



README for replication WebSphere MQ access



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Before using this information and the product it supports, be sure to read the general information under “Notices” on page 11.

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Using the Replication Center and ASNCLP to access WebSphere MQ objects

After you install the replication administration stored procedure, you can use the Replication Center to display and select queue managers and queues, validate that these objects have correct attributes for Q replication, and to send test messages between the queues.

You can also use the ASNCLP command-line program to validate WebSphere® MQ objects and to send test messages.

Before you begin

- WebSphere MQ queue managers must be started on all systems where you want to use the access features.
- The command server that is associated with each queue manager must be running. You can ensure that the server is running by issuing the **strmqcsv** command or by starting the queue manager by using the WebSphere MQ Explorer tool (Windows®).
- The fenced user of the DB2® instance where the stored procedure is installed must belong to a group with authority to access WebSphere MQ.

The following sections describe the WebSphere MQ access features:

- “Browsing for queue managers and queues”
- “Validating settings for queue managers and queues” on page 4
- “Sending test messages” on page 7
- “Checking your WebSphere MQ configuration by using the ASNCLP program” on page 9

Browsing for queue managers and queues

When the Replication Center is enabled for WebSphere MQ access, you can use the

 button to display and select queue managers and queues. See Figure 1.

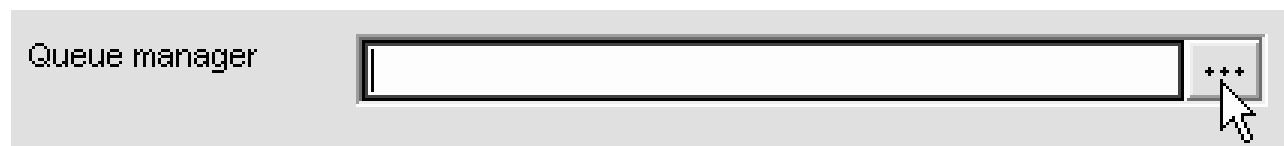


Figure 1. Queue manager selection field on Create Q Capture Control Tables wizard

The Choose Queue Manager window displays the names of all queue managers defined on the system. The queue selection windows displays the name, type, and maximum message length. See Figure 2 on page 2.

