following settings identify your Subscription Client and determine its operational properties:

- **Identity**: Provides security for the Subscription Client administration interface. You can specify an identity name and password to prevent non-administration users from changing important settings. The identity name and password strings are case-sensitive.

- **Proxy Server**: An intermediate server in your network that receives requests for Internet access. If a proxy server is in use at your site, configure the Subscription Client to use it. See a network administrator at your site for information about proxy servers in your environment.

For a proxy server, you specify its IP address and port number; if your proxy server is secure, you must provide the port number on which the proxy server listens for SSL authentication.

- **Log Settings**: While the Subscription Client is running, it automatically generates a log file named subscriber.log.

By default, the Subscription Client uses a rotation method to manage its log file. Additional log files are created when the current one reaches its maximum configured size. The Subscription Client continues to generate log files of a constant size until it has generated the number configured. After the specified number of files is reached, the Subscription Client deletes the oldest log file each time it creates a new one. Thus, the most recent logging information is always retained. Using a rotating scheme controls the amount of disk space used for storing log messages.

The file size for subscriber.log is 1024 KB (maximum size allowed). The default number of files to rotate is 7; the maximum number is 100.

- **Startup Options**: Determine the components of Subscription Client that display at startup. If you have a Windows version of the Subscription Client, both the browser-based Subscription Client Administrator and the Subscription Client Status Window display on initial startup. If you have a UNIX-based version of Subscription Client, neither element displays on initial startup.

- **Auto Upgrade**: Keeps the Subscription Client application up-to-date with the latest software releases. If this option is enabled, application updates are automatically applied to the Subscription Client. The Subscription Client briefly stops, applies the upgrade, then restarts, with minimal downtime. By default, auto upgrade is enabled.

Subscription Client configuration file

The entries in the Subscription Client configuration file (siclone.config) control the operation of the software. The configuration file also stores entries related to extension and customization of the Subscription Client functions.

The configuration file contains these elements: siclone, options, log, proxy, ssl, extensions, and extension.

**siclone element**

The siclone element is the root element of the configuration file; it is the beginning and ending statement in the file. The siclone element contains a set of global operating settings for the Subscription Client and has these child elements: options (1), defaults (1), extensions (1), and job (any number, including none). It has the following attributes:
The options element contains the Subscription Client’s global settings and has these child elements: log (1), proxy (1), and ssl (1). It has the following base attributes:

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Purpose</th>
<th>Values and Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>last-run-product-code</td>
<td>name of the component that created the configuration file</td>
<td>subscriber</td>
</tr>
<tr>
<td>last-run-version</td>
<td>release level of the Subscription Client that last ran on the PC</td>
<td>none</td>
</tr>
<tr>
<td>last-run-os</td>
<td>operating system on the PC where the Subscription Client last ran</td>
<td>none</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Purpose</th>
<th>Values and Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>run-interactive</td>
<td>controls the display of the Status window at startup</td>
<td>true displays the Status window at startup; false disables display of the Status window at startup; Default: true</td>
</tr>
<tr>
<td>start-browser</td>
<td>controls starting the web browser at startup (with the Subscription Client main menu displayed)</td>
<td>true enables startup of a web browser with the Subscription Client main menu page; false disables startup of a web browser; Default: true</td>
</tr>
<tr>
<td>browser-path</td>
<td>fully-qualified path name to the web browser you want to use for the Subscription Client; this setting overrides auto-detection of the default web browser; for example: C:\Program Files\NetscapeCommunicator\netscape.exe or /usr/local/bin/netscape</td>
<td>Default: none</td>
</tr>
<tr>
<td>max-retries</td>
<td>maximum number of times to retry a failed download</td>
<td>Default: 3</td>
</tr>
<tr>
<td>ui-port</td>
<td>port to be monitored for the HTML administration interface</td>
<td>valid port number; Default: 8887</td>
</tr>
<tr>
<td>admin-username</td>
<td>name required to pass the Administration module’s authentication</td>
<td>Default: administrator</td>
</tr>
<tr>
<td>admin-password</td>
<td>password for the admin-username above; used to pass the Administration module’s authentication; base-64 encoded</td>
<td>Default: administrator</td>
</tr>
<tr>
<td>push-port</td>
<td>port where the Subscription Client listens for non-SSL push-mode messages</td>
<td>valid port number; Default: 8886</td>
</tr>
</tbody>
</table>
The log element contains information about Subscription Client logging. The log element has no child elements. It has the following attributes:

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Purpose</th>
<th>Values and Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>push-ssl-port</td>
<td>port where the Subscription Client listens for push-mode messages using SSL</td>
<td>valid port number</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default: 8885</td>
</tr>
<tr>
<td>download-timeout</td>
<td>specifies in milliseconds the amount of time the Subscription Client will wait for a download to commence before timing out.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default: 300000</td>
</tr>
<tr>
<td>max-retries</td>
<td>specifies maximum number of times the Subscription Client will attempt to download a file</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default: 3</td>
</tr>
<tr>
<td>min-requestor-check</td>
<td>specifies the amount of time in milliseconds that the requester will check for any messages</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default: 30000</td>
</tr>
</tbody>
</table>

**filesize**

maximum size, in KB, of the log file

- Default: 1024 (largest size allowed)

**numfiles**

maximum number of log files to create for rotation

- Default: 7 (may be as large as 100)

**filepath**

fully qualified name of the default log file. If only the filename is specified, it is written in the directory where the Subscription Client is installed

- Default: subscriber.log

**default**

default priority level of log messages

- Priority levels are (in order of decreasing severity):
  - critical—serious error or crash
  - error—an operation has failed
  - warning—unusual conditions
  - verbose—detailed progress messages
  - info—informational messages
  - debug—for programmer use only; includes all levels
  - Default: error

**logfile**

specifies where the log information is written

- true: outputs to log file
- false: outputs to console

- Default: true

**overwrite**

specifies whether log files will be overwritten in rotation

- true: overwrites old log files as defined in the rotation (see numfiles attribute)
- false: used single log file (non-rotation)

- Default: true
Logging by facility

You can set the level of severity for events logged from various component facilities of the Subscription Client. The higher the severity level, the fewer the log messages generated.

For any level, log messages for all levels above it are also generated. For example, if the logging level is set to error, messages at the critical level are also generated.

Here is an example of a log element:

```
<options>
  <log default="warning" ice="verbose" replicator="debug"/>
</options>
```

This example sets the default logging level to warning, suppressing messages of lower severity and returning messages of higher severity. Messages from the ICE facility are set at the verbose level, while all events, including debugging information, are logged for the replicator facility.

Note: Do not use debug logging level unless specifically instructed.

