Installation, Configuration and First File Transfer of WebSphere MQ Managed File Transfer 7.5 in Windows and Linux

IBM Techdoc: 7041181

http://www-01.ibm.com/support/docview.wss?uid=swg17041181

Date last updated: 04-Jun-2014

Angel Rivera – rivera@us.ibm.com
IBM WebSphere MQ Support

+++ Objective

The objective of this technical document is to describe in detail how to install and configure for first usage the WebSphere MQ Managed File Transfer (MFT) version 7.5 in Windows and Linux.
It also shows how to start the agents and perform a file transfer using MFT.

The chapters in this techdoc are:

Chapter 1: Installing the MFT code: Server and Tools
Chapter 2: Topology - Ensure full connectivity between queue managers for MFT
Chapter 3: Location of the configuration data
Chapter 4: Starting and listing agents, logger, MQ Explorer
Chapter 5: Testing a single file transfer via MQ Explorer and via command line

++ Related WebSphere Support Technical Exchange (WSTE)

http://www.ibm.com/support/docview.wss?uid=swg27041613
Installation, Configuration and First File Transfer of WebSphere MQ Managed File Transfer 7.5 in Windows and Linux
This WebSphere Support Technical Exchange objective of this presentation is to describe, in detail, how to install and configure for first usage the WebSphere MQ Managed File Transfer (MFT) version 7.5 in Windows and Linux, including how to start the agents and perform a file transfer.
Level of Difficulty: Beginner
Presenter(s): Angel Rivera, Pranav Mehta
Date: 15 April 2014

++ MFT configuration data to back up

a) A comprehensive backup for MQ MFT (FTE) is to back up ALL the queue managers involved with the topology.

b) In addition, there are text files that are not inside queue managers, and these files need to be backed up concurrently with the queue manager data:
  MQ_DATA_PATH/mqft

In UNIX: /var/mqm/mqft

In Windows: C:\Program Files (x86)\IBM\WebSphere MQ\mqft

++
+++ Chapter 1: Installing the MFT: Base and Tools
++

This chapter describes the installation of the MFT components.

In WMQ 7.0, the File Transfer Edition (FTE) product was shipped and installed separately.

Starting with WMQ 7.5, the FTE code has been incorporated into the main product and the FTE code is now obtained with the download images from the IBM Passport Advantage site and has been renamed to Managed File Transfer (MFT).

The information regarding MFT is now included with the MQ 7.5 Information Center (instead of having a separate Information Center, like with FTE):
http://publib.boulder.ibm.com/infocenter/wmqv7/v7r5/index.jsp

Furthermore, in MQ 7.5 the installation of the MFT components is done in the same manner as the other MQ components.

In Windows, the installer tool is GUI based and you will need to run it as a Windows Administrator.

In MQ MFT 7.5 In Linux, the filesets for MFT are packaged with the MQ server filesets.

The following free redbook has an overview of the installation steps.

http://www.redbooks.ibm.com/redpieces/abstracts/sg248087.html?Open
WebSphere MQ V7.1 and V7.5 Features and Enhancements

Specifically the section:
  Section 16.2 (Page 233)
  WebSphere MQ Managed File Transfer installation

+ begin excerpt

16.2.2 Installing MFT with WebSphere MQ V7.5
When WebSphere MQ V7.5 is used, it is now possible to install MFT at the same time as the base product in one integrated process. Figure 16-2 on page 234 and Figure 16-3 on page 234 show the Windows installation program. The sections that follow describe the package names that are used to install the MFT components on UNIX and Linux.

After the WebSphere MQ V7.5 installation program is started and the license agreement is accepted, the options that relate to how to proceed with the installation are displayed. The first set of options is to install the Typical components, the Compact components (the

minimum set required), or to proceed with the Custom option that allows the user to select exactly which components to install. Select **Custom** and click **Next**, which accepts the defaults until the Features panel is shown. The Windows MFT features are listed in two sections, but each can be installed independently of one another.

For more information about the components, including where each can be installed, see the *WebSphere MQ Managed File Transfer product options* topic in the Information Center at this website:
http://pic.dhe.ibm.com/infocenter/wmqv7/v7r5/index.jsp?topic=/com.ibm.wmqfte.doc/product_options.htm

Figure 16-2 shows that the two features (the MFT service and the MFT logger) that are listed under the Server section are selected for installation.
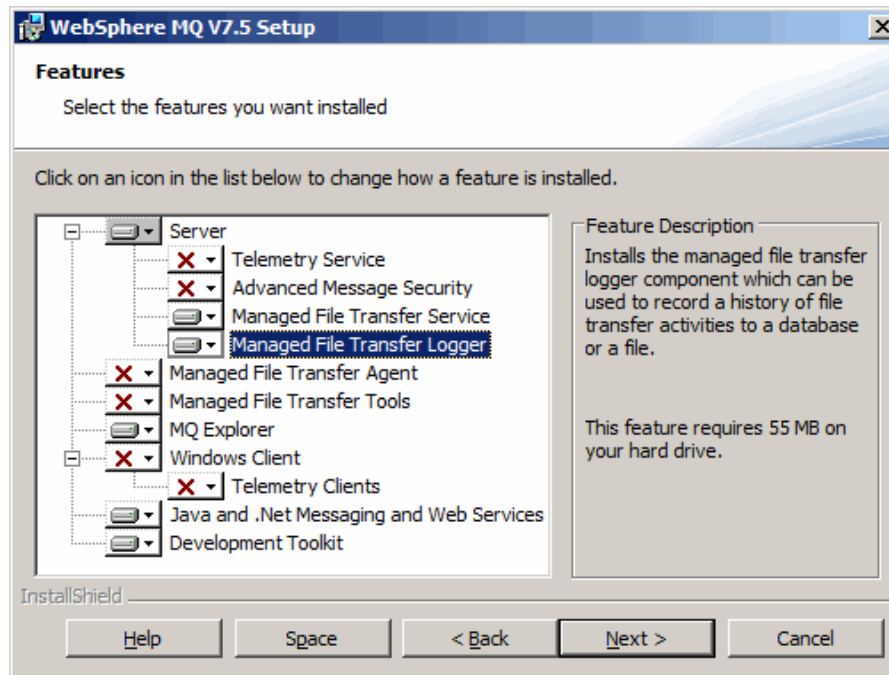

Figure 16-2 The service and logger components that are selected under Server

Figure 16-3 shows the two components that are listed as stand-alone components of MFT, the MFT agent and the MFT tools.
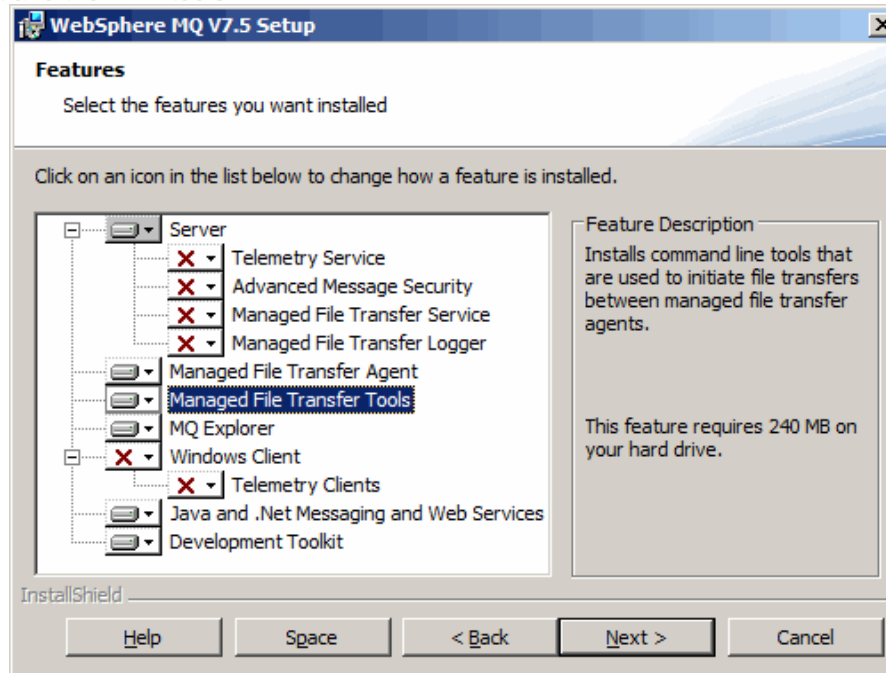

Figure 16-3 The agent and tools components that are selected as stand-alone components

The following features of MFT can be installed separately on UNIX and Linux:
 MFT base
 MFT agent
 MFT logger
 MFT service
 MFT tools

The following package names for the installable components on each platform are used:

 AIX:
– mqm.ft.agent
– mqm.ft.base
– mqm.ft.logger
– mqm.ft.service
– mqm.ft.tools

 HP-UX:
– MQSERIES.MQM-FTAGENT
– MQSERIES.MQM-FTBASE
– MQSERIES.MQM-FTLOGGER
– MQSERIES.MQM-FTSERVICE
– MQSERIES.MQM-FTTOOLS

 Linux:
– MQSeriesFTAgent
– MQSeriesFTBase
– MQSeriesFTLogger
– MQSeriesFTService
– MQSeriesFTTools

Solaris:
– ftagent
– ftbase
– ftlogger
– ftservice
– fttools

+ end excerpt

On UNIX platforms there is an additional install component:
       WebSphere MQ Managed File Transfer Base

This component contains files common to all of the installation options. You must install the WebSphere MQ Managed File Transfer Base component before installing any of the Agent, Logger, Service, or Tools components.

++ Question: does the SupportPac MQC75 include the MFT code?

In case you are going to have hosts without queue managers but you want to have MFT agents, you may want to install the SupportPac MQC75 with the MQ Client 7.5. You need to keep in mind that this SupportPac does not include the MFT code.

a) The MQ Client 7.5 download (SupportPac MQC75) does not include Managed File Transfer code. It only includes:
Client
GSKit
Java
JRE
Man
Msg* (message catalogs)
Runtime
Samples
SDK

b) The following web page has more details on the different install options for MFT:
http://pic.dhe.ibm.com/infocenter/wmqv7/v7r5/index.jsp?topic=
%2Fcom.ibm.wmqfte.doc%2Fproduct_options.htm
WebSphere MQ Managed File Transfer > Product overview
WebSphere MQ Managed File Transfer product options

WebSphere® MQ Managed File Transfer can be installed as four different options, depending on your operating system and overall setup.

These options are
- WebSphere MQ Managed File Transfer Agent, (MQ Server fileset is optional)
- WebSphere MQ Managed File Transfer Logger, (requires MQ Server fileset)
- WebSphere MQ Managed File Transfer Service, (requires MQ Server fileset)
- WebSphere MQ Managed File Transfer Tools (MFT Agent is optional)
.
On UNIX platforms there is an additional WebSphere MQ Managed File Transfer Base install component.
This component contains files common to all of the installation options
(it is required).

c) Based on the above, in order to install MFT agents in a host where only the MQ 7.5 client is installed, you will need to copy the following filesets from the host where you downloaded the MQ server filesets, for example in AIX:
– mqm.ft.agent
– mqm.ft.base
After copying those filesets, then proceed to install them as user root.

++ Reference

http://www-01.ibm.com/support/docview.wss?uid=swg27036780
Installing WebSphere MQ 7.5 to coexist with MQ 7.0.1 and MQ 7.1 in Windows
This technote builds on top of the following document:
MQ 7.5 includes also Advanced Messaging Security (AMS) and Managed File Transfer.
This document does NOT cover their installation. The scope is only for the MQ Server, MQ Explorer, JMS, Development toolkit and GSKit.
The minimum version of MQ 7.0 that allows coexistence is 7.0.1.6. Because, at the time of writing this techdoc, the latest Fix Pack was 7.0.1.9, then 7.0.1.9 is used in this document.
The "primary" installation will be MQ 7.0.1.9 and this techdoc shows you how to setup the environment in order to use MQ 7.0, MQ 7.1 and MQ 7.5.

