

ASF 3.4

Document Connect for ASF

Installation on Linux Server Using WebSphere Application Server V6.1

Edition: 1.1

02 June 2008

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2 Prerequisites

- 1 Ensure that WebSphere Application Server (WAS) V6.1 has been installed, is operational, and has been started.

Note: The installation path is assumed to be
opt/IBM/WebSphere/AppServer6.1

- 2 Ensure that IBM HTTP Server (Version 6.0 or later) has been installed, is operational, and has been started. Ensure that the WebSphere Application Server “Plug-in” has been installed.
- 3 Connections to the host:
 - 3.1 Ensure that, when using IMS Connect, the Resource Adapter “IMS Connector 9.10.x” rar file has been deployed within WebSphere.
For more information see:
<http://www-306.ibm.com/software/data/ims/ims/components/1conjav125.html>
 - 3.2 Ensure that, when using WebSphere MQ to connect to IMS, MQ for z/OS has been installed on the host, the input and output queue are available (on the host) and the input queue is connected to IMS via the storage class.
 - 3.3 Ensure that, when using CICS Transaction Gateway, the Resource Adapter “CICS ECI Resource Adapter 6.0.x” rar file has been deployed within WebSphere. This file is part of the CICS Transaction Gateway or can be downloaded from the following page:
<http://www-1.ibm.com/support/docview.wss?uid=swg24008817>
 - 3.4 Ensure that, when using WebSphere MQ to connect to CICS, MQ for z/OS has been installed on the host, the input and output queue are available (on the host) and the input queue is connected to CICS via an initiation queue.
 - 3.5 Ensure that, when using DB2 native, the DB2 Universal JDBC Driver Provider that comes with WebSphere is operational.
The DB2 Universal JDBC Provider can be downloaded from the following page:
http://www-306.ibm.com/software/data/db2/support/db2_9

Note:

The screens shown in this document are based on WebSphere 6.1. When installing ASF 3.4 under WebSphere 6.0 the screens will differ slightly.

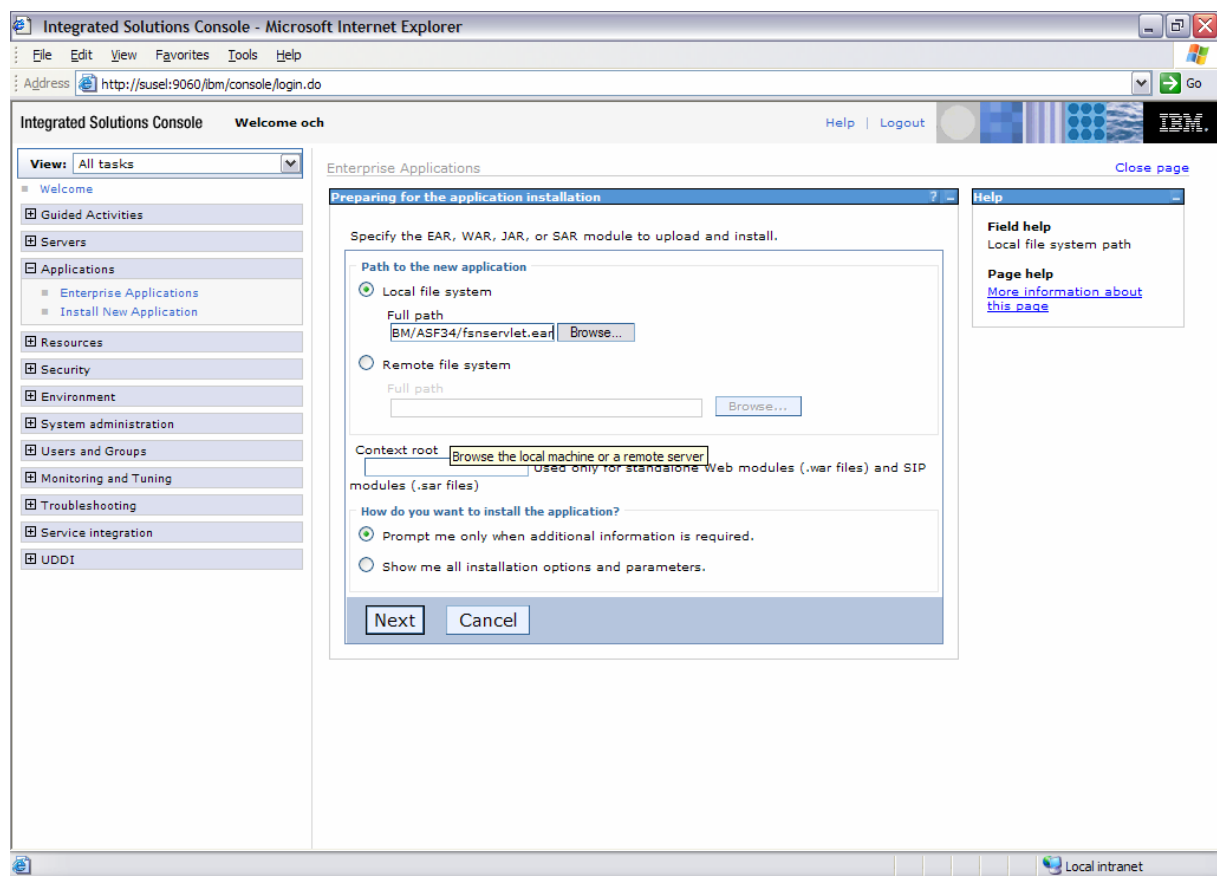
3 Installing the application

Preparing the application installation

Open [Application](#) > [Install New Application](#)

Enter the path (local path or server path) where the ASF 3.4 ear (fnservlet.ear) file is located:

`opt/IBM/ASF34/fnservlet.ear`



Select **Next**. The file "fnservlet.ear" is now loaded on the server.

Installing a new application (Step 1)

Fill in the required fields (installation directory, application name, class reloading).

Directory to install application:

If you do not enter an installation directory, WAS will install the application under the default directory:

APP_INSTALL_ROOT/xxxxx/fsnservlet.ear

Where:

- APP_INSTALL_ROOT is a path map variable which, for example, is set to:

opt/IBM/WebSphere/AppServer6.1/profiles/default/installedApps/

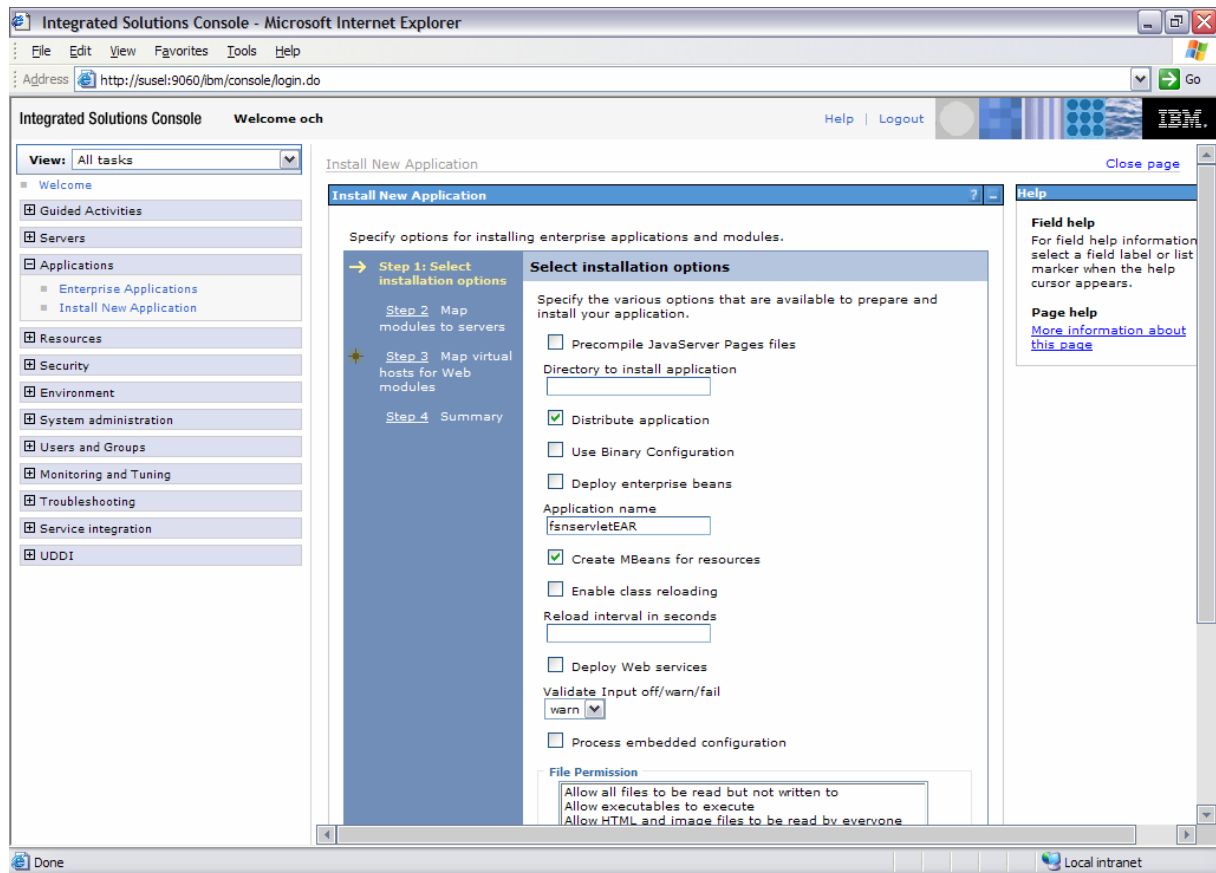
- 'xxxxx' is the cell name
- 'fsnservlet' is the application name.

Application Name:

Specify a unique name, for example 'fsnservletEAR'.

Class Reloading:

Do not enable class reloading.



Click [Next](#) to finish Step 1 and go to Step 2.

Installing a new application (Step 2)

The screenshot shows the Integrated Solutions Console interface in a Microsoft Internet Explorer browser window. The address bar shows the URL `http://susel:9060/bm/console/login.do`. The console title is "Integrated Solutions Console" and the user is logged in as "Welcome och".

The left sidebar contains a navigation menu with the following items: Welcome, Guided Activities, Servers, Applications (with sub-items: Enterprise Applications, Install New Application), Resources, Security, Environment, System administration, Users and Groups, Monitoring and Tuning, Troubleshooting, Service integration, and UDDI.

The main content area is titled "Enterprise Applications" and shows the "Install New Application" wizard. The current step is "Step 2: Map modules to servers". The wizard instructions state: "Specify options for installing enterprise applications and modules." and "Specify targets such as application servers or clusters of application servers where you want to install modules. Also, specify the Web servers as targets that serve as routers for requests to plug-in configuration file (plugin-cfg.xml) for each Web server is generated, based on the application through."

Below the instructions, there is a "Clusters and Servers" section with a text input field containing the following text: `WebSphere:cell=suselNode01Cell,node=suselNode01,server=server1` and `WebSphere:cell=suselNode01Cell,node=suselNode01,server=webserv1`. An "Apply" button is next to the input field.

A table below the input field lists modules and their target servers:

Select	Module	URI	Server
<input type="checkbox"/>	docstaticweb	docstaticweb.war,WEB-INF/web.xml	WebSphere:cell=suselNode01Cell,node=suselNode01,server=server1
<input type="checkbox"/>	fnservlet	fnservlet.war,WEB-INF/web.xml	WebSphere:cell=suselNode01Cell,node=suselNode01,server=server1
<input type="checkbox"/>	EHS3.01	IEHS_WAS602.war,WEB-INF/web.xml	WebSphere:cell=suselNode01Cell,node=suselNode01,server=server1

At the bottom of the wizard, there are "Previous", "Next", and "Cancel" buttons.

No updates are required for Step 2. Click [Next](#) to finish Step 2 and go to Step 3.

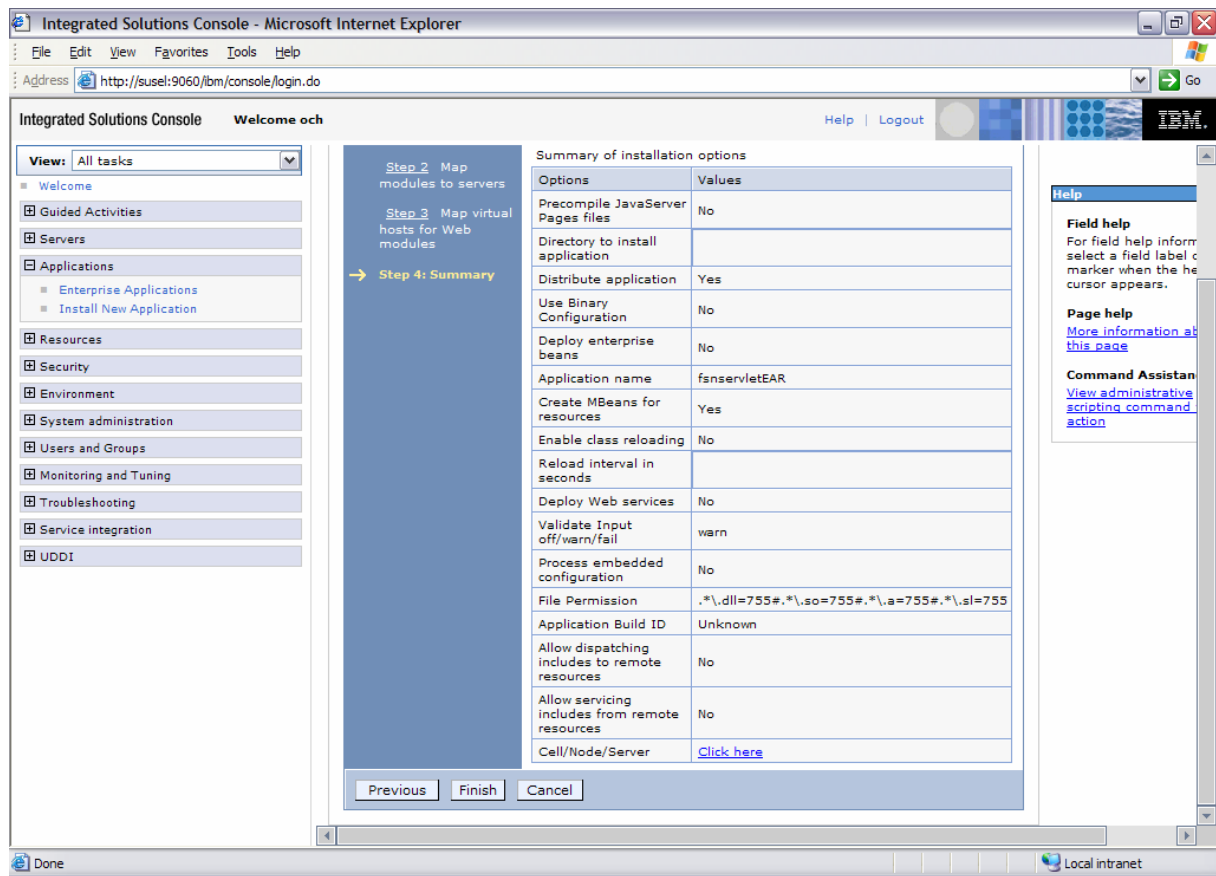
Installing a new application (Step 3)

The screenshot shows the Integrated Solutions Console interface in Microsoft Internet Explorer. The browser address bar displays `http://suse1:9060/ibm/console/login.do`. The console title is "Integrated Solutions Console" with a "Welcome" message and "Help | Logout" links. A left-hand navigation pane lists various categories: Welcome, Guided Activities, Servers, Applications (with sub-items "Enterprise Applications" and "Install New Application"), Resources, Security, Environment, System administration, Users and Groups, Monitoring and Tuning, Troubleshooting, Service integration, and UDDI. The main content area is titled "Enterprise Applications" and contains a sub-section "Install New Application". Below this, a progress indicator shows four steps: Step 1 (Select installation options), Step 2 (Map modules to servers), Step 3 (Map virtual hosts for Web modules, which is the current step), and Step 4 (Summary). The "Map virtual hosts for Web modules" section includes a checkbox for "Apply Multiple Mappings" and a table for mapping web modules to virtual hosts. The table has three columns: "Select", "Web module", and "Virtual host". It lists three web modules: "docstaticweb", "fnservlet", and "EHS3.01", each with a "default_host" dropdown menu. At the bottom of the section are "Previous", "Next", and "Cancel" buttons. A "Help" sidebar on the right provides "Field help" and "Page help" information.

Select	Web module	Virtual host
<input type="checkbox"/>	docstaticweb	default_host
<input type="checkbox"/>	fnservlet	default_host
<input type="checkbox"/>	EHS3.01	default_host

No updates are required for Step 3. Click [Next](#) to finish Step 3 and go to Step 4.

Installing a new application (Step 4)



The screenshot shows the Integrated Solutions Console interface in Microsoft Internet Explorer. The browser address bar shows <http://susel:9060/bm/console/login.do>. The console title is "Integrated Solutions Console" with a "Welcome" message. On the left, there is a navigation pane with a "View: All tasks" dropdown and a tree view containing: Welcome, Guided Activities, Servers, Applications (with sub-items Enterprise Applications and Install New Application), Resources, Security, Environment, System administration, Users and Groups, Monitoring and Tuning, Troubleshooting, Service integration, and UDDI. The main content area is titled "Summary of installation options" and contains a table of configuration options. A vertical sidebar on the left of the main area shows a progress indicator with steps: Step 2 (Map modules to servers), Step 3 (Map virtual hosts for Web modules), and Step 4 (Summary, which is the current step). At the bottom of the main area are buttons for "Previous", "Finish", and "Cancel". On the right, there is a "Help" section with "Field help", "Page help", and "Command Assistant" links.

Options	Values
Precompile JavaServer Pages files	No
Directory to install application	
Distribute application	Yes
Use Binary Configuration	No
Deploy enterprise beans	No
Application name	fnservletEAR
Create MBeans for resources	Yes
Enable class reloading	No
Reload interval in seconds	
Deploy Web services	No
Validate Input off/warn/fail	warn
Process embedded configuration	No
File Permission	.*\,dll=755#.*\,so=755#.*\,a=755#.*\,sl=755
Application Build ID	Unknown
Allow dispatching includes to remote resources	No
Allow servicing includes from remote resources	No
Cell/Node/Server	Click here

Check the settings on this page and click [Finish](#) to start the installation of your application. When the installation of the application is completed, the settings are [saved](#) in the master configuration.

Starting the application

Open [Applications](#) > [Enterprise Application](#), select your fnservletEAR application and click [Start](#) to start the application.

4 Migrating configuration files from 3.3 to 3.4

The configuration files are located in the following directory:

APP_INSTALL_ROOT/xxxxx/fsnservlet.ear/fsnservlet.war/

Where:

- APP_INSTALL_ROOT is a file path variable which, for example, is set to:
opt/IBM/WebSphere/AppServer6.1/profiles/default/installedApps/
- 'xxxxx' is the cell name
- 'fsnservlet' is the application name.

If you changed any of the following configuration files for ASF 3.3, you must copy these files to the installed ASF 3.4 directory:

- DocXSLConversion.xml (.../internals/config)
- doccustomer.js (.../custom)
- doccustom.css (.../custom)
- doccustom1.xsl (.../custom)
- doccustom2.xsl (.../custom)
- docnls.js (.../javascript)

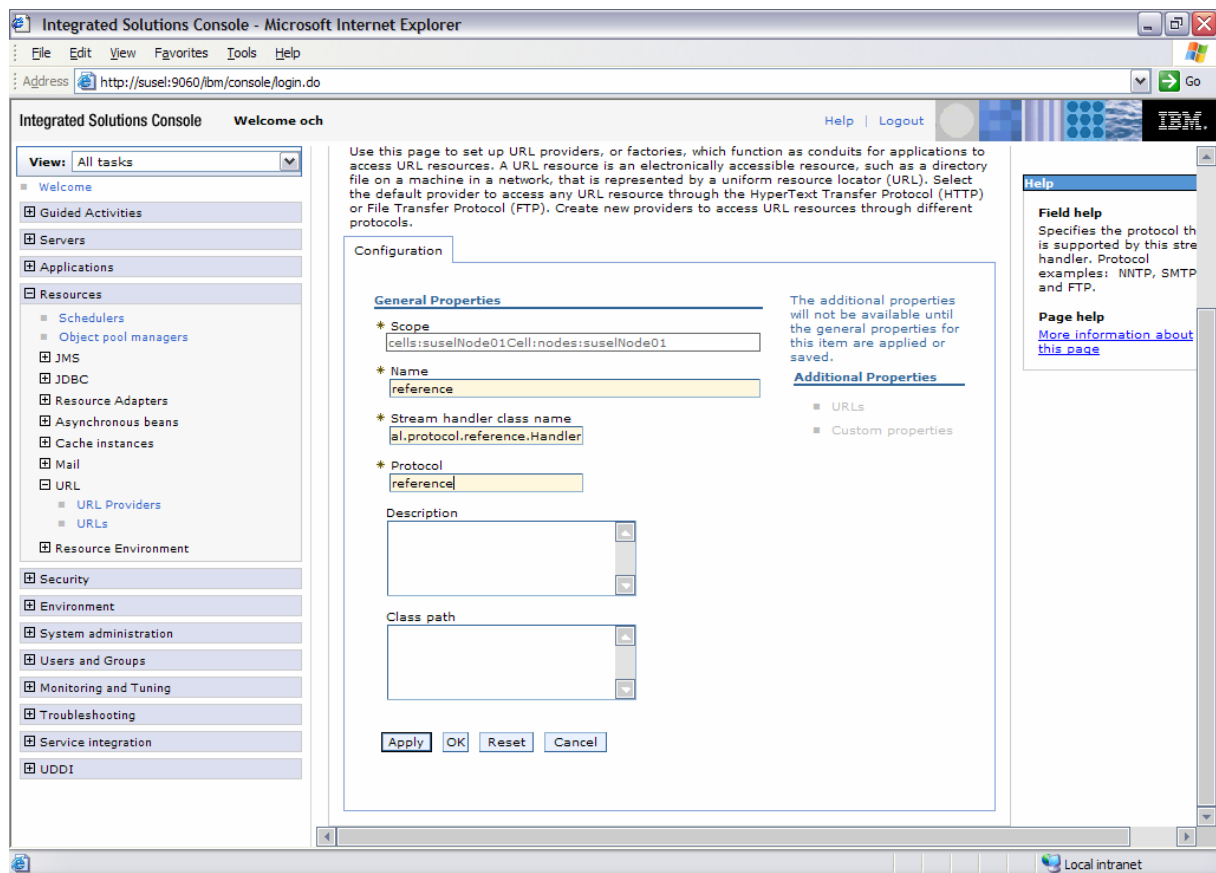
5 Activating the ASF Help

The ASF help application is based on the eclipse help system for WebSphere Application server and requires a URL provider setup.

Open [Resources](#) > [URL Providers](#) > [New](#)

Fill in the required fields (Name, Stream handler class name, Protocol):

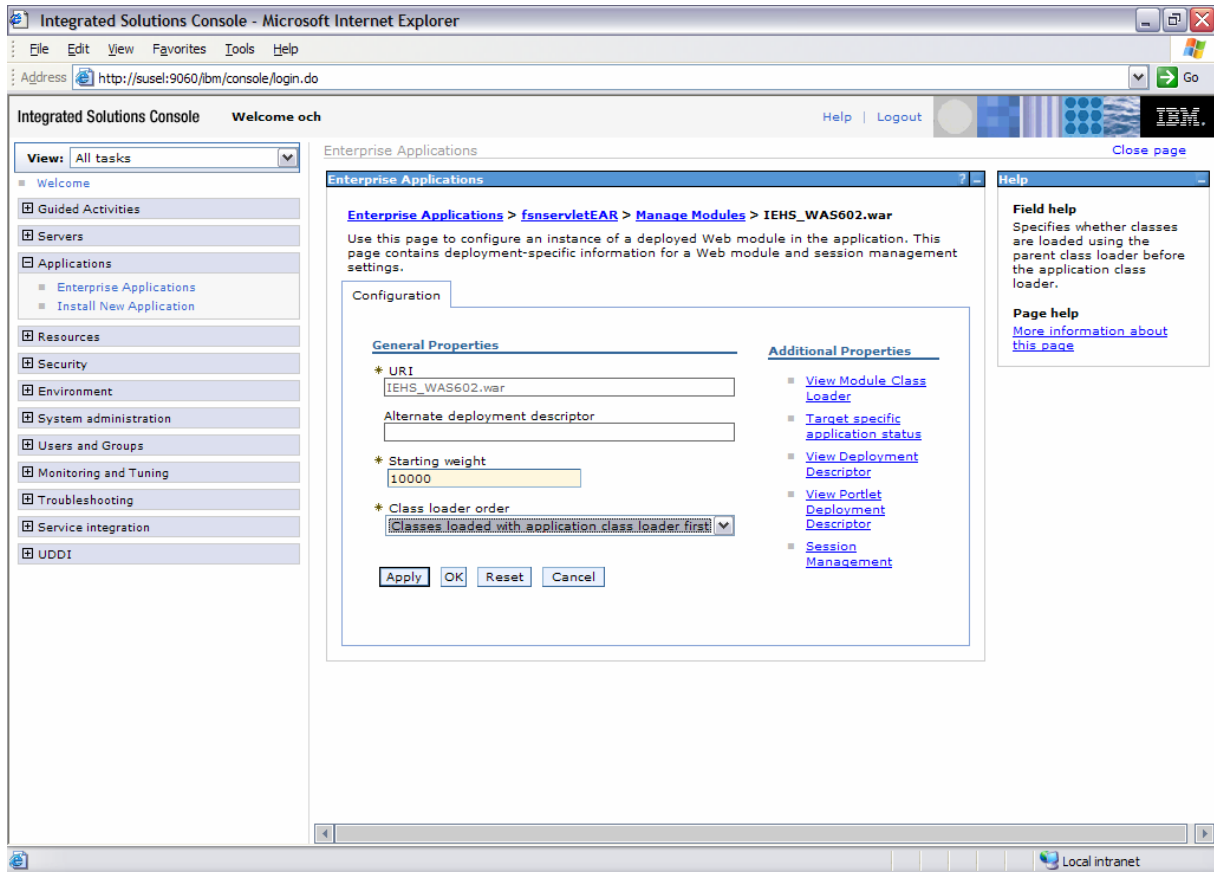
1. Name must be reference
2. Stream handler class name must be
org.eclipse.osgi.framework.internal.protocol.reference.Handler
3. Protocol must be reference



Click [Apply](#) and save your modifications.