These are the facilities for which event logging can be specified:

- **analyzer**: messages from the web server related to analysis of content provider information
- **filter**: messages generated by content filtering
- **httpd**: connection and networking messages
- **ice**: ICE server (ice requests exchanged)
- **replicator**: component that copies web pages to local directories
- **scheduler**: records of times of content distribution
- **SKITL**: messages generated by the Kinecta Transformation Language
- **XMLParser**: XML processing messages

proxy element

The proxy element contains information about using a proxy server, if it exists at your site. The proxy element has no child elements. It has the following attributes:

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Purpose</th>
<th>Values and Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>proxyset</td>
<td>specifies whether proxy server settings are defined</td>
<td>true: proxy server settings are defined&lt;br&gt;false: proxy server settings are not defined&lt;br&gt;Default: false</td>
</tr>
<tr>
<td>host</td>
<td>IP address or host name of the proxy server</td>
<td>valid IP address or host name of the proxy server.</td>
</tr>
<tr>
<td>port</td>
<td>port number of the proxy server</td>
<td>Default: null (-1)</td>
</tr>
<tr>
<td>ssl-port</td>
<td>port number of the Secure Sockets Layer (SSL) security enabled proxy server port.</td>
<td>valid port number&lt;br&gt;Default: null (-1)</td>
</tr>
</tbody>
</table>
ssl element

The proxy element contains information about using Secure Socket Layer. The ssl element has no child elements. It has the following attributes:

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Purpose</th>
<th>Values and Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>username</td>
<td>user ID for logging into a proxy server that performs authentication</td>
<td>valid user ID for secure proxy server.</td>
</tr>
<tr>
<td>password</td>
<td>password associated with the proxyUsername. May be plain text or base-64 encoded; use an @ as the first character of a base-64 encoded password specification</td>
<td>valid password for secure proxy server.</td>
</tr>
</tbody>
</table>

Secure Sockets Layer (SSL) certificates are not provided for you. You must create a SSL certificate and edit the configuration file to enable SSL. The configuration file for your instance will be “cns.sqlserver.config”, “cns.oracle.config”, or “cns.db2.config” (depending on your database). An example ssl element would look like this:

```xml
<ssl enable="true" required="false" admin="true"
      keystorefilename="yourfilename" keystorepass="yourpassword"/>
```

extensions element

The extensions element contains the set of extension entries that implement additional functionality in the Subscription Client. The extensions element has a single child element: extension (this takes any number, including none).
extension element

The extension element specifies a class that implements “com.kinecta.subscriber.Extension”. The extension element has no child elements. It has the following attributes:

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Purpose</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>class</td>
<td>Java class name to be invoked for an extension</td>
<td>valid Java class name for this extension</td>
</tr>
<tr>
<td>param</td>
<td>information to be passed to the Java class when invoked</td>
<td>any string you wish to pass to the extension</td>
</tr>
</tbody>
</table>
CHAPTER 4

Configuration file properties

The entries in the Connection Server startup configuration file can be edited to control the operational characteristics of the Connection Server. The Connection Server configuration file is `cns.oracle.config`, `cns.sqlserver.config` or `cns.db2.config` depending on your database.

In this section:

- The root element
- The options element
- The services element
- The database element
- The content-sources element
- The extensions element
- The ldap element
- The j2ee element

The root element

The root element of the configuration file must always be `syndicator`. These elements can appear as child elements:

- options
- services
- database
- content-sources
- extensions.

The options element

This section covers the options element and the following sub-elements:

- The timeFormat element
- The log element
- The proxy element
- The ssl element

Attributes of the options element

The options element contains global settings that govern how the Connection Server behaves. This element contains the following attributes:
<table>
<thead>
<tr>
<th>Attribute</th>
<th>Purpose</th>
<th>Values and Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>browser-path</td>
<td>Specifies the path to the web browser you use to administer Connection Server. This is required only if you wish to automatically launch your browser when the Connection Server starts and if the Connection Server is unable to find it.</td>
<td>Valid file path. Default: The path to the default browser defined to the operating system.</td>
</tr>
<tr>
<td>content-browsing</td>
<td>Specifies whether a web browser connecting to the Content Server can view files listed in directories</td>
<td>true: Browsing enabled</td>
</tr>
<tr>
<td></td>
<td></td>
<td>false: Browsing disabled</td>
</tr>
<tr>
<td>custom-item-fields</td>
<td>A comma-delimited list of custom metadata properties that, if present, you would want to send alongside the content item in an ICE package. If the metadata property is not listed, or if this attribute is not present, the metadata will not be sent—despite the fact that it was associated with a content item by its content source.</td>
<td>Your list can contain a maximum of 26 properties.</td>
</tr>
<tr>
<td>default-pull-delivery-rule-name</td>
<td>This attribute define the names of the default pull delivery rule. The default delivery rules have special limitations and behaviors: for example, they can not be deleted or renamed. The pull/push attributes allow you to change which named delivery rules have these special conditions.</td>
<td>Default: Default Delivery Rule</td>
</tr>
<tr>
<td>default-push-delivery-rule-name</td>
<td>This attribute define the names of the default push delivery rule. The default delivery rules have special limitations and behaviors: for example, they can not be deleted or renamed. The pull/push attributes allow you to change which named delivery rules have these special conditions.</td>
<td>Defaults: Default Push Delivery Rule</td>
</tr>
<tr>
<td>download-base</td>
<td>Specifies the local directory under which all locally served content is stored</td>
<td>Valid file path</td>
</tr>
<tr>
<td>Attribute</td>
<td>Purpose</td>
<td>Values and Default</td>
</tr>
<tr>
<td>---------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| filewatcher-checksum      | Specifies the calculation of checksums on files to determine if a file has changed; replaces the use of the timestamp to determine changes to files. If very large files are being distributed, the checksum calculation may cause a negative performance impact. | true: Checksum calculation enabled  
false: Checksum calculation disabled.  
Default: false                                                                        |
| hostname                  | Allows you to override the default hostname that is automatically determined at startup                                                                                                                                                       | Valid hostname.  
Default: Determined at startup  
To find the current hostname, check this line at Connection Server start-up:  
“Starting Connection Server on <hostname>”                                              |
| ice-cache-silence-time-out| If this attribute is enabled (and caching is enabled), the Connection Server considers that an error has occurred if the cache does not detect any new item added to, or removed from, the database within the specified time. The Connection Server then refuses any connection and returns an ICE code 503 error message until new activity is detected. It also logs this error in the log file. | 0: disabled  
>0: specified time in milliseconds  
Default: 0                                                                                   |
| ice-cache-size            | Specifies the maximum number of ICE items that the Connection Server’s cache can contain                                                                                                                                                 | Default: 5000                                                                         |
| ice-cache-update-interval | Specifies in milliseconds how often the Connection Server queries the database to update its ICE items cache                                                                                                                                 | Default: 10000 (10 seconds)                                                        |
| ice-failover-adjustment   | If this attribute is enabled when a Subscription Client connects to an ICE server running as a backup server, or if a Subscription Client was previously connected to an ICE server running as a backup server, the Connection Server rolls back the subscription state by the number of milliseconds specified. As a result, redundant adds or removes may be sent. | 0: disabled  
>0: number of milliseconds to roll back  
Default: 0                                                                                   |
<table>
<thead>
<tr>
<th>Attribute</th>
<th>Purpose</th>
<th>Values and Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>intra-distributed-name</td>
<td>Represents the name of this machine within a distributed-architecture environment. This name is for use solely among the Connection Server installations on the machines.</td>
<td>Default: There is no default value.</td>
</tr>
<tr>
<td>MAC-address</td>
<td>In order to generate UUIDs for users, Connection Server needs a MAC address. Under most circumstances, Connection Server will automatically detect your MAC address. However, there may be instances where the Connection Server cannot detect it. In those situations, you can use this attribute to manually insert it.</td>
<td>Format: 6 pairs of hexadecimal digits, separated by colons: XX:XX:XX:XX:XX Each X represents a hexadecimal digit 0-9 or A-F Example: 9f:6a:03:4f:0d:09</td>
</tr>
<tr>
<td>max-package-size</td>
<td>Specifies the maximum number of items that can be delivered in any given ICE package.</td>
<td>Default: 500</td>
</tr>
<tr>
<td>max-push-bps</td>
<td>Dictates the maximum rate at which the Connection Server will push ICE packages to subscribers.</td>
<td>Value is in bytes per second. A value of -1 means no limit.</td>
</tr>
<tr>
<td>max-push-package-creation-threads</td>
<td>Specifies the maximum number of threads to use for generating packages to distribute via push.</td>
<td>Default: No limit is imposed.</td>
</tr>
<tr>
<td>max-push-retry</td>
<td>Specifies the maximum number of milliseconds that Connection Server waits before retrying a connection to Subscription Client when attempting a push mode delivery of content. The Connection Server, by default, makes several attempts at short time intervals prior to using the value in this configuration setting.</td>
<td>Default: 300000 (5 minutes)</td>
</tr>
<tr>
<td>max-push-threads</td>
<td>Maximum number of threads a push mode delivery opens.</td>
<td>Default: 6</td>
</tr>
<tr>
<td>min-push-threads</td>
<td>Minimum number of threads a push mode delivery keeps open.</td>
<td>Default: 3</td>
</tr>
<tr>
<td>push-connect-timeout</td>
<td>Specifies the amount of time in milliseconds allowed for push to connect to a client before timing out.</td>
<td>Default: 30000</td>
</tr>
</tbody>
</table>
This example of an `options` element sets two options:

```xml
<options browser-path="/usr/local/bin/netscape" content-browsing="false">
```