The chapters are:
Chapter 1: Installing MQ 7.5 side-by-side to MQ 7.0.1.9
Chapter 2: Need to run setmqenv to use MQ 7.5 commands
Chapter 3: Creating a queue manager under 7.5
Chapter 4: Remote access to the new MQ 7.5 queue manager
Chapter 5: Using MQ Explorer 7.5
Chapter 6: Migrating an MQ 7.0 queue manager to MQ 7.5

http://www.ibm.com/support/docview.wss?rs=171&uid=swg27036779
Installing WebSphere MQ 7.5 to coexist with MQ 7.0.1 and MQ 7.1 in Linux
This techdoc shows all the steps to install WebSphere MQ 7.5 in Linux, while co-existing ("side-by-side") with MQ 7.0.1 and MQ 7.1.
MQ 7.5 includes also Advanced Messaging Security (AMS) and Managed File Transfer.
This document does NOT cover their installation. The scope is only for the MQ Server, MQ Explorer, JMS, Development toolkit and GSKit.
The minimum version of MQ 7.0 that allows coexistence is 7.0.1.6. Because at the time of writing this techdoc the latest Fix Pack was 7.0.1.9, then 7.0.1.9 is used in this document.
The "primary" installation will be MQ 7.0.1.9 and this techdoc shows you how to setup the environment in order to use MQ 7.0, MQ 7.1 and MQ 7.5.
The overall instructions apply also to other UNIX distributions: AIX, HP-UX and Solaris.
The chapters are:
Chapter 1: Installing MQ 7.5 side-by-side to MQ 7.0.1.9 and 7.1
Chapter 2: Need to run setmqenv to use MQ 7.5 commands
Chapter 3: Creating a queue manager under 7.5
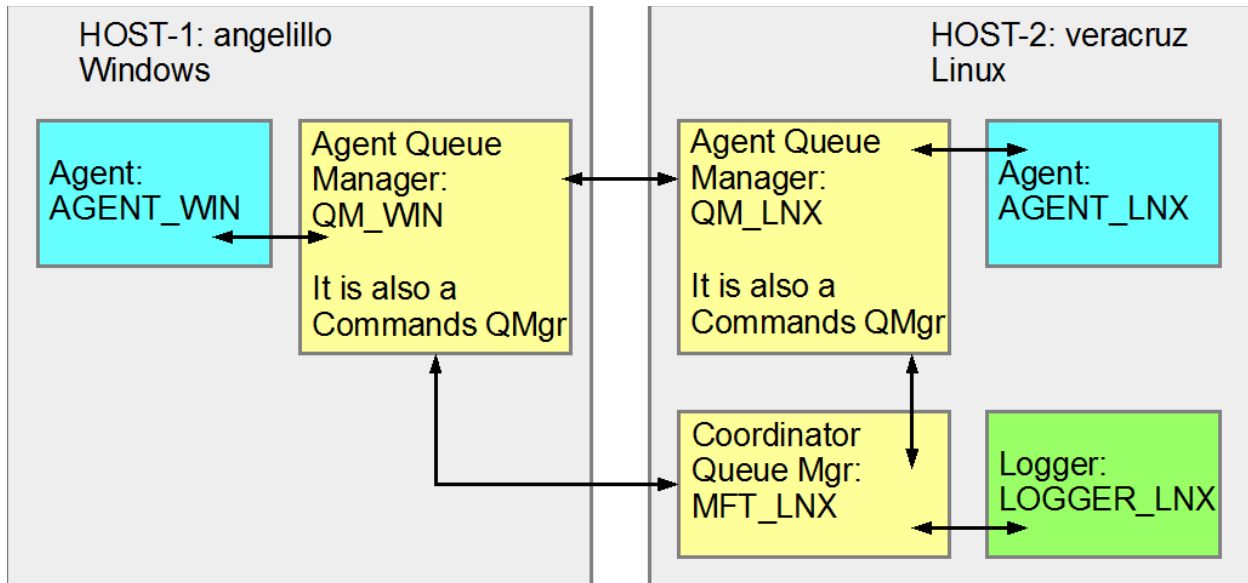Chapter 4: Remote access to the new MQ 7.5 queue manager
Chapter 5: Using MQ Explorer 7.5
Chapter 6: Migrating an MQ 7.0 queue manager to MQ 7.5
Chapter 7: Installing fix pack MQ 7.5.0.3

++
+++ Chapter 2: Topology - Ensure full connectivity between queue managers
++

The topology used in this techdoc is:

Windows host:
Windows 7
WebSphere MQ 7.5
  Agent: AGENT_WIN
  Queue manager for agent: QM_WIN
  Command queue manager: QM_WIN

UNIX host:
Linux SLES 11, x86 32-bit
WebSphere MQ 7.5
  Agent: AGENT_LNX
  Queue manager for agent: QM_LNX
  Command queue manager: QM_LNX
  Coordination queue manager: MFT_LNX
  Logger: LOGGER_LNX (type: file)

Queue manager for coordination, located in Linux:
Name: MFT_LNX
     Host: veracruz.x.com
     Port: 1424
     Channel: SYSTEM.ADMIN.SVRCONN

Queue manager for agent and queue manager for commands for Windows:
Name: QM_WIN
     Host: angelillo.x.com
     Port: 1420

Channel: SYSTEM.ADMIN.SVRCONN
Queue manager for agent and queue manager for commands for Linux:
        Name: QM_LNX
        Host: veracruz.x.com
        Port: 1432
        Channel: SYSTEM.ADMIN.SVRCONN

It is assumed in this technote that these queue managers are operational.

++ Example of the command lines to create a queue manager

The -u flag indicates which queue is going to be the dead letter queue.
Hint: Many MQ Explorer users hide the SYSTEM* queues and thus, if you use
SYSTEM.DEAD.LETTER.QUEUE as the dead letter queue (DLQ), then it will be hidden
and you may not notice if there are messages in the dead letter queue

crtmqm -u DLQ QM_LNX

strmqm QM_LNX

runmqsc QM_LNX
  ## Define a listener. It is a good idea to specify the port number in the name so that
a quick look at the list of listeners will tell you the port number right away.
    define listener(LISTENER.1432) trptype(tcp) control(qmgr) port(1432)
    start listener(LISTENER.1432)
  ## Define a channel to be used by a remote MQ Explorer
    define channel(SYSTEM.ADMIN.SVRCONN) chltype(SVRCONN)
  ## Define the DLQ
    define qlocal(DLQ) like(SYSTEM.DEAD.LETTER.QUEUE)

  ## For MQ 7.1 and 7.5, if you want to allow remote connections by an MQ
Administrator and want to avoid return code 2035:
    set CHLAUTH(*) TYPE(BLOCKUSER) USERLIST('nobody','*MQADMIN')
    set CHLAUTH(SYSTEM.ADMIN.*) TYPE(BLOCKUSER) USERLIST('nobody')
    end

For more details on the channel authority records introduced in MQ 7.1see:

http://pic.dhe.ibm.com/infocenter/wmqv7/v7r5/topic/com.ibm.wmqfte.doc/mq_ch
lauth.htm
WebSphere MQ Managed File Transfer > Security
Connecting to a WebSphere MQ V7.1 or later queue manager in client mode with
channel authentication

WebSphere® MQ V7.1 introduced channel authentication records to control more precisely access at a channel level. This change in behavior means that by default newly created WebSphere MQ V7.1 or later queue managers reject client connections from the Managed File Transfer component.

http://www.ibm.com/support/docview.wss?uid=swg21577137
WMQ 7.1 / 7.5 queue manager RC 2035 MQRC_NOT_AUTHORIZED or AMQ4036 when using client connection as an MQ Administrator

++ Ensuring full connectivity

It is necessary to ensure full connectivity between the 3 queue managers. This means that the proper sender and receiver channels need to be in place.

The following pairs of fully connected queue managers are needed:

QM_WIN (in Windows) with MFT_LNX (in Linux)
QM_WIN (in Windows) with QM_LNX (in Linux)
MFT_LNX (in Linux) with QM_LNX (in Linux)

Note: Strictly speaking, there is no need for a Sender-Receiver pair from the Coordination Queue manager to each of the other queue managers. However, for consistency with the general approach of having full connectivity between the queue managers, the Sender-Receiver pairs from the Coordination queue manager will be defined.

In order to test for connectivity, a test local queue and a remote queue definition is created. You can refer to the following technote for more details

Techdoc: 1470997
http://www.ibm.com/support/docview.wss?uid=swg21470997
Commands to setup communication both ways between 2 queue managers via Sender and Receiver channels

To avoid having a long technote, only the complete set of commands for the full connectivity will be done for these queue managers:

Queue Manager 1: QM_WIN   (in Windows)
Queue Manager 2: QM_LNX   (in Linux)

*** From Queue Manager: QM_WIN

* Define listener (Uncomment if you have not defined it yet)
*   define listener(TCP.LISTENER) trptype(tcp) control(qmgr) port(1420)
*   start listener(TCP.LISTENER)

* Define channel for the MQ Explorer
    define channel(SYSTEM.ADMIN.SVRCONN) chltype(SVRCONN)

* Define a local queue:
    define qlocal(Q6)

* Define a local queue (used for transmission):
    define qlocal(QM_LNX) usage(xmitq)

* Define a remote queue definition by typing the following command:
    define qremote(Q6_QM_LNX) rname(Q6) rqmname(QM_LNX) xmitq(QM_LNX)

* Define a receiving channel by typing the following command:
    define channel(QM_LNX.QM_WIN) chltype(RCVR) trptype(TCP)

* Define a sender channel by typing the following command:
    define channel(QM_WIN.QM_LNX) chltype(SDR) +
      conname('veracruz.x.com(1432)') +
      xmitq(QM_LNX) trptype(TCP)

* Start the sender channel
    start channel(QM_WIN.QM_LNX)

*** From Queue Manager: QM_LNX

* Define listener (Uncomment if you have not defined it yet)
*   define listener(TCP.LISTENER) trptype(tcp) control(qmgr) port(1432)
*   start listener(TCP.LISTENER)

* Define channel for the MQ Explorer
    define channel(SYSTEM.ADMIN.SVRCONN) chltype(SVRCONN)

* Define a local queue:
    define qlocal(Q6)

* Define a local queue (used for transmission):
    define qlocal(QM_WIN) usage(xmitq)

* Define a remote queue definition by typing the following command:
   define qremote(Q6_QM_WIN) rname(Q6) rqmname(QM_WIN) xmitq(QM_WIN)

* Define a receiving channel by typing the following command:
   define channel(QM_WIN.QM_LNX) chltype(RCVR) trptype(TCP)

* Define a sender channel by typing the following command:
   define channel(QM_LNX.QM_WIN) chltype(SDR) +
     conname('angelillo.x.com(1420)') +
     xmitq(QM_WIN) trptype(TCP)

* Start the sender channel
   start channel(QM_LNX.QM_WIN)

+ Send messages to each other

From the host that has QM_WIN

C:\> amqsput Q6_QM_LNX QM_WIN
Sample AMQSPUT0 start
target queue is Q6_QM_LNX
TEST-FROM-QM_WIN
Sample AMQSPUT0 end

From the host that has QM_LNX

rivera@veracruz: /home/rivera
$ amqsput Q6_QM_WIN QM_LNX
Sample AMQSPUT0 start
target queue is Q6_QM_WIN
TEST-FROM-QM_LNX
Sample AMQSPUT0 end

++ Browse the messages

From the host that has QM_WIN:

C:\> amqsbcg Q6 QM_WIN
AMQSBCG0 - starts here
****   Message   ****
 length - 15 bytes

```
00000000:  5445 5354 2D46 524F 4D2D 514D 4D49 31      'TEST-FROM-QM_LNX '
```

From the host that has QM_LNX:

```
$ amqsbcg Q6 QM_LNX
AMQSBCG0 - starts here
****   Message      ****
 length - 18 bytes
00000000:  5445 5354 2D46 524F 4D2D 414E 4745 4C49     'TEST-FROM-QM_WIN'
```

+++ You need to perform the above steps for the other pairs of queue managers.