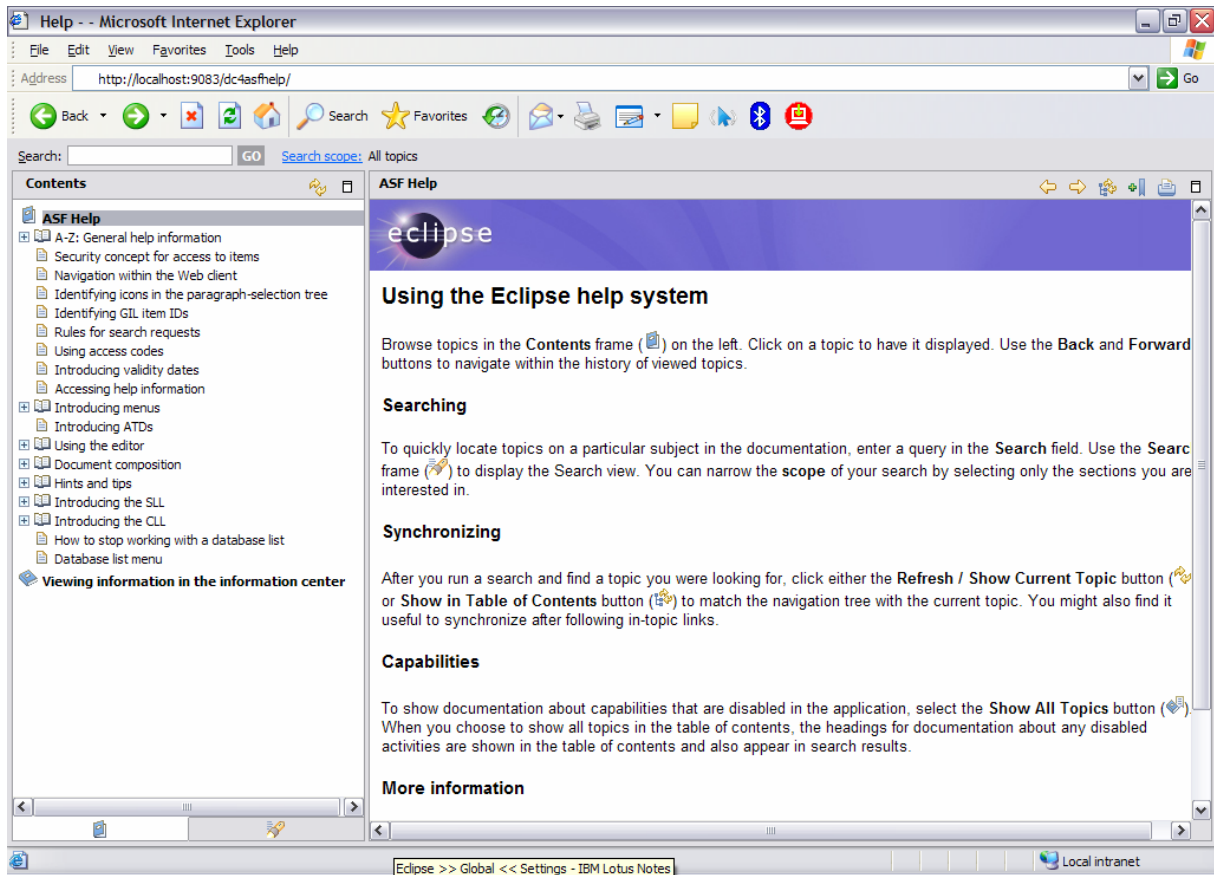
Next change the class loader policy for the module IEHS_WAS61.war to “Classes loaded with application class loader first”.

Open [Enterprise applications](#) > [fnservletEAR](#) > [Manage Modules](#) > [IEHS_WAS61.war](#)



Click [Apply](#) and save your modifications.

To test the ASF help invoke the servlet application "dc4asfhelp", using the Microsoft Internet Explorer.

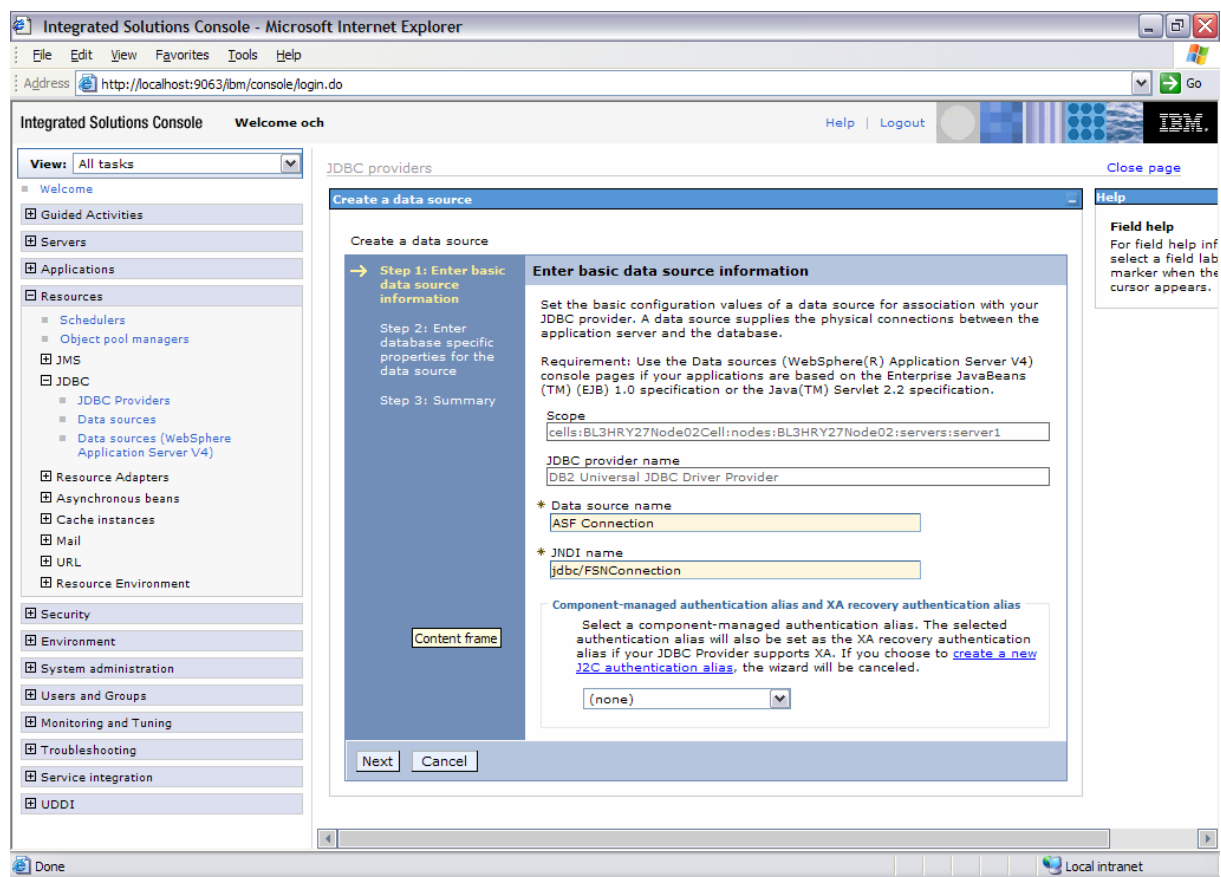


6 Setting up a connection to DB2

Defining a data source

Open [Resources](#) > [JDBC](#) > [JDBC Providers](#) > [DB2 Universal JDBC Driver Provider](#) > [Data sources](#) > [New](#)

Enter the name, for example, “ASF Connection” and the JNDI name for the data source, for example, jdbc/FSNConnection.

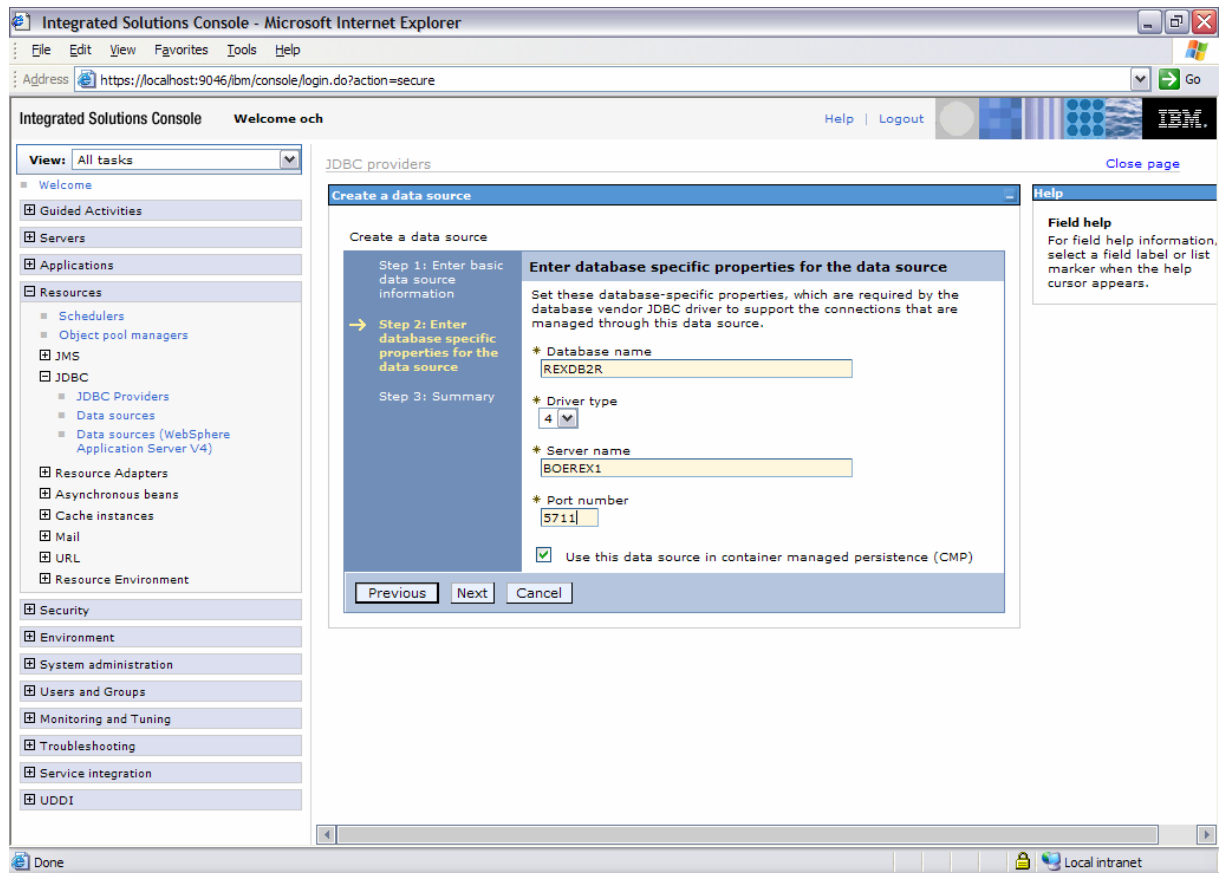


The screenshot shows the 'Create a data source' wizard in the Integrated Solutions Console. The wizard is titled 'Create a data source' and is currently on 'Step 1: Enter basic data source information'. The main content area is titled 'Enter basic data source information' and contains the following text: 'Set the basic configuration values of a data source for association with your JDBC provider. A data source supplies the physical connections between the application server and the database. Requirement: Use the Data sources (WebSphere(R) Application Server V4) console pages if your applications are based on the Enterprise JavaBeans (TM) (EJB) 1.0 specification or the Java(TM) Servlet 2.2 specification.' Below this text are several input fields: 'Scope' (cells:BL3HRY27Node02Cell:nodes:BL3HRY27Node02:servers:server1), 'JDBC provider name' (DB2 Universal JDBC Driver Provider), '* Data source name' (ASF Connection), and '* JNDI name' (jdbc/FSNConnection). There is also a dropdown menu for 'Component-managed authentication alias and XA recovery authentication alias' set to '(none)'. At the bottom of the wizard, there are 'Next' and 'Cancel' buttons. The left sidebar shows the navigation tree with 'JDBC' > 'Data sources' > 'New' selected. The top of the console shows 'Welcome och' and 'Help | Logout'.

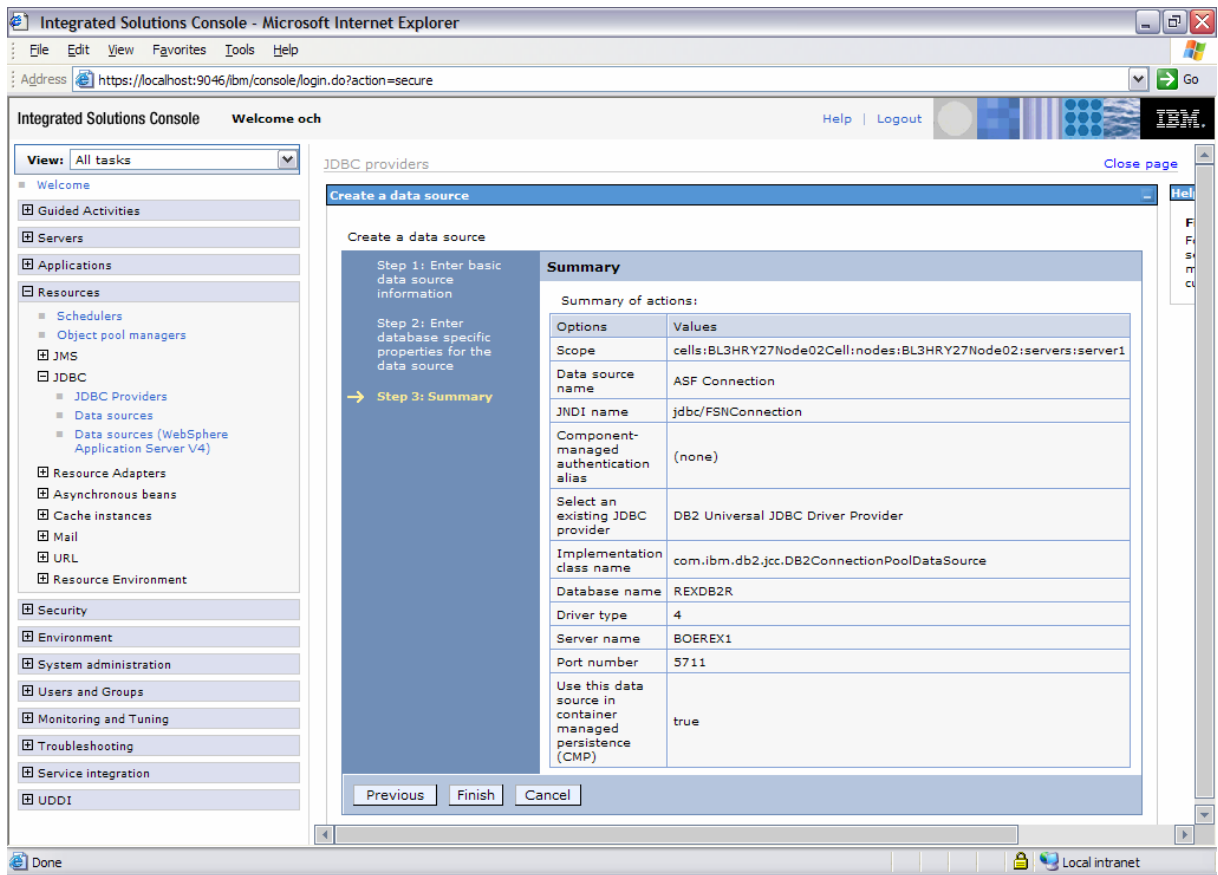
Click [Next](#).

Enter the database specific properties for the data source:

4. Database name, for example, REXDB2R
5. Driver type is 4
6. Server name, for example, BOEREX1 (the TCP/IP address of the DB2 host)
7. Port number of the DB2 host, for example, 5711



Click [Next](#).

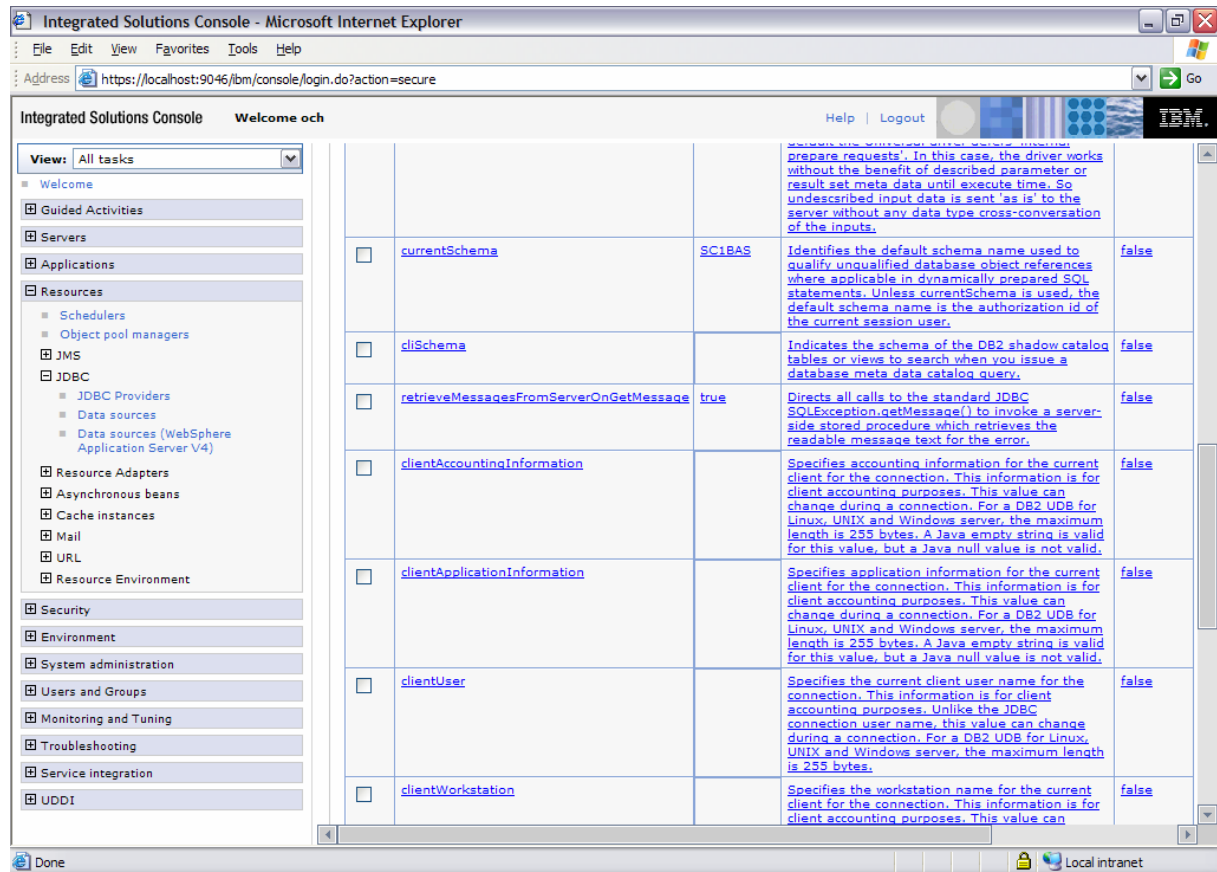


Click [Finish](#) to create the data source.

Open [JDBC providers](#) > [DB2 Universal JDBC Provider](#) > [Data sources](#) > [ASF Connection](#) > [Custom Properties](#)

Where “ASF Connection” is the name of the data source you created in the previous step.

Define the CurrentSchema, for example, SC1BAS which represents the DB2 collection ID on the host.

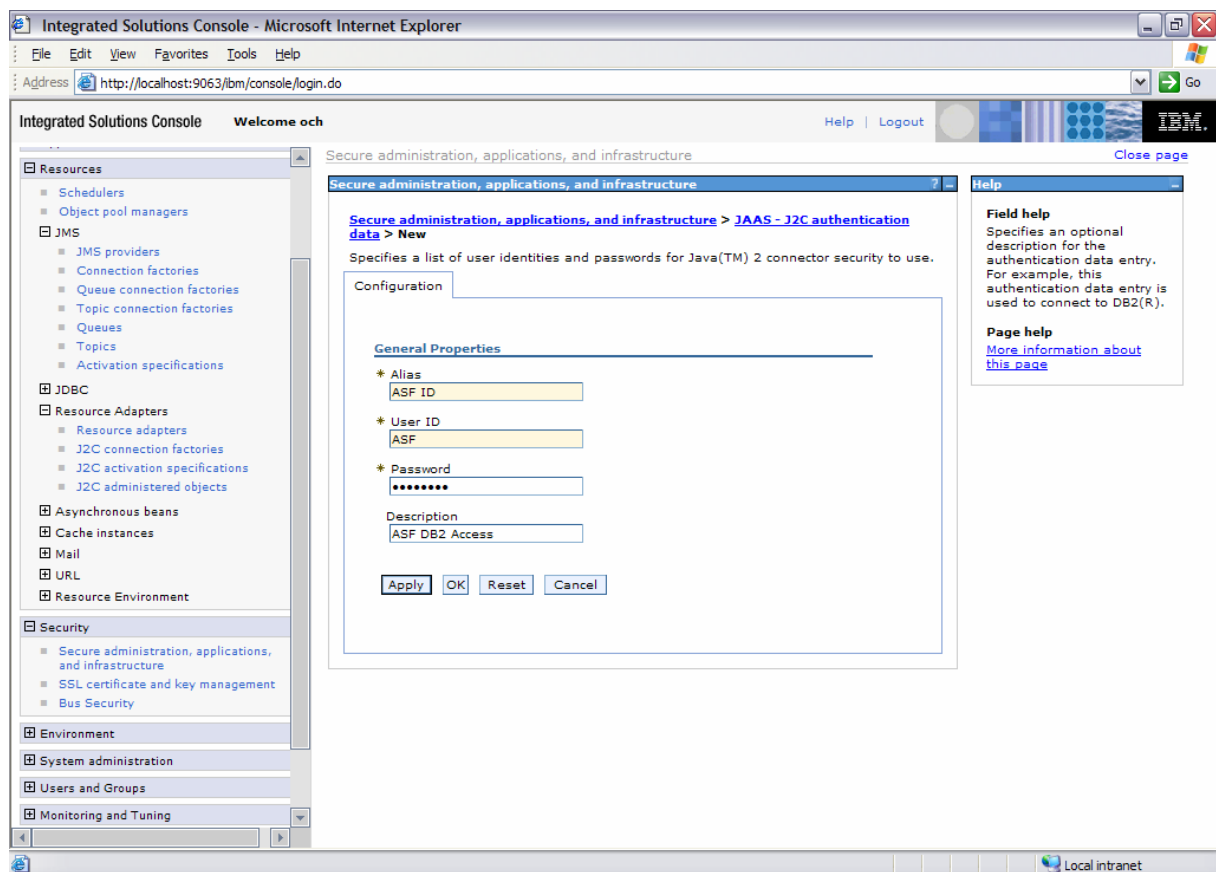


Click [Apply](#) and save your modifications.

Defining JAAS – J2C authentication data

Open [Security](#) > [Secure administration, applications, and infrastructure](#) > [JAAS – J2C authentication data](#) > [New](#)

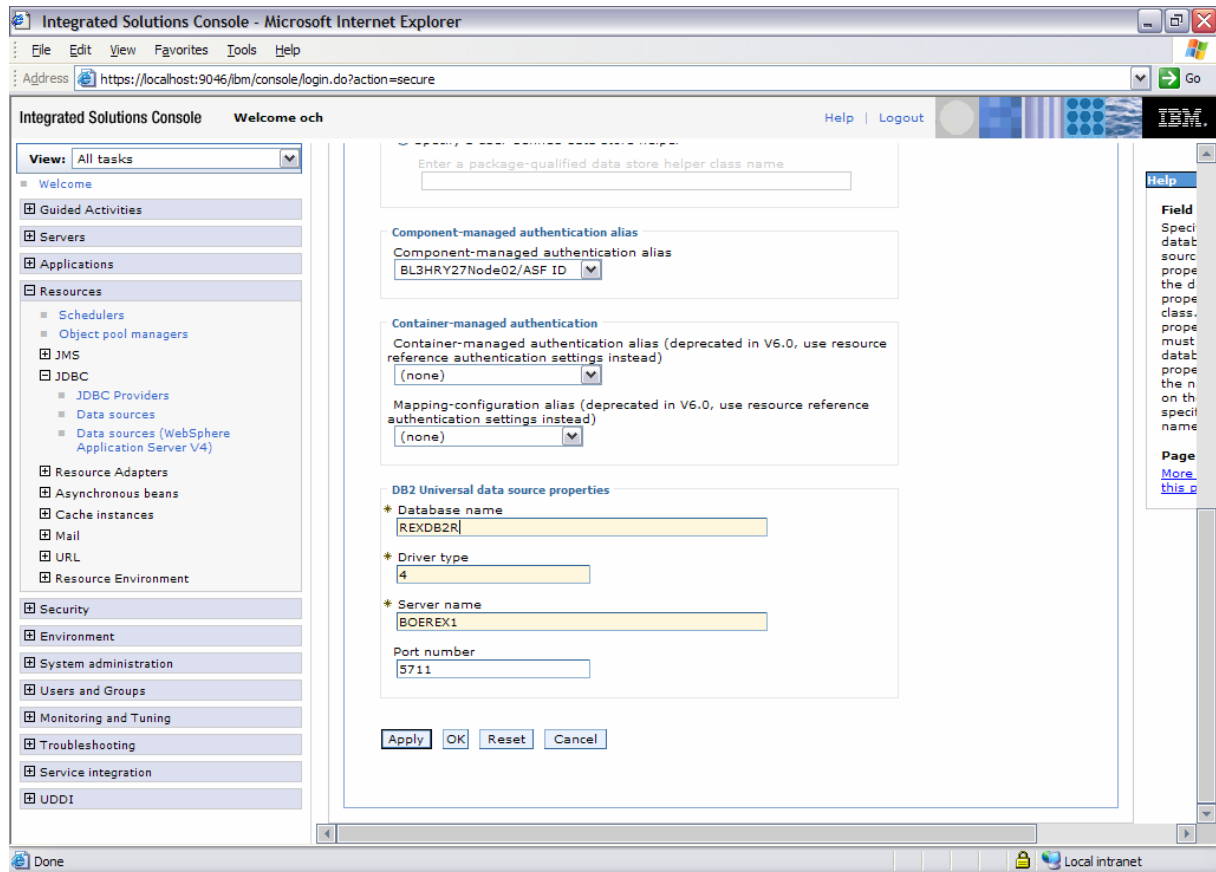
Enter an alias and a valid User ID and password for DB2 access.



