

*IBM WebSphere Business Integration Collaborations  
for Healthcare Version 1.0*  
*IBM WebSphere Business Integration Collaborations  
Version 4.5*



# Installation Guide

**Note!**

Before using this information and the product it supports, be sure to read the general information under “Notices and Trademarks” on page 19.

**Second Edition (December 2003)**

This edition applies to:

Version 1 of IBM® WebSphere® Business Integration Collaborations for Healthcare (5724-H61)

Version 4, Release 5, of IBM WebSphere Business Integration Collaborations (5724-C12)

and to all subsequent releases and modifications until otherwise indicated in new editions.

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## Installing the solution

IBM<sup>(R)</sup> WebSphere<sup>(R)</sup> Business Integration Collaborations for Healthcare contains a set of 14 collaboration templates, WebSphere Business Integration Collaboration for Healthcare Transaction. This document describes how to install the current version of WebSphere Business Integration Collaboration for Healthcare Transaction, available for download from Passport Advantage.

This release of the Healthcare Transaction collaboration is available as an installable Electronic Software Distribution (ESD) package and is not directly packaged with IBM WebSphere InterChange Server V4.2.1. This document gives instructions for installing on both Microsoft<sup>(R)</sup> Windows<sup>(R)</sup> and AIX<sup>(R)</sup> UNIX systems.

**Note:** For this release, WebSphere Business Integration Collaboration for Healthcare Transaction is supported on IBM WebSphere InterChange Server V4.2.1 running on AIX V5.1, AIX V5.2, or Windows 2000.

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## Solution description

IBM<sup>(R)</sup> WebSphere<sup>(R)</sup> Business Integration Collaboration for Healthcare Transaction is a set of 14 collaboration templates (with 8 supporting and 4 sample collaboration templates) designed to enable healthcare companies and other professional institutions to comply with the Health Level Seven (HL7) Standard Version 2.4. messaging standard. In addition, it contains over 500 generic business objects that support building and using many HL7 message types.

The following collaboration templates are included in WebSphere Business Integration Collaboration for Healthcare Transaction

### HL7-based collaboration templates

- HC\_QBP\_Z01 (Query By Parameter - Event Z01)
- HC\_RSP\_Z01 (Segment Pattern Response - Event Z01)
- HC\_OMP\_O09 (Pharmacy Order/treatment Message - Event O09)
- HC\_ORP\_O10 (Pharmacy Order/treatment Acknowledgement - Event O10)
- HC\_QRY\_A19 (Query - Event A19)
- HC\_ADR\_A19 (ADT Response - Event A19)
- HC\_OMG\_O19 (General Clinic Order Message - Event O19)
- HC\_ORG\_O20 (General Clinical Order Acknowledgement - Event O20)
- HC\_QBP\_Z02 (Query By Parameter - Event Z02)
- HC\_RSP\_Z02 (Segment Pattern Response - Event Z02)
- HC\_SRM\_Resource (Schedule Request Message - Resource)
- HC\_SRM\_Service (Schedule Request Message - Service)
- HC\_SRR (Scheduled Request Response)
- HC\_ACK (General Acknowledgement)

### HL7-supporting collaboration templates

- HC\_Z01\_Email (Query By Parameter - Event Z01 - Email)
- HC\_SaveOrder (Pharmacy Order/treatment Message - Save Order request)

- HC\_271RSP (Pharmacy Order/treatment Message - Authorization check)
- HC\_EMR\_Email (Pharmacy Order/treatment Message - Authorization check Email)
- HC\_EMR\_Alert (Pharmacy Order/treatment Message - Indication Alert)
- HC\_GetTask (Schedule Request Message - Get Injury Tasks)
- HC\_EMR\_Update (Pharmacy Order/treatment Message - Update Medical Record)
- HC\_OMP\_Email (Pharmacy Order/treatment Message - Email Acknowledgement)

#### Sample collaboration templates

- HCDemo\_Alert (Pharmacy Order/treatment Message - Indication Alert publish)
- HCDemo\_Notify (ADT Response - Notification)
- HCDemo\_SRM\_Resource (Schedule Resource Message - Resource Schedule/Cancel)
- HCDemo\_SRM\_Service (Schedule Resource Message - Service Schedule/Cancel)

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## Related documents

In order to implement a solution using WebSphere Business Integration Collaboration for Healthcare Transaction, you may need to refer to one or more of the following WebSphere InterChange Server documents (see the WebSphere Business Integration Library):