WARNING!!!
You really need to have full connectivity and have successful tests among all the queue managers before you proceed to configure the MFT agents.

+ The MQ Explorer can be used to ensure that the Sender-Receiver pairs are running.

a) The following is for the MFT_LNX, registered as a remote queue manager to the MQ Explorer in Windows.

Notice that the following pairs of channels are "running":

MFT_LNX.QM_LNX   Sender
MFT_LNX.QM_WIN   Sender
QM_LNX.MFT_LNX   Receiver
QM_WIN.MFT_LNX   Receiver
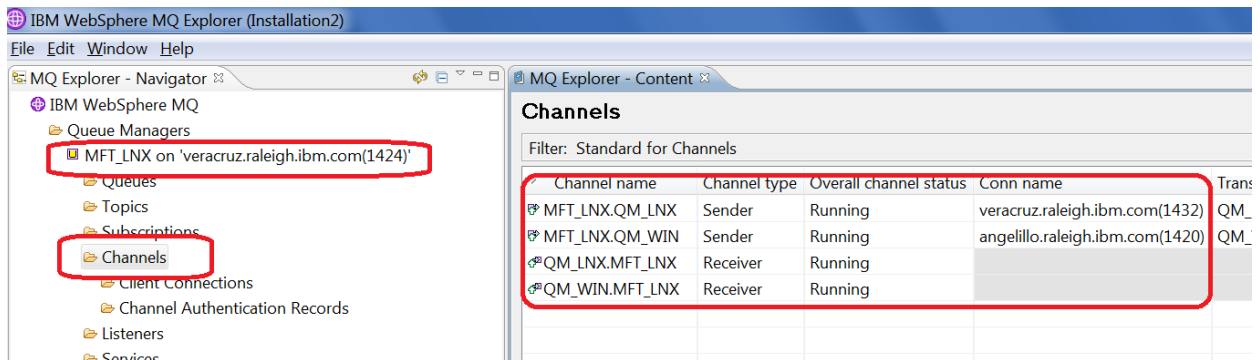
b) Similarly for QM_LNX:
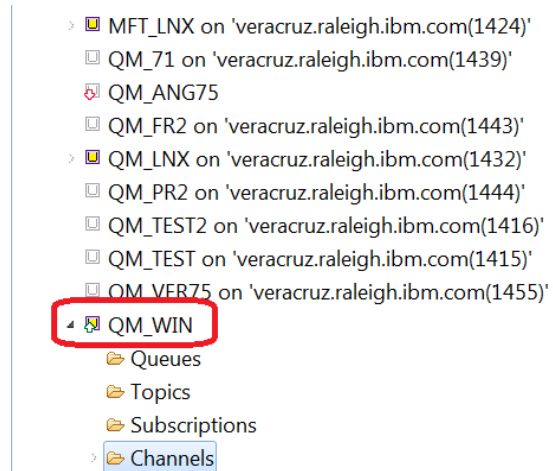
MFT_LNX.QM_LNX   Receiver
QM_LNX.MFT_LNX   Sender
QM_LNX.QM_WIN   Sender
QM_WIN.QM_LNX   Receiver

c)   Finally, for QM_WIN

MFT_LNX.QM_WIN   Receiver
QM_LNX.QM_WIN   Receiver
QM_WIN.MFT_LNX   Sender
QM_WIN.QM_LNX   Sender

++
+++ Chapter 3: Configuration steps
++

++
++ Coordination queue manager
++

Configure the Coordination queue manager to coordinate file transfers.

+ Coordination queue manager in Linux (MFT_LNX)

In this case, MFT_LNX acts as the coordination queue manager broadcasting audit and file transfer information.

1) Log in as MQ administrator into the Linux box

2) Issue the following command to create the properties files and the coordination queue manager directory:

 fteSetupCoordination -coordinationQMgr MFT_LNX -coordinationQMgrHost veracruz.raleigh.ibm.com -coordinationQMgrPort 1424 -coordinationQMgrChannel SYSTEM.ADMIN.SVRCONN

5724-H72 Copyright IBM Corp. 2008, 2013. ALL RIGHTS RESERVED
BFGCM0242I: Direct the following MQSC definitions for your coordination queue manager 'MFT_LNX' to an MQSC session if you have not already done so.

DEFINE TOPIC('SYSTEM.FTE') TOPICSTR('SYSTEM.FTE') REPLACE
ALTER TOPIC('SYSTEM.FTE') NPMSGDLV(ALLAVAIL) PMSGDLV(ALLAVAIL)
DEFINE QLOCAL(SYSTEM.FTE) LIKE(SYSTEM.BROKER.DEFAULT.STREAM) REPLACE
ALTER QLOCAL(SYSTEM.FTE) DESCR('Stream for MQMFT Pub/Sub interface')
* Altering namelist: SYSTEM.QPUBSUB.QUEUE.NAMELIST
* Value prior to alteration:
DISPLAY NAMELIST(SYSTEM.QPUBSUB.QUEUE.NAMELIST)
ALTER NAMELIST(SYSTEM.QPUBSUB.QUEUE.NAMELIST) +
 NAMES(SYSTEM.BROKER.DEFAULT.STREAM+
 ,SYSTEM.BROKER.ADMIN.STREAM,SYSTEM.FTE)
* Altering PSMODE. Value prior to alteration:
DISPLAY QMGR PSMODE
ALTER QMGR PSMODE(ENABLED)

BFGCM0243I: A file has been created that contains the MQSC definitions for your coordination queue manager. The file can be found here: '/var/mqm/mqft/config/MFT_LNX/MFT_LNX.mqsc'.

<end excerpt>

Note: The file permissions and ownership for the configuration directory for MFT are:
  ls -dl /var/mqm/mqft
    drwxrwsr-x 6 mqm mqm 4096 2014-01-17 10:36 /var/mqm/mqft
  ls -dl /var/mqm/mqft/config/
  drwxrwsr-x 3 mqm mqm 4096 2014-01-17 10:36 /var/mqm/mqft/config/
This means that in MQ MFT 7.5, the configuration information is stored in the following directories and only the user "mqm" or members of the group "mqm" can modify the configuration information:

This command provides you with an MQSC command file that has the above MQSC commands that you must run against your coordination queue manager:
  /var/mqm/mqft/config/MFT_LNX/MFT_LNX.mqsc

The MQSC commands create a topic, a topic string, the SYSTEM.FTE queue, and the default database logger queues. These commands also update a namelist and set the PSMODE attribute of the coordination queue manager to ENABLED.

This command creates the following objects:
- Coordination queue manager directory
  /var/mqm/mqft/config/MFT_LNX

- Data directory (if this does not exist)
  /var/mqm/mqft/logs/MFT_LNX

- installation.properties file
  /var/mqm/mqft/installations/Installation2/installation.properties
  Notice that "Installation2" is the installation in this machine for MQ 7.5, because multi-version is being exploited (7.0 in Installation0, 7.1 in Installation1).

  The contents of the file is:
#
#Fri Jan 17 10:36:46 EST 2014
defaultProperties=MFT_LNX

- coordination.properties file
  /var/mqm/mqft/config/MFT_LNX/coordination.properties

The contents are:
#
#Fri Jan 17 10:36:46 EST 2014
coordinationQMgr=MFT_LNX
coordinationQMgrHost=veracruz.raleigh.ibm.com
coordinationQMgrChannel=SYSTEM.ADMIN.SVRCONN
coordinationQMgrPort=1424

So far, the directory structure and files look like this:

rivera@veracruz: /var/mqm/mqft
$ find $PWD
/var/mqm/mqft
/var/mqm/mqft/config
/var/mqm/mqft/config/MFT_LNX
/var/mqm/mqft/config/MFT_LNX/MFT_LNX.mqsc
/var/mqm/mqft/config/MFT_LNX/coordination.properties
/var/mqm/mqft/installations
/var/mqm/mqft/installations/Installation2
/var/mqm/mqft/installations/Installation2/installation.properties
/var/mqm/mqft/logs
/var/mqm/mqft/logs/MFT_LNX

3) Configure the queue manager to act as the coordination queue manager by entering the following command. You need to provide the MQSC file generated in step 2.

  runmqsc MFT_LNX < /var/mqm/mqft/config/MFT_LNX/MFT_LNX.mqsc

+ Specify in Windows, which is the coordination queue manager (MFT_LNX in Linux)

Log in to Windows

Open a Windows command prompt as an Administrator:

Issue the following command to create the properties files and the coordination queue manager directory:

fteSetupCoordination -coordinationQMgr MFT_LNX -coordinationQMgrHost veracruz.raleigh.ibm.com -coordinationQMgrPort 1424 -coordinationQMgrChannel SYSTEM.ADMIN.SVRCONN

The MQSC data file that we generated earlier for Linux is the one that we used with runmqsc. Creating the coordination data via runmqsc is a one-time task, and there is no need to repeat it.

But the important part of issuing this command is the creation of the configuration files and directories.

The configuration data for MFT is stored in:
MQ_DATA_PATH/mqft
In UNIX:
  /var/mqm/mqft
In Windows:
  C:\Program Files (x86)\IBM\WebSphere MQ\mqft

Testing note: In the Windows box that was used for this scenario, the location of the MQ data is not the default one for Windows, but rather a directory structure that is similar to UNIX:
  c:\var\mqm
Thus, the following subdirectory was created in Windows
  C:\var\mqm\mqft

The following commands will show the directory structure:

cd c:\var\mqm
dir /b /s *
C:\var\mqm\mqft\config
C:\var\mqm\mqft\config\MFT_LNX
C:\var\mqm\mqft\config\MFT_LNX\coordination.properties
C:\var\mqm\mqft\config\MFT_LNX\MFT_LNX.mqsc
C:\var\mqm\mqft\installations
C:\var\mqm\mqft\installations\Installation2
C:\var\mqm\mqft\installations\Installation2\installation.properties
C:\var\mqm\mqft\logs
C:\var\mqm\mqft\logs\MFT_LNX

++
++ Command queue managers
++

+ Command queue manager in Linux (QM_LNX)

In the Linux box, define which queue manager handles file transfer commands, in this case, QM_LNX.

Use the fteSetupCommands command to create a command.properties file in the coordination queue manager configuration directory. The command uses the installation.properties file to determine where to locate the command.properties file.

fteSetupCommands -connectionQMgr QM_LNX -connectionQMgrHost veracruz.raleigh.ibm.com -connectionQMgrPort 1432 -connectionQMgrChannel SYSTEM.ADMIN.SVRCONN

5724-H72 Copyright IBM Corp. 2008, 2013. ALL RIGHTS RESERVED
BFGCL0245I: The file '/var/mqm/mqft/config/MFT_LNX/command.properties' has been created successfully.
<end excerpt>

The following file was created:
  /var/mqm/mqft/config/MFT_LNX/command.properties

The contents of the file is:
#
#Fri Jan 17 11:22:56 EST 2014
connectionQMgrChannel=SYSTEM.ADMIN.SVRCONN
connectionQMgrPort=1432
connectionQMgrHost=veracruz.raleigh.ibm.com
connectionQMgr=QM_LNX

+ Command queue manager in Windows (QM_WIN)

Similarly to QM_LNX (previous section), specify the command queue manager for Windows.