Click **OK** and save your modifications.

Open [JDBC provider](#) > [DB2 Universal JDBC Driver Provider](#) > [Data sources](#) > [ASF Connection](#)

Select the created JASS-J2C authentication data in the field Component-managed authentication alias.

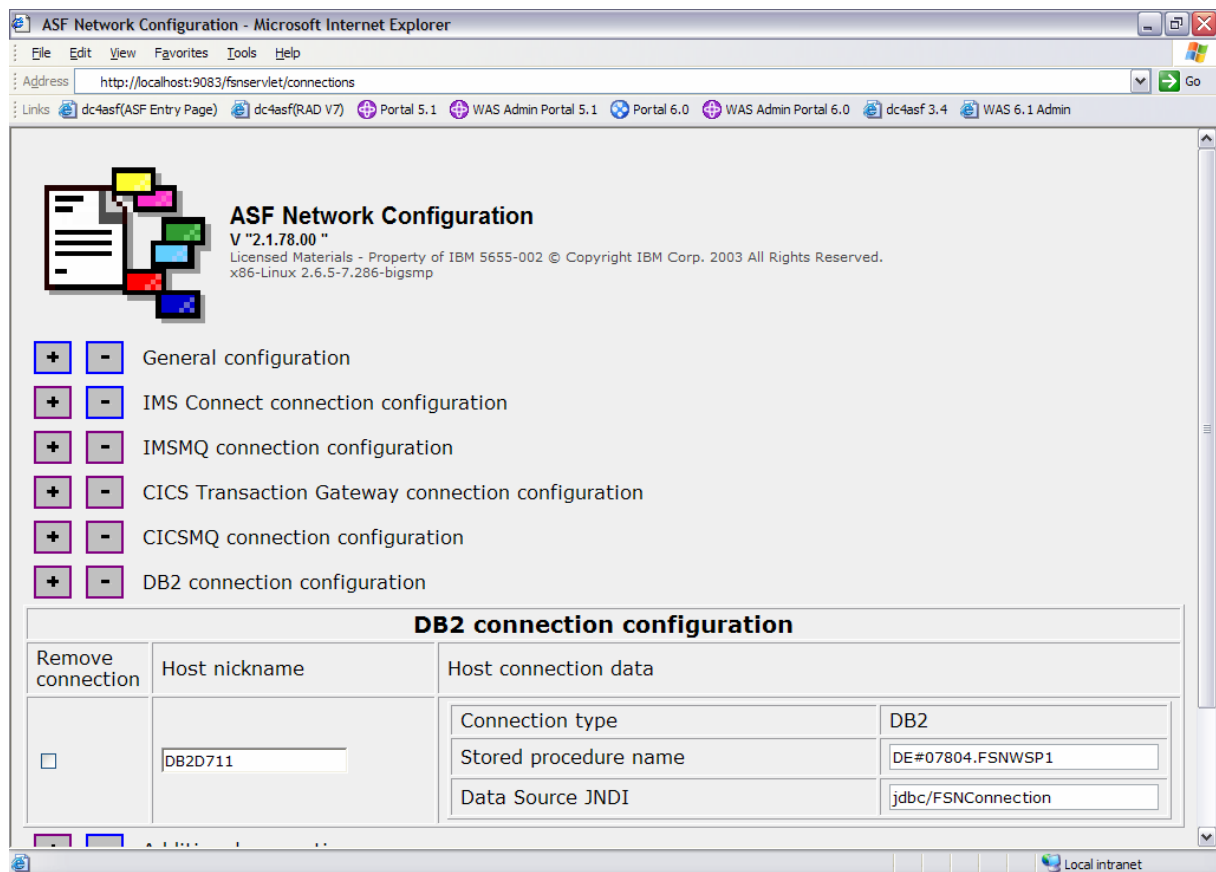


Click [Apply](#), save your modifications, and restart the WebSphere Application Server.

Configuring the connections

To define the server-host connections in DocNetworkConfiguration.xml invoke the servlet application "connections", using the Microsoft Internet Explorer.

Add a DB2 Connection type entry by specifying a host nickname, the data source JNDI that you created in Defining a data source and the name of the ASF stored procedure within DB/2.



Click **OK** to save your changes.

Stop and **Start** your application in the WebSphere Administrative Console.

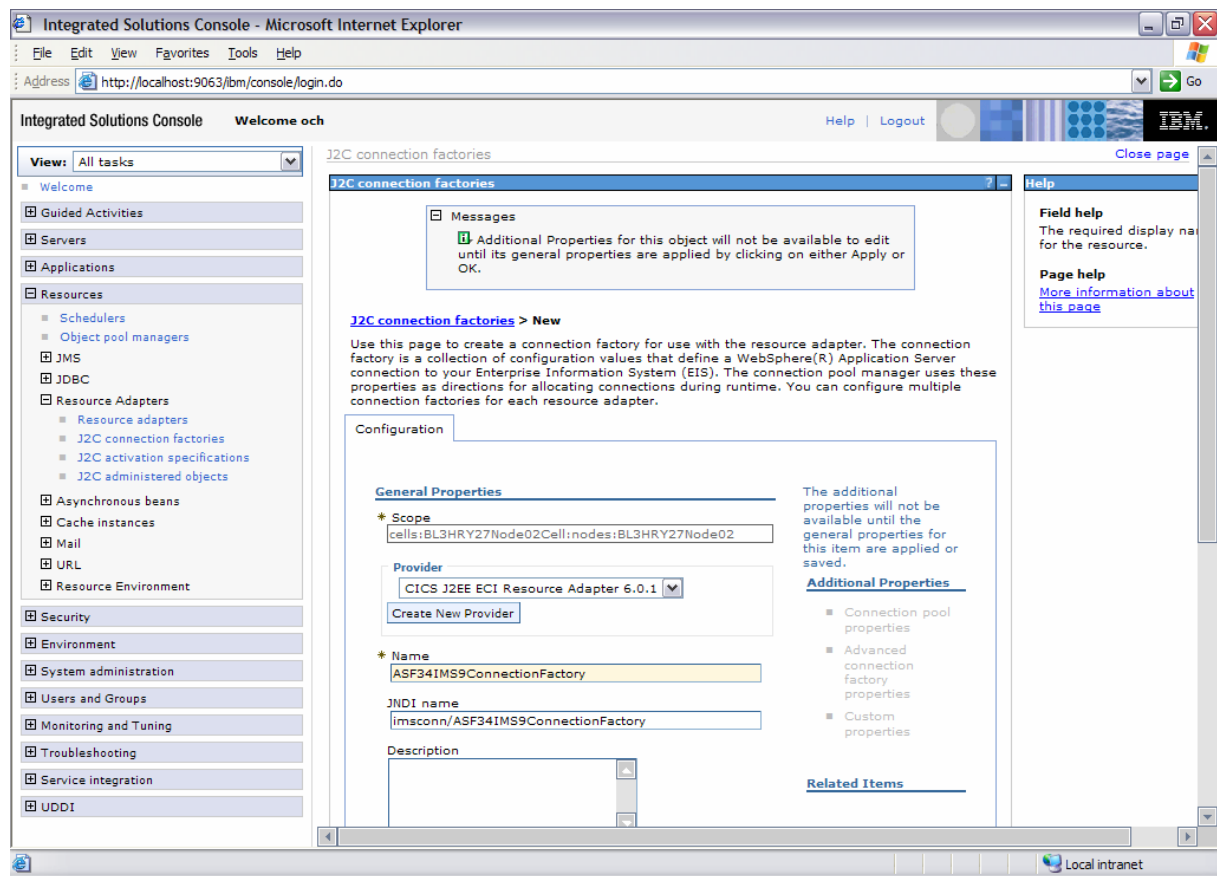
7 Setting up a connection to IMS via IMS Connect

Defining a J2C connection factory

Open [Resources](#) > [Resource Adapters](#) > [J2C connection factories](#) > [New](#)

Select the IMS Connector for Java 9.10.21 as resource adapter provider.

Enter the name, for example, "ASF34IMS9ConnectionFactory" and the JNDI name for the J2C connection factory, for example, imscconn/ASF34IMS9ConnectionFactory.



Click [Apply](#) to save your modifications.

Open [Resource Adapters](#) > [J2C connection factories](#) > [ASF34IMS9ConnectionFactory](#) > [Custom Properties](#)

where ASF34IMS9ConnectionFactory is the name of the connection factory created in the previous step.

Define the IMS Connect specific properties for the connection factory:

1. HostName is the TCP/IP address of the target IMS Connect, for example, 9.152.87.231
2. PortNumber is the target TCP/IP port number of IMS Connect, for example, 6000
3. DataStoreName is the name of the target IMS data store, for example, IMS92

The screenshot shows the Integrated Solutions Console interface. On the left is a navigation tree with categories like Welcome, Guided Activities, Servers, Applications, Resources, Security, Environment, System administration, Users and Groups, Monitoring and Tuning, Troubleshooting, Service integration, and UDDI. The main area displays a table of properties for the ASF34IMS9ConnectionFactory. The table has four columns: Property Name, Value, Description, and a status column (all 'false').

UserName		Default name of the user to be authorized	false
SSLEnabled	FALSE	Indicates if SSL is enabled for this connection factory	false
HostName	9.152.87.231	TCP/IP host name of the target IMS Connect	false
SSLTrustStorePassword		Password of SSL keystore for trusted certificates	false
PortNumber	6000	Target TCP/IP port number of IMS Connect	false
GroupName		Default name of the IMS group of the user	false
CMODedicated	FALSE	Indicates if sockets are dedicated to specific CM0 clients.	false
SSLEncryptionType	Weak	The type of cipher suite to be used for encryption	false
SSLKeyStorePassword		Password of SSL keystore for client certificates/private keys	false
MFSXMIRepositoryURI		Location of MFS XMI Repository.	false
IMSConnectName		Name of the target IMS Connect - for Local Option only	false
DataStoreName	IMS92	Name of the target IMS datastore	false
SSLTrustStoreName		Name (full path) of SSL keystore for trusted certificates	false
Total 17			

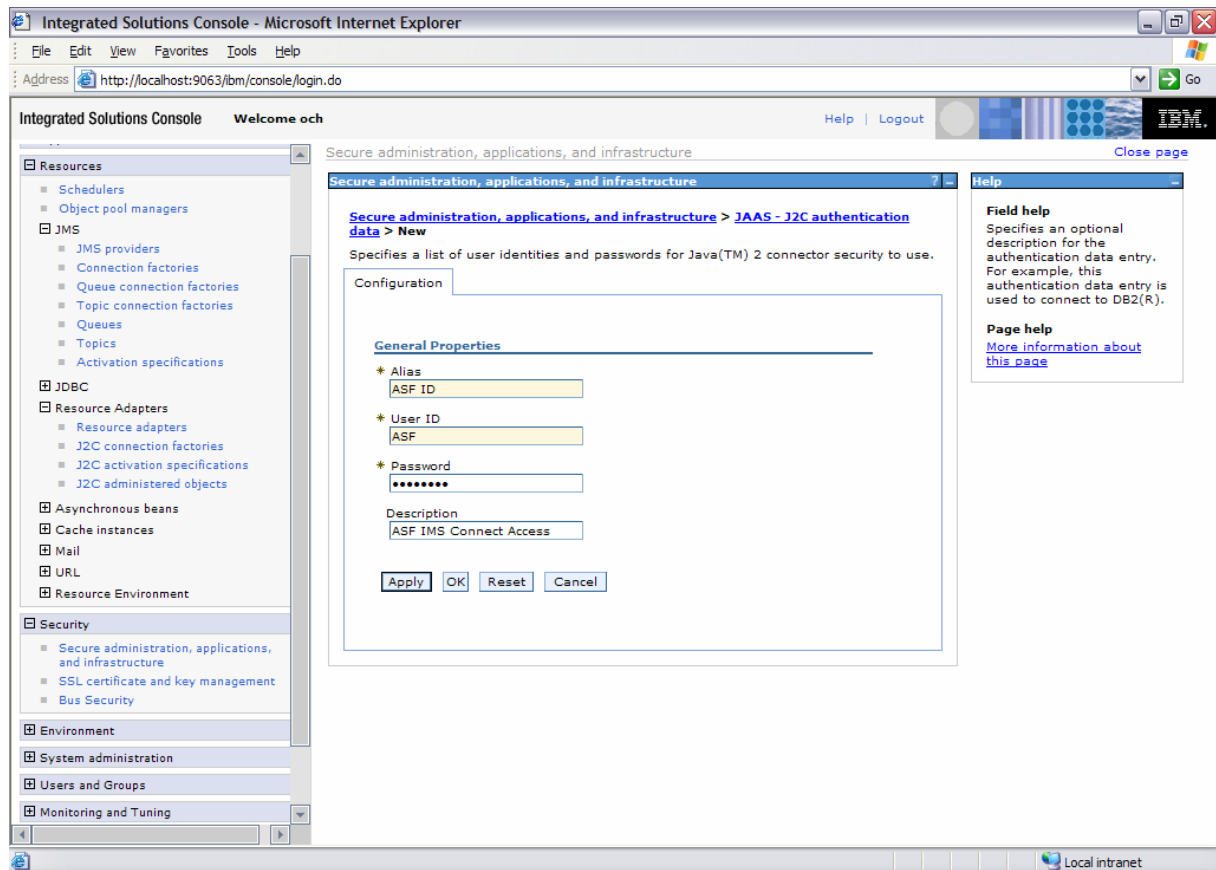
On the right side of the console, there is a Help panel with 'Field help' and 'Page help' sections.

Click [Apply](#) to save your modifications.

Defining JAAS – J2C authentication data

Open [Security](#) > [Secure administration, applications, and infrastructure](#) > [JAAS – J2C authentication data](#) > [New](#)

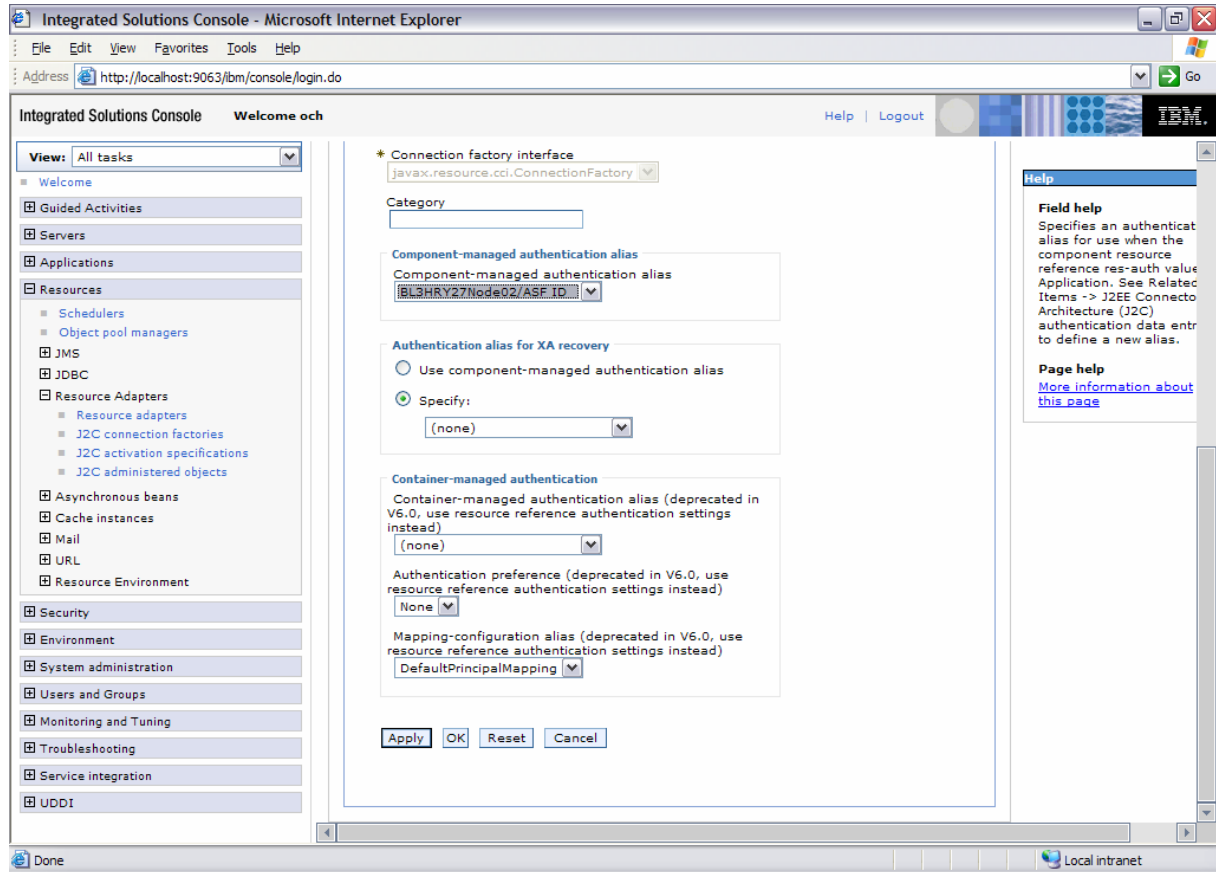
Enter an alias and a valid user ID and password for the IMS Connect connection.



Click **OK** to save your modifications.

Open [J2C connection factories](#) > [ASF34IMS9ConnectionFactory](#)

Select the created JASS-J2C authentication data in the field Component-managed authentication alias.



Click [Apply](#) to save your modifications and restart the WebSphere Application Server.

Configuring the connections

To define the server-host connections in DocNetworkConfiguration.xml, invoke the servlet application "connections", using the Microsoft Internet Explorer.

Add an IMS Connection type entry by specifying a host nickname, the J2C connection factory JNDI you created in Defining a J2C connection factory. Specify the IMS transaction code or the IMS transaction code prefix and select Conversational IMS Processing if your IMS system is running in conversational mode.

Note:

- If you specify an IMS transaction code prefix xxx, the transaction code of the preview requests is set to xxxV, the transaction code for quick preview requests is set to xxxQ, and the transaction code for all other requests is set to xxxE.
- If you specify an IMS transaction code, this transaction code is used for all requests.

ASF Network Configuration - Microsoft Internet Explorer

Address: http://localhost:9083/fservlet/connections

ASF Network Configuration
V "2.1.78.00"
Licensed Materials - Property of IBM 5655-002 © Copyright IBM Corp. 2003 All Rights Reserved.
x86-Linux 2.6.5-7.286-bigsm

+ - General configuration

+ - IMS Connect connection configuration

IMS Connect connection configuration

Remove connection	Host nickname	Host connection data										
<input type="checkbox"/>	sc119ic34	<table border="1"><tr><td>Connection type</td><td>IMS</td></tr><tr><td>Conversational IMS Processing</td><td><input type="checkbox"/></td></tr><tr><td>XCode prefix</td><td><input type="text"/></td></tr><tr><td>XCode</td><td>SC1E</td></tr><tr><td>J2C Connection Factory JNDI</td><td>imsconn/ASF34IMS9ConnectionFactory</td></tr></table>	Connection type	IMS	Conversational IMS Processing	<input type="checkbox"/>	XCode prefix	<input type="text"/>	XCode	SC1E	J2C Connection Factory JNDI	imsconn/ASF34IMS9ConnectionFactory
Connection type	IMS											
Conversational IMS Processing	<input type="checkbox"/>											
XCode prefix	<input type="text"/>											
XCode	SC1E											
J2C Connection Factory JNDI	imsconn/ASF34IMS9ConnectionFactory											
		<table border="1"><tr><td>Connection type</td><td>IMS</td></tr><tr><td>Conversational IMS Processing</td><td><input type="checkbox"/></td></tr></table>	Connection type	IMS	Conversational IMS Processing	<input type="checkbox"/>						
Connection type	IMS											
Conversational IMS Processing	<input type="checkbox"/>											

Done Local intranet

Click **OK** to save your changes.

Stop and **Start** your application in the WebSphere Administrative Console.

8 Setting up a connection to IMS via WebSphere MQ

Defining a queue connection factory

Open [Resources](#) > [JMS](#) > [Queue connection factories](#) > [New](#)

Select the WebSphere MQ messaging provider.

Enter the name, for example, "MQQueueConnectionFactoryIMSV9" and the JNDI name for the queue connection factory, for example, mq/MQQueueConnectionFactoryIMSV9.

The screenshot shows the Integrated Solutions Console interface in Microsoft Internet Explorer. The browser address bar shows <http://localhost:9063/bm/console/login.do>. The console title is "Integrated Solutions Console - Welcome och".

The left-hand navigation pane shows a tree view with the following structure:

- View: All tasks
- Welcome
- Guided Activities
- Servers
- Applications
- Resources
 - Schedulers
 - Object pool managers
 - JMS
 - JMS providers
 - Connection factories
 - Queue connection factories
 - Topic connection factories
 - Queues
 - Topics
 - Activation specifications
 - JDBC
 - Resource Adapters
 - Asynchronous beans
 - Cache instances
 - Mail
 - URL
 - Resource Environment
- Security
- Environment
- System administration
- Users and Groups
- Monitoring and Tuning
- Troubleshooting

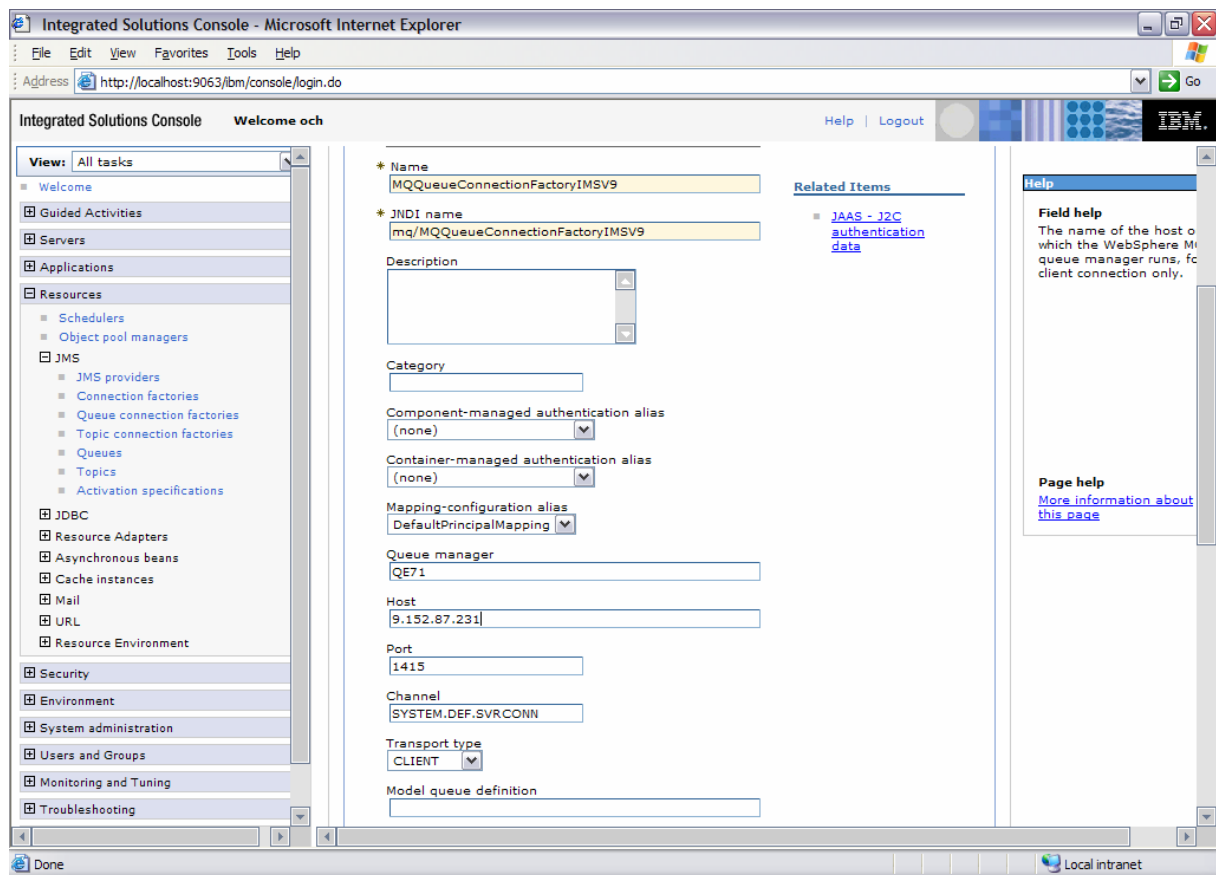
The main content area is titled "Queue connection factories" and shows a "New" configuration page for a "WebSphere MQ messaging provider". A message box at the top states: "Additional Properties for this object will not be available to edit until its general properties are applied by clicking on either Apply or OK." Below this, the configuration fields are:

- Scope:** Node=BL3HRY27Node02,Server=server1
- Provider:** WebSphere MQ messaging provider
- Name:** MQQueueConnectionFactoryIMSV9
- JNDI name:** mq/MQQueueConnectionFactoryIMSV9
- Description:** (empty text area)
- Category:** (empty text area)

On the right side, there is a "Help" section with "Field help" and "Page help" links. Below the configuration fields, there are sections for "Additional Properties" (with links for Custom properties, Connection pool, and Session pools) and "Related Items" (with a link for JAAS - J2C authentication data).

Define the MQ specific properties for the queue connection factory:

1. Queue Manager is the target MQ queue manager name, for example, QE71
2. Host is the TCP/IP address of the target MQ, for example, 9.152.87.231
3. Port is the target TCP/IP port number of MQ, for example, 1415
4. Channel is the server-connection channel name of the target MQ, for example, SYSTEM.DEF.SVRCONN
5. Transport type must be set to CLIENT



Click **Apply** and save your modifications.