### The `timeFormat` element

This attribute specifies parameters for the display and entry of time data. These settings are configurable on the Connection Server General Settings interface page.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Purpose</th>
<th>Values and Default</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>use24hour</code></td>
<td>Specifies whether to use a 24-hour clock format or a 12-hour format</td>
<td><code>true</code>: Use 24-hour format</td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>false</code>: Use 12-hour format</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default: false</td>
</tr>
<tr>
<td><code>time_format</code></td>
<td>Specifies the time to use, either <code>localTime</code> or <code>GMT</code></td>
<td>Default: <code>localTime</code></td>
</tr>
<tr>
<td><code>sign</code></td>
<td>Time can be specified as an offset of hours and minutes from GMT with a sign <code>+</code> or <code>-</code>.</td>
<td><code>+</code> adds hours/minutes to the GMT time</td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>-</code> subtracts hours/minutes from the GMT time</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default: blank</td>
</tr>
<tr>
<td><code>hours</code></td>
<td>Specifies the number of hours to add/subtract from the GMT time for the offset</td>
<td>Default: blank</td>
</tr>
<tr>
<td><code>minutes</code></td>
<td>Specifies the number of minutes to add/subtract from the GMT time for the offset</td>
<td>Default: blank</td>
</tr>
</tbody>
</table>
The log element

The table below shows the attributes for the log sub-element. The log element has no child elements.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Purpose</th>
<th>Values and Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>default</td>
<td>Specifies the minimum priority of log messages written to the log. See “Logging levels” on page 28 for additional information on message priorities.</td>
<td>Default: info</td>
</tr>
<tr>
<td>overwrite</td>
<td>Selects whether new logs are appended to the existing log. Otherwise, the log file is overwritten each time Connection Server starts.</td>
<td>true: Overwrites the existing log file each time Connection Server starts false: Appends log messages to the existing log file. Default: false</td>
</tr>
</tbody>
</table>

Logging levels

You can set the level of events that are logged from various component facilities of Connection Server. The severity level values are:

- **debug**: for programmers
- **verbose**: multiple-line status messages
- **info**: informational messages
- **warning**: unusual conditions
- **error**: an operation has failed
- **critical**: serious error or crash

This example of a log child element sets the default logging level for all facilities and the logging level for two facilities:

```xml
<options>
  <log default="warning" ice="critical" replicator="debug"/>
</options>
```

This example sets the default logging level to **warning**, suppressing messages of lower severity and returning messages of higher severity. Messages from the ICE facility are suppressed unless they are of **critical** priority, while all events, including debugging information, are logged for the replicator facility.

In general, we recommend that you set logging levels for facilities by means of the Connection Server user interface, rather than by adding tags to the configuration file (as in the example above). If you do set these levels through the configuration file, your entries there override any logging levels that you set through the user interface. You should generally add log default tags to the configuration file only if you are trying to capture additional information about an error while starting the server.
## Logging facilities

The following are the facilities for which event logging can be specified:

<table>
<thead>
<tr>
<th>Facility</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>analyzer</td>
<td>Component used by the webcrawler (csm.web) that analyzes web pages, JavaScript, etc., when crawling a site for download.</td>
</tr>
<tr>
<td>audit</td>
<td>Logs authorization events, and provides an audit trail of who changed what content.</td>
</tr>
<tr>
<td>auto-upgrade</td>
<td>Subscriber component that handles software updates delivered over the Internet.</td>
</tr>
<tr>
<td>csm.dirs</td>
<td>Content source monitor (csm) used to watch directories of files (also referred to as filewatcher).</td>
</tr>
<tr>
<td>csm.files</td>
<td>Content source monitor used to monitor sets of individual files (occasionally referred to as item level offers).</td>
</tr>
<tr>
<td>csm.web</td>
<td>Content source monitor used to monitor websites or ftp sites.</td>
</tr>
<tr>
<td>database</td>
<td>All of the server's basic interactions with the database are logged here (except for things like custom database content source monitors).</td>
</tr>
<tr>
<td>dataobject</td>
<td>Messages concerning the various entities (offers, subscriptions, packages) contained in the system and their interaction with the database.</td>
</tr>
<tr>
<td>date-time</td>
<td>All messages associated with date or time conversions are logged here.</td>
</tr>
<tr>
<td>delivery</td>
<td>Messages regarding the general aspects of content delivery, independent of delivery method.</td>
</tr>
<tr>
<td>delivery.ftp</td>
<td>Messages specific to delivering content via FTP.</td>
</tr>
<tr>
<td>delivery.ice</td>
<td>Messages specific to delivering content via ICE (note that both pull and push ICE subscriptions would log here).</td>
</tr>
<tr>
<td>delivery.mail</td>
<td>Messages specific to delivering content via e-mail.</td>
</tr>
<tr>
<td>ejb</td>
<td>Messages relating to the Connection Server’s interaction with a J2EE application server.</td>
</tr>
<tr>
<td>event</td>
<td>Notification of the creation, modification, and deletion of resources (such as offers, subscribers, and subscriptions)—including the distribution of such events over the network.</td>
</tr>
<tr>
<td>filter</td>
<td>Messages generated by content filtering.</td>
</tr>
<tr>
<td>httpd</td>
<td>Connection and networking messages generated by Connection Server’s built-in web server(s).</td>
</tr>
<tr>
<td>httpd.content</td>
<td>Messages generated by Connection Server’s built-in Content Server (for serving files from content source monitors).</td>
</tr>
<tr>
<td>httpd.tomcat</td>
<td>Messages generated by Connection Server’s administration server.</td>
</tr>
<tr>
<td>ice</td>
<td>The actual ICE messages exchanged between Connection Server and Subscription Client, as well as their processing.</td>
</tr>
</tbody>
</table>
The proxy element