Issue the following command:

fteSetupCommands -connectionQMgr QM_WIN -connectionQMgrHost angelillo.raleigh.ibm.com -connectionQMgrPort 1420 -connectionQMgrChannel SYSTEM.ADMIN.SVRCONN

5724-H72 Copyright IBM Corp. 2008, 2013. ALL RIGHTS RESERVED
BFGCL0245I: The file 'C:\var\mqm\mqft\config\MFT_LNX\command.properties' has been created successfully.
<end excerpt>

The following directory is created

MQ_DATA_PATH\mqft\config\MFT_LNX\command.properties

The contents of the file is:

connectionQMgrChannel=SYSTEM.ADMIN.SVRCONN
connectionQMgrPort=1420
connectionQMgrHost=angelillo.x.ibm.com
connectionQMgr=QM_WIN

++
++ Agents
++

+ Agent QM_LNX in Linux

a) Prepare a file transfer agent QM_LNX, including MQSC scripts that you must run against the queue manager that the agent connects to, in this case, QM_LNX by entering the following command.

Note that the channel is SYSTEM.ADMIN.SVRCONN because to keep this scenario as simple as possible, it is the channel for which the MQ Administrator has been configured to have remote access. See note from Chapter 1 for RC 2035 MQRC_NOT_AUTHORIZED.

fteCreateAgent -agentName AGENT_LNX -agentQMgr QM_LNX -agentQMgrHost veracruz.raleigh.ibm.com -agentQMgrPort 1432 -agentQMgrChannel SYSTEM.ADMIN.SVRCONN

Note: To keep the excerpt short, only the DEFINE QLOCAL statements are shown.

5724-H72 Copyright IBM Corp. 2008, 2013. ALL RIGHTS RESERVED
BFGCM0238I: Direct the following MQSC definitions for agent 'AGENT_LNX' to queue manager 'QM_LNX'.

DEFINE QLOCAL(SYSTEM.FTE.COMMAND.AGENT_LNX) + ...
DEFINE QLOCAL(SYSTEM.FTE.DATA.AGENT_LNX) + ...
DEFINE QLOCAL(SYSTEM.FTE.REPLY.AGENT_LNX) + ...
DEFINE QLOCAL(SYSTEM.FTE.STATE.AGENT_LNX) + ...
DEFINE QLOCAL(SYSTEM.FTE.EVENT.AGENT_LNX) + ...
DEFINE QLOCAL(SYSTEM.FTE.AUTHAGT1.AGENT_LNX) + ...
DEFINE QLOCAL(SYSTEM.FTE.AUTHTRN1.AGENT_LNX) + ...
DEFINE QLOCAL(SYSTEM.FTE.AUTHOPS1.AGENT_LNX) + ...
DEFINE QLOCAL(SYSTEM.FTE.AUTHSCH1.AGENT_LNX) + ...
DEFINE QLOCAL(SYSTEM.FTE.AUTHMON1.AGENT_LNX) + ...
DEFINE QLOCAL(SYSTEM.FTE.AUTHADM1.AGENT_LNX) + ...

BFGCM0239I: A file has been created containing the MQSC definitions to define the agent AGENT_LNX. The file can be found here:
'/var/mqm/mqft/config/MFT_LNX/agents/AGENT_LNX/AGENT_LNX_create.mqsc'.

BFGCM0241I: A file has been created containing the MQSC definitions to delete the agent AGENT_LNX. The file can be found here:
'/var/mqm/mqft/config/MFT_LNX/agents/AGENT_LNX/AGENT_LNX_delete.mqsc'.

BFGCL0053I: Agent configured and registered successfully.
<end excerpt>

The fteCreateAgent command provides you with the MQSC commands that you must run against your agent queue manager to create a set of agent queues.
These queues are internal system queues (SYSTEM.FTE.*) that you must not modify, delete, or read messages from unless you are deleting the agent.

This command creates a configuration directory for the agent. In this case:

  /var/mqm/mqft/config/MFT_LNX/agents/AGENT_LNX

The files are:
AGENT_LNX_create.mqsc
AGENT_LNX_delete.mqsc
agent.properties
exits/ = > it is a directory
UserSandboxes.xml

The MQSC commands to create the objects for the agent are also supplied in a file in the following location:
  /var/mqm/mqft/config/MFT_LNX/agents/AGENT_LNX/AGENT_LNX_create.mqsc

If you later want to delete the agent, this command also provides you with the MQSC commands you must run to clear then delete the queues used by the agent. The MQSC commands are in a file in the following location:
/var/mqm/mqft/config/MFT_LNX/agents/AGENT_LNX/ AGENT_LNX_delete.mqsc

MQ Managed File Transfer provides advanced agent properties that help you configure agents. These properties are described in the agent.properties file.
The contents in this example is:
#Fri Jan 17 13:35:41 EST 2014
agentQMgr=QM_LNX
agentQMgrPort=1432
agentDesc=
agentQMgrHost=veracruz.raleigh.ibm.com
agentQMgrChannel=SYSTEM.ADMIN.SVRCONN
agentName=AGENT_LNX

b) Configure the connection queue manager QM_LNX to handle the agent you create. The following is shown in 2 lines, but it is really a single line.

**runmqsc QM_LNX <
/var/mqm/mqft/config/MFT_LNX/agents/AGENT_LNX/AGENT_LNX_create.mqsc**

The directory structure looks like this:

rivera@veracruz: /var/mqm/mqft
$ find $PWD
/var/mqm/mqft
/var/mqm/mqft/config
/var/mqm/mqft/config/MFT_LNX
/var/mqm/mqft/config/MFT_LNX/MFT_LNX.mqsc
/var/mqm/mqft/config/MFT_LNX/command.properties
/var/mqm/mqft/config/MFT_LNX/coordination.properties
/var/mqm/mqft/config/MFT_LNX/agents
/var/mqm/mqft/config/MFT_LNX/agents/AGENT_LNX
/var/mqm/mqft/config/MFT_LNX/agents/AGENT_LNX/agent.properties
/var/mqm/mqft/config/MFT_LNX/agents/AGENT_LNX/AGENT_LNX_create.mqsc
/var/mqm/mqft/config/MFT_LNX/agents/AGENT_LNX/UserSandboxes.xml
/var/mqm/mqft/config/MFT_LNX/agents/AGENT_LNX/AGENT_LNX_delete.mqsc
/var/mqm/mqft/config/MFT_LNX/agents/AGENT_LNX/exits
/var/mqm/mqft/installations
/var/mqm/mqft/installations/Installation2
/var/mqm/mqft/installations/Installation2/installation.properties

+ Agent QM_WIN in Windows

Issue the following command:

**fteCreateAgent -agentName AGENT_WIN -agentQMgr QM_WIN -agentQMgrHost
angelillo.raleigh.ibm.com -agentQMgrPort 1420 -agentQMgrChannel
SYSTEM.ADMIN.SVRCONN**

The bottom of the output will show:

BFGCM0239I: A file has been created containing the MQSC definitions to define th
e agent AGENT_WIN. The file can be found here: 'C:\var\mqm\mqft\config\MFT_LNX\a
gents\AGENT_WIN\AGENT_WIN_create.mqsc'.
BFGCM0241I: A file has been created containing the MQSC definitions to delete th
e agent AGENT_WIN. The file can be found here: 'C:\var\mqm\mqft\config\MFT_LNX\a

gents\AGENT_WIN\AGENT_WIN_delete.mqsc'.
BFGCL0053I: Agent configured and registered successfully.

Then use the *create.mqsc file to create the objects for the agent:

runmqsc QM_WIN <
C:\var\mqm\mqft\config\MFT_LNX\agents\AGENT_WIN\AGENT_WIN_create.mqsc

The directory structure now looks like this:

C:\var\mqm\mqft\config>dir /b /s
C:\var\mqm\mqft\config\MFT_LNX
C:\var\mqm\mqft\config\MFT_LNX\agents
C:\var\mqm\mqft\config\MFT_LNX\command.properties
C:\var\mqm\mqft\config\MFT_LNX\coordination.properties
C:\var\mqm\mqft\config\MFT_LNX\MFT_LNX.mqsc
C:\var\mqm\mqft\config\MFT_LNX\agents\AGENT_WIN
C:\var\mqm\mqft\config\MFT_LNX\agents\AGENT_WIN\agent.properties
C:\var\mqm\mqft\config\MFT_LNX\agents\AGENT_WIN\AGENT_WIN_create.mqsc
C:\var\mqm\mqft\config\MFT_LNX\agents\AGENT_WIN\AGENT_WIN_delete.mqsc
C:\var\mqm\mqft\config\MFT_LNX\agents\AGENT_WIN\exits
C:\var\mqm\mqft\config\MFT_LNX\agents\AGENT_WIN\UserSandboxes.xml

++ File linear logger

Because we want to be able to know all the file transfers that are done, it is necessary to have a logger.
The simplest logger is type File, which is linear in nature. A database is not needed for this type of logger.

UNIX:
fteCreateLogger -loggerType FILE -loggerQMgr MFT_LNX -fileLoggerMode LINEAR -fileSize 5MB LOGGER_LNX

BFGCL0426I: Direct the following MQSC definitions for logger 'LOGGER_LNX' to queue manager 'MFT_LNX'.

DEFINE QLOCAL(SYSTEM.FTE.LOG.RJCT.LOGGER_LNX) + ...
DEFINE QLOCAL(SYSTEM.FTE.LOG.CMD.LOGGER_LNX) + ...

BFGCL0424I: A file has been created containing the MQSC definitions to create your logger. The file can be found here:
'/var/mqm/mqft/config/MFT_LNX/loggers/LOGGER_LNX/LOGGER_LNX_create.mqsc'.
BFGCL0425I: A file has been created containing the MQSC definitions to delete your logger. The file can be found here:
'/var/mqm/mqft/config/MFT_LNX/loggers/LOGGER_LNX/LOGGER_LNX_delete.mqsc'.
BFGCL0415I: Logger configured successfully.
< end excerpt >

Similarly with the creation of an agent, it is necessary to run the mqsc command file:

runmqsc MFT_LNX <
/var/mqm/mqft/config/MFT_LNX/loggers/LOGGER_LNX/LOGGER_LNX_create.mqsc

The following file has the properties for the logger:
/var/mqm/mqft/config/MFT_LNX/loggers/LOGGER_LNX/logger.properties

The contents are:
#
#Mon Jan 20 13:04:30 EST 2014
wmqfte.logger.name=LOGGER_LNX
wmqfte.file.logger.fileSize=5MB
wmqfte.file.logger.mode=LINEAR
wmqfte.logger.type=FILE
wmqfte.queue.manager=MFT_LNX

+++ Location of the configuration and log files

From the administration point of view, it is important to understand the location of
the configuration files for the coordination queue manager and the agents.

The overall structure is:

Configuration directory
   Subdirectories for coordination queue managers
     Then subdirectories for agents (under coordination queue managers)

Default configuration directory location and content:
The information for the WebSphere MQ Managed File Transfer configuration directory
is split over four separate subdirectories: config, installations, ipc, and logs.

The default product root directories (MQ_DATA_PATH) are as follows:

UNIX systems: /var/mqm

Windows: the location of the configuration directory depends on the location of your
primary WebSphere MQ installation. The default locations for primary installations
are as follows:
32-bit: C:\Program Files\IBM\WebSphere MQ
64-bit: C:\Program Files (x86)\IBM\WebSphere MQ

The configuration subdirectories are as follows:

The MQ_DATA_PATH/mqft/config directory contains the parts of the configuration
that are read-only for Managed File Transfer processes. For example,
agent.properties and command.properties.
The MQ_DATA_PATH/mqft/installations directory contains configuration information
for each installation.

The MQ_DATA_PATH/mqft/ipc directory contains IPC resources used internally to
communicate between the Managed File Transfer components. Applicable to UNIX
and Linux systems only.