- IBM WebSphere InterChange Server System Installation Guide for Windows
- IBM WebSphere InterChange Server System Installation Guide for UNIX
- Adapter for WebSphere MQ Workflow
- IBM WebSphere InterChange Server System Administration Guide
- Map Development Guide
- Adapter for Healthcare Data Protocols

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## Naming conventions

The following conventions refer to directories, names, IDs, and passwords:

*Table 1. Naming conventions*

Notation	Description	Example
<WICS>	Directory where IBM WebSphere InterChange Server is installed	/usr/IBM/WebSphereICS or C:\IBM\WebSphereICS
<WBI/Healthcare>	Directory where IBM WebSphere Business Integration Collaboration for Healthcare Transaction is installed	C:\IBM\ESD\HC
<WICServer>	Server name where IBM WebSphere InterChange Server is installed	wicserver
<WICSADMINID>	Administrator ID for IBM WebSphere InterChange Server	admin

Table 1. Naming conventions (continued)

Notation	Description	Example
<WICSADMINPWD>	Administrator password for IBM WebSphere InterChange Server	null

## Software prerequisites

IBM WebSphere InterChange Server and its prerequisites should be installed appropriately for the AIX V5.1 or AIX V5.2 platform, as documented in the System Installation Guide for UNIX , or for Windows 2000, as documented in the System Installation Guide for Windows. Prerequisites include the following:

- IBM WebSphere InterChange Server V4.2.1, including:
  - Borland Visibroker V4.5
  - WebSphere MQ V5.3.0.1, with Corrective Service Disk 3
- IBM WebSphere Business Integration Toolset V4.2.1
- IBM DB2<sup>(R)</sup> Universal Database V8.1 with Service Pack 2 (or another supported database)
- IBM WebSphere MQ Workflow V3.4, with Service Pack 1 or higher (**Note:**When installing the IBM WebSphere MQ Workflow Client, include the Client Samples)
- IBM WebSphere Business Integration Adapter for WebSphere MQ Workflow V2.3.1
- IBM WebSphere Business Integration Adapter for Healthcare V2.3.1
- Windows: Java™ Development Kit 1.3.1\_06  
AIX: Java Development Kit 1.3.1 (build ca131-20020706)

## Before installing

Before following these installation procedures, make sure that you have downloaded the software that you want to install from Passport Advantage ([www.lotus.com/passportadvantage](http://www.lotus.com/passportadvantage)) and extracted it into an appropriate directory. Refer to Passport Advantage for downloading instructions. You must follow the InstallShield process for WebSphere Business Integration Collaboration for Healthcare Transaction before continuing with these instructions.

## Electronic Software Distribution package contents

This section lists the contents of WebSphere Business Integration Collaboration for Healthcare Transaction. All the files described in this section should be extracted to the directory that you specified during the Passport Advantage InstallShield process. If you have not already executed the InstallShield installation process, do so before continuing.

Healthcare Transaction files use the following format:

Table 2. File format

File name	Description
BIA_BO_HealthCare.jar	IBM WebSphere Business Integration Business Object repository files
BIA_CT_HealthCare.jar	IBM WebSphere Business Integration Collaboration Template repository files

Table 2. File format (continued)

File name	Description
BIA_ORG_HealthCare.zip	IBM WebSphere Modeler import file containing WebSphere MQ Workflow model definitions
BIA_FDL_HealthCare.fdl	IBM WebSphere MQ Workflow FDL file containing workflow process definitions
BIA_Create_HLTHCARE_Databases.txt	DB2 SQL database creation script for Windows
BIA_Create_HLTHCARE_Tables.txt	DB2 SQL table creation script for Windows
BIA_Create_HLTHCARE.tar	DB2 TAR file containing SQL database and table creation scripts for Unix
BIA_Demo_QTurn.zip	Sample code. QTurn application files to support the provided samples
BIA_Demo_Support.zip	Sample code. QTurn application user input files used to support the provided samples
BIA_Demo_HealthCare.jar	Sample code. WebSphere Business Integration Collaboration Template repository file containing the 4 sample collaborations
Healthcare_Passthru.bat	Batch file used by Compliance Report and Cascading Orders workflow processes
BIA_PortalSample.zip	Sample code. Portal application, with source, used to support the Healthcare samples for use with WebSphere Portal Server
BIA_BO_X12_HealthCare.jar	Subset of the IBM WebSphere Business Integration Collaboration for HIPAA Transaction generic business objects used in the Healthcare Electronic Medical Record sample

The following tables list the contents of WebSphere Business Integration Collaboration for Healthcare Transaction:

Table 3. HC\_QBP\_Z01 collaboration template

File name	Description
HC_QBP_Z01.cwt HC_QBP_Z01.java HC_QBP_Z01_en_US.txt	Collaboration template files
MTQBP.xsd MQWF_QBP_Z01.xsd	Business object files

Table 4. HC\_RSP\_Z01 collaboration template

File name	Description
HC_RSP_Z01.cwt HC_RSP_Z01.java HC_RSP_Z01_en_US.txt	Collaboration template files
MTRSP_Z01.xsd MQWF_RSP_Z01.xsd	Business object files



Table 5. HC\_OMP\_O09 collaboration template

File name	Description
HC_OMP_O09.cwt HC_OMP_O09.java HC_OMP_O09_en_US.txt	Collaboration template files
MQWF_OMP_O09.xsd MTOMP.xsd	Business object files

Table 6. HC\_ORP\_O10 collaboration template

File name	Description
HC_ORP_O10.cwt HC_ORP_O10.java HC_ORP_O10_en_US.txt	Collaboration template files
MTORP.xsd MQWF_ORP_O10.xsd	Business object files

Table 7. HC\_QRY\_A19 collaboration template

File name	Description
HC_QRY_A19.cwt HC_QRY_A19.java HC_QRY_A19_en_US.txt	Collaboration template files
MQWF_QRY_A19.xsd MTQRY.xsd	Business object files

Table 8. HC\_ADR\_A19 collaboration template

File name	Description
HC_ADR_A19.cwt HC_ADR_A19.java HC_ADR_A19_en_US.txt	Collaboration template files
MTADR.xsd MQWF_ADR_A19.xsd MTADR_action.xsd	Business object files

Table 9. HC\_OMG\_O19 collaboration template

File name	Description
HC_OMG_O19.cwt HC_OMG_O19.java HC_OMG_O19_en_US.txt	Collaboration template files
MQWF_OMG_O19.xsd MTOMG.xsd	Business object files

Table 10. HC\_ORG\_O20 collaboration template

File name	Description
HC_ORG_O20.cwt HC_ORG_O20.java HC_ORG_O20_en_US.txt	Collaboration template files
MTORG.xsd MQWF_ORG_O20.xsd	Business object files

Table 11. HC\_QBP\_Z02 collaboration template

File name	Description
HC_QBP_Z02.cwt HC_QBP_Z02.java HC_QBP_Z02_en_US.txt	Collaboration template files
MQWF_QBP_Z02.xsd MTQBP.xsd	Business object files

Table 12. HC\_RSP\_Z02 collaboration template

File name	Description
HC_RSP_Z02.cwt HC_RSP_Z02.java HC_RSP_Z02_en_US.txt	Collaboration template files
MTRSP_Z02.xsd MQWF_RSP_Z02.xsd	Business object files

Table 13. HC\_SRM\_Resource collaboration template

File name	Description
HC_SRM_Resource.cwt HC_SRM_Resource.java HC_SRM_Resource_en_US.txt	Collaboration template files
MQWF_SRM_Resource.xsd MTSRM.xsd	Business object files

Table 14. HC\_SRM\_Service collaboration template

File name	Description
HC_SRM_Service.cwt HC_SRM_Service.java HC_SRM_Service_en_US.txt	Collaboration template files
MQWF_SRM_Service.xsd MTSRM.xsd	Business object files

Table 15. HC\_SRR collaboration template

File name	Description
HC_SRR.cwt HC_SRR.java HC_SRR_en_US.txt	Collaboration template files
MTSRR.xsd MQWF_SRR.xsd	Business object files

Table 16. HC\_ACK collaboration template

File name	Description
HC_ACK.cwt HC_ACK.java HC_ACK_en_US.txt	Collaboration template files
MTACK.xsd	Business object file

Table 17. HC\_Z01\_Email collaboration template

File name	Description
HC_Z01_Email.cwt HC_Z01_Email.java HC_Z01_Email_en_US.txt	Collaboration template files
MQWF_Z01_Email.xsd	Business object file

Table 18. HC\_SaveOrder collaboration template

File name	Description
HC_SaveOrder.cwt HC_SaveOrder.java HC_SaveOrder_en_US.txt	Collaboration template files
EMR_UPDATE.xsd X12_A1_270.xsd	Business object files

Table 19. HC\_271RSP collaboration template

File name	Description
HC_271RSP.cwt HC_271RSP.java HC_271RSP_en_US.txt	Collaboration template files
X12_A1_271.xsd MQWF_EMER.xsd EMR_Struct_OMP_Email.xsd	Business object files