The table below shows the attributes for the proxy sub-element. The proxy element has no child elements.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Purpose</th>
<th>Values and Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>host</td>
<td>Specifies the IP address or host name of the proxy server</td>
<td>Valid IP address or host name for the proxy server. Default: null (-1)</td>
</tr>
<tr>
<td>password</td>
<td>Specifies the password for proxy authentication.</td>
<td>Valid password for secure proxy server.</td>
</tr>
</tbody>
</table>
Some HTTP proxy servers require a username and password. The Connection Server can use these proxy servers for ICE push delivery if you include the `username` and `password` tags in the configuration file’s `proxy` element. The Connection Server supports HTTP proxy authentication for ICE push only. An example proxy element would look like this:

```xml
<options>
  <proxy host="proxy.stellent.com" port="3128" proxyset="true"
        username="user" password="password"/>
</options>
```

**Note:** The web crawler cannot do proxy authentication

## The `ssl` element

The table below shows the attributes for the `ssl` (Secure Socket Layer) sub-element. The `ssl` element has no child elements.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Purpose</th>
<th>Values and Default</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>enable</code></td>
<td>Specifies whether SSL security will be used by the Publishing Utility. Set this attribute to &quot;true&quot; to enable SSL.</td>
<td><code>true</code>: The Publishing Utility will use SSL security to connect to the Administration user interface and the ICE server. <code>false</code>: The Publishing Utility can only use non-SSL ports. Default: false</td>
</tr>
<tr>
<td><code>required</code></td>
<td>Specifies whether only SSL security can be used and prohibits the use of other protocols.</td>
<td><code>true</code>: Only SSL can be used. Non-SSL connection are not supported. <code>false</code>: Both SSL and non-SSL connections are supported. Default: false</td>
</tr>
</tbody>
</table>
Secure Sockets Layer (SSL) certificates are not provided for you. You must create a SSL certificate and edit the configuration file to enable SSL. The configuration file for your instance will be either "cns.sqlserver.config" or "cns.oracle.config" (depending on your database). An example ssl element would look like this:

```xml
<options>
    <ssl enable="true" required="false" admin="true"
         keystorefilename="yourfilename" keystorepass="yourpassword"/>
</options>
```

The services element

This section covers the services element and following sub-elements:

- The admin-server attribute
- The content-server element
- The admin-server attribute
- The ice-server element
- The master-server element

In this example for configuring services, the ICE Server is auto-started and the other two servers are not. Port numbers are assigned:

```xml
<services>
    <ice-server port="8890" />
    <content-server start="false" port="8891"/>
    <admin-server start="true" port="8889" />
    <master-server receiver1="http://slave1:8890"/>
</services>
```

The admin-server attribute

This attribute specifies operational parameters for the Administration Server, which allows Connection Server to be administered through by the browser-based Administrator interface.
### Configuration file properties

#### Attribute | Purpose | Values and Default
--- | --- | ---
max-threads | Specifies the maximum number of request-handling threads this service can create; the number of threads specified is never exceeded. | Integer
| | Default: 5 |
max-thread-queue | Specifies the maximum allowable number of backlogged requests. | Integer
| | Default: 100 |
min-threads | Specifies the initial number of request-handling threads this service will create when started; the number of threads specified always start. | Integer
| | Default: 1 |
port | Specifies the port on which that service should listen. | A valid port number
| | Default: 8889 |
start | Specifies whether a given service should start automatically. | true: Service should start automatically
| | false: Service should not automatically start
| | Default: true |
master-url | Specifies the URL of the master host from which this Content Server instance receives event notification. If null or not specified, the service does not attempt to connect to a master. | URL:port
| | Port default is 8880 |
max-threads | Specifies the maximum number of request-handling threads this service can create; the number of threads specified is never exceeded. | Integer
| | Default: 30 |
max-thread-queue | Specifies the maximum allowable number of backlogged requests | Integer
| | Default: 400 |
min-threads | Specifies the initial number of request-handling threads this service will create when started; the number of threads specified always start. | Integer
| | Default: 2 |

**Note:** Once **max-thread-queue** is exceeded, the service responds to new requests with the message: 500 Server Too Busy

### The content-server element

Specifies operational parameters for the standard HTTP server that serves the content files.

#### Attribute | Purpose | Values and Default
--- | --- | ---
master-url | Specifies the URL of the master host from which this Content Server instance receives event notification. If null or not specified, the service does not attempt to connect to a master. | URL:port
| | Port default is 8880 |
max-threads | Specifies the maximum number of request-handling threads this service can create; the number of threads specified is never exceeded. | Integer
| | Default: 30 |
max-thread-queue | Specifies the maximum allowable number of backlogged requests | Integer
| | Default: 400 |
min-threads | Specifies the initial number of request-handling threads this service will create when started; the number of threads specified always start. | Integer
| | Default: 2 |
The ice-server element

Specifies operational parameters for the ICE Server—the service that uses the ICE protocol to handle offers, subscriptions, and updates.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Purpose</th>
<th>Values and Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>port</td>
<td>Specifies the port on which the Content Server listens</td>
<td>A valid port number</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default: 8891</td>
</tr>
<tr>
<td>remote-host</td>
<td>Specifies an external host that is used to serve content. URLs pointing to local content delivered by the Connection Server are changed to point to the host specified here, instead of the Content Server. The remote-host attribute can also be specified in the &lt;options&gt; element. This is a special use of the attribute that is related to backwards compatibility.</td>
<td>Valid host name</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default: none</td>
</tr>
<tr>
<td>self-url</td>
<td>Specifies the URL and port the Content Server uses to receive event notifications from the master. Recommended for use when the IP address may not reliably point to the same machine, such as in some DHCP environments</td>
<td>URL:port</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If null or not specified, Connection Server determines a value, based on its current IP address.</td>
</tr>
<tr>
<td>ssl-port</td>
<td>Specifies the port on which the Content Server listens for communications protected by Secure Sockets Layer (SSL) security.</td>
<td>A valid port number</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default: 8894</td>
</tr>
<tr>
<td>start</td>
<td>Specifies that the Content Server service should be started automatically</td>
<td>true or false</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default: true (auto start)</td>
</tr>
</tbody>
</table>

The ice-server element

Specifies operational parameters for the ICE Server—the service that uses the ICE protocol to handle offers, subscriptions, and updates.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Purpose</th>
<th>Values and Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>master-url</td>
<td>Specifies the URL of the master host from which this ICE Server receives event notification. If null or not specified, the service does not attempt to connect to a master.</td>
<td>URL:port</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Port default is 8880</td>
</tr>
<tr>
<td>max-threads</td>
<td>Specifies the maximum number of request-handling threads this service can create; the number of threads specified is never exceeded.</td>
<td>Integer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default: 7</td>
</tr>
</tbody>
</table>
### Connection Server Installation Guide