The MQ_DATA_PATH/mqft/logs directory contains the parts of the configuration that
are written by Managed File Transfer processes. For example, trace information and
log files.

+ Windows:

The default location is:
C:\Program Files (x86)\IBM\WebSphere MQ\mqft\config

However, in this techdoc the following directory is used, to be consistent with UNIX:

C:\var\ibm\mqft\config

Note: Once you start using the agent there will be a subdirectory for "logs"

For example, MFT_LNX is the coordination queue manager and the agent is AGENT_WIN:

C:\var\mqm\mqft> **dir /b /s**
C:\var\mqm\mqft\config
C:\var\mqm\mqft\installations
C:\var\mqm\mqft\logs
C:\var\mqm\mqft\config\MFT_LNX
C:\var\mqm\mqft\config\MFT_LNX\agents
C:\var\mqm\mqft\config\MFT_LNX\command.properties
C:\var\mqm\mqft\config\MFT_LNX\coordination.properties
C:\var\mqm\mqft\config\MFT_LNX\MFT_LNX.mqsc
C:\var\mqm\mqft\config\MFT_LNX\agents\AGENT_WIN
C:\var\mqm\mqft\config\MFT_LNX\agents\AGENT_WIN\agent.properties
C:\var\mqm\mqft\config\MFT_LNX\agents\AGENT_WIN\AGENT_WIN_create.mqsc
C:\var\mqm\mqft\config\MFT_LNX\agents\AGENT_WIN\AGENT_WIN_delete.mqsc
C:\var\mqm\mqft\config\MFT_LNX\agents\AGENT_WIN\exits
C:\var\mqm\mqft\config\MFT_LNX\agents\AGENT_WIN\UserSandboxes.xml
C:\var\mqm\mqft\installations\Installation2
C:\var\mqm\mqft\installations\Installation2\installation.properties
C:\var\mqm\mqft\logs\MFT_LNX
C:\var\mqm\mqft\logs\MFT_LNX\agents
C:\var\mqm\mqft\logs\MFT_LNX\agents\AGENT_WIN
C:\var\mqm\mqft\logs\MFT_LNX\agents\AGENT_WIN\agent.lck
C:\var\mqm\mqft\logs\MFT_LNX\agents\AGENT_WIN\agent.pid
C:\var\mqm\mqft\logs\MFT_LNX\agents\AGENT_WIN\logs
C:\var\mqm\mqft\logs\MFT_LNX\agents\AGENT_WIN\mqmftpc.lck
C:\var\mqm\mqft\logs\MFT_LNX\agents\AGENT_WIN\mqmftpc.pid
C:\var\mqm\mqft\logs\MFT_LNX\agents\AGENT_WIN\logs\output0.log
C:\var\mqm\mqft\logs\MFT_LNX\agents\AGENT_WIN\logs\output0.log.lck
C:\var\mqm\mqft\logs\MFT_LNX\agents\AGENT_WIN\logs\pcevent0.log
C:\var\mqm\mqft\logs\MFT_LNX\agents\AGENT_WIN\logs\pcevent0.log.lck

C:\var\mqm\mqft\logs\MFT_LNX\agents\AGENT_WIN\logs\stderr.log
C:\var\mqm\mqft\logs\MFT_LNX\agents\AGENT_WIN\logs\stdout.log

+ UNIX:

The directory is: /var/mqm/mqft

rivera@veracruz: /var/mqm/mqft
$ **find $PWD**
/var/mqm/mqft
/var/mqm/mqft/config
/var/mqm/mqft/config/MFT_LNX
/var/mqm/mqft/config/MFT_LNX/MFT_LNX.mqsc
/var/mqm/mqft/config/MFT_LNX/command.properties
/var/mqm/mqft/config/MFT_LNX/coordination.properties
/var/mqm/mqft/config/MFT_LNX/loggers
/var/mqm/mqft/config/MFT_LNX/loggers/LOGGER_LNX
/var/mqm/mqft/config/MFT_LNX/loggers/LOGGER_LNX/LOGGER_LNX_create.mqsc
/var/mqm/mqft/config/MFT_LNX/loggers/LOGGER_LNX/logger.properties
/var/mqm/mqft/config/MFT_LNX/loggers/LOGGER_LNX/FileLoggerFormat.xml
/var/mqm/mqft/config/MFT_LNX/loggers/LOGGER_LNX/LOGGER_LNX_delete.mqsc
/var/mqm/mqft/config/MFT_LNX/agents
/var/mqm/mqft/config/MFT_LNX/agents/AGENT_LNX
/var/mqm/mqft/config/MFT_LNX/agents/AGENT_LNX/agent.properties
/var/mqm/mqft/config/MFT_LNX/agents/AGENT_LNX/AGENT_LNX_create.mqsc
/var/mqm/mqft/config/MFT_LNX/agents/AGENT_LNX/UserSandboxes.xml
/var/mqm/mqft/config/MFT_LNX/agents/AGENT_LNX/AGENT_LNX_delete.mqsc
/var/mqm/mqft/config/MFT_LNX/agents/AGENT_LNX/exits
/var/mqm/mqft/installations
/var/mqm/mqft/installations/Installation2
/var/mqm/mqft/installations/Installation2/installation.properties
/var/mqm/mqft/logs
/var/mqm/mqft/logs/MFT_LNX
/var/mqm/mqft/logs/MFT_LNX/loggers
/var/mqm/mqft/logs/MFT_LNX/loggers/LOGGER_LNX
/var/mqm/mqft/logs/MFT_LNX/agents
/var/mqm/mqft/logs/MFT_LNX/agents/AGENT_LNX
/var/mqm/mqft/logs/MFT_LNX/agents/AGENT_LNX/mqmftpc.pid
/var/mqm/mqft/logs/MFT_LNX/agents/AGENT_LNX/agent.lck
/var/mqm/mqft/logs/MFT_LNX/agents/AGENT_LNX/agent.pid
/var/mqm/mqft/logs/MFT_LNX/agents/AGENT_LNX/logs
/var/mqm/mqft/logs/MFT_LNX/agents/AGENT_LNX/logs/stderr.log
/var/mqm/mqft/logs/MFT_LNX/agents/AGENT_LNX/logs/stdout.log

/var/mqm/mqft/logs/MFT_LNX/agents/AGENT_LNX/logs/pcevent0.log.lck
/var/mqm/mqft/logs/MFT_LNX/agents/AGENT_LNX/logs/pcevent0.log
/var/mqm/mqft/logs/MFT_LNX/agents/AGENT_LNX/logs/output0.log
/var/mqm/mqft/logs/MFT_LNX/agents/AGENT_LNX/logs/output0.log.lck
/var/mqm/mqft/logs/MFT_LNX/agents/AGENT_LNX/mqmftpc.lck

```
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+++ Chapter 4: Starting and listing agents, logger, MQ Explorer
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
```

++ Displaying the version of MFT:

Windows:
C:\> **fteDisplayVersion**
C:\Windows\System32>fteDisplayVersion
5724-H72 Copyright IBM Corp. 2008, 2013. ALL RIGHTS RESERVED
Name: WebSphere MQ Managed File Transfer
Version: 7.5.0.2

UNIX:
rivera@veracruz: /home/rivera
$ **fteDisplayVersion**
5724-H72 Copyright IBM Corp. 2008, 2013. ALL RIGHTS RESERVED
Name: WebSphere MQ Managed File Transfer
Version: 7.5.0.2

++ Starting the logger

$ **fteStartLogger LOGGER_LNX**
5724-H72 Copyright IBM Corp. 2008, 2013. ALL RIGHTS RESERVED
BFGCL0287I: The request to start the logger on this machine has been submitted.
BFGCL0526I: Logger log files located at:
/var/mqm/mqft/logs/MFT_LNX/loggers/LOGGER_LNX

++ Starting the agents

Windows:
C:\> **fteStartAgent AGENT_WIN**
C:\Windows\System32>fteStartAgent AGENT_WIN
5724-H72 Copyright IBM Corp. 2008, 2013. ALL RIGHTS RESERVED
BFGCL0030I: The request to start agent 'AGENT_WIN' on this machine has been
submitted.
BFGCL0031I: Agent log files located at: C:\var\mqm\mqft\logs\MFT_LNX\agents\
AGENT_WIN\logs

In this case, the agent log file that we want to look at is
C:\var\mqm\mqft\logs\MFT_LNX\agents\AGENT_WIN\logs\output0.log

Example of the output (located at the bottom of the file) that confirms that the agent started fine:

[20/01/2014 10:03:54:671 EST] 00000001 AgentRuntime I   BFGAG0058I: The agent has successfully initialized.
[20/01/2014 10:03:55:331 EST] 00000001 AgentRuntime I   BFGAG0059I: The agent has been successfully started.

UNIX:
rivera@veracruz: /home/rivera
$ **fteStartAgent AGENT_LNX**
5724-H72 Copyright IBM Corp. 2008, 2013. ALL RIGHTS RESERVED
BFGCL0030I: The request to start agent 'AGENT_LNX' on this machine has been submitted.
BFGCL0031I: Agent log files located at:
/var/mqm/mqft/logs/MFT_LNX/agents/AGENT_LNX/logs

++ Pinging the agents

From Windows:

C:\Windows\System32> **ftePingAgent -m QM_WIN -w 10 AGENT_WIN**
5724-H72 Copyright IBM Corp. 2008, 2013. ALL RIGHTS RESERVED
BFGCL0212I: Issuing ping request to agent AGENT_WIN
BFGCL0213I: agent AGENT_WIN responded to ping in 0.12 seconds.

C:\Windows\System32> **ftePingAgent -m QM_LNX -w 10 AGENT_LNX**
5724-H72 Copyright IBM Corp. 2008, 2013. ALL RIGHTS RESERVED
BFGCL0212I: Issuing ping request to agent AGENT_LNX
BFGCL0213I: agent AGENT_LNX responded to ping in 0.673 seconds.

From UNIX:

$ **ftePingAgent -m QM_WIN -w 10 AGENT_WIN**
5724-H72 Copyright IBM Corp. 2008, 2013. ALL RIGHTS RESERVED
BFGCL0212I: Issuing ping request to agent AGENT_WIN
BFGCL0213I: agent AGENT_WIN responded to ping in 0.704 seconds.

$ **ftePingAgent -m QM_LNX -w 10 AGENT_LNX**
5724-H72 Copyright IBM Corp. 2008, 2013. ALL RIGHTS RESERVED
BFGCL0212I: Issuing ping request to agent AGENT_LNX
BFGCL0213I: agent AGENT_LNX responded to ping in 0.556 seconds.

++ Listing the agents

Troubleshooting Note: If you issue the command "fteListAgents" and you get the following message:
BFGCL0014W: No agents exist that match the current selection criteria.

Then check the flowchart described in the following section of the MQ Information Center:
http://pic.dhe.ibm.com/infocenter/wmqv7/v7r5/topic/com.ibm.wmqfte.doc/list_agents_pd.htm
WebSphere MQ Managed File Transfer > Troubleshooting and support > General troubleshooting
What to do if your agent is not listed by the fteListAgents command

Windows:
C:\> **fteListAgents**
5724-H72 Copyright IBM Corp. 2008, 2013. ALL RIGHTS RESERVED
Agent Name: Queue Manager Name: Status:
AGENT_LNX   QM_LNX   READY
AGENT_WIN   QM_WIN   UNREACHABLE

UNIX:
rivera@veracruz: /var/ibm/WMQFTE/config
$ **fteListAgents**
5724-H72 Copyright IBM Corp. 2008, 2013. ALL RIGHTS RESERVED
Agent Name: Queue Manager Name: Status:
AGENT_LNX   QM_LNX   READY
AGENT_WIN   QM_WIN   UNREACHABLE

Notice that the Status for the AGENT_WIN is UNREACHABLE.