Table 20. HC\_EMR\_Email collaboration template

File name	Description
HC_EMR_Email.cwt HC_EMR_Email.java HC_EMR_Email_en_US.txt	Collaboration template files
EMR_Struct_OMP_Email.xsd	Business object file

Table 21. HC\_EMR\_Alert collaboration template

File name	Description
HC_EMR_Alert.cwt HC_EMR_Alert.java HC_EMR_Alert_en_US.txt	Collaboration template files
MQWF_OMP_Alert.xsd OMP_EMER_ALERT.xsd	Business object files

Table 22. HC\_GetTask collaboration template

File name	Description
HC_GetTask.cwt HC_GetTask.java HC_GetTask_en_US.txt	Collaboration template files
MQWF_HC_GetTask.xsd MQWF_HC_GetTaskResponse.xsd	Business object files

Table 23. HC\_EMR\_Update collaboration template

File name	Description
HC_EMR_Update.cwt HC_EMR_Update.java HC_EMR_Update_en_US.txt	Collaboration template files
MQWF_OMP_UpdateEMR.xsd MQWF_UpdateEMR.xsd	Business object file

Table 24. HC\_OMP\_Email collaboration template

File name	Description
HC_OMP_Email.cwt HC_OMP_Email.java HC_OMP_Email_en_US.txt	Collaboration template files
MQWF_OMP_Email.xsd	Business object files

The following tables list the files included in the sample collaboration templates:

Table 25. HCDemo\_Notify collaboration template

File name	Description
HCDemo_Notify.cwt HCDemo_Notify.java HCDemo_Notify_en_US.txt	Collaboration template files
MTADR_action.xsd HCDemo_Notify_xml.xsd	Business object files

Table 26. HCDemo\_SRM\_Resource collaboration template

File name	Description
HCDemo_SRM_Resource.cwt HCDemo_SRM_Resource.java HCDemo_SRM_Resource_en_US.txt	Collaboration template files
MTSRM.xsd MTSRM_Resource_Schedule.xsd MTSRM_Resource_Cancel.xsd	Business object files

Table 27. HCDemo\_SRM\_Service collaboration template

File name	Description
HCDemo_SRM_Service.cwt HCDemo_SRM_Service.java HCDemo_SRM_Service_en_US.txt	Collaboration template files
MTSRM.xsd MTSRM_Service_Schedule.xsd MTSRM_Service_Cancel.xsd	Business object files

Table 28. HCDemo\_Alert collaboration template

File name	Description
HCDemo_Alert.cwt HCDemo_Alert.java HCDemo_Alert_en_US.txt	Collaboration template files
OMP_EMR_ALERT.xsd	Business object file

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## Installing Healthcare Transaction using System Manager

To install IBM WebSphere Business Integration Collaboration for Healthcare Transaction, complete the following steps:

1. To import the Generic Business Objects repository files into System Manager, right-click the appropriate Integration Component Library instance and select **Import Repository File**. Import the BIA\_BO\_HealthCare.jar file.  
**Important:** If you are reinstalling, this file will replace the existing business object files. Before you import, be sure to back up or copy any object that was modified after you first installed, in order to apply these changes to the object after you have finished importing.
2. To import the Collaboration Template repository files into System Manager, right-click the appropriate Integration Component Library instance and select **Import Repository File**. Import the BIA\_CT\_HealthCare.jar file.  
**Important:** If you are reinstalling, this file will replace the existing collaboration template files. Before you import, be sure to back up or copy any object that was modified after you first installed, in order to apply these changes to the object after you have finished importing.
3. To import a subset of Health Insurance Portability and Accountability Act (HIPAA) generic business objects, right-click the appropriate Integration Component Library instance and select **Import Repository File**. Import the BIA\_BO\_X12\_HealthCare.jar file.  
**Important:** If you already have any version of WebSphere Business Integration Collaboration for HIPAA Transaction installed, this file will replace a subset of the existing business objects. Before you import, be sure to back up or copy any object that was modified after you first installed, in order to apply these changes to the object after you have finished importing. These files are used to support the Electronic Medical Record. In addition, for the sample to work with the Electronic Medical Record, the HIPAA270Prov and HIPAA271Prov collaboration templates must be installed. These collaboration templates are available in the WebSphere Business Integration for HIPAA industry solution.
4. To install the WebSphere MQ Workflow definition file, use the fmcibie program. Import the BIA\_FDL\_HealthCare.fdl into your WebSphere MQ Workflow Runtime database. For example:  

```
fmcibie -iC:\IBM\ESD\HC\BIA_FDL_HealthCare.fdl -uADMIN -ppassword -o -t -l -f
```
5. Copy the Healthcare\_Passthru.bat file into the WebSphere MQ Workflow Runtime Client bin directory. This .bat file is used by both Compliance Report and Cascading Orders workflow process definitions.
6. To view the WebSphere MQ Workflow models, unzip the BIA\_ORG\_HealthCare.zip file and import its .org file into IBM WebSphere Business Integration WorkBench.