Note:

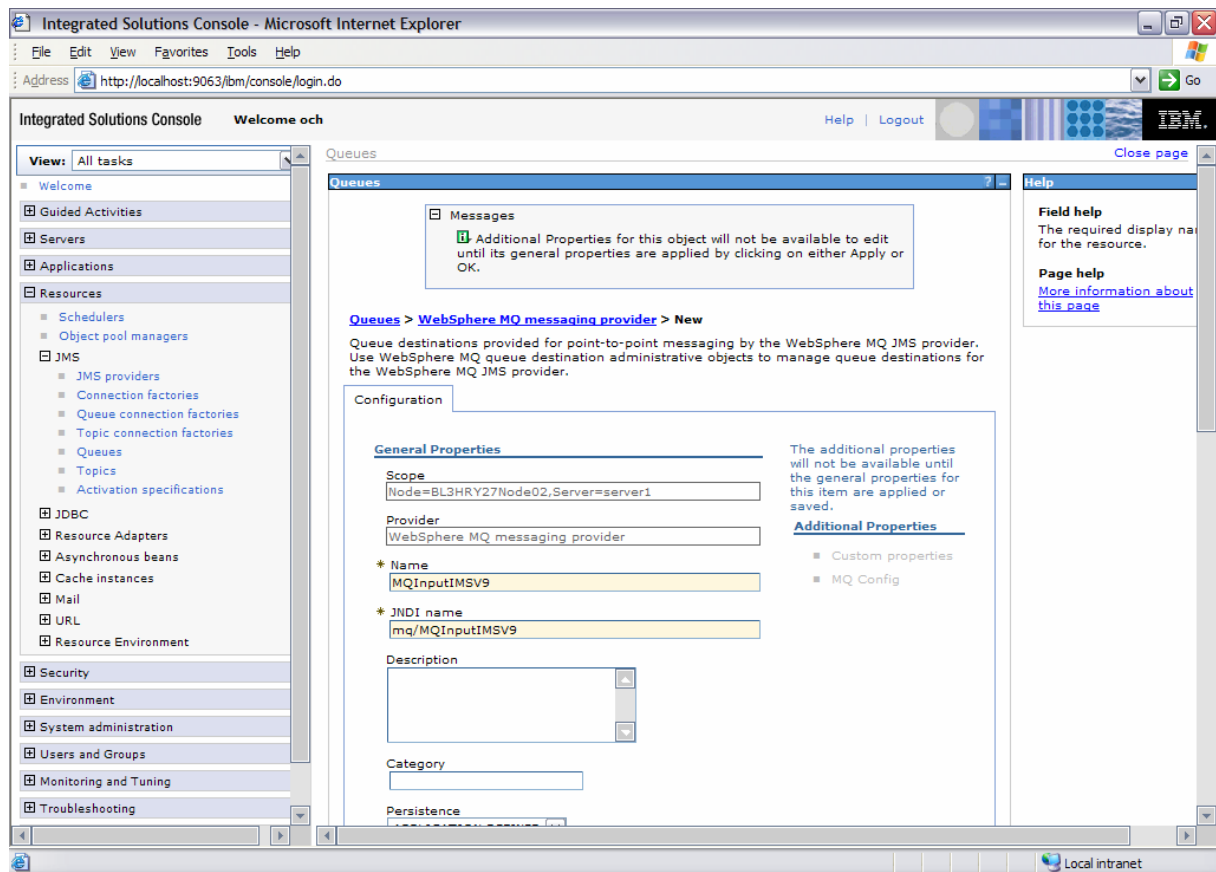
Ensure that the WebSphere variable MQ_INSTALL_ROOT is set to the value `${WAS_INSTALL_ROOT}/lib/WMQ`

Defining an input and an output queue

Open [Resources](#) > [JMS](#) > [Queues](#) > [New](#)

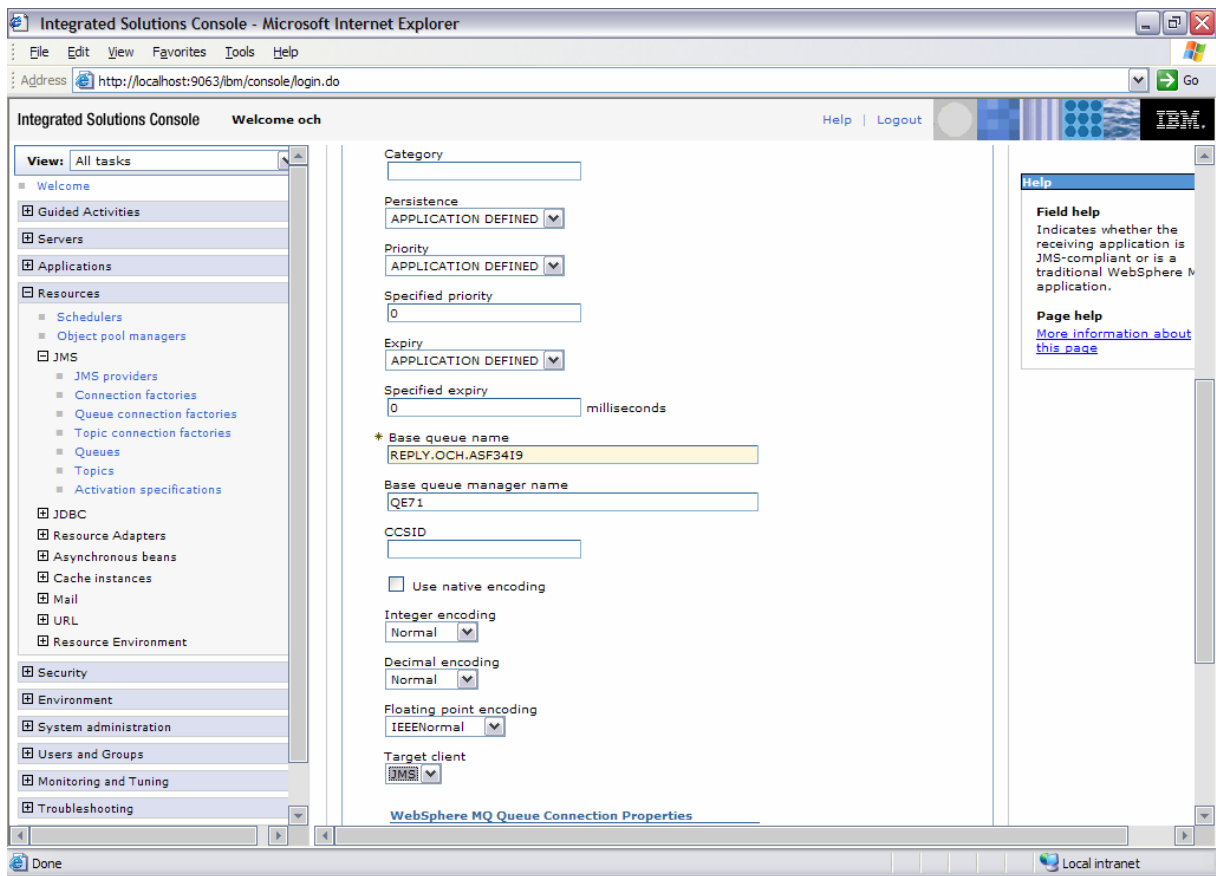
Select the WebSphere MQ messaging provider.

Enter the name, for example, "MQInputIMSV9" and the JNDI name for the input queue, for example, mq/MQInputIMSV9.



Define the MQ specific properties for the input queue:

1. Base queue name is the queue name of the target reply queue, for example, REPLY.OCH.ASF3419.
2. Base queue manager name is the target queue manager, for example, QE71
3. Target client must be set to JMS.

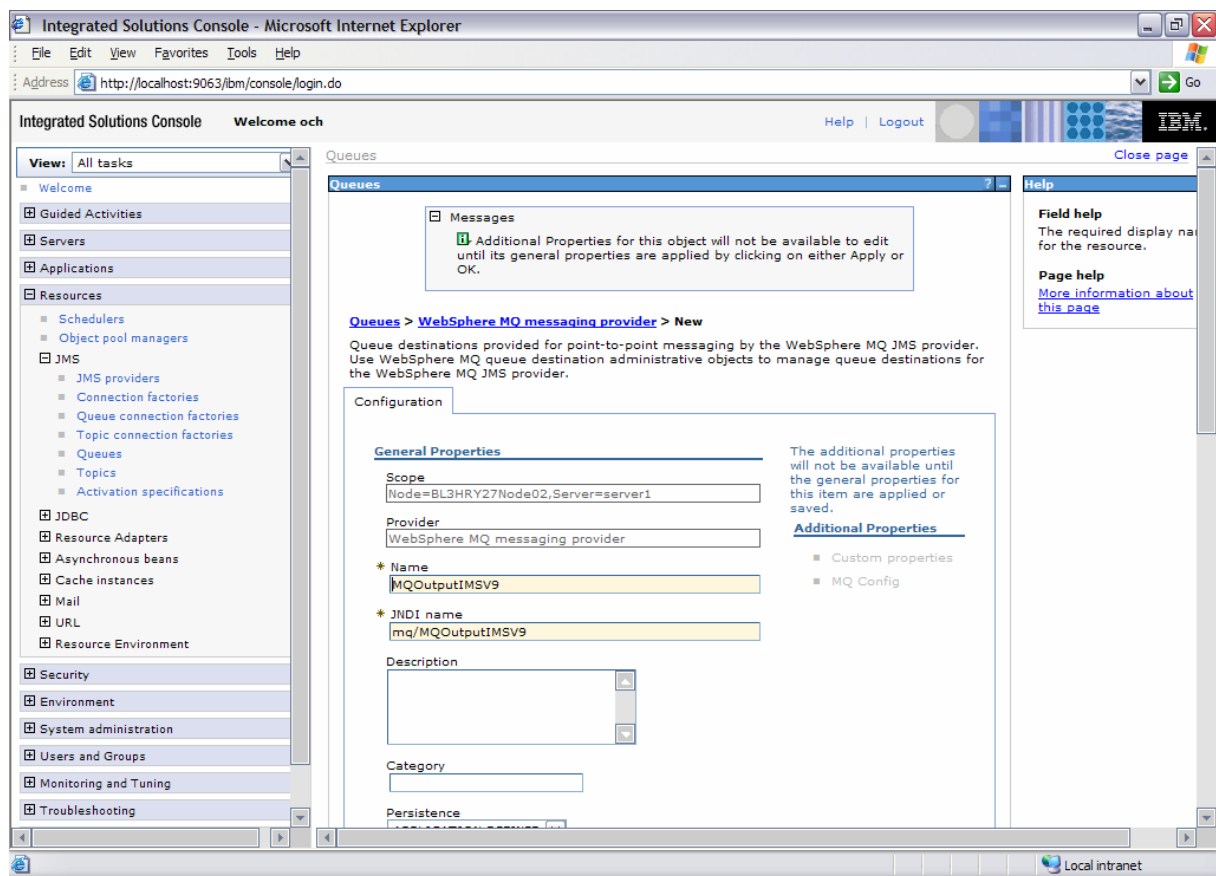


Click **Apply** and save your modifications.

Open [Resources](#) > [JMS](#) > [Queues](#) > [New](#)

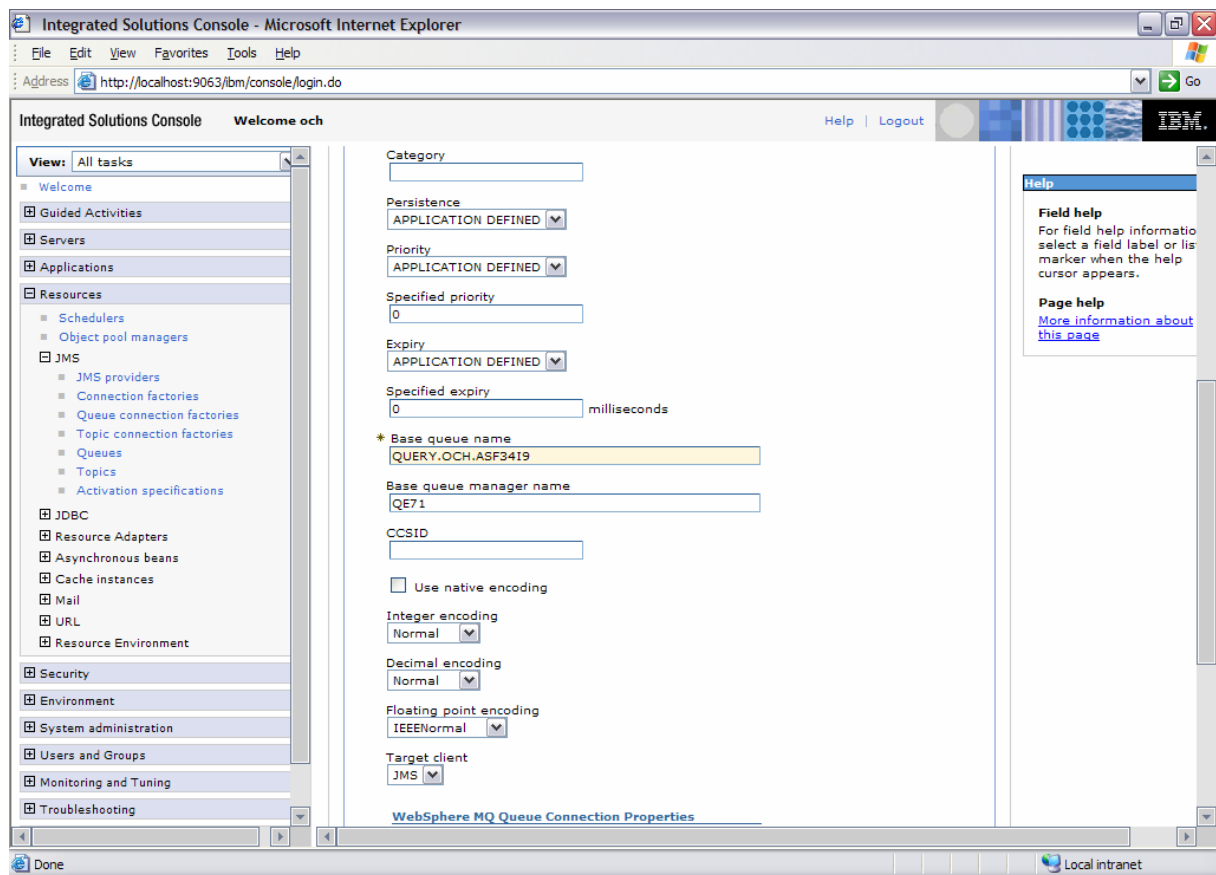
Select the WebSphere MQ messaging provider.

Enter the name for example, "MQOutputIMSV9" and the JNDI name for the output queue, for example, mq/MQOutputIMSV9.



Define the MQ specific properties for the output queue:

1. Base queue name is the queue name of the target query queue, for example, QUERY.OCH.ASF3419.
2. Base queue manager name is the target queue manager, for example, QE71
3. Target client must be set to JMS.

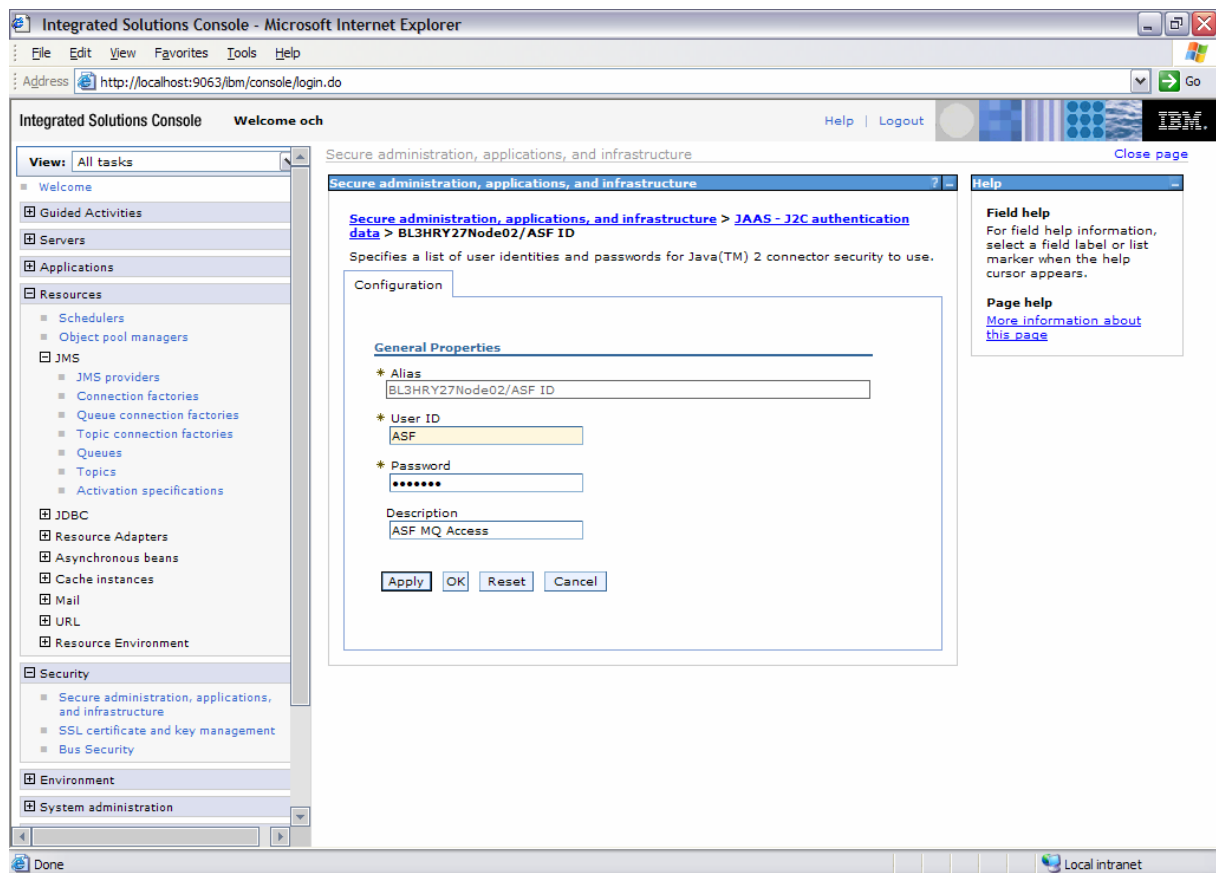


Click **Apply** and save your modifications.

Defining JAAS – J2C authentication data

Open [Security](#) > [Secure administration, applications, and infrastructure](#) > [JAAS – J2C authentication data](#) > [New](#)

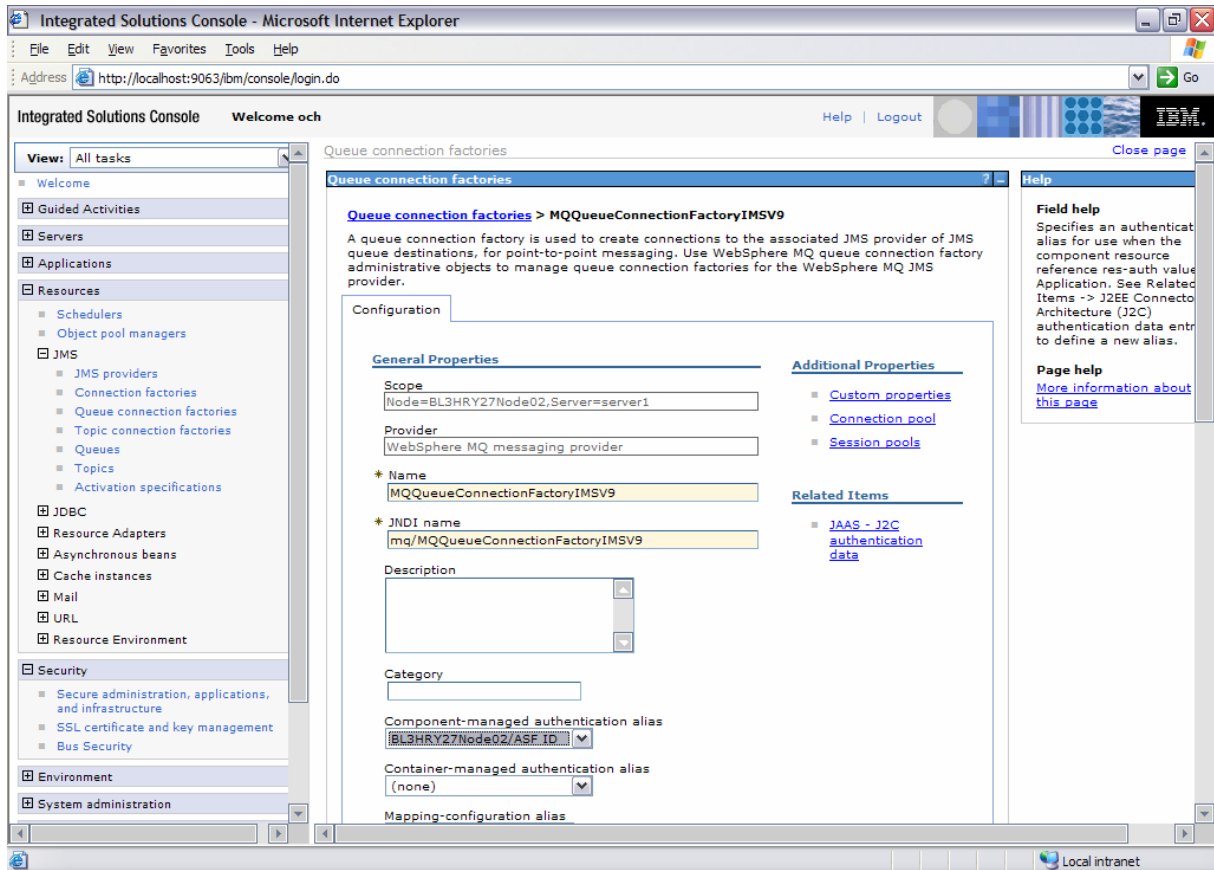
Enter an alias and a valid user ID and password for the MQ connection.



Select **OK** and save your modifications.

Open [Resources](#) > [JMS](#) > [Queue connection factories](#) > [MQQueueConnectionFactoryIMSV9](#)

Select the created JASS-J2C authentication data in the field Component-managed authentication alias.



Click [Apply](#), save your modifications, and restart the WebSphere Application Server.

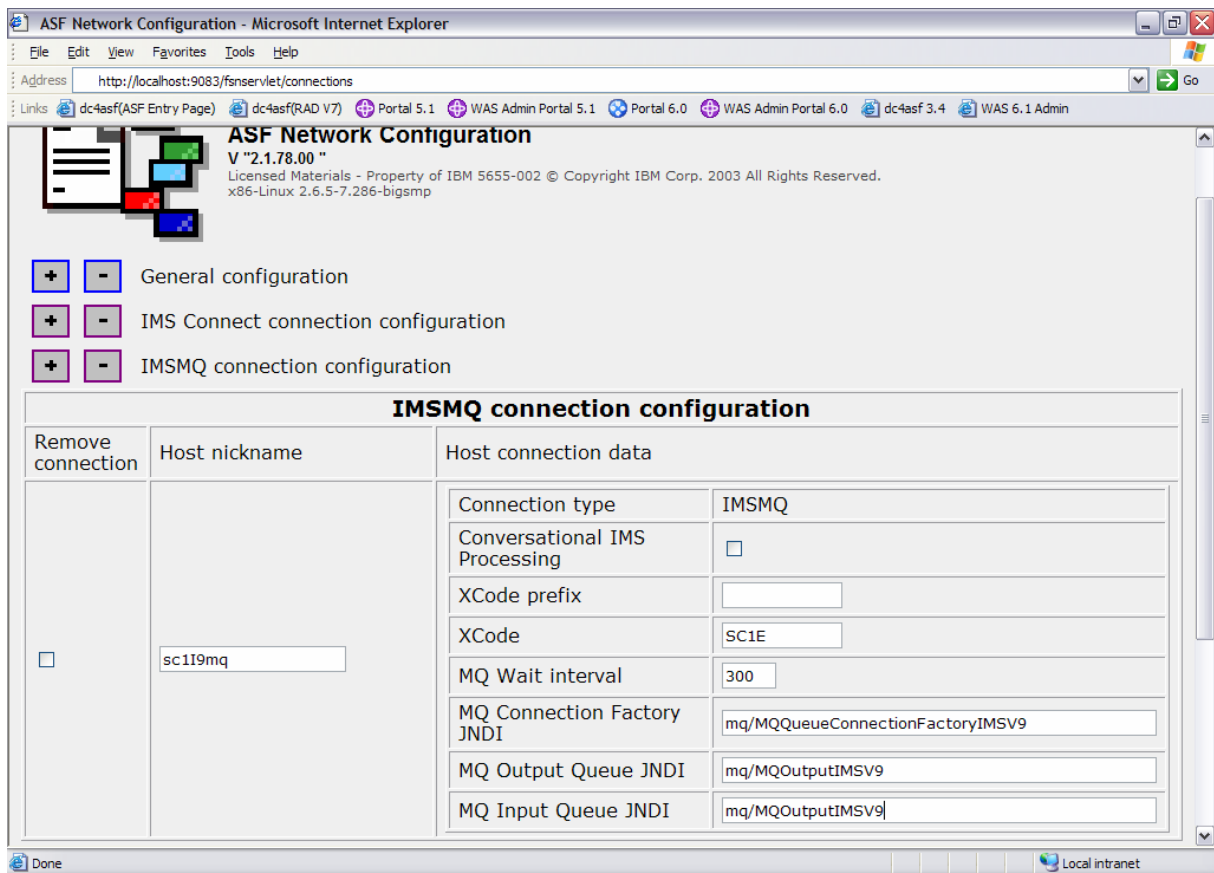
Configuring the connections

To define the server-host connections in DocNetworkConfiguration.xml, invoke the servlet application "connections", using the Microsoft Internet Explorer.

Add an IMSMQ connection type entry by specifying a host nickname, the MQ connection factory JNDI you created in Defining a queue connection factory, the MQ input queue JNDI, and the MQ output queue JNDI you created in Defining an input and an output queue. Specify the IMS transaction code or the IMS transaction code prefix, and select Conversational IMS processing if your IMS system is running in conversational mode.

Note:

- If you specify an IMS transaction code prefix xxx, the transaction code for preview requests is set to xxxV, the transaction code for quick preview requests is set to xxxQ, and the transaction code for all other requests is set to xxxE.
- If you specify an IMS transaction code, this transaction code is used for all requests.



Remove connection	Host nickname	Host connection data																
<input type="checkbox"/>	sc119mq	<table border="1"><tr><td>Connection type</td><td>IMSMQ</td></tr><tr><td>Conversational IMS Processing</td><td><input type="checkbox"/></td></tr><tr><td>XCode prefix</td><td><input type="text"/></td></tr><tr><td>XCode</td><td>SC1E</td></tr><tr><td>MQ Wait interval</td><td>300</td></tr><tr><td>MQ Connection Factory JNDI</td><td>mq/MQQueueConnectionFactoryIMSV9</td></tr><tr><td>MQ Output Queue JNDI</td><td>mq/MQOutputIMSV9</td></tr><tr><td>MQ Input Queue JNDI</td><td>mq/MQOutputIMSV9</td></tr></table>	Connection type	IMSMQ	Conversational IMS Processing	<input type="checkbox"/>	XCode prefix	<input type="text"/>	XCode	SC1E	MQ Wait interval	300	MQ Connection Factory JNDI	mq/MQQueueConnectionFactoryIMSV9	MQ Output Queue JNDI	mq/MQOutputIMSV9	MQ Input Queue JNDI	mq/MQOutputIMSV9
Connection type	IMSMQ																	
Conversational IMS Processing	<input type="checkbox"/>																	
XCode prefix	<input type="text"/>																	
XCode	SC1E																	
MQ Wait interval	300																	
MQ Connection Factory JNDI	mq/MQQueueConnectionFactoryIMSV9																	
MQ Output Queue JNDI	mq/MQOutputIMSV9																	
MQ Input Queue JNDI	mq/MQOutputIMSV9																	

Click [OK](#) to save your changes.