The problem and the solution are described in:
http://pic.dhe.ibm.com/infocenter/wmqv7/v7r5/topic/com.ibm.wmqfte.doc/trouble_agent_unreachable.htm
WebSphere MQ Managed File Transfer > Troubleshooting and support > General troubleshooting
What to do if the fteListAgents command shows an agent status of UNREACHABLE

+ begin excerpt
Using the default settings, clocks that are out-of-sync between the agent system and the coordination queue manager system cause this issue, if the difference between the times is greater than 303 seconds.

Resolving the problem

You can resolve this problem in either of the following ways:
- Correct the time setting differences between the agent host machine and the machine hosting the coordination queue manager, so that they are in sync.
- Increase the value of the agentStatusJitterTolerance property to account for the time difference. When you run the fteListAgents command, the value of agentStatusJitterTolerance is determined by the coordination.properties configuration file in the MQMFTconfig directory. Therefore, set the property in the coordination.properties file of the MQMFT installation that the fteListAgents command is being run on.

+ end excerpt

In this scenario, the clock in the Linux box was offset with more than 5 minutes from the clock of the Windows box (which was correct).

After resetting the clock in the Linux box and restarting the queue managers and agents, now the output the command shows that the agents are READY:

fteListAgents
5724-H72 Copyright IBM Corp. 2008, 2013. ALL RIGHTS RESERVED
Agent Name: Queue Manager Name: Status:
AGENT_LNX   QM_LNX   READY
AGENT_WIN   QM_WIN   READY

++ Stopping the agents

C:\> **fteStopAgent AGENT_WIN**
5655-U80, 5724-R10 Copyright IBM Corp. 2008, 2011. ALL RIGHTS RESERVED
BFGCL0034I: Stop request issued to agent 'QM_WIN'.
BFGCL0198I: The agent has processed the stop request and will end once all current transfers have completed.

$ **fteStopLogger LOGGER_LNX**
5724-H72 Copyright IBM Corp. 2008, 2013. ALL RIGHTS RESERVED
BFGCL0528I: Issuing stop request to logger 'LOGGER_LNX'. The command will wait for the logger to stop.
BFGCL0529I: Logger 'LOGGER_LNX' has been stopped.

+++ You can use the MQ Explorer plugins for MFT.

In the left Navigator panel, scroll down to the bottom and expand:
  Managed File Transfer
You will see the entry for the Coordination queue manager: MFT_LNX

You need to "Connect" to the queue manager in order to see the agents and perform file transfers.
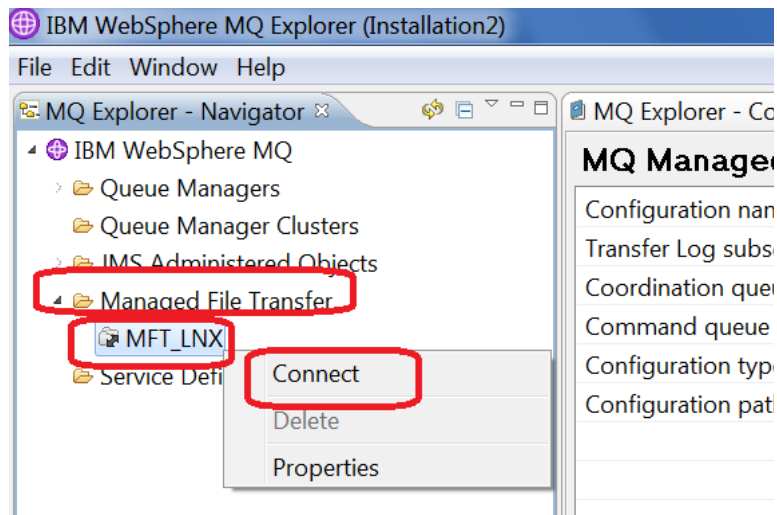
The following shows the status of the agents.
Before proceeding with the file transfer, ensure that both of them are in Status "Ready"
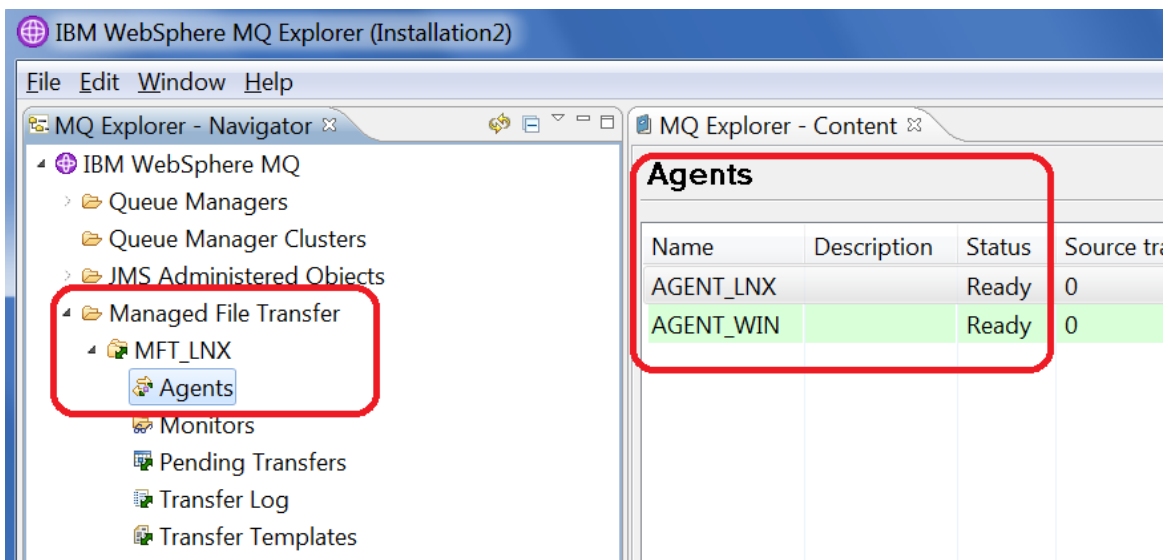
++
+++ Chapter 5: Testing a single file transfer via MQ Explorer and via command line
++

For this example, the file to be transferred is a text file that resides in the Windows host:

C:\temp\mft> dir *
01/21/2014 09:46 AM   61 test-file.txt
            1 File(s)   61 bytes

Start the MQ Explorer in Windows

You need to connect to the Coordination Queue Manager.
In the left panel, expand the folder "Managed File Transfer" then
select the Coordination Queue Manager "MFT_LNX" and right click.
Click on "Connect".
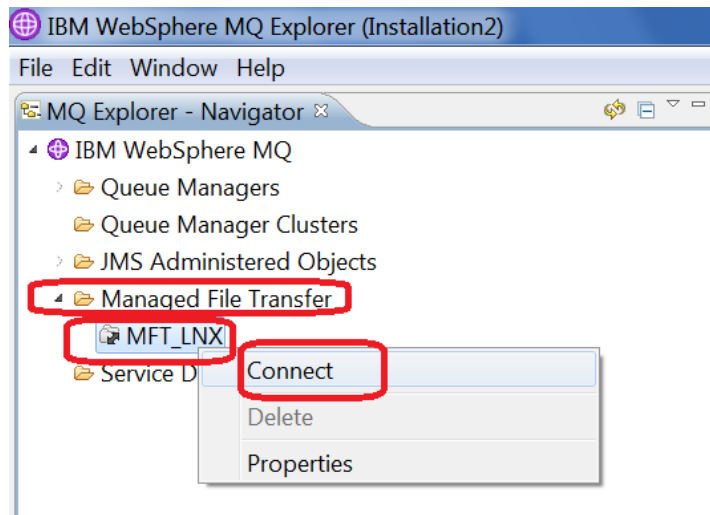
Select the coordination queue manager and right click.
Select "New Transfer ..."
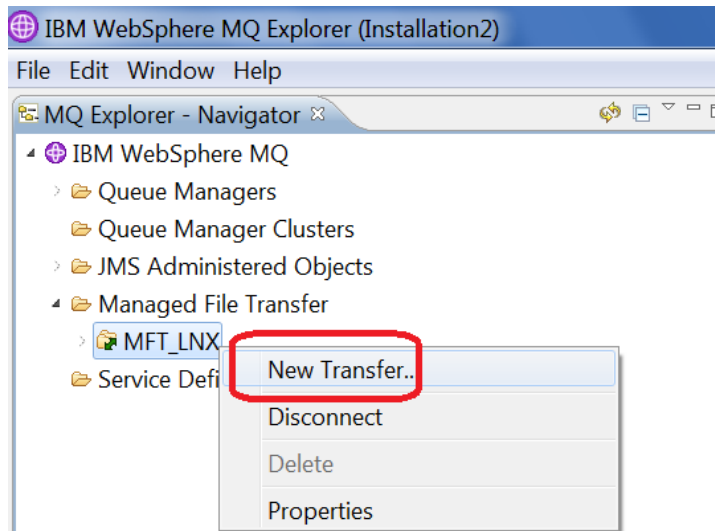
Select the "Source agent" and the "Destination agent".
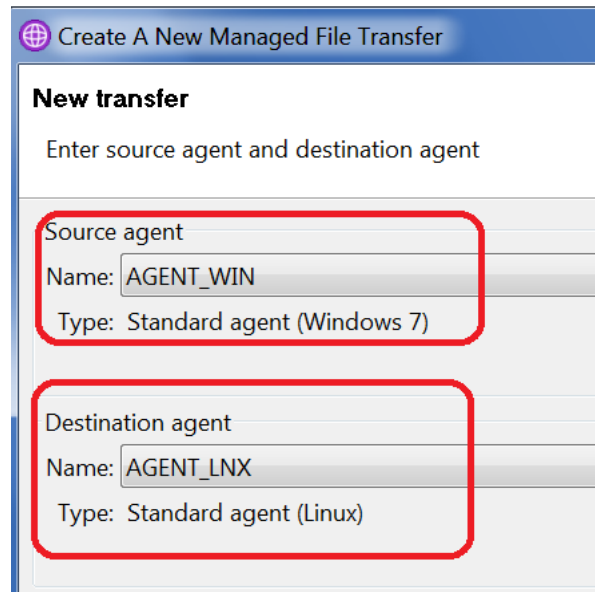
Click Next.

Click on "Add" to select the file to be transferred:
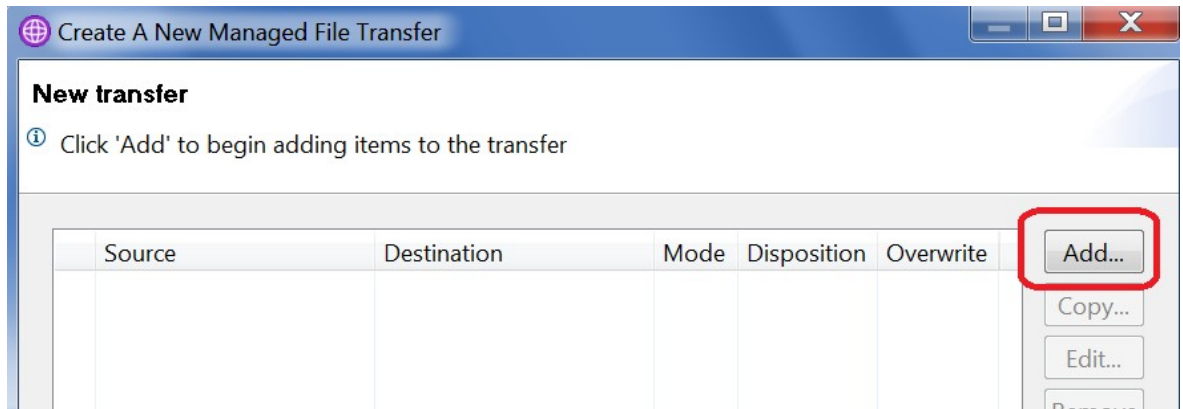
You will see a rather wide dialog.
In order to better show the 2 sides of the dialog, one side will be illustrated in this technote at a time.