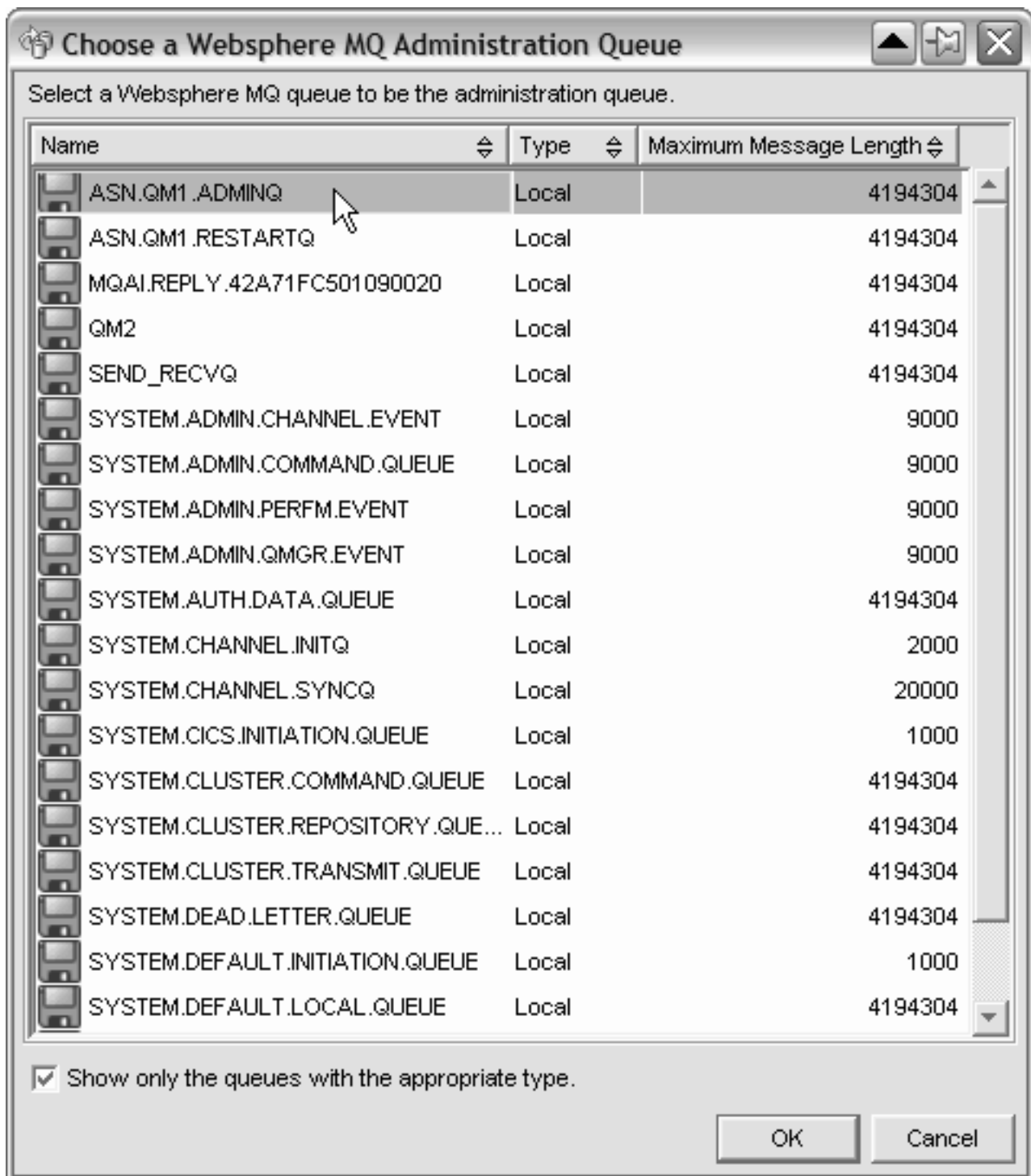


Figure 2. Queue selection window for Q Capture administration queue

Tip: If you select a queue manager that is not running, or whose command server is not started, you will not be able to open the queue selection window. Click **Cancel** to close the window, then reopen it after correcting the problem.

For the Create Replication Queue Map and Create Publishing Queue Map windows and their matching properties windows, the queue selection windows display all queues that are defined within the queue managers for the specified Q Capture and Q Apply schemas.

By default, the window shows only the queues that are valid for Q replication. For example, the Choose Restart Queue window that is launched from the Create Q Capture Control Tables wizard shows only local queues by default because the restart queue must be a local queue.

You can change the default so that the window shows all queues that are defined within the queue manager. Queues with types that are not valid are denoted by a different icon. Figure 3 shows a remote queue and a model queue that are not valid to serve as the Q Capture administration queue because they are not local queues.