## Creating the collaboration objects

To create the collaboration objects, complete the following steps:

1. In System Manager, right-click the Collaboration Templates Component, select **Compile All**, and compile the templates.
2. In System Manager, right-click the Collaboration Objects Integration Component, select **New Collaboration Object**, and create a new object. Refer to the Demo\_README.doc included in the samples folder file for instructions on setting up the Healthcare sample environment, including an explanation of how to bind each of its ports.

3. Repeat steps 1 and 2 for each collaboration object that you want to create.

## Configuring the Healthcare adapter

To configure the Healthcare adapter for use with WebSphere Business Integration Collaboration for Healthcare Transaction, complete the following steps:

1. To enable the collaborations that call the Healthcare adapter using the HL7 Datahandler, you must edit the BIA\_STATIC\_MO\_HL7 meta-object. In System Manager, click **Business Object Designer**. In the Business Object Designer, click **File > Open**, and select the BIA\_STATIC\_MO\_HL7 business object. Modify the App Spec Info column to change the HOSTNAME.queue.manager to the queue manager name of your WebSphere ICS system. The following table shows the BIA\_STATIC\_MO\_HL7 meta-object as it appears in the Business Object Designer:

Table 29. BIA\_STATIC\_MO\_HL7 meta-object

Name	Type	App Spec Info
MTQBP_Create	String	OutputQueue=queue:// HOSTNAME.queue.manager/HCQBP
MTOMP_Create	String	OutputQueue=queue:// HOSTNAME.queue.manager/HCOMP
MTSRM_Resource_Cancel_Create	String	OutputQueue=queue:// HOSTNAME.queue.manager/HCSRMRRC
MTSRM_Resource_Schedule_Create	String	OutputQueue=queue:// HOSTNAME.queue.manager/HCSRMRSC
MTSRM_Service_Schedule_Create	String	OutputQueue=queue:// HOSTNAME.queue.manager/HCSRMSSC
MTSRM_Service_Cancel_Create	String	OutputQueue=queue:// HOSTNAME.queue.manager/HCSRMSC
MTOMG_Create	String	OutputQueue=queue:// HOSTNAME.queue.manager/HCOMG
MTQRY_Create	String	OutputQueue=queue:// HOSTNAME.queue.manager/HCQRY

2. To enable the collaborations that call the Healthcare adapter, edit the BIA\_MO\_DataHandler\_HL7 business object as shown in the table below. Note that you must set the MTEventMap and I18N attributes to point to the location and file name of their respective CFG files.

Table 30. BIA\_MO\_DataHandler\_HL7 business object

Name	Type	Default
ClassName	String	com.ibm.adapters.datahandlers. hl7.HL7DataHandler
BOPrefix	String	HL7
Representation	String	native
FieldDelimiter	String	
ComponentDelimiter	String	^
RepetitionDelimiter	String	~
EscapeDelimiter	String	\
SubcomponentDelimiter	String	&

Table 30. BIA\_MO\_DataHandler\_HL7 business object (continued)

Name	Type	Default
MTEventMap	String	file=C:\IBM\WebSphereICS\connectors\Healthcare\dependencies\hl7\BIA_HL7MTEventMap.cfg
I18N	String	file=C:\IBM\WebSphereICS\connectors\Healthcare\dependencies\hl7\BIA_HL7I18N.cfg
DummyKey	String	dummy
DefaultVerb	String	Create
EnableStackTrace	String	true

3. Edit the BIA\_HL7MTEventMap.cfg file to include the event codes that correspond to their message type and specific business objects, as shown in the table below:

Table 31. BIA\_HL7MTEventMap.cfg file

Event codes and corresponding business objects
Event=Z01 ; MT=RSP ; BOName=MTRSP_Z01
Event=Z02 ; MT=RSP ; BOName=MTRSP_Z02
Event=S01 ; MT=SRR ; BOName=MTSRR
Event=S04 ; MT=SRR ; BOName=MTSRR
Event=A19 ; MT=ADR ; BOName=MTADR
Event=O10 ; MT=ORP ; BOName=MTORP
Event=O20 ; MT=ORG ; BOName=MTORG
Event=O09 ; MT=OMP ; BOName=MTOMP

