



IBM Software Group

Ask the Experts

WebSphere MQ File Transfer Edition (FTE) Database Logger – Configuration, Usage and Troubleshooting

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WebSphere® Support Technical Exchange



Agenda

- Introduce the panel of experts
- Introduce WebSphere MQ File Transfer Edition (FTE) Database Logger – Configuration, Usage and Troubleshooting
- Answer questions submitted by email (7 questions)
- Open telephone lines for questions
- Summarize highlights

Panel of Experts

Panelist	Role at IBM
Snezhana Johnson	Advisory Software Engineer, WMQ L2 Support
Jason Simmons	Staff Software Engineer, WMQ L2 Support
Belinda Fuller	Advisory Software Engineer, WMQ L2 Support
Pranav Mehta	Staff Software Engineer, WMQ L2 Support
Gareth Bottomley	Staff Software Engineer, WMQ FTE Developer
Paul Slater	L3 Service Specialist, WMQ FTE

Introduction

- We will be covering a number of questions covering topics for the WebSphere MQ File Transfer Edition Database Logger:
 - Installation
 - Usage
 - Troubleshooting

- Platforms covered include AIX, HP-UX, Linux®, Solaris and Windows®.

Question 1

- What is the WebSphere MQ File Transfer Edition (FTE) Database Logger?

Answer to Question 1

- When WebSphere® MQ File Transfer Edition transfers files, it publishes information about its actions to a topic on the coordination queue manager. The database logger is an optional component of WebSphere MQ File Transfer Edition that you can use to copy this information into a database for analysis and auditing purposes.

- Two versions available
 - ▶ **Stand alone Java™ Platform, Standard Edition (JSE) application**, which is installed on a system that hosts the coordination queue manager and the database.

 - ▶ **Java Platform, Enterprise Edition (JEE) application** is provided as an EAR file, which you install into an application server.



Question 2

- Do I need any authority to run WebSphere MQ FTE Database Logger?

Answer to Question 2

The operating system user who runs the database logger requires the following WebSphere MQ authorities:

CONNECT and INQUIRE on the coordination queue manager.

```
setmqaut -m QMGR -t qmgr -p usr +connect +inq
```

SUBSCRIBE permission on the SYSTEM.FTE topic.

```
setmqaut -m QMGR -n SYSTEM.FTE -t topic -p user +sub
```

PUT permission on the SYSTEM.FTE.DATABASELOGGER.REJECT queue.

```
setmqaut -m QMGR -n SYSTEM.FTE.DATABASELOGGER.REJECT -t queue -p usr +put
```

GET permission on the SYSTEM.FTE.DATABASELOGGER.COMMAND queue.

```
setmqaut -m QMGR -n SYSTEM.FTE.DATABASELOGGER.COMMAND -t queue -p usr +get
```

NOTE: Please issue 'REFRESH SECURITY' on a queue manager for new authorizations to take effect!

Question 3

- Step 3 of the “Installing the WebSphere MQ File Transfer Edition stand-alone database logger” states that I need to run `ftelog_tables_db2.sql` to create the required database tables. However, when I run the sql file against my DB2 database, I get the error message “SQL0670N The row length of the table exceeded a limit of “4005” bytes.” How do I resolve this?

Answer to Question 3

- The SQL0670N error means that the row length of one or more tables exceeds the page size used when the DB2 database was created. If the error message states the limit is 4005, your database was created with the default page size of 4K. The DB2 database should have been created with an 8K or greater page size. This is as per step 2 in the installation instructions for the database logger.


http://publib.boulder.ibm.com/infocenter/wmqfte/v7r0/topic/com.ibm.wmqfte.doc/dl_install_standalone.htm

- To resolve the SQL0670N, the database used by the WMQFTE database logger will need to be recreated. Re create the DB2 database with a page size of at least 8K.

Question 4

- How do I install and configure WebSphere MQ FTE Database Logger on stand-alone setup?