#### Configuration file properties

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Purpose</th>
<th>Values and Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>max-thread-queue</td>
<td>Specifies the maximum allowable number of backlogged requests.</td>
<td>Integer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default: 30</td>
</tr>
<tr>
<td>min-threads</td>
<td>Specifies the initial number of request-handling threads this service will create when started; the number of threads specified always start.</td>
<td>integer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default: 7</td>
</tr>
<tr>
<td>port</td>
<td>Specifies the port on which the ICE Server service should listen.</td>
<td>A valid port number</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default: 8890</td>
</tr>
<tr>
<td>self-url</td>
<td>Specifies the URL and port this host uses to receive event notifications from the master host. Recommended for use when the IP address may not reliably point to the same machine, such as in some DHCP environments.</td>
<td>A fully-qualified URL and port number.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Example:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>http://your_url:7575</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If null or not specified, the master determines a value, based on the IP address.</td>
</tr>
<tr>
<td>ssl-port</td>
<td>Specifies the port on which the ICE Server listens for communications protected by Secure Sockets Layer (SSL) security.</td>
<td>A valid port number</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default: 8893</td>
</tr>
<tr>
<td>start</td>
<td>Specifies that the ICE Server service should start automatically.</td>
<td>true: ICE Server starts automatically</td>
</tr>
<tr>
<td></td>
<td></td>
<td>false: ICE Server does not automatically start</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default: true</td>
</tr>
</tbody>
</table>

#### The master-server element

Specifies operational parameters for event distribution—the service that allows notifications to be sent between Connection Server components in multiple-host environments.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Purpose</th>
<th>Values and Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>accept-unlisted</td>
<td>Specifies whether or not the master (event sending) host should allow unlisted slave (receiving) hosts to register for event notification. Unregistered slaves are not automatically reconnected when the master restarts and, therefore, are not automatically synchronized.</td>
<td>true: Unregistered slaves are accepted for connection to a master</td>
</tr>
<tr>
<td></td>
<td></td>
<td>false: Only registered slaves are accepted for connection to a master</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default: false</td>
</tr>
<tr>
<td>authentication-id</td>
<td>This attribute allows you to specify a login that the various servers in the distributed architecture will use to authenticate with each other.</td>
<td>Connection Server logins/ usernames should contain only ASCII characters</td>
</tr>
</tbody>
</table>
### The database element

Most JDBC driver documentation details the Java code needed for a program to connect to a specific JDBC driver. In general, there are four common interactions. Each of these interactions can be specified in the configuration file; not all interactions are needed for each driver.

- **Selecting the JDBC driver to be used**
- **Choosing how the driver is to be registered**
- **Selecting the JDBC URL used to connect to the database**
- **Setting additional parameters not specified in the JDBC URL**

The database element and its child elements, `driver`, `user`, and `property`, enable Connection Server to connect to a database using a JDBC driver.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Purpose</th>
<th>Values and Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>authentication-pass</td>
<td>This attribute allows you to specify a password that the various servers in the distributed network will use to authenticate with each other.</td>
<td>Connection Server passwords should contain only ASCII characters.</td>
</tr>
<tr>
<td>master-url</td>
<td>Allows two master servers to communicate with each other, which might be necessary if changes are potentially happening on multiple machines.</td>
<td>A fully-qualified URL and port number.</td>
</tr>
<tr>
<td>port</td>
<td>Specifies the port on which the master host listens.</td>
<td>A valid port number Default: 8880</td>
</tr>
<tr>
<td>receivern</td>
<td>Specifies a list of URLs for event-receiving slave hosts. If accept-unlisted is false, each slave must be listed to receive events. This is the recommended configuration.</td>
<td>receivern, where n is an integer value starting with 1. Default: none</td>
</tr>
<tr>
<td>self-url</td>
<td>Allows two master servers to communicate with each other, which might be necessary if changes are potentially happening on multiple machines.</td>
<td>A fully-qualified URL and port number.</td>
</tr>
<tr>
<td>shutdown-slaves</td>
<td>Specifies whether or not the slaves should be notified when the master server shuts down or restarts. If true, the various slaves will also either be shutdown or restarted.</td>
<td>Default: true</td>
</tr>
<tr>
<td>start</td>
<td>Specifies that the master service should start automatically.</td>
<td>true: Master service starts automatically false: Master service does not automatically start Default: true</td>
</tr>
</tbody>
</table>
The description of these elements is shown in the following example. The database section of the configuration file appears in the configuration file provided with the Connection Server software.

```
<database type="dbtype" max-connections=9/>
<driver jdbcURL="jdbc:oracle:kinecta_ice"
  driver="oracle.jdbc.driver.OracleDriver"/>
<user username="user" password="pass"/>
<property key="debug-level" value="2"/>
<property key="keyname" value="5"/>
</database>
```

### Table: Configuration file properties

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Purpose</th>
<th>Values and Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>max-connections</td>
<td>The maximum number of database connections allowed.</td>
<td>whole number &gt;0&lt;br&gt;Default: 9</td>
</tr>
<tr>
<td>max-retries</td>
<td>The number of times a database operation will be retried after one fails.</td>
<td>Default: 3</td>
</tr>
<tr>
<td>retry-delay</td>
<td>The amount of time in milliseconds between database retries.</td>
<td>amount of time in milliseconds between database retries</td>
</tr>
</tbody>
</table>

The content-sources element

The content-source element allows the addition of a custom content source monitor. The factory element is a child of this element. For more information and an example, refer to the Replication Customization Guide.
The extensions element

This section covers the `extensions` element and following sub-element:

- The factory element

The `extensions` element is used to add custom extensions to the Connection Server. Its inclusion is wholly optional and most often will enable the addition of custom content source monitors and adapters. The SDK contains examples of such. The extensions element specifies a class that implements `com.kinecta.syndicator.extension`. This element has a child element: `factory` (any number, including none).

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Purpose</th>
<th>Values and Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>class</td>
<td>Java class name to be invoked for an extension.</td>
<td>valid Java class name for this extension</td>
</tr>
<tr>
<td>param</td>
<td>Information to be passed to the Java class when invoked.</td>
<td>any string you wish to pass to the extension</td>
</tr>
</tbody>
</table>
### The factory element

The factory element implements com.kinecta.syndicator.extensionfactory and can be a child of both the extensions element and the content-sources element. It has no child elements.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Purpose</th>
<th>Values and Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>class</td>
<td>Java class name to be invoked for a factory.</td>
<td>valid Java class name for this factory</td>
</tr>
<tr>
<td>param</td>
<td>Information to be passed to the Java class when invoked.</td>
<td>any string you wish to pass to the factory</td>
</tr>
</tbody>
</table>

### The ldap element

The ldap element causes the Connection Server to launch in LDAP mode. This mode allows the Connection Server to import and delete user records by validation against an LDAP (Lightweight Directory Access Protocol) database.