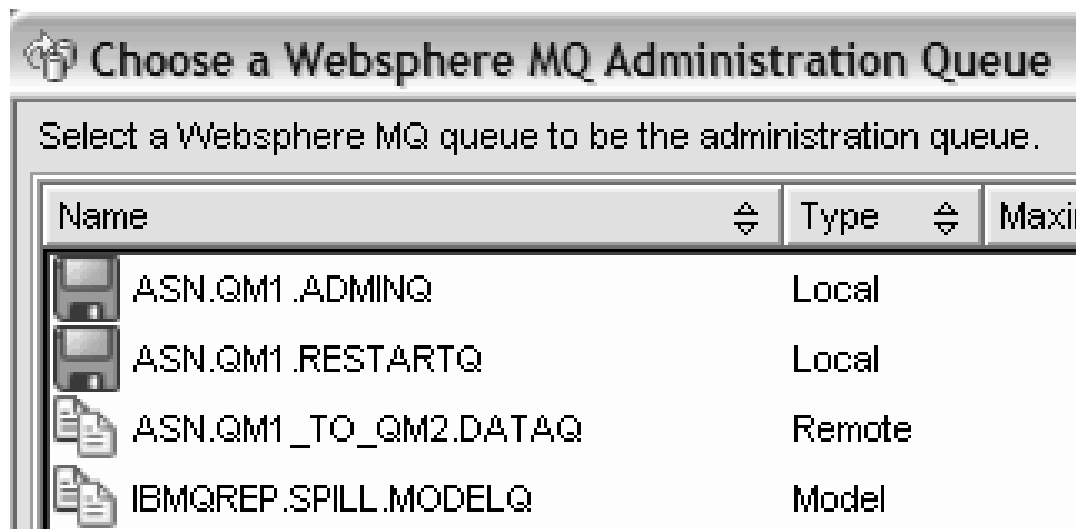


Figure 3. Choose Administration Queue window that shows queues that are not valid

You can also use the new function to change the queue manager that is used by a Q Apply program. Open the Change Parameters - Saved window from a Q Apply server object, and then select the QUEUE MANAGER keyword. The **Value** area allows you to select and validate a new queue manager. See Figure 4 on page 4.

Keyword	Current Value	New Value
QUEUE_MANAGER	QM2	
MONITOR_LIMIT	10080	
TRACE_LIMIT	10080	
MONITOR_INTERVAL	300	
PRUNE_INTERVAL	300	
AUTOSTOP	N	
LOGREUSE	N	
APPLY_PATH		

Value

QUEUE_MANAGER

WebSphere MQ queue manager on target system

QM2

...

[Validate queue manager](#)

Value
QUEUE_MANAGER
WebSphere MQ queue manager on target system
<input type="text" value="QM2"/> <input type="button" value="..."/>
Validate queue manager

Figure 4. Changing queue managers in the Change Parameters - Saved window for Q Apply

Validating settings for queue managers and queues

After you specify WebSphere MQ objects on a window or wizard page, you can click the validation link to check that the queue managers and queues have the correct settings. Figure 5 on page 5 shows the **Validate WebSphere MQ objects** link on the Create Q Capture Control Tables wizard.



Figure 5. Validation link on the Create Q Capture Control Tables wizard

The Replication Center checks a queue manager or queues and provides messages that describe any settings that need to be changed. For example, Figure 6 shows a Validation Report window in which the queues that were specified as Q Capture administration queue and restart queue were not defined as persistent.