Answer to Question 4

- Ingredients (Pre-requisites)
 - a) WMQ FTE Server Version 7.0.3 or later b) WMQ FTE DB Logger Version c) WMQ Version 7.0.1 d) Choice of Database :Oracle or DB2
 - ▶ A existing setup of Websphere MQ FTE where a basic file transfer occurs
 - For help above configuration please view earlier WSTE : Webcast  replay: WebSphere MQ File Transfer Edition (FTE) - Basic Step-by-Step Configuration and Setup
 - ▶ Configured and ready to use Database

MQFTE DBLogger Setup (Stand-Alone + Bindings)



- Here there will be 6 sections for this setup :
- **Setup # 1** : Run sql scripts for DB
- **Setup # 2** : Check for DB Queues e.g
SYSTEM.FTE.DATABASELOGGER.COMMAND
- **Setup # 3** : Check/Grant User permission
- **Setup # 4** : Configuring transaction support (XA)
- **Setup # 5** : Create databaselogger.properties
- **Setup # 6** : Start fteStartDatabaseLogger command

– **Note** : View here if Database is Remote 

Step # 1 Run sql scripts MQFTE DB

- Based on setup SQL Data is located under tools dir(e.g C:\Program Files\IBM\WMQFTE\tools\sql) : ftelog_tables_db2.sql
- db2 -v -t -f ftelog_tables_db2.sql (cmd line) this will create needed tables, triggers, and sequences.

Step # 2 : Check for DB Queues e.g

- During setup of Coordination Queue manger when MQSC script runs DBLogger queues are getting created however, please check on co-ordination queue manger for these two if not please create:
 - ▶ SYSTEM.FTE.DATABASELOGGER.REJECT
 - ▶ SYSTEM.FTE.DATABASELOGGER.COMMAND

Step # 3 : Check/Grant User permission

- Please check needed user id is created and have a proper authority to access mq and database e.g in windows MUSR_MQADMIN needs to be part of DB2USERS

Step # 4: Configuring transaction support (XA)

- Copy a .dll file to exit directory
 - ▶ Based on version and 32-bit/64-bit setup copy file call **jdbcdb2.dll**
 - ▶ **From:** mq_install_directory\java\lib\jdbc **To:** mq_install_directory\exits
- Setup XA Config via MQ Explorer :
 - ▶ Start MQ Explorer and select the co-ordination queue manager → Properties

Step # 5 Create databaselogger.properties:

- Create a text file name databaselogger.properties and put it at C:\mq_install_directory\WMQFTE\cofnig\- wmqfte.queue.manager=<your QM>
- wmqfte.database.name=<your DB>
- wmqfte.database.driver=C:/db_install_dir/IBM/db2/java/db2jcc.jar ;C:/db_install_dir/IBM/db2/java/db2jcc_license_cu.jar;
- wmqfte.database.native.library.path=C:/db_install_dir/IBM/db2/lib

Step # 6: Start `fteStartDatabaseLogger` command

- **Note** : At this point restart your co-ordination queue manager to take all the changes and look for any errors in error dir
- Start database logger on screen and view errors `fteStartDatabaseLogger -F`

Now Confirming if data is written in DB2 database via DBLogger

Create New Monitor

New Monitor
Enter all values into the form to create a monitor, specifying the as:

Basic | Advanced

Name: FTE_LOG_TESTING

Type: Directory

Directory: C:\var\IBM\WMQFTE\test

Trigger Conditions

File Matching

File Pattern: *.jre

Exclude Pattern: *.xml

Interpret patterns as regular expressions

Trigger Attribute

Trigger when files...

match pattern

match pattern and exceed 0

match pattern and file size remains unchanged for: 1

Basic | Advanced

From:

Agent: AGENTLOGGER (MQFTE AGENT Logger)

Type: File

File: C:\Documents and Settings\Administrator\Desktop\Code\CZXV9ML_tools\readmes\ja_JP\readme.txt

Include subdirectories

To:

Agent: AGENTLOGGER2

Type: File

Directory: C:\Documents and Settings\Administrator\Desktop

File name: fteLog.txt

Overwrite files on the destination file system th


Basic Settings

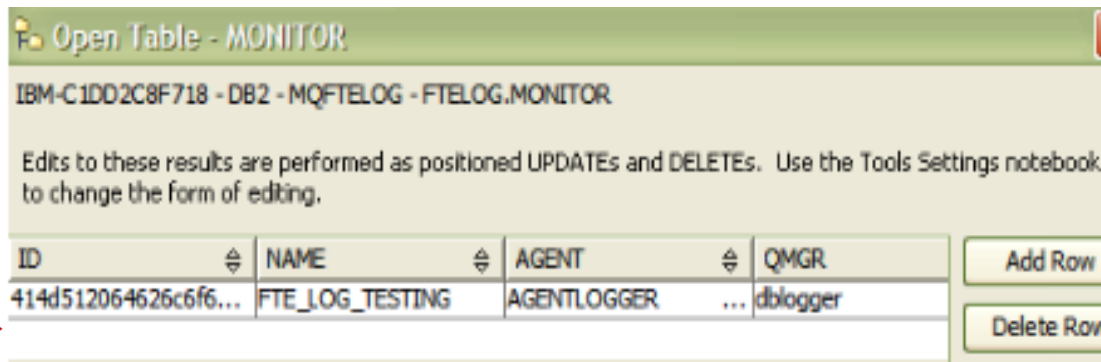
Mode: Text transfer (ASCII/EBCDIC and CR/LF automated)

Binary transfer (no conversion)

mqfte monitoring
created a testing purpose

Confirming if data is written in DB2 database via DBLogger

- That noted previous slide file transfer took place
- While checking in Database side : e.g Monitor Table about file transfer:
- More info can be found at [InfoCenter](#) : 



ID	NAME	AGENT	QMGR
414d512064626c6f6...	FTE_LOG_TESTING	AGENTLOGGER	dblogger

Question 5

- How do I install the WebSphere MQ FTE JEE Database Logger?

Answer to Question 5

WMQ FTE JEE DB Logger application runs within a J2EE compliant application server. The two supported application servers are:

WebSphere Application Server CE

WebSphere Application Server Version 7.0.

The following additional software is required:

- Oracle or DB2
- WMQ FTE Server Version 7.0.3 or later
- WMQ FTE DB Logger Version
- WMQ Version 7.0.1

Answer to Question 5 (cont'd)

The JEE DB Logger application allows you to connect remotely to both a queue manager and a database using client connections. The steps below outline the order you follow to ensure that you have all of the necessary software installed, and configuration defined:

1. Create a database and schema for use with the WMQ FTE DB Logger application, using either DB2 or Oracle. The schema name used by the DB Logger by default is **FTELOG** but can be changed.
2. Run the appropriate database script for your database vendor, or manually create the required tables, triggers, and sequences required by the FTE DB Logger. The scripts are located in the following default directory on Windows:

```
c:\program\files\IBM\WMQFTE\tools\sql\
```

Be sure to update the schema name referenced in the script to match the schema name created in step 1 before running the contained commands.

Answer to Question 5 (cont'd)

3. Update the persistent.xml file contained within the application ear file to reflect the schema name created in step one. This is the application that you deploy to the application server. On Windows, the application ear file is located in:

DB2

`WMQFTE\tools\web\com.ibm.wmqfte.databaselogger.jee.ear`

Oracle

`WMQFTE\tools\web\com.ibm.wmqfte.databaselogger.jee.oracle.ear`

4. Manually, or using the mqsc script created when you created the coordination queue manager, create the command and reject queues within WMQ. This script is located in:

`WMQFTE\config\coordqmgrname\coordqmgrname.mqsc`

Answer to Question 5 (cont'd)

5. Create necessary operating system user accounts and grant authority to access to the objects defined in MQ for use by the user running the FTE DB Logger application. In the database, grant permissions for the DB Logger database user to allow connect, select, insert, and update operations on tables in the schema.
6. Within the WAS console, set up 2 J2C authentication aliases, one for the database user and one for the MQ user.
7. Set up an XA JDBC provider for your database vendor. Then Create a JDBC data source using this provider. Ensure the data source JNDI name is specified correctly:

`jdbc/wmqfte-database`

Answer to Question 5 (cont'd)

8. Create the queue connection factory, topic, queue, and activation specification JMS resources using the WebSphere MQ Messaging Provider, and pointing your channel connection name to your coordination queue manager.