**Note:** The Connection Server does not directly authenticate against the LDAP database.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Purpose</th>
<th>Values and Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>ldap-enabled</td>
<td>Tells the Connection Server whether to run in LDAP mode or not.</td>
<td>true or false (no default)</td>
</tr>
<tr>
<td>ldapURL</td>
<td>Specifies the LDAP server’s IP address and port.</td>
<td>ldap://your_IP_address:389</td>
</tr>
<tr>
<td>username</td>
<td>Specifies an LDAP administrator user name, in order to establish a JNDI connection.</td>
<td>The user name with administrator permissions. For the iPlanet LDAP server, default is: “cn=Directory Manager”</td>
</tr>
<tr>
<td>userpassword</td>
<td>Specifies an LDAP administrator password, in order to establish a JNDI connection.</td>
<td>The password corresponding to the user name above.</td>
</tr>
</tbody>
</table>
| rolebase    | Specifies the LDAP element that forms the base of the search for matching roles. | Default: “cn=KinectaAdminGroup, ou=Groups, dc=ldap_server_domain_name_element, ...
| rolename    | Specifies the name of the LDAP server attribute that contains the role name. | Example: “cn” |
| rolesearch  | Specifies the LDAP search pattern for selecting roles in the LDAP realm. | Example: “cn” rolesearch="(uniquemember=\{0\})” |
| digest      | Specifies the digest algorithm used to store passwords. | Default: “CLEAR” |
## The j2ee element

This section covers the `j2ee` element and following sub-elements:

- The `jnet` element
- The `license-server host` element
- The `knet-server host` element
- The `soap-server host` element
- The `tracking-server host` element
- The `clickthru-server` element

### Attributes of the j2ee element

The `j2ee` element governs how the Connection Server behaves when run as a web application within the (J2EE-compliant) WebLogic application server. This element contains the following attributes:

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Purpose</th>
<th>Values and Default</th>
</tr>
</thead>
</table>
| rolesubtree  | Specifies whether to search subelements.                               | `true` if you want role searches to search the subtrees of elements selected by `rolebase`;
|              |                                                                        | `false` if you want to search only the top-level elements. |
| passwordname | Specifies the name of the LDAP server attribute that contains the password. | Form depends on the `digest` attribute’s setting. Default: `passwordname="userpassword"` |
| userpattern  | Specifies the search pattern for selecting users in the LDAP realm.     | Use `{0}` as a shorthand for the distinguished name (dn) pattern corresponding to the users you want to retrieve. Example: `userpattern="uid={0},ou=People,dc=your_domain,dc=com"` |
The knet element

The knet element directs the Connection Server to an appropriate Sellent Subscription Client Deployment Server. The knet element has five child elements: license-server host, knet-server host, soap-server host, tracking-server host, and clickthru-server.
The license-server host element

The **license-server host** child element specifies host information for the service that checks for licenses when the Connection Server and Subscription Client start up.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Purpose</th>
<th>Values and Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>host</td>
<td>Specifies URL to the license-server host.</td>
<td>http://your_url</td>
</tr>
<tr>
<td>port</td>
<td>Specifies port used to access the license server.</td>
<td>Configurable, but usually shares the same port as the application server.</td>
</tr>
</tbody>
</table>

The knet-server host element

The **knet-server host** child element specifies host information for the Subscription Client Deployment Server itself.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Purpose</th>
<th>Values and Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>host</td>
<td>Specifies the URL to the Subscription Client Deployment Server host.</td>
<td>http://your_url</td>
</tr>
<tr>
<td>port</td>
<td>Specifies port used to access the Subscription Client Deployment Server.</td>
<td>Configurable, but usually shares the same port as the application server.</td>
</tr>
</tbody>
</table>

The soap-server host element

The **soap-server host** child element specifies host information for the SOAP (simple Object Access Protocol) server. The SOAP protocol is used for communication between the Subscription Client and the Connection Server.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Purpose</th>
<th>Values and Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>host</td>
<td>Specifies URL to the SOAP server’s host.</td>
<td>http://your_url</td>
</tr>
<tr>
<td>port</td>
<td>Specifies port used to access the SOAP server.</td>
<td>Configurable, but usually shares the same port as the application server.</td>
</tr>
</tbody>
</table>
### The tracking-server host element

The tracking-server host child element identifies the server that hosts the Content Matrix service.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Purpose</th>
<th>Values and Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>host</td>
<td>Specifies URL to the Content Metrics server’s host.</td>
<td>http://your_url</td>
</tr>
<tr>
<td>port</td>
<td>Specifies port used to access the Content Metrics server.</td>
<td>Configurable, but usually shares the same port as the application server.</td>
</tr>
</tbody>
</table>

### The clickthru-server element

The clickthru-server child element identifies the server that hosts the Content Metrics click-through tracking service.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Purpose</th>
<th>Values and Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>host</td>
<td>Specifies URL to the Content Metrics click-through server’s host.</td>
<td>http://your_url</td>
</tr>
<tr>
<td>port</td>
<td>Specifies port used to access the Content Metrics click-through server’s host.</td>
<td>Configurable, but usually shares the same port as the application server.</td>
</tr>
</tbody>
</table>
CHAPTER 5

**Using Content Server adapters**

This chapter describes how to install the Content Server Adapters for integrations with Connection Server. There are two adapters, one residing on the server machine and the other on client machines:

- The Outbound Adapter (also known as a content source) resides on a server machine. It allows the Connection Server to distribute content that is stored in Content Server. This relationship allows Content Server to function as the Connection Server’s information store.

- The Inbound Adapter (also known as a sink) resides on a client machine. It allows Subscription Client to populate Content Server with content that Subscription Client receives from any source. The sources will typically be other instances of Content Server, but other sources are possible.

By using these two adapters together, you can replicate content between Content Servers. However, the Inbound Adapter’s architecture also allows you to use a single instance of Subscription Client to both receive content from, and store information in, a single instance of Content Server.

**Note:** See “Conventions used in this guide” on page 5 for information on path names and conventions used throughout this guide.

In this section:

- Outbound Adapter
- Inbound Adapter

**Outbound Adapter**

This section describes how to install Content Server Outbound Adapter for integrations with Connection Server. By installing this adapter, you can use the Connection Server to distribute content that originates in Content Server.

The section contains the following sections:

- Installing the Outbound Adapter
- Configuring Metadata Mapping
- Using the Outbound Adapter

**Notes**

- To successfully install the Outbound Adapter, you must install the Connection Server on the same machine as Content Server.
- The prefix CNS_HOME/ refers to the Connection Server installation directory.
- The prefix Content_Server_path/ refers to the Content Server installation directory.
Installing the Outbound Adapter

Both the Connection Server and Content Server must be configured and/or files edited within these server’s directories to install the outbound adapter.

Connection Server Configuration

Perform the following steps to configure the Connection Server:

1. Make sure the $JAVA_HOME/lib/tools.jar file is in your CLASSPATH.
2. Open the Connection Server configuration file in a text-only editor. This file is located in the Connection Server installation directory.

   The Connection Server configuration file is named cns.oracle.config or cns.sqlserver.config depending on your database.

   You can copy prototype versions of these tags from the template file installed at CNS_HOME/extras/cns.contentserver.config.sample, and paste those into the Connection Server configuration file for further customization.

3. Edit the Connection Server configuration file:
   - Add this tag to the options element to select which metadata fields from Content Server you want to send along with each content item:
     
     ```xml
     <options custom-item-fields="ContentName,Title,Author,SecurityGroup,Type" />
     ```

     The comma-separated list in the above tag is an example. You can modify this list to determine which fields to send. You should omit the leading x from any custom field names from the IDC schema. See “Configuring Metadata Mapping” on page 48 for additional information.