[Stop](#) and [Start](#) your application in the WebSphere Administrative Console.

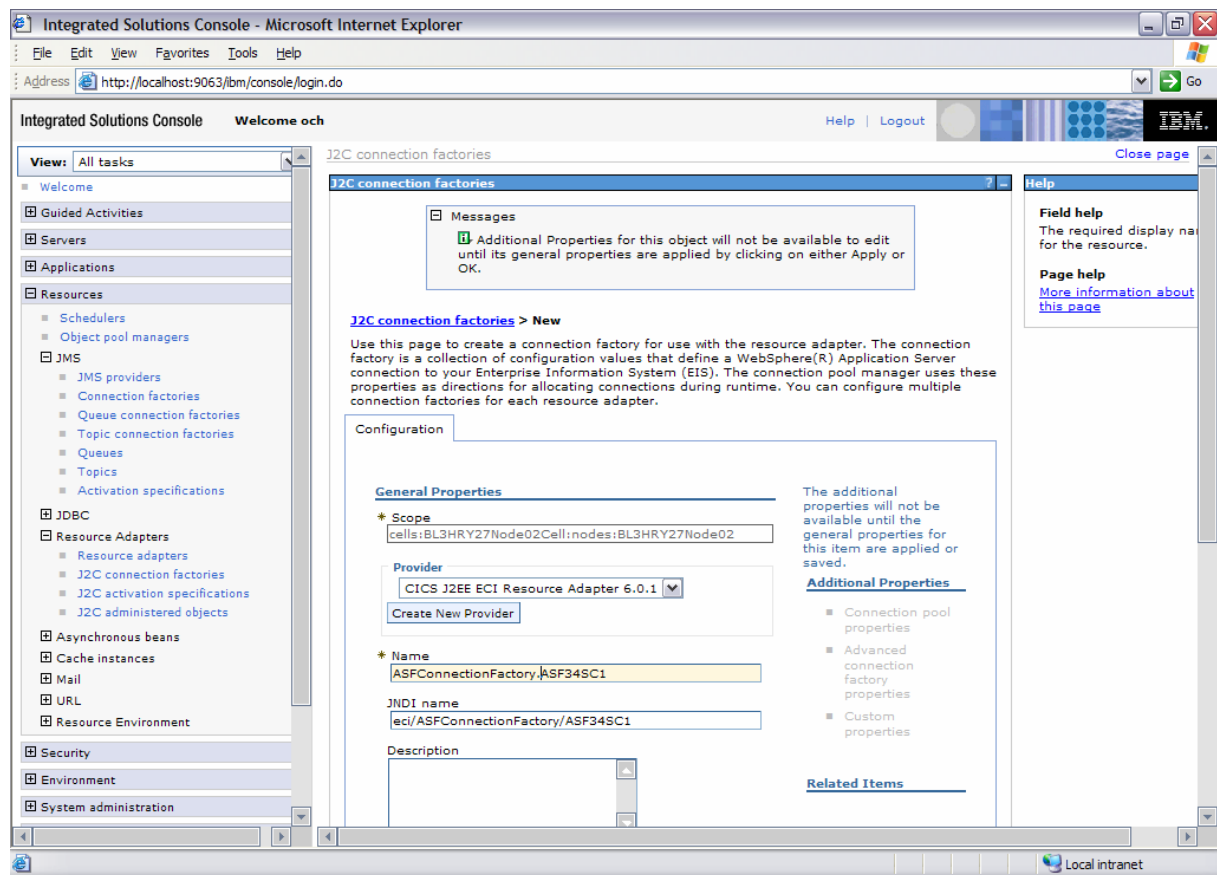
9 Setting up a connection to CICS via the CICS Transaction Gateway

Defining a J2C connection factory

Open [Resources](#) > [Resource Adapters](#) > [J2C connection factories](#) > [New](#)

Select the CICS J2EE ECI Resource Adapter 6.0.1 as the resource adapter provider.

Enter the name, for example, “ASFConnectionFactory.ASF34SC1” and the JNDI name for the J2C connection factory, for example, eci/ASFConnectionFactory/ASF34SC1.



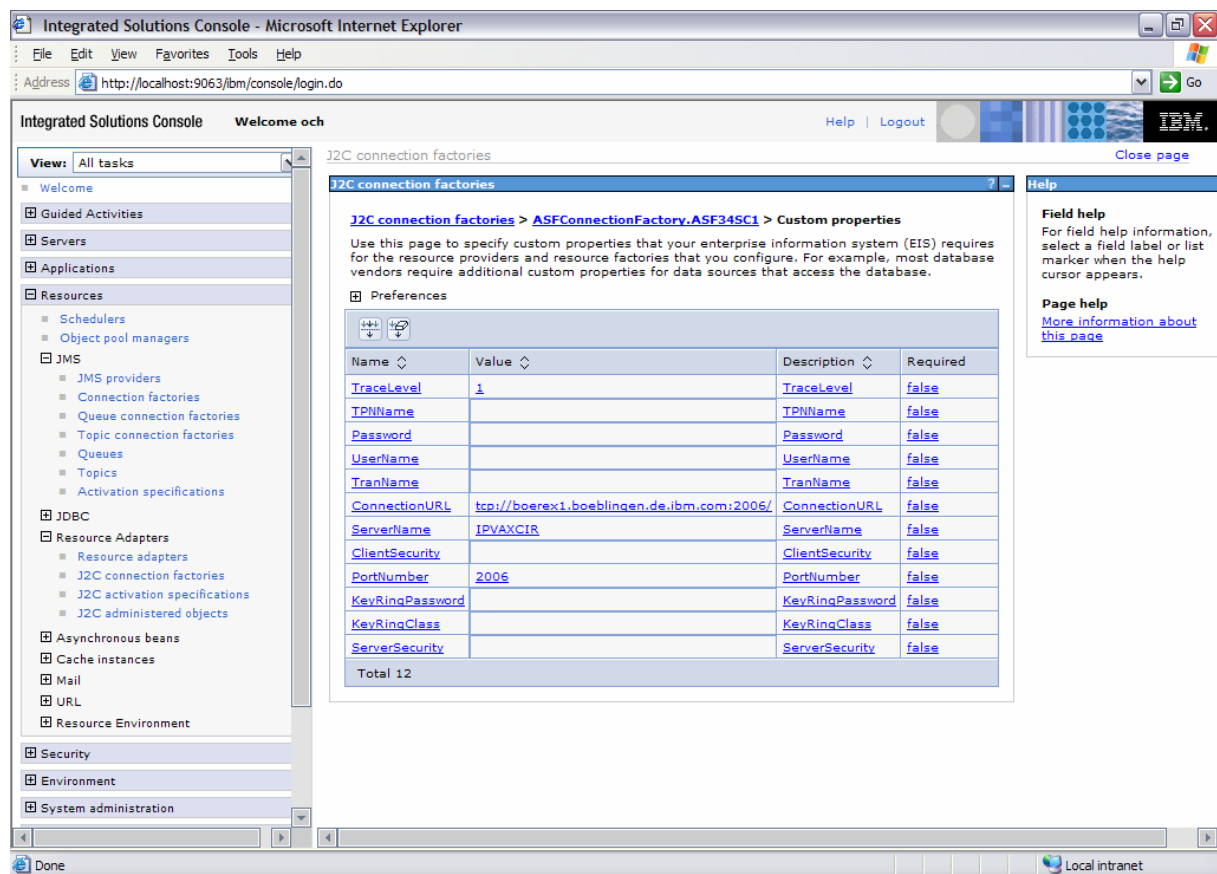
Click [Apply](#) and save your modifications.

Open [Resource Adapters](#) > [J2C connection factories](#) > [ASFConnectionFactory.ASF34SC1](#) > [Custom Properties](#)

where ASFConnectionFactory.ASF34SC1 is the name of the connection factory created in the previous step.

Define the CICS Transaction Gateway specific properties for the connection factory:

1. ConnectionURL is the target URL of the CICS Transaction Gateway, for example, tcp://boerex1.boeblingen.de.ibm.com:2006/
2. PortNumber is the target TCP/IP port number of the CICS Transaction Gateway, for example, 2006
3. ServerName is the name of the target CICS server, for example ,IPVAXCIR

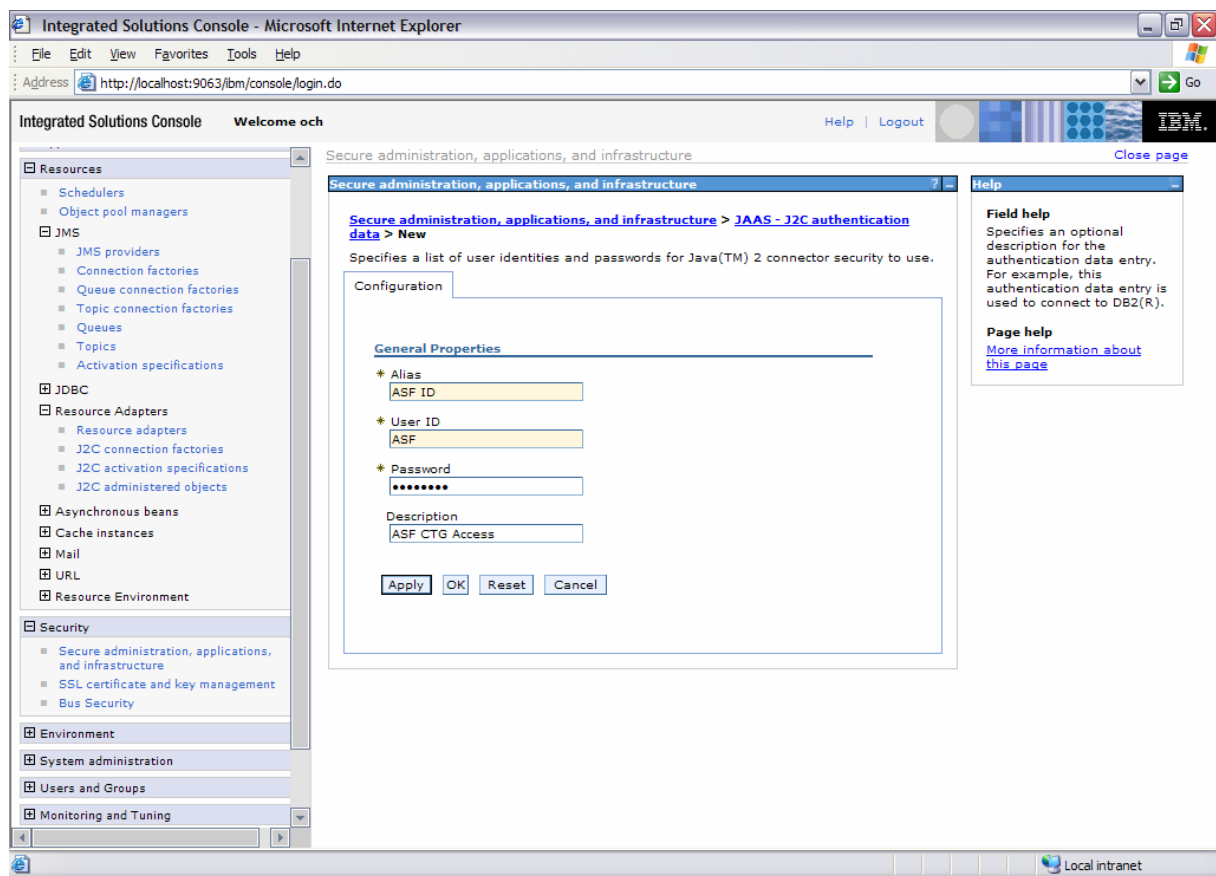


Click [Apply](#) and save your modifications.

Defining JAAS – J2C authentication data

Open [Security](#) > [Secure administration, applications, and infrastructure](#) > [JAAS – J2C authentication data](#) > [New](#)

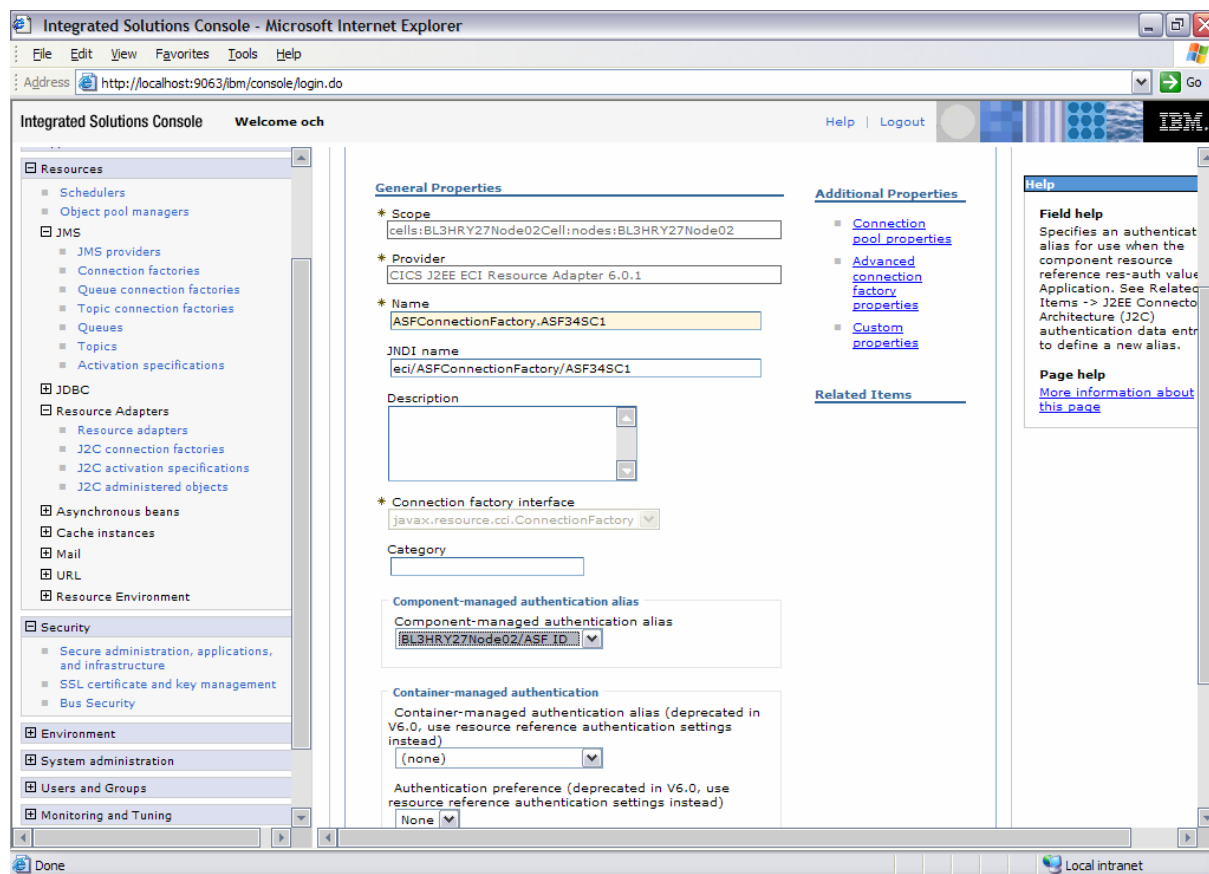
Enter an alias and a valid user ID and password for the CICS Transaction Gateway connection.



Click **OK** and save your modifications.

Open [J2C connection factories](#) > [ASFConnectionFactory.ASF34SC1](#)

Select the created JASS-J2C authentication data in the field Component-managed authentication alias.



Click [Apply](#), save your modifications, and restart the WebSphere Application Server.

Configuring the connections

To define the server-host connections in DocNetworkConfiguration.xml invoke the servlet application "connections", using the Microsoft Internet Explorer.

Add a CICS Transaction Gateway Connection type entry by specifying a host nickname, the J2C connection factory JNDI you created in Defining a J2C connection factory. Specify the CICS program name FSNWRFRC.

ASF Network Configuration
V "2.1.78.00"
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x86-Linux 2.6.5-7.286-bigsm

- + - General configuration
- + - IMS Connect connection configuration
- + - IMSMQ connection configuration
- + - CICS Transaction Gateway connection configuration

CICS Transaction Gateway connection configuration

Remove connection	Host nickname	Host connection data						
<input type="checkbox"/>	CiSC134ctg	<table border="1"><tr><td>Connection type</td><td>CICS</td></tr><tr><td>CICS program</td><td>FSNWRFRC</td></tr><tr><td>J2C Connection Factory JNDI</td><td>eci/ASFConnectionFactory/ASF34SC1</td></tr></table>	Connection type	CICS	CICS program	FSNWRFRC	J2C Connection Factory JNDI	eci/ASFConnectionFactory/ASF34SC1
Connection type	CICS							
CICS program	FSNWRFRC							
J2C Connection Factory JNDI	eci/ASFConnectionFactory/ASF34SC1							
<input type="checkbox"/>	CiDB234ctg	<table border="1"><tr><td>Connection type</td><td>CICS</td></tr><tr><td>CICS program</td><td>FSNWRFRC</td></tr><tr><td>J2C Connection Factory</td><td></td></tr></table>	Connection type	CICS	CICS program	FSNWRFRC	J2C Connection Factory	
Connection type	CICS							
CICS program	FSNWRFRC							
J2C Connection Factory								

Click **OK** to save your changes.

Stop and **Start** your application in the WebSphere Administrative Console.

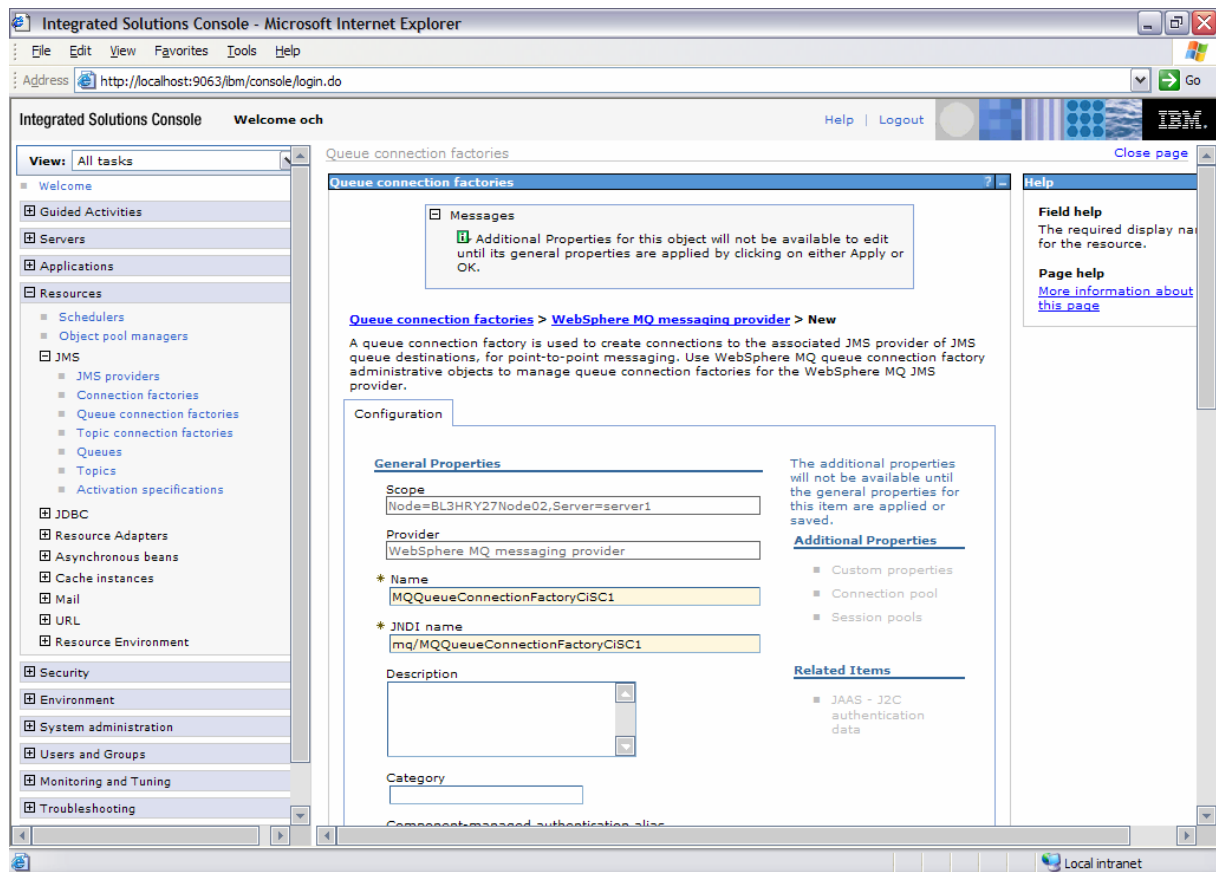
10 Setting up a connection to CICS via WebSphere MQ

Defining a queue connection factory

Open [Resources](#) > [JMS](#) > [Queue connection factories](#) > [New](#)

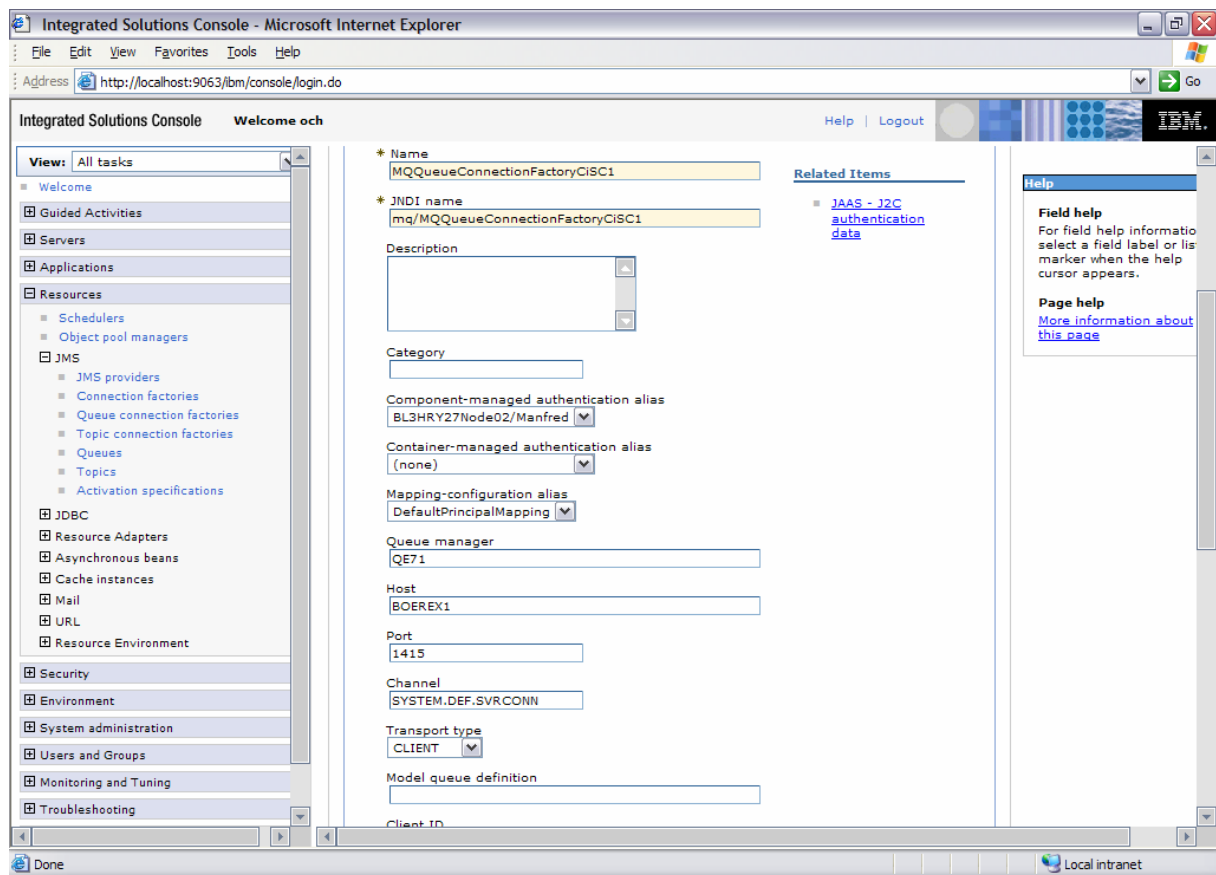
Select the WebSphere MQ messaging provider.

Enter the name, for example, "MQQueueConnectionFactoryCiSC1" and the JNDI name for the queue connection factory, for example, mq/MQQueueConnectionFactoryCiSC1.



Define the MQ specific properties for the queue connection factory:

6. Queue Manager is the target MQ queue manager name, for example, QE71
7. Host is the TCP/IP address of the target MQ, for example, 9.152.87.231
8. Port is the target TCP/IP port number of MQ, for example, 1415
9. Channel is the server-connection channel name of the target MQ, for example, SYSTEM.DEF.SVRCONN.
10. Transport type must be set to CLIENT.



Click [Apply](#) and save your modifications.