9. Deploy the ear file, `com.ibm.wmqfte.databaselogger.jee.ear` (DB2) or `com.ibm.wmqfte.databaselogger.jee.oracle.ear` (Oracle), to your WebSphere Application Server. During the deploy process, you will be asked for the JNDI names of the 4 JMS resources created in step 8. Once the deployment process is complete, you can start the application server and the application.

If the application server and the application starts successfully, you are ready to test.

Answer to Question 5 (cont'd)

The following command was issued to initiate a transfer between two agents called BFFTEAGENT and REMOTEAGENT:

```
fteCreateTransfer -sa BFFTEAGENT -da REMOTEAGENT -df
"WMQFTE\web\sql\fileTransferNEW5.txt" "WMQFTE\web\sql\filetransfer.txt"
```

Below is the shortened result of those transactions, stored in the table TRANSFER_EVENT:

ACTION_TIME	SOURCE_AGENT	SDESTINATION_AGENT	TRANSFERSET_TIME
2012-04-03 18:34:20.849	BFFTEAGENT	(REMOTEAGENT	2012-04-03 18:34:18.021
2012-04-03 18:38:38.146	BFFTEAGENT	(REMOTEAGENT	2012-04-03 18:38:38.146
2012-04-03 18:38:38.349	BFFTEAGENT	(REMOTEAGENT	2012-04-03 18:38:38.146
2012-04-03 18:39:36.599	BFFTEAGENT	(REMOTEAGENT	2012-04-03 18:39:36.599
2012-04-03 18:39:36.802	BFFTEAGENT	(REMOTEAGENT	2012-04-03 18:39:36.599
2012-04-03 18:40:56.771	REMOTEAGENT	(BFFTEAGENT	2012-04-03 18:40:56.771

Answer to Question 5 (cont'd)








Additional information can be found in the WMQ FTE InfoCenter URL at:

http://publib.boulder.ibm.com/infocenter/wmqfte/v7r0/index.jsp?topic=%2Fcom.ibm.wmqfte.doc%2Fdl_install_je.html

Question 6

- Could you please provide a list of links where I might find white papers, technical manuals, business cases and other useful documentation for WebSphere MQ FTE and the Database Logger?

Answer to Question 6

- The most up-to-date and useful technical document : InfoCenter: 
- System Requirements for MQFTE : 
- Redbooks : (Click to view)
 -  [Multi-Enterprise File Transfer with WebSphere Connectivity](#)
 -  [Getting Started with WebSphere MQ File Transfer Edition V7, SG24-7760](#)
 -  [Managed File Transfer for SOA using IBM WebSphere MQ File Transfer Edition](#)
- Database Logger Tables in SQL : 
- As DBLogger is a part of MQFTE product which serves as audit/tracking purpose so not many specific white paper & business cases found for it. However please visit MQFTE : (<http://www-01.ibm.com/software/integration/wmq/filetransfer/features/>) →e.g **Featured resources** 

Question 7

- Can we use the FTE Web Gateway to monitor all FTE transactions, or only the ones processed through the FTE Web Gateway?

Answer to Question 7

- Yes. The WebSphere MQ File Transfer Edition Web Gateway can be used to monitor transfers involving the gateway and file transfers between traditional non-web agents. The RESTful API can be used to create a JEE application that can monitor all managed file transfers. This is possible provided that the Web Gateway is configured to use a JDBC data source that connects to the same DB2 or Oracle database used by your stand-alone or J2EE database logger. Also the user id using the Web Gateway JEE application must be mapped to the security role 'wmqfte-audit'.

The Web Gateway sample application does not demonstrate the wmqfte-audit role and, therefore, it can only monitor transfers that involve the web agent.

Open Lines for Questions



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Summary



Additional WebSphere Product Resources

- Learn about upcoming WebSphere Support Technical Exchange webcasts, and access previously recorded presentations at:
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