   - Add this tag to load the outbound adapter:
     
     ```xml
     <content-sources>
     <factory class="com.kinecta.adapter.contentserver.syndicator.StellentAdapter" param="Content_Server_path/cns_queue"/>
     </content-sources>
     ```

   - Specify a queue directory. Content Server will use this directory to queue updates that occur when the Connection Server is not running, or updates for which no offer has yet been created in the Connection Server. When the Connection Server is relaunched or provided with an appropriate offer, it will process this queue.

     The default queue directory is Content_Server_path/cns_queue. Since the Connection Server does not know where Content Server is installed, you must specify the full path to this directory even if you use this default value.

4. Start the Connection Server.
5. To begin deploying the adapter, point a browser to the SOAP admin tool:

   For example:

   ```http
   http://testserver:8889/soap/
   ```

   This URL assumes that you are using the default 8889 administrative port for a standalone installation.

6. For the admin client, select Run and then Deploy.
7. To complete the deployment, use the SOAP admin tool to set these values:

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID</td>
<td>tag:stellent,2002-06:scs-cns/soap-enc-ns</td>
</tr>
<tr>
<td>Scope</td>
<td>request</td>
</tr>
<tr>
<td>Methods</td>
<td>updateContent</td>
</tr>
<tr>
<td>Java Provider Class</td>
<td>com.kinecta.adapter.contentserver.syndicator.SoapReceiver</td>
</tr>
<tr>
<td>Static?</td>
<td>no</td>
</tr>
</tbody>
</table>

**Note:** Be sure to select a Java Provider Class, not a Java Provider Type.

### Content Server Configuration

Perform the following steps within Content Server installation directory.

1. Edit the Content Server `config.cfg` file and add the CNSSoapUrl value appropriate to your Connection Server installation:

   For example:

   ```plaintext
   CNSSoapUrl=http://localhost:8889/soap/servlet/rpcrouter
   ```

   The above example assumes that you are using the default administration port 8889. If you have configured a different administration port, change the 8889 string within this URL accordingly.

2. Edit the Content Server `config.cfg` file and add the following values:

   ```plaintext
   CNSSoapUrn=tag:stellent,2002-06:scs-cns/soap-enc-ns
   CNSSoapUser=administrator
   CNSSoapPass=administrator
   CNSSendPrimary=[true|false]
   CNSSendWeblayout=[true|false]
   CNSSendAlternates=[true|false]
   CNSSendRenditions=[true|false]
   ```

   Enter that user’s identifiers in the CNSSoapUser and CNSSoapPass lines that you defined earlier. The [true|false] options determine which files Content Server sends to Connection Server.

3. For security reasons, you might want to substitute a user account and password other than administrator as the CNSSoapUser and CNSSoapPass.

   Create a new user in Connection Server with these permissions:

   - **ContentPackage Write System**
   - **ContentPackage Delete System**
   - **ContentPackage Create System**

4. From the CNS_HOME/lib directory, copy the activation.jar, soap.jar, and mail.jar files into the Content_Server_path/shared/classes directory.

5. Edit the Content_Server_path/bin/intradoc.cfg file and add the jar files (activation.jar, soap.jar, and mail.jar) to that file’s CLASSPATH statement.
When editing the intradoc.cfg file CLASSPATH statement: Regardless of what platform you are on, you should follow the path conventions already in use in the file. For example, even on Windows platforms, refer to soap.jar as $SHAREDDIR/classes/soap.jar.

6. Upload the CNS.zip component (distributed with Connection Server and located at: CNS_HOME/extras/CNS.zip) to Content Server and activate it.

To perform the upload using the Admin Server Component Manager page

1. Log into Content Server as the system administrator and click Administration.  
2. Under Administration Pages, click Admin Server.  
3. Click the desired Content Server instance (for example, Master_on_testserver).  
4. Under Options, click Component Manager.  
5. The Component Manager page appears.  
6. In the Upload New Component section, click Browse.  
7. Navigate to the CNS.zip component and click Open.  
8. Click Upload.  
9. From the Disabled Components list, select CNS and click Enable.  
11. Stop and restart Content Server.

Configuring Metadata Mapping

In some cases, you will need to configure custom metadata mapping. See “Metadata Mapping Requirements” on page 49 for additional information.

This configuration can occur in up to three places:

- In the Content Server Component Wizard. See “About Metadata Mapping” on page 48 for additional information.
- In the Connection Server configuration file, by editing the options element custom-item-fields tag. See “Connection Server Configuration” on page 46 for additional information.
- In the Subscription Client configuration file. See “Installing the Inbound Adapter” on page 51 for additional information.

About Metadata Mapping

The Content Server Outbound Adapter uses metadata mapping to map Content Server field names (for example, dDocTitle and dDocType) into normalized names (for example, Title and Type). The Connection Server tracks these normalized names and sends the corresponding fields in the ICE package.

This mapping is configured in the Content Server Component Wizard, in the Custom HTML Included section. The upload_xml_insert_structure resource maps items that are being added or updated, and the upload_xml_delete_structure resource maps deletions.

You can edit these resources by matching the format of their default contents. The name of each XML tag is a normalized field name for Connection Server; the value within the tag is the name of the corresponding Content Server field.

For example, this entry maps the Content Server field name dDocName to ContentName:
By default, the upload_xml_insert_structure resource contains the following entries:

```xml
<OpType>Update</OpType>
<ContentName>&lt;$dDocName$&gt;</ContentName>
<Title>&lt;$dDocTitle$&gt;</Title>
<Type>&lt;$dDocType$&gt;</Type>
<Author>&lt;$dDocAuthor$&gt;</Author>
<SecurityGroup>&lt;$dSecurityGroup$&gt;</SecurityGroup>
<Accounts>&lt;$dDocAccount$&gt;</Accounts>
<RevisionID>&lt;$dRevisionID$&gt;</RevisionID>
<CustomFields></CustomFields>
<ContentServer>&lt;$IDC_Name$&gt;</ContentServer>
```

In the above example, the CustomFields entry is a special tag that is handled differently than all the other tags in this structure. While the other tags each represent a single metadata field and its value, the CustomFields tag represents all of the custom metadata fields that you have defined on Content Server.

The CustomFields tag will be replaced with the names and values of these custom metadata fields. This replacement occurs when the Content Server component uses the upload_xml_insert_structure resource to build up the list of metadata items to send to the Connection Server.

The names of the custom metadata fields are each prefixed with an x (as in: xCustom_Name), but when Connection Server sends them, it omits the x (as in: Custom_Name).