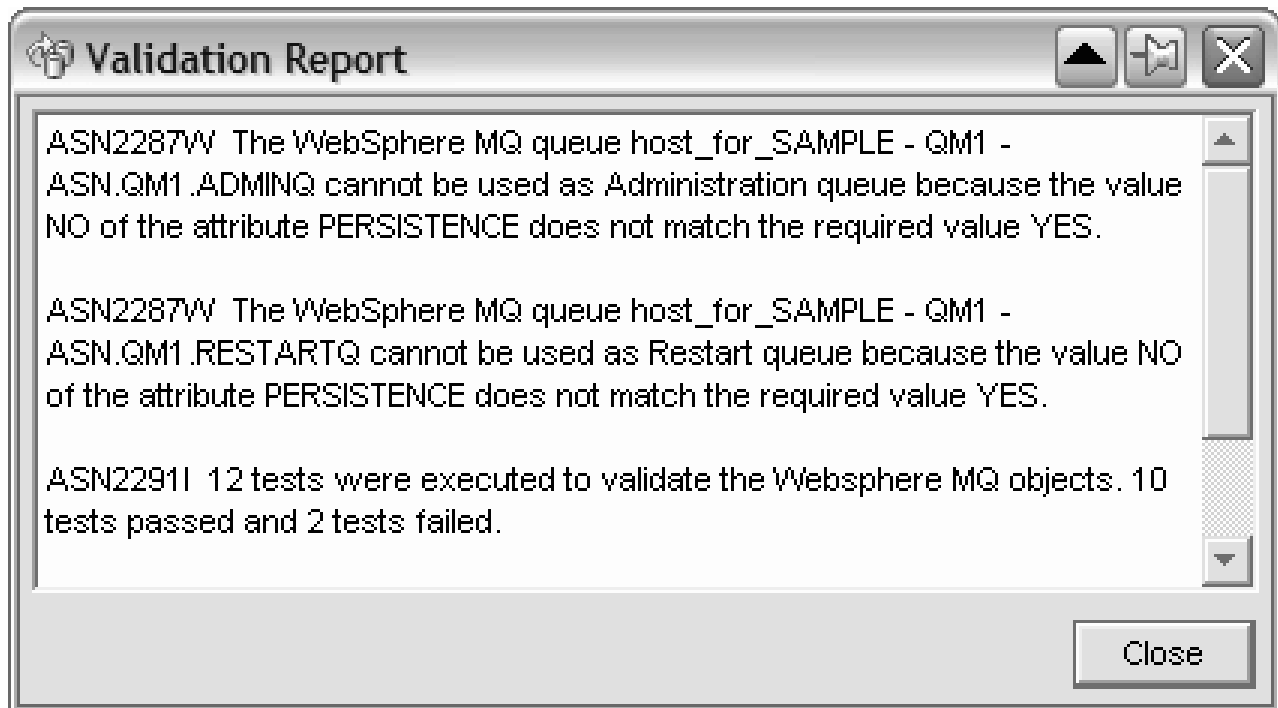


Figure 6. Validation report for administration queue and restart queue

Based on the report, you can modify the queue manager or queue and click the validation link again to verify your changes. Figure 7 on page 6 shows a successful Validation Report window.

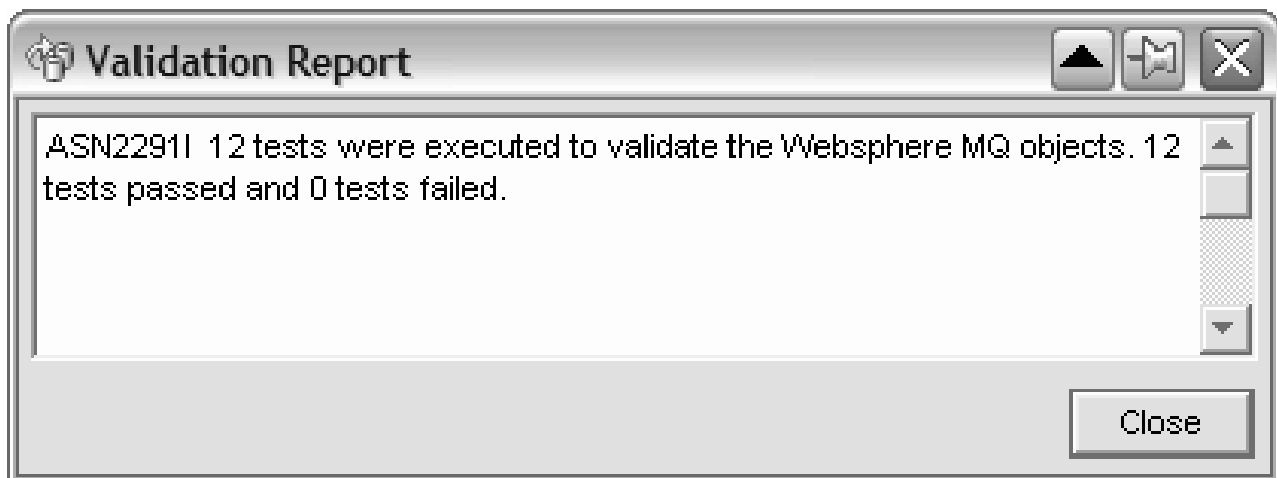


Figure 7. Validation Report window after changing queue settings that were not valid

Other examples of settings that are checked include:

- All local and remote queues need to have a maximum message size (MAXMSGL) smaller or equal to the MAXMSGL of their queue manager.
- All remote queues need to have an existing transmission queue.
- The send queue needs to be defined as PUT (ENABLED).
- The receive queue needs to be defined as GET (ENABLED), SHARE, and with a message delivery sequence of MSGDLVSQ(PRIORITY).