Note:

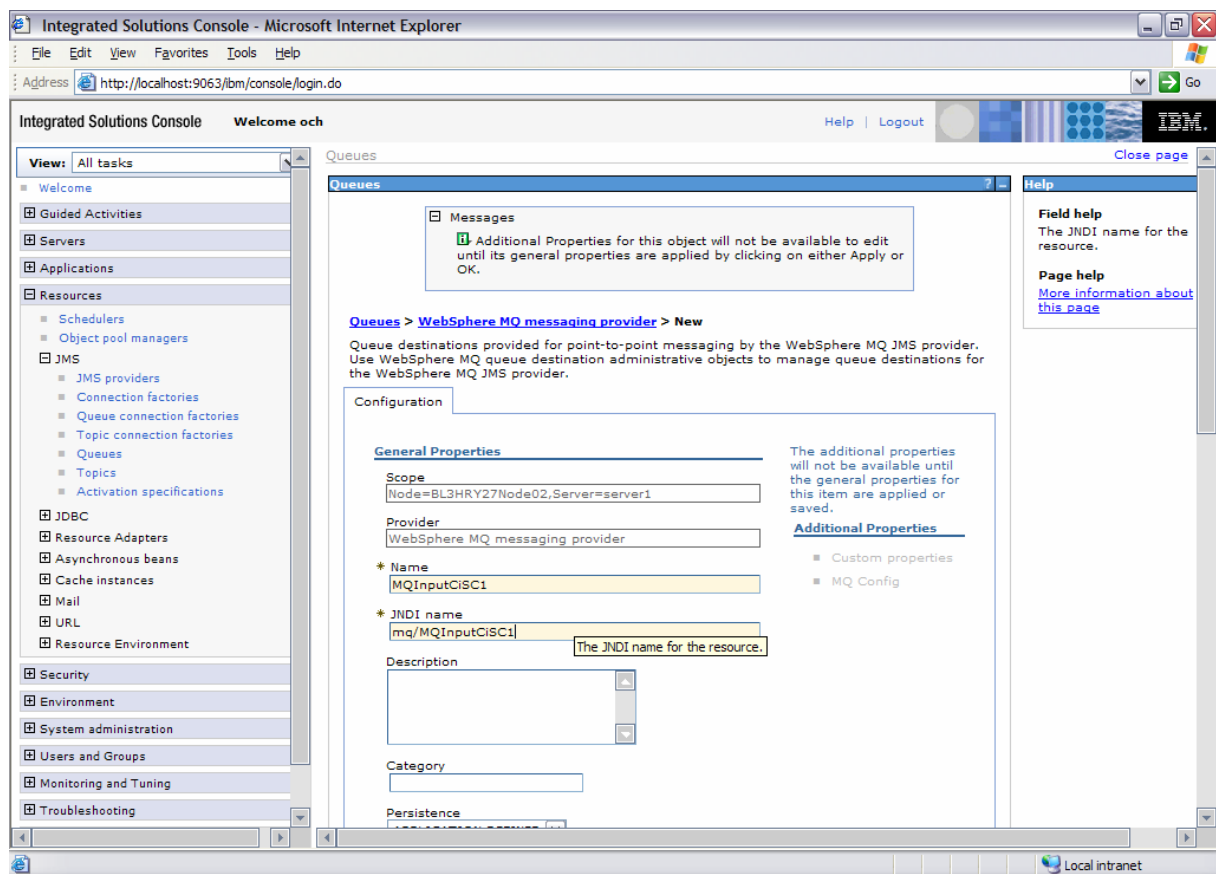
Ensure that the WebSphere variable MQ_INSTALL_ROOT is set to the value `${WAS_INSTALL_ROOT}/lib/WMQ`

Defining an input and an output Queue

Open [Resources](#) > [JMS](#) > [Queues](#) > [New](#)

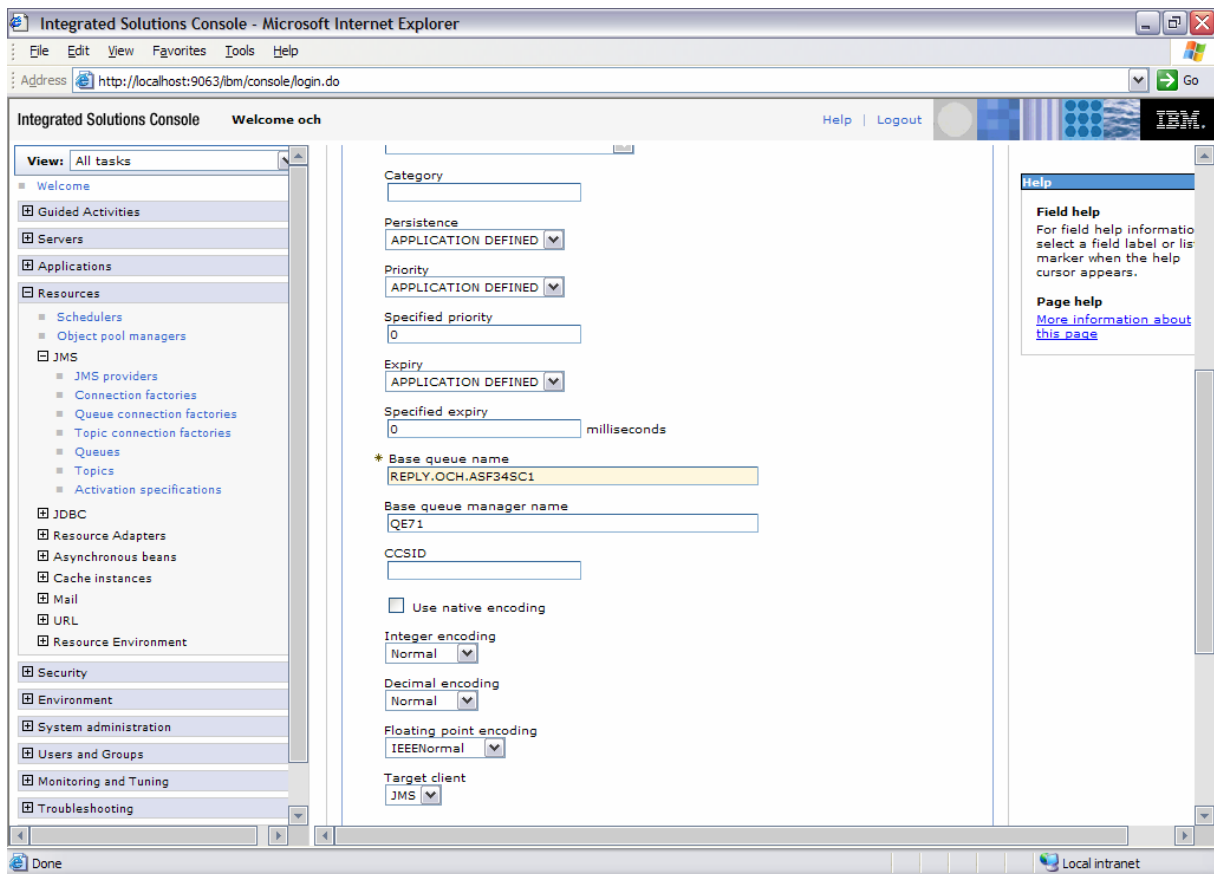
Select the WebSphere MQ messaging provider.

Enter the name, for example, "MQInputCiSC1" and the JNDI name for the input queue, for example, mq/MQInputCiSC1.



Define the MQ specific properties for the input queue:

4. Base queue name is the queue name of the target reply queue, for example, REPLY.OCH.ASF34SC1.
5. Base queue manager name is the target queue manager, for example, QE71
6. Target client must be set to JMS.

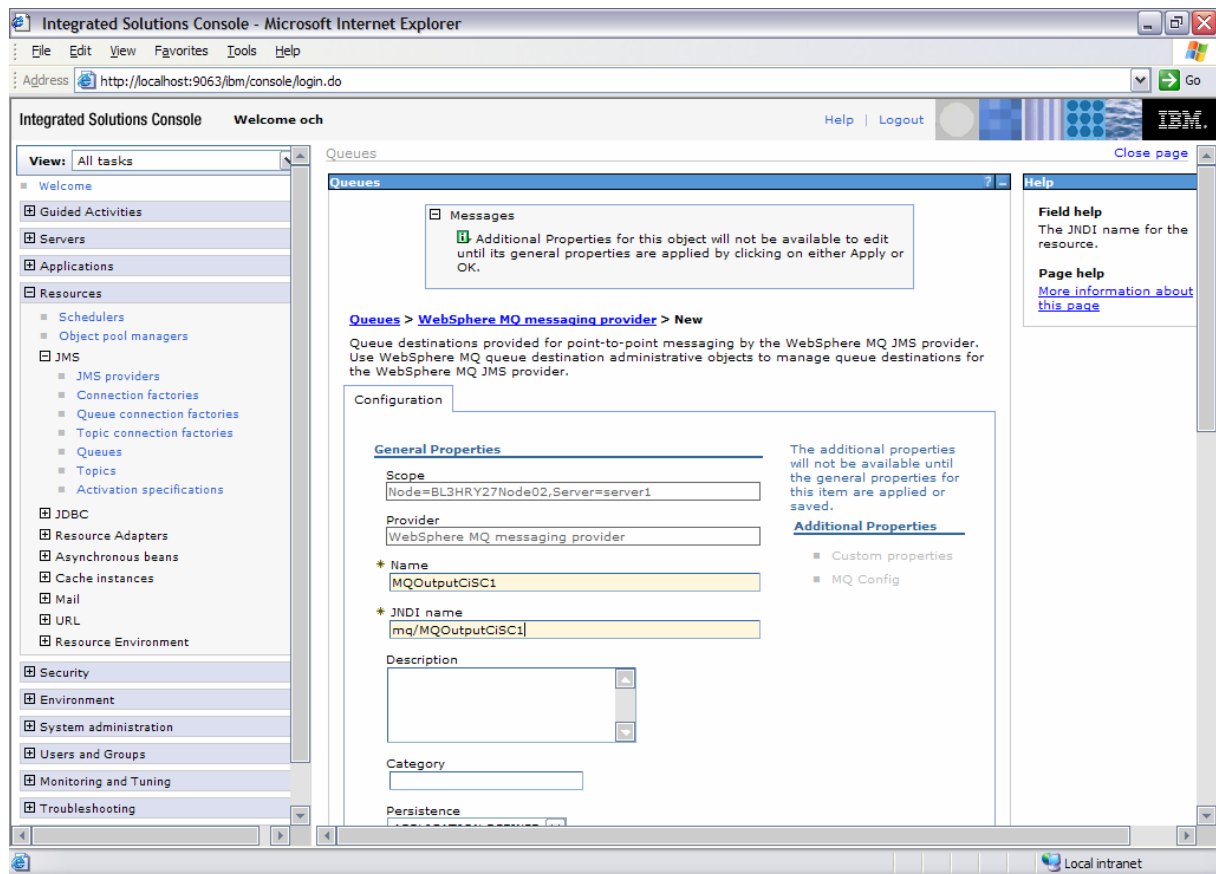


Click **Apply** and save your modifications.

Open [Resources](#) > [JMS](#) > [Queues](#) > [New](#)

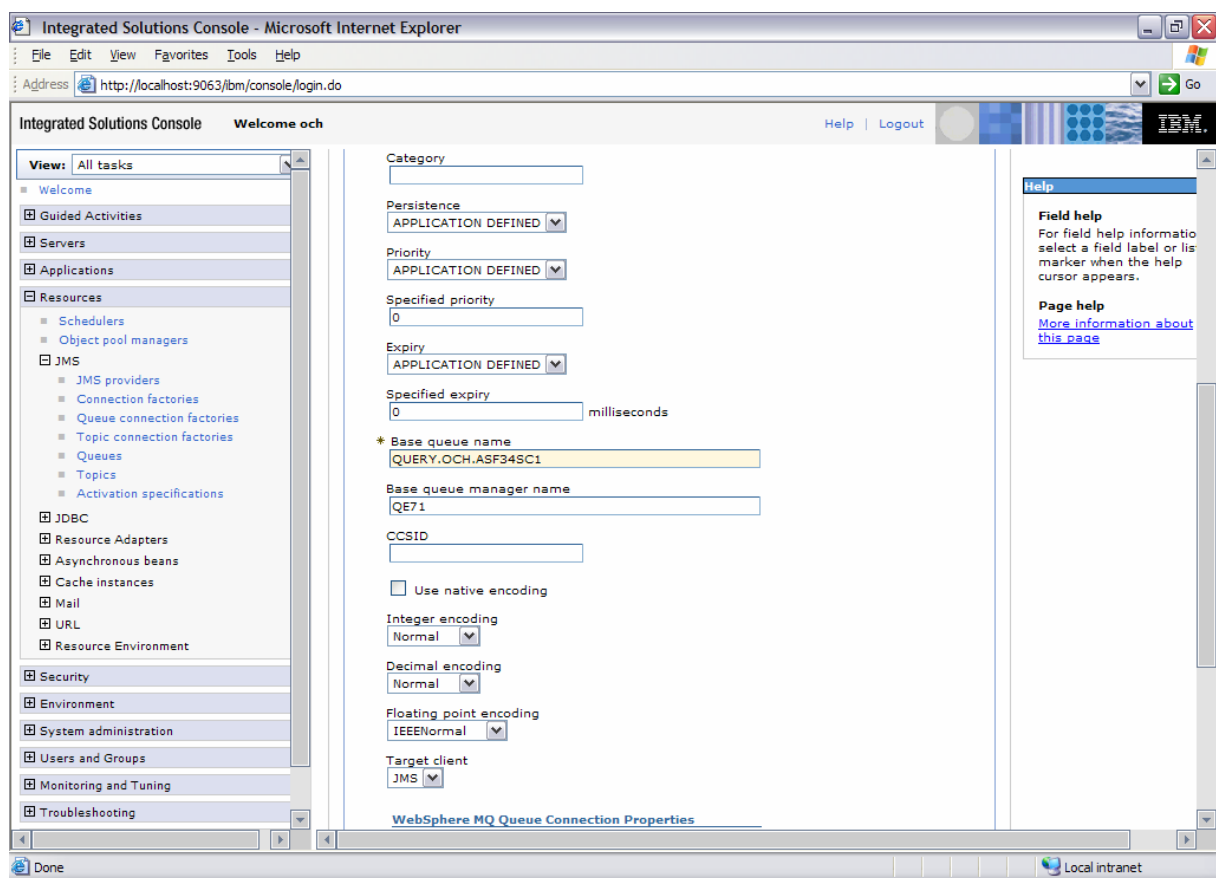
Select the WebSphere MQ messaging provider.

Enter the name, for example, "MQOutputCiSC1" and the JNDI name for the output queue, for example, mq/MQOutputCiSC1.



Define the MQ specific properties for the output queue:

4. Base queue name is the queue name of the target query queue, for example, QUERY.OCH.ASF34SC1.
5. Base queue manager name is the target queue manager, for example, QE71
6. Target client must be set to JMS.

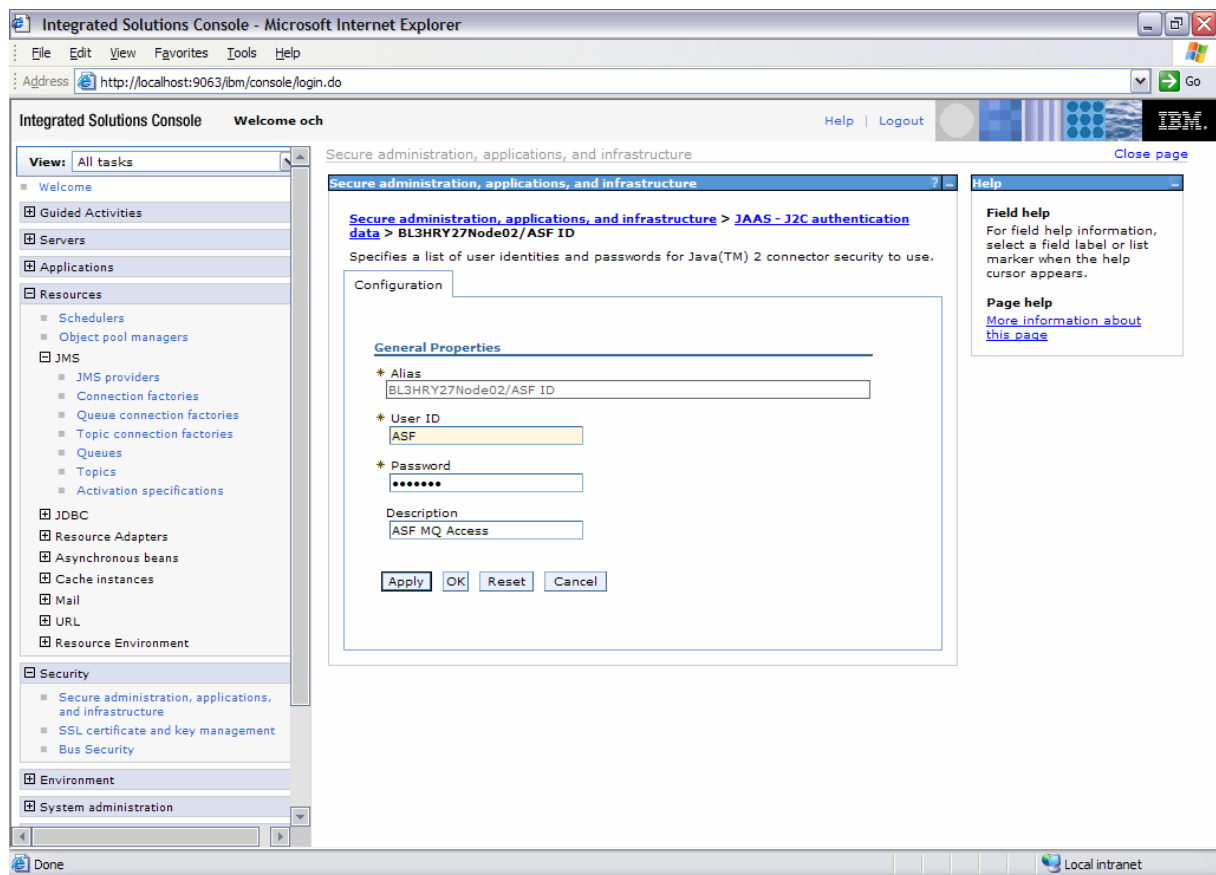


Click **Apply** and save your modifications.

Defining JAAS – J2C authentication data

Open [Security](#) > [Secure administration, applications, and infrastructure](#) > [JAAS – J2C authentication data](#) > [New](#)

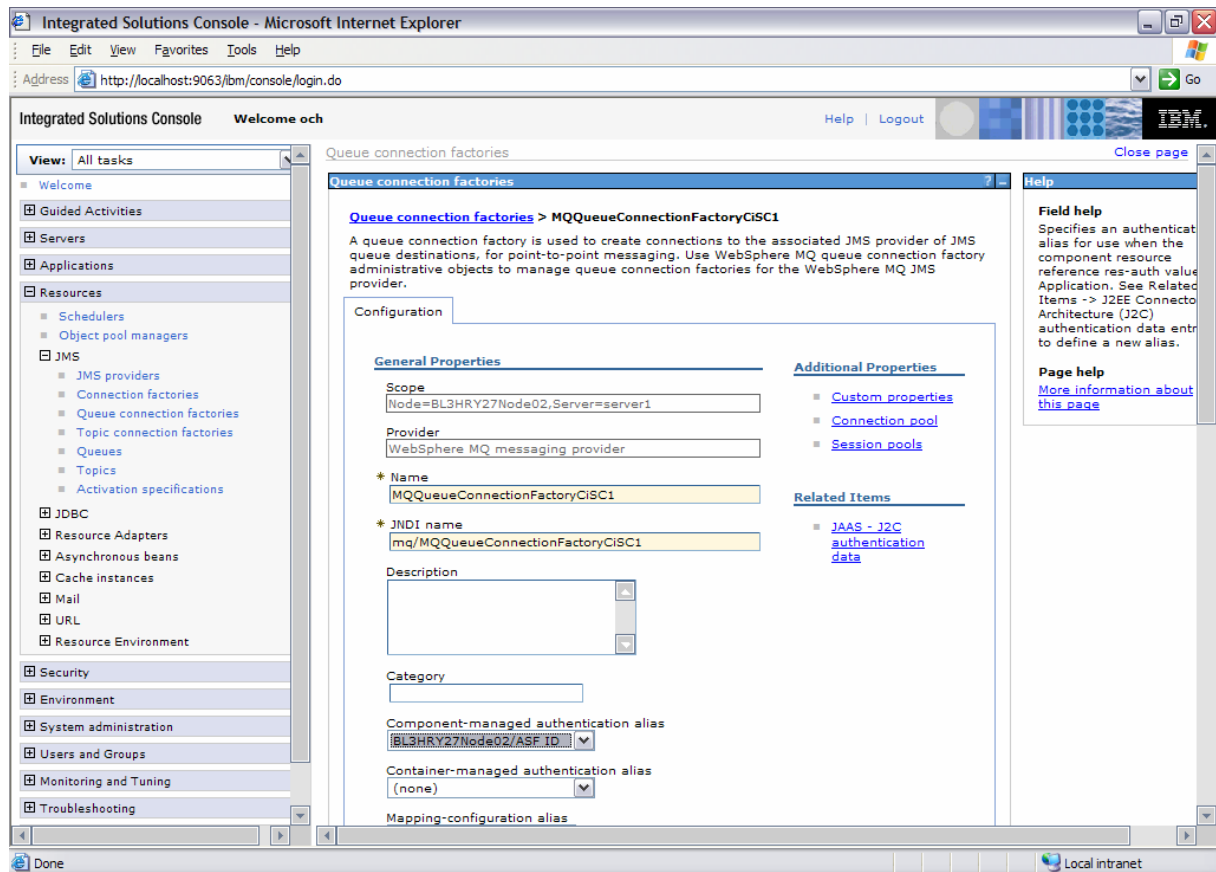
Enter an alias and a valid User ID and password for the MQ connection.



Click **OK** and save your modifications.

Open [Resources](#) > [JMS](#) > [Queue connection factories](#) > [MQQueueConnectionFactoryCISC1](#)

Select the created JASS-J2C authentication data in the field Component-managed authentication alias.



Click [Apply](#), save your modifications, and restart the WebSphere Application Server.

Configuring the connections

To define the server-host connections in DocNetworkConfiguration.xml invoke the servlet application "Connections", using the Microsoft Internet Explorer.

Add a CICS MQ connection type entry by specifying a host nickname, the MQ connection factory JNDI you created in Defining a queue connection factory, the MQ input queue JNDI, and MQ output queue JNDI you created in Defining an input and an output queue.

ASF Network Configuration
V "2.1.78.00"
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x86-Linux 2.6.5-7.286-bigsm

- + - General configuration
- + - IMS Connect connection configuration
- + - IMSMQ connection configuration
- + - CICS Transaction Gateway connection configuration
- + - CICSMQ connection configuration

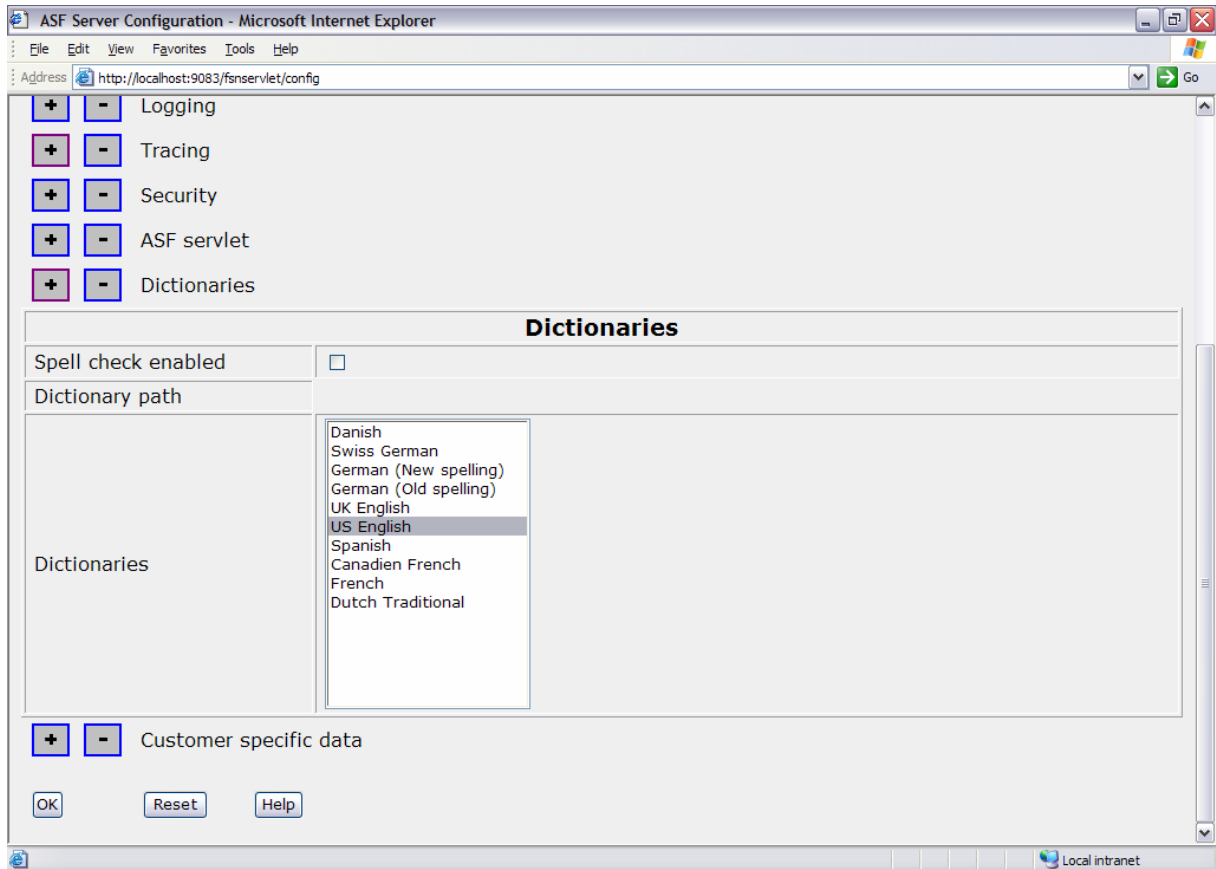
CICSMQ connection configuration			
Remove connection	Host nickname	Host connection data	
<input type="checkbox"/>	CISC1mq	Connection type	CICSMQ
		MQ Wait interval	300
		MQ Connection Factory JNDI	mq/MQQueueConnectionFactoryCISC1
		MQ Output Queue JNDI	mq/MQOutputCISC1
		MQ Input Queue JNDI	mq/MQOutputCISC1

Click **OK** to save your changes.

Stop and **Start** your application in the WebSphere Administrative Console.

11 Activating dictionaries for spell checking

To activate the dictionaries for spell checking invoke the servlet application “config”, using the Microsoft Internet Explorer. Ask the ASF administrator(s) which dictionaries should be active.



Click **OK**.

Stop and **Start** your application using the WebSphere Administrative Console.