4. To set the standard properties for the Healthcare adapter, open the Connectors Integration Component within the System Manager and double-click the Healthcare Connector. The following table shows standard properties for the sample adapter definition:

Table 32. Standard properties for Healthcare adapter sample

Property	Value
AgentConnections	0
AgentTraceLevel	1
ApplicationName	HealthcareConnector
BrokerType	ICS
CharacterEncoding	ascii7
ConcurrentEventTriggeredFlows	5
ControllerStoreAndForwardMode	true
ControllerTraceLevel	0
DeliveryTransport	MQ
JvmMaxHeapSize	128m
JvmMaxNativeStackSize	128k
JvmMinHeapSize	1m
Locale	en_US
LogAtInterchangeEnd	False

Table 32. Standard properties for Healthcare adapter sample (continued)

Property	Value
MaxEventCapacity	2,147,483,647
MessageFileName	BIA_HealthcareConnector.txt
OADAutoRestartAgent	false
OADMaxNumRetry	1000
OADRetryTimeInterval	10
PollEndTime	HH:MM
PollFrequency	2000
PollStartTime	HH:MM
RepositoryDirectory	<REMOTE>
RestartRetryCount	3
RestartRetryInterval	1
WireFormat	CwBO

- Click the Connector Specific Properties tab and enter the properties for your connector. Ensure that you set the actual hostname, port number, and queue names for each of the queues. The following table lists the properties for the Healthcare adapter sample.

Table 33. Connector-specific properties for Healthcare adapter sample

Property	Value
ApplicationUserName	
LogFileName	STDOUT
ArchiveQueue	queue://HOSTNAME.queue.manager/ MQCONNHC.ARCHIVE
Channel	CHANNEL1
InputQueue	queue://HOSTNAME.queue.manager/ MQCONNHC.IN?targetClient=1
Port	Port Number of HOSTNAME.queue.manager
DataHandlerConfigMO	BIA_MO_DataHandler_Healthcare
DataHandlerMimeType	hl7
ReplyToQueue	queue://HOSTNAME.queue.manager/ MQCONNHC.REPLY?targetClient=1
DataHandlerClassName	com.ibm.adapters.datahandlers. hl7.HL7DataHandler
InProgressQueue	queue://HOSTNAME.queue.manager/ MQCONNHC.IN_PROGRESS
HostName	Host Name of system
ConfigurationMetaObject	BIA_STATIC_MO_HL7
ErrorQueue	queue://HOSTNAME.queue.manager/ MQCONNHC.ERROR
ApplicationPassword	
UnsubscribedQueue	queue://HOSTNAME.queue.manager/ MQCONNHC.UNSUBSCRIBED
TraceFileName	STDOUT



Table 33. Connector-specific properties for Healthcare adapter sample (continued)

Property	Value
InDoubtEvents	Reprocess
PollQuantity	5

6. Click the Supported Business Objects tab and set the supported business objects according to the following list. (Note that you must enable agent support by selecting each **Agent Supported** check box.)
  - BIA\_MO\_DataHandler\_Healthcare
  - BIA\_MO\_DataHandler\_HL7
  - BIA\_STATIC\_MO\_HL7
  - HL7\_SGMSH
  - MTACK
  - MTADR
  - MTOMG
  - MTOMP
  - MTORG
  - MTORP
  - MTQBP
  - MTQRY
  - MTRSP\_Z01
  - MTRSP\_Z02
  - MTSRM
  - MTSRM\_Resource\_Cancel
  - MTSRM\_Resource\_Schedule
  - MTSRM\_Service\_Cancel
  - MTSRM\_Service\_Schedule
  - MTSRR
7. Update the Messaging screen with your system's hostname, queue manager, client channel and port number, based on the system you are using to run your WebSphere InterChange Server. The Messaging type should be MQSERIES.