For more detail about Q replication requirements for queue managers, queues, and other WebSphere MQ objects, see Required settings for WebSphere MQ objects in the DB2 Information Center.

You can change the settings by using the MQSC commands such as **ALTER QMGR** or **ALTER QLOCAL**. For example, the following command changes the persistence setting for an administration queue:

```
ALTER QLOCAL (ASN.QM1.ADMINQ) DEFPSIST (YES)
```

You can also use the WebSphere MQ Explorer tool on the Windows operating systems to change queue manager and queue settings. Figure 8 on page 7 shows the Explorer tool being used to change the persistence setting for a restart queue.

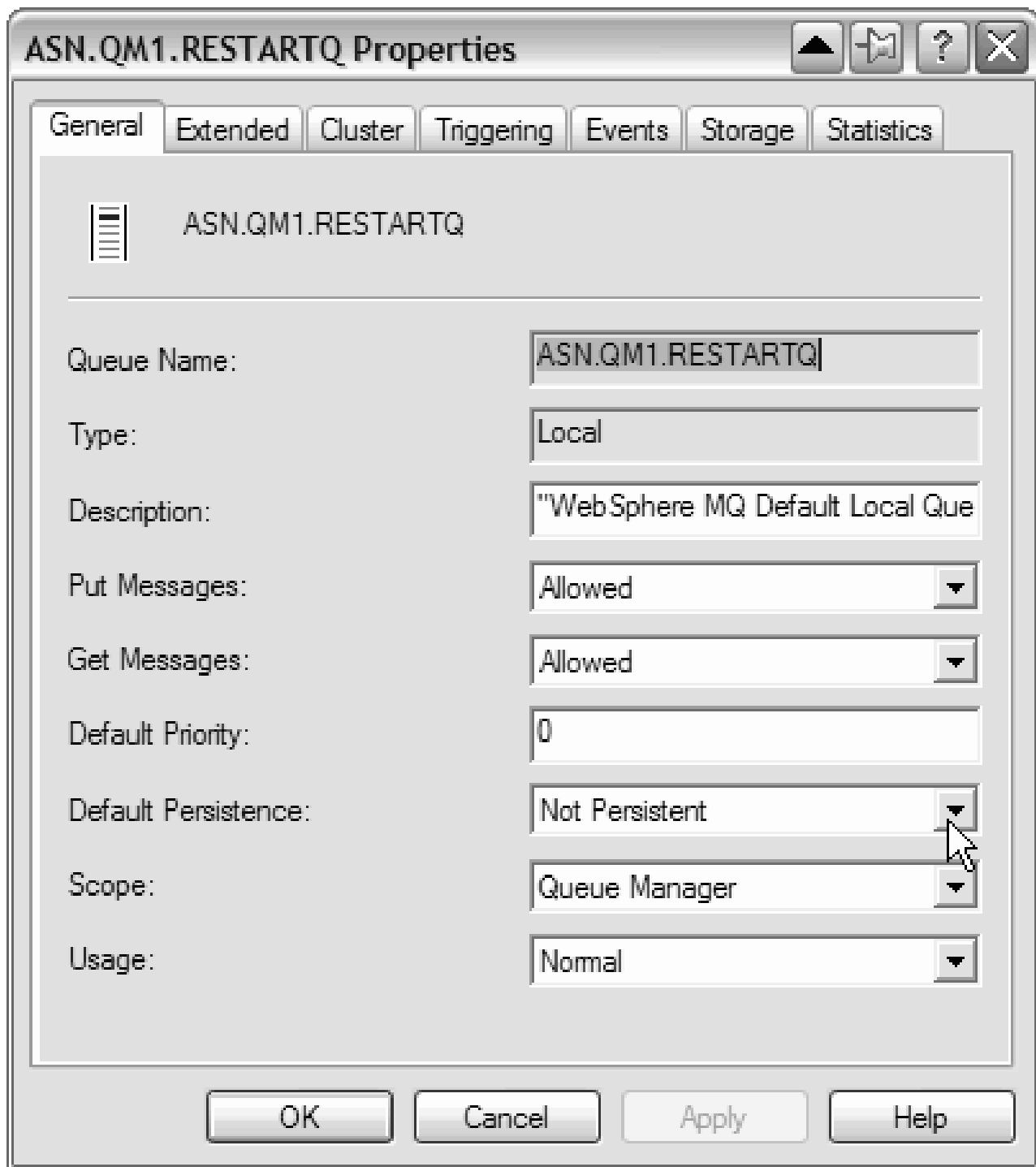


Figure 8. Local queue properties window in the WebSphere MQ Explorer tool

Sending test messages

When the WebSphere MQ access features are enabled, you can send test messages from the Create Replication Queue Map window to verify that your message flow is operating correctly.

The Replication Center puts a test message on the send queue, and then tries to retrieve the message from the receive queue. The Replication Center also puts a

test message on the Q Apply administration queue, and tries to retrieve the message from the Q Capture administration queue. The test progress and results are displayed using icons and messages.

To send test messages:

1. Open one of the following windows:
 - The Create Replication Queue Map window by right-clicking a Replication Queue Maps folder in the object tree and clicking **Create**.
 - The Replication Queue Map properties window by right clicking a replication queue map in the contents pane and clicking **Properties**.
2. Make sure that the send queue, receive queue, and Q Apply administration queue that you want to test are specified, then click **Validate queues**.
The Validate Queues window opens, as Figure 9 shows.