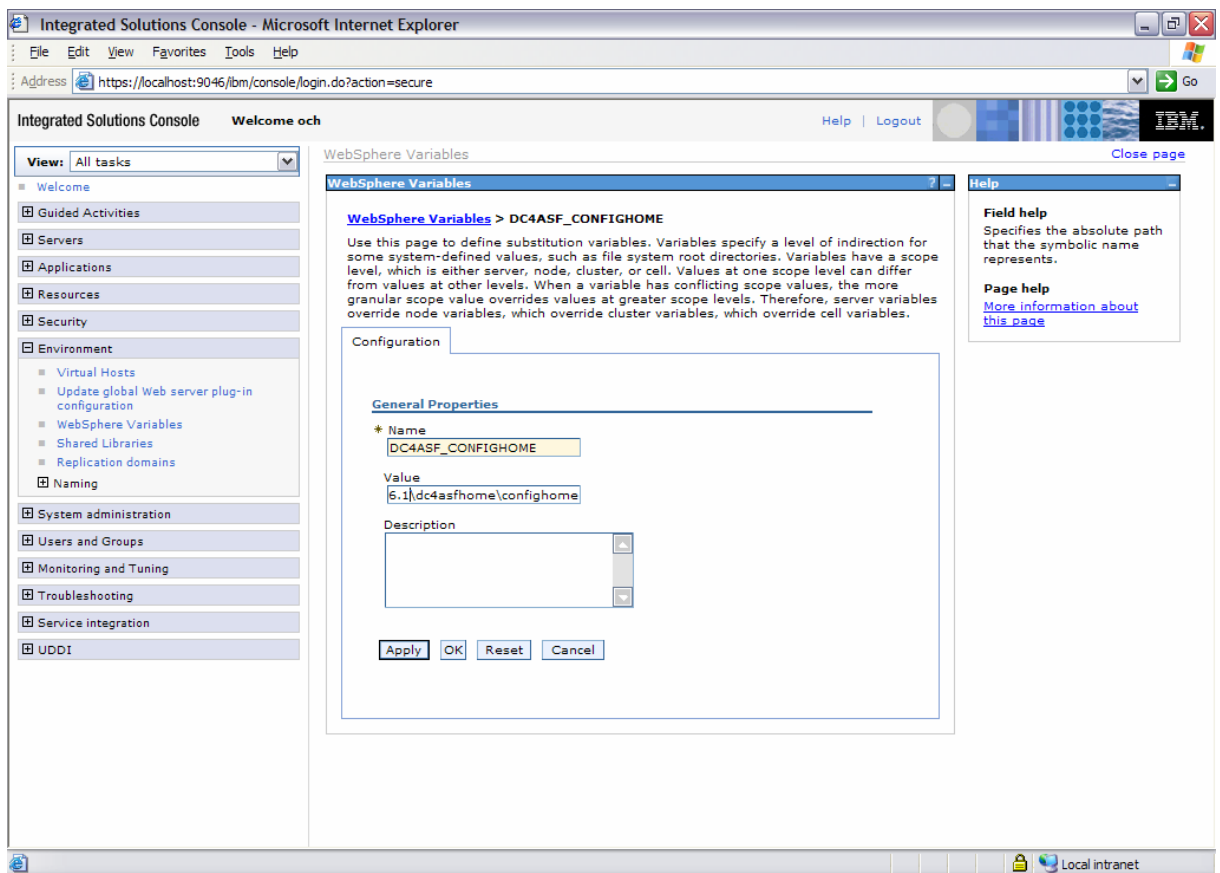
12 Using one set of configuration files

If you are running DC4ASF in a multi-node environment or you have more than one instance of DC4ASF but you want to use only one set of configuration files, perform the following steps:

- Create two WebSphere variables.

Open [Environment](#) > [WebSphere Variables](#) > [New](#)

Create the variables DC4ASF_CONFIGHOME and DC4ASF_DATAHOME and set the values to, for example, D:\Programs\IBM\WebSphere\AppServer6.1\dc4asfhome\confighome and D:\Program\IBM\WebSphere\AppServer6.1\dc4asfhome\datahome



- Create the following three directories:

\$(CONFIG_HOME)

For example, D:\Programs\IBM\WebSphere\AppServer6.1\dc4asfhome\confighome

\$(DATA_HOME)/log

For example, D:\Programs\IBM\WebSphere\AppServer6.1\dc4asfhome\datahome\log

\$(DATA_HOME)/preview

For example, D:\Programs\IBM\WebSphere\AppServer6.1\dc4asfhome\datahome\preview

- Copy the following configuration files:

DocConfiguration.xml

DocNetworkConfiguration.xml

DocXSLConversion.xml

DocSpellCheckConfiguration.xml

hnp.txt

from \$(APP_INSTALL_ROOT)\xservNode01Cell\dc4asf12.ear\dc4asf12.war\internals/config
to \$(CONFIG_HOME)

- Change the configuration.xml as follows:

```
<Network>
  <ConfigFile>$(CONFIG_HOME)/DocNetworkConfiguration.xml</ConfigFile>
</Network>
<XSLConversion>
  <HTMLPath>xsl</HTMLPath>
  <ConfigFile>$(CONFIG_HOME)/DocXSLConversion.xml</ConfigFile>
</XSLConversion>

<Logging enable="Y">
  <GenericName>$(DATA_HOME)/log/logfile</GenericName>
  <Extension>.log</Extension>
  <NumberOfGenerations>10</NumberOfGenerations>
  <Filesize>3096</Filesize>
  <Recordlength>330</Recordlength>
</Logging>

<Tracing enable="Y" sessiontrace="N">
  <GenericName>$(DATA_HOME)/log/trcfile</GenericName>
  <Extension>.trc</Extension>
  <Recordlength>3300</Recordlength>
```

13 Protecting access to the configuration servlets

To restrict access to the configuration servlets (config and connections) for fsnservlet the following prerequisite must be met:

- The “Secure administration, application and infrastructure” of the WebSphere Application Server (WAS) must be enabled. For more information on “Enabling Security”, refer to the online help of the “WebSphere Application Server (Distributed platforms and Windows), Version 6.1”.

Note:

In previous releases of WebSphere Application Server, if a user enabled global security, both administrative and application security was enabled. In WebSphere Application Server Version 6.1 however, the notion of global security is split into administrative security and application security, each of which must be enabled separately.

Open [Applications](#) > [Enterprise Applications](#) > [fsnservletEAR](#) > [Security role to user/group mapping](#)

Select the role “dc4asfconfig” and click [Lookup users](#).

Enter a limit and a search pattern for users and click [Search](#).

Select the users and click on the arrows to move the users to the “Selected” list.

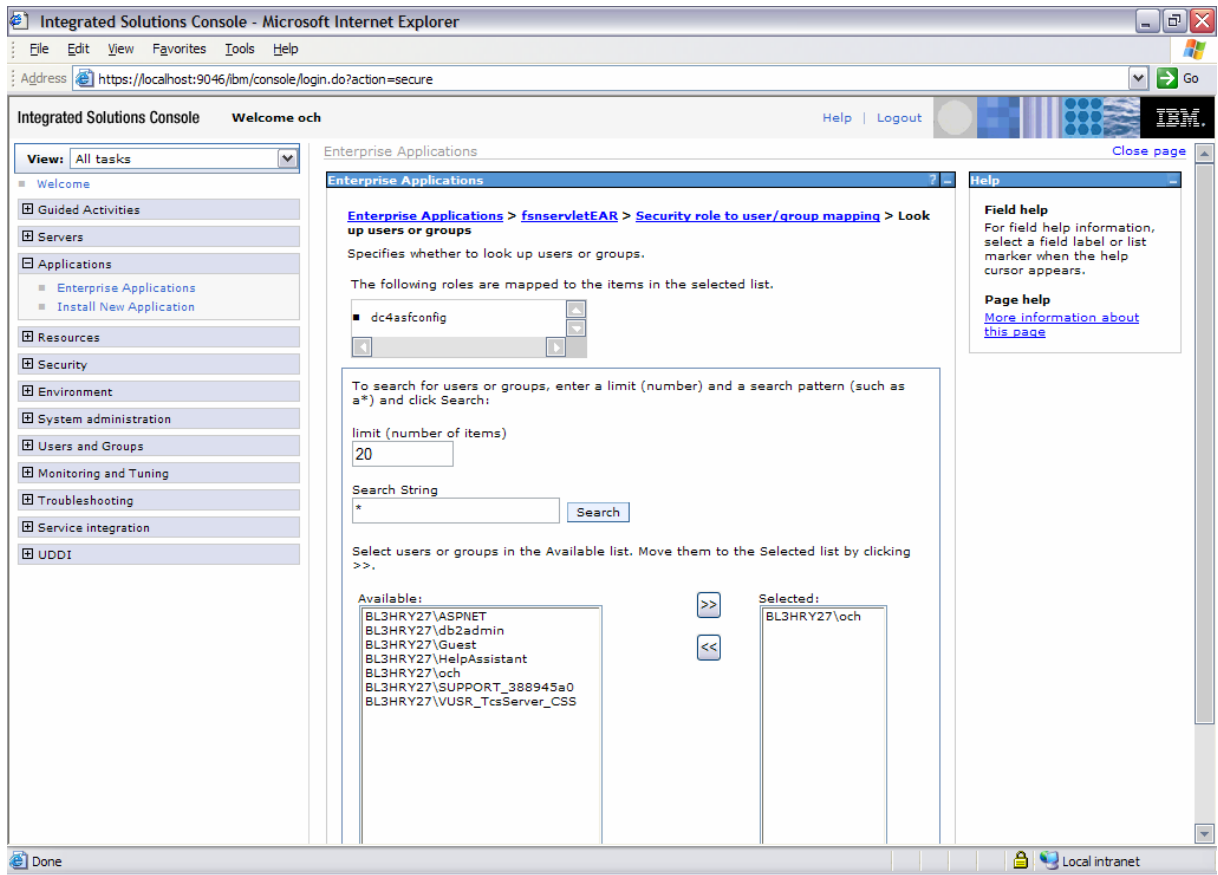
Click [OK](#).

Then click [Lookup groups](#).

Enter a limit and a search pattern for groups and click [Search](#).

Select those groups to which the selected users belong and click on the arrows to move the groups to the “Selected” list.

Click [OK](#) twice.



Save the changes to the master configuration, then **Stop** and **Start** the WebSphere Application Server.

To verify that the security implementation was successful, launch both the configuration servlet (config) and the network configuration servlet (connections). You will be prompted for your user ID and password.

14 Print Preview Configuration

AFP Resources

To make the AFP resources (page segments and overlays) available on the server for resolution during “Print Preview” requests perform the following steps:

- Copy the page segments from the host system (for example via ftp) to the directory:

D:\Program Files\IBM\IBM Document Connect for ASF\www\AFPResources\pscg

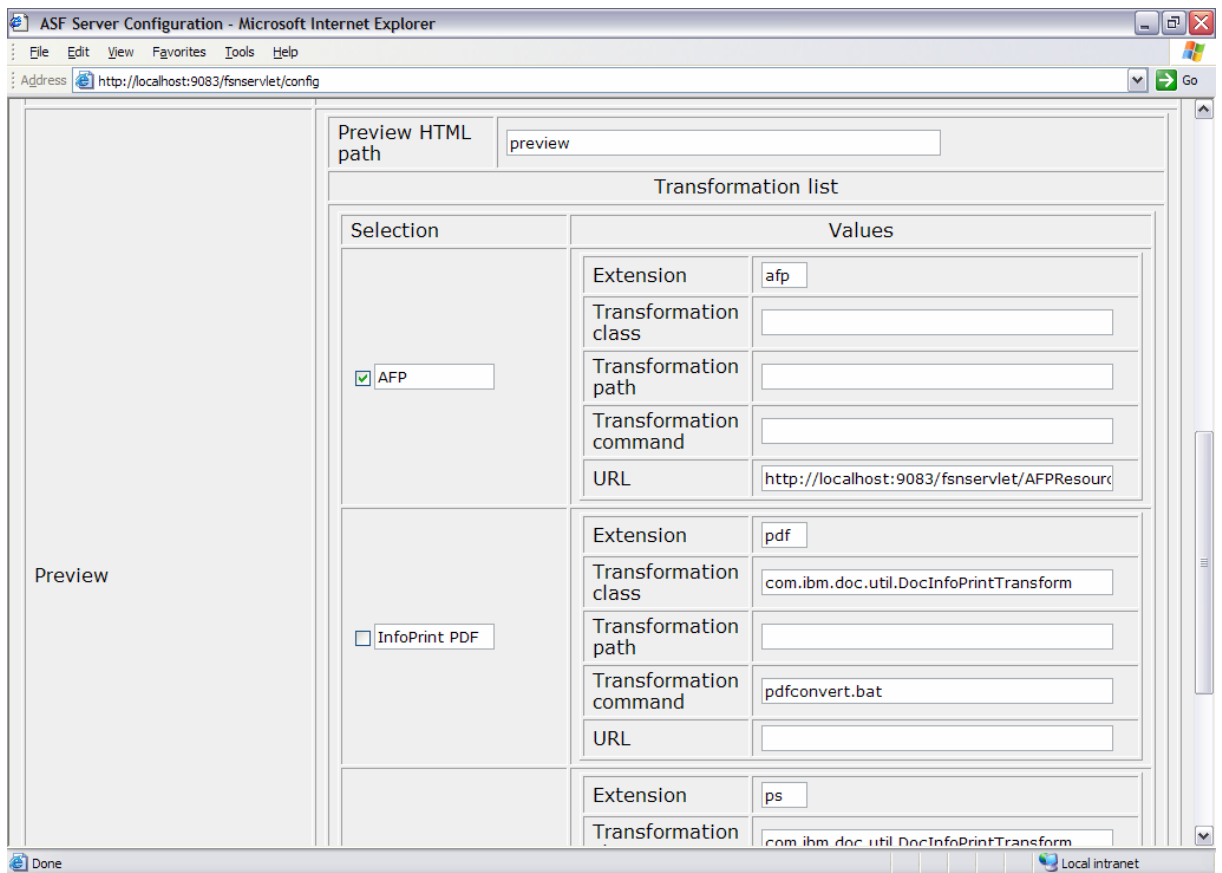
Page segments must have the extension “**psg**”.

- Copy the overlays from the host system (for example via ftp) to the directory:

D:\Program Files\IBM\IBM Document Connect for ASF\www\AFPResources\ovl

Overlays must have the extension “**oly**”.

- To define the server URL in DocConfiguration.xml invoke the servlet application “config”, using the Microsoft Internet Explorer. Specify your server URL in the Preview AFP Section.



Click **OK** to save your changes.

Using the AFP Viewer or a PDF viewer

To define which viewer to use for print preview (for AFP or PDF format) in the DocConfiguration.xml file, invoke the servlet application “config”, using the Microsoft Internet Explorer. Specify the default type in the Preview Section by clicking the check box.

AFP default sample:

ASF Server Configuration - Microsoft Internet Explorer

Address http://localhost:9083/fsnservlet/config

ASF servlet

Default language: da, de, **en**, es, fr, nl

Session cleanup period (min): 60

Session maximum age (min): 720

Replace session on resignation:

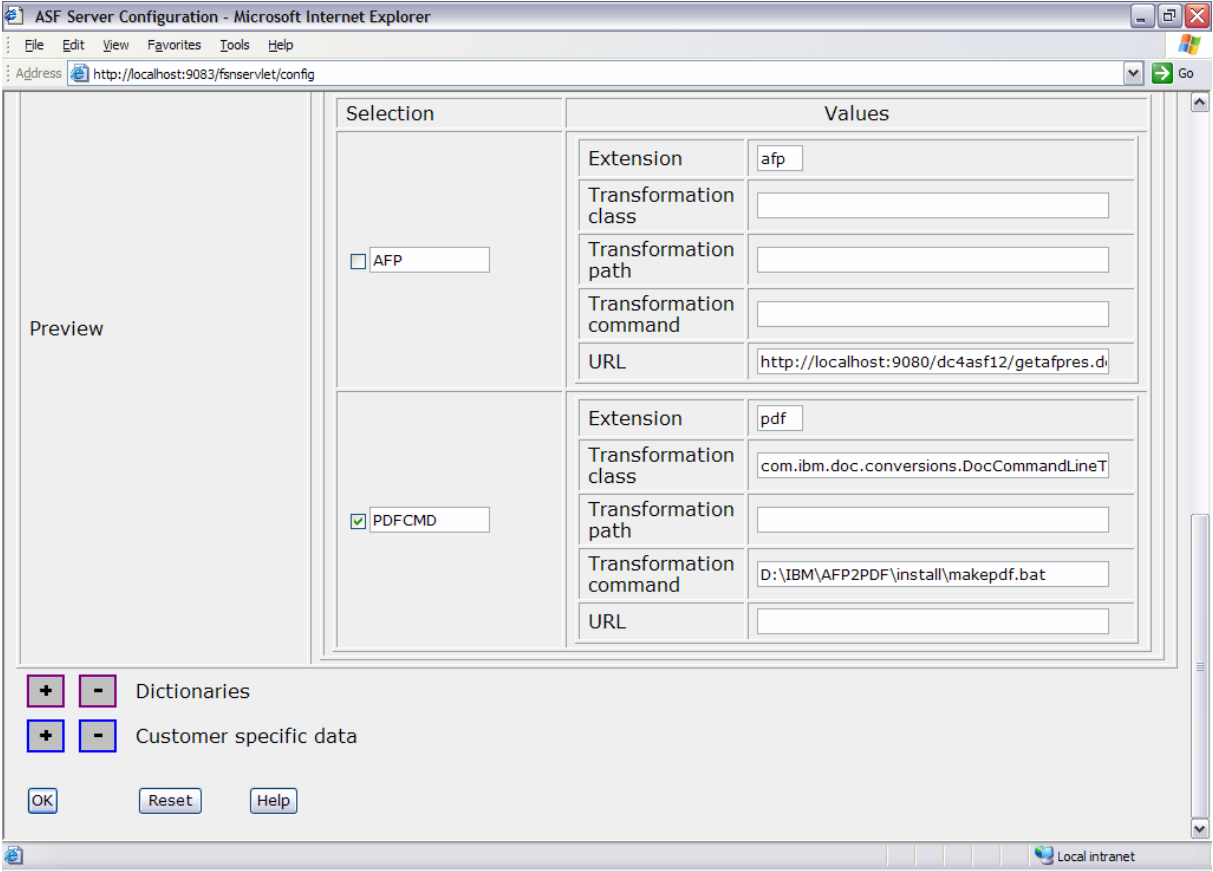
Performance check enabled:

Preview HTML path: preview

Transformation list											
Selection	Values										
<input checked="" type="checkbox"/> AFP	<table border="1"><tr><td>Extension</td><td>afp</td></tr><tr><td>Transformation class</td><td></td></tr><tr><td>Transformation path</td><td></td></tr><tr><td>Transformation command</td><td></td></tr><tr><td>URL</td><td>http://localhost:9083/fsnservlet/getafpres.c</td></tr></table>	Extension	afp	Transformation class		Transformation path		Transformation command		URL	http://localhost:9083/fsnservlet/getafpres.c
Extension	afp										
Transformation class											
Transformation path											
Transformation command											
URL	http://localhost:9083/fsnservlet/getafpres.c										

If you have chosen to transform from AFP to PDF, you must also specify what conversion software you are using or where it is installed in the Preview Section (Transformation Class, Transformation path, or Transformation command).

For example, a PDF transform setting could look as follows:



Note:

There is also an API parameter called docprvform that you can use to determine a print preview transform other than the configured default transform. For more information refer to the "Document Connect for ASF Client Integration Guide and Reference".

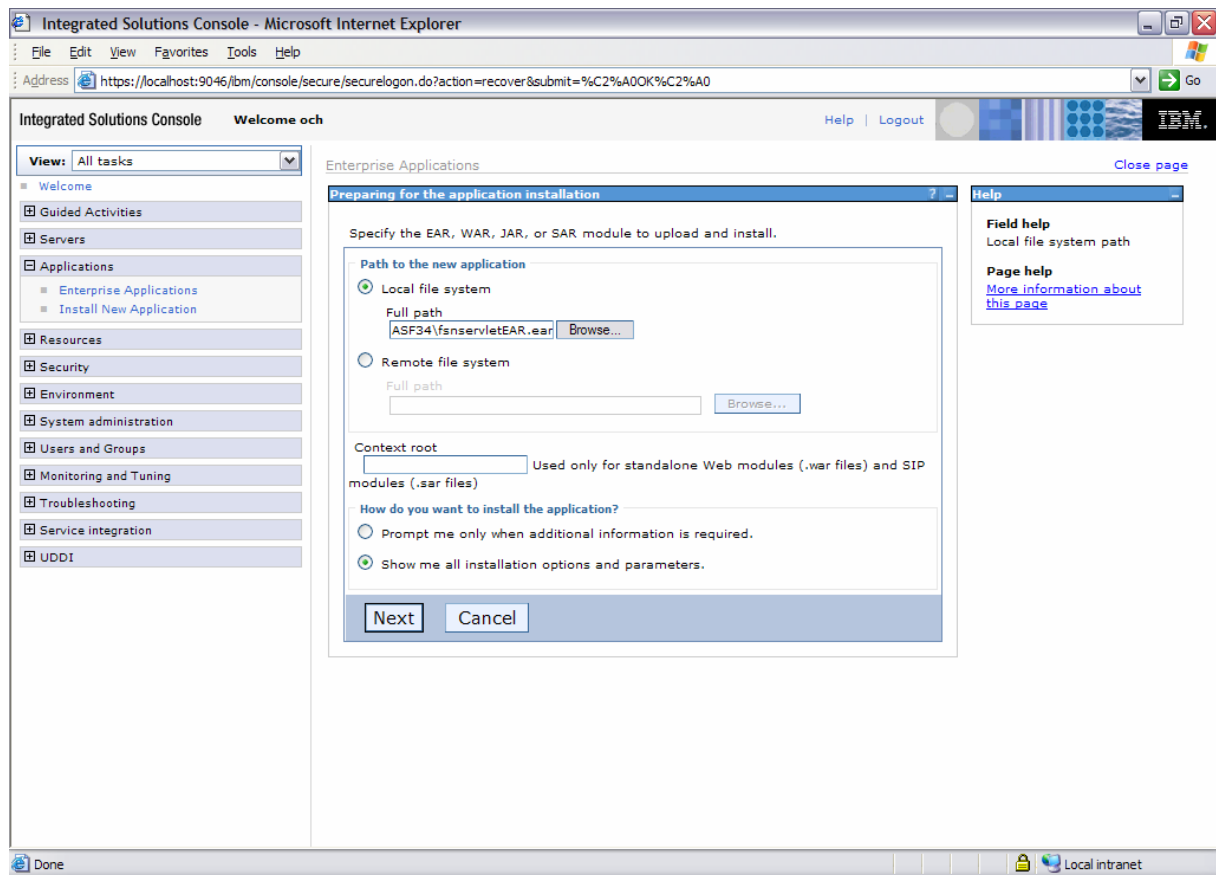
15 Installing a second application

The steps described so far show you how to install the application fnservletEAR in WebSphere Application Server.

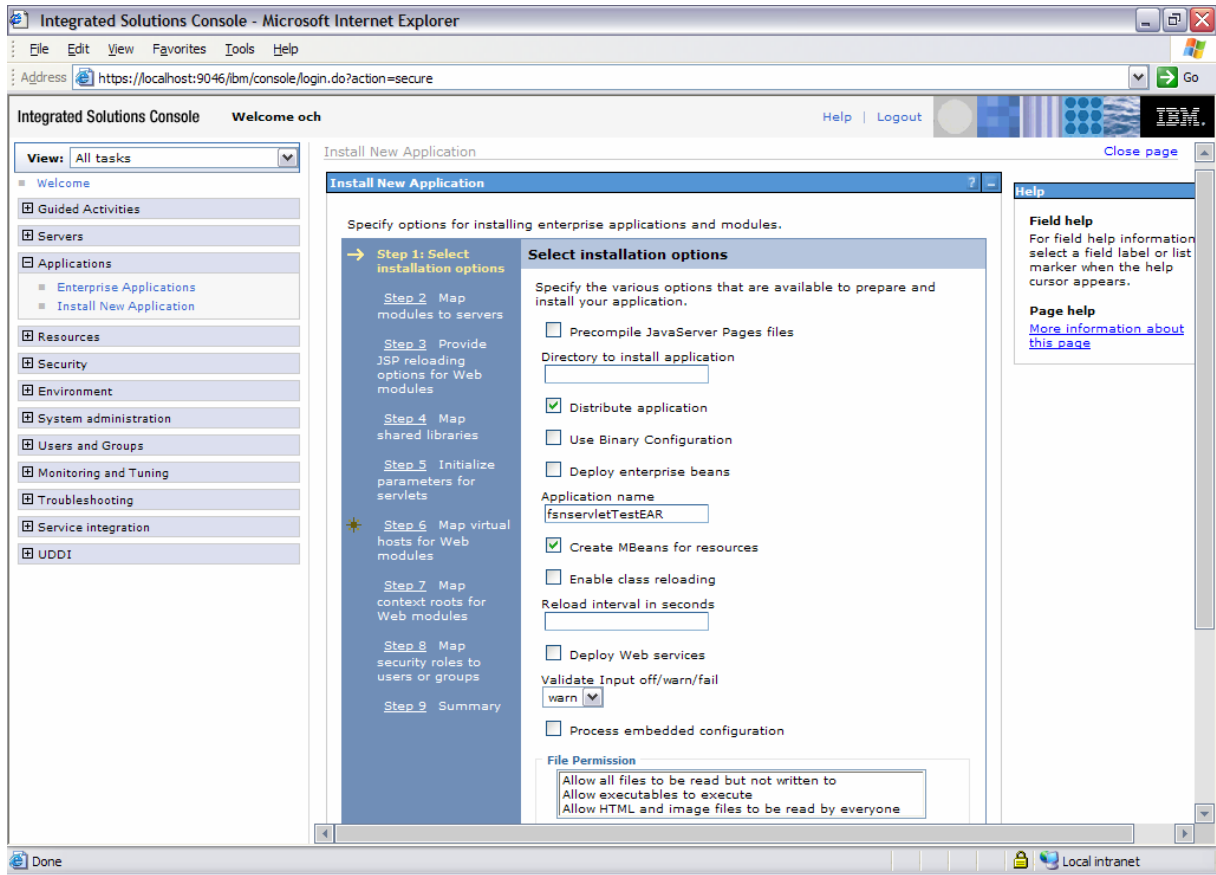
IBM recommends that you generate a second application instance of Document Connect for ASF for use by administrators, for example “fnservletEARtest”.