The left side is the Source:

Notice that the default is "Binary", but because the file to be transferred is text, then the corresponding radio button for "Text" was selected.
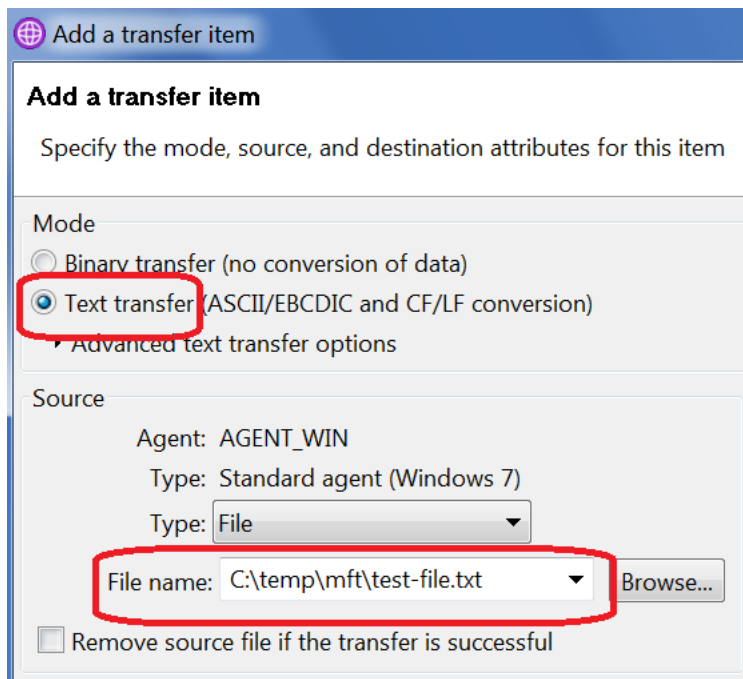
Under the Source section the Browse button was used to select the desired file to transfer.
Do NOT click OK at this time, because you need to complete the right part (Destination):
  File name: c:\temp\mft\test-file.txt

The right side is the Destination.

Enter the name of the file at the destination. In this case it is:
   test-file.txt
Notice that the use of relative paths is supported. The top portion of the full path is the HOME of the userid who starts the destination agent.
In this case, the AGENT_LNX was started by userid 'rivera' and the HOME directory is /home/rivera
This means that the full path of the destination file will be:
  /home/rivera/test-file.txt

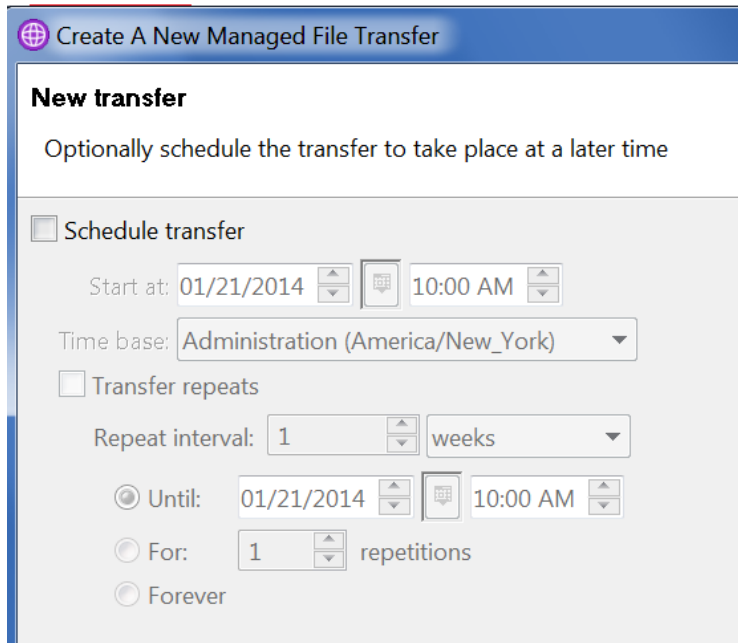Notice that the checkbox for "Overwrite files if present" was explicitly selected.
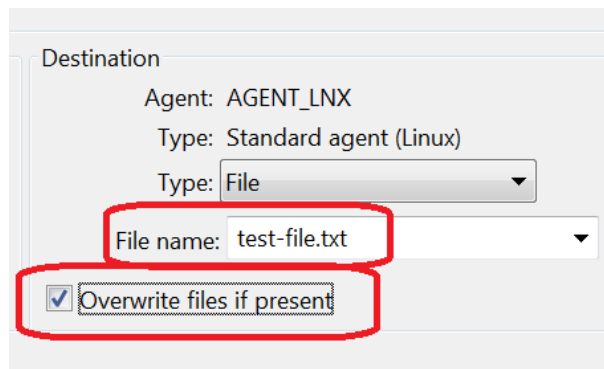
Click OK.

Notice that the desired file is added to the list of files to be transferred:

New transfer

Add items to transfer

Source	Destination	Mode	Disposition	Overwrite	
C:\temp\mft\test-file...	test-file.txt	Text	Leave	Overwrite	Add...
					Copy...
					Edit...
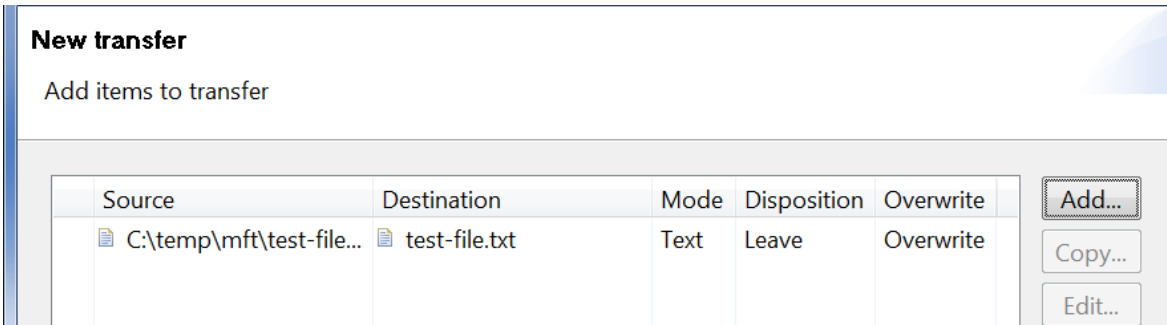
Click on Next.

You will have the opportunity to specify a Schedule for the transfer. In this example, this screen is skipped. Click Next.

Create A New Managed File Transfer

New transfer

Optionally schedule the transfer to take place at a later time

☐ Schedule transfer

Start at: 01/21/2014   10:00 AM

Time base: Administration (America/New_York)

☐ Transfer repeats

Repeat interval: 1   weeks

◉ Until: 01/21/2014   10:00 AM

◯ For: 1   repetitions

◯ Forever

You will have the opportunity to specify jobs to be executed.

In this example, this screen is skipped. Click Next.

You can specify metadata attributes. Click Next.

You will see the Summary for the transfer.
Notice that there is a "Command Preview" that shows the actual command line that you can use to replicate this scenario without using the MQ Explorer. This is a neat feature!
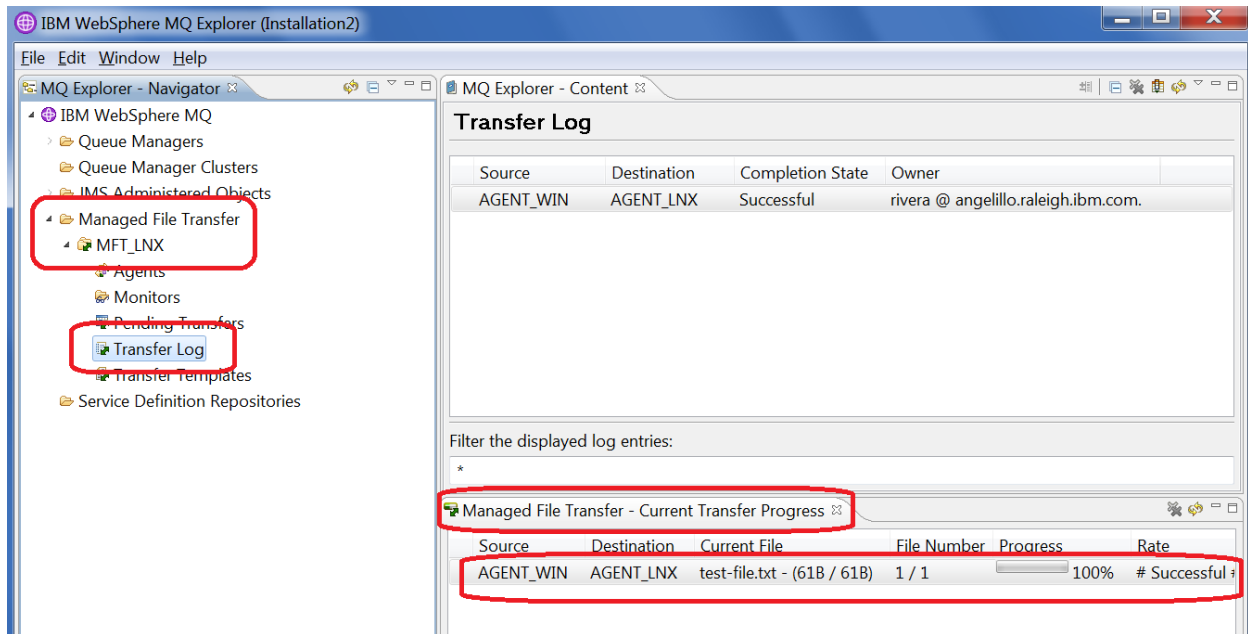
In this case, the command is:

fteCreateTransfer -sa AGENT_WIN -sm QM_WIN -da AGENT_LNX -dm QM_LNX -t text -de overwrite -df "test-file.txt" "C:\temp\mft\test-file.txt"
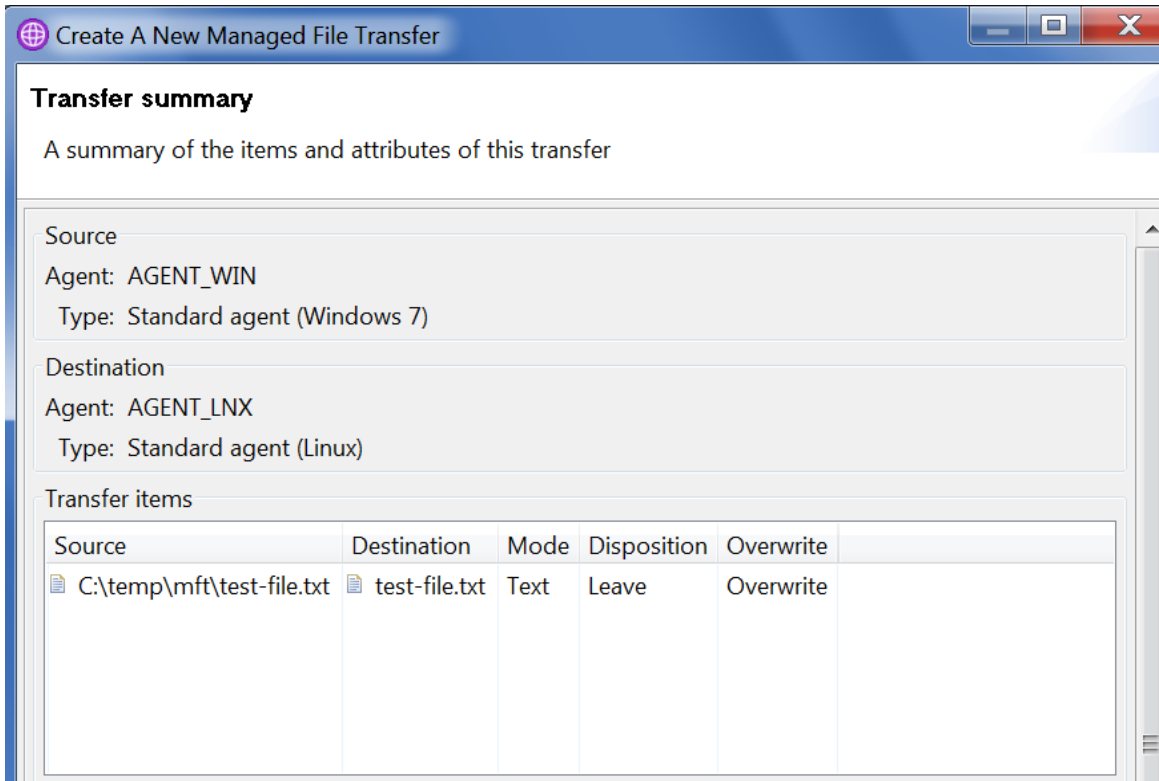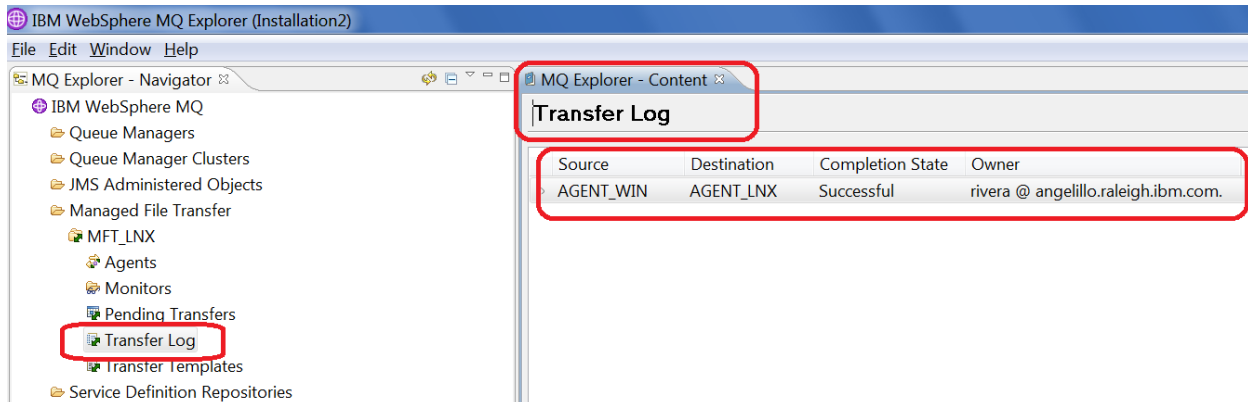

Click on Finish.

You will see the progress of the transfer under the tab "Managed File Transfer - Current Transfer Progress".

In this example, the transfer was Successful.

For additional information, click on the tab "MQ Explorer - Content":

Visit the command window in UNIX, and verify that the file was received:

rivera@veracruz: /home/rivera
$ ls -l test-file.txt
-rw-rw-r-- 1 rivera mqm 22 2012-01-17 14:31 test-file.txt

++ Issuing the command line that was shown in the Transfer Wizard:

While specifying the file transfer via the MQ Explorer, the Summary page generated the equivalent command line to achieve the same result. For completeness, this is the test for the command line:

C:\> **fteCreateTransfer -sa AGENT_WIN -sm QM_WIN -da AGENT_LNX -dm QM_LNX -t text -de overwrite -df "test-file.txt" "C:\temp\mft\test-file.txt"**
5724-H72 Copyright IBM Corp. 2008, 2013. ALL RIGHTS RESERVED
BFGCL0035I: Transfer request issued. The request ID is: 414d5120514d5f57494e202
0202020209059de5220007d03
BFGCL0182I: The request is now waiting to be processed by the agent.

The result was successful, as shown in the Transfer Log in the MQ Explorer.
The first entry was from MQ Explorer
The second, from line command.
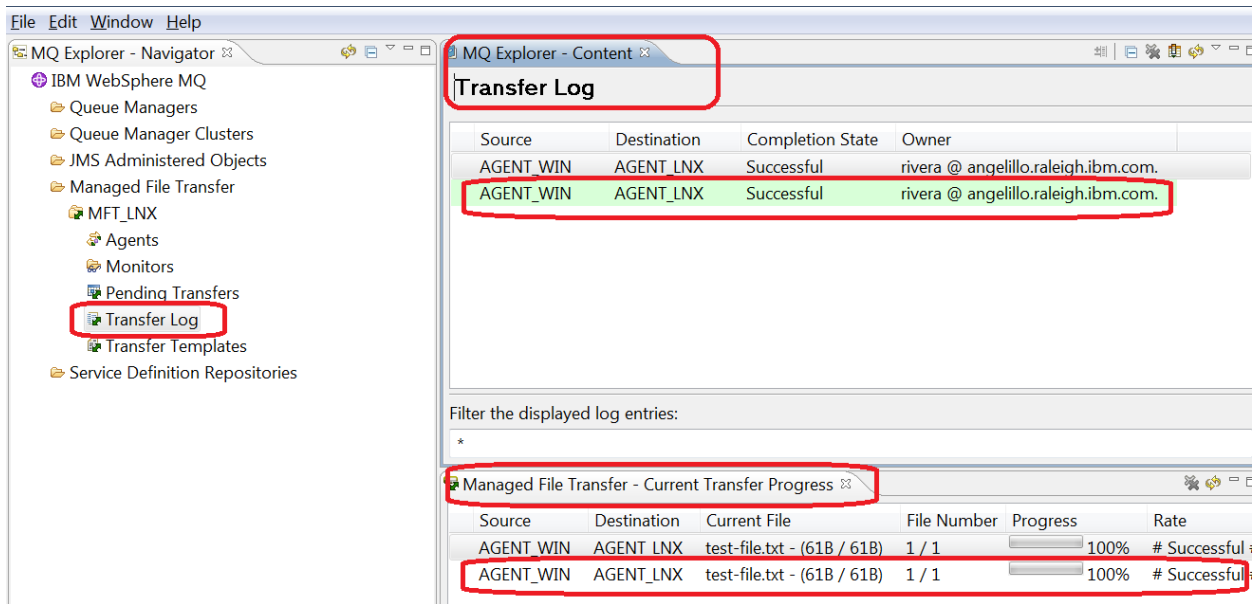
++ Reviewing the data captured in the logger

Log in to the Linux machine and change to the directory where the logs for the logger are stored:

cd /var/mqm/mqft/logs/MFT_LNX/loggers/LOGGER_LNX

There is a *.log file
$ ls -l
-rw------- 1 rivera mqm 2394 2014-01-21 10:42 LOGGER_LNX-20140120131204787.log

Notice that there are 2 sets of entries, one for each of the test file transfers that were done: the first via MQ Explorer and the second via the command line.
Each set has 3 parts.
For illustration purposes, monospace lines have been added in blue to annotate the observations:

$ **cat LOGGER_LNX-20140120131204787.log**
BFGDB0054I: The file logger has successfully started
BFGDB0054I: The file logger has successfully started

```
### Set 1 Part 1:
### Start of the first file transfer (via MQ Explorer)
```
2014-01-21T15:09:56;414d5120514d5f57494e2020202020209059de5220006203;[TSTR];
;AGENT_WIN;QM_WIN;STANDARD;AGENT_LNX;QM_LNX;rivera;;;com.ibm.wmqfte.Sour
ceAgent=AGENT_WIN, com.ibm.wmqfte.DestinationAgent=AGENT_LNX,
com.ibm.wmqfte.MqmdUser=rivera, com.ibm.wmqfte.OriginatingUser=rivera,
com.ibm.wmqfte.OriginatingHost=angelillo.raleigh.ibm.com.,
com.ibm.wmqfte.TransferId=414d5120514d5f57494e2020202020209059de5220006203,
com.ibm.wmqfte.Priority=0;

```
### Set 1 Part 2:
### Actual file transfer (via MQ Explorer)
```
2014-01-21T15:17:47;414d5120514d5f57494e2020202020209059de5220006203;[TPRO
];0 ;C:\temp\mft\test-file.txt;61;file;leave ;;;;;;;/home/rivera/test-
file.txt;59;file;overwrite;;;;;;;

```
### Set 1 Part 3
### Successful completion of first file transfer (via MQ
Explorer)
```
2014-01-21T15:17:47;414d5120514d5f57494e2020202020209059de5220006203;[TCOM
];0
;AGENT_WIN;QM_WIN;STANDARD;AGENT_LNX;QM_LNX;STANDARD;rivera;;BFGRP0032I:
The file transfer request has successfully

completed.;com.ibm.wmqfte.SourceAgent=AGENT_WIN,
com.ibm.wmqfte.DestinationAgent=AGENT_LNX, com.ibm.wmqfte.MqmdUser=rivera,
com.ibm.wmqfte.OriginatingUser=rivera,
com.ibm.wmqfte.OriginatingHost=angelillo.raleigh.ibm.com.,
com.ibm.wmqfte.TransferId=414d5120514d5f57494e2020202020209059de5220006203,
com.ibm.wmqfte.Priority=0;

Set 2 Part 1:
Start of the second file transfer (via command line)
2014-01-21T15:42:03;414d5120514d5f57494e2020202020209059de5220007d03;**[TSTR]**;
;AGENT_WIN;QM_WIN;STANDARD;AGENT_LNX;QM_LNX;rivera;;;com.ibm.wmqfte.Sour
ceAgent=AGENT_WIN, com.ibm.wmqfte.DestinationAgent=AGENT_LNX,
com.ibm.wmqfte.MqmdUser=rivera, com.ibm.wmqfte.OriginatingUser=rivera,
com.ibm.wmqfte.OriginatingHost=angelillo.raleigh.ibm.com.,
com.ibm.wmqfte.TransferId=414d5120514d5f57494e2020202020209059de5220007d03,
com.ibm.wmqfte.Priority=0;

Set 2 Part 2:
Actual file transfer (via command line)
2014-01-21T15:42:03;414d5120514d5f57494e2020202020209059de5220007d03;[TPRO
];0 ;C:\temp\mft\test-file.txt;61;file;leave ;;;;;;;/home/rivera/test-
file.txt;59;file;overwrite;;;;;;;

Set 2 Part 3
Successful completion of second file transfer (via command
line)
2014-01-21T15:42:03;414d5120514d5f57494e2020202020209059de5220007d03;[TCOM
];0
;AGENT_WIN;QM_WIN;STANDARD;AGENT_LNX;QM_LNX;STANDARD;rivera;;BFGRP0032I:
The file transfer request has successfully
completed.;com.ibm.wmqfte.SourceAgent=AGENT_WIN,
com.ibm.wmqfte.DestinationAgent=AGENT_LNX, com.ibm.wmqfte.MqmdUser=rivera,
com.ibm.wmqfte.OriginatingUser=rivera,
com.ibm.wmqfte.OriginatingHost=angelillo.raleigh.ibm.com.,
com.ibm.wmqfte.TransferId=414d5120514d5f57494e2020202020209059de5220007d03,
com.ibm.wmqfte.Priority=0;

Notice the tokens [TSTR], [TPRO] and [TCOM].
For more information see:

http://pic.dhe.ibm.com/infocenter/wmqv7/v7r5/topic/com.ibm.wmqfte.doc/logger
_format_file.htm
WebSphere MQ Managed File Transfer > Configuring > Configuring a logger > Installing
the stand-alone file logger
Stand-alone file logger format

Table 1. Summary of supported message types and their "type" system inserts.
(Excerpt)
transferStarted   [TSTR]
transferCancelled [TCAN]
transferComplete [TCOM]
transferDelete   [TDEL]
transferProgress [TPRO]

+++ end +++