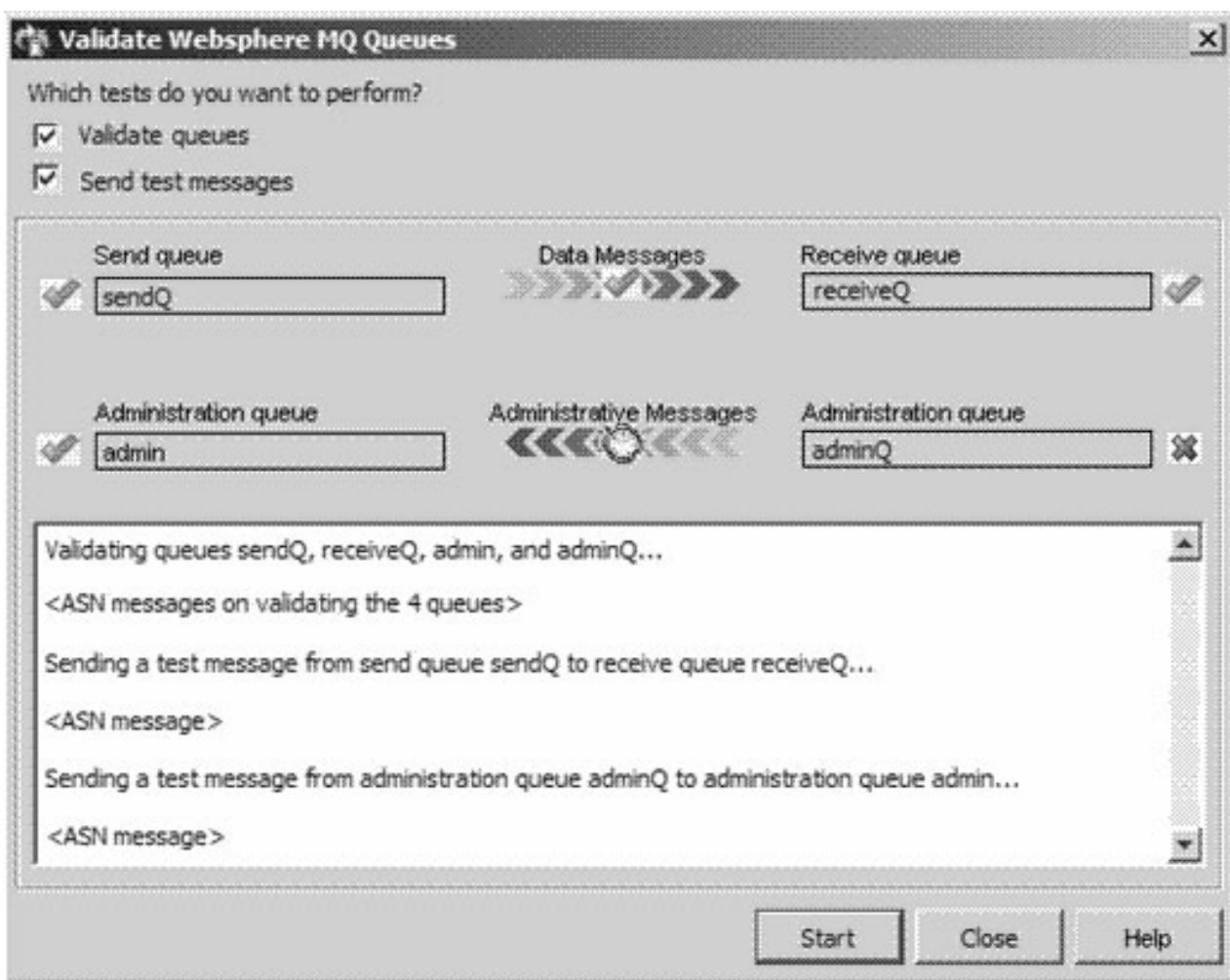


Figure 9. Validate WebSphere MW Queues window during a message flow test

3. Select **Send test messages**, and then click **Start**.

The following icons are used to signal the progress of the test:

- A clock means a message has been sent but not received.
- A green check means a message was successfully sent and received.

- A red X means the test timed out and no message was received.

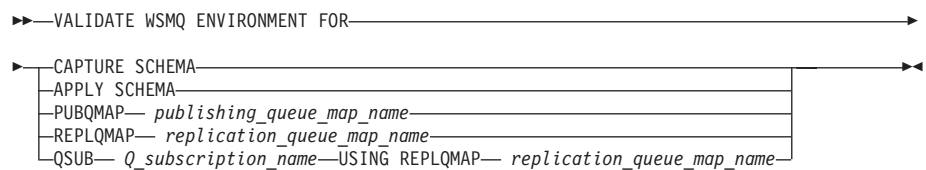
Status, error, and warning messages are displayed in the message area of the window.

Checking your WebSphere MQ configuration by using the ASNCLP program

You can use the ASNCLP command-line program to validate the WebSphere MQ environment for the Q Capture and Q Apply control tables, queue maps, and Q subscriptions. You can also send test messages by using the ASNCLP program.

Checking queue managers and queues

Use the CHECK WSMQ ENVIRONMENT FOR command to check that queue managers and queues have correct settings for Q replication and event publishing. The following diagram shows the syntax.



Messages that describe the results of the validation checks are sent to the command window and the ASNCLP log file.

The following example shows the commands to check the WebSphere MQ environment for a publishing queue map PQMAP1:

```

asnclp session set to q replication;
set server capture to SAMPLE;
set capture schema "ASN";
validate WSMQ environment for pubqmap PQMAP1;

```

Sending test messages

Use the VALIDATE WSMQ MESSAGE FLOW FOR command to send test messages for an existing replication queue map. The command sends a test message between the send queue and receive queue, and between the Q Apply administration queue and the Q Capture administration queue.

Issue the command in the same environment for which you would issue a CREATE REPLQMAP command. The following diagram shows the syntax.



Messages that describe the test results are sent to the command window and the ASNCLP log file.

The following example shows the commands to send test messages for a replication queue map RQMAP1:

```

asnclp session set to q replication;
set server capture to SAMPLE;
set server apply to TARGET;
set capture schema "ASN";
set apply schema "ASN";
validate WSMQ message flow for REPLQMAP RQMAP1;

```

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