Perform the steps described in “Installing the application” with the following changes:

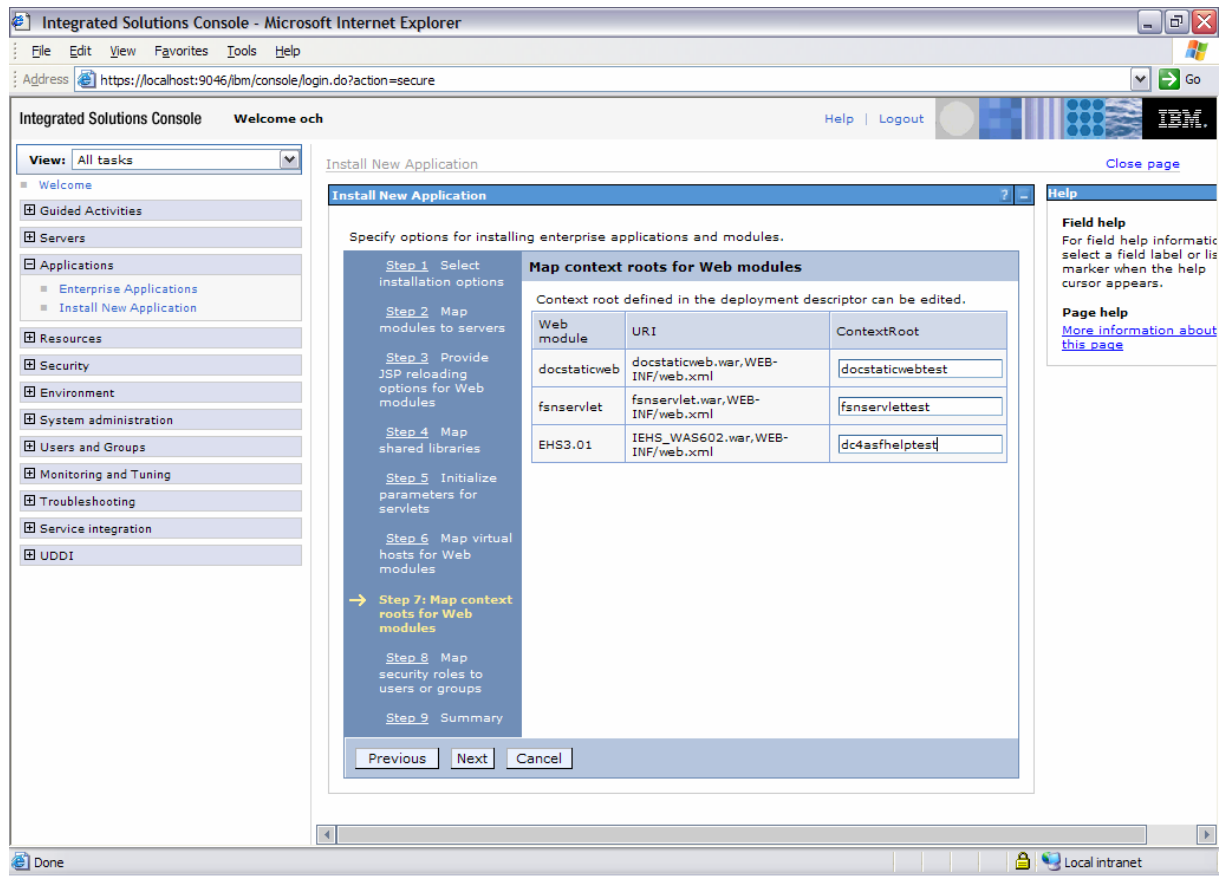
On the first panel, select “Show me all installation options and parameters”.



In Step 1, use "fnservletTestEAR" as the application name.



In Step 7, use "docstaticwebtest", "fnservlettest" and "dc4asfhelptest" as context roots.



The screenshot shows the 'Integrated Solutions Console' in Microsoft Internet Explorer. The main window displays the 'Install New Application' wizard, specifically Step 7: 'Map context roots for Web modules'. The wizard is titled 'Specify options for installing enterprise applications and modules.' and includes a sidebar with steps 1 through 9. Step 7 is highlighted with a yellow arrow. The main content area features a table for mapping context roots for web modules.

Web module	URI	ContextRoot
docstaticweb	docstaticweb.war,WEB-INF/web.xml	docstaticwebtest
fnservlet	fnservlet.war,WEB-INF/web.xml	fnservlettest
EHS3.01	IEHS_WAS602.war,WEB-INF/web.xml	dc4asfhelptest

Buttons for 'Previous', 'Next', and 'Cancel' are located at the bottom of the wizard. A 'Help' sidebar on the right provides field help and page help information.

16 Applying maintenance

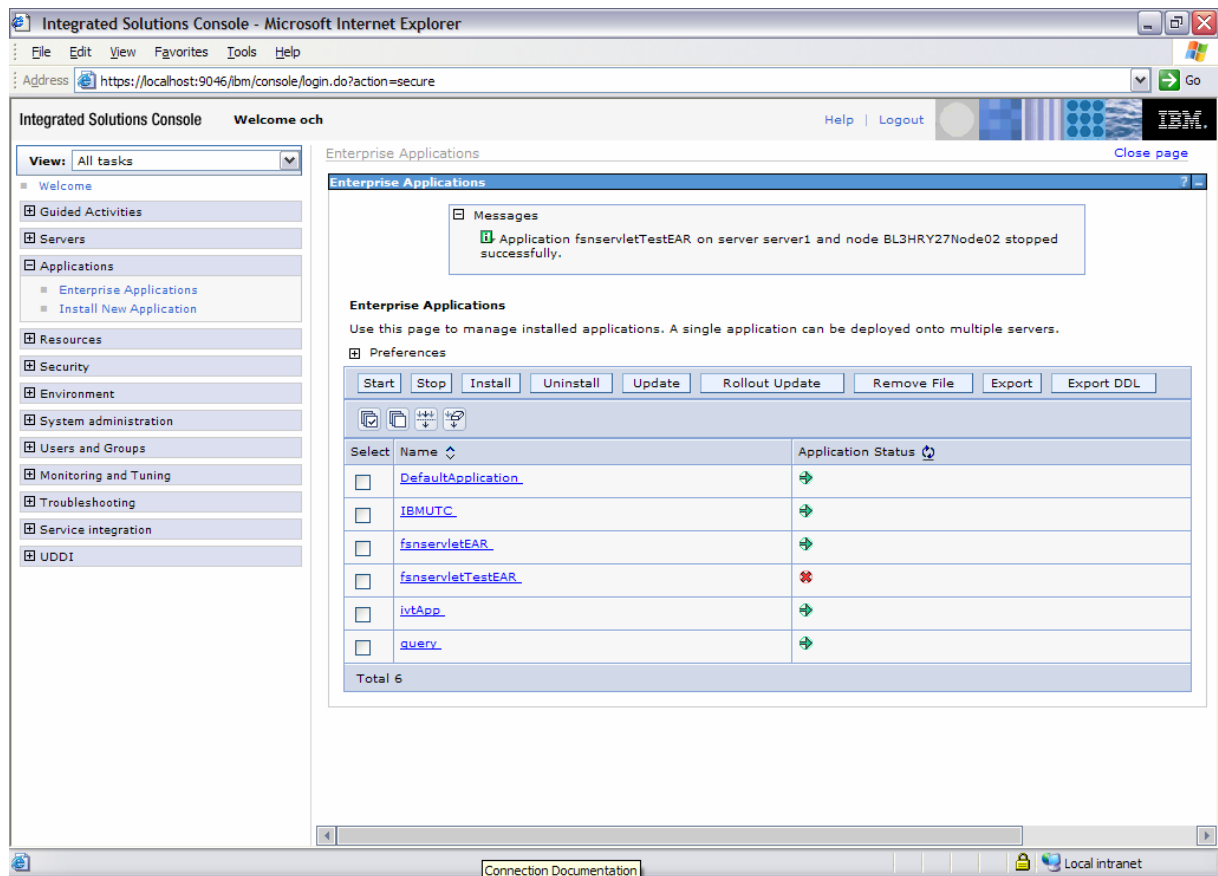
Copy the zip file containing the maintenance into a directory:

D:\Programs\IBM\dc4asf\ptf

Open the WebSphere Administrative Console:

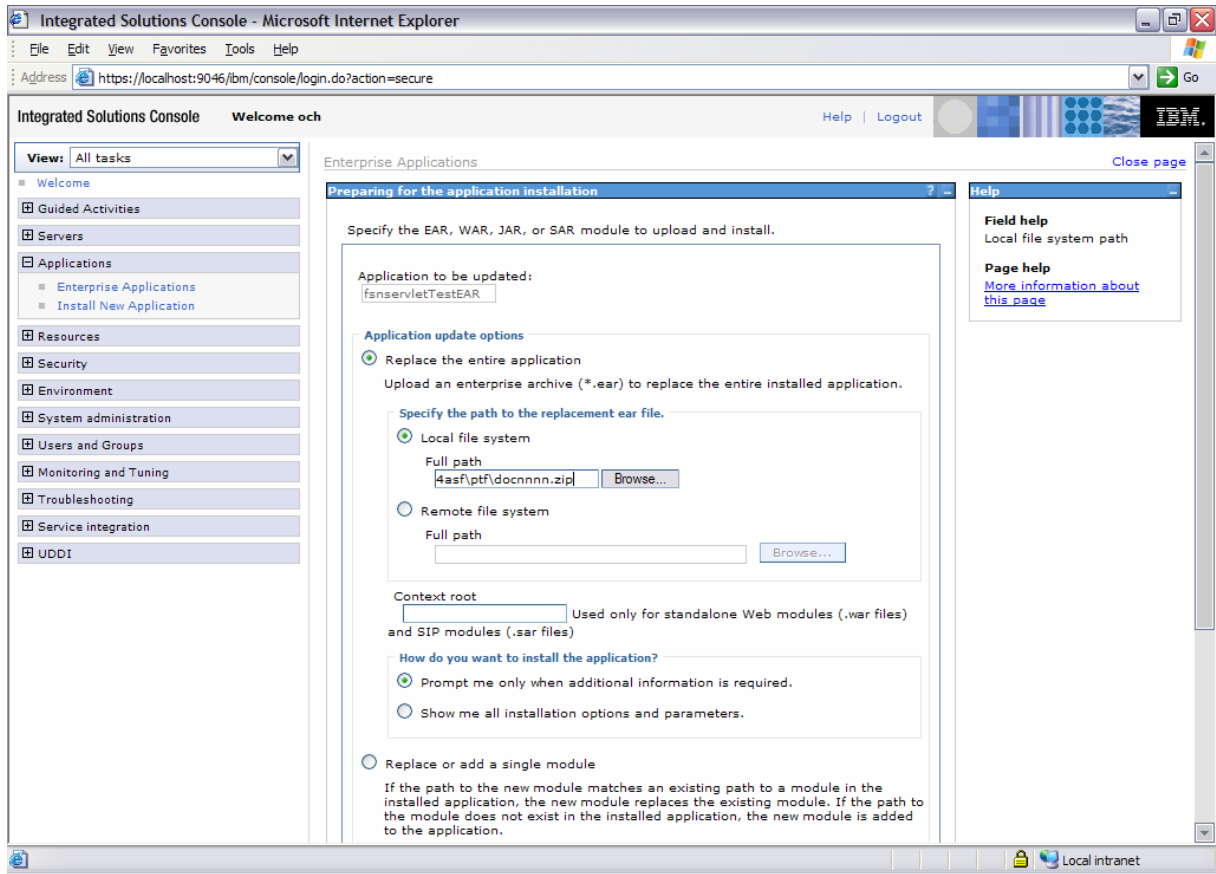
[Open Application](#) > [Enterprise Application](#)

Stop the application for which you want to add maintenance, for example “fnservletTestEAR”. Select the application “fnservletTestEAR” and enter **Update**.



Enter the path (local path or server path) where the new DC4ASF zip file is located:

D:\Programs\IBM\dc4asf\ptf\docnnnn.zip



On each of the next panels click **Next** and finally click **Finish**. After the update of the application has completed, save the master configuration.

Open [Applications](#) > [Enterprise Application](#) and select your application fnservletTestEAR. Click **Start** to restart the application.

17 The Conversion Toolkit

The Document Connect for ASF Conversion Toolkit provides a convenient way to verify the DCF to HTML and HTML to DCF conversions, and to test modifications to the DocXSLConversion.xml file and any new custom conversion directives added to the doccustom1.xsl and doccustom2.xsl files.

The toolkit runs on Windows and takes you through the conversion steps from DCF (stored in the txt file) to XHTML (for display in the browser or editor) and back again to DCF, ready for storing in ASF.

The tool writes all the intermediate formats to disk for inspection and, if you have an XML Development Tool, like Altova XMLSPY, you can also test and debug your custom stylesheets.

Hardware and software requirements

To run the toolkit you need Windows 2000 or Windows XP, and a Java Runtime Environment (JRE) V1.3.1 or higher. You can obtain the JRE at the Sun Java page (<http://java.sun.com>).

Download and install the JRE. After you have successfully installed the JRE, a Windows environment variable needs to be set. Select Control Panel->System->Advanced->Environment Variables. The name of the variable is JAVA_HOME and its value must be set to the install directory of the JRE.

Installing the toolkit

The toolkit is provided as a zip file. This zip file contains everything you need to run the toolkit, given that the installed JRE is operational and the JAVA_HOME environment variable has been set correctly. To install and adapt the toolkit:

1. Download the zip-file to a temporary directory.
2. Unzip the file to a disk drive and directory of your choice; the zip file contains the root directory of the toolkit.

Assume you have unzipped the toolkit to the root of drive F. Then the structure will look as follows:

Directory of F:\dc4asftoolkit

```
2004-04-28  11:57    <DIR>      .
2004-04-28  11:57    <DIR>      ..
2004-04-28  11:50    <DIR>      bin
2004-04-28  11:50    <DIR>      config
2004-04-28  11:50    <DIR>      log
2004-04-28  11:50    <DIR>      resources
2004-04-28  11:50    <DIR>      TestData
2004-04-28  11:50    <DIR>      www
2004-03-09  13:09                251 xtoolkit.bat
                1 File(s)                251 bytes
```

The dc4asftoolkit root directory contains a bat file, which is used to run the toolkit, and the following sub directories:

1. /bin: The bin subdirectory contains all jar files required to run the toolkit. The most important file is the docserver.jar file which is the main Document Connect for ASF executable. It is exactly the same as the docserver.jar used by the Document Connect for ASF Web server application. You should replace it with the latest version from your Web server.
3. /bin/java: This subdirectory contains the jar files needed for the XML conversions. They are not part of Document Connect for ASF. You can replace these with the latest versions from your Web server.
4. /config: This subdirectory contains the configuration files necessary to run the toolkit. The DocXSLConversion.xml file is the one used by the toolkit. To test your changes to the DocXSLConversion.xml file, copy your active DocConfiguration.xml file from the Web server and then modify it.
5. /resources: This subdirectory contains the resource files used by the toolkit. There is no need to modify these files. However, if you want to you can copy the resource files from your Web application server.
6. /log: The log subdirectory contains traces and logs created during your tests.
7. /testdata: This subdirectory contains an example paragraph used only for the installation verification.
8. /www/xsl: This subdirectory contains the xslt stylesheets used by the toolkit. These files must be replaced with the files that have the same names as the files from your Web application server.

To verify the installation, open a Command Prompt window in your toolkit installation directory and type:

```
xtoolkit ./Testdata/mini/text.txt
```

You should then see something like this:

```
*****
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*****

Windows XP, Version 5.1
Document Connect for ASF Build Number: 3.4.10.00
Xalan Version: XSLT4J Java 2.5.4
*****Start*****
Clearing the trace Dir=.\log
2 files deleted from .\log
00000 start---File: .\testdata\mini\text.txt
00000 done----File: .\testdata\mini\text.txt

*****Done*****
```

If you see a start and done line, you have successfully installed the toolkit, and your /Testdata/mini subdirectory contains the conversion results and all intermediate data streams created during the conversion.

Directory of F:\dc4asftoolkit\TestData\mini

```

2004-04-28  11:50    <DIR>          .
2004-04-28  11:50    <DIR>          ..
2004-03-09  11:54                5 text.txt
2004-04-28  12:25          3,785 text.txt.html
2004-04-28  12:25          3,785 text.txt.html.xml
2004-04-28  12:25          1,534 text.txtdcfdoc.xml
2004-04-28  12:25             31 text.txtdcflines.txt
2004-04-28  12:25             20 text.txtdcfout.xml
2004-04-28  12:25          3,653 text.txtEdiDoc.xml
2004-04-28  12:25             34 text.txtente.xml
2004-04-28  12:25          4,563 text.txtLC.txt

```

Now you are ready to use the Document Connect for ASF Conversion Toolkit.

Using the toolkit

The toolkit is invoked using the batch file `xtoolkit.bat`. The only parameter is the name of the input file. It must be the file name including the full or relative path. All other parameter settings and the Java classpath setting are done by the batch file.

All output created by the toolkit is written to the directory of the source file. Therefore, if you are planning to set up a test and development environment, you should organize the directory structure of your source files carefully.

17.1.1 Organizing your test data

The best way to organize the test data is to set up a Testdata root directory, with subdirectories for every paragraph you want to test; this is the way it has been done in the installation verification sample as well. The name of the paragraph is `mini`. Under the directory Testdata, you will find a directory named `mini` and the actual paragraph is in a file named `text.txt`.

This guarantees that all the test results are in the same place, and that you can run mass tests, where all test results are preserved and easy to find.

17.1.2 Running a single conversion

A single conversion is run by invoking the `xtoolkit.bat` file with the name of the file. The steps involved and what to do with the intermediate files is described using the installation verification sample:

1. Open a Command Prompt window in the toolkit install directory.
2. Type `xtoolkit <filename>`.
3. After the conversion has completed, change to the directory that contains the source file and check the results.

The result files have the following function and meaning:

File	Description	What to do with that file
<code>text.txt</code>	Input file	This is the original test data. When you modify this using a text editor, you can see how the changed input is mapped to the editor and how it is converted back. Compare these results to the outbound conversion result file <code>text.txt.dflines.txt</code> .

File	Description	What to do with that file
text.txtente.xml	EnTe file; text.txt converted to <EnTe> XML	This is an intermediate file and should not be touched.
text.txtdcfdoc.xml	DCFDocument XML file	This is the result of the Java parser DocASFDCFDocument. It is the input to the docd2h.xsl stylesheet. When you are testing custom conversion directions in doccustom1.xsl, you can load this file into your XML Development Environment (for instance Altova XMLSpy) and apply docd2h.xsl, which includes and invokes doccustom1.xsl.
text.txt.html	XHTML file loaded into the editor	This is the docd2h.xsl (including doccustom1.xsl) conversion result. This is the data stream that is loaded into the editor. You can use Microsoft Internet Explore to see how the data will appear in the editor.
text.txt.html.xml	XHTML file loaded into the editor	This is the same as the text.txt.html; it only has a different file extension for more convenient processing using an XML editor. You can load this file into your XML Development Environment (for instance into Altova XMLSpy) to inspect the resulting XML structure.
text.txtEdiDoc.xml	Purified editor result	This is the result of the DocASFH2D.java purification. It should be the same as text.txt.html.xml. You can load this file into your XML Development Environment (for instance into Altova XMLSpy) and can apply the doch2d.xsl – which includes and loads doccustom2.xsl. This file can be used to test and debug your stylesheet.
text.txtdcfout.xml	doch2d.xsl output	This is the result of the doch2d.xsl (including doccustom2.xsl) conversion. This file is an intermediate file.
text.txtdcflines.txt	DCF/GML output	This is the result of the roundtrip conversion (excluding the HTML) that gets sent back to the host. You can load this file into a text editor and compare it with the original text.txt.
text.txtLC.txt	LINE commands	This file contains the LINE commands that would be sent to the host. There is nothing you can do with this file.

17.1.3 Running a mass conversion

The toolkit supports running mass conversions. If you pass the toolkit a file list, it will convert all of the files in that list. File lists can easily be created using the dir command in a Command Prompt window. Assuming you named all input files text.txt, you need to do the following:

1. Open a Command Prompt window in your TestData root directory.
2. Enter `dir text.txt /s /b > masstest.filelist`; this will create a file called masstest.filelist with all the text.txt files under the TestData root.

For example, if your testdata is in the TestData directory of the toolkit, your file list will look as follows:

```
F:\toolkit\TestData\FVSVDEKLEND\text.txt
F:\toolkit\TestData\FVSVDEKLSTART\text.txt
F:\toolkit\TestData\GMLTEST\text.txt
F:\toolkit\TestData\HA40070\text.txt
F:\toolkit\TestData\HA400921\text.txt
F:\toolkit\TestData\HA400922\text.txt
F:\toolkit\TestData\HA400924\text.txt
F:\toolkit\TestData\ha4011f0\text.txt
F:\toolkit\TestData\ha40190\text.txt
F:\toolkit\TestData\HA40202\text.txt
F:\toolkit\TestData\HA40252\text.txt
F:\toolkit\TestData\ha40310\text.txt
F:\toolkit\TestData\ha40373\text.txt
F:\toolkit\TestData\PTR3885\text.txt
F:\toolkit\TestData\wahltext\text.txt
```

If the toolkit is invoked with the name of the file list file, it will convert all the files listed. Open a Command Prompt window in your toolkit directory and enter:

```
xtoolkit f:\toolkit\testdata\masstest.filelist
```

The result may look as follows:

```
*****
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      *****

Windows XP, Version 5.1
Document Connect for ASF Build Number: 3.4.10.00
Xalan Version: XSLT4J Java 2.5.4
*****Start*****
Clearing the trace Dir=.\log
2 files deleted from .\log
==Processing a filelist==
--Trace disabled
00001 start---File: F:\Werkzeug\TestData\FVSVDEKLEND\text.txt
00001 done----File: f:\werkzeug\testdata\fvsvdeklend\text.txt

00002 start---File: F:\Werkzeug\TestData\FVSVDEKLSTART\text.txt
*Line: Endtag.....: null -closing: OL;
00002 done----File: f:\werkzeug\testdata\fvsvdeklstart\text.txt

00003 start---File: F:\Werkzeug\TestData\GMLTEST\text.txt
00003 done----File: f:\werkzeug\testdata\gmltest\text.txt

00004 start---File: F:\Werkzeug\TestData\HA40070\text.txt
00004 done----File: f:\werkzeug\testdata\ha40070\text.txt

00005 start---File: F:\Werkzeug\TestData\HA400921\text.txt
00005 done----File: f:\werkzeug\testdata\ha400921\text.txt
```

```

00006 start---File: F:\Werkzeug\TestData\HA400922\text.txt
00006 done----File: f:\werkzeug\testdata\ha400922\text.txt

00007 start---File: F:\Werkzeug\TestData\HA400924\text.txt
00007 done----File: f:\werkzeug\testdata\ha400924\text.txt

00008 start---File: F:\Werkzeug\TestData\ha4011f0\text.txt
00008 done----File: f:\werkzeug\testdata\ha4011f0\text.txt

00009 start---File: F:\Werkzeug\TestData\ha40190\text.txt
00009 done----File: f:\werkzeug\testdata\ha40190\text.txt

00010 start---File: F:\Werkzeug\TestData\HA40202\text.txt
*Line: Endtag.....: FETT -closing: UL;
00010 done----File: f:\werkzeug\testdata\ha40202\text.txt

00011 start---File: F:\Werkzeug\TestData\HA40252\text.txt
*Line: Endtag.....: NORMAL -closing: UL;
00011 done----File: f:\werkzeug\testdata\ha40252\text.txt

00012 start---File: F:\Werkzeug\TestData\ha40310\text.txt
00012 done----File: f:\werkzeug\testdata\ha40310\text.txt

00013 start---File: F:\Werkzeug\TestData\ha40373\text.txt
00013 done----File: f:\werkzeug\testdata\ha40373\text.txt

00014 start---File: F:\Werkzeug\TestData\PTR3885\text.txt
00014 done----File: f:\werkzeug\testdata\ptr3885\text.txt

00015 start---File: F:\Werkzeug\TestData\wahltext\text.txt
00015 done----File: f:\werkzeug\testdata\wahltext\text.txt

==End filelist=====
10 suspect files
==It took 13329 milliseconds
*****Start DocObjCache Statistics*****
* Invoked.. 30
* Hits..... 28
* Faults... 2
* Keys.....
* Key..... template:.\www\xsl\doch2d.xsl
* Key..... template:.\www\xsl\docd2h.xsl
*****End DocObjCache Statistics*****
*****Done*****

```

Notice that for every file that is processed there is a start and a done line. The example also shows extra messages and references to “suspect files”. The toolkit attempts to provide additional diagnostics based on the DCF source files and the definitions in DocXSLConversion.xml. What these messages mean and what to do with suspect files is described in the next chapter.

Mass conversions are very useful because they allow you to check the following:

- Were there any paragraphs that were not convert at all and if so, why?
- Are there suspect paragraphs and what potential problems do they have?
- Are the definitions in DocXSLConversion.xml correct?

Unfortunately there is no convenient way for you to unload the ASF GIL and store the ASF paragraphs as ASCII files on a PC. You only have the “Print GIL” utility that includes extra processing for data from an emulator session.

Diagnostics provided with the toolkit

When you convert a paragraph (single or via mass conversion) you may receive diagnostic messages in the toolkit protocol. If you run a mass conversion, a file list with all suspect files is created automatically. The file is called something like `masstest.filelist.suspects.filelist` and can be used by the toolkit immediately.

17.1.4 Diagnostic messages

A set of diagnostic messages is created by the Java parser/converter based on the structure of the paragraph and the definitions in `DocXSLConversion.xml`. The table below shows the messages and gives an explanation of the messages.

Message	Explanation
*Line x ,Column y Tag= "tagname" paragraph beginner/ender found in the middle of a line	The <i>tagname</i> tag should begin and end a paragraph (it has p="Y" in <code>DocXSLConversion.xml</code>) but instead has appeared in the middle of a source line.
*Line: x Autoclosing.: <AUTOCLOSE tag="tagname" />	The <i>tagname</i> tag is defined as a paired tag (end="byendtag") but there was no end tag in the paragraph.
*Line: x Endtag.....: "tagx" -closing: "tagy";	The <i>tagx</i> tag is defined as a paired tag (end="byendtag"), but the matching end tag was not at the right place. Another paired tag (<i>tagy</i>) contains <i>tagx</i> and was closed earlier.
*Line: x Isolated Tag: "tagname"	The <i>tagname</i> tag is defined as an endtag but no matching start tag was found.

Unfortunately no general recommendations can be given for these messages, however the messages definitely point out inconsistent usage of custom tags in `DocXSLConversion.xml`.

- The “autoclosing” and “isolated tag” messages normally do not indicate a severe problem as the transformation back to DCF is usually correct.
- Paragraph beginners/enders in the middle of a line do not necessarily cause problems either and are easy to fix. The DCF formatting result is usually not affected.
- `tagx` closing `tagy` usually causes problems because the display in the editor and even the transformation back can be affected. Fixing those problems may also affect the DCF formatting results.

You should attempt to minimize the number of diagnostic messages. If you have many diagnostic messages, your definitions in `DocXSLConversion.xml` may not be correct. You definitely should check the conversion results of ASF paragraphs with problems, and also load these paragraphs into the editor to see how they appear, and how a changed paragraph is formatted by DCF.