## Configuring the WebSphere MQ Workflow adapter

To configure the WebSphere MQ Workflow Adapter for use with WebSphere Business Integration Collaboration for Healthcare Transaction, complete the following steps:

1. To set the standard properties for the WebSphere MQ Workflow adapter, open the Connectors Integration Component within the System Manager and double-click the WebSphere MQ Workflow connector. Enter the appropriate values in any required fields. (Refer to the Adapter for WebSphere MQ Workflow document for information on appropriate values for the connector). The following table shows standard properties for the MQ Workflow sample:

Table 34. Standard properties for WebSphere MQ Workflow adapter sample

Property	Value
AgentConnections	0
AgentTraceLevel	1

Table 34. Standard properties for WebSphere MQ Workflow adapter sample (continued)

Property	Value
ApplicationName	WebSphereMQWorkflowConnector
BrokerType	ICS
CharacterEncoding	ascii7
ConcurrentEventTriggeredFlows	5
ControllerStoreAndForwardMode	true
ControllerTraceLevel	0
DeliveryTransport	MQ
JvmMaxHeapSize	128m
JvmMaxNativeStackSize	128k
JvmMinHeapSize	1m
Locale	en_US
LogAtInterchangeEnd	False
MaxEventCapacity	2,147,483,647
MessageFileName	WebSphereMQWorkflowConnector.txt
OADAutoRestartAgent	false
OADMaxNumRetry	1000
OADRetryTimeInterval	10
PollEndTime	HH:MM
PollFrequency	2000
PollStartTime	HH:MM
RepositoryDirectory	<REMOTE>
RestartRetryCount	3
RestartRetryInterval	1
WireFormat	CwBO

2. Enter the connector-specific properties for the WebSphere MQ Workflow adapter. Ensure that you set the actual hostname, port number, queue manager name and queue names for each of the queues. The following table lists the sample WebSphere MQ Workflow adapter definition:

Table 35. Connector-specific properties for WebSphere MQ Workflow Adapter sample

Property	Value
MQSeriesChannel	FMCQM.CL.TCP
BOPrefix	MQWF_
WorkflowSystemName	FMCSYS
MQSeriesAPITraceLevel	0
MQSeriesHostName	Your system hostname
MQSeriesQueueManager	FMCQM
ReplyToQueue	MQWFCONN.REPLY
MQSeriesCCSID	
JavaCorbaApi	false
UnsubscribedQueue	MQWFCONN.UNSUBSCRIBED

Table 35. Connector-specific properties for WebSphere MQ Workflow Adapter sample (continued)

Property	Value
WorkflowAgentName	
InDoubtEvents	Reprocess
MQSeriesAPITraceFileName	STDOUT
InProgressQueue	MQWFCONN.IN_PROGRESS
DataHandlerConfigMO	MO_DataHandler_Default
ArchiveQueue	MQWFCONN.ARCHIVE
MQSeriesPort	5010
DataHandlerMimeType	text/xml
OutputQueue	FMC.FMCGRP.EXE.XML
WorkflowAgentLocatorPolicy	LOC
ErrorQueue	MQWFCONN.ERROR
WorkflowSystemGroup	FMCGRP
InputQueue	CWLDINPUTQ
DataHandlerClassName	com.crossworlds.DataHandlers.text.xml
ApplicationUserID	
ApplicationPassword	
PollQuantity	5

- Click the Supported Business Objects tab and set the supported business objects according to the following list. (Note that you must enable agent support by selecting each **Agent Supported** check box.)

- MO\_DataHandler\_Default
- MO\_DataHandler\_DefaultXMLConfig
- MO\_MQWorkflow\_ActivityInfo
- MO\_MQWorkflow\_ActivityRequest
- MO\_MQWorkflow\_ActivityResponse
- MO\_MQWorkflow\_ContainerInfo
- MO\_MQWorkflow\_ProcessInfo
- MO\_MQWorkflow\_ProcessInstance
- MO\_MQWorkflow\_ProcessTemplateConfig
- MQWF\_ADR\_A19
- MQWF\_EMR
- MQWF\_HC\_GetTask
- MQWF\_HC\_GetTaskResponse
- MQWF\_OMG\_O19
- MQWF\_OMP\_Alert
- MQWF\_OMP\_Email
- MQWF\_OMP\_O09
- MQWF\_OMP\_UpdateEMR
- MQWF\_ORG\_O20
- MQWF\_ORP\_O10

- MQWF\_QBP\_Z01
  - MQWF\_QBP\_Z02
  - MQWF\_QRY\_A19
  - MQWF\_RSP\_Z01
  - MQWF\_RSP\_Z02
  - MQWF\_SRM\_Resource
  - MQWF\_SRM\_Service
  - MQWF\_SRR
  - MQWF\_UpdateEMR
  - MQWF\_Z01\_Email
4. Update the Messaging screen with your system's hostname, queue manager, client channel and port number, based on the system you are using to run your WebSphere InterChange Server. Ensure that you have set the appropriate Messaging type.