For example, if the upload_xml_insert_structure on Content Server contained the following entries and you had defined custom fields xColor and xShape, then the Outbound Adapter would tell the connection server that dDocName is called ContentName, xColor is called Color, and xShape is called Shape:

```xml
<ContentName>&lt;$dDocName$&gt;</ContentName>
<CustomFields></CustomFields>
```

### Metadata Mapping Requirements

Certain metadata mapping conditions must be met for the Outbound Adapter to function properly. Following the default installation instructions in this guide will meet these requirements. However, if you customize your content distribution, you may need to configure the metadata mapping to preserve these conditions:

- Certain fields must be present for batch loads to work on Subscription Client’s Inbound Adapter. For a list of these fields, refer to the Content Server System Administration Guide section titled “Understanding Batch Load Files.”
- If you want to add or delete fields, you must configure the mappings accordingly.
- If you are using both the Outbound Adapter and Inbound Adapter, their respective mappings must match.
- In the Inbound Adapter, you configure metadata mapping in the Subscription Client configuration file. The mapping is governed by the sink element’s metadata-map tag.
- The Inbound Adapter’s default mapping values do the opposite of the server-side mappings: They map the normalized values (which Connection Server sends in ICE packages) back into Content Server–specific names.
- The metadata-map tag’s format is similar to that of entries within Content Server Component Wizard resources.
For example, this tag maps the ContentName property into dDocName:
<metadata-map ContentName="dDocName”>

Using the Outbound Adapter

This section describes how to create an offer in the Connection Server once you have installed the Subscription Client. The procedure is similar to creating any other offer in the Connection Server, except that Content Server functions as the offer’s content source.

Use the following steps to create an offer using the Content Server adapter:

1. Edit the Content Server config.cfg configuration file and add the following value:
   CNSArchives=Archiver_job_name
   Replace the Archiver_job_name placeholder with an arbitrarily chosen name.
   Alternatively, you can list multiple Archiver jobs, separated by commas.
   For example:
   CNSArchives=apple,banana,cantaloupe
2. Use the Connection Server interface to create an offer—navigate to the Connection Server Create Offer page.
3. As the Content Source Type, choose Content Server.
4. Click Next to move to the second Create Offer page.
5. As the Archiver Job Name, enter the name that you selected earlier.
6. Save the offer.
7. Create the corresponding Archiver job. You can do this from either the Connection Server or Content Server, as follows.

   To create the Archiver job from the Connection Server

1. From the second Create Offer page, click Launch Archiver.
   If this is the first offer you have created since installing the adapter, the Connection Server will automatically display the Choose Content Server page.
2. On the Choose Content Server page fill in the Content Server Instance field.
   The Content Server Instance is the name of the Content Server to which you are connecting. For example: IDCNAME_ON_SERVER. This name was chosen upon Content Server installation.
3. Fill in the Content Server Webroot field.
   The Content Server Webroot is the name of the webroot directory (without slashes). For example, if you access Content Server as http://testserverserver.com/idc/portal.htm the Content Server webroot would be “idc”. The webroot name was also chosen upon Content Server installation.
4. Click Next to continue.
   If this is not the first offer you have created since installing the outbound adapter, you can still display the Choose Content Server page if you want to edit these settings. To display this page from the second Create Offer page, click the Edit Settings for Content Server link.
To create the Archiver job from Content Server

1. Start the Archiver and create an Archiver job that covers the documents you want to distribute.
2. Name the Archiver job identically to the name that you selected earlier.
3. Make sure that Export Automated is set to Yes, and that the Content Server with the CNS component installed is a registered exporter (on the Archiver Replication tab).
   
   If you create an Archiver job in Content Server before creating a Connection Server offer that references that Archiver job name, Content Server will queue up messages in its queue subdirectory until you create an offer to distribute them.
4. With the offer that you have now created, you can create subscriptions to start delivering content.

Inbound Adapter

This section describes how to install the Content Server Inbound Adapter. Installing this adapter allows the Subscription Client to receive content that originates in the Content Server and is distributed via the Connection Server.

The section contains the following sections:
- Installing the Inbound Adapter
- Using the Inbound Adapter

Notes
- To successfully install the Inbound Adapter, you must install Subscription Client, on the same machine as the Content Server.
- The prefix Subscription_Client_path/ refers to the Subscription Client installation directory.

Installing the Inbound Adapter

The Subscription Client must be configured and/or files edited within this server’s installation directory to install the inbound adapter.

Subscription Client Configuration

Perform the following steps within the Subscription Client installation directory.

1. Edit the Subscription Client configuration file to add the tags listed below:

   Note: You can copy prototype versions of these tags from the template file installed at Subscription_Client_path/extras/siclone.config.sample, and paste those into the siclone.config file for further customization.

```xml
<defaults>
<sink factory="com.kinecta.adapter.contentserver.subscriber.StellentSinkFactory">
<metadata-map ContentName="dDocName"
Title="dDocTitle"
Author="dDocAuthor"
SecurityGroup="dSecurityGroup"
```
For Windows, within the trigger tag, replace the batchload.sh reference with:

batchload.bat.

Depending on your installation, you might need to further customize the sample
metadata-map attribute shown above.

The code above assumes that you want all of this Subscription Client’s subscriptions to go
into the Content Server. It therefore places the sink, metadata-map, sink factory, trigger,
and ice-delivery-rule tags within the configuration file’s defaults element. If you prefer to
insert subscription packages into the Content Server selectively, you would instead place
these tags inside the corresponding subscriptions’ job elements. See “Sending Specific
Subscriptions to Content Server” on page 52 for additional information.

2. Edit the batchload script to point to your installed copy of the Content Server and of the
batchload.txt file. In the per-platform examples below, replace the paths in the IDC_BASE
and BatchLoader entries with your actual installed paths.

**Solaris—sample batchload.sh script:**

```bash
#!/bin/sh
IDC_BASE=/space/stellent/server
PATH=$PATH:$IDC_BASE/bin
PWD='pwd'
BatchLoader -q -n $PWD/batchload.txt
mv batchload.txt batchload.old
```

**Windows—sample batchload.bat script:**

```cmd
SET IDC_BASE=c:\stellent
SET PATH=%PATH%;%IDC_BASE%\bin
cd %IDC_BASE%\bin
BatchLoader.exe /q /console /n "c:\Program Files\Stellent\Stellent Subscription Client\batchload.txt"
cd "c:\Program Files\Stellent\Stellent Subscription Client"
rename batchload.txt batchload.old
```

*Note:* In this Windows example, the BatchLoader.exe entry is actually a single line.

---

**Using the Inbound Adapter**

This section provides information on sending specific subscriptions to the Content Server and
metadata mapping.

**Sending Specific Subscriptions to Content Server**

The section “Subscription Client Configuration” on page 51 assumes that you want all of your
Subscription Client subscriptions to go into the Content Server. The configuration file example
therefore places the sink, metadata-map, sink factory, trigger, and ice-delivery-rule tags within
the configuration files default element. This element affects all subscriptions on the Subscription Client.

If you prefer to insert subscription packages into the Content Server selectively, you would instead place these tags inside the corresponding subscriptions’ job elements within the configuration file.

**Metadata Mapping and the Subscription Client**

Within the Subscription Client configuration file, the values in the metadata-map attribute must match the values that are being sent in the ICE package. The sample values used in this guide are default values that would be sent from a Connection Server that is serving files from a Content Server. See “Metadata Mapping Requirements” on page 49 for additional information on matching the metadata mapping on the Inbound Adapter and Outbound Adapter.

If you are populating the Content Server with content that your Subscription Client has received from a source other than the Content Server, you must insert additional tags to add metadata. See “Metadata Mapping Requirements” on page 49 for additional information on the appropriate format for these tags.
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zlib.h -- interface of the 'zlib' general purpose compression library
version 1.2.3, July 18th, 2005

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