**Notes:**

- Be sure to set the MQSeriesChannel and MQSeriesPort properties to the appropriate WebSphere MQ channel and port defined for your installed WebSphere MQ Workflow configuration. You must update the default names for the MQSeriesQueueManager, WorkflowSystemName, MQSeriesHostName, and all channel name definitions on the connector-specific screen, as necessary.
- Be sure to set the ApplicationUserID and ApplicationPassword properties to valid WebSphere MQ Workflow IDs. By default, the BIA\_FDL\_HealthCare.fdl uses ID = ADMIN and password = password.
- Be sure to use `MQWF_`, the default BOPrefix, if you plan to execute the sample collaborations. The samples require this prefix for their business objects.

## Creating the Database Connection Pool

Most collaborations use a database connection pool. Refer to the WebSphere InterChange Server System Administration Guide for instructions on creating a connection pool. Be sure to define the database connection pool using your appropriate user ID and password. The user ID defined in the connection pool should be the same ID used when creating the HEALTHCARE\_DB database and tables. Note that the default connection pool name used by the collaborations is HEALTHCARE\_DB.

The following table shows a sample configuration:

*Table 36. Sample database connection with Healthcare database definition*

Field name	Value
Database Driver	Example: DB2 (Type2)
DBConnection Name	Example: HLTHCAREDB
Host name	
Login	Existing, valid userid
Database	HLTHCARE
Password	Valid login password
Port number	
Maximum connections	At least 1, if not unlimited
New Connection Pool	HEALTHCARE_DB

Table 36. Sample database connection with Healthcare database definition (continued)

Field name	Value
Minimum connections	1

For the Electronic Medical Record sample, the HIPAADB database connection definition is also required. Refer to Installing the HIPAA solution, located in the WebSphere Business Integration for HIPAA industry solution documentation, for information on creating this database connection pool and the HIPAADB database.

## Creating the database and tables

For each supported operating system, Healthcare Transaction supplies two scripts to help you set up your database and tables. The scripts set up the HLTHCARE database, which is used by a variety of collaboration objects to hold specific state data.

### Windows

To create the database and tables in a Windows environment, complete the following steps:

1. Locate the following files: BIA\_Create\_HLTHCARE\_Database.txt and BIA\_Create\_HLTHCARE\_Tables.txt, (included in the ESD package that you downloaded from Passport Advantage).
2. From the directory where you installed the ESD, run these two scripts to create the necessary database and its tables. (The script to create the database first attempts to delete any existing version of the database, and will then take several minutes to run.) The user ID used to run the scripts should be the same ID defined to the connection pool. For example, an authorized DB2 user could enter the following command at a DB2 terminal window:  

```
db2 < BIA_Create_HLTHCARE_Database.txt
db2 < BIA_Create_HLTHCARE_Tables.txt
```

### AIX

To create the database and tables in an AIX environment, complete the following steps:

1. Copy the BIA\_Create\_HLTHCARE.tar file to your AIX system as a binary file.
2. Extract the BIA\_Create\_HLTHCARE.tar file:  

```
tar -xvf BIA_Create_HLTHCARE.tar
```
3. Locate the files BIA\_Create\_HLTHCARE\_Database and BIA\_Create\_HLTHCARE\_Tables.
4. From the directory that contains the extracted files, run the two scripts to create the necessary databases and their respective tables. (The script to create the databases first attempts to delete any existing versions of the databases, and will then take several minutes to run.) The user ID used to run the scripts should be the same ID defined to the connection pool. For example, an authorized DB2 user could enter the following command at a DB2 terminal window:  

```
db2 < BIA_Create_HLTHCARE_Database
db2 < BIA_Create_HLTHCARE_Tables
```

**Notes:**

- Both scripts contain actual calls to the IBM DB2 interface. Depending on the operating system where WebSphere InterChange Server is running, the BIA\_Create\_HLTHCARE\_Database script must be edited for your specific database software path.
- The bind statements must reflect the actual path to the appropriate bind files.
- Maintenance and management of the records held in the Healthcare database are the responsibility of your database administrator. No database pruning or maintenance is done by the Healthcare collaborations.
- The HIPAADB database is required for use by the subset HIPAA collaborations. Refer to Installing the HIPAA solution, included with the WebSphere Business Integration for HIPAA industry solution, for the two script files that create the database and its tables. The Electronic Medical Record sample uses this database.

## **Deploy to IBM WebSphere InterChange Server**

Be sure to deploy each of the following Healthcare Transaction components to the WebSphere InterChange Server:

- Business objects
- WebSphereMQWorkflow and Healthcare connectors
- Collaboration templates
- Collaboration objects
- Database Connection Pool
- Any user maps that you have created

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